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MEDICAID MANAGED CARE ACTUARIAL AND CONSULTING SERVICES

REQUEST FOR PROPOSALS (RFP) 5868 Z1

STATE OF NEBRASKA
DEPARTMENT OF ADMINISTRATIVE SERVICES

JULY 13, 2018

TECHNICAL PROPOSAL

Services provided by Mercer Health & Benefits LLC

MARSH & McLENNAN COMPANIES

Table of Contents

Required Forms

The Request for Proposal (RFP) for Contractual Services Form and Form A – Bidder Contact Sheet are provided in this section.

As required, Sections II through VII of the RFP are completed and returned with this proposal response. Per the RFP, Section VII, Cost Proposal, is packaged separately.

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REQUEST FOR PROPOSAL FOR CONTRACTUAL SERVICES FORM

BIDDER MUST COMPLETE THE FOLLOWING

By signing this Request for Proposal for Contractual Services form, the bidder guarantees compliance with the procedures stated in this Request for Proposal, and agrees to the terms and conditions unless otherwise indicated in writing and certifies that bidder maintains a drug free work place.

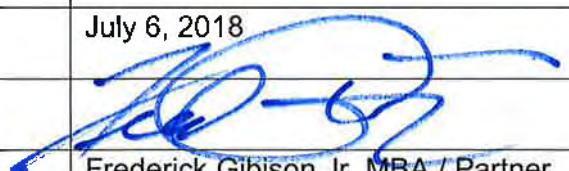
Per Nebraska's Transparency in Government Procurement Act, Neb. Rev Stat § 73-603 DAS is required to collect statistical information regarding the number of contracts awarded to Nebraska Contractors. This information is for statistical purposes only and will not be considered for contract award purposes.

_____ NEBRASKA CONTRACTOR AFFIDAVIT: Bidder hereby attests that bidder is a Nebraska Contractor. "Nebraska Contractor" shall mean any bidder who has maintained a bona fide place of business and at least one employee within this state for at least the six (6) months immediately preceding the posting date of this RFP.

_____I hereby certify that I am a Resident disabled veteran or business located in a designated enterprise zone in accordance with Neb. Rev. Stat. § 73-107 and wish to have preference, if applicable, considered in the award of this contract.

_____ I hereby certify that I am a blind person licensed by the Commission for the Blind & Visually Impaired in accordance with Neb. Rev. Stat. §71-8611 and wish to have preference considered in the award of this contract.

FORM MUST BE SIGNED USING AN INDELIBLE METHOD (NOT ELECTRONICALLY)

FIRM:	Mercer Health & Benefits LLC
COMPLETE ADDRESS:	2325 E. Camelback Road, Suite 600 Phoenix, AZ 85016
TELEPHONE NUMBER:	+1 602 522 6526
FAX NUMBER:	+1 602 522 6499
DATE:	July 6, 2018
SIGNATURE:	
TYPED NAME AND TITLE OF SIGNER:	Frederick Gibison Jr, MBA / Partner

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Form A
Bidder Contact Sheet
Request for Proposal Number 5868 Z1

Form A should be completed and submitted with each response to this RFP. This is intended to provide the State with information on the bidder's name and address, and the specific person(s) who are responsible for preparation of the bidder's response.

Preparation of Response Contact Information	
Bidder Name:	**Mercer Health & Benefits LLC**
Bidder Address:	**2325 E. Camelback Road, Suite 600** **Phoenix, AZ 85016**
Contact Person & Title:	**Terri Goens, MBA / Senior Associate** **Frederick Gibison Jr, MBA / Partner**
E-mail Address:	**Terri.Goens@mercer.com** **Fred.Gibison@mercer.com**
Telephone Number (Office):	**+1 602 522 6527 (Terri Goens)** **+1 602 522 6526 (Fred Gibison)**
Telephone Number (Cellular):	**N/A**
Fax Number:	**+1 602 522 6499**

Each bidder should also designate a specific contact person who will be responsible for responding to the State if any clarifications of the bidder's response should become necessary. This will also be the person who the State contacts to set up a presentation/demonstration, if required.

Communication with the State Contact Information	
Bidder Name:	**Mercer Health & Benefits LLC**
Bidder Address:	**2325 E. Camelback Road, Suite 600** **Phoenix, AZ 85016**
Contact Person & Title:	**Terri Goens, MBA / Senior Associate** **Mike Nordstrom, ASA, MAAA / Partner**
E-mail Address:	**Terri.Goens@mercer.com** **Mike.Nordstrom@mercer.com**
Telephone Number (Office):	**+1 602 522 6527 (Terri Goens)** **+1 602 522 6510 (Mike Nordstrom)**
Telephone Number (Cellular):	**N/A**
Fax Number:	**+1 602 522 6499**

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II

Terms and Conditions

Bidders should complete Sections II through VI as part of their proposal. Bidder is expected to read the Terms and Conditions and should initial either accept, reject, or reject and provide alternative language for each clause. The bidder should also provide an explanation of why the bidder rejected the clause or rejected the clause and provided alternate language. By signing the RFP, bidder is agreeing to be legally bound by all the accepted terms and conditions, and any proposed alternative terms and conditions submitted with the proposal. The State reserves the right to negotiate rejected or proposed alternative language. If the State and bidder fail to agree on the final Terms and Conditions, the State reserves the right to reject the proposal. The State of Nebraska is soliciting proposals in response to this RFP. The State of Nebraska reserves the right to reject proposals that attempt to substitute the bidder's commercial contracts and/or documents for this RFP.

The bidders should submit with their proposal any license, user agreement, service level agreement, or similar documents that the bidder wants incorporated in the Contract. The State will not consider incorporation of any document not submitted with the bidder's proposal as the document will not have been included in the evaluation process. These documents shall be subject to negotiation and will be incorporated as addendums if agreed to by the Parties.

If a conflict or ambiguity arises after the Addendum to Contract Award have been negotiated and agreed to, the Addendum to Contract Award shall be interpreted as follows:

1. If only one Party has a particular clause then that clause shall control;
2. If both Parties have a similar clause, but the clauses do not conflict, the clauses shall be read together;
3. If both Parties have a similar clause, but the clauses conflict, the State's clause shall control.

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:
JG			

The contract resulting from this Request for Proposal shall incorporate the following documents:

1. Request for Proposal and Addenda;
2. Amendments to the RFP;
3. Questions and Answers;
4. Contractor's proposal (RFP and properly submitted documents);
5. The executed Contract and Addendum One to Contract, if applicable ; and,
6. Amendments/Addendums to the Contract

These documents constitute the entirety of the contract.

Unless otherwise specifically stated in a future contract amendment, in case of any conflict between the incorporated documents, the documents shall govern in the following order of preference with number one (1) receiving preference over all other documents and with each lower numbered document having preference over any higher numbered document: 1) Amendment to the executed Contract with the most recent dated amendment having the highest priority, 2) executed Contract and any attached Addenda, 3) Amendments to RFP and any Questions and Answers, 4) the original RFP document and any Addenda, and 5) the Contractor's submitted Proposal.

.Any ambiguity in any provision of this contract which shall be discovered after its execution shall be resolved in accordance with the rules of contract interpretation as established in the State of Nebraska.

Once proposals are opened they become the property of the State of Nebraska and will not be returned.

B. NOTIFICATION

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:
JG			

Contractor and State shall identify the contract manager who shall serve as the point of contact for the executed contract.

Communications regarding the executed contract shall be in writing and shall be deemed to have been given if delivered personally or mailed, by U.S. Mail, postage prepaid, return receipt requested, to the parties at their respective addresses set forth below, or at such other addresses as may be specified in writing by either of the parties. All notices, requests, or communications shall be deemed effective upon personal delivery or three (3) calendar days following deposit in the mail.

C. GOVERNING LAW (Statutory)

Notwithstanding any other provision of this contract, or any amendment or addendum(s) entered into contemporaneously or at a later time, the parties understand and agree that, (1) the State of Nebraska is a sovereign state and its authority to contract is therefore subject to limitation by the State's Constitution, statutes, common law, and regulation; (2) this contract will be interpreted and enforced under the laws of the State of Nebraska; (3) any action to enforce the provisions of this agreement must be brought in the State of Nebraska per state law; (4) the person signing this contract on behalf of the State of Nebraska does not have the authority to waive the State's sovereign immunity, statutes, common law, or regulations; (5) the indemnity, limitation of liability, remedy, and other similar provisions of the final contract, if any, are entered into subject to the State's Constitution, statutes, common law, regulations, and sovereign immunity; and, (6) all terms and conditions of the final contract, including but not limited to the clauses concerning third party use, licenses, warranties, limitations of liability, governing law and venue, usage verification, indemnity, liability, remedy or other similar provisions of the final contract are entered into specifically subject to the State's Constitution, statutes, common law, regulations, and sovereign immunity.

The Parties must comply with all applicable local, state and federal laws, ordinances, rules, orders, and regulations.

D. BEGINNING OF WORK

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:
JG			

The bidder shall not commence any billable work until a valid contract has been fully executed by the

State and the successful Contractor. The Contractor will be notified in writing when work may begin.

E. CHANGE ORDERS

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:
JG			

The State and the Contractor, upon the written agreement, may make changes to the contract within the general scope of the RFP. Changes may involve specifications, the quantity of work, or such other items as the State may find necessary or desirable. Corrections of any deliverable, service, or work required pursuant to the contract shall not be deemed a change. The Contractor may not claim forfeiture of the contract by reasons of such changes.

The Contractor shall prepare a written description of the work required due to the change and an itemized cost sheet for the change. Changes in work and the amount of compensation to be paid to the Contractor shall be determined in accordance with applicable unit prices if any, a pro-rated value, or through negotiations. The State shall not incur a price increase for changes that should have been included in the Contractor's proposal, were foreseeable, or result from difficulties with or failure of the Contractor's proposal or performance.

No change shall be implemented by the Contractor until approved by the State, and the Contract is amended to reflect the change and associated costs, if any. If there is a dispute regarding the cost, but both parties agree that immediate implementation is necessary, the change may be implemented, and cost negotiations may continue with both Parties retaining all remedies under the contract and law.

F. NOTICE OF POTENTIAL CONTRACTOR BREACH

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:
JG			

If Contractor breaches the contract or anticipates breaching the contract, the Contractor shall immediately give written notice to the State. The notice shall explain the breach or potential breach, a proposed cure, and may include a request for a waiver of the breach if so desired. The State may, in its discretion, temporarily or permanently waive the breach. By granting a waiver, the State does not forfeit any rights or remedies to which the State is entitled by law or equity, or pursuant to the provisions of the contract. Failure to give immediate notice, however, may be grounds for denial of any request for a waiver of a breach.

G. BREACH

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:
JG			

Either Party may terminate the contract, in whole or in part, if the other Party breaches its duty to perform its obligations under the contract in a timely and proper manner. Termination requires written notice of default and a thirty (30) calendar day (or longer at the non-breaching Party's discretion considering the gravity and nature of the default) cure period. Said notice shall be delivered by Certified Mail, Return Receipt Requested, or in person with proof of delivery. Allowing time to cure a failure or breach of contract does not waive the right to immediately terminate the contract for the same or different contract breach which may occur at a different time. In case of default of the Contractor, the State may contract the service from other sources and hold the Contractor responsible for any excess cost occasioned thereby.

The State's failure to make payment shall not be a breach, and the Contractor shall retain all available statutory remedies and protections.

H. NON-WAIVER OF BREACH

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:
FG			

The acceptance of late performance with or without objection or reservation by a Party shall not waive any rights of the Party nor constitute a waiver of the requirement of timely performance of any obligations remaining to be performed.

I. SEVERABILITY

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:
		FG	*To respect the intent of the parties to the Agreement, Mercer respectfully requests this Section be changed/replaced as follows*: It is the intent of the parties that the provisions of this Contract shall be enforced to the fullest extent permitted by applicable law. To the extent that the terms set forth in this Contract or any word, phrase, clause or sentence is found to be illegal or unenforceable for any reason, such word, phrase, clause or sentence shall be modified, deleted or interpreted in such a manner so as to afford the party for whose benefit it was intended the fullest benefit commensurate with making this Contract as modified, enforceable and the balance of this Contract shall not be affected thereby, the balance being construed as severable and independent.

If any term or condition of the contract is declared by a court of competent jurisdiction to be illegal or in conflict with any law, the validity of the remaining terms and conditions shall not be affected, and the rights and obligations of the parties shall be construed and enforced as if the contract did not contain the provision held to be invalid or illegal.

J. INDEMNIFICATION

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:
		JG	*The following proposed changes reflect Mercer standard requests for contracts such as this:* General - Contractor will indemnify the State, its affiliates, officers, directors and employees against any liability incurred by the indemnified parties in connection with a third party claim only to the extent directly arising out of Contractor's negligent acts or omissions or bad faith conduct in connection with Contractor's performance of its obligations under the Contract or Contractor's breach of its representations and warranties under the Contract. Intellectual Property - Contractor will indemnify the indemnified parties against any liability incurred by the State to the extent directly arising out of a claim that any of its work product or the Services infringes or misappropriate any intellectual property rights of a third party. Contractor's indemnity obligations under this Section, paragraph 2, should not apply to any claim for infringement or misappropriation of intellectual property rights to the extent any such infringement or misappropriation is caused by: (i) information or materials provided by the State or a third party other than Contractor's subcontractors, if any, (ii) modifications made by the State or a third party other than Contractor's subcontractors to Services, work product or Contractor's other materials provided to the State in connection with the Services, or any parts thereof, or (iii) the State's use of Services, work product or such other materials or any parts thereof, in a manner inconsistent with the terms of the Contract.

1. GENERAL

The Contractor agrees to defend, indemnify, and hold harmless the Stata and its employees, volunteers, agents, and its elected and appointed officials ("the indemnified parties") from and against any and all third party claims, liens, demands, damages, liability, actions, causes of action, losses, judgments, costs, and expenses of every nature, including investigation costs and expenses, settlement costs, and attorney feas and expenses ("tha claims"), sustained or asserted against the State for personal injury, death, or property loss or damage, arising out of, resulting from, or attributable to the willful misconduct, negligence, error, or omission of the Contractor, its employees, Subcontractors, consultants, representatives, and agents, resulting from this contract, except to the extent such Contractor liability is attenuated by any action of the State which directly and proximately contributad to the claims.

2. INTELLECTUAL PROPERTY

The Contractor agrees it will, at its sole cost and expense, defend, indemnify, and hold harmless the indemnified parties from and against any and all claims, to the extent such claims arise out of, result from, or are attributable to, the actual or alleged infringement or misappropriation of any patent, copyright, trade secret, trademark, or confidential information of any third party by the Contractor or its employees, Subcontractors, consultants, representatives, and agents; provided, however, the State gives the Contractor prompt notice in writing of the claim. The Contractor may

not settle any infringement claim that will affect the State's use of the Licensed Software without the State's prior written consent, which consent may be withheld for any reason.

If a judgment or settlement is obtained or reasonably anticipated against the State's use of any intellectual property for which the Contractor has indemnified the State, the Contractor shall, at the Contractor's sole cost and expense, promptly modify the item or items which were determined to be infringing, acquire a license or licenses on the State's behalf to provide the necessary rights to the State to eliminate the infringement, or provide the State with a non-infringing substitute that provides the State the same functionality. At the State's election, the actual or anticipated judgment may be treated as a breach of warranty by the Contractor, and the State may receive the remedies provided under this RFP.

3. **PERSONNEL**
The Contractor shall, at its expense, indemnify and hold harmless the indemnified parties from and against any claim with respect to withholding taxes, worker's compensation, employee benefits, or any other claim, demand, liability, damage, or loss of any nature relating to any of the personnel, including subcontractor's and their employees, provided by the Contractor.

4. **SELF-INSURANCE**
The State of Nebraska is self-insured for any loss and purchases excess insurance coverage pursuant to Neb. Rev. Stat. § 81-8,239.01 (Reissue 2008). If there is a presumed loss under the provisions of this agreement, Contractor may file a claim with the Office of Risk Management pursuant to Neb. Rav. Stat. §§ 81-8,829 – 81-8,306 for review by the State Claims Board. The State retains all rights and immunities under the State Miscellaneous (Section 81-8,294), Tort (Section 81-8,209), and Contract Claim Acts (Section 81-8,302), as outlined in Neb. Rev. Stat. § 81-8,209 et seq. and under any other provisions of law and accepts liability under this agreement to the extent provided by law.

5. The Parties acknowledge that Attorney General for the State of Nebraska is required by statute to represent the legal interests of the State, and that any provision of this indemnity clause is subject to the statutory authority of the Attorney General.

K. ATTORNEY'S FEES

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:
		FG	*As standard business practice, Mercer suggests the following change:* Each party should be responsible for their own attorneys' fees in the event of a dispute. This Section should be deleted in its entirety.

In the event of any litigation, appeal, or other legal action to enforce any provision of the contract, the Parties agree to pay all expenses of such action, as permitted by law and if order by the court, including attorney's fees and costs, if the other Party prevails.

L. ASSIGNMENT, SALE, OR MERGER

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:
FG			

Either Party may assign the contract upon mutual written agreement of the other Party. Such agreement shall not be unreasonably withheld.

The Contractor retains the right to enter into a sale, merger, acquisition, internal reorganization, or similar transaction involving Contractor's business. Contractor agrees to cooperate with the State in executing amendments to the contract to allow for the transaction. If a third party or entity is involved in the transaction, the Contractor will remain responsible for performance of the contract until such time as the person or entity involved in the transaction agrees in writing to be contractually bound by this contract and perform all obligations of the contract.

M. CONTRACTING WITH OTHER NEBRASKA POLITICAL SUB-DIVISIONS

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:
FG			

The Contractor may, but shall not be required to, allow agencies, as defined in Neb. Rev. Stat. §81-145, to use this contract. The terms and conditions, including price, of the contract may not be amended. The State shall not be contractually obligated or liable for any contract entered into pursuant to this clause. A listing of Nebraska political subdivisions may be found at the website of the Nebraska Auditor of Public Accounts.

N. FORCE MAJEURE

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:
FG			

Neither Party shall be liable for any costs or damages, or for default resulting from its inability to perform any of its obligations under the contract due to a natural or manmade event outside the control and not the fault of the affected Party ("Force Majeure Event"). The Party so affected shall immediately make a written request for relief to the other Party, and shall have the burden of proof to justify the request. The other Party may grant the relief requested; relief may not be unreasonably withheld. Labor disputes with the impacted Party's own employees will not be considered a Force Majeure Event.

O. CONFIDENTIALITY

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:
		FG	*To address situations where, for example, information may already be available in the public domain or a party must provide information in connection with a legal process, we suggest the following addition:* The Receiving Party will not disclose such Confidential Information to any person other than in connection with the provision of the Services or as otherwise provided for in this Agreement. This restriction does not apply to information that

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:
			(i) the Receiving Party must disclose by law or legal process, (ii) is either already in the public domain or enters the public domain through no fault of the Receiving Party, (iii) is available to the Receiving Party from a third party who, to the Receiving Party's knowledge, is not under any non-disclosure obligation to the Disclosing Party, or (iv) is independently developed by or for the Receiving Party without reference to any Confidential Information of the Disclosing Party. *To provide a reasonable time period to identify a Security Incident, we suggest the last sentence of the first paragraph should be replaced by the following language:* Contractor, in accordance with applicable privacy laws and regulations, agrees to notify the State promptly upon learning of Security Incidents involving State Confidential Information. Security Incidents are defined as (1) the actual unauthorized access to or use of unencrypted State Confidential Information by an unaffiliated third party, or (2) loss, theft, or unauthorized disclosure or manipulation of unencrypted State Confidential Information that has the potential to cause harm to State systems, employees, information or the State brand name (i.e., potential breach).

All materials and information provided by the Parties or acquired by a Party on behalf of the other Party shall be regarded as confidential information. All materials and information provided or acquired shall be handled in accordance with federal and state law, and ethical standards. Should said confidentiality be breached by a Party, tha Party shall notify the other Party immediately of said breach and take immediate corrective action.

It is incumbent upon the Parties to inform their officers and employees of the penalties for improper disclosure imposed by the Privacy Act of 1974, 5 U.S.C. 552a. Specifically, 5 U.S.C. 552a (i)(1), which is made applicable by 5 U.S.C. 552a (m)(1), provides that any officer or employee, who by virtue of his/her employment or official position has possession of or access to agency records which contain individually identifiable information, the disclosure of which is prohibited by the Privacy Act or regulations established thereunder, and who knowing that disclosure of the specific material is prohibited, willfully discloses the material in any manner to any person or agency not entitled to receive it, shall be guilty of a misdemeanor and fined not more than $5,000.

P. OFFICE OF PUBLIC COUNSEL (Statutory)

If it provides, under the terms of this contract and on behalf of the State of Nebraska, health and human services to individuals; service delivery; service coordination; or case management, Contractor shall submit to the jurisdiction of the Office of Public Counsel, pursuant to Neb. Rev. Stat. §§ 81-8,240 et seq. This section shall survive the termination of this contract.

Q. LONG-TERM CARE OMBUDSMAN (Statutory)

Contractor must comply with the Long-Term Care Ombudsman Act, Neb. Rev. Stat. §§ 81-2237 et seq. This section shall survive the termination of this contract.

R. BUSINESS ASSOCIATE AGREEMENT (BAA)

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:
		79	*In order to limit unnecessary reporting, the revised language in Section 5.8 of Attachment B – BAA to read:* Report to DHHS within fifteen (15) days, any unauthorized use or disclosure of Protected Health Information made in violation of this contract, or the HIPAA rules, including any security incident that may put electronic Protected Health Information at risk. **The parties acknowledge and agree that this section constitutes notice by Contractor to DHHS of the ongoing existence and occurrence of attempted but Unsuccessful Security Incidents (as defined below) for which no additional notice to DHHS shall be required. "Unsuccessful Security Incidents" shall include, but not be limited to, pings and other broadcast attacks on Contractor's firewall, port scans, unsuccessful log-on attempts, denials of service and any combination of the above, so long as no such incident results in unauthorized access, use or disclosure of PHI. In the case of a breach of Protected Health Information caused by Contractor's breach of this contract, then to the extent practicable**, Contractor shall, as reasonably instructed…. *In order to maintain the security of data, Mercer requests retention of archival/back-up data:* Within thirty (30) days of expiration or termination of this contract, or as agreed, unless Contractor requests and DHHS authorizes a longer period of time, Contractor shall return or at the written direction of DHHS destroy all Protected Health Information received from DHHS (or created or received by Contractor on behalf of DHHS) that Contractor still maintains in any form and retain no copies of such Protected Health Information. ~~**Contractor shall provide a written certification to DHHS that all such Protected Health Information has been returned or destroyed (if so instructed), whichever is deemed appropriate.**~~ If such return or destruction is determined by the **DHHSContractor** to be infeasible, Contractor shall use such Protected Health Information only for purposes that makes such return or destruction infeasible and the provisions of this contract shall survive with respect to such Protected Health Information. **Notwithstanding these or any other data retention, destruction or return provisions elsewhere in this Agreement, Contractor may, in accordance with legal, disaster recovery and records retention requirements, store copies of Covered Entity's data in an archival format (e.g. tape backups), which may not be returned or destroyed upon request of Covered Entity. Such archival copies are subject to the obligations as set forth in this**

			Agreement.

In the provision of any service under this contract, the Contractor must comply with all applicable law, including but not limited to federal and state: statutes, rules and regulations, and guidance documents. Compliance includes, but is not limited to:

1. The Health Information Protection and Portebility Act (HIPAA), as set forth in Attachment B - BAA; and
2. The Medicaid-specific, above-and-beyond-HIPAA privacy protections found at 42 CFR Part 431, Subpart F

S. EARLY TERMINATION

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:
JG			

The contract may be terminated as follows:

1. The State and the Contractor, by mutual written agreement, may terminate the contract at any time.
2. The State, in its sole discretion, may terminate the contract for any reason upon thirty (30) calendar day's written notice to the Contractor. Such termination shall not relieve the Contractor of warranty or other service obligations incurred under the terms of the contract. In the event of termination the Contractor shall be entitled to payment, determined on a pro rata basis, for products or services satisfactorily performed or provided.
3. The State may terminate the contract immediately for the following reasons:
   a. if directed to do so by statute;
   b. Contractor has made an assignment for the benefit of creditors, has admitted in writing its inability to pay debts as they mature, or has ceased operating in the normal course of business;
   c. a trustee or receiver of the Contractor or of any substantial part of the Contractor's assets has been appointed by a court;
   d. fraud, misappropriation, embezzlement, malfeasance, misfeasance, or illegal conduct pertaining to performance under the contract by its Contractor, its employees, officers, directors, or shareholders;
   e. an involuntary proceeding has been commenced by any Party against the Contractor under any one of the chapters of Title 11 of the United States Code and (i) the proceeding has been pending for at least sixty (60) calendar days; or (ii) the Contractor has consanted, either expressly or by operation of law, to the entry of an order for relief; or (iii) the Contractor has been decreed or adjudged a debtor;
   f. a voluntary petition has been filed by the Contractor under any of the chapters of Title 11 of the United States Code;
   g. Contractor intentionally discloses confidantial information;
   h. Contractor has or announces it will discontinue support of the deliverable; and,
   i. In the event funding is no longer available.

T. CONTRACT CLOSEOUT

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:
JG			

Upon contract closeout for any reason the Contractor shall within 30 days, unless stated otherwise herein:

1. Transfer all completed or partially completed deliverables to the State;
2. Transfer ownership and title to all completed or partially completed deliverables to the State;
3. Return to the State all information and data, unless the Contractor is permitted to keep the information or data by contract or rule of law. Contractor may retain one copy of any information or data as required to comply with applicable work product documentation standards or as are automatically retained in the course of Contractor's routine back up procedures;
4. Cooperate with any successor Contactor, person or entity in the assumption of any or all of the obligations of this contract;
5. Cooperate with any successor Contactor, person or entity with the transfer of information or data related to this contract;
6. Return or vacate any state owned real or personal property; and,
7. Return all data in a mutually acceptable format and manner.

Nothing in this Section should be construed to require the Contractor to surrender intellectual property, real or personal property, or information or data owned by the Contractor for which the State has no legal claim.

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III

III

Contractor Duties

A. INDEPENDENT CONTRACTOR / OBLIGATIONS

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:
JG			

It is agreed that the Contractor is an independent contractor and that nothing contained herein is intended or should be construed as creating or establishing a relationship of employment, agency, or a partnership.

The Contractor is solely responsible for fulfilling the contract. The Contractor or the Contractor's representative shall be the sole point of contact regarding all contractual matters.

The Contractor shall secure, at its own expense, all personnel required to perform the services under the contract. The personnel the Contractor uses to fulfill the contract shall have no contractual or other legal relationship with the State; they shall not be considered employees of the State and shall not be entitled to any compensation, rights or benefits from the State, including but not limited to, tenure rights, medical and hospital care, sick and vacation leave, severance pay, or retirement benefits.

By-name personnel commitments made in the Contractor's proposal shall not be changed without the prior written approval of the State. Replacement of these personnel, if approved by the State, shall be with personnel of equal or greater ability and qualifications.

All personnel assigned by the Contractor to the contract shall be employees of the Contractor or a subcontractor, and shall be fully qualified to perform the work required herein. Personnel employed by the Contractor or a subcontractor to fulfill the terms of the contract shall remain under the sole direction and control of the Contractor or the subcontractor respectively.

With respect to its employees, the Contractor agrees to be solely responsible for the following:

1. Any and all pay, benefits, and employment taxes and/or other payroll withholding;
2. Any and all vehicles used by the Contractor's employees, including all insurance required by state law;
3. Damages incurred by Contractor's employees within the scope of their duties under the contract;
4. Maintaining Workers' Compensation and health insurance that complies with state and federal law and submitting any reports on such insurance to the extent required by governing law; and
5. Determining the hours to be worked and the duties to be performed by the Contractor's employees.
6. All claims on behalf of any person arising out of employment or alleged employment (including without limit claims of discrimination alleged against the Contractor, its officers, agents, or subcontractors or subcontractor's employees)

If the Contractor intends to utilize any subcontractor, the subcontractor's level of effort, tasks, and time allocation should be clearly defined in the bidder's proposal. The Contractor shall agree that it will not utilize any subcontractors not specifically included in its proposal in the performance of the contract without the prior written authorization of the State.

The State reserves the right to require the Contractor to reassign or remove from the project any Contractor or subcontractor employee.

Contractor shall insure that the terms and conditions contained in any contract with a subcontractor does not conflict with the terms and conditions of this contract.

The Contractor shall include a similar provision, for the protection of the State, in the contract with any Subcontractor engaged to perform work on this contract.

B. EMPLOYEE WORK ELIGIBILITY STATUS

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:
FG			

The Contractor is required and hereby agrees to use a federal immigration verification system to determine the work eligibility status of employees physically performing services within the State of Nebraska. A federal immigration verification system means the electronic verification of the work authorization program authorized by the Illegal Immigration Reform and Immigrant Responsibility Act of 1996, 8 U.S.C. 1324a, known as the E-Verify Program, or an equivalent federal program designated by the United States Department of Homeland Security or other federal agency authorized to verify the work eligibility status of an employee.

If the Contractor is an individual or sole proprietorship, the following applies:

1. The Contractor must complete the United States Citizenship Attestation Form, available on the Department of Administrative Services website at http://das.nebraska.gov/materiel/purchasing.html

   The completed United States Attestation Form should be submitted with the RFP response.

2. If the Contractor indicates on such attestation form that he or she is a qualified alien, the Contractor agrees to provide the US Citizenship and Immigration Services documentation required to verify the Contractor's lawful presence in the United States using the Systematic Alien Verification for Entitlements (SAVE) Program.

3. The Contractor understands and agrees that lawful presence in the United States is required and the Contractor may be disqualified or the contract terminated if such lawful presence cannot be verified as required by Neb. Rev. Stat. §4-108.

C. COMPLIANCE WITH CIVIL RIGHTS LAWS AND EQUAL OPPORTUNITY EMPLOYMENT / NONDISCRIMINATION (Statutory)

The Contractor shall comply with all applicable local, state, and federal statutes and regulations regarding civil rights laws and equal opportunity employment. The Nebraska Fair Employment Practice Act prohibits Contractors of the State of Nebraska, and their Subcontractors, from discriminating against any employee or applicant for employment, with respect to hire, tenure, terms, conditions, compensation, or privileges of employment because of race, color, religion, sex, disability, marital status, or national origin (Neb. Rev. Stat. §48-1101 to 48-1125). The Contractor guarantees compliance with the Nebraska Fair Employment Practice Act, and breach of this provision shall be regarded as a material breach of contract. The Contractor shall insert a similar provision in all Subcontracts for services to be covered by any contract resulting from this RFP.

D. COOPERATION WITH OTHER CONTRACTORS

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:
FG			

Contractor may be required to work with or in close proximity to other contractors or individuals that may be working on same or different projects. The Contractor shall agree to cooperate with such other contractors or individuals, and shall not commit or permit any act which may interfere with the performance of work by any other contractor or individual. Contractor is not required to compromise Contractor's intellectual property or proprietary information unless expressly required to do so by this contract.

E. PERMITS, REGULATIONS, LAWS

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:
FG			

The contract price shall include the cost of all royalties, licenses, permits, and approvals, whether arising from patents, trademarks, copyrights or otherwise, that are in any way involved in the contract. The Contractor shall obtain and pay for all royalties, licenses, and permits, and approvals necessary for the execution of the contract. The Contractor must guarantee that it has the full legal right to the materials, supplies, equipment, software, and other items used to execute this contract.

F. OWNERSHIP OF INFORMATION AND DATA / DELIVERABLES

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:
		FG	*As standard business practice to clarify that Mercer retains its intellectual property, know-how, models and other assets developed outside of this contract, we respectfully request that the second paragraph be wholly replaced with the following language:* Deliverables created or developed by Contractor specifically and exclusively for the State pursuant to the Contract shall be considered 'work made for hire' and exclusively owned by the State (collectively, "Work"). Notwithstanding anything to the contrary in the Contract, Contractor should retain all patent, copyright and other intellectual property rights in the methodologies, methods of analysis, ideas, concepts, know-how, models, tools, techniques, skills, knowledge and experience owned or possessed by Contractor before the commencement of, or acquired by Contractor during or after, the performance of the Services (collectively, "Intellectual Property"). To the extent that any Intellectual Property is

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:
			embodied in any of the Work, Contractor will grant to the State a non-exclusive, non-transferable, royalty-free license to use the Intellectual Property for its internal use, but solely in connection with and to the extent necessary for use of the Work as contemplated by the Contract.

The State shall have the unlimited right to publish, duplicate, use, and disclose all information and data developed or obtained by the Contractor on behalf of the State pursuant to this contract.

The State shall own and hold exclusive title to any deliverable developed as a result of this contract. Contractor shall have no ownership interest or title, and shall not patent, license, or copyright, duplicate, transfer, sell, or exchange, the design, specifications, concept, or deliverable.

G. INSURANCE REQUIREMENTS

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:
		JG	*We accept the general provisions of this Section with the below noted modifications. The following language should be deleted:* Notwithstanding any other clause in this Contract, the State may recover up to the liability limits of the insurance policies required herein. *We also want to be transparent and let the State know that Contractor's Cyber liability coverage is "per claim".*

The Contractor shall throughout the term of the contract maintain insurance as specified herein and provide the State a current Certificate of Insurance/Acord Form (COI) verifying the coverage. The Contractor shall not commence work on the contract until the insurance is in place. If Contractor subcontracts any portion of the Contract the Contractor must, throughout the term of the contract, either:

1. Provide equivalent insurance for each subcontractor and provide a COI verifying the coverage for the subcontractor;
2. Require each subcontractor to have equivalent insurance and provide written notice to the State that the Contractor has verified that each subcontractor has the required coverage; or,
3. Provide the State with copies of each subcontractor's Certificate of Insurance evidencing the required coverage.

The Contractor shall not allow any Subcontractor to commence work until the Subcontractor has equivalent insurance. The failure of the State to require a COI, or the failure of the Contractor to provide a COI or require subcontractor insurance shall not limit, relieve, or decrease the liability of the Contractor hereunder.

In the event that any policy written on a claims-made basis terminates or is canceled during the term of the contract or within One (1)year of termination or expiration of the contract, the contractor shall obtain an extended discovery or reporting period, or a new insurance policy, providing coverage required by this contract for the term of the contract and one (1)year following termination or expiration of the contract.

If by the terms of any insurance a mandatory deductible is required, or if the Contractor elects to increase the mandatory deductible amount, the Contractor shall be responsible for payment of the amount of the deductible in the event of a paid claim.

Notwithstanding any other clause in this Contract, the State may recover up to the liability limits of the insurance policies required herein.

1. **WORKERS' COMPENSATION INSURANCE**
   The Contractor shall take out and maintain during the life of this contract the statutory Workers' Compensation and Employer's Liability Insurance for all of the contactors' employees to be engaged in work on the project under this contract and, in case any such work is sublet, the Contractor shall require the Subcontractor similarly to provide Worker's Compensation and Employer's Liability Insurance for all of the Subcontractor's employees to be engaged in such work. This policy shall be written to meet the statutory requirements for the state in which the work is to be performed, including Occupational Disease. **The policy shall include a waiver of subrogation in favor of the State. The COI shall contain the mandatory COI subrogation waiver language found hereinafter.** The amounts of such insurance shall not be less than the limits stated hereinafter. For employees working in the State of Nebraska, the policy must be written by an entity authorized by the State of Nebraska Department of Insurance to write Workers' Compensation and Employer's Liability Insurance for Nebraska employees.

2. **COMMERCIAL GENERAL LIABILITY INSURANCE AND COMMERCIAL AUTOMOBILE LIABILITY INSURANCE**
   The Contractor shall take out and maintain during the life of this contract such Commercial General Liability Insurance and Commercial Automobile Liability Insurance as shall protect Contractor and any Subcontractor performing work covered by this contract from claims for damages for bodily injury, including death, as well as from claims for property damage, which may arise from operations under this contract, whether such operation be by the Contractor or by any Subcontractor or by anyone directly or indirectly employed by either of them, and the amounts of such insurance shall not be less than limits stated hereinafter.

   The Commercial General Liability Insurance shall be written on an **occurrence basis**, and provide Premises/Operations, Products/Completed Operations, Independent Contractors, Personal Injury, and Contractual Liability coverage. **The policy shall include the State, and others as required by the contract documents, as Additional Insured(s). This policy shall be primary, and any insurance or self-insurance carried by the State shall be considered secondary and non-contributory. The COI shall contain the mandatory COI liability waiver language found hereinafter.** The Commercial Automobile Liability Insurance shall be written to cover all Owned, Non-owned, and Hired vehicles.

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REQUIRED INSURANCE COVERAGE	
COMMERCIAL GENERAL LIABILITY	
General Aggregate	$2,000,000
Products/Completed Operations Aggregate	$2,000,000
Personal/Advertising Injury	$1,000,000 per occurrence
Bodily Injury/Property Damage	$1,000,000 per occurrence
Medical Payments	$10,000 any one person
Damage to Rented Premises (Fire)	$300,000 each occurrence
Contractual	Included
Independent Contractors	Included
Abuse & Molestation	Included
If higher limits are required, the Umbrella/Excess Liability limits are allowed to satisfy the higher limit.	
WORKER'S COMPENSATION	
Employers Liability Limits	$500K/$500K/$500K
Statutory Limits- All States	Statutory - State of Nebraska
USL&H Endorsement	Statutory
Voluntary Compensation	Statutory
COMMERCIAL AUTOMOBILE LIABILITY	
Bodily Injury/Property Damage	$1,000,000 combined single limit
Include All Owned, Hired & Non-Owned Automobile liability	Included
Motor Carrier Act Endorsement	Where Applicable
UMBRELLA/EXCESS LIABILITY	
Over Primary Insurance	$5,000,000 per occurrence
PROFESSIONAL LIABILITY	
All Other Professional Liability (Errors & Omissions)	$1,000,000 Per Claim / Aggregate
COMMERCIAL CRIME	
Crime/Employee Dishonesty Including 3rd Party Fidelity	$1,000,000
CYBER LIABILITY	
Breach of Privacy, Security Breach, Denial of Service, Remediation, Fines and Penalties	$10,000,000
MANDATORY COI SUBROGATION WAIVER LANGUAGE	
"Workers' Compensation policy shall include a waiver of subrogation in favor of the State of Nebraska."	
MANDATORY COI LIABILITY WAIVER LANGUAGE	
"Commercial General Liability & Commercial Automobile Liability policies shall name the State of Nebraska as an Additional Insured and the policies shall be primary and any insurance or self-insurance carried by the State shall be considered secondary and non-contributory as additionally insured."	

If the mandatory COI subrogation waiver language or mandatory COI liability waiver language on the COI states that the waiver is subject to, condition upon, or otherwise limit by the insurance policy, a copy of the relevant sections of the policy must be submitted with the COI so the State can review the limitations imposed by the insurance policy.

1. **EVIDENCE OF COVERAGE**
The Contractor shall furnish the Contract Manager, with a certificate of insurance coverage complying with the above requirements prior to beginning work at:

Agency
Attn: Managed Care Finance Program Specialist
Address Medicaid and Long-Term Care / Rates & Reimbursement
City, State, Zip 301 Centennial Mall South, Lincoln, NE 68509

These certificates or the cover sheet shall reference the RFP number, and the certificates shall include the name of the company, policy numbers, effective dates, dates of expiration, and amounts and types of coverage afforded. If the State is damaged by the failure of the Contractor to maintain such insurance, then the Contractor shall be responsible for all reasonable costs properly attributable thereto.

Reasonable notice of cancellation of any required insurance policy must be submitted to the contract manager as listed above when issued and a new coverage binder shall be submitted immediately to ensure no break in coverage.

2. **DEVIATIONS**
The insurance requirements are subject to limited negotiation. Negotiation typically includes, but is not necessarily limited to, the correct type of coverage, necessity for Workers' Compensation, and the type of automobile coverage carried by the Contractor.

H. ANTITRUST

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:
JG			

The Contractor hereby assigns to the State any and all claims for overcharges as to goods and/or services provided in connection with this contract resulting from antitrust violations which arise under antitrust laws of the United States and the antitrust laws of the State.

I. CONFLICT OF INTEREST

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:
JG			

By submitting a proposal, bidder certifies that there does not now exist a relationship between the bidder and any person or entity which is or gives the appearance of a conflict of interest related to this RFP or project.

The bidder certifies that it shall not take any action or acquire any interest, either directly or indirectly, which will conflict in any manner or degree with the performance of its services hereunder or which creates an actual or an appearance of conflict of interest.

The bidder certifies that it will not knowingly employ any individual known by bidder to have a conflict of interest.

The Parties shall not knowingly, for a period of two years after execution of the contract, recruit or employ any employee or agent of the other Party who has worked on the RFP or project, or who had any influence on decisions affecting the RFP or project.

J. STATE PROPERTY

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:
JG			

The Contractor shall be responsible for the proper care and custody of any State-owned property which is furnished for the Contractor's use during the performance of the contract. The Contractor shall reimburse the State for any loss or damage of such property; normal wear and tear is expected.

K. SITE RULES AND REGULATIONS

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:
JG			*We respectfully ask that any "site rules and regulations" be provided to Contractor in writing or told where these rules and regulations are posted for public viewing.*

The Contractor shall use its best efforts to ensure that its employees, agents, and Subcontractors comply with site rules and regulations while on State premises. If the Contractor must perform on-site work outside of the daily operational hours set forth by the State, it must make arrangements with the State to ensure access to the facility and the equipment has been arranged. No additional payment will be made by the State on the basis of lack of access, unless the State fails to provide access as agreed to in writing between the State and the Contractor.

L. ADVERTISING

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:
JG			

The Contractor agrees not to refer to the contract award in advertising in such a manner as to state or imply that the company or its services are endorsed or preferred by the State. Any publicity releases pertaining to the project shall not be issued without prior written approval from the State.

M. NEBRASKA TECHNOLOGY ACCESS STANDARDS (Statutory)

Contractor shall review the Nebraska Technology Access Standards, found at http://nitc.nebraska.gov/standards/2-201.html and ensure that products and/or services provided under the contract are in compliance or will comply with the applicable standards to the greatest degree possible. In the event such standards change during the Contractor's performance, the State may create an amendment to the contract to request the contract comply with the changed standard at a cost mutually acceptable to the parties.

N. DISASTER RECOVERY/BACK UP PLAN

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:
		FG	*To align with Mercer's existing business practices and policies, we respectfully ask that this section be replaced with the following language:* Contractor maintains disaster recovery and business resiliency/continuity plans that address reasonably foreseeable events that could impair Contractor's ability to render Services under this Contract. Contractor agrees to provide, upon request, a Statement of Recoverability that details Contractor's level of readiness to respond and recover from disaster or crisis situations. This Statement shall include a summary of the status of the Disaster Recovery and Business Resiliency/Continuity plan, program, and testing activities, as they relate to the services under the contract.

The Contractor shall have a disaster recovery and back-up plan, of which a copy should be provided upon request to the State, which includes, but is not limited to equipment, personnel, facilities, and transportation, in order to continue services as specified under the specifications in the contract in the event of a disaster.

O. DRUG POLICY

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:
FG			

Contractor certifies it maintains a drug free work place environment to ensure worker safety and workplace integrity. Contractor agrees to provide a copy of its drug free workplace policy at any time upon request by the State.

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IV

Payment

A. PROHIBITION AGAINST ADVANCE PAYMENT (Statutory)

Payments shall not be made until contractual deliverable(s) are received and accepted by the State.

B. TAXES (Statutory)

The State is not required to pay taxes and assumes no such liability as a result of this solicitation. Any property tax payable on the Contractor's equipment which may be installed in a state-owned facility is the responsibility of the Contractor.

C. INVOICES

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:
FG			

Invoices for payments must be submitted by the Contractor to the agency requesting the services with sufficient detail to support payment. Managed Care Finance Program Specialist, Medicaid and Long-Term Care/Rates & Reimbursement, 301 Centennial Mall South, Lincoln, NE 68509. The terms and conditions included in the Contractor's invoice shall be deemed to be solely for the convenience of the parties. No terms or conditions of any such invoice shall be binding upon the State, and no action by the State, including without limitation the payment of any such invoice in whole or in part, shall be construed as binding or estopping the State with respect to any such term or condition, unless the invoice term or condition has been previously agreed to by the State as an amendment to the contract.

D. INSPECTION AND APPROVAL

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:
		FG	*To provide further clarity around the nature of an inspection and to avoid work delays, we ask that the last sentence of the second paragraph be replaced by the following:* All inspections and evaluations shall be at reasonable times, made upon reasonable prior written notice, done during normal business hours and in a manner that will not unreasonably delay work. Any audit or inspection performed by a third party shall be subject to the execution of a confidentiality agreement reasonably satisfactory to Contractor.

Final inspection and approval of all work required under the contract shall be performed by the designated State officials.

The State and/or its authorized representatives shall have the right to enter any premises where the Contractor or Subcontractor duties under the contract are being performed, and to inspect, monitor or otherwise evaluate the work being performed. All inspections and evaluations shall be at reasonable times and in a manner that will not unreasonably delay work.

E. PAYMENT

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:
JG			*In accepting this provision, we respectfully ask that the State's determination on whether the contract and specifications have been satisfactorily completed not be unreasonable held.*

State will render payment to Contractor when the terms and conditions of the contract and specifications have been satisfactorily completed on the part of the Contractor as solely determined by the State. (Neb. Rev. Stat. Section 73-506(1)) Payment will be made by the responsible agency in compliance with the State of Nebraska Prompt Payment Act (See Neb. Rev. Stat. §81-2401 through 81-2408). The State may require the Contractor to accept payment by electronic means such as ACH deposit. In no event shall the State be responsible or liable to pay for any services provided by the Contractor prior to the Effective Date of the contract, and the Contractor hereby waives any claim or cause of action for any such services.

F. LATE PAYMENT (Statutory)

The Contractor may charge the responsible agency interest for late payment in compliance with the State of Nebraska Prompt Payment Act (See Neb. Rev. Stat. §81-2401 through 81-2408).

G. SUBJECT TO FUNDING / FUNDING OUT CLAUSE FOR LOSS OF APPROPRIATIONS

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:
JG			

The State's obligation to pay amounts due on the Contract for a fiscal years following the current fiscal year is contingent upon legislative appropriation of funds. Should said funds not be appropriated, the State may terminate the contract with respect to those payments for the fiscal year(s) for which such funds are not appropriated. The State will give the Contractor written notice thirty (30) calendar days prior to the effective date of termination. All obligations of the State to make payments after the termination date will cease. The Contractor shall be entitled to receive just and equitable compensation for any authorized work which has been satisfactorily completed as of the termination date. In no event shall the Contractor be paid for a loss of anticipated profit.

H. RIGHT TO AUDIT (First Paragraph is Statutory)

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:
JG			

The State shall have the right to audit the Contractor's performance of this contract upon a 30 days' written notice. Contractor shall utilize generally accepted accounting principles, and shall maintain the accounting records, and other records and information relevant to the contract (Information) to enable the State to audit the contract. The State may audit and the Contractor shall maintain, the Information during the term of the contract and for a period of five (5) years after the completion of this contract or until all issues or litigation are resolved, whichever is later. The Contractor shall make the Information available to the State at Contractor's place of business or a location acceptable to both Parties during normal business hours. If this is not practical or the Contractor so elects, the Contractor may provide electronic or paper copies of the Information. The State reserves the right to examine, make copies of, and take notes on any Information relevant to this contract, regardless of the form or the Information, how it is stored, or who possesses the Information. Under no circumstance will the Contractor be required to create or maintain documents not kept in the ordinary course of contractor's business operations, nor will contractor be required to disclose any information, including but not limited to product cost data, which is confidential or proprietary to contractor.

The Parties shall pay their own costs of the audit unless the audit finds a previously undisclosed overpayment by the State. If a previously undisclosed overpayment exceeds one and one-half percent (1.5%) of the total contract billings, or if fraud, material misrepresentations, or non-performance is discovered on the part of the Contractor, the Contractor shall reimburse the State for the total costs of the audit. Overpayments and audit costs owed to the State shall be paid within ninety days of written notice of the claim. The Contractor agrees to correct any material weaknesses or condition found as a result of the audit.

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Additional Contract Terms Proposed by Mercer

We believe the Department will find that the aforementioned requested modifications to a handful of the contract terms can be resolved quickly. Indeed, most of our requested changes were mirrored from Mercer's LTSS contract that was successfully negotiated with Nebraska back in 2016. We would also like to let the Department know that we observed that the standard contract terms' language contained in this new RFP/contract was changed, for the better, compared to the contract terms in the contract we signed just a couple of years ago. This made our legal review of this new RFP/contract more streamlined and resulted in fewer suggested modifications. Thank you for the updates you made to your standard contract terms.

In addition to the modifications to the current contract terms, Mercer is respectfully proposing the following additional terms be added to the contract in the relevant section/new section as needed. These requests are standard business practice of most consulting firms and elements that Mercer proposes for all our client engagements. Back in 2016, the Department agreed to some of these additional terms, so we again ask for your consideration of the following:

a. **Limitation of Liability:**
   1. **The aggregate liability of the Contractor to the State for any and all Losses arising out of or relating to the provision of services shall not exceed one times the compensation for the services giving rise to such Loss. The Contractor shall have no liability for the acts or omissions of any third party (other than its subcontractors).**
   2. **In no event shall the Contractor or the State be liable for any loss of profit or incidental, consequential, special, indirect, punitive or similar damages. This provision shall apply to the fullest extent permitted by law. Nothing in this section limiting the liability of the Contractor shall apply to any liability that has been finally determined by a court to have been caused by the fraud of the Contractor.**
   3. **For purposes of this contract "Loss" means damages, claims, liabilities, losses, awards, judgments, penalties, third party claims, interest, costs and expenses, including reasonable attorneys' fees, whether arising under any legal theory including, but not limited to claims sounding in tort (such as for negligence, misrepresentation or otherwise), contract (whether express or implied), by statute, or otherwise, claims seeking any kind of damages and claims seeking to apply any standard of liability such as negligence, statutory violation or otherwise. For purposes of this Agreement, the parties agree that "gross negligence" is defined as conduct that smacks of intentional wrongdoing or evinces a reckless indifference to the rights of others. For the avoidance of doubt, multiple claims arising out of or based upon the same act, error or omission, or series of continuous, interrelated or repeated acts, errors or omissions shall be considered a single Loss.**

b. **Each party and its respective affiliates will comply with our respective obligations arising from data protection and privacy laws in effect from time to time to the extent applicable to the Agreement and the Services.**

c. **IN THE EVENT OF A DISPUTE BETWEEN THE PARTIES ARISING OUT OF OR RELATING TO THIS AGREEMENT, EACH PARTY AGREES TO WAIVE AND NOT DEMAND A TRIAL BY JURY.**

d. **Neither the Contract nor the provision of the Services is intended to confer any right or benefit on any third party. The provision of Services under this Contract cannot reasonably be relied upon by any third party.**

e. **Any sections that by their nature or meaning shall survive the termination or expiration of the Contract should survive the termination or expiration of the Contract.**

V

Project Description and Scope of Work

A. PROJECT OVERVIEW

Introduction

On behalf of all our colleagues at Mercer Health & Benefits LLC (Mercer), we appreciate the opportunity to submit a response to the State Purchasing Bureau's request for Actuarial and Consulting Services for the State of Nebraska's (State) Medicaid Managed Care programs. Based on our decades of multi-state Medicaid actuarial and related consulting experience, Mercer will demonstrate throughout our proposal the value, quality, integrity, fresh perspective, and talent we intend to bring to support the work covered under this RFP.

Mercer is convinced that upon a complete review, Nebraska will determine Mercer represents the best value for an actuarial consulting partner as your program moves forward.

Overview of Mercer's Qualifications

Our understanding of the scope of work covered under this RFP is informed by our experience. As a firm, we possess 30+ years of direct, hands-on experience assisting our clients with evaluating and improving their data, developing and certifying actuarially-sound capitation rates, performing risk adjustment with different risk-adjustment models, preparing databooks and robust information sharing packages for the Centers for Medicare & Medicaid Services (CMS) and other stakeholders, estimating fiscal (and other) impacts of new programmatic changes arising at both the state and Federal level, and providing comprehensive support with different waiver processes (e.g., new or amendments). In that time, we have worked with more than 35 states and territories on their Medicaid and Children's Health Insurance Program (CHIP) programs and we hold current, active contracts with more than two dozen states.

For more than 30 years, Mercer has been providing actuarial and related consulting services to state Medicaid/CHIP agencies.

We are the actuary of record, performing services in states of similar size and potential access issues/frontier nature of Nebraska. We also know that each Medicaid program has unique elements and characteristics and our experience gives us the ability to be flexible and adapt our approaches for what you need for your program. Simply put, this is what Mercer does best.

In total, Mercer Health & Benefits LLC employs more than 3,000 professionals in the United States alone. The services in this RFP are aligned with the core work Mercer does and in order to support this specific type of work across the country, Mercer's specialized government health care consulting practice employs more than 270

dedicated professionals with specific backgrounds in Medicaid and CHIP actuarial rate setting, risk adjustment, financial monitoring, behavioral health/substance abuse consulting, data analyses, Federal health care policy and waivers, value-based purchasing, large data set/information management, pharmacy benefit management, clinical quality, and project management. All of Mercer's actuaries assigned to this engagement are Members of the American Academy of Actuaries. Mercer has, and will continue to certify, that our rate-setting process complies with the applicable regulations (e.g., 42 CFR 438) concerning actuarial soundness, as well as comply with relevant professional standards (i.e., actuarial standards of practice or ASOPs) issued by the Society of Actuaries.

With more than a dozen contracts with state government health purchasers valued at $1 million or more annually, our success in simultaneously managing these relationships speaks directly to our ability to staff and manage multi-faceted projects like this RFP. Our ability to combine experienced project leaders with Mercer's proprietary suite of project management tools lends to delivering work products that meet and often exceed our clients' expectations. Regardless of the size of the Nebraska engagement, **the team structure and matrix style of Mercer's work processes means Nebraska will directly benefit from our collective experience and the work we do across so many different states.**

Mercer's mission statement is "Helping Governments Shape Tomorrow's Health Programs."

No other consulting firm specializing in publicly funded health/welfare programs has the in-house depth (number of full-time staff dedicated to Medicaid and CHIP) and breadth (from actuaries and certified public accountants, to pharmacists and clinicians to data and health/Medicaid policy/waiver experts) of expertise and experience in Medicaid and CHIP. Our goal is to help each of our state clients become more efficient and informed purchasers/sponsors of health and welfare programs and our mission statement is helping governments shape tomorrow's health programs.

The Mercer team has the experience, depth of resources, and capabilities to offer a sound, flexible, and cost efficient approach for the actuarial and consulting services requested in this RFP. **By teaming with Mercer, the Department will have access to more than just an actuarial team; you will have access to the experience of all the professionals that Mercer employs that other firms do not**. For example, with the changes in the Heritage Health program and the continual evolution of health care delivery and payments systems across the country, we believe Nebraska would benefit from the following skill sets that traditional actuarial services-only firms do not have, yet are strengths of Mercer:

- **Strong and candid advice on CMS/Federal health policy/waivers:** We have that in our Policy, Operations, and Planning staff by virtue of Mercer having hired several former CMS Medicaid officials including one of the lead CMS authors of the Medicaid/CHIP Managed Care Final Rule.

- **Specialized skills in the pharmacy benefit:** We have that in our Pharmacy group with several registered pharmacists, former state Medicaid pharmacists (including a former Nebraska Medicaid pharmacist) and pharmacy technicians.

- **Expertise in substance abuse/mental health**: We have that in our Clinical and Behavioral Health group with psychiatrists, psychologists, and addiction specialists.

Accordingly, you will find that our proposed team is comprised of consultants who have years of direct, hands-on experience helping state Medicaid/CHIP agencies manage, monitor, and administer managed care programs. We will build on this hard work to support your goals of improving the Nebraska Medicaid/CHIP program at your pace and building on the successes you have achieved.

We welcome the opportunity to partner with Nebraska in your journey to enhance your program to become even more effective, efficient, customer-focused, and outcomes-based.

B. PROJECT ENVIRONMENT

Your Medicaid/CHIP program has undergone significant changes over the last couple of years. The recent Heritage Health procurement coupled with a consolidation of behavioral health (BH), physical health (PH) and pharmacy services into the new integrated Heritage Health contracts was a major achievement. The addition of new populations into comprehensive, risk-based managed care has brought nearly all Medicaid/CHIP enrollees into this integrated delivery system; even though some services are still paid via a fee-for-service (FFS) carve-out (e.g., long-term services and supports [LTSS]).

Effective January 1, 2017, the change in two of your three health plans has also brought new ideas, new business models, and different perspectives to the Nebraska health care ecosystem. However, these changes also place more onus and responsibility on the Department to effectively manage your three Heritage Health business partners while still completing all of the other daily tasks asked of your staff. Effectively managing your new risk-based managed care organizations (MCOs) through well-designed contracts, financial incentives/penalties, informed monitoring, innovative rate setting, accountability, analytics, and transparency requires much skill and attention to meet your goals of efficiency, improving delivery of health care services, and managing costs.

Your Medicaid/CHIP program impacts over 12% of all Nebraskans and represents over $2 billion in Federal/state expenditures.

That is a lot of purchasing power.

With approximately 12% of Nebraskans receiving health care services and assistance through the Medicaid/CHIP program and over $2 billion in total Federal/state dollars, what you do with your program has ramifications for the State as a whole. Indeed, with this "purchasing power," the Department can also potentially influence how your local health care ecosystem addresses new and innovative ideas such as value-based purchasing, accountable care, provider price variation, and data transparency. We understand and respect this dynamic as every one of Mercer's state Medicaid clients is trying to do more with less, get more value, and improve outcomes for their respective citizens and tax payers.

While your separate BH pre-paid inpatient health plans (PIHPs) no longer exists with the implementation of Heritage Health, the State did recently procure a dental pre-paid ambulatory health plan (PAHP) vendor. As an effective purchaser of health care, buying value in your programs and via the Heritage Health vendors can help ensure a sustainable, accountable, and effective Medicaid/CHIP program over the long term. Yet just having risk-based MCOs (or less comprehensive PIHPs) does not itself result in a cost-effective or high-quality delivery system. Similar to running a successful business, the Department needs to continually monitor results, seek better outcomes, work collaboratively, ensure accountability, and reward/recognize good performance. This takes time and effort in a complex health care system involving a vulnerable population like Medicaid, but it can be done successfully. Mercer knows you work in a challenging political environment with limited resources and almost unlimited demands. We understand that no project is unaffected by the personalities involved, particularly actuarial rate setting involving large sums of money.

The ongoing evolution of your Medicaid/CHIP payment and delivery system requires a contractor with more than just actuarial expertise. We believe Nebraska would value a partner that can augment actuarial work with experience across policy, strategy, clinical/behavioral health, pharmacy, value-based purchasing, and data analytics to aid in the design, management, and monitoring of your programs. In addition to providing the required actuarial services associated with rate development and waiver submission, the Department is searching for a partner like Mercer that can provide high-quality consulting and analysis on a wide array of optional or enhanced services, especially in light of the State's evolving needs as new programs mature and new initiatives are considered; not to mention the unsettled Federal landscape around Medicaid funding, program authority/flexibility, and regulatory requirements.

As we know from being selected in 2016 to be your consultant to support the Nebraska LTSS Redesign initiative, there is desire within the State to include LTSS within the integrated managed care program. The Department's 2017-18 Business Plan noted an implementation goal of managed LTSS (MLTSS) for January 2020. Given our past experience with Nebraska and the experience we have from other states in implementing MLTSS programs (e.g., Mercer is the actuary for Pennsylvania's new comprehensive MLTSS program known as Community HealthChoices) and other value-based purchasing initiatives, we look forward to supporting your efforts on this important, future expansion of risk-based managed care.

Mercer has worked with large, small, and all states in between at every level of managed care implementation, from established, traditional programs to those that have undertaken massive transformation. The Mercer value proposition for Nebraska is that we can successfully combine our multi-state experience with solutions and support tailored for you.

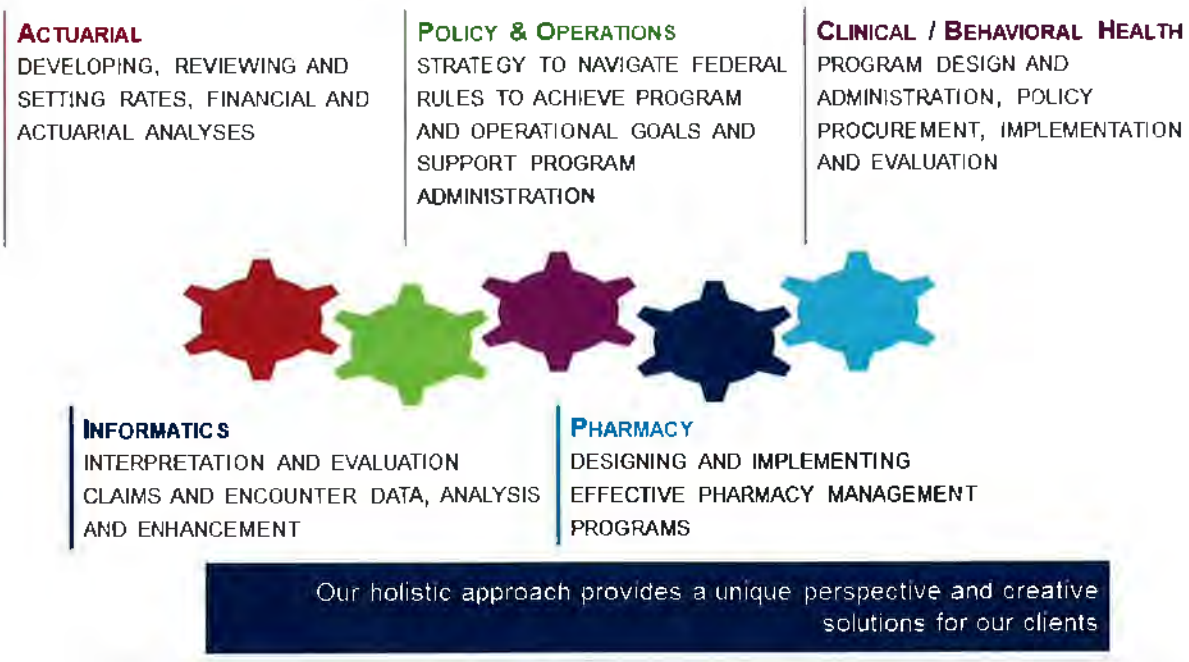
C. SCOPE OF WORK (SOW)

Mercer's Approach

Mercer's approach with any project or state client is one of collaboration and mutual respect. With every project, Mercer will work closely with the Department and your team to identify your needs, develop an approach, and determine the appropriate deliverables that meet the needs of the State. Above all else, the key to our proposal is in our demonstrated ability to successfully weave together the breadth and depth of our actuarial, financial, policy, clinical, and data consulting experience and expertise to customize an approach to the scope of work that will help you succeed in reaching your goals.

Mercer's approach is one of collaboration, built on mutual respect and a shared vision of wanting Nebraska to succeed.

As instructed by the RFP in Section J page 3, we have endeavored to be responsive to all aspects of this RFP with completeness and clarity. We respect the State's instructions to avoid a proposal that is difficult or overly time-consuming to evaluate. Even though this RFP covers a lot of diverse work areas, we avoided the temptation to provide too much material and attachments or use too much "actuarial jargon." Instead, we are showcasing our knowledge and experience concisely in consideration of the broad-ranging topics herein. If you have any questions, we welcome the opportunity to go into more detail about any aspect of our proposal. **This is what our team does for a living and we really enjoy what we do.**



Mercer recognizes there may be some concern within the Department of migrating to a different actuarial firm. However, within recent years we have transitioned large-scale actuarial, data, and/or information services for Ohio, Oklahoma, and Virginia Medicaid programs as a result of Mercer being selected via competitive procurements. For example, we were awarded the Virginia Medicaid actuarial contract in 2017 and replaced a long-time incumbent. For Nebraska, Mercer will work collaboratively with the Department and the current vendor to transition relevant data, methodologies, and related documentation to better ensure successful, uninterrupted work. Due to our 30+ year history, we have done so much work in so many different states and addressed so many different issues that our team does not anticipate any difficulty in earning your trust from the start to the finish of this new engagement. Indeed, we are looking forward to sharing some new ideas and new energy with your team.

Building on our large repository of state Medicaid experience and the knowledge we acquired in our previous Nebraska work, Mercer proposes to schedule a set of comprehensive, initial strategy meeting(s) with key Department staff to ensure we fully understand your short-, medium-, and long-term goals for the program, to identify barriers/issues, and to present and discuss possible solutions for your consideration. We will make this as easy as practical for Department staff by doing our own homework first, preparing a list of questions for the State in advance, and facilitating the meeting(s) with courtesy and efficiency. Subsequent strategy/planning meetings would be held annually or more frequently as warranted by major programmatic or regulatory changes.

An annual strategy/planning meeting of the Mercer team and the State team is one of the highpoints in our client relationships as it gives us scheduled time to consider the future, discuss new ideas, and evaluate how the preceding cycle of work unfolded to apply lessons learned to the next cycle of work. In fact, in such a meeting earlier this year with a Mercer state client, the Medicaid Director said to the group "*We need to do more of this; the experience of everyone around the room is wonderful and the sharing of ideas is just what we need.*" We look forward to having the opportunity to do this with Nebraska, although finding a hotel room in Lincoln around the time of a Huskers home game can definitely be a challenge!

Mercer believes in the importance of face-to-face time and will be on-site in Nebraska for *at least* every major meeting.

The Mercer team fully believes in the value of face-to-face time and thus we will be on-site for all of these major meetings and more frequently as needed. We want to be respectful of your time as we know you have many other items on your "to-do list," but our experience has shown that when we need to plan and strategize, this is best done when we are together and in-person. For other more routine updates and topical discussions, we have found teleconferencing with our state clients works very well and is cost-effective. Mercer also has video-conferencing capability.

The Mercer team provides the additional benefit to the Department of working with a single entity instead of multiple, stand-alone companies who may or may not have a formal relationship. Additionally, the actuarial and related work must be deemed credible by all impacted constituencies – CMS, the MCOs and other providers, and the State, including the Department, the Legislature, and the Governor's Office. **Mercer's long and successful history in Medicaid/CHIP consulting and our credibility, integrity,**

and reputation for being an independent, fair, and unbiased actuarial firm will be an asset to Nebraska as you go forward with the new Heritage Health program.

In order to comply with CMS requirements, while improving access to care, enhancing the quality of care, and stabilizing spending, the consulting services required by the Department must be:

- **Efficient** while producing actuarially-sound capitation rates.
- **Comprehensive** as actuarial services are core to this contract, yet optional or enhanced services, such as policy and clinical/operational services, can also provide the Department with a better long-term return on investment and more outcomes-focused results.
- **Responsive** to the needs of the Department.
- **Timely** through the proactive management of workflow and expectations.
- **Professional, courteous, and respectful** to the State.

Mercer will work collaboratively with the State throughout the development of your MCO and PAHP capitation rates, Program for All-Inclusive Care for the Elderly (PACE) upper payment limits (UPLs) and applicable waiver documents. We will also work with the State to seek relevant input from the Heritage Health MCOs on methodologies and available information and to work with the MCOs to ensure reporting of high-quality data through financial reporting and encounter data reporting consistent with the different SOWs in this RFP.

Our experience includes development of actuarially sound risk-adjusted capitation rates for Medicaid, CHIP, PACE, and dual eligible populations across multiple state Medicaid programs. Our relationships with the majority of our clients have been long term, attesting to their satisfaction with our services and faith in us as a trusted advisor. For example, we have been under contract performing actuarial and related services for more than a decade in our four largest clients (California, Massachusetts, New Jersey, and Pennsylvania).

The longevity of our relationships with our Medicaid/CHIP state clients speaks directly to the value we bring as a trusted partner.

Of relevance, Mercer was, and continues to be, the lead Medicaid/CHIP actuarial, policy, waiver, and financial consultant with the State of Delaware. Nebraska and Delaware actually share a lot of similarities in regards to your Medicaid/CHIP programs including relative enrollment count and spend (over 240,000 enrollees and around $2 billion in expenditures), an integrated MCO benefit package, a PACE option, and a recent change in contracted MCOs. Geographically speaking, Nebraska is obviously much larger than Delaware. In terms of geography, our experience in New Mexico, which also has significant rural/frontier areas, is more akin to Nebraska. Missouri also shares similar geographic size attributes. We provide more details on our experience in these three states in the **Corporate Overview** section of our response, but highlight some additional aspects of our work with and similarities to Delaware below.

Like Nebraska, Delaware had prescription drugs carved-out of managed care until 2015 when pharmacy was added to the MCO package via Delaware's reprocurement (which Mercer supported). Nebraska's policies of having your MCOs follow the Department's

preferred drug list (PDL) and forego any MCO pharmacy rebates mirror what Delaware/Cindy Denemark (chief pharmacist at Delaware) did with their respective program. When Delaware migrated its dual eligible and LTSS populations and services (excluding intellectually/developmentally disabled [I/DD]) into full-risk managed care in 2012 and later implemented a PACE site, Mercer assisted Delaware with all facets of their MLTSS expansion from the initial strategic planning and research process, to the 1115 waiver amendment process, to MCO contract updates and actuarial rate development, Mercer partnered with Delaware every step of the way.
Frederick Gibison Jr, MBA, Mercer's proposed Engagement Leader/Account Manager for this RFP, is Mercer's Delaware engagement leader/account manager, and has been for the past 10 years. Additionally, until recently handing over responsibility to a colleague, Fred had invested over 18 years working concurrently with the Commonwealth of Pennsylvania on their complex HealthChoices Medicaid managed care program.

Risk Adjustment

Mercer is a recognized leader in the application of risk-adjusted payment approaches to Medicaid managed care. To date, we have successfully assisted 14 states in implementing or administering some form of risk adjustment. Several of these states were early adopters, allowing Mercer to help pioneer many of the widely held risk assessment methodologies used today. Many of our states have opted to deploy the Chronic Illness and Disability Payment System (CDPS) or with pharmacy enhancements (CDPS+Rx). **We elaborate more on our risk adjustment experience in our response to SOW 1 and in the Corporate Overview section of our proposal as required.**

Mercer is a recognized leader in the application of risk adjustment. To date, we have assisted 14 states in implementing or administering some form of risk adjustment.

Due to the long-term nature of several of our relationships with our risk adjustment clients, evolution in the health care landscape, and the ever-changing goals and needs of our clients, Mercer has successfully assisted several of our client states tailor risk-adjustment solutions for specialty populations, such as newborns, LTSS populations, individuals with severe BH conditions, and Medicaid expansion eligibility groups. Our team is also committed to ensuring the methods and documentation we provide to our clients conforms with the relevant regulatory requirements and actuarial standards including the Medicaid Managed Care Final Rule, CMS checklist and Rate Development Guides, and Actuarial Standard of Practice (ASOP) No. 45, The Use of Health Status Based Risk Adjustment Methodologies.

Health Policy and Waivers/Federal Operating Authorities

Our team has a wealth of experience with the different Federal authorities including State Plan, 1915(b), 1915(c), 1915(i), and 1115 authorities. Mercer has former CMS and state Medicaid officials as full-time employees in our Policy, Operations, and Planning Sector and, as such, has first-hand knowledge of the inner workings of CMS. As a result, we have a heightened appreciation

Mercer has hired several former CMS officials with first-hand knowledge of the inner workings of CMS. We know the right questions to ask and the appropriate time to engage CMS.

of CMS' expectations of states – we know the right questions to ask and the appropriate timing to engage CMS. This is an added value Mercer provides to our clients.

In order to provide services to our clients, we monitor, track, and analyze CMS publications regarding policy, regulations, and other guidance and implications for state programs. In light of the potential for dramatic changes in Medicaid at the Federal level and the continually evolving regulatory environment, we believe our experience in this area makes us a valued partner for upcoming anticipated (and any unexpected) policy changes. The expertise and background of our staff has allowed us to assist our clients with a wide range of health policy issues. As it pertains specifically to the scope of work under this RFP, Mercer has extensive experience with 1915(b), 1915(b)/(c), and 1115 waiver financial tests including successes with the following states for the activities described:

- **Louisiana:** CMS strategy, actuarial, and policy assistance for Louisiana's concurrent Section 1932(a)/1915(b)/1915(c) Healthy Louisiana Medicaid managed care program. Assistance included program design, drafting waiver applications (including the cost-effectiveness and cost-neutrality tests and the 1915(b)(3) waiver savings proposals), and Federal waiver negotiations for the initial waiver approvals, amendments, and renewals.

- **New Mexico:** Prior to their 1115 Centennial Care Waiver, Mercer developed cost effectiveness for renewals and mid-waiver amendments for their 1915(b) PH and BH programs, as well as their 1915(b)/(c) coordination of long-term services program.

- **North Carolina:** Actuarial support for the 1915(b)/(c) waivers authorizing the Local Managed Entity (LME)-MCO managed care program, including cost projections for the 1915(b) and 1915(c) waivers and consultation on general waiver questions.

- **Ohio:** Development of the MyCare MLTSS demonstration for dual eligibles, which included support for program design and development of the state's 1915(b)/(c) waiver authority and assistance with CMS negotiations.

- **Pennsylvania:** Developing cost effectiveness for the pending 1915(b)/(c) MLTSS waiver program. Mercer has also provided technical assistance for many years on the HealthChoices 1915(b) waiver that covers PH and BH services.

Other Actuarial and Consulting Services

Another factor that distinguishes Mercer in the realm of Medicaid/CHIP consulting is the sheer breadth of experience that we possess. In addition to the acute care (MCO, PIHP, or PAHP programs), LTSS, risk adjustment, and waiver expertise discussed throughout this response, we have extensive experience developing actuarially-sound rates for specialized Medicaid programs covering populations such as individuals with mental health and substance abuse conditions, individuals with intellectual and developmental disabilities, and individuals with other special heath care

Mercer provides clinical and BH/substance abuse consulting support and we can incorporate this expertise into our actuarial rate development process to promote more value-based purchasing.

needs. We have also successfully developed rates and provided actuarial support for Primary Care Case Management (PCCM) programs, limited scope managed care programs covering services such as Dental and Non-Emergent Medical Transportation (NEMT) PAHPs, and more. Please refer to our response to SOW 8 for more ideas on other services and special projects that we can partner together on over the course of this engagement.

Summary

We are convinced that a partnership between Nebraska and Mercer would be advantageous for a variety of reasons including our team's hands-on knowledge of different state Medicaid programs, the depth and breadth of experience of our staff, and the actuarial rate-setting reputation that is associated with the Mercer brand. In our efforts to accomplish our mission, we have found that every Medicaid/CHIP program has unique attributes, but most states share common goals of being prudent stewards of finite public resources while striving to help people live better lives.

By selecting Mercer, you will know with confidence that you have the most experienced, talented, and dedicated team of actuaries, consultants, and other professionals available today. Our goal is to consult to Nebraska in a manner that supports your goals and initiatives and strengthens your program. And even though our corporate colors are blue shades, we can put on a **Big Red** display if needed.

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SOW 1 – CAPITATION RATE SETTING

a. Understanding of the Project Requirements

Exceptional experience, expertise, and judgement are all critical for Medicaid/CHIP managed care capitation rate setting. Mercer's experience and expertise is more easily described and documented throughout our RFP response. Judgement can be more difficult to convey in the written word, but our decades-long partnerships with multiple state Medicaid agencies, along with the personal success stories contained within our resumes and via our references, speak highly to our reliable judgement attributes.

Mercer is intimately familiar with the four key Medicaid documents that govern Medicaid managed care rate setting:

- **Medicaid Managed Care Final Rule.**
- **Medicaid Managed Care Rate Development Guide.**
- **ASOP No. 49, Medicaid Managed Care Capitation Rate Development and Certification.**
- **Health Practice Council Practice Note, Actuarial Certification of Rates for Medicaid Managed Care Programs.**

Actuaries do have several source materials containing current requirements, principles, and practices to guide them, yet professional judgment remains a key element as we often have the challenge of working with imperfect data to predict the future expected cost of health care. Although there are certainly more than four key source materials (such as multiple additional ASOPs), the following key Medicaid rate-setting documents include:

- The July 5, 2016 effective "Medicaid and Children's Health Insurance Program (CHIP) Programs; Medicaid Managed Care, CHIP Delivered in Managed Care, and Revisions Related to Third Party Liability" (the Final Rule) at Final Rule.

- Centers for Medicare & Medicaid Services (CMS) annually updated "2018-2019 Medicaid Managed Care Rate Development Guide" at 2018-2019 Medicaid Managed Care Rate Development Guide,

And two Actuarial Standards Board (ASB) and American Academy of Actuaries (AAA) documents:

- ASOP No. 49 "Medicaid Managed Care Capitation Rate Development and Certification," binding guidance at Medicaid Managed Care Capitation Rate Development and Certification.

- Health Practice Council Practice Note (non-binding actuarial profession guidance) "Actuarial Certification of Rates for Medicaid Managed Care Programs" at Actuarial Certification of Rates for Medicaid Managed Care Programs.

Mercer's proposed Principal for this engagement, Mike Nordstrom, ASA, MAAA, is the current chairperson of American Academy of Actuaries' Medicaid Subcommittee.

With regard to the two ASB/AAA documents referenced above, Mercer took on key roles in their creation. **As Chairperson of the AAA's Medicaid Subcommittee since 2010, our proposed Principal and managing actuary, Michael Nordstrom, ASA, MAAA selected the Task Force team who wrote ASOP No. 49.** He and another Mercer actuary, Kevin Russell, FSA, MAAA, (Kevin is not a listed team member, but one of dozens of Mercer resources our team can access if needed/desired) were themselves significant contributors to this ASOP. For the August 2005 Medicaid Practice Note, Kevin served as Vice Chairperson, assisting on the overall document, as well as writing to multiple topics. Mike and Kevin were also significant contributors to the AAA's 15-page July 27, 2015 comment letter to CMS on the Medicaid Proposed Rule, found at AAA Comment Letter. **Note also that the 2015 AAA letter was addressed to Nicole Kaufman at CMS. Nicole is a recently hired, full-time Mercer employee and part of the proposed Mercer Nebraska team.** So it may be only a slight overstatement to say the Mercer team lives and breathes these (and other related) documents, both from our direct client work, but also through our work on professional actuarial councils and committees.

Capitation Rate Setting Context

The formal project requirements of SOW 1 are documented within the RFP. However, the successful completion of those project requirements can in large measure be demonstrated by a thorough understanding of the rules, regulations, principles, and practices around actuarial soundness for Medicaid/CHIP managed care capitation rate setting. Via §§ 438.4, 438.5, and 438.7 of the Final Rule, CMS added new considerations to the development and documentation of actuarially sound capitation rates, including considerations for network adequacy, medical loss ratio (MLR), and special contract provisions in § 438.6. Note the Final Rule did not extend these same requirements to separate CHIP Title XXI managed care programs, although 42 CFR 457.10 applies "actuarially sound principles" to the development of CHIP rates. Mercer follows the same steps and thought process when developing capitation rates for programs that include Medicaid and CHIP populations.

The actuarial principles and practices are also governed by the aforementioned ASOPs, including ASOP No. 49 which contains the following definition:

- "*Actuarially Sound/Actuarial Soundness* – Medicaid capitation rates are "actuarially sound" if, for business for which the certification is being prepared and for the period covered by the certification, projected capitation rates and other revenue sources provide for all reasonable, appropriate, and attainable costs. For purposes of this definition, other revenue sources include, but are not limited to, expected reinsurance and governmental stop-loss cash flows, governmental risk-adjustment cash flows, and investment income. For purposes of this definition, costs include, but are not limited to, expected health benefits, health benefit settlement expenses, administrative expenses, the cost of capital, and government-mandated assessments, fees, and taxes."

Mercer was the driving force behind inclusion of the word "attainable" within Medicaid rate setting, and it is part of both the Final Rule and ASOP No. 49. Although that one

specific word may not seem like a huge addition, it has been of invaluable assistance to states as they have looked to increase health plan efficiency, effectiveness, and accountability as part of the capitation rate-setting process.

Mercer was the driving force behind inclusion of the word "attainable" within Medicaid rate setting, and it is part of both the Final Rule and ASOP No. 49. Although that one specific word may not seem like a huge addition, it has been of invaluable assistance to states as they have looked to increase health plan efficiency, effectiveness, and accountability.

Mercer's breadth and depth of actuarial rate-setting experience and expertise positions us to assist Nebraska as the Heritage Health program matures and evolves. As Nebraska continues to explore new methods and/or programs of care delivery and enhancements that drive Medicaid quality and efficiency, Mercer brings a fresh, clear understanding of the challenges that can affect a Medicaid program and impact actuarially sound rate development.

With PH, BH, and pharmacy services integrated under the Heritage Health program as of January 1, 2017, the next step in the managed care continuum is to include LTSS, which is scheduled to begin implementation in 2020. Due to the unique nature of LTSS, rate development techniques must be tailored to ensure incentives align with the State's vision and desired outcomes. Mercer has experience developing actuarially sound capitation rates for several Medicaid managed LTSS (i.e., MLTSS) programs and is quite familiar with the challenges associated with long-term care managed care capitation rate development. To the extent Nebraska moves forwards with your LTSS initiative, diagnostic-based risk adjustment or other new initiatives, Mercer will work with the State to develop rate methodologies most appropriate for the program being proposed (some of which might be covered under SOW 8, Special Projects).

The existing Heritage Health program has its own capitation rate-setting needs. At its core, the fundamental goal of actuarial rate development is to match payment to risk. Full-risk managed care programs use capitation payments to compensate MCOs appropriately for the risk they bear, and the capitation payments must be certified as actuarially sound to be in compliance with the Capitation Rate Setting Context documents previously itemized. As described further in our Corporate Overview section, Mercer has successfully worked with several states, large and small, straightforward to highly complex. We realize how important it is to have a sound rate-setting methodology supported by relevant experience, data, and information, and to remain current on Federal and state legislation that may impact rate methodologies and reimbursement mechanisms.

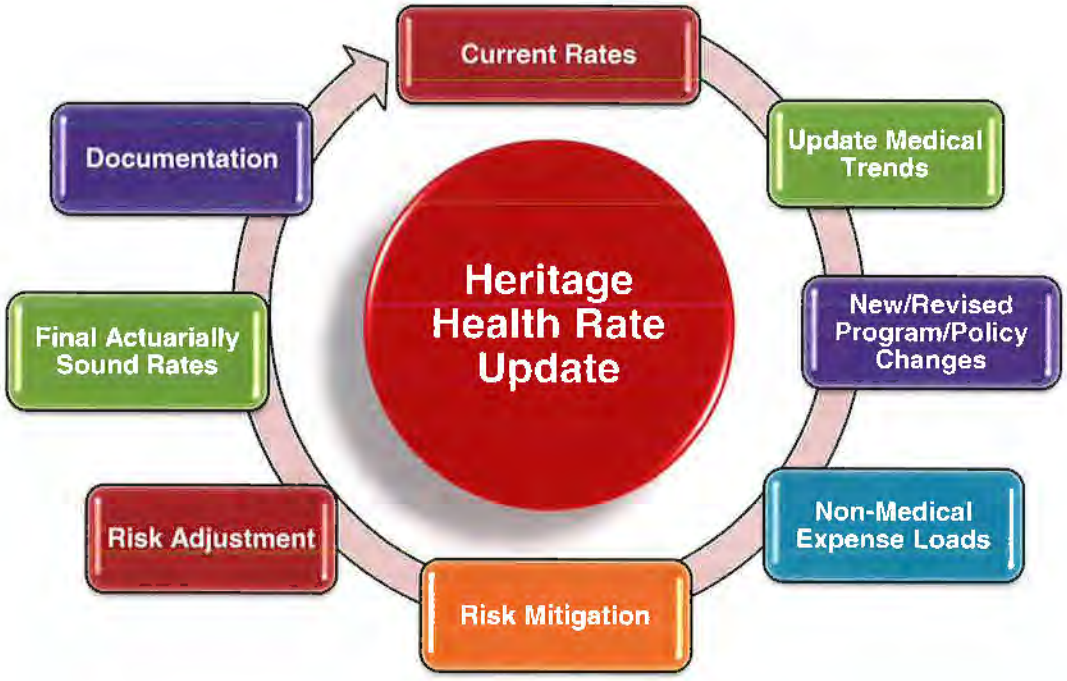
We are highly confident we have seen and experienced more than other actuarial firms. Yet we are also excited to explore new avenues Nebraska would like to pursue. We believe our experience and expertise, especially in states where we support the rate-setting process for the full spectrum of populations and services including LTSS, uniquely positions Mercer to provide the best quality advice and service to you.

b. Proposed Development Approach

Our direct experience goes back over 30 years, to 1985, when we developed rates for the first Medicaid managed care program in the country, Arizona, and now has extended to having worked with more than 30 states. Mercer's actuarial credibility with

CMS and other health care entities has been well established. Our Medicaid clients have expressed complete satisfaction with our deep knowledge of CMS' complex regulations and with our ability to communicate our rate-setting methodology to CMS with thorough documentation. To support CMS' review and approval of rate certifications, Mercer includes a cross-walk to the annual CMS Medicaid Managed Care Rate Development Guide as a standard practice.

Per the description of SOW 1, this will encompass an update to the prior year's actuarially-sound, CMS-approved capitation rates. Typically, the work effort involved in a rate update is less intense than a full rebasing because newer base claims/encounter data is not required and the prior year's approved rates serve as a starting point. Nonetheless, the process still includes review and updating several of the same adjustments applicable under a full rebase methodology. As depicted below, a rate update consists of adjusting the existing rates for claim cost (medical) trend, the impact of new/revised programmatic or policy changes, development of appropriate non-medical expense loads, and consideration of other components such as risk mitigation and risk adjustment (as necessary).



These steps are described in more detail below and constitute the building blocks for our SOW 1 work plan (see Appendix A for our preliminary work plan).

Medical Trends

Trend plays a crucial role in forecasting the expected cost of the new, prospective contract period. Insightful trend analyses are based on encounter data and/or FFS claims because the detail embedded in those data sources can allow more robust actuarial analysis. However, Mercer is also adept at analyzing less detailed data sources (e.g., MCO financial reports, other summary level data) to support trend development.

As a general rule, Mercer will, depending on the data source(s), stratify trend data by rating region, eligibility category, and major category of service (COS) by utilization, unit cost, and/or per member per month (PMPM). Mercer will normalize the raw data to account for material program changes occurring within the time period spanned by the trend data set and may perform a variety of actuarial regression analyses to understand the historical patterns. Areas where additional analyses may be appropriate include:

- **Pharmacy:** It is standard to review trends at the brand versus generic level in the pharmacy COS; however, Mercer has also developed a proprietary Therapeutic Class (e.g., cardiovascular, autoimmune diseases, infectious diseases) mapping for brand, generic, and specialty prescription drugs that has proven invaluable for identifying drivers of observed and projected pharmacy trends at a more detailed level.

  The Mercer team assigned to support Nebraska includes two registered pharmacists.

  Lisa DeVries, RPh still lives in Lincoln.

  Our proposed Nebraska team includes two registered pharmacists, Shawna Kittridge, RPh, MHS and Lisa deVries, RPh. Prior to coming to Mercer in 2016, Lisa deVries worked in the Department on the Nebraska Medicaid program and she still lives in Lincoln. With the inclusion of the pharmacy benefit in Heritage Health, we wanted the Department to know that Mercer has in-house subject matter experts (SMEs) on topics other than just actuarial rate setting. Our pharmacists are a great value-add because they can offer insights into prescription drug trends, drugs in the pipeline, specialty drugs (e.g., Hepatitis C, Spinraza, other), pharmacy reimbursement options, and health plan efficiency in managing the drug benefit (see SOW 8 for latter items).

- **Inpatient (and potential future Nursing Facility):** In cases where there is considerable change in a program's enrolled population or within the provider community, analyzing trends in inpatient and utilization by facility and/or diagnosis related group (DRG) may reveal important differences by region and/or population that need to be reflected in trend factors.

- **Key Subpopulations:** It is critical to understand how changes in the proportion of subpopulations whose costs may be trending at materially different rates than the general population influence trend. Subpopulations that require detailed analysis may be defined by the presence of a particular condition (e.g., Hepatitis C, cystic fibrosis), broader clinical criteria (e.g., individuals with significant mental health/substance abuse needs) or utilization of a particular service.

Mercer's next step is to integrate our wide array of concurrent Medicaid rate-setting and clinical expertise into the trend development process which includes a review of pertinent national health care trend indices and benchmarks, such as the Consumer Price Index (CPI) and trends in other Medicaid programs. These various potential trend analyses must take into account the relative resources and timeframes available in order to meet your rate-setting timeline. We can substitute more professional judgment for less analytics as not all of our state clients have the resources or

detailed data to support multi-level trend work. This step can also evolve over time as data sources improve or priorities shift.

Finally, our actuaries will develop final trend assumptions based on the data and information collected and analyses conducted. This step also includes proper coordination with program change and other adjustments (as applicable) to ensure no double counting occurs.

Program/Policy Changes

Mercer will apply adjustments for any new or significantly revised programmatic changes to recognize anticipated material changes to either utilization and/or unit cost due to changes in Federal and/or State policies, benefits, or covered populations. These changes may be the result of new actions taken by the Department, policy decisions passed down by the legislature, Federal regulatory changes, or items included in the final State budget. Making these adjustments ensures the final capitation rates retain the goal of matching payment to risk. In some cases, program changes can be deemed immaterial or there is a challenge of uncertainty as to whether the change will actually happen in the future rating period. In these situations, we will need to discuss with the Department whether a prospective rate adjustment is warranted or is it better to take a wait and see approach.

Mercer will engage in discussions with the Department to determine the nature of each change and ascertain the available data sources to calculate an adjustment to the rates. Some program changes can have both a material new cost and cost off-set if perhaps a new benefit is being offered that might replace or reduce the frequency of an existing, more costly service; and the net impact may be close to neutral. In other states, we have been provided a state budget impact assessment to consider, but at other times it is completely left up to us to determine what a reasonable adjustment is for the managed care program. Sometimes there is no direct data available, such as addition of a new benefit, and thus we need to consider our experience in other states that might already be covering the same service or our professional actuarial judgment. There are many methods Mercer has used to work through a material program change and we understand that whatever decision-making process we use, we are likely to have to explain it to the MCOs who may have a different interpretation. If a particular program change has a high-impact value and is potentially contentious, Mercer will want to ensure the Department is fully supportive of the final rate adjustments applied.

In order to ensure major program change adjustments are defendable, Mercer will, on an as-needed basis, leverage our SMEs and fellow Mercer employees to provide technical peer review or input on a specific issue. For example, in another state an adjustment for a new BH outpatient service was required, so we asked our BH clinicians to offer their advice and perspective to the actuarial team.

Our approach typically includes projecting the total cost impact by considering factors such as the policy implementation date, expected initial and ongoing enrollment rates, the relative risk of any newly enrolled population, and the anticipated cost per service and utilization uptake. These total costs are then translated into appropriate capitation rate adjustments. This process also includes coordination with other adjustments, including trend, to ensure the impact of these changes is not double-counted.

Non-Medical Expense Loads

As a substantial and highly visible component of the final rate ranges and rates, Mercer does not take administrative expenses and other portions of this rate component lightly. We will make recommendations to adjust for inappropriately high administrative and care management expenses, and share our analyses and work closely with the State to establish the appropriate allowance for these non-medical expenses. Given economies of scale and other efficiencies, nationally we have seen Medicaid MCO administration levels drop over the last five or so years, often 1.0% or more (meaning for example an MCO with a 10% administration level going to 9%, or a 7% level going to 6%). Administrative costs typically grow at inflationary rates that are less than medical costs which also supports a gradual reduction in the portion of the total capitation rate (i.e., percent of premium) attributable to non-medical expenses.

To determine an appropriate non-medical expense load, Mercer typically evaluates the contract requirements, administrative and care management expenses reported by the MCOs, comparisons to other similar state Medicaid managed care programs, impact on economies of scale as enrollment changes, and applicable Federal and/or state specific premium taxes. We also consider any relevant contractual arrangements such as Nebraska's administrative cap that may influence non-medical allowances to ensure the final capitation rates align with the contractual requirements for the MCOs. For example, this may include risk mitigation approaches that may reduce the MCOs' risk levels and allow for a lowering of the included risk/profit margin component.

Two recent developments regarding non-medical expense loads merit further discussion.

The Tax Cuts and Jobs Act, which was signed on December 22, 2017, reduced the Federal corporate income tax rate on 2018 income to 21%. Previously, the rate had averaged 35% on corporations with taxable income of $18,333,333 or more, grading down slightly to 34% on corporations with taxable income of $335,000 to $10,000,000 per year. The reduction in the corporate income tax rate means that MCOs subject to corporate income tax will be able to retain a larger portion of their pre-tax income. Therefore, Medicaid programs should look at their particular circumstances to determine whether the corporate income tax rate reduction provides a reason that capitation rates could be lower than they would have been had the income tax rates not been reduced.

Separate from state premium tax, Section 9010 of the Affordable Care Act provides for the Health Insurance Providers Fee (HIPF) to be paid by health insurers, including some Medicaid MCOs. The HIPF is calculated by the IRS from net written premium data for the prior calendar year as filed by the insurers on IRS Form 8963. It is important to note that long-term care premiums/services should be excluded from the calculations. Calculation of the HIPF by health plan (including consideration for the impact of non-deductibility of the HIPF for Federal and state tax purposes), and retroactive adjustment of capitation rates, are tasks Mercer has performed accurately and timely for each of our state Medicaid clients. While currently under appeal, the US District Court for the Northern District of Texas in *Texas v. US* https://premiumtaxcredits.wikispaces.com/file/view/177111375176.pdf found that states are explicitly excluded/exempted from paying the HIPF. The State of Nebraska was also a plaintiff in the case. Mercer believes this to be an important strategic discussion topic with the Department.

Apply Risk Mitigation

The cornerstone of accomplishing fiscal soundness and sustainability is the alignment of MCO payment with the risk of the MCO's enrolled population. Mercer has extensive experience consulting with our state clients on approaches to improve the allocation of payments across MCOs. Beyond risk adjustment (discussed in the next section), this can be accomplished through combinations of optional reinsurance programs to limit exposure to certain risks, risk corridors to mitigate overall program risk to both the MCOs and the state, risk pools to more appropriately allocate premiums across MCOs, and minimum MLRs or underwriting gain caps to avoid funding excess MCO profits.

Mercer has extensive experience consulting with our state clients on approaches to improve the allocation of payments across MCOs.

Nebraska currently employs a risk corridor based on a MLR which is not an uncommon strategy used by states and is a tool with which Mercer is very familiar. Some of our state clients will deploy multiple strategies such as a targeted risk sharing arrangement on a subset of high dollar pharmacy treatments (e.g., hemophilia, cystic fibrosis) along with a risk corridor on the back end. Of course careful consideration should be given by any state before implementing any new risk mitigation approaches as they are not without administrative burden, both to the state and to the MCOs. Indeed, any form of risk mitigation can also have the unintended consequence of lessening the MCOs financial incentive to manage and coordinate care of their members.

The broad range of experience our team will bring to this engagement will allow us to tailor the design of selected risk mitigation strategies (if applicable), price each strategy as necessary in accordance with applicable actuarial practices and principles, and account for the impact that any risk mitigation mechanisms may have on other assumptions (e.g., risk/profit) made throughout the rate-setting process.

Risk Adjustment

Mercer is a recognized leader in the application of risk-adjusted payment approaches to Medicaid managed care. In order to meet the risk-adjustment needs of our clients, we have established a team consisting of actuaries, statisticians, consultants, clinicians, and information technology specialists who are dedicated to supporting Mercer's risk assessment engagements. Several of our consultants have spoken at national risk adjustment conferences and other stakeholder events that focus on emerging risk measurement tools. Our proven experience with risk adjustment will directly benefit the Department as we explore different strategies together to better match payment to risk within your Heritage Health program.

In order to meet the risk-adjustment needs of our clients, we have established a team consisting of actuaries, statisticians, consultants, clinicians, and information technology specialists who are dedicated to supporting Mercer's risk assessment engagements.

As the following table illustrates, we are experienced with all the major risk adjustment groupers on the market today, including Adjusted Clinical Groups (ACGs), CDPS and

CDPS+Rx, Clinical Risk Groups (CRGs), Diagnostic Cost Groups (DCGs), Episode Treatment Groups/Episode Risk Groups (ETG/ERG), Medicaid Rx, and DRG.

Risk Adjustment Model	Description	Years of Experience	Clients
ACGs	Uses diagnosis (and pharmacy where applicable) codes, as well as age/gender to classify members into medical condition categories; categories are mutually exclusive. Model includes many clinical applications.	10+ Years	(Total 8 states) Alabama, Connecticut, Delaware, Louisiana, Maryland, Minnesota, New York, North Carolina, and Commercial Carriers
CDPS (formerly called DPS), including CDPS+Rx	Uses diagnosis (and pharmacy where applicable) codes, as well as age/gender to classify members into medical condition categories; categories are additive. This model was developed specifically for the Medicaid population.	15+ Years	(Total 14 states) Arizona, Colorado, Delaware, District of Columbia, Florida, Kansas, Missouri, New Jersey, New York, Ohio, Oklahoma, Oregon, Pennsylvania, and Texas
CRGs	Uses diagnoses, prescription drug use, and a set of procedure codes to generate a risk score. Categories are mutually exclusive.	5+ Years	(Total 2 states) New York and Pennsylvania
DCGs and Hierarchical Condition Classification (HCC)	Uses diagnosis codes along with age/gender to determine the medical condition category; categories are additive. A version of the model incorporates prescription drug usage in addition to diagnosis codes for disease classification.	10+ Years	(Total 1 state) Massachusetts, Washington Basic Health Plan, CMS, and Commercial Carriers
ETG	A grouping mechanism for medical and pharmacy information; classification based on entire episode of care. Commonly used for clinical-based applications.	5+ Years	(Total 4 states) Idaho, Massachusetts, North Carolina, Pennsylvania, and Commercial Carriers
Pharmacy-based Models (Disease State Analysis and Medicaid Rx)	Assigns members to medical condition category based on prescription drug use and age/gender; categories are additive.	10+ Years	(Total 12 states) California, Connecticut, Delaware, District of Columbia, Florida, Georgia, Maine, Missouri, New Jersey, New Mexico, New York, Pennsylvania, and Spain

While **our most extensive experience is with the CDPS/CDPS+Rx model,** Mercer does not prefer one risk assessment product over another. Instead, we ensure our clients have unbiased access to the latest risk adjustment concepts, policies, models,

and applications and then work collaboratively with state staff to help them understand which model best meets their own unique needs.

When assisting states, Mercer frequently engages directly with the model developers of the chosen product. For example, please see the following **recommendation letter addressed to Robert (Rob) O'Brien from Todd Gilmer, PhD of the University of California, San Diego, the model developer of CDPS:**

UNIVERSITY OF CALIFORNIA, SAN DIEGO UCSD

BERKELEY DAVIS IRVINE LOS ANGELES RIVERSIDE SAN DIEGO SAN FRANCISCO

MERCED SANTA BARBARA SANTA CRUZ

TODD GILMER, PHD
PROFESSOR AND CHIEF, DIVISION OF HEALTH POLICY
VICE CHAIR FOR ACADEMIC AFFAIRS
DEPARTMENT OF FAMILY MEDICINE AND PUBLIC HEALTH

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May 11, 2018

Robert O'Brien
Senior Associate, Mercer
2325 East Camelback Rd, Suite 600
Phoenix, AZ 85016

Dear Mr. O'Brien:

I am pleased to provide this letter of recommendation for Mercer. As a primary architect of the Chronic Illness and Disability Payment System (CDPS+Rx) and Medicaid Rx risk adjustment models, I have spent many years in the field of healthcare research. In that time, I have worked with Mercer for over a decade and acknowledge their expertise in the area of health-based risk adjustment. I have found Mercer staff to be knowledgeable, thoughtful, insightful, and easy to work with on all aspects of risk adjustment.

Mercer's staff has substantial experience with and an in depth understanding the CDPS+Rx model, including its application, strengths and limitations. I have found Mercer staff to be highly competent and professional. In fact, I have had the opportunity to co-present with Mercer colleagues at industry conferences and have worked in conjunction them in deriving annual coding updates and testing significant model version enhancements. I often provide consulting to actuarial firms who have secured contacts with state Medicaid programs to conduct risk adjustment work. I am always pleased when I am contacted by Mercer, as I know the work will be done well.

If there is any further information needed please contact me at 858-534-7596 or tgilmer@ucsd.edu.

Sincerely,

Todd Gilmer, PhD
Chief of Division of Health Policy
Department of Family Medicine and Public Health
University of California, San Diego

Once we have helped a client select a model, our consultants are adept at providing as much or as little technical assistance throughout the implementation phase as is desired. Generally speaking, the following steps are common to the implementation phase of risk adjustment regardless of the model selected:

- Decide between available national cost weights and state-specific cost weights.
- If necessary, develop or update state-specific Medicaid cost weights.
- Collect data and calculate member risk scores for those with sufficient historical experience.
- Calculate raw risk scores by MCO, region, and rate cell, apply assumed risk for unscored members, and adjust to maintain budget neutrality.
- Make any other relevant adjustments and apply final adjusted risk scores to the capitation rates.
- Account for any add-on amounts that are outside the risk-adjustment process.

Using the selected risk-adjustment model, corresponding cost weights, and the collected and validated claims/encounter data, members are assigned a risk score. With members coming on and off the Medicaid program rolls, it is important to establish a threshold on how many months a member needs to be either Medicaid eligible or managed care enrolled in order to receive a risk score. This is referred to as the scoring criteria. The purpose of the scoring criteria is to avoid assigning a member a risk score based on limited experience where there may not have been adequate time to receive the services that provide the required diagnoses and/or drug data that are used for disease classification. The selected scoring criteria should align with the data being used in the risk-adjustment process, the type of risk-adjustment model being used (less time is required for pharmacy-only models), and program needs. The most commonly used risk-adjustment models are typically designed to take 12 months of claims/encounter data to assign members to demographic and disease conditions and estimate/predict their risk.

For members who do not meet the scoring criteria, an unscored assumption will need to be made regarding their risk profile. Mercer has employed different methods to assign a proxy risk score to an otherwise unscored population including:

- Average health risk for all members.
- Average health risk of scored members enrolled in the MCO.
- Average health risk of scored members by choosers and auto assignees.
- Average health risk of scored members by demographic category.

Once members are assigned a risk score (including the unscored assumption), the members are assigned to an MCO, rating region, and rate cell. This data is then rolled up to calculate the MCOs' raw risk scores at the rating region and rate cell level. Prior to applying the MCO risk scores to the capitation rates, they must first be adjusted to ensure the risk scores do not increase nor decrease the cost of the program. This is accomplished by dividing the raw risk scores by the population's average risk score (all MCOs) that is specific to the rate cell and region. This produces budget neutral risk scores. Since Nebraska has already implemented risk adjustment earlier this year, we assume these application decisions have already been made.

Clear communication with the Heritage Health plans will be a key component to a successful risk-adjustment process. Sharing information with the MCOs throughout the process and incorporating their feedback, where appropriate, improves MCO acceptance of the risk-adjustment results. When the final risk scores have been calculated, it is also important to provide the MCOs with sufficient information to be able to independently review the risk-adjustment process/results. Mercer has developed a series of reports and approaches to information sharing that can be tailored for Nebraska's desired level of transparency with your MCOs (e.g., data volume reports, feedback files, individual risk score files).

While the inputs are stipulated by the model developer, there is no hard rule around how often to update the member-level risk scores or the resulting MCO risk scores. Barring any program complications, it is common for member-level risk scores to be updated at least annually. This allows for updates to a member's risk profile to account for any changes in the past year and may allow members to be scored who did not have the requisite experience in the prior year. More frequent updates in member risk scores are also possible depending on any budgetary constraints or data issues that may be present. More frequent updates encourage data submissions to the state's Medicaid management information systems (MMIS), allows for data improvements throughout the year, and mitigates any changes to the MCO risk scores by only changing half of the data used for each risk assessment. While quarterly updates have been done in programs with an evolving population base (e.g., new population expansions), this is less common and is more labor intensive.

RAR has the important "side-effect" of giving the MCOs a real, tangible reason to improve the completeness and accuracy of their encounter data.

MCO risk scores can likewise be updated at different intervals: at the same frequency as the member-level risk scores (annually, semi-annually, or quarterly) or even more frequently. More frequent updates can be made by only updating the member's assignment into an MCO, region, or rate cell. While semi-annual updates are the most common for MCO risk scores, some states have updated their risk scores on a quarterly or monthly basis to account for an evolving situation, such as new or exiting plans or changes to MCO enrollment attraction patterns. Once the situation stabilizes, states have returned to the same update frequency as the member-level risk scores. Mercer proposes continuing to developing member-level risk scores using the CDPS+Rx model as the State indicated in answers to RFP questions. As part of this process, we propose calculating the member-level scores on an annual basis and assigning members to an MCO and rate cell semi-annually. This process will create MCO risk-adjustment factors that will be updated every six months to account for member distribution changes that can occur among MCOs. We are assuming the Department's data is accurate and valid as noted by the Department to support the risk-adjustment process and this SOW will not require extensive data validations/corrections. The specific risk-adjusted rate (RAR) process will be a key issue for further discussion with the Department.

Our team is committed to ensuring the methods and documentation we provide to our clients conforms with the relevant regulatory requirements and actuarial standards including the Medicaid Managed Care Final Rule (CMS-2390F), CMS Rate Development

Guides, and ASOP No. 45, The Use of Health Status Based Risk Adjustment Methodologies.

Mercer in Action:

A team of Mercer actuaries, data analysts, statisticians, and clinicians originally developed an LTSS risk-adjustment solution for New York's Partially Capitated MLTC program in 2009 and 2010. Due to the limited usefulness of diagnosis data for purposes of predicting LTSS expenditures, Mercer worked with New York to evaluate the efficacy of functional assessment data for this purpose and found adequate statistical relationships between plan-reported costs and the aforementioned function assessment data to identify predictors, establish cost weights, and develop Long-Term Care Cost Index bands to create the framework for the Long-Term Care Risk-Adjustment Model.

After initial implementation, Mercer continued to collaborate with New York and MLTC MCOs to improve the data used to develop the model, refine the framework to include limited diagnostic information and interaction factors, facilitate a transition from Semi-Annual Assessment of Members to Universal Assessment System functional assessment data and roll out the risk adjustment to New York's Medicare-Medicaid financial alignment demonstration, Medicaid Advantage Plus program, and PACE payment rates.

Above and beyond the available national risk-adjustment models, our demonstrated ability to develop customized risk-adjustment models for Medicaid MLTSS programs is appreciated by our clients and is a key difference between Mercer's experience and that of our competition.

Finally, Mercer's approach to risk adjustment also emphasizes a number of optional opportunities to provide our clients with insights into MCO attraction patterns and member behavior, enhance the rate-setting methodology, and support future budget analyses. For example, a Leavers/Joiners Analysis compares the average acuity of members who exited or joined an MCO during the study period. We have also used risk-adjustment results to inform assumptions regarding the average risk of individuals who make an affirmative choice to enroll in an MCO versus those who were auto-assigned to that MCO following a program-wide MCO reprocurement. The ability to turn risk-adjustment results into data-driven, analytical approaches for informing key rate setting and risk-adjustment assumptions for subsequent periods represents a significant improvement over relying on studies or other sources that are rarely based on Medicaid populations and are almost never state-specific.

Final Actuarially Sound Rate Ranges and Rates

The culmination of SOW 1 is the development of updated actuarially sound rate ranges and specific capitation rates. Rate ranges incorporate the concept of normal variation within several components of the rate-setting process. Ranges can also be reflective of a more/less aggressive approach to assumption setting, and their use can provide payment flexibility to the Department in negotiations with the Heritage Health plans.

Actuarially sound rate ranges are often developed by utilizing variation in claim cost (medical) trend, MCO administration load, and MCO risk load assumptions. Unless our state clients want us to produce a single actuarially sound rate value for each rate cell, ranges are still the preferred approach. Moreover, **effective with rating periods beginning on or after July 1, 2018, the CMS Final Rule now requires actuaries to certify the *final* MCO contract rates as opposed to just rate ranges.** However, CMS permits rate ranges to be developed and used by states as part of the MCO negotiation process. Therefore, Mercer has interpreted these new requirements we can still provide Nebraska actuarially sound rate ranges, but within our final rate certification documentation we will need to include the final MCO contract rates you and your MCOs agree to and demonstrate that the final rates are actuarially sound.

For rating periods beginning on or after July 1, 2018, the CMS Final Rule allows the Department to change your final MCO contract rates by +/- 1.5% *without the need for any additional actuarial rate certification.*

Of particular relevance here is that the Final Rule also added new flexibility that Nebraska can leverage in terms of a "defacto" rate range. Specifically, **under 42 CFR 438.7(c) for rating periods beginning on or after July 1, 2018 Nebraska can change your final MCO contract rates by +/- 1.5% *without submitting a revised actuarial rate certification.*** Mercer has been instrumental in helping our clients thoroughly review the Final Rule and developing strategies to meet varying compliance dates.

For the Heritage Health program, certification would be done for the following current rating regions and categories of aid (COA)/rate cells:

- Rating Regions that cover the entire State:
  - Rating Region 1 consists of 41 counties: Antelope, Boone, Burt, Butler, Cass, Cedar, Clay, Colfax, Cuming, Dakota, Dixon, Dodge, Douglas, Fillmore, Gage, Hamilton, Jefferson, Johnson, Knox, Lancaster, Madison, Merrick, Nance, Nemaha, Nuckolls, Otoe, Pawnee, Pierce, Platte, Polk, Richardson, Saline, Sarpy, Saunders, Seward, Stanton, Thayer, Thurston, Washington, Wayne, and York.
  - Rating Region 2 consists of 52 counties: Adams, Arthur, Banner, Blaine, Box Butte, Boyd, Brown, Buffalo, Chase, Cherry, Cheyenne, Custer, Dawes, Dawson, Deuel, Dundy, Franklin, Frontier, Furnas, Garden, Garfield, Gosper, Grant, Greeley, Hall, Harlan, Hayes, Hitchcock, Holt, Hooker, Howard, Kearney, Keith, Keya Paha, Kimball, Lincoln, Logan, Loup, McPherson, Morrill, Perkins, Phelps, Red Willow, Rock, Scotts Bluff, Sheridan, Sherman, Sioux, Thomas, Valley, Webster, and Wheeler.

- COAs/Rate Cells are:
  - Aged, Blind, and Disabled, ages birth to 20 years, males and females (ABD 00-20 M&F)
  - Aged, Blind, and Disabled, ages 21 years and older, males and females (ABD 21+ M&F)
  - Aged, Blind, and Disabled Duals, ages 21 and older, males and females (ABD 21+ Duals M&F)
  - Aged, Blind, and Disabled, ages 21 years and older, women with cancer (ABD 21+ F-WWC)

- Children's Health Insurance Program, males and females (CHIP M&F)
- Family under 1 year, M&F
- Family 01-05 years, M&F
- Family 06-20 years, F
- Family 06-20 years, M
- Family 21 years+, M&F
- Foster Care, M&F
- Katie Beckett 00-18 years, M&F
- LTSS (Institutional) – Duals
- LTSS (Institutional) – Non-Duals
- LTSS (Home- and Community-Based) – Duals
- LTSS (Home- and Community-Based) – Non-Duals
- Dual
- Maternity care payment

Documentation (i.e., Actuarial Memorandum/Rate Certification)

Mercer will produce necessary documentation at the culmination of the actuarially sound rate update process which will include final rate exhibits and work products, as well as certification letter(s) and reports that will comply with all requirements, including the Final Rule, and the CMS Medicaid Managed Care Rate Development Guide. Mercer will also provide technical assistance to the State in responding to any questions that may arise in the CMS Office of the Actuary (OACT) rate review process. **To date, all rates developed by Mercer for our state clients have been approved by CMS.**

Additionally, Mercer will work with the Department to ensure the documentation produced provides the MCOs and your staff with a clear understanding of the data, assumptions, and results of the rate-setting and risk-adjustment process, to the extent deemed appropriate by the Department. This includes presentations to the MCOs and your staff, working with the State to answer MCO questions, and supporting rate negotiations as needed. A similar support role will be provided by Mercer to the Department in your rate review discussions with CMS.

c. Technical Considerations

By their nature, prospective actuarial rate development and risk adjustment are highly technical processes with numerous computational steps. We highlight below some of the most common and key technical considerations and potential challenges that will impact this work:

- Availability, credibility, and reliability of data sources provided to Mercer can either make these work projects go smoothly or require extensive work arounds/problem solving. For the State's existing risk-adjustment process, detailed data is required whereas an actuarial rate update can be done with summary level data. Based on the State's answers to questions on the RFP, data is assumed to be accurate and valid to support this SOW.

- Timely and relevant information on material program changes impacts any rate-development process.

- The amount of involvement and information sharing with the MCOs is a consideration that will impact the time and resource requirements for this work.

There is no universal standard for the "right" level of MCO involvement or information sharing when it comes to prospective rate development. Some states have a very open rate-development process where the MCOs can review and have input on the actuarial assumptions before rates are finalized and yet other states choose to share only limited information. You and your MCOs are business partners so some level of information exchange is important for the program's sustainability and mutual understanding, but the MCOs have their own agenda and there are time and resource constraints on actually getting the work done. Typically, the more information shared with the MCOs, the longer and more resource intensive the rate-development process becomes.

- The amount and type of CMS OACT oversight will be a factor in this work. As stated previously, Mercer's process is well-managed and we know what CMS OACT is looking for in our rate documentation. However, CMS does have a habit of changing what they want/need and this could impact our work. Moreover, we are hearing that CMS is contemplating issuing a new Medicaid/CHIP Managed Care Final Rule, which could either make the process more or less complex and time consuming (or perhaps a little of both).

- Additionally, since CMS now requires the final MCO-specific rates to be certified as actuarially sound, Mercer's participation in MCO negotiations and delivery of the final certification and documentation will be dependent on the State's negotiation and contract execution timeline. Mercer will deliver final documentation that reflects the State's contract rates promptly at the completion of the process.

- Health care reform continues to be a hot topic. If discussions about the future of health care delivery and financing (e.g., Medicaid Block Grants, Per Capita Caps) continue, this can create an uncertain environment for state Medicaid programs. If the landscape in which we operate changes, actuarial rate development must also change, especially if care delivery methods shift.

d. Detailed Project Work Plan

Based on the information provided in the RFP and Mercer's experience with similar projects in other states, **we have provided a preliminary work plan in Appendix A.** A common step in each SOW work plan is an initial strategy/planning "kick-off" meeting where key members of the Mercer team meet with the appropriate Department staff to discuss specific details of this SOW including the Department's goals, concerns, and challenges as well as for both of us to share ideas and gain more details about the work than what was included in the RFP. During this meeting, we will review our preliminary work plan including data needs and sources, key deliverables, major timeline events, and frequency of subsequent communications. After this information sharing/planning meeting, Mercer will then be able to update the preliminary work plan to reflect current information and mutual agreement on next steps.

e. Deliverables and Due Dates

As noted in the preliminary work plan provided, major deliverables and expected due dates are shown in the following table. Per the State's answers to questions in the RFP, the incumbent actuary will have completed the calendar year (CY) 2019 Heritage Health rates so Mercer will be tasked with the CY 2020 rates. We propose to have final rates

provided to the Department five months before the effective date and the final CMS documentation done before the targeted 90-day submission notice. Mercer works with several states that, due to various reasons such as MCO negotiations, legislative issues, and/or approval from state leadership, are not able to submit rate documentation to CMS in the 90-day window. Mercer will endeavor to ensure our part of the process is completed timely.

Work Plan Step	Deliverable Description	Expected Due Date
1.1	Initial planning/strategy planning meeting	9/27/2018-9/28/2018
1.2	Data request	1/14/2019
1.3	DHHS provides data	2/28/2019
1.9	Draft rates/rate ranges to DHHS	7/8/2019
1.11	Final rates/rate ranges to DHHS	7/30/2019
1.13	Present rates to MCOs (optional step)	8/20/2019
1.15	Actuarial documentation/report	9/15/2019

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SOW 2 – CAPITATION RATE REBASING

a. Understanding of the Project Requirements

The formal project requirements of SOW 2 are documented within the RFP. However, the successful completion of those project requirements can, in large measure, be demonstrated by a thorough understanding of the rules, regulations, principles, and practices around actuarial soundness for Medicaid/CHIP managed care capitation rate setting. Via §§ 438.4, 438.5, and 438.7 of the Final Rule, CMS added new considerations to the development and documentation of actuarially sound capitation rates, including considerations for network adequacy, MLR, and special contract provisions in § 438.6. Note the Final Rule did not extend these same requirements to separate CHIP Title XXI managed care programs, although 42 CFR 457.10 applies "actuarially sound principles" to the development of CHIP rates. Mercer follows the same steps and thought process when developing capitation rates for programs that include Medicaid and CHIP populations.

The actuarial principles and practices are governed by the aforementioned ASOPs, including ASOP No. 49 which contains the following definition:

- "*Actuarially Sound/ Actuarial Soundness* – Medicaid capitation rates are "actuarially sound" if, for business for which the certification is being prepared and for the period covered by the certification, projected capitation rates and other revenue sources provide for all reasonable, appropriate, and attainable costs. For purposes of this definition, other revenue sources include, but are not limited to, expected reinsurance and governmental stop-loss cash flows, governmental risk-adjustment cash flows, and investment income. For purposes of this definition, costs include, but are not limited to, expected health benefits, health benefit settlement expenses, administrative expenses, the cost of capital, and government-mandated assessments, fees, and taxes."

Mercer was the driving force behind inclusion of the word "attainable" within Medicaid rate setting, and it is part of both the Final Rule and ASOP No. 49. Although that one specific word may not seem like a huge addition, it has been of invaluable assistance to states as they have looked to increase health plan efficiency, effectiveness, and accountability as part of the capitation rate-setting process.

Mercer's breadth and depth of actuarial rate-setting experience and expertise positions us to assist Nebraska as the Heritage Health program continues to mature and evolve. Mercer not only possesses knowledge of Nebraska based on our past relationship with the State, but the current Medicaid landscape and desired objectives in Nebraska fall right in line with most if not all of the same issues Mercer's other client states have, and are dealing with. As Nebraska continues to explore new methods and/or programs of care delivery and enhancements that drive Medicaid

As Nebraska continues to explore new methods and/or programs of care delivery and enhancements that drive Medicaid quality and efficiency, Mercer brings a fresh, new perspective on the challenges and opportunities that can impact your program.

quality and efficiency, Mercer brings a fresh, new perspective on the challenges and opportunities that can affect a Medicaid program, and thus issues that need to be considered in actuarially sound rate development.

With PH, BH, and pharmacy services integrated under the Heritage Health program as of January 1, 2017, the next step in the managed care continuum is to include LTSS, which is scheduled to begin implementation in 2020. Due to the nature of LTSS, rate development techniques must be tailored to ensure incentives align with the State's vision and desired outcomes. **Mercer has experience developing actuarially sound capitation rates for several Medicaid MLTSS programs and is quite familiar with the challenges associated with long-term care managed care capitation rate development.** Most recently, Mercer developed actuarially sound capitation rates for the Commonwealth of Pennsylvania's new comprehensive MLTSS program known as Community HealthChoices. To the extent Nebraska moves forwards with the LTSS initiative, diagnostic-based risk adjustment or other initiatives, Mercer will work with the State to develop rate methodologies most appropriate for the program being proposed (some of which might be covered under SOW 8, Special Projects).

The existing Heritage Health program has its own capitation rate-setting needs. At its core, the fundamental goal of actuarial rate development is to match payment to risk. Full-risk managed care programs use capitation payments to compensate MCOs appropriately for the risk they bear, and the capitation payments must be certified as actuarially sound to be in compliance with the Capitation Rate Setting Context documents previously itemized. As described further in our **Corporate Overview** section, Mercer has successfully worked with several states, large and small, straight-forward to highly complex. We realize how important it is to have a sound rate-setting methodology supported by relevant experience, data, and information, and to remain current on Federal and state legislation that may impact rate methodologies and reimbursement mechanisms.

Our experience goes back over 30 years, to 1985, when we developed rates for the first Medicaid managed care program in the country in Arizona, and now has extended to having worked with more than 30 states. Mercer's actuarial credibility with CMS and other health care entities has been well established through a breadth of experience obtained in rate-setting assignments over the years. Refer to our SOW 1 section for more detail. Mercer has immense insight and understanding of the rate-setting process and has worked extensively with CMS to ensure our clients' rates are approved. Our Medicaid clients have expressed complete satisfaction with our deep knowledge of CMS' complex regulations and with our ability to communicate our rate-setting methodology to CMS with complete documentation. To support CMS' review and approval of rate certifications, Mercer includes a cross-walk to the annual CMS Medicaid Managed Care Rate Development Guide as a standard practice. **In relation to our actuarial rate-setting, risk adjustment, and related work, please see the following letter of reference from the District of Columbia** that was provided in support of a Delaware RFP we responded to last year (and won):

GOVERNMENT OF THE DISTRICT OF COLUMBIA
Department of Health Care Finance

July 26, 2017

Helen Arthur
Director of Planning and Policy
Health Care Commission
Department of Health and Social Services
410 Federal Street, Suite 7
Margaret O'Neill Building
Dover, DE 19901

Re: Letter of Reference for Mercer Health & Benefits LLC

Dear Ms. Arthur:

I am writing as a reference for Mercer Health & Benefits LLC (Mercer) in its bid for Request for Proposal (RFP) HSS-17-027 for Professional Services for An Accelerated Payment Reform Project issued by the Health Care Commission for the Delaware Department of Health and Social Services.

Mercer has been serving the District of Columbia for more than 15 years. Mercer has worked on a wide variety of projects. Their work has included:

- Developing risk-adjusted capitation rates for the District's Medicaid and Alliance managed care programs.
- Designing and implementing a pay-for-performance (P4P) incentive payment program, including the calculation of vendor performance on various P4P metrics.
- Development and ongoing consultation around quarterly report on MCO performance including financial and utilization metrics
- Modeling the financial impact of various program changes and emerging service and delivery trends.
- Providing technical assistance to managed care plans to improve encounter data quality and reporting.

In their work for us, Mercer has consistently demonstrated and performed with exceptional knowledge, skill and expertise in assisting the District of Columbia's efforts to provide actuarially sound capitation rates to our Medicaid Managed Care Organizations (MCOs). Through this contractual relationship, we have implemented comprehensive programs for evaluating the performance of our MCOs, providing our internal teams with data for development and implementation of strategies for improvement, as warranted.

If there is any other information needed, please don't hesitate to contact me by telephone at +1 202 442 9109 or by email at lisa.truitt@dc.gov.

Sincerely,

Lisa Truitt
Director, Health Care Delivery Management Administration
District of Columbia Department of Health Care Finance

Mercer has always relied upon actuarially sound principles and practices when partnering with states to develop Medicaid managed care capitation rates. Mercer rates and certifications have included states similar and also dissimilar to Nebraska such as Arizona, California, Delaware, Louisiana, Massachusetts, Missouri, Nebraska, New Jersey, New Mexico, New York, North Carolina, Ohio, Pennsylvania, and the District of Columbia, as well as other states, both large and small, straight-forward to highly complex. We are highly confident that we have seen virtually everything. Yet we are also excited to explore any new avenues Nebraska would like to pursue.

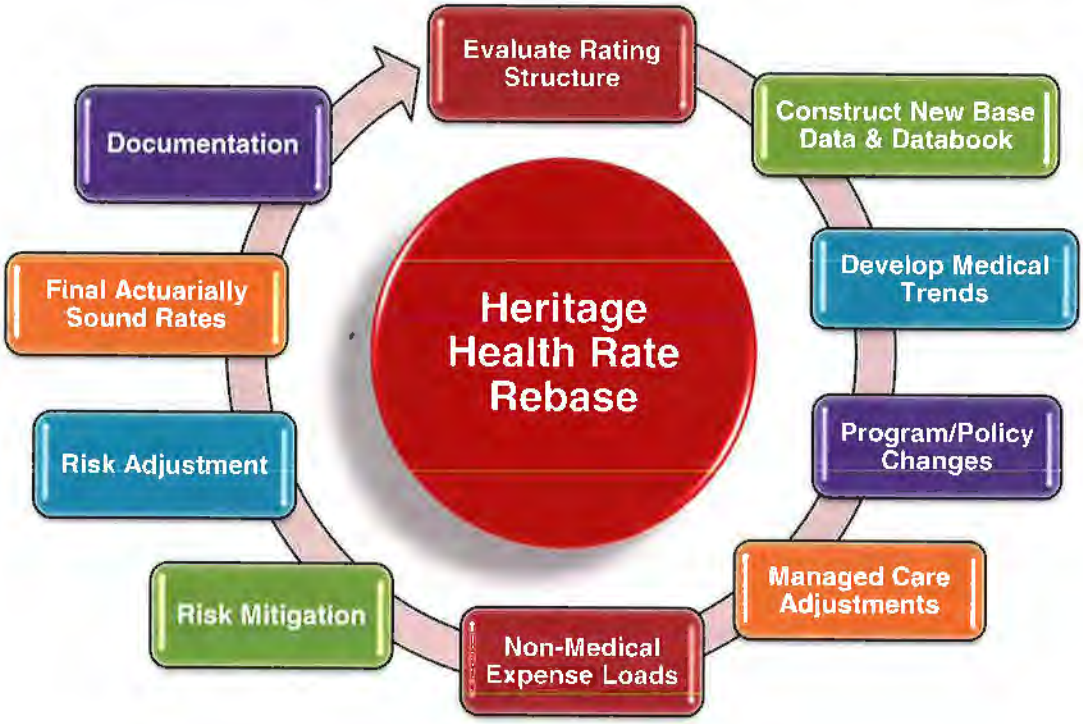
We believe our experience and expertise, especially in states where we support the rate-setting process for PH, BH, and pharmacy services, as well as LTSS, uniquely positions Mercer to provide the best quality advice and service as you continue to evolve and expand managed care for Medicaid services.

b. Proposed Development Approach

CMS allows (with some timeframe limitations) states the flexibility to either update the existing capitation rates or perform a complete rebasing of rates. While some states choose to rebase their capitation rates every year, the concept of a rate update is a familiar one as a number of our clients use this flexibility to alternate each year between rate update and rate rebase methodologies to save time and resources. Accordingly, there is a lot of similarity in the steps between SOW 1 and SOW 2. We are interpreting the RFP that SOW 2 is focused on updating the base data and any additional or more intensive activities not already covered by SOW 1.

The steps of capitation rate development are displayed graphically on the following page. However, the graphic depiction is deceptively simple, as each step involves complex considerations to ensure capitation rates promote a stable program that aligns MCOs' incentives with the State's goals, all while meeting CMS' approval.

At a high level, the steps of capitation rate development can be displayed in a straightforward graphic, as shown previously and on the following page. However, the graphic depiction is deceptively simple, as each step involves complex considerations to ensure capitation rates promote a stable program that aligns MCOs' incentives with the State's goals, all while meeting CMS' approval.



These steps are described in more detail below and constitute the building blocks for our SOW 2 work plan (see Appendix A for our preliminary work plan).

Evaluate Rating Structure

The capitation rate development process must begin with a rating structure that represents appropriate differentiation of risk and includes incentives for MCOs to manage the care for their populations. As programs evolve, historical rate structures may become stale or misaligned with current goals and objectives. Medicaid programs and their actuaries must balance program stability goals and administrative/systems constraints with the need for innovative reimbursement strategies that help move the program forward. With Heritage Health beginning in 2017, Mercer does not anticipate evaluating any rating structure changes immediately, although we will certainly discuss our observations with the State. Rate cell structure changes are not without administrative burden to both the State and the MCOs, and thus should not be undertaken without deliberate consideration including assessing potential impact on your waiver's cost-effectiveness reporting by Medicaid Eligibility Group (MEG).

To promote program stability, Mercer will work with the State to plan appropriate lead time and MCO communication supporting any desired updates. For example, if in the future the LTSS inclusion occurs, it may be prudent and strategically wise to combine the institutional and home- and community-based services (HCBS) rate cells so that the MCOs have a financial incentive to serve members in lower cost and more desirable community-based settings. Other rating structure changes could include reduction of age groups to align with demographic factors included in risk adjustment or other separate payments (similar to maternity supplemental payments) to better reflect risk, such as for low birthweight newborns. Again there is no need to change what is working well for the Department now, but the future may present a need to consider some evolution in your

rating structure and/or rate aspect of the development process and Mercer is prepared for these discussions. We look forward to working with the Department and offering targeted trainings on new rate-setting methodologies over the course of this long engagement.

Construct New Base Data

Mercer typically considers available data from a variety of sources, including MCO encounter, FFS claims, provider sub-capitation payment data, MCO reported financial data, and eligibility data. In addition, we have found that even mature managed care programs can benefit from specialized data sources that support rate development such as targeted annual MCO surveys and specially-designed, Medicaid-only financial experience reports. **It is critical that base data sources are reliable and accurate whether summary level or more detailed data is used.** Mercer will work closely with the State to discuss available base data sources and assess the completeness and quality of existing sources. For the core Heritage Health populations, we anticipate using base data representing CY 2017 or newer depending on when the rate rebase is completed under this SOW. If/when there are other changes made to the Heritage Health program such as the inclusion of LTSS, other data sources like the State's FFS claims data will be a natural source of information for these currently excluded services.

In our work with other Medicaid programs, we have used one to three years of historical base data to build prospective capitation rates. One year of base data is sufficient and can simplify the process if additional data is available to support trend analyses, relational modeling/data smoothing, and other adjustments. For example, in Delaware with a Medicaid population of similar size and composition as Nebraska, we use one year of MCO experience data as the base data, but analyze multiple years and sources of data for trends and other adjustments. Neither the MCOs, Delaware state staff, nor CMS OACT have questioned the use of one year of base data in Delaware.

We expect to use one or more of the following data sources to construct Nebraska's prospective capitation rates with MCO encounter or financial data being the predominant base data sources:

- **MCO Encounter Data:** If encounter data are available and sufficiently credible and reliable, Mercer will work with the State and the MCOs to assess the usefulness of this data source. Encounter data validation in this process will address the most relevant issues to be considered in establishing a rate-setting data source, but does not replace a more thorough encounter data validation initiative which also looks at operational and monitoring efforts as part of the State's effort to improve the quality of encounter data (per the RFP, "Managed Care Encounter Validation Activities" is specifically listed in SOW 8 and we discuss how we have addressed this issue in other states). Accurate and complete encounter data is a highly preferred data source to support rate setting as it enables numerous analyses and insights to be gleaned that are simply not possible in more summarized data sets or audited financial statements. However, many states still have challenges with obtaining complete and accurate encounter data so this will be an area of further strategic discussion and planning between the Mercer team and the Department.

- **MCO Financial Data:** Managed care financial data/audited reports are a fairly common data source used to develop capitation rates. While not offering the same

insight and flexibility as encounter data, financial statement data is often readily available, generally standardized (e.g., income/expense statements, accrual-based accounting practices) and relatively easy to work with and these attributes have a value to themselves. MCO financial data can be replaced or supplemented by encounter data over time. In Pennsylvania, Mercer used one year of MCO audited financial data as the base data for a number of rating cycles, but relied almost exclusively on encounter data for most adjustments until it was deemed appropriate to actually shift the base data to encounter data.

- **FFS Data**: If/when FFS data is deemed the most credible data source, such as for the proposed LTSS expansion, Mercer will work with the State to gather the most appropriate data and all necessary information to make adjustments to the FFS data in order to comply with all CMS regulations. Since the vast majority of your Medicaid/CHIP program is covered under the mandatory Heritage Health program, we expect only limited and targeted use of historical FFS data. Some adjustments to FFS data may be different than encounter data such as graduate medical education or disproportionate share hospital payments or patient liability/share of cost on LTSS.

Our familiarity with data collection and validation and our long history working with a variety of Medicaid and CHIP managed care programs also provides us with insight regarding additional adjustments to the base data. Mercer typically adjusts the data to remove any non-State Plan Approved benefits that are not otherwise approved in lieu of services or authorized under the your 1915(b)(3) authority, duplicate claims, or claims for ineligible members, and corrects for issues in reporting of sub-capitated or related-party arrangements and non-claim adjustments. Another example of a base data adjustment would be the University of Nebraska Medical Center (UNMC) repricing to account for enhanced reimbursement relative to the State's FFS fee schedule. Mercer's actuaries formulate assumptions for adjustments for unpaid claims liability (reported but unpaid claims plus claims incurred but not reported [IBNR]), encounter data underreporting, and demographic shifts over time and historical program changes that may have only been partially reflected in the base data time period. In these steps, **the ability of the MCOs to validate their data and attest to the completeness and accuracy of the data used in rate setting is not only a CMS requirement, but an important step to minimize the time and resources the State and Mercer have to expend.** Based on information included in the 2016 Heritage Health RFP and noted in the Department's answers to RFP questions, the MCOs appear to have a key role in the validation and reconciliation of their own encounter data and are contractually required to provide accurate and valid data which will lessen the amount of effort we may need to put into this step relative to what we do in other states.

Databook

The work effort involved in recalculating the base data for a full rate rebase is significant as it involves an analysis of historical claims or encounter level data. It is necessary to rebase underlying data periodically in order to more accurately reflect current program costs and comply with Federal regulations for rate setting. Because the recalculation of the base data results in a data set that can provide both the State and MCOs with insights into the emerging experience of the Medicaid/CHIP program, **Mercer typically produces a databook as a significant deliverable in the rate-rebasing process**. Actuarially sound capitation rates are then established using the data from the databook as a starting point.

Under rate rebasing, Mercer initiates the process by issuing a data request to the State for the data deemed most appropriate. Using the data provided by the State and if necessary the MCOs, Mercer will provide the State with a summarized databook detailing the methodology and results of the base data review. A Mercer databook typically includes a narrative section about methodology, adjustments made to the data, sources of the data and other relevant and useful information along with data exhibits that provide summarized eligibility and cost data by rating region/rate cell combination and COS. The data exhibits are often provided in Excel format so users of the databook can easily work with the base data themselves. There can also be narrative describing the expected next steps in the actuarial rate development process and perhaps even a listing of known/expected program changes so the MCOs have a heads-up of likely adjustments that will be incorporated in the final capitation rates. For other states, Mercer has presented the databook to the MCOs at a formal meeting which provides a forum to discuss the forthcoming rate rebasing cycle.

The following steps align with SOW 1 activities, but are also addressed here to provide a more complete response to SOW 2 as some of these steps will be more labor intensive due to the rebasing of newer data than what is covered under a more straightforward rate update.

Medical Trends

Trend plays a crucial role in projecting historical experience to the contract period. Insightful trend analyses are based on encounter data and/or FFS claims because the detail embedded in those data sources can allow more robust actuarial analysis. However, Mercer is also adept at analyzing less detailed data sources (e.g., MCO financial reports, other summary level data) to support trend development.

As a general rule, Mercer will, depending on the data source(s), stratify trend data by rating region, eligibility category, and major COS by utilization, unit cost, and/or PMPM. Mercer will normalize the raw data to account for material program changes occurring within the time period spanned by the trend data set and may perform a variety of actuarial regression analyses to understand the historical patterns. Areas where additional analyses may be appropriate include:

- **Pharmacy:** It is standard to review trends at the brand versus generic level in the pharmacy COS; however, Mercer has also developed a proprietary Therapeutic Class (e.g., cardiovascular, autoimmune diseases, infectious diseases) mapping for brand, generic, and specialty prescription drugs that has proven invaluable for identifying drivers of observed and projected pharmacy trends at a more detailed level.

  Our proposed Nebraska team includes two registered pharmacists, Shawna Kittridge, RPh, MHS and Lisa deVries, RPh. Prior to coming to Mercer in 2016, Lisa deVries worked in the Department on the Nebraska Medicaid program and she still lives in Lincoln. With the inclusion of the pharmacy benefit in Heritage Health, we wanted the Department to know that Mercer has in-house SMEs on topics other than just

The Mercer team assigned to support Nebraska includes two registered pharmacists.

Lisa deVries, RPh, still lives in Lincoln.

actuarial rate setting. Our pharmacists are a great value-add because they can offer insights into prescription drug trends, drugs in the pipeline, specialty drugs (e.g., Hepatitis C, Spinraza, other), pharmacy reimbursement options, and health plan efficiency in managing the drug benefit.

- **Inpatient (and potential future Nursing Facility):** In cases where there is considerable change in a program's enrolled population or within the provider community, analyzing trends in inpatient and utilization by facility and/or DRG may reveal important differences by region and/or population that need to be reflected in trend factors.

- **Key Subpopulations:** It is critical to understand how changes in the proportion of subpopulations whose costs may be trending at materially different rates than the general population influence trend. Subpopulations that require detailed analysis may be defined by the presence of a particular condition (e.g., Hepatitis C, cystic fibrosis), broader clinical criteria (e.g., individuals with significant mental health/substance abuse needs) or utilization of a particular service.

Mercer's next step is to integrate our wide array of concurrent Medicaid rate-setting and clinical expertise into the trend development process which includes a review of pertinent national health care trend indices and benchmarks, such as the CPI and trends in other Medicaid programs. These various potential trend analyses must take into account the relative resources and timeframes available in order to meet your rate-setting timeline. We can substitute more professional judgment for less analytics as not all of our state clients have the resources or detailed data to support multi-level trend work. This step can also evolve over time as data sources improve or priorities shift.

Finally, our actuaries will develop final trend assumptions based on the data and information collected and analyses conducted. This step also includes proper coordination with program change and other adjustments (as applicable) to ensure no double counting occurs. Trend factors are then applied from the midpoint of the program adjusted base data to the midpoint of the new contract period to arrive at projected medical costs.

Program/Policy Changes

Mercer will apply adjustments for any programmatic changes in the managed care program to recognize anticipated material changes to either utilization and/or unit cost due to changes in Federal and/or State policies, benefits, or covered populations. These changes may be the result of actions taken by the Department, policy decisions passed down by the legislature, Federal regulatory changes, or items included in the final State budget. Making these adjustments ensures the final capitation rates retain the goal of matching payment to risk. In some cases, program changes can be immaterial or uncertain as to whether the change will actually happen. In these situations, we will need to discuss with the Department whether a prospective rate adjustment is warranted or is it better to take a wait and see approach.

Mercer will engage in discussions with the Department to determine the nature of each change and ascertain the available data sources to calculate an adjustment to

the rates. The more information you can provide to us regarding the program change (e.g., background on the issue, what populations are being targeted, what problem the change is addressing, etc.) can help us better assess the cost and/or utilization impact on the capitation rates. Some program changes can have both a material new cost and cost off-set if perhaps a new benefit is being offered that might replace or reduce the frequency of an existing, more costly service; and the net impact may be close to neutral. In other states, we have been provided a state budget impact assessment to consider, but at other times it is completely left up to us to determine what a reasonable adjustment is for the managed care program. Sometimes there is no direct data available, such as addition of a new benefit, and thus we need to consider our experience in other states that might already be covering the same service or our professional actuarial judgment. There are many methods Mercer has used to work through a material program change and we understand that whatever decision-making process we use, we are likely to have to explain it to the MCOs who may have a different interpretation. If a particular program change has a high-impact value and is potentially contentious, Mercer will want to ensure the Department is fully supportive of the final rate adjustments applied.

In order to ensure major program change adjustments are defendable, Mercer will on an as-needed basis leverage of our SMEs and fellow Mercer employees to provide technical peer review or input on a specific issue. For example, in another state we had to make an adjustment for a new BH outpatient service so we asked our BH clinicians to offer their advice and perspective to the actuarial team.

Mercer's team includes pharmacists, clinicians, BH and addiction, and Medicaid/CHIP policy SMEs whose knowledge and perspective can be leveraged to support the actuarial rate-development process.

Our approach typically includes projecting the total cost impact by considering factors such as the policy implementation date, expected initial and ongoing enrollment rates, the relative risk of any newly enrolled population, and the anticipated cost per service and utilization uptake. These total costs are then translated into appropriate capitation rate adjustments. This process also includes coordination with other adjustments, including trend, to ensure the impact of these changes is not double-counted.

Managed Care Adjustments (optional)

It may sound odd to make managed care adjustments to managed care data, but Mercer has developed several analyses that are specifically designed to reflect more value-based purchasing that quantify inefficiency/missed opportunities for improving health outcomes in the historical base data. These are not program changes, these are adjustments Mercer developed to "raise the bar" on MCO performance and to reduce future capitation rates by identifying, quantifying, and removing historical expenditures that are not reflective of an efficient and effective managed care delivery system.

To do this, we analyze MCO encounter data and related performance to identify unnecessary medical costs in areas such as potentially preventable inpatient admissions and readmissions, unnecessary emergency department (ED) visits, and inappropriate use of pharmacy services and we have kept these inefficient costs out of the prospective managed care rate development. These are mostly Mercer proprietary value-based analyses and are discussed in more depth as a potential Special Project under SOW 8. Mercer has pioneered most, if not all, of these adjustments within Medicaid managed care actuarial rate setting. **Our value-based efficiency adjustments are data and information driven, with very strong clinical and operational supports**. The return on investment for these analyses, should they be incorporated within capitation rate development, is outstanding. **For example, in one large Medicaid managed care program, Mercer saved the program over $250 million as a result of our proprietary efficiency adjustments.** While Mercer strongly believes in these types of analyses and adjustments, not all states have incorporated them for a variety of reasons (e.g., incumbent actuary unable to do so, insufficient data, prioritization of work, budget constraints).

Mercer has pioneered several proprietary value-based efficiency adjustments within actuarial rate development such as:

- **Potentially Preventable Inpatient Admissions and Readmissions**
- **Low Acuity Non-Emergent Emergency Department Visits**
- **Potentially Unjustified Cesarean Deliveries**
- **Inappropriate Prescription Drug Fills**
- **Inefficient Pharmacy Payment Levels**

For more information, please see our response to SOW 8.

Non-Medical Expense Loads

As a substantial, and highly visible, component of the final rate ranges and rates, Mercer does not take administrative expenses and other portions of this rate component lightly. We will make recommendations to adjust for inappropriately high administrative and care management expenses, and share our analyses and work closely with the State to establish the appropriate allowance for these non-medical expenses. Given economies of scale and other efficiencies, nationally we have seen Medicaid MCO administration levels drop over the last five or so years, often 1.0% or more (meaning for example an MCO with a 10% administration level going to 9%, or a 7% level going to 6%). Administrative costs typically grow at inflationary rates that are less than medical costs which also supports a gradual reduction in the portion of the total capitation rate (i.e., percent of premium) attributable to non-medical expenses.

To determine an appropriate non-medical expense load, Mercer typically evaluates the contract requirements, administrative and care management expenses reported by the MCOs, comparisons to other similar state Medicaid managed care programs, impact on economies of scale as enrollment changes, and applicable Federal and/or state-specific premium taxes. We also consider any relevant contractual arrangements such as Nebraska's administrative cap that may influence non-medical allowances to ensure the final capitation rates align with the contractual requirements for the MCOs. For example, this may include risk mitigation approaches that may reduce the MCO risk and allow for a lowering of the included risk/profit margin component.

Two recent developments regarding non-medical expense loads merit further discussion.

The Tax Cuts and Jobs Act, which was signed on December 22, 2017, reduced the Federal corporate income tax rate on 2018 income to 21%. Previously, the rate had averaged 35% on corporations with taxable income of $18,333,333 or more, grading down slightly to 34% on corporations with taxable income of $335,000 to $10,000,000 per year. The reduction in the corporate income tax rate means that MCOs subject to corporate income tax will be able to retain a larger portion of their pre-tax income. Therefore, Medicaid programs should look at their particular circumstances to see whether the corporate income tax rate reduction provides a reason that capitation rates could be a little lower than they would have been had the income tax rates not been reduced.

Separate from state premium tax, Section 9010 of the Affordable Care Act provides for the HIPF to be paid by health insurers, including some Medicaid managed care organizations. The HIPF is calculated by the IRS from net written premium data for the prior calendar year as filed by the insurers on IRS Form 8963. It is important to note that long-term care premiums/services should be excluded from the calculations. Calculation of the HIPF by health plan (including consideration for the impact of non-deductibility of the HIPF for Federal and state tax purposes), and retroactive adjustment of capitation rates, are tasks Mercer has performed accurately and timely for each of our state Medicaid clients. While currently under appeal, the US District Court for the Northern District of Texas in *Texas v. US* https://premiumtaxcredits.wikispaces.com/file/view/177111375176.pdf found that states are explicitly excluded/exempted from paying the HIPF. The State of Nebraska was also a plaintiff in the case. Mercer believes this to be an important strategic discussion topic with the Department.

Apply Risk Mitigation

The cornerstone of accomplishing fiscal soundness and ensuring member access is the alignment of MCO payment with the risk of the MCO's enrolled population. Mercer has extensive experience consulting with our state clients on approaches to improve the allocation of payments across MCOs. Beyond risk adjustment, this can be accomplished through combinations of reinsurance programs to limit exposure to certain risks, risk corridors to mitigate overall program risk to both the MCOs and the state, risk pools to more appropriately allocate premiums across MCOs, and minimum MLRs or underwriting gain caps to avoid funding excess MCO profits.

Nebraska currently employs a risk corridor based on a MLR which is not an uncommon strategy used by states and is a tool with which Mercer is very familiar. Some of our state clients will deploy multiple strategies such as a targeted risk sharing arrangement on a subset of high dollar pharmacy treatments (e.g., hemophilia, cystic fibrosis) along with a risk corridor on the back-end. Of course careful consideration should be given by the Department before implementing any new risk mitigation approaches as they are not without administrative burden, both to the State

Risk mitigation strategies can improve the equity of payments among the MCOs, but can increase the administrative complexity and burden on the State and the MCOs.

and to the MCOs. Indeed, any form of risk mitigation can also have the unintended consequence of lessening the MCOs financial incentive to manage and coordinate care of their members.

The broad range of experience that our team will bring to this engagement will allow us to tailor the design of selected risk mitigation strategies (if any beyond current), price them as necessary in accordance with applicable actuarial practices and principles, and account for the impact that any risk mitigation mechanisms may have on other assumptions (e.g., risk/profit) made throughout the rate-setting process.

Risk Adjustment

To date, we have assisted 14 states in implementing or administering some form of risk assessment. Several of these states were early adopters, allowing Mercer to help pioneer many of the widely held risk assessment methodologies used today. In other parts of our Technical response, Mercer detailed our experience with all the major risk-adjustment groupers, with emphasis on the CDPS+Rx model, implementation steps and uses of risk adjustment. For brevity, we have not replicated those responses here as risk adjustment is supported under SOW 1.

Final Actuarially Sound Rate Ranges and Rates

The culmination of SOW 2 is the development of new actuarially sound rate ranges and specific capitation rates. Rate ranges incorporate the concept of normal variation within several components of the rate-setting process. Ranges can also be reflective of a somewhat more/less aggressive approach to assumption setting, and their use can provide payment flexibility to the Department in negotiations with the Heritage Health plans.

Actuarially sound rate ranges are often developed by utilizing variation in claim cost (medical) trend, MCO administration load, and MCO risk load assumptions. Unless our state clients want us to produce a single actuarially sound rate value for each rate cell, ranges are still the preferred approach. Moreover, effective with rating periods beginning on or after July 1, 2018, the CMS Final Rule now requires actuaries to certify the *final* MCO contract rates as opposed to just rate ranges. However, CMS permits rate ranges to be developed and used by states as part of the MCO negotiation process. Therefore, Mercer has interpreted these new requirements that we can still provide Nebraska actuarially sound rate ranges, but within our final rate certification documentation we will need to include the final MCO contract rates that you and your MCOs agree to and demonstrate the final rates are actuarially sound.

Of particular relevance here is that the Final Rule also added new flexibility Nebraska can leverage in terms of a "defacto" rate range. Specifically, under 42 CFR 438.7(c) for rating periods beginning on or after July 1, 2018, Nebraska can change your final MCO contract rates by +/- 1.5% *without submitting a revised actuarial rate certification.* Mercer has been instrumental in helping our clients thoroughly review the Final Rule and develop strategies to meet varying compliance dates.

For rating periods beginning on or after July 1, 2018, the CMS Final Rule allows the Department to change your final MCO contract rates by +/- 1.5% *without the need for any additional actuarial rate certification.*

For the Heritage Health program, certification would be done for the following current rating regions and COAs/rate cells:

- Rating Regions that cover the entire State:
  - Rating Region 1 consists of 41 counties: Antelope, Boone, Burt, Butler, Cass, Cedar, Clay, Colfax, Cuming, Dakota, Dixon, Dodge, Douglas, Fillmore, Gage, Hamilton, Jefferson, Johnson, Knox, Lancaster, Madison, Merrick, Nance, Nemaha, Nuckolls, Otoe, Pawnee, Pierce, Platte, Polk, Richardson, Saline, Sarpy, Saunders, Seward, Stanton, Thayer, Thurston, Washington, Wayne, and York.
  - Rating Region 2 consists of 52 counties: Adams, Arthur, Banner, Blaine, Box Butte, Boyd, Brown, Buffalo, Chase, Cherry, Cheyenne, Custer, Dawes, Dawson, Deuel, Dundy, Franklin, Frontier, Furnas, Garden, Garfield, Gosper, Grant, Greeley, Hall, Harlan, Hayes, Hitchcock, Holt, Hooker, Howard, Kearney, Keith, Keya Paha, Kimball, Lincoln, Logan, Loup, McPherson, Morrill, Perkins, Phelps, Red Willow, Rock, Scotts Bluff, Sheridan, Sherman, Sioux, Thomas, Valley, Webster, and Wheeler.

- COAs/Rate Cells are:
  - Aged, Blind, and Disabled, ages birth to 20 years, males and females (ABD 00-20 M&F)
  - Aged, Blind, and Disabled, ages 21 years and older, males and females (ABD 21+ M&F)
  - Aged, Blind, and Disabled Duals, ages 21 and older, males and females (ABD 21+ Duals M&F)
  - Aged, Blind, and Disabled, ages 21 years and older, women with cancer (ABD 21+ F-WWC)
  - Children's Health Insurance Program, males and females (CHIP M&F)
  - Family under 1 year, M&F
  - Family 01-05 years, M&F
  - Family 06-20 years, F
  - Family 06-20 years, M
  - Family 21 years+, M&F
  - Foster Care, M&F
  - Katie Beckett 00-18 years, M&F
  - LTSS (Institutional) – Duals
  - LTSS (Institutional) – Non-Duals
  - LTSS (Home- and Community-Based) – Duals
  - LTSS (Home- and Community-Based) – Non-Duals
  - Dual
  - Maternity care payment

Note: Since some risk-adjustment models have a demographic component (e.g., age/gender factor), **when we have implemented diagnostic-based risk adjustment in some other states, a decision was made to consolidate some rate cells so there are fewer rates that need to be developed, negotiated, and processed for payment.** Perhaps this is an option the Department has already reviewed when risk adjustment was implemented in January 2018 and decided against or maybe we can explore it together in the future.

Documentation (i.e., Actuarial Memorandum/Rate Certification)

Mercer will produce necessary documentation at the culmination of the actuarially sound rate update process, which will include final rate exhibits and work products, as well as certification letter(s) and reports that will comply with all requirements, including the Final Rule, and the CMS Medicaid Managed Care Rate Development Guide. Mercer will also provide technical assistance for the State in responding to any questions that may arise in the CMS OACT rate review process. **To date, all rates developed by Mercer for our state clients have been approved by CMS.**

Additionally, Mercer will work with the Department to ensure the documentation produced provides the MCOs and your staff with a clear understanding of the data, assumptions, and results of the rate-setting and risk-adjustment process, to the extent deemed appropriate by the Department. This includes presentations to the MCOs and your staff, working with the State to answer MCO questions, and supporting rate negotiations as needed. A similar support role will be provided by Mercer to the Department in your rate review discussions with CMS.

c. Technical Considerations

By their nature, prospective actuarial rate development and risk adjustment are highly technical processes with numerous computational steps and potential challenges. We highlight below some of the most common and key technical considerations that will impact this work:

- Availability, credibility, and reliability of base data sources provided to Mercer can either make these work projects go smoothly or require extensive work arounds/problem solving. For risk adjustment, detailed data is required whereas actuarial rate setting can be done with summary level data. Based on the State's answers to questions on the RFP, data is assumed to be accurate and valid.

- Since risk adjustment was implemented in January 2018, the process has been established using the CDPS+Rx model. We have proposed annual calculation of member scores and semi-annual calculation of MCO plan factors to reflect enrollment changes. Changes to this process can be more labor intensive.

- Timely and relevant information on material program changes impacts any rate-development process.

- The amount of involvement and information sharing with the MCOs is a consideration that will impact the time and resource requirements for this work. There is no universal standard for the "right" level of MCO involvement or information sharing when it comes to prospective rate development. Some states have a very open rate-development process where the MCOs can review and have input on the actuarial assumptions before rates are finalized and other states choose to share more limited information. You and your MCOs are business partners so some level of information exchange is important for the program's sustainability and mutual understanding, but the MCOs have their own agenda and there are time and resource constraints on actually getting the work done.

- The amount and type of CMS OACT oversight will be a factor in this work. As stated previously, Mercer's process is well-managed and we know what CMS OACT is

looking for in our rate documentation. However, CMS does have a habit of changing what they want/need and this could impact our work. Moreover, we are hearing that CMS is contemplating issuing a new Medicaid/CHIP Managed Care Final Rule, which could either make the process more or less complex and time consuming (or perhaps a little of both).

- Additionally, since CMS now requires the final MCO-specific rates to be certified as actuarially sound, Mercer's participation in MCO negotiations and delivery of the final certification and documentation will be dependent on the State's negotiation and contract execution timeline. Mercer will deliver final documentation that reflects the State's contract rates promptly at the completion of the process.

- Health care reform continues to be a hot topic. If discussions about the future of health care delivery and financing (e.g., Medicaid Block Grants, Per Capita Caps) continue, this can create an uncertain environment for state Medicaid programs. If the landscape in which we operate changes, actuarial rate development must also change, especially if care delivery methods shift.

Policy and Financial Management Consulting Services

a. Understanding of the Project Requirements

This sub-part of SOW 2 represents a broad array of policy and financial management consulting services. We completely understand the need for consulting support on these issues given that Medicaid is such a large component of Nebraska's state budget and health care ecosystem. **The Department's responsibility is to spend taxpayer money as prudently as possible, while striving to increase program recipient access to care and helping people live better lives.** These goals require the Department to find creative solutions to meet the needs of impacted stakeholders (e.g., elected officials, taxpayers, health plans, advocates, beneficiaries, providers, Federal government). Accordingly, the services requested in this part of the RFP are complex and diverse. Mercer is confident that, based on our decades of hands-on experience with Medicaid programs from across the country, we can help the Department with these activities and to achieve ongoing success.

It is important for the Department to continually explore, vet, and adopt new and innovative initiatives with the potential to improve health outcomes, maintain financial sustainability, and challenge your MCOs to do better. Indeed, all three of your current MCOs are national entities with businesses in many other states. If Nebraska is not demanding attention, driving for improved results, holding the MCOs accountable, and being an informed and effective program sponsor/payer, the MCOs' attention might get diverted to other states that *are* doing all of that. The proverbial "squeaky wheel gets the grease" basically implies that Nebraska has to squeak—in the sense of being a prudent purchaser of health care services and effective at contract management.

The depth and breadth of talent within Mercer uniquely positions us to best support the Department's desire to explore and transform your program. For example, **Nicole Kaufman, JD, LL.M, formerly of CMS and now a Mercer full-time employee and proposed Nebraska team member, was one of the**

Mercer hired one of the lead CMS authors of the 2016 Medicaid/CHIP Managed Care Final Rule – Nicole Kaufman, JD, LL.M. Nicole is a lead member of the proposed Mercer Nebraska team.

primary CMS authors of the 2016 Managed Care Final Rule. Drawing upon this expertise, Nicole worked with several clients (Missouri, New Jersey, New Mexico, New York, and Pennsylvania) to make the necessary comporting changes to their MCO contracts. Our team stays abreast of new developments at the Federal level and continues to work with our state clients to comply with and explore the options available in the Managed Care Final Rule. These extensive and diverse Mercer resources are uncommon in our industry, as other firms will often have to subcontract/outsource work to more than one separate company. We believe Nebraska would benefit from the flexibility and scalability that Mercer can offer as we have full-time, in-house employees with the following credentials and experience:

- Credentialed actuaries, actuarial students, and actuarial consultants
- Statisticians, financial analysts, and data programmers
- Former CMS and state Medicaid/CHIP officials and policy makers
- Pharmacists and pharmacy technicians
- Certified public accountants (CPAs)
- Registered nurses/nurse practitioners
- Psychiatrists/psychologists
- Substance abuse/BH experts
- Data management and information systems consultants
- Risk-adjustment experts
- Certified Project Managers

"All health care is local" is a common saying, but lessons learned and success stories elsewhere should be taken advantage of by Nebraska, and the Mercer team provides this advantage due to the depth and breadth of our team members and the numerous clients we serve. Given our team's actuarial/financial consulting experience and role in developing capitation rates, we can draw upon Mercer's additional resources for the:

- Computation of actuarially-sound capitation rates for full-risk, partial risk, MCO, PIHP, and/or PAHP models including MLTSS (e.g., HCBS/nursing facility services, and populations).
- Explore policy and program design/operational opportunities with input from our Policy/Operations SMEs.
- Development of value-based payment rates for specified episodes of care/bundled payments consistent with the State's goals/objectives.
- Multi-payer global budgeting for one or more of your rural hospitals.
- Valuation of incentives and/or penalty amounts (e.g., percent of revenue, fixed dollar, conditional amounts, improvement versus benchmark comparison).
- Perform MCO reviews for adequacy and effectiveness of coordination of benefits and third-party liability coordination and collection efforts to ensure Medicaid is the last payer where applicable.

Mercer has experience successfully completing similar work in other states such as:

- **Arizona**: Mercer supports Arizona in the development of delivery system and payment reform initiatives aimed at improving care coordination and health outcomes across the state, with a specific focus on those experiencing health disparities, (e.g., American Indians, justice-system involved individuals, children and adults with BH conditions). Mercer continues to support Arizona in Federal negotiations

regarding its Delivery System Reform Incentive Payment (DSRIP) proposal and in the development of implementation plans.

- **Delaware**: As part of our state innovation model (SIM) payment reform contract, **Mercer is the lead consultant on supporting Delaware as it works to develop and implement statewide, multi-payer spending and quality benchmarks.** The spending benchmark will target a percentage change in the year-over-year total cost of care while the quality benchmarks will establish two to five quality metrics. We are targeting 2019 to be Year 1 of the benchmarks. More information, including Delaware's benchmarks initiative, is available on-line at: http://dhss.delaware.gov/dhcc/global.html

- **Idaho**: Mercer modeled the state's innovation plan, including implementing a value-based purchasing (VBP) patient centered medical home (PCMH) model of care with payments including FFS, quality bonus payments, global payments, and shared savings arrangements. Mercer performed stakeholder outreach to garner support and commitment from payers and providers to share data and VBP models. Mercer subsequently gathered, and continues to gather, payer data to track changes in expenses and to measure member attribution and non-FFS payments as a percentage of total payments for reporting progress to the Centers for Medicare & Medicaid Innovation. **In relation to our work in this area, please see the following letter of reference from Idaho** that was provided in support of a Delaware RFP we responded to last year (and won). This letter highlights the contributions Mercer has made in furthering Idaho's VBP/payment reform efforts:

IDAHO DEPARTMENT OF HEALTH & WELFARE

C.L. "BUTCH" OTTER – Governor
RUSSELL S. BARRON – Director

Office of Healthcare Policy Initiatives
450 West State Street, 3rd Floor
P.O. Box 83720
Boise, Idaho 83720-0036
PHONE 208-334-5500
FAX 208-334-6558

July 18, 2017

Helen Arthur
Director of Planning and Policy
Health Care Commission
Department of Health and Social Services
410 Federal Street, Suite 7
Margaret O'Neill Building
Dover, DE 19901

Re: Letter of Reference for Mercer Health & Benefits LLC

Dear Ms. Arthur:

I am writing as a reference for Mercer Health & Benefits LLC (Mercer) in its bid for Request for Proposal (RFP) HSS-17-027 for Professional Services for An Accelerated Payment Reform Project issued by the Health Care Commission for the Delaware Department of Health and Social Services.

Mercer first began serving the State of Idaho with our State Innovation Model (SIM) Model Design Model grant in 2013. After assisting us during the Design phase, Mercer resumed working with Idaho in 2015 as we launched our SIM Model Test grant. Over the course of the past several years and continuing to present, Mercer has worked on a wide variety of projects under our SIM grant. Their work across the Model Design and Model Test period has included:

a. Facilitating the State's stakeholder Multi-Payer Workgroup during the SIM Model Design to develop value-based payment strategies to move to alternatives for fee-for-service across public and private payers.
b. Conducting cost-savings analysis and return on investment of the State's delivery and payment models.
c. Providing overall project management for grant activities that includes a variety of project management tools that are updated regularly and used to monitor project, e.g., master work plan, communication plan, workgroup charters, risk logs, project status reports, etc.
d. Providing technical assistance and facilitation of stakeholder workgroups and steering committee meetings during the Model Design to assist Idaho in the development of its multi-payer delivery and payment model.
e. Conducting a gap analysis of Idaho's healthcare delivery system to identify strengths and needs to inform design of Idaho's model.
f. Analyzing federal and state regulatory requirements to ensure selected model could be implemented within Idaho's regulatory framework and obtain federal approval.
g. Developing Idaho's first multi-payer performance indicator catalog, which is a set of core measures to be utilized across payers.
h. Providing monthly presentations to the stakeholder steering committee (Idaho Healthcare Coalition) to provide project updates.

In their work for us, we have found Mercer to be knowledgeable and consistent in their delivery high quality products in a timely manner. In addition, Mercer has demonstrated flexibility to meet the demands of the project, serving as a trusted partner in helping us achieve our goals.

If there is any other information needed, please don't hesitate to contact me by telephone at +1 208.334.5581 or by email at Casey.Moyer@dhw.idaho.gov.

Sincerely,

CASEY MOYER
Operations Project Manager

- **Louisiana**: As the state transitioned from FFS to managed care, Mercer provided policy and actuarial support to translate the funding from supplemental payments to hospitals under FFS (i.e., UPL) into an integrated pricing strategy in the managed care program. The state is now interested in exploring alternative models for payment reform and Mercer is conducting a study with hospitals of the total costs for Medicaid and uninsured recipients to inform those models. Mercer is helping the state consider VBP strategies with an understanding of how the money has historically supported service delivery.

Value Not Volume

When developing new VBP strategies, one of the most important questions to ask and explore is "What will work for Nebraska?" You already reimburse your MCOs through full-risk capitation payments, so perhaps the goal is to move downstream *providers* to accept more risk payments. The range of options needs to be considered in the context of your provider and payer readiness to adopt new and different ways of doing business, being paid and being evaluated. Nebraska could conceivably find it wishes to employ multiple models, and that those models can, by design, evolve over time. For instance, adding a pay for performance (P4P) add-on element to provider reimbursement may not necessarily reform the underlying payment process/delivery model. An example of this type of approach is Medicare's proposed Medicare Access and CHIP Reauthorization Act of 2015 (MACRA) payment changes, which include a new P4P component, *but* providers are still paid via status quo Medicare FFS methods. Alternatively, moving to total cost of care benchmarks or bundled payments does strategically shift away from traditional FFS for provider payments.

Of note, Nebraska has close to 10 Medicare Accountable Care Organizations (ACOs) serving different areas of the State. Has the Department explored whether your Medicaid MCOs are willing and able to develop something innovative and value-added in collaboration with these existing ACOs particularly around the dual eligible population? Are the ACOs interested in doing business with the Medicaid MCOs for a Medicaid line of business? What barriers exist to forming alternative payment/delivery models in the Medicaid program?

Nebraska has several Medicare ACOs operating in areas of the State. Are your Medicaid MCOs exploring any VBP opportunities with these entities?

Your health care ecosystem is complex, spread out across a diverse urban/rural/frontier State landscape, multi-faceted, and personal to many people. Impacting the relationships and dynamics of this ecosystem will have consequences, some that are obvious and some that may not be seen immediately. While the Department clearly wants to make progress towards a more efficient and value-based system, the Mercer team can help the State make the best decisions in getting there. This is one reason the Mercer team includes a diverse group of experienced professionals with financial, actuarial, policy, clinical, and operational backgrounds.

A detailed discussion of all the different payment and delivery model approaches available to the Department is beyond the scope of this response, so instead, key attributes of the more common VBP approaches are presented below. These models are not mutually exclusive per se; the Department and Mercer can develop solutions to weave different elements together to come up with a VBP strategy that works for

Nebraska. For example, your MCOs might develop a bundled payment arrangement with the Nebraska Medical Center and **the Department could use incentives/penalties within the MCO contract to target related outcomes or develop contract requirements like we did recently in another state that at least 20% of all MCO medical/service expenditures go to providers via alternative payment arrangements**. The ideas are almost limitless, but the reality is that not all ideas will actually work in Nebraska. We need to work together with stakeholders, payers, and providers to adopt new ideas that have a greater potential to succeed in your marketplace.

Care Coordination Payments

- PMPM payments designed to compensate for care coordination/care management services
- Paid to primary care medical homes and condition management models

P4P

- Physicians' bonuses to reach health management or outcome targets
- Hospitals' bonuses to reach utilization and quality targets
- Delivery systems could be penalized for poor outcomes (e.g., short-term readmissions and acquired conditions)

Bundled Payments

- Hospitals and MDs together receive global payments for defined procedures and diagnoses
- Joint contracting organizations associated with delivery systems receive bundles to manage entire episodes of care

Shared Savings

- Upside-only or upside/downside shared risk arrangements
- Includes additional quality and outcomes metrics to ensure positive programmatic outcomes

Global Payments

- Subset of delivery system could receive partial capitation
- Delivery system targets global compensation associated with defined population
- Full population management capabilities necessary

It will also be important to understand the extent to which VBP approaches are already being employed within the State by private and public payers and assess to what degree Nebraska's payers and providers have made progress already to better understand what may or may not have worked or could work with the proper incentives and support. For example, as part of our Delaware SIM grant on payment reform work, Mercer is successfully facilitating discussions between the Medicaid Agency and the State Employees' Benefit Plan because those two entities cover a large percentage of the population, the contracted MCOs are similar and the combined purchasing power is quite substantial. Having the perspectives of two large payers can reveal overlapping opportunities and challenges that, if addressed collectively (or at least with mutual understanding), could have larger benefits across a broader spectrum of the State's health care delivery system. In Nebraska, UnitedHealthcare is the single provider of Nebraska's state employee health plans and United has approximately 33% of your Heritage Health members. How often does the Department confer with your counterparts at the Nebraska State employees' benefits group? Perhaps there is some potential for leveraging the State's buying power around value and total cost of care options.

Because Mercer has a reputation for being independent and unbiased, our team can lend additional credibility to the Department's process of evaluating different payment models and working through the public input process. We can also draw upon our

different state client engagements and perhaps facilitate some special projects related to VBP roundtable discussions or webinars so you can hear first-hand the experiences of other states that have initiated or already adopted VBP models.

Managed Care Financial Evaluation, Monitoring, and Reviews

In any Medicaid managed care program, adequate oversight of the health plans contracted with the state is crucial to the program's overall success. Much of this oversight can be accomplished through monitoring standardized reports required of the contractors. However, without careful review and evaluation of the financial and other data reported, Nebraska would risk the possibility of performing analysis and relying on inaccurate information and data as it makes business decisions. This is not only a concern for you as the payer, but also a rising concern of CMS as data is relied upon for use in Medicaid managed care capitation rates.

Mercer has a great deal of experience in performing on-site reviews at managed care organizations in a number of states. Some of these on-site reviews have been targeted to a specific issue (e.g., encounter data quality and completeness, handling of members in need of shift care nursing support); while at other times Mercer conducted a general operational assessment of MCO operational performance. With Mercer's staff of accountants, clinicians, pharmacists, actuaries, and informatics specialists we can assemble team(s) of qualified professionals to gather information and report to the Department on the operational effectiveness of your managed care program. Our clients have found that on-site reviews of the MCOs' (and/or their vendors/subcontractors) operations and processes have been essential to better understanding the dynamics of MCOs' operations, and have allowed Mercer and state staff to identify areas where the MCOs can improve their operational efficiency.

The Department has the option to incorporate the results of the operational/management reviews directly into rate setting, use the review process as a means to assist contracted entities in improving their operations without any direct impact on the capitation rate development process or evaluate the new merits of a new service delivery option outside of managed care. However, even if the rate-setting process does not directly include the results of these reviews, by identifying areas of improvement, the future claims/administrative data will inherently reflect higher levels of efficiency, and, thus, reduce the rate increase in health care costs. Therefore, **the value proposition of Mercer is that we can continue to help you be an informed and effective purchaser of health care services.**

Mercer employs CPAs, including former chief financial officers, specifically to support completing these types of activities and reviews. The ongoing financial analysis and evaluation performed by the Department and the financial and accounting support Mercer can provide in the financial monitoring process of the MCOs is a critical management activity.

Another direct benefit to Nebraska is that Mercer is an External Quality Review Organization (EQRO). This means our team has successfully performed reviews of MCOs that comply with CMS quality review protocols, focusing on quality and

Mercer is an EQRO, so our staff can give Nebraska the added benefit of having quality/outcomes focused experience and tools.

performance issues that look beyond the dollars to assess the MCO operational environment that generated those dollars. For example:

- **Delaware Medicaid EQRO:** As the Medicaid program's EQRO, we support Delaware in completing the tasks required by CMS for risk-based managed care programs inclusive of: conducting surveys and focused studies to evaluate health plan adherence to reporting requirements, review of evidence-based standards to independently validate findings of managed care submitted performance data and technical assistance on varied topics such as how to develop valid and reliable performance measures (e.g., HEDIS® metrics), how to conduct rapid cycle process improvement activities and how to integrate population health principles into case management and care coordination activities.

- **Pennsylvania BH-MCOs:** Mercer has conducted on-site reviews of 34 BH managed care contractors for many years. The reviews were conducted annually during initial implementation years and triennially since 2005. Every three years, Mercer redesigns the on-site and record review protocols to align with the evolution of our client's priorities for the program and to keep pace with the maturation of managed care technologies in Pennsylvania and nationally. Over the years, the focus has shifted from compliance with basic regulatory and contract requirements to address cost drivers, special populations, and key initiatives such as BH/medical integration.

Effective monitoring of your MCOs is also a key issue for the overall success of the Heritage Health program. Mercer has successfully assisted many other states with methodologies for monitoring the information submitted by MCOs, including financial reports, encounter/claim data, utilization and cost data, and statistical reports (please also see our response to SOW 8 related to encounter data validation activities). Mercer will be available to assist with modifications to the current financial monitoring system as your data reporting and analytical needs change over time, or, if desired, Mercer could assist with the creation of a new financial monitoring system as necessary as a special project. Mercer is ready to assist the Department in appropriate ways that can maximize Mercer's utility and effectiveness.

Summary

Our goal is to consult to you in a manner that supports your goals and initiatives and strengthens your program. To accomplish this, we will strive to understand the challenges you are facing and proactively address these challenges with practical solutions that consider more than just the financial component of the solution, but also include the policy, clinical, and regulatory sides.

b. Proposed Development Approach

For each activity the Department chooses to fund and pursue, the Mercer team's approach would be similar and revolve around the five major steps noted below:

1. Project initiation and strategic planning
2. Assess current status, performance, and/or current activity, respectively
3. Collaborate with State agency purchasers, regulators, and stakeholders
4. Develop recommendations/policy options, solicit input as needed
5. Facilitate implementation and/or measure progress

The application and the detailed actions within each of these steps will be appropriate to the given activity selected by the Department. For example, a financial review of the MCOs' administrative cost allocations does not warrant a public stakeholder process, but pursuing a VBP payment model for primary care most certainly does. Different projects will require different levels of labor/time resources so we anticipate working collaboratively with the Department on prioritizing work.

VBP Models/Ideas

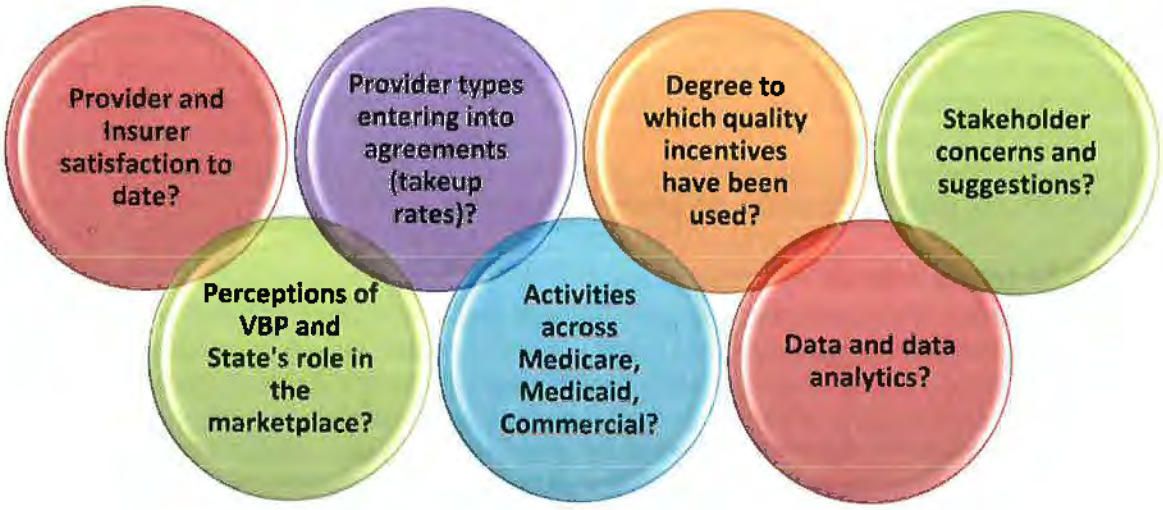
Through our team's experience, we have learned that alternative VBP and/or delivery models can and do support care that is not volume-focused. However, such solutions must be matched with a specific state's health care ecosystem, political climate, and the interests and capabilities of providers and payers. Close attention to design details and to implementation processes is essential for attaining success — and that success is not necessarily a given, nor is it easy. The Mercer team is well aware that payment and/or delivery reform is not the end goal. Rather, it is a strategy to support the continued transformation of care delivery in order to achieve the important goals of better health care outcomes, sustainability, efficiency, provider participation, and cost effectiveness.

The Mercer team strongly recommends initiating any VBP work with several in-person strategic planning meetings with Department leadership. These meeting will be used to gain a more thorough understanding of your objectives for payment reform and begin the work process. You may have more or less specific issues in mind that were not included in the RFP's scope of services description that will impact our work plan that we will need to discuss and assess. We will expect key leaders from the Department to participate so we can have candid discussions regarding this scope of work, your concerns and priorities, short- and long-term goals, and next steps. This will just be the start; VBP initiatives take time and so the Department should expect to devote time and resources to support the process and decision-making. For example, we advise the Department to be thinking about:

- Who will be the liaison with the Governor's office and/or legislature to ensure the political elements of VBP/payment reform are monitored and addressed?

- Who can facilitate cross-agency collaboration within the Department to rally your internal staff and get resources when needed?

The Mercer team believes it is essential to understanding the extent to which VBP models have or have not already been employed within the State by private and public payers and assess what lessons have already been learned. As depicted in the following graphic, part of developing new VBP programs is to assess where your market is now, what lessons can be learned from past efforts/other states, and evaluate what can have the most positive impact in Nebraska:



We will need to discuss the value of a potential collaboration effort with other State agencies such as the Department of Insurance (DOI) and/or the State employees' benefit plan around VBP. The benefit of a collaboration effort could include a review of joint or aligned purchasing objectives and regulatory strategy options to assess payment reform options/feasibility. State employees in various agencies often possess different experience and knowledge regarding Nebraska's health care payment and delivery market, the cost of care, provider participation, and related topics. This practical knowledge can be leveraged as we explore new VBP models together. As part of the process, we will want to discuss and prioritize with the Department the best way to engage stakeholders and strategize on steps to move forward taking into consideration any constraints that may be on this project work. For example:

- What existing stakeholder committees or forums can be leveraged to facilitate planning and collaboration around VBP?
- Are these existing committees/forums dominated by a single provider or payer that could dominate the discussions and quell other voices?
- Do we need to convene a new "Advisory Body" that has diverse participation and representation of payers, providers (e.g., hospitals **and** primary care), employers, and State staff?

This type of collaboration process will also ensure options that could be explored reflect the perspectives and operational realities of Nebraska's sponsoring/payer agencies/entities and the decision-making process does not produce an outcome the State cannot execute. VBP strategies are a clear example of where a multi-faceted team like Mercer can benefit the State as we can bring together our actuarial/financial, policy/operations, and clinical quality SMEs to look at solutions from all angles.

Mercer's team of actuarial/financial, policy/operations, and clinical quality SMEs offers Nebraska an integrated and comprehensive consulting partner.

Through an iterative process, the Mercer team can work with the Department to identify, vet, and prioritize VBP initiatives and determine the impact on the Heritage Health program including necessary capitation rate adjustments, contract wording changes, and/or revised reporting requirements. The Department will need to prioritize which reforms/changes to pursue further and to what extent reforms could be rolled out on a grand scale (e.g., statewide, all populations) or through a pilot/test area (e.g., one payer/one health system, one provider type, just children with complex medical needs).

Incentives to Improve Outcomes on Measures Important to Nebraska's Overall State Health and Social Determinants of Health

Through the 2016 Heritage Health RFP, the Department requires MCO reporting on numerous Performance Measures. Many of these measures are used by other states as well, but what we did not see in the MCO RFP was an explicit financial penalty/incentive arrangement based on one or more of the specified measures. The 0.25% performance penalty on page 147 of the MCO RFP did not specifically link back to the performance measures. Perhaps this is an area where we can strategize with you so that the Department can use financial incentives to focus your MCOs' attention and improvement on key measures that are important to the State.

For example, according to the 2017 America's Health Rankings report[1], Nebraska was ranked well with an Overall rank of 13 and had high rankings in several measures such as Drug Deaths, High School Graduation, and Immunization-Children, yet opportunities still exist in such measures as:

- Preventable Hospitalizations (Rank 24)
- Cancer and Cardiovascular Deaths (Rank 20)
- Excessive Drinking (Rank 45)

In the separate Scorecard on State Health System Performance issued by The Commonwealth Fund[2], Nebraska was also rated better than average on Overall Performance with a state ranking of 21 and high rankings on measures related to deaths from suicide, alcohol, and drug use and adults without all age-appropriate recommended vaccines. Yet Nebraska was noted as having room for improvement in measures related to:

- Adults who are obese (Rank 38)
- Adults without a dental visit in past year (Rank 45)

The aforementioned state rankings are not focused on just the Medicaid/CHIP population. However, CMS recently issued state-specific results on the Child and Adult Core Sets[3] on quality measures and while Nebraska did well on several measures related to Primary Care Access and Preventive Care and also Care of Acute and

[1] https://www.americashealthrankings.org/explore/annual/state/NE

[2] https://www.commonwealthfund.org/publications/fund-reports/2018/may/2018-scorecard-state-health-system-performance

[3] https://www.medicaid.gov/state-overviews/scorecard/index.html

Chronic Conditions, the CMS data indicates opportunities for improvement on measures related to:

- Childhood Immunization Status: Age 2
- Follow-Up After Hospitalization for Mental Illness: Ages 6–20
- Breast Cancer Screening: Ages 50–74
- Percentage of Women who had a Mammogram to Screen for Breast Cancer: Ages 50–64

Some of these measures lend themselves to consider using HEDIS process metrics to develop VBP arrangements while other measures are more outcomes-oriented which is more difficult to objectively quantify.

No discussion of VBP quality/outcome measures and related payment/delivery system changes is complete without acknowledging the key, yet not fully understood, **role that social determinants of health (SDOH) have on impacting health care** and life decisions people make. Since the Heritage Health MCOs are your front-line care managers for about 12% of the State's population, we would like to explore with the Department how new VBP strategies and/or delivery models can improve outcomes by also tackling SDOH issues. More and more studies are indicating that factors such as food security, ability to work, living arrangements, local crime, education, and social supports have more impact on health care spending than a person's underlying health condition. Indeed, some estimates suggest that no more than 20% of health status is the result of medical care. Social circumstances, in contrast, are estimated to have an impact twice as great. When combined, social, environmental and behavioral factors may account for 80% of health status[4].

Mercer is working with some of our state clients to tackle SDOH through innovative rate-setting work, incentive arrangements with MCOs, and other policy and waiver initiatives.

Financial Monitoring, Evaluation, and Reporting

Mercer recognizes the intricate relationship between sound medical management, quality of care, management performance, financial performance, and the ongoing viability of the Heritage Health program. A well-designed financial monitoring system should provide early warning of potential problems with an MCO and allow for the evaluation of the MCOs' financial performance, extending to on-site evaluations if deemed appropriate. Due to our experience, Mercer is well-positioned to offer flexible review teams to evaluate the operational/management effectiveness of your health plans whether on a targeted issue (e.g., administrative cost allocations) or a more global operational, on-site audit/assessment (e.g., medical management, claims processing, member assessment/screening).

With implementation of the integrated Heritage Health program, the Department will need to continue monitoring defined program measures to ensure MCOs are fulfilling contractual requirements and participants have access to needed services resulting in

[4] Booske B et al. "Different Perspectives for Assigning Weights to Determinants of Health." County Health Rankings Working Paper. University of Wisconsin Population Health Institute, Madison, WI, 2010.

desired outcomes. The financial performance of your MCOs needs to be evaluated in the context of how well the MCOs are operating. Poor financial results do not mean an MCO needs to get paid more; perhaps instead the MCO needs to perform better. We believe we can be a valued partner to the State in deciding between the two.

Mercer can review, monitor, and evaluate financial information from the MCOs from both an actuarial and a financial perspective within any constraints that might be on this project area. This integrated approach, led by credentialed actuaries and CPAs, helps ensure the financial information is accurate, reliable, and usable from a rate-setting and financial monitoring perspective.

Effective monitoring and oversight recognizes the relationships between sound medical and pharmaceutical management, quality of care, financial performance, and the operational viability of an MCO.

Our approach will be to work with your team to support and deliver monitoring and evaluation activities that will provide the information and data needed to determine MCO performance and enable the Department to take steps as needed to address opportunities for improvement or implement new policies (e.g., profit cap). Activities to accomplish this could include:

- Identify the Department's priorities for monitoring or on-site reviews
- Determine frequency and type of monitoring (e.g., data requests, desk reviews, quarterly, annual, other)
- Establish targets that will be measured and/or monitored (e.g., administrative expense load, percentage of revenue ceded to a parent company, related party contracts, and transactions)
- Determine the data/information that will be captured, how it will be captured, and how it will be analyzed
- Determine how outcomes will be used to improve the program
- Evaluate the effectiveness of monitoring activities.

Through mutual agreement, Mercer and the Department will decide what steps are appropriate and fit within the available budget, which may include one or more of the following:

- **Perform simplified financial desk reviews of the MCOs:** Our reviews can include focused efforts in the areas of clinical and utilization management, claims review, and particular financial management focus areas including evaluation of the MCOs' income statements and balance sheets, coordination with third party payers as well as reviews of fraud, waste, and abuse efforts. Additionally, review of related party agreements may identify areas of concern that require further inspection.

- **Operational and financial on-site reviews of MCOs:** Areas that can be evaluated include the MCOs' operating policies and procedures, documentation, such as reinsurance agreements, provider contracts, and utilization policies and procedures, grievance and appeals policies and procedures, claims payment systems, eligibility systems, and pharmaceutical management. The outcome of these reviews can be used for many purposes and the information gleaned from these reviews can be used to explore the validity of concerns raised by MCOs and strengthen the rate-development process. Best practices can also be identified and perhaps

dissimilated (although MCOs are often reticent to let their competitors know what they are doing that is working well). In other states, MCOs have asked Mercer to sign non-disclosure agreements prior to coming on-site to assess their operations. Mercer is willing to do this in a mutually agreeable manner.

- **MCO financial stability and profitability evaluation efforts:** While the financial results of an individual MCO are important, it is highly important to consider the whole financial picture, and to compare each MCO's financial results to the others in aggregate. This will help the Department and the MCOs make appropriate judgments as to the actual context and meaning of each MCO's results. To accomplish this goal, we can develop a report providing a comparison of each MCO with itself over time, against the other MCOs, and against pre-established benchmark measures or statewide averages. Potential areas to monitor and report on include, but are not limited to:
  - **Enrollment**: This is the number of enrolled members for each MCO. When tracked over time, enrollment changes may reflect operational issues that should be reviewed.
  - **Profitability**: The measure of all lines of business contains the necessary information to make appropriate judgments and conclusions as to the health plan's overall fiscal stability. Depending on the size and composition of a managed care program (the larger the program the lower profit can be as a percentage), Mercer generally expects to see an average operating margin of between 1.5% and 3.5% over a period of more than one year and for any given year there can be fluctuations. Fluctuations can be minimized through the use of risk mitigation tools such as the 3.0% risk corridor Nebraska currently uses.
  - **Administrative Cost Ratio:** This ratio measures the percentage of the MCO's premium revenue that is used to support administrative functions and will be compared to a benchmark range. Lower amounts may indicate reporting of administrative costs as medical costs, insufficient staffing, or efficient and effective administration processes and systems; while higher amounts may flag inefficient operations, an insufficient enrollment base, excessive administrative charges from a parent or affiliated company, or a higher degree of medical management model. Nebraska's administrative cap of 10% (7 plus 3) provides a benchmark for comparison purposes.
  - **MLR:** This ratio measures the percentage of the MCO's premium revenue needed to cover medical expenses. The metric can be used to facilitate comparisons across MCOs and to the assumptions built into the capitation rates. CMS now requires an MLR of at least 85% for Medicaid managed care. States can establish an MLR greater than 85% based on their own program circumstances.
  - **Medical Expense PMPMs:** The average medical expenditure on a PMPM basis can be informative when tracked over time, and when compared across MCOs, particularly those with similar demographics and in the same geographic coverage area. PMPMs can be evaluated for major or minor COS depending on the availability of data.

- **Days Claims Outstanding (IBNR, Received But Unpaid Claims [RBUC], and Total):** These ratios measure the number of days' worth of average medical expense reported as outstanding liabilities. The IBNR component of medical claims liabilities represents those claims that have been IBNR to the MCO. The RBUCs component represents RBUCs the MCO has on hand. Both measures are useful, but must be reviewed in the context of each individual MCO. An increasing level of IBNR days' worth could be an early warning sign that an MCO is slowing down claims payment due to financial distress.

- **Financial monitoring system and methodologies:** The periodic and ongoing financial evaluation can take place mainly through the quarterly review of financial information submitted by the MCOs as required in their contracts. To the extent requested by the Department and with available funding, Mercer can review and modernize the State's financial reporting requirements to address potential gaps (e.g., spending on value-based arrangements) or reporting redundancies.

- **Accounting and actuarial comparisons:** Through the rate-setting process, Mercer provides critical information on expected administrative and medical costs to support ongoing monitoring of administrative and medical costs. By comparing MCO expenses year-over-year, as well as across regions, Mercer assesses the reasonableness of certain trends and any outlier issues that may point to programmatic, financial, or management concerns.

By comparing these various financial metrics, we can successfully help the Department achieve overall improvement in understanding each MCO's program operating components. This type of internal benchmarking can also serve as a starting point for further investigation into unusual variations or results for a particular MCO. We will work with the Department to tailor activities in this SOW based on any constraints or budget limits that might be present.

Some examples of the types of dashboard charts, graphs, and data displays Mercer can produce are as follows, but we would work with you to determine how best to convey useful information in ways suitable for the intended.

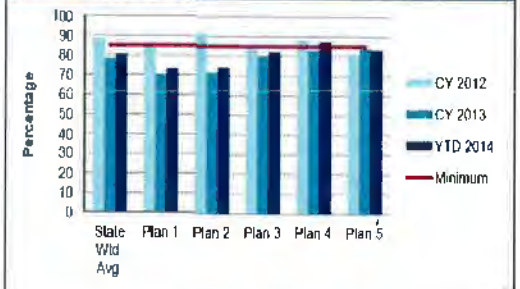
MERCER

For Discussion Purposes O

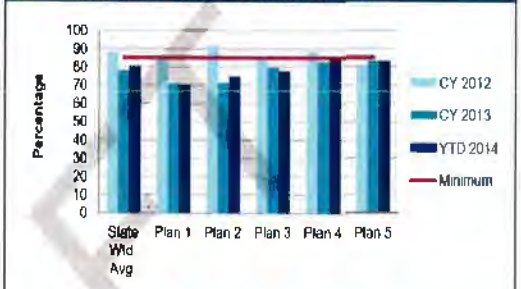
Department of Medicaid

Financial Reports through September 30, 2014

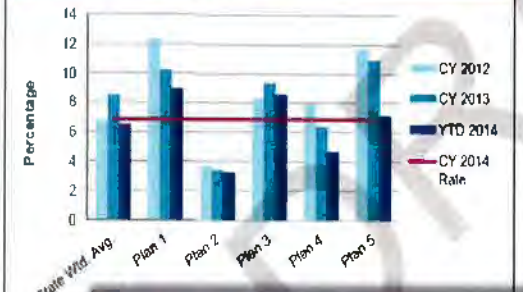
3.A Medical Loss Ratio



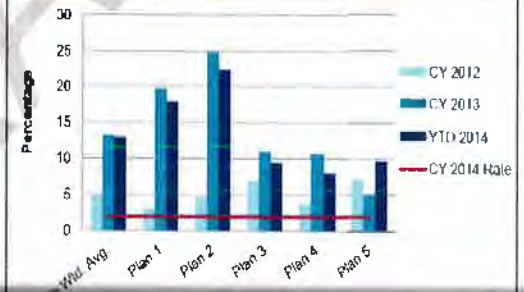
3.B Medical Loss Ratio with Constant Case Mix



3.C Administrative Cost Ratio



3.D Underwriting Gain



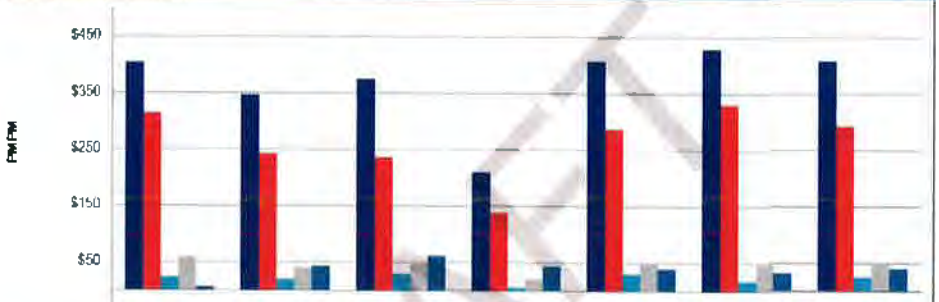
MERCER

For Discussion Purposes O

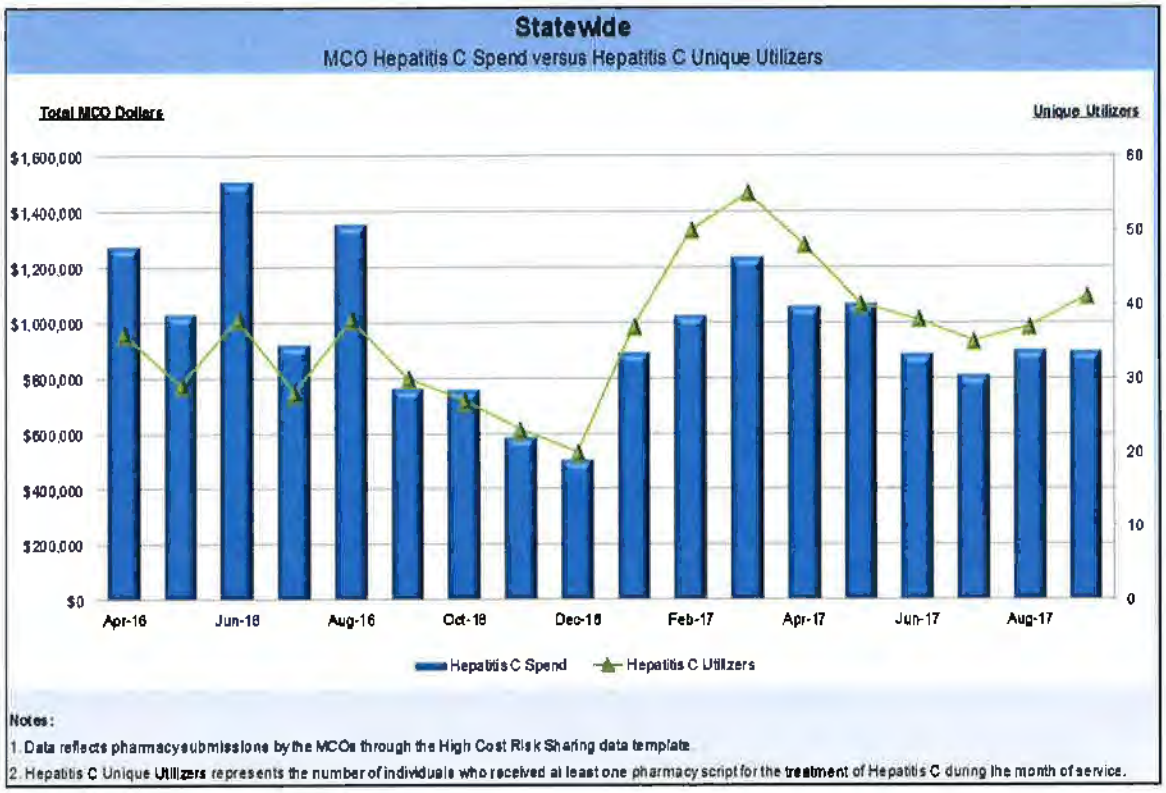
Department of Medicaid

Financial Reports through September 30, 2014

1.A YTD 2014 Income Statement



PMPM	CY 2014 Composite Rate	State Wtd Avg	Plan 1	Plan 2	Plan 3	Plan 4	Plan 5
Gross Revenue	$403.81	$346.14	$374.47	$209.38	$407.05	$428.67	$408.38
Net Medical Expense	$314.38	$242.66	$236.32	$138.55	$287.10	$330.76	$292.73
Admin	$23.17	$19.65	$28.98	$6.03	$29.88	$17.59	$24.98
Other Expense	$59.59	$40.79	$48.02	$21.09	$50.60	$47.93	$50.01
Net Income	$6.67	$43.04	$61.15	$43.71	$39.47	$32.39	$40.66
Member Months	12,449,500	12,449,500	1,774,300	3,763,700	2,332,100	1,845,300	2,734,100
Results in thousands							
Gross Revenue	$5,027,233	$4,309,270	$664,422	$788,044	$949,201	$791,025	$1,116,552
Net Medical Expense	$3,913,874	$3,020,996	$419,303	$521,461	$669,546	$610,351	$800,353
Admin	$288,455	$244,633	$51,419	$22,695	$69,683	$32,459	$68,298
Other Expense	$741,818	$507,815	$85,202	$79,376	$116,004	$88,445	$136,732
Net Income	$83,038	$535,826	$108,498	$164,511	$92,048	$59,769	$111,169



c. Technical Considerations

Given the volume of work encompassed in this sub-part of SOW 2, there are potentially many technical considerations to address and prioritize within available resources. Mercer would need more discussion to fully vet the ideas presented in this RFP, but based on our experience, we foresee the following as likely key technical considerations:

- Involvement of internal and external stakeholders in discussions regarding VBP and/or SDOH models and approaches. For example, hospitals often feel like they are in the "cross-hairs" when states pursue more VBP strategies and thus we do not want to alienate stakeholders like the Nebraska Hospital Association, but include them as a contributing entity to improve the quality, outcomes, and cost effectiveness of your programs. Large, dominant health systems can either be an agent of change or a barrier to progress, sometimes both.

- Communicating the right messages and being open and transparent is important on VBP/SDOH reforms, but can add more time and cost to the effort. The investment is worth it though as the alternative is to do this behind closed doors which does not engender goodwill with external stakeholders.

- The process of moving towards more VBP and innovative payment, policy, and/or delivery system changes needs to be managed well to avoid potential political pitfalls, stonewalling by some stakeholders, unwarranted distractions, or insufficient time to do the job right.

- Managing expectations, setting realistic goals and moving forward deliberately but with purpose are what will help the Department make progress.

- The amount of change your health care provider community can accept and react to must be considered. In other states, Mercer has encountered a general sense of provider fatigue and even frustration around health care payment and delivery system changes and the constant talk about value which can be interpreted by some providers as "I'm going to get paid less, paid later or not even know what I'm going to get paid while being asked to do more."

  We want to make sure we move forward in a way that does not add more fatigue on your provider base nor adds more administrative burden on them so they can do more of what they are good at: **practicing efficient medicine and helping people live better lives.**

- Technical ability/savviness of primary care providers. Robust primary care is a foundation of an efficient and cost-effective health care delivery system, but not all providers have the technical skills, staff resources, and tools to adopt new VBP arrangements and use data that often accompanies new models. We will need to address the needs of providers who are at different stages such as:
  - Those that are willing and able who might just need a strong "nudge" (e.g., financial, policy, or political support) to move forward with VBP models.
  - Those that are willing, but are unable due to reasons such as insufficient capital, skills, or infrastructure to take meaningful steps forward.
  - Those unwilling or unable because of small practice size/cannot handle financial risk, time to retirement, or concern over loss of control/revenue streams.

- Prioritization of activities. The RFP indicates that all of the activities in SOW 2 including the Policy and Financial Management Consulting Services will occur once per contract period. How can we maximize the Department's limited budget and one-time per contract period effort to get the most return on investment?

- The willingness of the MCOs to be open to a Mercer/Department team "poking and prodding" them in terms of their operations, finances, accounting practices, clinical decision-making processes, and work flows. As noted previously, the State has the obligation and right to inspect and assess your MCOs' performance and operations, but we want the reviews and audits/agreed upon procedures to be useful and informative for all parties not just an effort to "find dirt" on the MCOs, but also highlight MCO best practices.

- Availability and provision of reliable, complete, and timely data. Many of these activities are dependent on good data to enable financial modeling, analytics, scenario modeling, and benchmarking. In Mercer's opinion, potentially using and/or sharing bad data is worse than not having any data at all as bad data can lead to incorrect decisions, confusion, distrust, and ineffective use of limited resources. You do not build a house on sand and expect it to stay square.

- As required by the RFP and reiterated in the State's answer to Question 17, we have provided a combined total pricing for SOW 2 Rate Rebasing plus the Policy and Financial Management Consulting Services. The allocation of time and resources is a point for further discussion.

d. Detailed Project Work Plan

Based on the information provided in the RFP and Mercer's experience with similar projects in other states, **we have provided a preliminary work plan in Appendix A.** A common step in each SOW work plan is an initial strategy/planning "kick-off" meeting where key members of the Mercer team meet with the appropriate Department staff to discuss specific details of this SOW including the Department's goals, concerns, and challenges as well as for both of us to share ideas and gain more details about the work than what was included in the RFP. During this meeting we will review our preliminary work plan including data needs and sources, key deliverables, major timeline events, and frequency of subsequent communications. After this information sharing/planning meeting, Mercer will then be able to update the preliminary work plan to reflect current information and mutual agreement on next steps. Since SOW 2 – Capitation Rate Rebasing will only occur once per contract period, the specific dates are dependent on the year in which this work is undertaken. Additionally, since the specific needs and timing related to the SOW 2 – Policy/Financial projects are undefined, preliminary work plan steps are not identified. With specific requests from the Department for these projects, Mercer will follow this approach with the Department to provide a detailed work plan.

e. Deliverables and Due Dates

As noted in the preliminary work plan provided, major deliverables and expected due dates are shown in the following table. We propose to have final rates provided to the Department five months before the effective date and the final CMS documentation done before the targeted 90-day submission notice. However, Mercer works with several states that, due to various reasons such as MCO negotiations, legislative issues, and/or approval from state leadership, are not able to submit rate documentation to CMS in the 90-day window. Mercer will endeavor to ensure our part of the process is completed timely. Since the specific year in which SOW 2 – Capitation Rate Rebasing work will be done was not specified in the RFP, we are using the rates effective for CY 2021 to illustrate the expected deliverables and major due dates:

Work Plan Step	Deliverable Description	Expected Due Date
2.1	Initial planning/strategy planning meeting	10/15/2019
2.2	Data request	11/6/2019
2.3	DHHS provides data	12/20/2019
2.11	Draft rates/rate ranges to DHHS	7/6/2020
2.13	Final rates/rate ranges to DHHS	7/30/2020
2.15	Present rates to MCOs (optional step)	8/20/2020
2.17	Actuarial documentation/report	9/15/2020

Detailed work plans for requested projects associated with SOW 2 – Policy/Financial will be developed with the Department once identified.

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F. SOW 3 - 1915(b) WAIVER

a. Understanding of the Project Requirements

In 2003, CMS (with assistance from Nebraska) overhauled the cost-effectiveness test for 1915(b) waivers and Mercer has been assisting states with this test in the 15 years since. Simply stated, the test requires states to develop reasonable projections of future waiver expenditures, receive approval of these projections from CMS, and upon renewal of the waiver, demonstrate that actual expenditures were no more than the approved projections. Over the course of the waiver, actual expenditures are monitored via the CMS-64.9 Waiver expenditure reporting to compare against the projections and determine if corrective actions or amendment to the projections is necessary. Projections may also be updated if a waiver amendment and program change have a material impact on the approved projections. Upon renewal of a waiver, a state demonstrates retrospective cost effectiveness and a projection of cost effectiveness for the upcoming waiver period.

Medical service costs, 1915(b)(3) service costs, and administrative service costs are all included in the cost-effectiveness test. Mercer assists states with completing Section D of the 1915(b) waiver preprint and the cost-effectiveness Appendices that CMS has released as Excel spreadsheets for either two-year or five-year waiver renewals. States with dual eligibles have the option of applying for a five-year renewal of a 1915(b) waiver. On this point, we would like to discuss with the Department whether you have explored moving your 1915(b) waiver to a 5-year renewal cycle since duals are included in Heritage Health. Other Mercer state clients have done this to alleviate some of the administrative effort associated with having to do a formal renewal every two years.

Mercer would like to discuss with the Department the pros/cons of moving your 1915(b) waiver to a 5-year renewal cycle to reduce some of the administrative burden on the State.

Mercer has a wealth of experience in assisting states with Medicaid waivers and specifically the cost-effectiveness test for current and new 1915(b) waivers, as well as concurrent 1915(b)/(c) waivers that are fully in line with current policy for 1915(b) waivers. **We have several staff who are former CMS employees (including staff who helped design and train states on the test in 2003) and have a heightened appreciation of CMS (and OMB) expectations** – we know the right questions to ask and the appropriate timing to engage CMS. Our actuarial and financial consultants are experienced in the technical development of the cost-effectiveness test, client presentation (including individuals not well-versed in the nuances of the test), and presentation to CMS and the Federal review team. This is the added value Mercer provides to our clients and we have been doing so for many years in the areas of actuarial and consultative services.

As it pertains specifically to the scope of work under this RFP, below are examples of our 1915(b) waiver assistance with cost effectiveness. In all instances, Mercer was successful in helping our state clients submit timely submissions to CMS and negotiate approval of these waivers.

- **Louisiana:** CMS strategy, actuarial, and policy assistance for Louisiana's concurrent Section 1932(a)/1915(b)/1915(c) Healthy Louisiana Medicaid managed care program since 2012. Assistance included program design, drafting waiver applications

(including the cost-effectiveness and cost-neutrality tests and the 1915(b)(3) waiver savings proposals), and Federal waiver negotiations for the initial waiver approvals, amendments, and renewals. Louisiana has unique issues with their test that needed to be negotiated at length with the Federal team and Mercer was successful in helping reach resolution of these issues.

- **Missouri:** CMS strategy, actuarial, and policy assistance for Missouri's 1915(b) waiver, including the cost-effectiveness test.

- **Pennsylvania:** Mercer has provided technical assistance over time on the Commonwealth's HealthChoices 1915(b) waiver (including cost effectiveness) that provides PH and BH services.

- **Independent Assessor:** Mercer has been the 1915(b) waiver Independent Assessment contractor responsible for assessing the waiver cost-effectiveness projections and reporting for Montana, Ohio, and Texas.

Based on our experience and the specific expertise of the personnel we propose to staff this project with, we are confident we will be able to efficiently and effectively assist the Department in the preparation and amendment of the Department's 1915(b), and potentially 1915(b)/(c), Waiver Cost-Effectiveness projections.

b. Proposed Development Approach

CMS has a specific and standardized process for submitting 1915(b) waiver renewal requests. The 1915(b) Waiver Preprint is comprised of four sections, plus any needed additional documentation provided via attachments. Section D of the waiver preprint (including accompanying spreadsheets) includes all the data elements that derive and test cost-effectiveness projections. Our approach for updating cost effectiveness for renewals or mid-year amendments includes completing each appendix, outlined below, in Section D, and also completing the Section D preprint:

- Appendix D1: Member Months
- Appendix D2.S: Services in Waiver Cost
- Appendix D2.A: Administration in Waiver Cost
- Appendix D3: Actual Waiver Cost
- Appendix D4: Adjustments in Projection
- Appendix D5: Waiver Cost Projection
- Appendix D6: Regional Office Targets
- Appendix D7: Summary

Gather and Evaluate Current Waiver and Cost Effectiveness

Our approach to a waiver renewal or mid-waiver amendment project begins by gathering and reviewing the current 1915(b) Waiver Preprint and Section D appendices for the purpose of understanding the design elements including covered populations, covered services, current MEGs, cost-effectiveness data, projection model assumptions, and rationale. We also seek to understand any past areas of focus or concern to proactively ensure we address known issues. As part of our review process, we identify the current cost-effectiveness projections to understand if the 1915(b) is cost effective or if there are risks that may need to be addressed and mitigated as part of a mid-waiver amendment or renewal.

Identify Timelines and Approach

After this initial review, Mercer will then hold a kick-off meeting with the Department to review goals for the waiver renewal or amendment, address questions from the prior submission, discuss data needs, explore options for addressing any necessary changes, and establish timelines that coordinate with the overall timeline for the waiver application narrative, internal review, and target submission date to CMS. The approaches for performing mid-waiver amendments and renewals are different because mid-waiver amendments typically only consist of updating member month or service cost inflation or making program change adjustments. Waiver renewals require retrospective periods, based on actual data, are established and cost effective – the difference between actual and projected PMPM amounts for each MEG – is evaluated.

We will establish a point-of-contact for Mercer and the Department on the waiver cost-effectiveness development and ongoing coordination with the Department's staff responsible for Sections A-C of the 1915(b) preprint.

Approach for Cost-Effectiveness Waiver Renewals

Building on the prior steps, if we do not already have the information through a different SOW/work project, we will submit a data request to the Department to facilitate the completion of the Appendices D1-D7 and Section D preprint.

Step 1: Establish Retrospective Period Data for State Plan and 1915(b)(3) services and Evaluate PMPM Values

The retrospective periods (R1 and R2) are sourced from CMS-64 reports by each waiver MEG and serve as the base year for developing cost-effectiveness projections for the renewal period. The historical data includes member months, medical service costs (including 1915(b)(3) service costs), and administrative costs, each obtained from separate sections of the CMS-64 and member month reports.

A standard part of our approach includes validating the base year information between periods. In addition to the validation process, we also identify if and what program changes or other factors may have occurred during the retrospective periods that may warrant an adjustment to ensure they do not adversely impact the cost-effectiveness projection periods.

Step 2: Establish Projection Adjustments for Enrollment and State Plan and 1915(b)(3) services

- Appendix D5 includes all projection assumptions by MEG to adjust the base year for trend or growth factors for member months, services in waiver cost, administration in waiver cost, program change adjustments, and other adjustments that include 1915(b)(3) costs.
- Member month projections utilize historical growth rates observed in the actual member month data by MEG and include membership projections.
- Medical service and (b)(3) service projection inflation generally leverages the same or similar data and approach as used in the capitation rate development.
- Administrative cost growth is a combination of historical rates of growth but also needs to include future or budgeted administrative cost changes known to the Department. This approach ensures the administrative cost projections reflect the most likely future costs.

For example, if during Prospective Period 1 (P1), the Department expects and can reasonably estimate the value of a significant increase in a vendor contract such as information technology, we can incorporate the estimated impact into the administrative cost projection.

Step 3: Evaluate the Projected PMPM Values for State Plan and 1915(b)(3) services

Throughout the process of developing the cost effectiveness (including data gathering, projection factor development, and PMPM prospective period development), we are comparing the steps in the process to either known or estimated capitation rate PMPMs. This provides us the ability to assess the reasonableness of the projections during and after the cost effectiveness is completed. This process also provides the Department insight into the level of cost effectiveness assumed in the projections.

Step 4: Section D Preprint Documentation

Concurrent with completion of the appendices (i.e., cost-effectiveness spreadsheets), we will complete the Section D preprint narrative documenting the information used, adjustments made, and any changes to the waiver that were considered in projecting the waiver expenditures and member months. Once completed, we will share a draft of all documents with the Department for review and will meet with the Department to review the documents and solicit feedback from staff. We will incorporate the Department feedback and finalize the materials to be included in the complete 1915(b) waiver submission to CMS no later than 4 months prior to the waiver renewal date.

Step 5: Support during CMS and Federal Team Review

Mercer will be available to address any questions CMS may have regarding cost estimates, general development methodologies, and adjustment factors. Having worked with the CMS Central Office, the Federal Office of Management and Budget, and Regional Offices across the country, we can draw on the experiences various states have had with CMS to provide the Department with sound advice, to anticipate CMS questions, and to formally address any questions from CMS on the waiver renewal or amendment.

Step 6: Ongoing Monitoring and Reporting (optional)

As an optional special project, Mercer can work with the Department as needed to monitor actual spending compared to the approved waiver projections.

Approach to Cost Effectiveness: Mid-Waiver Amendments

For mid-waiver amendments, it may not be necessary to revise cost effectiveness due to a program change if for example the current cost-effectiveness test is being met by a large margin. Mercer will evaluate the current cost effectiveness and provide guidance related to whether a mid-year adjustment is warranted or if the Department can wait until the renewal process to make the change. In instances where mid-waiver amendments are necessary, our approach will be similar to that outlined for Waiver Renewals. However, the process for updating the projection assumptions first looks to leverage existing data and/or work performed for capitation rate development to support the revision and documentation for the mid-waiver adjustments.

Approach to Cost Effectiveness: Long-Term Care Managed Care Using Concurrent 1915(b) and 1915(c) Authorities (optional)

We wanted to share some thoughts and approaches to doing a 1915(b)/(c) combo waiver because of references to long-term managed care in the RFP's Project Environment overview. This would be an optional service consistent with the designation of long-term care managed care being optional under this RFP.

Although 1915(b) and 1915(c) waivers operate concurrently, each remains a "standalone" authority for the purpose of CMS review, including the financial tests of each waiver. The cost-effectiveness test for the 1915(b) waiver must be closely coordinated and aligned with the approach to capitation rate setting and the cost-neutrality test of the 1915(c) waiver. For example, the 1915(b) waiver MEG design and reporting should facilitate the cost-neutrality reporting for the 1915(c) waiver. The 1915(b) waiver may require separate MEGs for individuals eligible for HCBS versus state-plan only services (including nursing facility services). Similarly, the capitation rate-setting approach (e.g., blended capitation rates) should be considered in the design of the 1915(b) waiver MEGs to mitigate the risk of unexpected caseload shifts that can jeopardize the cost effectiveness of a 1915(b) waiver.

The cost-effectiveness test should also anticipate the CMS-64 expenditure reporting for concurrent 1915(b)/(c) waivers. These are examples of the strategic and technical considerations involved with the cost-effectiveness test for a 1915(b) waiver when it operates concurrently with a 1915(c) authority. If the Department opts to use 1915(b) waiver authority for long-term care managed care, Mercer welcomes the opportunity to recommend an approach to cost effectiveness that will best accomplish the Department's goals, maximize the potential to remain cost effective over the two-year (or five-year, at the Department's option) renewal period, and minimize the administrative burden associated with monitoring and reporting.

Examples of Mercer's experience with 1915(b)/(c) waivers include assistance to the following states for the activities described:

- **Louisiana**: CMS strategy, actuarial, and policy assistance for Louisiana's concurrent section 1932(a)/1915(b)/1915(c) Healthy Louisiana Medicaid managed care program. Assistance included program design, drafting waiver applications (including the cost-effectiveness and cost-neutrality tests and the 1915(b)(3) waiver savings proposals), and Federal waiver negotiations for the initial waiver approvals, amendments, and renewals.

- **North Carolina**: Actuarial support for the 1915(b)/(c) waivers authorizing the LME-MCO managed care program, including cost projections for the 1915(b) and 1915(c) waivers and consultation on general waiver questions.

- **Ohio**: Development of the MyCare MLTSS demonstration for dual eligibles, which included support for program design and development of the State's 1915(b)/(c) waiver authority and assistance with CMS negotiations.

- **Pennsylvania**: Cost-effectiveness and cost neutrality tests for the 1915(b)/1915(c) MLTSS waiver program.

c. Technical Considerations

There are a number of technical considerations within Steps 1-6 above for the cost-effectiveness development. For example:

- For the cost-effectiveness renewal there will likely be only two quarters of R2 data, which is typical of 1915(b) renewals, to use as a basis for the cost-effectiveness projections. As a result, there could be documented cost seasonality considerations. Mercer will rely on the work done in support of rate setting to calculate reasonable historical trend factors for the waiver period and any adjustments needed to reflect a complete R2 for projecting future waiver expenditures.

- Medical service projection inflation leverages the same or similar data and approach as used in the capitation rate development. We would expect to be able to leverage the capitation rate development work to inform waiver trends. However, in certain circumstances, an alternative approach may be necessary in order to support the cost-effectiveness demonstration.

- CMS is developing new standard operating procedures for staff to use in reviewing 1915(b) waivers and has been interested in updating the 1915(b) waiver cost-effectiveness test. As Federal policies change, there may be additional steps required, different data, or other elements CMS will want from the Department.

- As noted previously, if the waiver has sufficient cost effectiveness, there may be no need to go through the motions of a waiver amendment for a relatively small program change and instead wait for the next scheduled renewal.

- Availability, credibility, and reliability of data sources including the CMS-64 data is important for waiver renewals/cost effectiveness. Mercer has used data other than a state's CMS-64 data, but CMS does prefer seeing actual data for the R1 and R2 periods.

d. Detailed Project Work Plan

Based on the information provided in the RFP and Mercer's experience with similar projects in other states, **we have provided a preliminary work plan in Appendix A**. A common step in each SOW work plan is an initial strategy/planning "kick-off" meeting where key members of the Mercer team meet with the appropriate Department staff to discuss specific details of this SOW including the Department's goals, concerns, and challenges as well as for both of us to share ideas and gain more details about the work than what was included in the RFP. During this meeting we will review our preliminary work plan including data needs and sources, key deliverables, major timeline events, and frequency of subsequent communications. After this information sharing/planning meeting, Mercer will then be able to update the preliminary work plan to reflect current information and mutual agreement on next steps.

e. Deliverables and Due Dates

As noted in the preliminary work plan provided, major deliverables and expected due dates are shown in the following table:

Work Plan Step	Deliverable Description	Expected Due Date
3.1	Initial planning/strategy planning meeting	9/27/2018-9/28/2018
3.2.1	Data request	10/5/2018
3.2.2	DHHS provides data	10/24/2018
3.3	Draft waiver to DHHS	12/31/2018
3.5	Final waiver submitted	2/28/2019
3.7	Waiver effective date	7/1/2019

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G. SOW 4 – PROGRAM OF ALL-INCLUSIVE CARE FOR THE ELDERLY (PACE) RATE SETTING

a. Understanding of the Project Requirements

Nebraska has historically served the elderly population through Medicaid and State-funded HCBS programs or nursing facilities. Consistent with Nebraska's long-term vision to expand the use of managed care principles into more programs and services, Nebraska implemented a PACE organization in 2013 when Immanuel Pathways opened a site in the Omaha service area. Moreover, with the 2017 Heritage Health implementation, duals eligibles, nursing facility residents, and HCBS waiver participants were mandatorily enrolled in the MCOs, but the LTSS (e.g., HCB services, long-term/custodial nursing facility care) are still carved-out and paid via FFS. Therefore, in some ways PACE and Heritage Health are competing for the same population, but one or even a few PACE organizations are not going to significantly impact the credibility of the Heritage Health program and in fact, providing applicable Medicaid members options on how to receive their services is often a good thing.

We have successfully worked for a variety of states' PACE programs – including Delaware, Massachusetts, Missouri, New Jersey, New Mexico, New York, North Carolina, Ohio, and Pennsylvania. Mercer has also participated in workgroups sponsored by the National PACE Association.

While PACE is a capitated program for which Nebraska will make a payment for the Medicaid component, PACE operates under Federal regulations that are distinctly separate from Medicaid managed care. As Mercer likes to say "PACE is PACE." This distinction can sometimes raise confusion because PACE looks a lot like a capitated Medicaid managed care program and shares many common features, but PACE is not subject to the Federal regulations that govern the Heritage Health program. In fact, PACE regulations are in their own separate part of the Federal code in 42 CFR Part 460 whereas Heritage Health is mostly subject to the regulations in 42 CFR Part 438. This is one reason that CMS will often get questions from the public on new Medicaid regulations and whether the new rules apply to PACE and then respond that PACE is governed under Part 460. This was evident in the May 6, 2016 publication of the Federal Medicaid/CHIP Managed Care Final Rule on page 27525 of the Preamble:

> *Comment:* One commenter requested that CMS clarify that this requirement does not apply to PACE programs.
> *Response:* The rules applicable to PACE are in 42 CFR part 460.

Therefore, states like Nebraska have more flexibility in regards to administering their PACE programs and the regulatory burden is much less than what is applicable to Heritage Health. For instance, one key regulatory distinction between PACE and Heritage Health is that the PACE capitation rates are not subject to actuarial soundness requirements and do not need to be certified by an actuary. Likewise, the PACE FFS UPLs also are not subject to actuarial soundness. Mercer believes that CMS does occasionally consider extending the formal Medicaid actuarial soundness requirements found in 42 CFR 438 requirements onto PACE programs, but to date has not issued this change. If this happens, Mercer is well-positioned to provide the Department support and assistance to comply with any new CMS requirements pertaining to PACE.

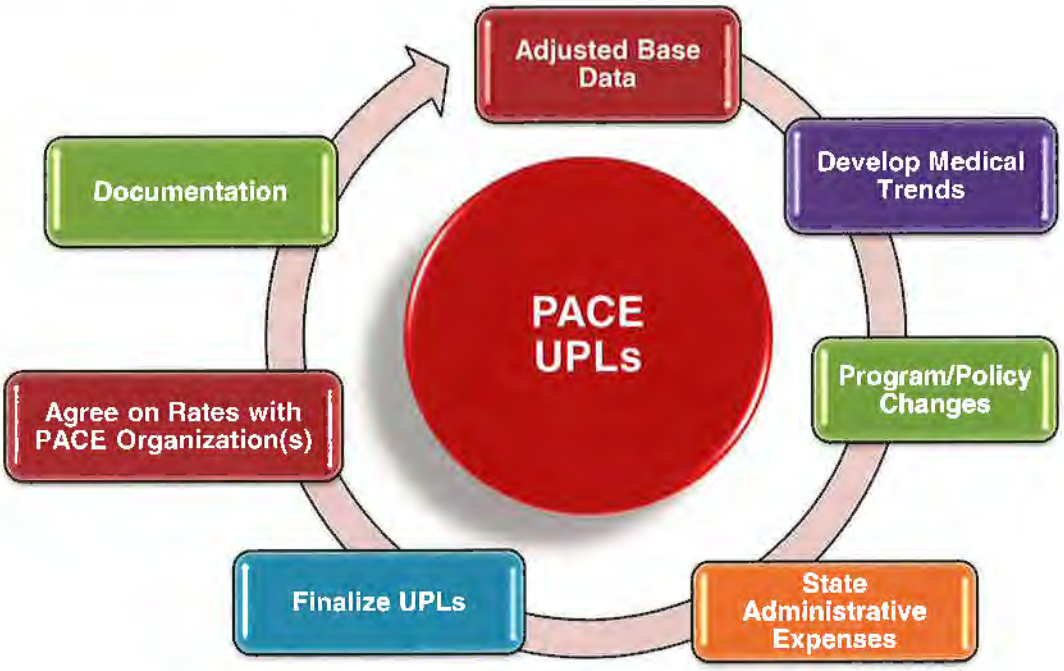
We have developed UPLs and/or PACE rates for PACE programs in a variety of states for well over 15 years, including Delaware, Massachusetts, Missouri, New Jersey, New Mexico, New York, North Carolina, Ohio, and Pennsylvania. In addition, **Mercer has participated in multiple work groups sponsored by the National PACE Association (NPA) that focused on PACE rate-setting issues and considerations for states and PACE organizations.** Gabe Smith, ASA, MAAA of Mercer was a contributing member of the most recent NPA workgroup that helped create the updated 2016 PACE Medicaid Rate Setting Guide available on-line at: Rate Setting Guide. Like all of our other 270+ staff, the matrix structure of Mercer enables us to seek input from Gabe or obtain a technical peer review if needed. Gabe's office is just three doors down from Fred's and they both work together on Mercer's Delaware engagement.

Mercer also provides program, Federal authority, and actuarial assistance for PACE programs, including the ongoing annual development of UPLs and capitation rate ranges, and has provided support to our clients in responding to CMS inquiries to ensure compliance with CMS requirements related to the contracted rates under PACE programs. A few years ago, Mercer hired one of their PACE champions, Michele Walker, MSG, MPA, who had spent 12 years working at CMS. Michele's unique insight and perspectives can be leveraged when our PACE team has a specific question or wants confirmation on a particular issue related to developing PACE payment amounts. In fact, Michele peer reviewed our response to this SOW and has already offered to lend a hand if our team needs it later on.

b. Proposed Development Approach

42 CFR 460.182 makes specific reference to the state payment portion for the Medicaid component of a PACE program. The capitation payment amount must be specified in the PACE program agreement and be less, taking into account the frailty of PACE participants, than the amount that would otherwise have been paid under the State Plan if the individuals were not enrolled in a PACE program. The "amount that would otherwise have been paid" is often referred to as the PACE FFS UPL, but is also taking on new meanings as Mercer will discuss on the following pages. Therefore, the key Federal requirement for PACE programs is that the final capitation rates, which are a fixed amount regardless of changes in the participant's health, are less than the respective UPLs. Nebraska also has a few options on how to arrive at the final PACE capitation rates that are less than the UPL which will be discussed below in our Technical Considerations response.

The following graphic depicts our approach to PACE UPLs and capitation rates.



These steps are described in more detail below and constitute the building blocks for our SOW 4 work plan (see Appendix A for our preliminary work plan).

Adjusted Base Data

The base data must be from a PACE-eligible or PACE-like population which is by definition individuals age 55 and older, nursing facility level of care, are in the relevant geographic service area, and can be safely served in the community. Typically, Mercer will use a combination of data from a nursing home population and an elderly/physically disabled HCBS waiver population that meets these conditions. Recent base data will thus likely be a combination of some managed care data (non-LTSS) and some FFS data (LTSS) because of Nebraska's inclusion of the PACE-like population in Heritage Health. Mercer has experience with developing PACE UPLs using data sources other than just FFS data. For example, when Delaware expanded mandatory managed care to duals and LTSS populations in 2012, all of the usual PACE UPL FFS data ended. Accordingly, for the last two PACE UPL cycles, Mercer has developed UPLs using mostly managed care data with some FFS data for a handful of services that are still carved-out in Delaware. We do not even refer to Delaware's PACE UPLs as UPLs anymore, but instead have adopted the term "amounts otherwise paid (AOPs)" to acknowledge the transition away from using FFS data. CMS has observed that several states are no longer having the ability to use historical FFS data to develop PACE UPLs because of the wider adoption of mandatory Medicaid managed care for PACE-like populations (as Nebraska is contemplating for year 2020). For example, in their December 2015 PACE Medicaid Capitation Rate Setting Guide, CMS does not even use the term upper payment limit, but instead described the UPLs as the "amounts that would have otherwise been paid."

Mercer is now developing PACE AOPs using non-FFS data sources instead of traditional FFS-based UPLs.

From a geographic perspective, we prefer to develop PACE UPLs that align with the geographic areas where the PACE organization(s) operate or are expected to operate if additional sites are expected. In some states, Mercer has developed statewide PACE UPLs at the request of our clients if multiple sites/organizations exist throughout the state. For Nebraska, having one current PACE organization, Immanuel Pathways, operating in the Omaha area suggests we could develop PACE UPLs that align with Rating Region 1 of Heritage Health (which is more counties/larger area) or narrow the data to be more specific to the counties of Cass, Dodge, Douglas, Sarpy, Saunders, and Washington. We will want to review and discuss how the UPLs have been developed in the past as a small number of counties, even though Douglas is in the mix, could still present some data credibility challenges. There is no need to "re-invent the wheel" if the Department is satisfied with the construct of the PACE UPLs, but we are also open to discussing some fresh ideas without adding any unnecessary time/cost to the process.

PACE UPLs can be developed from just a nursing facility population or just an HCBS waiver population and if the Department prefers that approach we can accommodate that request. But given the substantially higher average PMPM cost of a nursing facility population, the UPL could be unnecessarily high in some regards and in our experience a very low percentage of PACE participants are actually nursing facility residents, most remain in community-based settings. However, given the comparative frailty requirements of PACE, using just an HCBS population for the PACE UPLs might result in a UPL that is too low to have the resulting PACE capitation rates financially viable for the PACE organization(s) to accept. Therefore, a combination of both populations with a reasonable weighting blend can result in PACE UPLs that fit in the "goldilocks zone" for purposes of a viable PACE program. Moreover, if Nebraska does implement a managed LTSS initiative in the future, there can be similarities and some leveraging of work between the structure of the PACE UPLs/rates and the full-risk MLTSS capitation rates that can result in a more cost-effective PACE process.

When a person voluntarily chooses PACE, the PACE organization is responsible for providing all services to those individuals. Anything that Nebraska offers under the Medicaid State Plan is the responsibility of the PACE organization and the PACE organization is further empowered to offer other services that can address the person's needs. The PACE organization is also responsible for all Medicare-covered items and services. Indeed, the fundamental nature of PACE with the focus on the day center/engaging seniors is very different than other models. For dual eligibles, the PACE organization receives a separate capitation payment from Medicare for all Medicare-covered services. In this way, PACE was really the first integrated Medicare/Medicaid program.

Because of the comprehensive, interdisciplinary team model of PACE, Nebraska's payment for the Medicaid component must include all Medicaid benefits, and those expenses need to be built into the PACE UPLs (e.g., LTSS, hospital, pharmacy, dental, BH, etc.). It is interesting to note that while HCBS and nursing facility populations are often used to develop PACE UPLs, PACE enrollees are not allowed to be concurrently enrolled in an HCBS waiver and very few PACE participants become nursing facility residents. That is why for PACE, the UPL is really just that, an upper limit or ceiling on what Nebraska can pay your PACE organization(s).

As needed, Mercer will apply applicable base data adjustments to account for items such as unpaid claims liability (aka, completion factors), pharmacy rebates, cost sharing

or payments made that are not reflected in the base data. In this process, we will collaborate with the Department to ensure the data is summarized into the rate cell structure applicable to your PACE program which will mean making sure we are separating duals and non-duals based on the same method the State will assign PACE participants to rate cells for payment purposes (e.g., Part B only duals). To minimize the complexity of the process and recognizing that Nebraska's PACE program is still relatively small, we typically will not develop UPLs based on age/gender cohorts as this could lead to small data sets/low credibility data and more individual rates than the State needs to negotiate, enter into your IT systems, assign participants to, and pay out. We generally find that a small number (e.g., 2-4) of distinct cells are sufficient for PACE UPL purposes.

Program/Policy Changes

Another important element in developing the PACE UPLs is to account for any program/policy change that materially impacts the average PMPMs. Program/policy changes are developed and incorporated in the UPL process to adjust the base data to reflect changes that either:

- Took place between the time the data was extracted and the present; or
- Are anticipated to occur between the present and the end of the contract period for which the UPLs will be effective.

Some program/policy changes that states implement do not have a material impact on the population used in PACE UPL work. For example, any program change that predominantly impacts children, adults under age 55, or anyone that is not in the target population of nursing home certifiable generally is not applicable for purposes of PACE UPL development. Nebraska's lactation counseling change that took effect July 1, 2017 is an example of a program change not applicable to PACE work. We will want to collaborate with Department staff to review and discuss material program/policy changes that need to be incorporated into the PACE project, relevant data sources, and related items. Given the inclusion of PACE-like populations in Heritage Health, we should be able to leverage some of the Heritage Health work around applicable program/policy changes.

Medical Trends

Trend plays a crucial role in adjusting the base data to reflect expected cost/utilization levels during the contract period. Trend is developed to project cost and utilization changes from the base period to the contract period. Mercer develops trend on a population group and COS basis. Given the unique nature of the enrollees in a PACE program, we expect the total PMPM will be heavily weighted towards a relatively small number of major service categories dominated by nursing facility, HCB waiver services, and for non-duals hospital and pharmacy costs. Depending on the credibility and availability of data sources, trends can be developed on a PMPM level (which may be suitable for the majority of services that are a small relative component of the total UPLs) or on a unit cost/utilization level for the main driver service categories.

Trend development synthesizes a variety of data sources and professional actuarial opinion. Depending on the availability of data in a given geographic zone/region, Mercer initially examines the utilization and unit cost trends for several years of FFS data and/or data from populations in other programs (e.g., Heritage Health). We will also ask for

input from the Department on expected unit cost fee schedule changes for the LTSS that remain in FFS. We also consider national indices, such as the CPI and Mercer's collective, proprietary knowledge of health care trends in other states for similar populations. Final trend assumptions will be based on our professional actuarial opinion.

State Administrative Expenses

The final component of the PACE UPL development considers the State's administrative expenses. No administrative costs associated with the actual PACE organization are allowed in the UPLs. Mercer will confer with the State regarding the appropriate assumption and incorporate an allowance for the administrative expenses that should be reflected in the PACE UPL. In other states, Mercer has reviewed the CMS-64 data to assess the average percentage administrative costs compose of total expenditures and used this as a starting point for finalizing the UPLs.

Finalize UPLs and Support PACE Rates

After completing the aforementioned steps, Mercer will provide the Department the working draft PACE UPLs and offer a conference call/meeting to review and discuss the results. Pending any comments or new information not previously shared, these UPLs will be considered final by Mercer and we will begin to work on our UPL methodology/documentation report.

As noted elsewhere, Nebraska has a few options to choose from to arrive at final PACE capitation rates. **A commonly-used approach that Mercer has seen states employ is setting the PACE rates as a percentage discount off the UPL.** We have seen states use a UPL discount factor of anywhere from approximately 5% to 20%. This strategy guarantees the rates comply with the CMS requirement of being less than the respective UPL. Other states will use an abbreviated negotiation process, but avoid the drawn out process of negotiations that sometimes accompanies large, full-risk Medicaid managed care program where hundreds of millions if not billions of dollars are on the line. PACE in Nebraska is an important, yet small, program. The State needs to pay viable capitation rates, but relative to a program like Heritage Health, the Department should be cognizant of the magnitude/impact of each respective program in how much time and resources are devoted to each. This is one reason we are proposing to alternate between updating and rebasing the PACE UPLs.

Mercer has successfully developed PACE capitation rates on behalf of some of our states. California is one example where we do develop PACE rates, but PACE in California is a substantial program and the PACE association is quite active and demanding. PACE rate setting follows the same process as any other rate development work, but the process generally involves smaller and more homogenous population groups. Small population sizes (a large PACE organization may have 200-300 participants) create its own challenges and often segmented Medicaid data from PACE organizations is hard to come by. PACE is intended to blend funding streams, so having PACE organizations itemize expenditures between Medicare and Medicaid to enable future Medicaid rate setting can be a struggle for some PACE organizations. We have found that the burden of this additional detailed accounting and financial reporting, not to mention trying to obtain complete encounter data from PACE organizations, often outweighs the benefit it would provide since states have current flexibility in setting PACE rates. Mercer would be happy to discuss these options with

Nebraska and ensure the requirements on your PACE partners aligns with your needs as a State to be an efficient and effective program sponsor.

Documentation

Upon completion of the PACE UPL development, Mercer will provide the State with a methodology report that describes the process, including a discussion of the methodology, data adjustments, and assumptions used to establish the final PACE UPLs. We typically provide a draft methodology report that is considered final unless the Department would like changes made that are mutually acceptable. This report can be submitted to CMS in support of getting approval for the UPLs and resulting rates.

c. Technical Considerations

Much like any other managed care program, Nebraska's PACE program can be subject to the following considerations and external influences:

- If a blend of nursing facility and HCBS populations is used, the assumed mix of populations is a technical consideration that will impact the final PACE UPLs.
- Timely and relevant information on material program changes impacts any rate development process.
- If more PACE organizations/sites are expected, we will need to consider whether the geographic area covered by the UPLs needs any revisions.
- Availability, credibility, and reliability of base data sources is a common consideration in these types of projects.
- Similar to other Medicaid managed care programs, PACE UPLs and rates do not need to be fully rebased each year, but can instead be updated and periodically rebased. CMS specified in the 2015 PACE Guide that "Amounts that would have otherwise been paid should be rebased annually but at least every 3 years."
  - We propose using a process of alternating between a full rebase and an update of the PACE UPLs to enable the Department to devote more resources to other projects such as the Heritage Health program.
- Nebraska's Medicaid State Plan indicates the PACE capitation rates are set as a percent of the UPLs. This is a common, cost-effective approach used by several other states. If the Department opts to take a more laborious process, such as intensive face-to-face PACE organization negotiations or developing separate PACE rate ranges, that would be an additional step and added cost in the overall process.
  - The key item for PACE is that the State has flexibility in how you determine or negotiate the PACE capitation rates. The constraint for PACE is that the capitated rate must be less than the PACE UPL, provided the PACE UPL is developed in accordance with the CMS PACE Checklist/Guide and approved by CMS.

d. Detailed Project Work Plan

Based on the information provided in the RFP and Mercer's experience with similar projects in other states, **we have provided a preliminary work plan in Appendix A.** A common step in each SOW work plan is an initial strategy/planning "kick-off" meeting

where key members of the Mercer team meet with the appropriate Department staff to discuss specific details of this SOW including the Department's goals, concerns, and challenges as well as for both of us to share ideas and gain more details about the work than what was included in the RFP. During this meeting we will review our preliminary work plan including data needs and sources, key deliverables, major timeline events, and frequency of subsequent communications. After this information sharing/planning meeting, Mercer will then be able to update the preliminary work plan to reflect current information and mutual agreement on next steps.

e. Deliverables and Due Dates

As noted in the preliminary work plan provided, major deliverables and expected due dates are shown in the following table. The RFP did not specify a due date for the PACE UPLs, so our work plan reflects timing we have used in other states. We are open to modifying our proposed dates through discussion and mutual agreement.

Work Plan Step	Deliverable Description	Expected Due Date
4.1	Initial planning/strategy planning meeting	9/27/2018-9/28/2018
4.2	Data request	11/1/2018
4.3	DHHS provides data	11/30/2018
4.10	Draft PACE UPLs	3/1/2019
4.11	Final PACE UPLs	3/15/2019
4.12	PACE UPL report	3/29/2019

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H. SOW 5 – 1115 WAIVER DEVELOPMENT AND SUBMISSION

a. Understanding of the Project Requirements

Mercer is dedicated to helping states understand and implement health care policy and financing solutions to combat the nation's addiction crisis, particularly through development of Section 1115 Medicaid waivers for expanded opioid use disorder (OUD), substance use disorder (SUD) services, and coverage for treatment in institutions for mental diseases (IMDs). Our team has deep experience over the past 10 years with 1115 waivers in general and current experience with SUD 1115 waivers since the new guidance was released by CMS in 2017.

Per the RFP, we understand this SOW requires assistance with the design and development of an 1115 waiver "that meet the criteria of CMS OUD/SUD initiative" and the role of your consultant is likely to focus heavily on the budget neutrality agreement. For the purpose of this response, we are focusing our experience and approach on SUD 1115s, but **we have prepared 1115 waivers, including concept papers, stakeholder engagements, CMS negotiations, and budget neutrality agreements for more than 11 states across a variety of program types including managed long-term care**. We have at least 10 senior consultants with deep CMS experience in waivers and budget neutrality and can access these individuals as needed to support the Department.

The budget neutrality agreement requires Nebraska to demonstrate that CMS would not spend more with the waiver than without the waiver. In SUD 1115 waivers, states are not at risk for administrative costs or for caseload growth within MEGs, but are at some risk for per capita expenditures. Mercer recently assisted Louisiana and Pennsylvania with the development and approval of their SUD 1115 waivers and we are currently helping several additional states with their SUD 1115 waiver applications. In each of these state clients, Mercer prepared the budget neutrality submission for the waiver. In Louisiana, Mercer helped prepare the waiver application (including public notice materials) and the Implementation Plan. Both must both be approved prior to Federal funding of SUD 1115 waivers.

Mercer assisted Louisiana with the development and approval of its SUD 1115 waiver and Implementation Plan.

We are currently helping several additional states with their SUD 1115 applications.

One of the successes of our assistance with Louisiana's and Pennsylvania's waivers was CMS agreement to refine the budget neutrality test to better meet the needs of states relying largely on capitated managed care for the SUD 1115 services. Another success with Louisiana was the expedited approval of Louisiana's SUD 1115 prior to capitation payments being subject to the new managed care rules for "in lieu of" services for IMDs.

For a new SUD 1115 waiver, the Department will be required to go through the public notice requirements for 1115 waivers applied at 42 CFR 431.408 and the application process at 42 CFR 431.412. At a minimum, the Department would need to include the expenditure and enrollment estimates required of 431.408(a)(1)(i)(C) for the 1115 public notice. In our experience with SUD 1115 budget neutrality, it is most efficient to develop these abbreviated estimates, publish a draft 1115 application for public comment, and

develop and finalize the more detailed budget neutrality demonstration while an 1115 waiver is undergoing state public notice. The final submission to CMS should include the complete budget neutrality demonstration (spreadsheets and narrative) following the CMS instructions for SUD 1115 waivers. For new, SUD-only 1115 waivers, CMS has developed an approach to budget neutrality (i.e., "hypothetical" treatment of waiver expenditures) that limits, but does not completely eliminate, state risk for Federal match.

Assuming the Department seeks approval for a five-year term, Mercer would begin assisting the Department with the renewal of the 1115 waiver 18-24 months prior to the waiver expiration in order to submit an extension application one-year in advance of the expiration date.

b. Proposed Development Approach

Mercer's approach to budget neutrality projections for a SUD 1115 waiver will vary somewhat based on the Department's needs. However, our overall goal is to favorably position the Department in the 1115 process so the operation of the SUD 1115 waiver does not place the Department at risk for loss of Federal financial participation because a waiver limit is exceeded. As mentioned above, CMS has designed a budget neutrality test that inherently limits, but does not eliminate, state risk.

Our general approach to 1115 budget neutrality involves working closely with the State In the following areas:

- **Key Staff:** Identify and engage key staff responsible for program design and initiatives under the waiver and staff responsible for reporting and monitoring of budget neutrality. For example, the establishment of MEGs is often based on populations and costs with similar risk profiles, but the State must have the ability to separately identify these populations and costs to be in compliance with CMS-64 reporting, budget neutrality reporting, and monitoring requirements of the special terms and conditions. Mercer will also plan to share information on what to expect of the CMS review based on similar experience with other states.

- **Coordination:** Budget neutrality must reflect costs and caseloads consistent with the program design of the waiver so it is critical that coordination between the waiver design teams and budget neutrality takes place. This is where Mercer's expertise with the 1115 waiver process and our policy SMEs on the team and other Mercer staff available for peer support will be an asset to the Department.

- **MEGs and Expenditure Groups:** Determine populations, services, expenditures, and groupings including evaluating which groups are most advantageous to combine as a way to reduce financial risk to the Department. For SUD waivers, CMS has encouraged a minimal number of MEGs, but left it up to states to make this decision.

- **Establish Per Capita Waiver Limits:** SUD 1115 waivers utilize per capita PMPM budget neutrality limits for each MEG.

- **Data:** Identify and obtain the necessary data and identify any data limitations. While CMS looks for five years of historical data, many states do not have this for SUD IMD expenditures and we may need to develop alternative approaches through collaboration with the Department's team.

- **With and Without Waiver:** Establish cost and caseloads for "with and without waiver," identifying areas of risk and methodologies to mitigate the risks.

- **Support:** Assist the Department with the negotiations between CMS and the OMB, evaluation of standard terms and conditions (STCs), and assist the Department with the ongoing monitoring and reporting during the life of the budget neutrality agreement. CMS has a dedicated group of specialists that focus on 1115 budget neutrality and work closely with the SUD SMEs for consistency with program design. Budget neutrality discussions often run parallel to negotiations on the program design.

- **Assist Budget Neutrality Monitoring and Reporting After Waiver Approval:** This includes providing assistance to the Department with quarterly and annual 1115 waiver reporting to CMS and assistance with routine, ad hoc issues with budget neutrality reporting and monitoring.

- **Identify for the Department How Impacts of Program and Policy Changes Impact Waiver Limits:** This includes identifying how program and/or policy changes may impact the budget neutrality agreement.

c. Technical Considerations

Based on our experience with 1115 waivers in general and SUD 1115 waivers specifically, the following are key considerations and technical considerations (some are more/less complicated than others):

- Whether the Department is seeking authority only for the IMD setting or will request coverage of additional, new services under the waiver. CMS will permit new services to be added to the 1115 waiver if they "hypothetically" could be (but are not) added to the State Plan.

- The development of cost estimates for new services (if any).

- The identification of IMDs in the Department's data.

- The availability of reliable base data for this service setting given lack of historical Medicaid funding.

- The number and types of MEGs to be proposed for budget neutrality.

- The extent to which any SUD 1115 services will be covered under the Heritage Health program to determine whether 1115 waiver projections should be based on capitation payments.

- Interaction with the Heritage Health 1915(b) waiver cost effectiveness and waiver reporting.

- What other uses the Department may want to use 1115 waiver authority for (e.g., MLTSS).

d. Detailed Project Work Plan

Based on the information provided in the RFP and Mercer's experience with similar projects in other states, **we have provided a preliminary work plan in Appendix A.** A common step in each SOW work plan is an initial strategy/planning "kick-off" meeting where key members of the Mercer team meet with the appropriate Department staff to discuss specific details of this SOW including the Department's goals, concerns, and challenges as well as for both of us to share ideas and gain more details about the work than what was included in the RFP. During this meeting we will review our preliminary work plan including data needs and sources, key deliverables, major timeline events, and frequency of subsequent communications. After this information sharing/planning meeting, Mercer will then be able to update the preliminary work plan to reflect current information and mutual agreement on next steps.

e. Deliverables and Due Dates

As noted in the preliminary work plan provided, major deliverables and expected due dates are shown in the following table:

Work Plan Step	Deliverable Description	Expected Due Date
5.1	Initial planning/strategy planning meeting	9/27/2018-9/28/2018
5.2	Develop draft waiver for public notice	12/31/2018
5.3	Publish draft for public notice	1/2/2019
5.4	Submit budget neutrality calculations	2/28/2019
5.6	Submit 1115 SUD waiver to CMS	4/1/2019
5.8	Waiver approved/effective (estimated)	9/1/2019
5.9	Quarterly monitoring/reporting	Qtrly after waiver effective

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I. SOW 6 – DENTAL CAPITATION RATE SETTING

a. Understanding of the Project Requirements

Exceptional experience, expertise, and judgement are all critical for managed care capitation rate setting. Mercer's experience and expertise is more easily described and documented throughout our RFP response. Judgement can be more difficult to convey in the written word, but our decades-long partnerships with multiple state Medicaid agencies, along with the personal success stories contained within our resumes and via our references, speak highly to our reliable judgement attribute.

Actuaries do have several source materials containing current requirements, principles, and practices to guide them, yet professional judgment remains a key element because we often work with imperfect data to predict the future expected cost of health care. Although there are certainly more than four key source materials (such as multiple additional ASOPs), the following key Medicaid documents include:

- The July 5, 2016 effective "Medicaid and Children's Health Insurance Program (CHIP) Programs; Medicaid Managed Care, CHIP Delivered in Managed Care, and Revisions Related to Third Party Liability" (the Final Rule) at Final Rule.

- Centers for Medicare & Medicaid Services (CMS) annually updated "2018-2019 Medicaid Managed Care Rate Development Guide" at 2018-2019 Medicaid Managed Care Rate Development Guide.

And two ASB and AAA documents:

- ASOP No. 49 "Medicaid Managed Care Capitation Rate Development and Certification", binding guidance at Medicaid Managed Care Capitation Rate Development and Certification.

- Health Practice Council Practice Note (non-binding actuarial profession guidance) "Actuarial Certification of Rates for Medicaid Managed Care Programs" at Actuarial Certification of Rates for Medicaid Managed Care Programs

Capitation Rate Setting Context

The formal project requirements of SOW 6 are documented within the RFP. However, the understanding of those project requirements can, in large measure, be demonstrated by a thorough understanding of the rules, regulations, principles, and practices around actuarial soundness for Medicaid/CHIP managed care capitation rate setting. Via §§ 438.4, 438.5, and 438.7 of the Final Rule, CMS added new considerations to the development and documentation of actuarially sound capitation rates, including considerations for network adequacy, MLR, and special contract provisions in § 438.6. Note the Final Rule did not extend these same requirements to separate CHIP Title XXI managed care programs, although 42 CFR 457.10 applies "actuarially sound principles" to the development of CHIP rates. Mercer follows the same steps and thought process when developing capitation rates for programs that include Medicaid and CHIP populations.

The actuarial principles and practices are also governed by the aforementioned ASOPs, including ASOP No. 49 which contains the following definition:

- "*Actuarially Sound/Actuarial Soundness* – Medicaid capitation rates are "actuarially sound" if, for business for which the certification is being prepared and for the period covered by the certification, projected capitation rates and other revenue sources provide for all reasonable, appropriate, and attainable costs. For purposes of this definition, other revenue sources include, but are not limited to, expected reinsurance and governmental stop-loss cash flows, governmental risk-adjustment cash flows, and investment income. For purposes of this definition, costs include, but are not limited to, expected health benefits, health benefit settlement expenses, administrative expenses, the cost of capital, and government-mandated assessments, fees, and taxes."

We are familiar with Managed Care of North America (MCNA) Dental through our Medicaid dental rate-setting work with the State of Louisiana and our CHIP dental rate review work with the Florida Healthy Kids Corporation.

- **Louisiana:** The state retained Mercer to assist in moving from a FFS dental benefit model to a contract with a single PAHP effective July 1, 2014. Louisiana sought savings through the transition from FFS to managed care, but the Medicaid benefit is primarily designed for children based on the Early and Periodic Screening, Diagnostic and Treatment (EPSDT) benefits with limited adult dental benefits (primarily denture-related services).

  Given an objective of increasing preventative dental services for children, Mercer was careful in its assumptions regarding how a managed care program could impact utilization and pricing. Based on a Request for Information (RFI) to potential vendors, the state was able to obtain sufficient detail to inform a set of assumptions that created financial savings compared to the FFS program. The state subsequently released an RFP and successfully contracted with a single vendor (MCNA) for statewide services. Mercer remains the actuary of record for the Prepaid Dental Benefit Program (DBP) and annually determines the capitation rate ranges. The initial rate ranges were based on FFS data that was adjusted for assumed managed care savings. As the program matured, the dental encounter data and the contractor's financial statements have become the main data sources for the rate development.

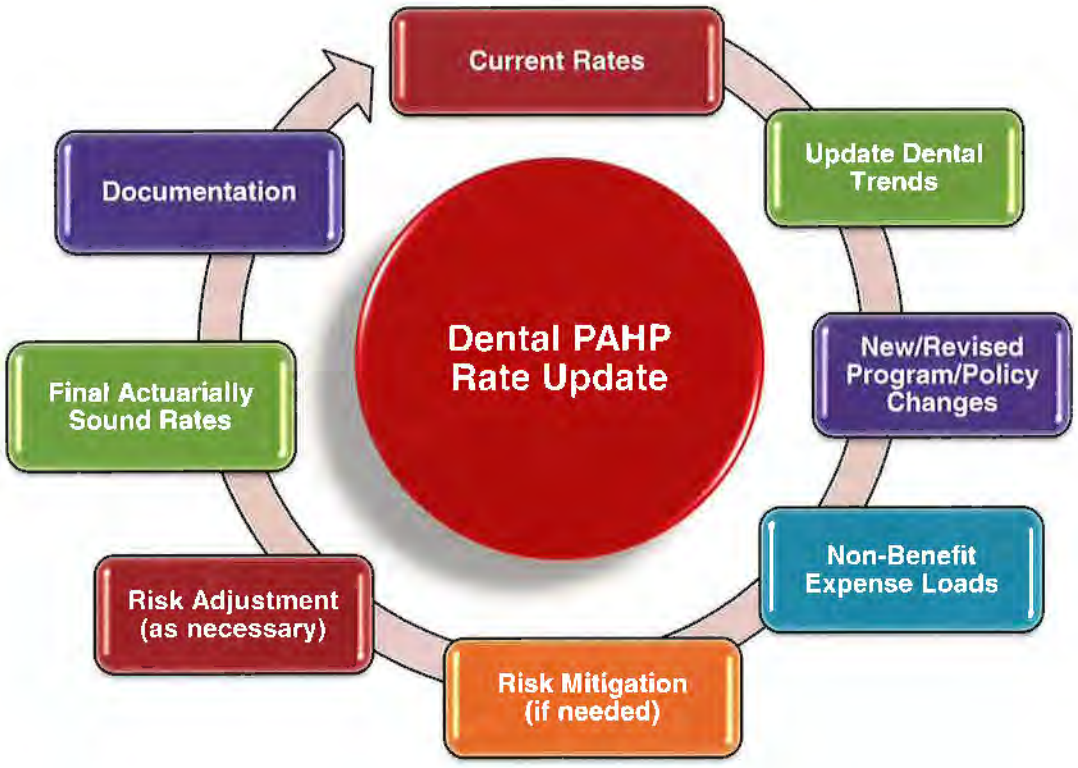
  The managed care program has included payment incentives to promote increased utilization of preventative services by children, especially dental decay prevention through increased placement of dental sealants on the permanent molars. Such incentives and the contractor's results continue to be evaluated as the state manages the contractor's efforts to improve its performance.

At its core, the fundamental goal of actuarial rate development is to match payment to risk. Whether the delivery system is via an MCO, PIHP, or a Dental PAHP, risk-based capitation payments must be certified as actuarially sound to be in compliance with the Capitation Rate Setting Context documents previously itemized. Due to our extensive experience working with a variety of state Medicaid programs, we realize how important it is to have a sound rate-setting methodology that is supported by relevant experience data and information. We also recognize how important it is to be current on Federal and state legislation that could possibly affect rate methodologies and reimbursement mechanisms.

b. Proposed Development Approach

Our experience goes back over 30 years, to 1985, when we developed rates for the first Medicaid managed care program in the country, Arizona, and now has extended to having worked with more than 30 states. Mercer's actuarial credibility with CMS and other health care entities has been well established. Our Medicaid clients have expressed complete satisfaction with our deep knowledge of CMS' complex regulations and with our ability to communicate our rate-setting methodology to CMS with thorough documentation. To support CMS' review and approval of rate certifications, Mercer includes a cross-walk to the annual CMS Medicaid Managed Care Rate Development Guide as a standard practice.

Typically, the work effort involved in a rate update is less intense because newer base claims/encounter data is not required and the prior approval and certified rates serve as a starting point. Nonetheless, the process still includes review and updating of many of the same steps applicable under a full rebase methodology. As depicted below, a rate update consists of adjusting the existing rates for claim cost (dental) trend, the impact of new/revised programmatic or policy changes, development of appropriate non-benefit expense loads, and consideration of other components such as risk mitigation and risk adjustment (as necessary). Even though the Dental PAHP program is a small fraction, approximately $60 million in capitation payments, of the size of Heritage Health, the steps to update the Dental rates are essentially the same.



These steps are described in more detail below and constitute the building blocks for our SOW 6 work plan (see Appendix A for our preliminary work plan).

Update Dental Trends

Trend plays a crucial role in projecting to the prospective contract period. Insightful trend analyses are based on encounter data and/or FFS claims because the detail embedded in those data sources can allow more robust actuarial analysis. However, Mercer is also adept at analyzing less detailed data sources (e.g., Dental Benefits Manager [DBM] financial reports, other summary level data) to support updated trend development.

As a general rule, Mercer will, depending on the data source(s), stratify trend data by rating region, eligibility category, and major COS (in this case, major dental sub-categories) by utilization, unit cost, and/or PMPM. Mercer will normalize the raw data to account for material program changes occurring within the time period spanned by the trend data set and may perform a variety of actuarial regression analyses to understand the historical patterns.

Mercer's next step is to integrate our wide array of concurrent Medicaid rate-setting expertise into the trend development process, which includes a review of pertinent national dental trend indices and benchmarks, such as the CPI and trends in other Medicaid programs. For example, CPI – U.S. City Average figures for Dental, a benchmark for dental unit cost trend, over the time period January 2010 to May 2018 has shown a 12-month percentage change averaging 2.5%, with a low of 1.1% and a high of 4.1%. A separate source, the National Health Expenditures (NHE), has the following per capita (includes both utilization and unit cost) dental trends: 2010 – 2016 ranged from 0.5% to 3.9%, with an average close to 2.0%. NHE dental per capita (includes both utilization and unit cost) projections for 2017 – 2026 average 3.4%. To stay within budget and/or the project timeline, we can substitute more professional judgment for less analytics if necessary as not all of our state clients have the resources or detailed data to support multi-level trend work.

Finally, our actuaries will synthesize final trend factors based on the data and information collected and analyses conducted. This step also includes proper coordination with program change and other adjustments (as applicable) to ensure no double counting occurs.

New/Revised Program/Policy Changes

Mercer will apply adjustments for any new or significantly modified programmatic changes applicable to the Dental PAHP to recognize anticipated material changes to utilization and/or unit cost and/or administration due to changes in Federal and/or state policies, benefits, or covered populations. These changes may be the result of actions taken by the Department, policy decisions passed down by the legislature, Federal regulatory changes, or items included in the final State budget. Making these adjustments ensures the final capitation rates retain the goal of matching payment to risk. In some cases, program changes can be immaterial or uncertain as to whether the change will actually happen. In these situations, we will need to discuss with the Department whether a prospective rate adjustment is warranted or is it better to take a wait and see approach.

Mercer will engage in discussions with the Department to determine the nature of each change and also ascertain the available data sources to calculate an adjustment to the rates. Some program changes can have both a material new cost and cost

off-set if perhaps a new benefit is being offered that might replace or reduce the frequency of an existing, more costly service; and the net impact may be close to neutral. In other states, we have been provided a state budget impact assessment to consider, but at other times it is completely left up to us to determine what a reasonable adjustment is for the managed care program. Sometimes there is no direct data available, such as addition of a new dental service, and thus we need to consider our experience in other states that might already be covering the same service or use our professional actuarial judgment. There are many methods Mercer has used to work through a material program change and we understand that whatever decision making process we use, we are likely to have to explain it to the DBM who may have a different interpretation. If a particular program change has a high-impact value and is potentially contentious, Mercer will want to ensure the Department is fully supportive of the final rate adjustments applied.

Mercer's team includes Lisa Knowles, DDS, a dentist with 20 years of experience.

In order to ensure major program change adjustments are defendable, Mercer will, on an as-needed basis, leverage our SMEs and fellow Mercer employees to provide technical peer review or input on a specific issue. On this note, Mercer is proposing to use a dental subcontractor to augment our team to support SOWs 6 and 7. **Lisa Knowles, DDS, is an existing Mercer subcontractor and has consulted on other Mercer projects. Dr. Knowles completed her dental degree at the University of Michigan School of Dentistry and has been in practice for 20 years.** Due to the specialized nature of dentistry, we are glad to be able to have the experience and perspectives of Dr. Knowles to support our team.

Our approach typically includes projecting the total cost impact by considering factors such as the policy implementation date, expected initial and ongoing enrollment rates, and the anticipated cost per service and utilization uptake. These total costs are then translated into appropriate capitation rate adjustments. This process also includes coordination with other adjustments, including trend, to ensure the impact of these changes is not double counted.

Non-Benefit Expense Loads

As a substantial, and highly visible, component of the final rate ranges and rates, Mercer does not take administrative expenses and other portions of this rate component lightly. We will make recommendations to adjust for inappropriately high administrative and care management expenses, and share our analyses and work closely with the State to establish the appropriate allowance for these non-benefit expenses.

To determine an appropriate non-benefit expense load, Mercer typically evaluates the contract requirements, administrative and care management expenses reported by the entity, comparisons to other similar state Medicaid Dental managed care programs, impact on economies of scale as enrollment changes, and applicable Federal and/or state specific premium taxes. We also consider any relevant contractual arrangements such as administrative caps that may influence non-benefit allowances to ensure the final capitation rates align with the contractual requirements for the entity. For example, this may include risk mitigation approaches that may reduce the entity risk and allow for a lowering of the included risk/profit margin component.

We note the State fiscal year (SFY) 2018 non-benefit expense load was a flat 9% across all rates. SFY2019 shifted to 10% for those individuals age 19 and older while retaining the 9% for those individuals age 18 and under. Everything else being equal, Mercer often utilizes a budget-neutral Fixed & Variable approach for administration. This shifts more dollars to lower cost rate cells, and we view it as an incremental improvement in matching payment to risk. A side impact is that Mercer's approach generates greater Federal matching funds for rates that include CHIP populations because of the higher CHIP Federal medical assistance percentage (FMAP).

Two recent developments regarding non-benefit expense loads bear further discussion.

The Tax Cuts and Jobs Act, which was signed on December 22, 2017, reduced the Federal corporate income tax rate on 2018 income to 21%. Previously, the rate had averaged 35% on corporations with taxable income of $18,333,333 or more, grading down slightly to 34% on corporations with taxable income of $335,000 to $10,000,000 per year. The reduction in the corporate income tax rate means that entities subject to corporate income tax will be able to retain a larger portion of their pre-tax income. Therefore, Medicaid programs should look at their particular circumstances to see whether the corporate income tax rate reduction provides a reason that capitation rates could be a little lower than they would have been had the income tax rates not been reduced.

Separate from state premium tax, Section 9010 of the Affordable Care Act provides for the HIPF to be paid by health insurers, including some Medicaid managed care organizations. The HIPF, as applicable to MCNA Dental, is calculated by the IRS from net written premium data for the prior calendar year as filed by the insurers on IRS Form 8963. It is important to note that long-term care premiums/services should be excluded from the calculations. Calculation of the HIPF by health plan (including consideration for the impact of non-deductibility of the HIPF for Federal and state tax purposes), and retroactive adjustment of capitation rates, are tasks Mercer has performed accurately and timely for each of our state Medicaid clients. While currently under appeal, the US District Court for the Northern District of Texas in *Texas v. US* https://premiumtaxcredits.wikispaces.com/file/view/177111375176.pdf found that states are explicitly excluded/exempted from paying the HIPF. The State of Nebraska was also a plaintiff in the case. Mercer believes this to be an important strategic discussion topic with the Department.

Apply Risk Mitigation (if needed/applicable)

A cornerstone of accomplishing fiscal soundness and ensuring member access is the alignment of payment with the risk of the enrolled population. Beyond risk adjustment (discussed in the next section), this can be further accomplished through combinations of reinsurance programs to limit exposure to certain risks, risk corridors to mitigate overall program risk to both the DBM and the State, and minimum MLRs or underwriting gain caps to avoid funding excess profits. Given the relatively low and more stable costs associated with dental in comparison to medical, many of these techniques do not carry to Medicaid managed care dental programs, but they certainly are available if desired.

Nebraska currently employs an 85% minimum MLR for Dental, which is not an uncommon strategy used by states and is a tool with which Mercer is very familiar. The 85% minimum also complies with Final Rule requirements.

The broad range of experience that our team will bring to this engagement will allow us to tailor the design of selected risk mitigation strategies (if any beyond current), price them (as necessary) in accordance with applicable actuarial practices and principles, and account for the impact that any risk mitigation mechanisms may have on other assumptions (e.g., risk/profit) made throughout the rate-setting process.

Risk Adjustment (if applicable)

Mercer is a recognized leader in the application of risk-adjusted payment approaches to Medicaid managed care. We have described our experience and expertise in great detail in other parts of our response which can be referred to as needed. Given that the State uses a single statewide Dental PAHP, the need for diagnostic-based risk adjustment for payment purposes appears minimal as one entity covers the entire population. The existing Dental PAHP rate cell structure is based on age bands which are a form of risk adjustment, but we noticed that the rates are set statewide. Perhaps as part of SOW 7 **there can be a review if developing regional dental rates is warranted as a form of risk adjustment.**

We are not aware presently of a state that has opted to put the time and resources into creating a dental-specific risk-adjustment model to employ within a Dental PAHP program in a manner similar to how states use diagnostic-based risk-adjustment models (e.g., CDPS+Rx). Other states apply risk adjustment to programs that may include dental as one of the covered benefits, but the risk scores are reflective of the more comprehensive benefits package and related predictive power of diagnosis codes and/or pharmacy data to vary capitation rates across multiple risk-bearing entities. This will be a topic for further discussion.

Final Actuarially Sound Rate Ranges and Rates

The culmination of SOW 6 is the development of updated actuarially sound rate ranges and specific capitation rates. Rate ranges incorporate the concept of normal variation within several components of the rate-setting process. Ranges can also be reflective of a more/less aggressive approach to assumption setting, and their use can provide payment flexibility to the Department in negotiations with MCNA.

Actuarially sound rate ranges are often developed by utilizing variation in claim cost (dental) trend, entity administration load, and entity risk load assumptions. Unless our state clients want us to produce a single actuarially sound rate value for each rate cell, ranges are still the preferred approach. Moreover, effective with rating periods beginning on or after July 1, 2018, the CMS Final Rule now requires actuaries to certify the *final* entity contract rates as opposed to just rate ranges. However, CMS permits rate ranges to be developed and used by states as part of the negotiation process. Therefore, Mercer has interpreted these new requirements that we can still provide Nebraska actuarially sound rate ranges, but

For rating periods beginning on or after July 1, 2018, the CMS Final Rule allows the Department to change your final contract rates by +/- 1.5% *without the need for any additional actuarial rate certification.*

within our final rate certification documentation we will need to include the final contract rates that you and MCNA agree to and demonstrate that the final rates are actuarially sound.

Of particular relevance here is that the Final Rule also added new flexibility that Nebraska can leverage in terms of a "defacto" rate range. Specifically, under 42 CFR 438.7(c) for rating periods beginning on or after July 1, 2018 Nebraska can change your final MCO contract rates by +/- 1.5% *without submitting a revised actuarial rate certification.* Mercer has been instrumental in helping our clients thoroughly review the Final Rule and develop strategies to meet varying compliance dates.

For the Dental Benefit Managed Care program, certification would be done for the following statewide COA/rate cells:

- COAs/Rate Cell bands are:
  - Ages 0-1
  - Ages 2-5
  - Ages 6-18
  - Ages 19-24
  - Ages 25-54
  - Ages 55-64
  - Ages 65+

Documentation (i.e., Actuarial Memorandum/Rate Certification)

Mercer will produce necessary documentation at the culmination of the actuarially sound rate update process which will include final rate exhibits and work products, as well as certification letter(s) and reports that will comply with all requirements, including the Final Rule, and the CMS Medicaid Managed Care Rate Development Guide. Mercer will also provide technical assistance to the State in responding to any questions that arise in the CMS OACT rate review process. **To date, all rates developed by Mercer for our state clients have been approved by CMS.**

Additionally, Mercer will work with the Department to ensure the documentation produced provides MCNA an understanding of the data, assumptions, and results of the rate-setting process, to the extent deemed appropriate by the State. This includes presentations to MCNA, working with the State to answer MCNA questions, and supporting rate negotiations as needed. A similar support role will be provided by Mercer to the Department in your rate review discussions with CMS.

c. Technical Considerations

By nature, prospective actuarial rate development is a highly technical process with numerous computational steps. We highlight below some of the most common and key technical considerations that will impact this work:

- Availability, credibility, and reliability of data sources provided to Mercer can either make these work projects go smoothly or require extensive work arounds/problem solving.

- Dentist participation in Medicaid has traditionally been a challenge for states, regardless of whether the delivery system operates under traditional FFS or

managed care. We will need to work with the Department to ensure the dental capitation rates reflect appropriate assumptions regarding utilization and unit costs that are reasonable, appropriate, and attainable.

- Timely and relevant information on material program changes impacts any rate development process.

- The amount of involvement and information sharing with MCNA is a consideration that will impact the time and resource requirements for this work. There is no universal standard for the "right" level of entity involvement or information sharing when it comes to prospective rate development. Some states have a very open rate development process where the entities can review and have input on the actuarial assumptions before rates are finalized and yet other states choose to share more limited information. You and MCNA are business partners so some level of information exchange is important for the program's sustainability and mutual understanding, but MCNA has their own agenda and there are time and resource constraints on actually getting the work done. Typically the more information that is shared, the longer and more resource intensive the rate-development process becomes.

- The amount and type of CMS OACT oversight will be a factor in this work. As stated previously, Mercer's process is well-managed and we know what CMS OACT is looking for in our rate documentation. However, CMS does have a habit of changing what they want/need and this could impact our work. Moreover, we are hearing that CMS is contemplating issuing a new Medicaid/CHIP Managed Care Final Rule, which could either make the process more or less complex and time consuming (or perhaps a little of both).

- Additionally, since CMS now requires the final specific rates to be certified as actuarially sound, Mercer's participation in MCNA negotiations and delivery of the final certification and documentation will be dependent on the State's negotiation and contract execution timeline. Mercer will deliver final documentation that reflects specific rates promptly at the completion of the process.

d. Detailed Project Work Plan

Based on the information provided in the RFP and Mercer's experience with similar projects in other states, **we have provided a preliminary work plan in Appendix A.** A common step in each SOW work plan is an initial strategy/planning "kick-off" meeting where key members of the Mercer team meet with the appropriate Department staff to discuss specific details of this SOW including the Department's goals, concerns, and challenges as well as for both of us to share ideas and gain more details about the work than what was included in the RFP. During this meeting we will review our preliminary work plan including data needs and sources, key deliverables, major timeline events, and frequency of subsequent communications. After this information sharing/planning meeting, Mercer will then be able to update the preliminary work plan to reflect current information and mutual agreement on next steps.

e. Deliverables and Due Dates

As noted in the preliminary work plan provided, major deliverables and expected due dates are shown in the following table. Per the State's answer to questions in the RFP,

the incumbent actuary will have completed the Dental PAHP rates effective for the October 2018-September 2019 rating period, so Mercer will be tasked with the October 1, 2019 effective rates. We propose to have final rates provided to the Department five months before the effective date and the final CMS documentation done before the targeted 90-day submission notice. Mercer works with several states that, due to various reasons such as MCO negotiations, legislative issues, and/or approval from state leadership, are not able to submit rate documentation to CMS in the 90-day window. Mercer will endeavor to ensure our part of the process is completed timely.

Work Plan Step	Deliverable Description	Expected Due Date
6.1	Initial planning/strategy planning meeting	9/27/2018-9/28/2018
6.2	Data request	12/14/2018
6.3	DHHS provides data	1/21/2019
6.9	Draft Dental PAHP rates/rate ranges	4/1/2019
6.11	Final Dental PAHP rates/rate ranges	4/30/2019
6.13	Present rates to DBM (optional step)	5/23/2019
6.15	Actuarial documentation	6/14/2019

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J. SOW 7 – DENTAL CAPITATION RATE REBASING

a. Understanding of the Project Requirements

The formal project requirements of SOW 7 are documented within the RFP. However, the understanding of those project requirements can in large measure be demonstrated by a thorough understanding of the rules, regulations, principles, and practices around actuarial soundness for Medicaid/CHIP managed care capitation rate setting. Via §§ 438.4, 438.5, and 438.7 of the Final Rule, CMS added new considerations to the development and documentation of actuarially sound capitation rates, including considerations for network adequacy, MLR, and special contract provisions in § 438.6. Note the Final Rule did not extend these same requirements to separate CHIP Title XXI managed care programs, although 42 CFR 457.10 applies "actuarially sound principles" to the development of CHIP rates. Mercer follows the same steps and thought process when developing capitation rates for programs that include Medicaid and CHIP populations.

The actuarial principles and practices are also governed by the aforementioned ASOPs, including ASOP No. 49 which contains the following definition:

- "*Actuarially Sound/Actuarial Soundness* – Medicaid capitation rates are "actuarially sound" if, for business for which the certification is being prepared and for the period covered by the certification, projected capitation rates and other revenue sources provide for all reasonable, appropriate, and attainable costs. For purposes of this definition, other revenue sources include, but are not limited to, expected reinsurance and governmental stop-loss cash flows, governmental risk-adjustment cash flows, and investment income. For purposes of this definition, costs include, but are not limited to, expected health benefits, health benefit settlement expenses, administrative expenses, the cost of capital, and government-mandated assessments, fees, and taxes."

Mercer was the driving force behind inclusion of the word "attainable" within Medicaid rate setting, and it is part of both the Final Rule and ASOP No. 49. Although that one specific word may not seem like a huge addition, it has been of invaluable assistance to states as they have looked to increase health plan efficiency, effectiveness, and accountability as part of the capitation rate-setting process.

Mercer's breadth and depth of actuarial rate-setting experience and expertise positions us to assist Nebraska as the DBM program matures and evolves. We are also familiar with MCNA Dental through our Medicaid dental rate-setting work with the State of Louisiana and our CHIP dental rate review work with the Florida Healthy Kids Corporation. **As Nebraska continues to explore new methods and/or programs of care delivery and enhancements that drive Medicaid quality and efficiency for this approximately $60 million annual program, Mercer brings a fresh, new perspective of the challenges and opportunities** that can affect a Medicaid program, and thus issues that need to be considered in actuarially sound rate development.

At its core, the fundamental goal of actuarial rate development is to match payment to risk. Full-risk managed care programs use capitation payments to compensate MCOs, PIHPs, or PAHPs appropriately for the risk they bear, and the capitation payments must

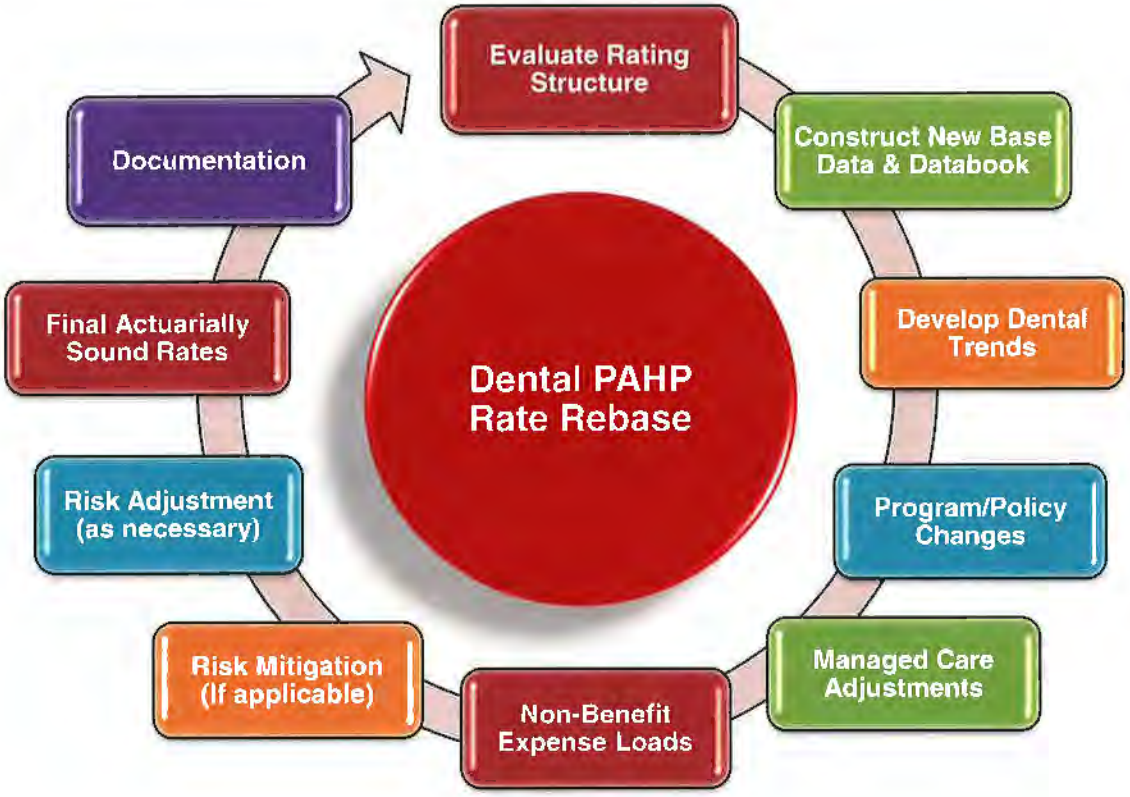
be certified as actuarially sound to be in compliance with the Capitation Rate Setting Context documents previously itemized. Due to our extensive experience working with a variety of state Medicaid programs, we realize how important it is to have a sound rate-setting methodology that is supported by relevant experience data and information. We also recognize how important it is to be current on Federal and state legislation that could possibly affect rate methodologies and reimbursement mechanisms.

Our experience goes back over 30 years, to 1985, when we developed rates for the first Medicaid managed care program in the country in Arizona, and now has extended to having worked with more than 30 states. **Mercer's actuarial credibility with CMS and other health care entities has been well established through a breadth of experience obtained in rate-setting assignments over the years.** Mercer has immense insight and understanding of the rate-setting process and has worked extensively with CMS to ensure our clients' rates are approved. Our Medicaid clients have expressed complete satisfaction with our deep knowledge of CMS' complex regulations and with our ability to communicate our rate-setting methodology to CMS with complete documentation. To support CMS' review and approval of rate certifications, Mercer includes a cross-walk to the annual CMS Medicaid Managed Care Rate Development Guide as a standard practice.

b. Proposed Development Approach

CMS allows (with some timeframe limitations) states the flexibility to either update the existing capitation rates that are already in place or perform a complete rebasing of rates. While some states choose to rebase their capitation rates every year, the concept of a rate update is a familiar one as a number of our clients use this flexibility to alternate each year between rate update and rate rebase methodologies to save time and resources. Accordingly, there is a lot of similarity in the steps between SOW 6 and SOW 7. We are interpreting the RFP that SOW 7 is focused on updating the base data and any additional or more intensive activities not already covered by SOW 6.

At a high level, the steps of capitation rate development can be displayed in a straightforward graphic, as shown previously and on the following page. However, the graphic depiction is deceptively simple, as each step involves complex considerations to ensure capitation rates promote a stable program that aligns the DBM's incentives with the State's goals, all while meeting CMS' approval.



These steps are described in more detail below and constitute the building blocks for our SOW 7 work plan (see Appendix A for our preliminary work plan).

Evaluate Rating Structure

The capitation rate development process must begin with a rating structure that represents appropriate differentiation of risk and includes incentives for the DBM to manage the care for their populations. As programs evolve, historical rate structures may become stale or misaligned with current goals and objectives. Medicaid programs and their actuaries must balance program stability goals and administrative/systems constraints with the need for innovative reimbursement strategies that help move the program forward. Since the DBM program began late last year, Mercer does not anticipate proposing any rating structure changes immediately, although we will certainly discuss our observations with the State. Rate cell structure changes are not without administrative burden to both the State and the DBM, and thus should not be undertaken without deliberate consideration including assessing any potential impact on your waiver's cost-effectiveness reporting by MEG. Your Dental PAHP rates are currently set on a statewide basis, but vary by seven different age bands. Some of the rates are similar across different age bands (e.g., ages 19-64). Perhaps in the future we can explore consolidating some age bands and/or employing more than one rating region, but only if this would result in a material improvement in matching payment to risk. If the State chooses to contract with more than one DBM in the future, the rate cell structure and potential risk mitigation options may become more important and relevant. For now, having a single, statewide DBM vendor alleviates a lot of the need to have a complex rate payment structure/risk adjustment since the entire population is enrolled in the same risk-based DBM. If the underlying population is relatively stable in terms of its

demographics, a change in rate cells does not necessarily improve matching payment to risk.

Construct New Base Data

Mercer typically considers available data from a variety of sources, including DBM encounter, FFS claims, provider sub-capitation payment data, MCNA's reported financial data, and eligibility data. In addition, we have found that even mature managed care programs can benefit from specialized data sources that support rate development such as targeted annual entity surveys and specially-designed, Medicaid-only financial experience reports. It is critical that base data sources are reliable and accurate whether summary level or more detailed data is used. Mercer will work closely with the State to discuss available base data sources and assess the completeness and quality of existing sources. Depending on when the rate rebase is done, there is potential to use all DBM experience data to develop prospective rates and eliminate reliance on any historical dental FFS base data.

In our work with other Medicaid programs, we have used one to three years of historical base data to build prospective capitation rates. One year of base data is sufficient and can simplify the process if additional data is available to support trend analyses, relational modeling/data smoothing and other adjustments. For example, in Delaware with a Medicaid population of similar size and composition as Nebraska, we use one year of MCO experience data as the base data, but analyze multiple years and sources of data for trends and other adjustments. Neither the MCOs, Delaware state staff, nor CMS OACT have questioned the use of one year of base data in Delaware.

We expect to use one or more of the following data sources (again, depending on SOW 7 timing) to construct Nebraska's prospective capitation rates with MCNA encounter or financial data being the predominant base data sources:

- **MCNA Encounter Data:** If encounter data are available and sufficiently credible and reliable, Mercer will work with the State and MCNA to assess the usefulness of this data source. Note the encounter data validation in this process will address the most relevant issues to be considered in establishing a rate-setting data source, but does not replace a more thorough encounter data validation initiative, which also looks at operational and monitoring efforts as part of the State's effort to improve the quality of encounter data (per the RFP, "Managed Care Encounter Validation Activities" is specifically listed in SOW 8). Accurate and complete encounter data is a highly preferred data source to support rate setting as it enables numerous analyses and insights to be gleaned that are simply not possible in more summarized data sets or audited financial statements. However, many states still have challenges with obtaining complete and accurate encounter data so this will be an area of further strategic discussion and planning between the Mercer team and the Department.

- **MCNA Financial Data:** Managed care financial data/audited reports are a fairly common data source used to develop capitation rates. While not offering the same insight and flexibility as encounter data, financial statement data is often readily available, generally standardized (e.g., income/expense statements, accrual-based accounting practices) and relatively easy to work with and these attributes have a value to themselves. MCNA financial data can be replaced or supplemented by encounter data over time. In Pennsylvania, Mercer used one year of MCO audited

financial data as the base data for a number of rating cycles, but relied almost exclusively on encounter data for most adjustments until it was deemed appropriate to actually shift the base data to encounter data.

- **FFS Data**: If FFS data is deemed a useable and credible data source, Mercer will work with the State to gather the most appropriate data and all necessary information to make adjustments to the FFS data in order to comply with all CMS regulations. Since your Medicaid/CHIP program is now covered under the mandatory DBM program, we do not expect any remaining FFS data will be of much use.

Our familiarity with data collection and validation and our long history working with a variety of Medicaid and CHIP managed care programs also provides us with insight regarding additional adjustments to the base data. Mercer typically adjusts the data to remove any non-State Plan Approved benefits that are not otherwise approved in lieu of services, duplicate claims, or claims for ineligible members, and corrects for issues in reporting of sub-capitated or related-party arrangements and non-benefit adjustments. Mercer's actuaries formulate assumptions for adjustments for unpaid claims liability (RBUC plus claims IBNR), encounter data underreporting, and demographic shifts over time, and historical program changes that may have only been partially reflected in the base data time period. Another example of a base data adjustment would be UNMC repricing to account for enhanced reimbursement relative to the State's FFS fee schedule. In these steps, the ability of MCNA to validate their data and attest to the completeness and accuracy of the data used in rate setting is not only a CMS requirement, but an important step to minimize the time and resources the State and Mercer has to expend. Based on information included in the Dental Benefit RFP, MCNA appears to have a key role in the validation and reconciliation of their encounter data and the data is noted by the Department as being accurate and valid, which will lessen the amount of effort we may need to put into this step relative to what we do in other states.

Databook

The work effort involved in recalculating the dental base data for a full rate rebase is not insignificant as it involves an analysis of historical claims or encounter level data. It is necessary to rebase underlying data periodically in order to more accurately reflect current program costs and comply with Federal regulations for rate setting. Because the recalculation of the base data results in a data set that can provide both the State and the DBM with insights into the emerging experience of the Medicaid/CHIP program, **Mercer typically produces a databook as a significant deliverable in the rate-rebasing process**. Actuarially sound capitation rates are then established using the data from the databook as a starting point.

Under rate rebasing, Mercer initiates the process by issuing a data request to the State for the data deemed most appropriate. Using the data provided by the State and if necessary MCNA, Mercer will provide a summarized databook detailing the methodology and results of the base data review. A Mercer databook typically include a narrative section about methodology, adjustments made to the data, sources of the data and other relevant and useful information along with data exhibits that provide summarized eligibility and cost data by rate cell and COS. For example, procedure code groupings could be utilized to generate dental sub-COS such as:

- Adjunctive General Services
- Endodontics
- Oral and Maxillofacial Surgery
- Orthodontics
- Partial Dentures
- Periodontics
- Preventative
- Prosthodontics
- Restorative
- All Other

The data exhibits are often provided in Excel format so users of the databook can easily work with the base data themselves. There can also be narrative describing the expected next steps in the actuarial rate-development process and perhaps even a listing of known/expected program changes so that the DBM has a heads-up of likely adjustments that will be incorporated in the final capitation rates. **For other states, Mercer has presented the databook at a formal meeting with the MCOs, PIHPs, and PAHPs which provides a forum to discuss the forthcoming rate-rebasing cycle.**

The following steps align with SOW 6 activities, but are also addressed here to provide a more complete response to SOW 7 as some of these steps will be more labor intensive due to the rebasing of newer data than what is covered under a more straightforward dental rate update.

Dental Trends

Trend plays a crucial role in projecting historical experience to the contract period. Insightful trend analyses are based on encounter data and/or FFS claims because the detail embedded in those data sources can allow more robust actuarial analysis. However, Mercer is also adept at analyzing less detailed data sources (e.g., DBM financial reports, other summary level data) to support trend development

As a general rule, Mercer will, depending on the data source(s), stratify trend data by rating region, eligibility category, and major COS (in this case, major dental sub-categories) by utilization, unit cost, and/or PMPM. Mercer will normalize the raw data to account for material program changes occurring within the time period spanned by the trend data set and may perform a variety of actuarial regression analyses to understand the historical patterns.

Mercer's next step is to integrate our wide array of concurrent Medicaid rate-setting expertise into the trend development process which includes a review of pertinent national dental trend indices and benchmarks, such as the CPI and trends in other Medicaid programs. For example, CPI – U.S. City Average figures for Dental, a benchmark for dental unit cost trend, over the time period January 2010 to May 2018 has shown a 12-month percentage change averaging 2.5%, with a low of 1.1% and a high of 4.1%. A separate source, the NHE, has the following per capita (includes both utilization and unit cost) dental trends: 2010 – 2016 ranged from 0.5% to 3.9%, with an average close to 2.0%. NHE dental per capita (includes both utilization and unit cost) projections for 2017 – 2026 average 3.4%. To stay within budget and/or the project timeline, we can substitute more professional judgment for less analytics if

necessary as not all of our state clients have the resources or detailed data to support multi-level trend work. This step can also evolve over time as data sources improve or priorities shift.

Finally, our actuaries will synthesize final trend factors based on the data and information collected and analyses conducted. This step also includes proper coordination with program change and other adjustments (as applicable) to ensure no double counting occurs. Trend factors are then applied from the midpoint of the program adjusted base data (or existing capitation rates in the case of a rate update) to the midpoint of the new contract period to arrive at projected dental costs.

Program/Policy Changes

Mercer will apply adjustments for any programmatic changes applicable to the Dental PAHP to recognize anticipated material changes to utilization and/or unit cost and/or administration due to changes in Federal and/or State policies, benefits, or covered populations. These changes may be the result of actions taken by the Department, policy decisions passed down by the legislature, Federal regulatory changes, or items included in the final State budget. Making these adjustments ensures the final capitation rates retain the goal of matching payment to risk. In some cases, program changes can be immaterial or uncertain as to whether the change will actually happen. In these situations, we will need to discuss with the Department whether a prospective rate adjustment is warranted or is it better to take a wait and see approach.

Mercer will engage in discussions with the Department to determine the nature of each change and also ascertain the available data sources to calculate an adjustment to the rates. The more information you can provide to us regarding the program change (e.g., background on the issue, what problem is the change addressing, other) can help us better assess the cost and/or utilization impact on the capitation rates. Some program changes can have both a material new cost and cost off-set if perhaps a new benefit is being offered that might replace or reduce the frequency of an existing, more costly service; and the net impact may be close to neutral. In other states, we have been provided a state budget impact assessment to consider, but at other times it is completely left up to us to determine what a reasonable adjustment is for the managed care program. Sometimes there is no direct data available, such as addition of a new dental service, and thus we need to consider our experience in other states that might already be covering the same service or use our professional actuarial judgment. There are many methods Mercer has used to work through a material program change and we understand that whatever decision-making process we use, we are likely to have to explain it to the DBM who may have a different interpretation. If a particular program change has a high-impact value and is potentially contentious, Mercer will want to ensure the Department is fully supportive of the final rate adjustments applied.

Mercer's team includes Lisa Knowles, DDS, a dentist with 20 years of experience.

In order to ensure major program change adjustments are defendable, Mercer will, on an as-needed basis, leverage our SME and fellow Mercer employees to provide technical peer review or input on a specific issue. On this note, Mercer is proposing to use a dental subcontractor to augment our team to support SOWs 6 and 7. **Lisa Knowles,**

DDS, is an existing Mercer subcontractor and has consulted on other Mercer projects. Dr. Knowles completed her dental degree at the University of Michigan School of Dentistry and has been in practice for 20 years. Due to the specialized nature of dentistry, we are glad to be able to have the experience and perspectives of Dr. Knowles to support our team.

Our approach typically includes projecting the total cost impact by considering factors such as the policy implementation date, expected initial and ongoing enrollment rates, and the anticipated cost per service and utilization uptake. These total costs are then translated into appropriate capitation rate adjustments. This process also includes coordination with other adjustments, including trend, to ensure the impact of these changes is not double counted.

Managed Care Adjustments

Prior to the Dental PAHP program implementing in October 2017, dental benefits were provided under the State's traditional FFS program. This means the utilization and cost patterns in the historical data are reflective of that delivery system. One of the main reasons states turn to risk-based managed care is to improve coordination in care, reduce unnecessary or improper utilization, improve quality/outcomes, and create more spending predictability. In Medicaid programs, dental is often an under-utilized service and provider payment rates can be challenging to entice provider participation which leads to access issues. In regards to Nebraska's dental community, our research indicates:

- According to an April 2017 Health Policy Institute Research Brief from the American Dental Association[5], Nebraska's 2016 Medicaid FFS dental payment rates equated to 59.0% of private dental insurance reimbursement for children which ranked Nebraska 17 of 28 states with dental FFS programs (Delaware was the highest at 98.4% and Wisconsin was the lowest at 36.4%).
- In a letter in response to the Dental PAHP RFP[6], the Nebraska Dental Association (NDA) requested the Medicaid FFS fee schedule be the "floor" for payment rates always instead of just the first year.
- In a September 2016 presentation by the Dental Medicaid Committee of the NDA[7], the NDA provided the following input in December 2015 regarding the dental RFP:
  - Opposed combining dental and medical services into an integrated delivery system
  - Wanted only one DBM for the State
  - Opposed providers being at-risk, yet supported P4P
  - Desired a comprehensive portal to access information

According to a recent report by the US Health Resources and Services Administration[8] on **Health Professional Shortage Areas (HPSA), as of**

[5] http://www.ada.org/~/media/ADA/Science%20and%20Research/HPI/Files/HPIBrief_0417_1.pdf

[6] http://www.nedental.org/docs/librariesprovider32/default-document-library/nda-feedback-on-rfp-for-dental-medicaid.pdf

[7] http://www.nedental.org/docs/librariesprovider32/default-document-library/nebraska-dental-medicaid-managed-care-powerpoint.pptx

December 31, 2017 Nebraska was listed as achieving 78.38% of Dental Needs Met which was the highest of any state listed. Moreover, Nebraska was listed as needing 0 dentists to remove the designation of a HPSA resulting in the State having the fewest number of people, only 7,816, living in a dental HPSA. The state with the next lowest number of people living in a dental HPSA was Vermont at 29,428.

Therefore, on the basis of number of dentists, Nebraska may not have access issues that other states are challenged with, yet there may be pressure on payment rates impacting potential participation in Medicaid by your dental community. These data points and other information that can be provided on the performance, challenges, and outcomes of how MCNA is performing as your DBM can inform adjustments Mercer may make to the historical dental data to develop reasonable, appropriate, and attainable dental rates going forward.

Dental managed care efficiency and effectiveness adjustments can also be considered in order to promote better quality, improved outcomes, and more appropriate spending. The concept looks to reduce costs via an emphasis on preventive services and care coordination, which would allow for the reduction or elimination of inappropriate and/or unnecessary care. Less expensive services such as routine office visits, cleanings, topical fluoride, and sealants would increase while the most expensive services such as crowns, bridges, root canals, periodontics, and oral surgery would decrease over time.

Non-Benefit Expense Loads

As a substantial, and highly visible, component of the final rate ranges and rates, Mercer does not take administrative expenses and other portions of this rate component lightly. We will make recommendations to adjust for inappropriately high administrative and care management expenses, and share our analyses and work closely with the State to establish the appropriate allowance for these non-benefit expenses.

To determine an appropriate non-benefit expense load, Mercer typically evaluates the contract requirements, administrative and care management expenses reported by the entity, comparisons to other similar State Medicaid Dental managed care programs, impact on economies of scale as enrollment changes, and applicable Federal and/or State-specific premium taxes. We also consider any relevant contractual arrangements such as administrative caps that may influence non-benefit allowances to ensure the final capitation rates align with the contractual requirements for the entity. For example, this may include risk mitigation approaches that may reduce the entity risk and allow for a lowering of the included risk/profit margin component.

We note the 2018 non-benefit expense load was a flat 9% across all DBM rates. In 2019, it shifted to 10% for those individuals age 19 and older while retaining the 9% for those individuals age 18 and under. Everything else being equal, Mercer often utilizes a budget-neutral Fixed & Variable approach for administration. This shifts more dollars to lower cost rate cells, and we view it as an incremental improvement in matching payment to risk. A side impact is that **Mercer's approach generates greater Federal**

[8] https://ersrs.hrsa.gov/ReportServer?/HGDW_Reports/BCD_HPSA/BCD_HPSA_SCR50_Qtr_Smry_HTML&rc:Toolbar=false

matching funds for rates that include CHIP populations because of the higher CHIP FMAP.

Two recent developments regarding non-benefit expense loads merit further discussion.

The Tax Cuts and Jobs Act, which was signed on December 22, 2017, reduced the Federal corporate income tax rate on 2018 income to 21%. Previously, the rate had averaged 35% on corporations with taxable income of $18,333,333 or more, grading down slightly to 34% on corporations with taxable income of $335,000 to $10,000,000 per year. The reduction in the corporate income tax rate means that entities subject to corporate income tax will be able to retain a larger portion of their pre-tax income. Therefore, Medicaid programs should look at their particular circumstances to see whether the corporate income tax rate reduction provides a reason that capitation rates could be a little lower than they would have been had the income tax rates not been reduced.

Separate from state premium tax, Section 9010 of the Affordable Care Act provides for the HIPF to be paid by health insurers, including some Medicaid managed care organizations. The HIPF, as applicable to MCNA Dental, is calculated by the IRS from net written premium data for the prior calendar year as filed by the insurers on IRS Form 8963. It is important to note that long-term care premiums/services should be excluded from the calculations. Calculation of the HIPF by health plan (including consideration for the impact of non-deductibility of the HIPF for Federal and state tax purposes), and retroactive adjustment of capitation rates, are tasks Mercer has performed accurately and timely for each of our state Medicaid clients. While currently under appeal, the US District Court for the Northern District of Texas in *Texas v. US* https://premiumtaxcredits.wikispaces.com/file/view/177111375176.pdf found that states are explicitly excluded/exempted from paying the HIPF. The State of Nebraska was also a plaintiff in the case. Mercer believes this to be an important strategic discussion topic with the Department.

Apply Risk Mitigation (if needed/applicable)

A cornerstone of accomplishing fiscal soundness and ensuring member access is the alignment of payment with the risk of the enrolled population. Beyond risk adjustment (discussed in the next section), this can be further accomplished through combinations of reinsurance programs to limit exposure to certain risks, risk corridors to mitigate overall program risk to both the DBM and the State, and minimum MLRs or underwriting gain caps to avoid funding excess profits. Given the relatively low and more stable costs associated with dental in comparison to medical, many of these techniques do not carry to Medicaid managed care dental programs, but they certainly are available if desired.

Nebraska currently employs an 85% minimum MLR for Dental, which is not an uncommon strategy used by states and is a tool with which Mercer is very familiar. The 85% minimum also complies with Final Rule requirements.

The broad range of experience that our team will bring to this engagement will allow us to tailor the design of selected risk mitigation strategies (if any beyond current), price them (as necessary) in accordance with applicable actuarial practices and principles, and account for the impact that any risk mitigation mechanisms may have on other assumptions (e.g., risk/profit) made throughout the rate-setting process.

Risk Adjustment (if applicable)

We have described our experience and expertise in great detail in other parts of our response which can be referred to as needed. Given that the State uses a single statewide Dental PAHP, the need for diagnostic-based risk adjustment for payment purposes appears minimal as one DBM covers the entire population. We discussed some other options for demographic-based risk adjustment of the Dental PAHP rates in SOW 6.

Final Actuarially Sound Rate Ranges and Rates

The culmination of SOW 7 is the development of actuarially sound rate ranges and specific capitation rates. Rate ranges incorporate the concept of normal variation within several components of the rate-setting process. Ranges can also be reflective of a more/less aggressive approach to assumption setting, and their use can provide payment flexibility to the Department in negotiations with MCNA.

Actuarially sound rate ranges are often developed by utilizing variation in claim cost (dental) trend, entity administration load, and entity risk load assumptions. Unless our state clients want us to produce a single actuarially sound rate value for each rate cell, ranges are still the preferred approach. Moreover, effective with rating periods beginning on or after July 1, 2018, the CMS Final Rule now requires actuaries to certify the *final* entity contract rates as opposed to just rate ranges. However, CMS permits rate ranges to be developed and used by states as part of the negotiation process. Therefore, Mercer has interpreted these new requirements that we can still provide Nebraska actuarially sound rate ranges, but within our final rate certification documentation we will need to include the final contract rates that you and MCNA agree to and demonstrate that the final rates are actuarially sound.

Of particular relevance here is that the Final Rule also added new flexibility that Nebraska can leverage in terms of a "defacto" rate range. Specifically, under 42 CFR 438.7(c) for rating periods beginning on or after July 1, 2018, Nebraska can change your final MCO contract rates by +/- 1.5% *without submitting a revised actuarial rate certification.* Mercer has been instrumental in helping our clients thoroughly review the Final Rule and develop strategies to meet varying compliance dates.

For the Dental Benefit Managed Care program, certification would be done for the following statewide COAs/rate cells:

- COAs/Rate Cell bands are:
  - Ages 0-1
  - Ages 2-5
  - Ages 6-18
  - Ages 19-24
  - Ages 25-54
  - Ages 55-64
  - Ages 65+

Documentation (i.e., Actuarial Memorandum/Rate Certification)

Mercer will produce necessary documentation at the culmination of the actuarially sound rate update process which will include final rate exhibits and work products, as well as certification letter(s) and reports that will comply with all requirements, including the Final

Rule, and the CMS Medicaid Managed Care Rate Development Guide. Mercer will also provide technical assistance to the State in responding to any questions that arise in the CMS OACT rate review process. **To date, all rates developed by Mercer for our state clients have been approved by CMS.**

Additionally, Mercer will work with the Department to ensure the documentation produced provides MCNA an understanding of the data, assumptions, and results of the rate-setting process, to the extent deemed appropriate by the State. This includes presentations to MCNA, working with the State to answer MCNA questions, and supporting rate negotiations as needed. A similar support role will be provided by Mercer to the Department in your rate review discussions with CMS.

c. Technical Considerations

By nature, prospective actuarial rate development is a highly technical process with numerous computational steps. We highlight below some of the most common and key technical considerations that will impact this work:

- Availability, credibility, and reliability of base data sources provided to Mercer can either make these work projects go smoothly or require extensive work arounds/problem solving.

- Dentist participation in Medicaid has traditionally been a challenge for states, regardless of whether the delivery system operates under traditional FFS or managed care. We will need to work with the Department to ensure the dental capitation rates reflect appropriate assumptions regarding utilization and unit costs that are reasonable, appropriate, and attainable.

- Timely and relevant information on material program changes impacts any rate development process.

- The amount of involvement and information sharing with MCNA is a consideration that will impact the time and resource requirements for this work. There is no universal standard for the "right" level of entity involvement or information sharing when it comes to prospective rate development. Some states have a very open rate development process where the entities can review and have input on the actuarial assumptions before rates are finalized and yet other states choose to share more limited information. You and MCNA are business partners so some level of information exchange is important for the program's sustainability and mutual understanding, but MCNA has their own agenda and there are time and resource constraints on actually getting the work done. Typically the more information that is shared, the longer and more labor intensive the rate development process becomes.

- The amount and type of CMS OACT oversight will be a factor in this work. As stated previously, Mercer's process is well-managed and we know what CMS OACT is looking for in our rate documentation. However, CMS does have a habit of changing what they want/need and this could impact our work. Moreover, we are hearing that CMS is contemplating issuing a new Medicaid/CHIP Managed Care Final Rule, which could either make the process more or less complex and time consuming (or perhaps a little of both).

- Additionally, since CMS now requires the final specific rates to be certified as actuarially sound, Mercer's participation in MCNA negotiations and delivery of the final certification and documentation will be dependent on the State's negotiation and contract execution timeline. Mercer will deliver final documentation that reflects specific rates promptly at the completion of the process.

d. Detailed Project Work Plan

Based on the information provided in the RFP and Mercer's experience with similar projects in other states, **we have provided a preliminary work plan in Appendix A.** A common step in each SOW work plan is an initial strategy/planning "kick-off" meeting where key members of the Mercer team meet with the appropriate Department staff to discuss specific details of this SOW including the Department's goals, concerns, and challenges as well as for both of us to share ideas and gain more details about the work than what was included in the RFP. During this meeting we will review our preliminary work plan including data needs and sources, key deliverables, major timeline events, and frequency of subsequent communications. After this information sharing/planning meeting, Mercer will then be able to update the preliminary work plan to reflect current information and mutual agreement on next steps.

e. Deliverables and Due Dates

As noted in the preliminary work plan provided, major deliverables and expected due dates are shown in the following table. Per the State's answers to questions in the RFP, the incumbent actuary will have completed the Dental PAHP rates for the October 2018-September 2019 rating period, so Mercer will be tasked with the October 1, 2019 effective rates. We propose to have final rates provided to the Department five months before the effective date and the final CMS documentation done before the targeted 90-day submission notice. However, Mercer works with several states that, due to various reasons such as MCO negotiations, legislative issues, and/or approval from state leadership, are not able to submit rate documentation to CMS in the 90-day window. Mercer will endeavor to ensure our part of the process is completed timely.

Since the specific year in which SOW 7 work will be done was not specified, we are using the Dental PAHP rates effective October 1, 2020 to illustrate the expected deliverables and due dates:

Work Plan Step	Deliverable Description	Expected Due Date
7.1	Initial planning/strategy planning meeting	10/15/2019
7.2	Data request	11/8/2019
7.3	DHHS provides data	12/2/2019
7.11	Draft Dental PAHP rates/rate ranges	3/30/2020
7.13	Final Dental PAHP rates/rate ranges	4/30/2020
7.15	Present rates to DBM (optional step)	5/22/2020
7.17	Actuarial documentation	6/15/2020

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K.SOW 8 - SPECIAL PROJECTS (Optional)

a. Understanding of the Project Requirements

Mercer understands the needs of Nebraska are difficult to predict. The ever-changing nature of health care, particularly Medicaid, on a local, State, regional, and national basis requires a certain amount of flexibility and ability to adapt. This is one of the strongest and most differentiating aspects of Mercer: we are a large consulting firm with a deep bench of resources to draw from in areas outside of just actuarial services. As noted throughout our response, Mercer has full-time employees with the following credentials and/or experience:

- Credentialed actuaries, actuarial students, and actuarial consultants
- Statisticians, financial analysts, and data programmers
- Former CMS and state Medicaid/CHIP officials and policy makers
- Certified Project Managers
- CPAs
- Registered nurses/nurse practitioners
- Psychiatrists/psychologists
- Registered pharmacists
- Substance abuse/BH experts
- Data management and information systems consultants
- Risk-adjustment experts

Our full-time, in-house staff includes:

- **270+ professionals**
- **45 credentialed actuaries**
- **50+ actuarial students**
- **5 CPAs**
- **7 former CMS staff**
- **More than a dozen clinicians**
- **5 pharmacists**
- **Informatics/data consultants**

Over the length of this contract, Mercer's depth and breadth of resources will be an asset to the Department.

We are excited about the potential activities listed in this RFP which could include assistance with the procurement and development of contracts for additional vendors for new managed care programs, support in identifying opportunities for further improvements to the management of existing programs, performance reviews of current managed care vendors, and encounter data validation. We are equally excited about what may come in the future over the many years of this engagement. Medicaid is rarely static for very long. Whether local politics in Nebraska seek to "move the needle" more aggressively in buying value or testing new delivery systems (e.g., perhaps having your MCOs contract with ACOs) or whether the Federal government changes the playing field for how Medicaid/CHIP programs can operate (e.g., a pending new Medicaid Managed Care Final Rule), the breadth and depth of Mercer's resources will be a key asset for the Department to leverage in changing times. Therefore, within our response to this SOW, we present some other ideas of special project work that might spark your interest or lead to other topical areas in which Mercer can help Nebraska.

Procurement Services/Readiness Review Support

Mercer has assisted several states with the development of contract language, RFIs, and/or RFPs to procure vendors for various initiatives. We would begin this process by working with the Department to identify needs related to the respective RFP and utilize past experience with other states and existing RFP templates (e.g., other state contracts) to streamline the RFP development process. Mercer will focus on the Scope

of Services section of the RFP, understanding that we will also review and comment, if necessary, on other relevant sections. Key components of an RFP typically include minimum requirements, technical questionnaire covering current capabilities and past performance, financial proposal requirements (to include financial bids if applicable, as well as staffing and resource assumptions, etc.), and confirmation of terms. We will work closely with the Department as all sections of the RFP are developed, including items such as State-specific terms and conditions, confirmation of requirements, definition of terms, and a benefits exhibit.

Mercer has successfully provided procurement assistance in Arizona, Connecticut, Delaware, Florida, Louisiana, Missouri, New Mexico, North Carolina, and several other states. Beyond procurement assistance, Mercer's policy, operations, and clinical team members have wide-ranging experience with conducting readiness reviews. Mercer has conducted comprehensive readiness reviews of managed care entities in multiple states and US territories, including Connecticut, Delaware, Florida, Kansas, New Jersey, New Mexico, New York, North Carolina, Pennsylvania, and Puerto Rico. Our readiness review engagements have included reviews of ASOs, health homes, PIHPs, MCOs, integrated MLTSS programs, and BH carve-in programs. Several examples, though not exhaustive, of our experience with leading readiness review activities (e.g., desk reviews, chart reviews, on-site reviews, and post-implementation corrective action monitoring) include the following:

- **New Mexico**: Mercer supported New Mexico's implementation of their Centennial Care 1.0 (integrated MLTSS, BH PH for their Medicaid and CHIP populations).

- **New York**: Facilitated and co-led readiness reviews with state staff for BH plans which moved services and populations from FFS into managed care.

- **Puerto Rico**: Assisted Puerto Rico implement an integrated BH and PH program and added new MCOs for their Medicaid and CHIP populations.

Based on our experience, we recommend that the approach to readiness reviews not be a "checkbox," one-time review of contract and regulatory compliance, but rather a dynamic process that considers State-specific areas of concern and assesses both the entities' readiness and compliance level from soon after contract award through program implementation (including post-implementation corrective actions), identifies opportunities to improve member and provider experience, and provides technical assistance to the entity. A best practice includes an integrated readiness review that includes three key phases – planning, review and validation, and report preparation.

Our process assesses a readiness in four managed care operational areas: Organizational/Administration, Clinical, Financial, and Information Systems. Our readiness review tool captures each of these operational areas via the specific Federal and state contractual requirements. Examples of operational issues include whether a managed care entity has in place an adequate provider network, an efficient and timely claims processing system, and a system to respond quickly to issues of abuse, neglect, exploitation, or other critical incidents. Each entity is assessed both qualitatively and quantitatively on the operational areas illustrated in the following graphic:

Encounter Data Validation Activities

As the Nebraska Medicaid/CHIP managed care program continues to evolve and expand, it will be critical for the Department to understand and assess the quality of the encounter data for the program, as encounter data is now the only source of current experience with person-level and service-level detail for most of the covered benefits. As such, **the Heritage Health encounter data will serve as a primary data source in future analyses conducted by the State.** Reliable, complete, and accurate encounter data can be used in wide array of oversight, management, and operational analyses including:

- Establishing a primary data source for capitation rate development
- Evaluating MCO performance and measuring the efficiency of MCO care management approaches
- Calculating the fiscal impact of programmatic changes
- Implementing risk-adjusted rates
- Implementing and recognizing savings from rate-setting efficiency adjustments (described in more detail below)
- Responding to ad hoc requests from legislators, advocacy groups, or other stakeholders
- Developing budget neutrality calculations for future initiatives

As the actuary of record in many other states, Mercer knows the value and power of good data and also the challenges states experience in trying to collect complete encounter data from their MCOs. Whether the issues are translator problems at the state, missing fields, edits that do not work on encounter data, incomplete submissions, MCO-to-provider subcapitated claims, or simply lackadaisical efforts on the part of the MCOs and their vendors to submit good data, problems with data hampers everyone's ability to effectively manage a large and complex program like Medicaid managed care.

Mercer's current state clients send us more than one billion data transaction records annually, a testament to our ability to work with large data sets.

Building on our data processing experience over the past 30 years, Mercer has established the technical infrastructure, software tools and programming, and analytical expertise that allow us to receive, store, manipulate, and analyze billions of records for detailed

claims, encounters, eligibility, enrollment, demographics, provider, level of care assessment, and other types of data. This platform was built and designed to expand and easily scale to meet the needs of our clients and our business. Mercer's current government clients send more than one billion data transaction records annually, a testament to our ability to work with large data sets. Mercer has developed a specialized team, comprised of over 35 analysts and consultants, who are dedicated to performing data analytics. Below is a list of the states in which Mercer has previously or currently acquires and validates claim, encounter, eligibility/enrollment, and/or other health data for various project work:

Alabama	Florida	Missouri	Ohio
Arizona	Georgia	Montana	Oklahoma
California	Kansas	Nebraska	Pennsylvania
Colorado	Louisiana	New Jersey	Texas
Connecticut	Massachusetts	New Mexico	Utah
Delaware	Minnesota	New York	Virginia
District of Columbia	Mississippi	North Carolina	Washington

This data and Mercer's experience have ranged in focus across the following:

- Validating (completeness and accuracy) encounter and FFS data.
- Shadow pricing of Medicaid encounters with Medicare or commercial fee schedules.
- Benchmarking data across state clients.
- Providing provider quartiling and profiling with identification of potentially aberrant providers.
- Utilization review, disease management, and case management.
- Calculating quality indicators.
- Geo-spatial analysis (i.e., geo-access mapping) to determine provider network adequacy.
- Creating dashboard reporting for the evaluation and assessment of health programs.

Some additional information regarding encounter data validation and data integrity work steps is included in our response to the **Corporate Overview** section (item H) as required by the RFP.

Mercer has assisted Connecticut, the District of Columbia, Florida, Missouri, New Jersey, Ohio, and Pennsylvania as well as several other states in various encounter data validation activities including developing standard reports to facilitate the monitoring of encounter data submissions and quality and establishing a standard validation process that considers acceptance rates, data frequencies, data volume, and comparisons to reported financial experience. Items to consider in the implementation of a more rigorous approach to encounter data validation include data requirements, system capabilities and edits, encounter data processing activities, and timelines for establishing process changes and robust data. Though the following items can be used individually, applying more of these elements increases the strength of the encounter data:

- **Health Plan Contracts:** Strong, clear, and detailed encounter sections drive the expectations and accountability of the health plan. Mercer routinely helps our clients make sure they have the "right" language within their contracts that will outline consequences for not submitting complete and accurate data.

- **National Standards:** While national standards seem straightforward, it is important to remember the standards cover all forms of health insurance including commercial, Medicare, and Medicaid. Mercer assists clients to understand how to best navigate the national standards and use the flexibility within those standards to align the data with programmatic needs.

- **Encounter System Edits:** Efficient and helpful edits can be a useful tool for guiding health plans toward better encounters. Mercer is experienced in determining the types of edits that should be part of encounter data systems to enforce the highest quality data.

- **Encounter Data Manuals:** Mercer helped create encounter manuals for many of our clients. These manuals provide direction to health plans including data specifications and how to resolve rejections due to encounter edits.

- **Plan Reviews:** Mercer is able to perform health plan reviews on behalf of and in conjunction with our clients. These assessments provide an in-depth review of the health plans' information systems and processes and can be instrumental in identifying gaps, omissions, or errors in the data or organizational processes. These gaps may result in missing or incomplete encounters. Reviews also offer the opportunity to work with health plans to improve their processes and become more efficient overall.

- **Encounter Data Monitoring:** Regular reporting and review of the encounter data is a vital piece to identifying how the encounter data is improving and teasing out additional areas of concern. Mercer develops customized reports that focus on the quality of the encounter data, as well as what is most important in our clients' Medicaid programs.

Mercer in Action:

In Delaware, Mercer was asked to conduct an Encounter Data Validation (EDV). Mercer's team worked with the state to develop a multi-phase, multi-year approach that considered how the EDV results would be used to identify potential enhancements to the State's MMIS as it underwent its T-MMIS redesign and improve overall administration of the encounter submission process.

Using the results of the most recent systems assessment, our Informatics consultants and clinicians worked together to complete the EDV and identified several opportunities for the state to enhance the operational effectiveness of its MCOs and MMIS vendor, including recommendations to implement an 835 response process for MCO voided transactions to improve MCO tracking and submission, adjust MMIS vendor's limitations on file size and/or volume that may negatively impact timeliness of encounter data submission, develop and implement encounter data monitoring reports and an encounter submission guide to monitor timeliness and improve consistency in encounter submissions and implement enhancements to the MMIS to capture key data elements currently collected by the MCO such as birth weight data, patient payment liability, and MCO paid date.

Mercer has also developed a number of powerful reports and tools designed to allow our state clients and/or the MCOs to understand any data issues that may be identified in the above steps and assist us in rectifying them. The first of these tools is Micro Analyses, whereby Mercer conducts an evaluation of encounter data by COS. To determine changes in data volume over time, reports are produced that compare the statewide encounter volume across time periods overall and by COS. Additionally, Mercer fits statistical models to the data to examine patterns and variations in data completeness measured by COS across health plans. The measures used to evaluate the completeness of encounter data include:

- Utilization rate per 1,000 members per month.
- Average number of encounters per enrollee.
- Percentage of enrollees that received services.
- Average cost per recipient.
- Average cost per encounter.
- Average cost per user.
- Total number of submitted diagnoses.
- Total number of valid diagnoses.
- Percent of encounters with one, two, three, or more diagnoses.

The models generate expected level of performance for each data completeness measure after accounting for differences in aid category, month of service, geographic region, age, and gender. Health plans that deviate positively or negatively from the expected level of performance by more than two standard deviations for at least three months in a 12-month period are identified.

Mercer's data analytics staff also routinely develop Encounter-to-Financials Reports. These reports facilitate quick and easy comparisons of provider payment amounts contained in encounter data with medical expenses reported on the MCO's financials is

performed. The comparison is preceded by adjustments to the encounter data to reflect sub-capitation amounts, IBNR claims, settlements, risk pools, risk sharing, reinsurance, and any other items that are reflected in the MCO's financials but are not included in the encounter data line items.

Upon completing each of these validation reports for each applicable data file, Mercer will review the results to determine if there are any data problems or issues that need to be discussed and will make any appropriate data corrections based on these conversations. Mercer can also compare the results to prior years of data to determine if certain issues have been improving or declining over time (e.g., the percentage of time the diagnosis field is populated).

Below is an overview of Mercer's Data Validation process:

1. **Intake/Load Process**

    a. **Data Dictionary/File Layouts:** Mercer obtains file layouts and data dictionaries to guarantee a thorough understanding of the data contents.

    b. **Control Total Verification:** It is vital that all data is collected and properly transmitted. As part of all file loads, Mercer requires control totals be sent with the data to ensure all data has been successfully transmitted and loaded.

    c. **Field Check:** All files are checked to ensure all fields requested are included in the files.

2. **Data Validation Process**

    a. **Referential Integrity:** Procedures are performed to ensure files can be joined for analysis. Common verifications are that header and detail records can be linked, claims match eligibility, and claims match provider files. Strong referential integrity is critical for all projects to ensure no data loss.

    b. **Lag Triangles:** An analysis is performed that evaluates the dollars paid by month of service and month of payment. This allows Mercer to identify any possible missing data. A month with low payments could indicate a missing file or submission to the MMIS system.

    c. **Frequency Report:** Mercer runs frequencies on all text fields. This report is then reviewed to verify the fields contain values Mercer would expect them to contain.

    d. **Valid Values:** National standard fields are checked to ensure they contain valid values. These fields include diagnosis codes, procedure codes (ICD-9/ICD-10 and CPT/HCPCS), revenue codes, and National Drug Codes. These fields are of particular importance when risk-adjustment processes will be performed using the data. Additionally, the identification of certain services requires these fields.

    e. **Missing Values:** Records are checked to identify unpopulated fields, as well as the corresponding percent of total records this represents. This is done for each field in the data and provides an overview of the completeness of the data.

Missing data in key fields can greatly affect the analysis.

f. **Date Distributions:** A complete overview of the date fields within the data, specifying the minimum, maximum, and median values, and the 5th and 95th percentiles is performed. This report quickly identifies possible problems within the data such as dates in the far past (1/2/1867) or distant future (7/1/2024). It is important to identify and quantify the occurrences of dates out of range because those records would be excluded if a specific date range is selected for analysis.

g. **Numerical Distributions:** Descriptive statistics for financial fields are run as a report. This report aids in identifying extreme values that could affect analysis. Negative, zero, or very high amounts could be a concern for rate setting if the fields are required.

h. **Duplicates:** Data are run through processes to identify possible duplicate payments/claims for the same service. In order to perform a project that utilizes claims data, the information must be as accurate as possible. Having additional claims/services in the data that do not belong can introduce bias in downstream analysis.

i. **Dashboard Reports:** Mercer has developed dashboard reports for our clients and the MCOs that provide Medicaid coverage for recipients in the state. The goals of these reports is to provide a better understanding of reported encounter experience and how it benchmarks to other organizations in the state. The data elements contained in the reports are described below:

    i) Utilization and cost review.
    ii) Medical and pharmacy cost management effectiveness.
    iii) Encounter validation.
    iv) Glossary.

Some examples of potential reports we can create are shown on the following page:

Diagnosis Code Prevalence Report

Table 1 presents the most prevalent Dx codes by selected categories of service (COS). This report provides insight into the types of diagnoses associated with each COS and overall prevalence.

Table 1: Top DX Codes

DX Code	Description	Prevalence
Total		
388.71	PAIN, OTOGENIC	5.27%
410.1	AMI, ANTERIOR WALL	4.28%
255.1	HYPERALDOSTERONISM	2.75%
Inpatient		
255.8	DISORDER, ADRENAL NEC	11.26%
426.50	BLOCK, BUNDLE BRANCH NOS	8.42%
365.13	GLAUCOMA, PIGMENTARY	6.85%
Outpatient		
255.8	DISORDER, ADRENAL NEC	4.58%
458.1	HYPOTENSION, CHRONIC	3.65%
410.1	AMI, ANTERIOR WALL	2.22%
ED		
365.13	GLAUCOMA, PIGMEN	
143.0	NEOP, MLIG, UPPER G	
458.1	HYPOTENSION, CHRO	
Professional		
426.50	BLOCK, BUNDLE BRAN	
365.13	GLAUCOMA, PIGMEN	
143.0	NEOP, MLIG, UPPER G	

Diagnosis Codes - Prevalence and Invalids

Table 2 presents percentage of diagnosis codes populated and percentage of invalid codes by category of service. The prevalence analysis evaluates each Dx code and aids the reviewer in determining if Dx codes prevalence is an issue. The invalid analysis assists the reviewer in determining if any significant issues exist with the submission of invalid Dx codes.

Table 2: Prevalence and Invalid DX Codes by COS

	DX Code				
	DX1	DX2	DX3	DX4	DX5
Prevalence					
Total	98.27%	89.96%	87.71%	83.16%	74.61%
Inpatient	95.24%	91.25%	89.00%	84.45%	75.90%
Outpatient	99.00%	89.88%	87.63%	83.08%	74.53%
Emergency Department	98.75%	86.48%	84.23%	79.68%	71.13%
Professional	97.99%	90.25%	88.00%	83.45%	74.90%
Other	89.99%	88.66%	86.41%	81.86%	73.31%
Invalid					
Total	1.25%	1.85%	2.85%	1.25%	1.85%
Inpatient	0.06%	1.22%	1.55%	0.06%	1.22%
Outpatient	2.52%	2.65%	4.30%	2.52%	2.65%
Emergency Department	4.28%	4.20%	1.55%	4.28%	4.20%
Professional	1.11%	1.85%	5.80%	1.11%	1.85%
Other	1.28%	1.96%	4.30%	1.28%	1.96%

Improvements to Existing Programs and Performance Reviews

Mercer is aware of the responsibility of state Medicaid agencies to ensure that finite financial resources are utilized in the most cost-efficient manner possible. An important consideration in developing prospective capitation rates is whether the rates are structured to promote efficient delivery of the covered benefits. The integration of Mercer's expertise across subject matter areas enables our team to identify areas of clinical inefficiency, interpret existing and adjust for emerging trends, and appropriately adjust for risk based on disease chronicity and/or functional status. We are able to critically and objectively analyze the efficiency of managed care operations. These analyses range from reasonableness assessments of administrative costs to the efficiency and appropriate pricing and application of pharmacy benefits, and clinical efficiency of ED use and inpatient hospitalizations. **These clinically-based analyses allow Mercer to develop capitation rates that are based on the expectation of efficient and well-run managed care contractors.** In this way, our approach will bring

the most value by helping Nebraska receive better performance from your contracted managed care plans.

Our clinically-based analyses allows Mercer to develop capitation rates that are based on the expectation of efficient and well-run managed care contractors and promote more value purchasing by our state clients.

In developing these Mercer-proprietary adjustments each year, our clinicians are tasked with maintaining current analyses to ensure accurate and up-to-date ICD (i.e., ICD-10), CPT, and drug classification categories are in place. We are also continually identifying potential new analyses based on emerging evidence and individual state Medicaid program focus areas. This is done by conducting a detailed clinical review of administrative data sets to identify co-morbid conditions, potential data integrity issues, other confounding issues, and presenting analytical methodologies and findings. Many of the analyses were developed in-house through a multi-disciplinary team effort. The following provides an overview of Mercer's most widely used and successful clinical efficiency analyses that can be incorporated into prospective actuarial rate development or provide results for information/educational purposes:

- **Pharmacy Clinical Analysis:** Mercer performs a retrospective analysis of pharmacy data to identify inappropriate prescribing and/or dispensing patterns using a series of clinical rules-based utilization management edits. These edits were developed by Mercer's Managed Pharmacy Practice based on official compendia, published literature, industry standard practices, clinical appropriateness review, professional expertise, and information gathered during the review of several Medicaid pharmacy programs across the country.

  The customized edits review individual pharmacy claims to identify issues related to inappropriate dosage limits and quantity limits, therapeutic duplication issues, polypharmacy, duration of therapy, age, and pregnancy-related issues. The identification of potential narcotic overuse or abuse is also included in this analysis. The paid amounts associated with claims or portions of claims identified as potentially inappropriate are then used to calculate avoidable dollars.

- **Assessment of Generic Pharmacy Pricing:** Another of Mercer's frequent analysis as part of a rate-setting process is to identify potentially avoidable costs due to reimbursement inefficiencies. Pharmacy data is reviewed in regards to the reimbursement for generic drug products. Maximum Allowable Costs (MAC) lists are evaluated to determine both the breadth (number of generics subject to MAC) and the depth (aggressiveness of the price points). For each pharmacy record for which there was a benchmark MAC unit price in place on the date of service, the amount (as it appears in the pharmacy data) is compared to the derived paid amount using the benchmark MAC unit price to determine inefficient pharmacy contracting. These analyses typically result in the identification of 0.5% to 2.5% savings opportunity in the pharmacy COS.

- **Appropriate Drug Use Based on Diagnosis:** Mercer also reviews the pharmacy claims for select medications to determine if clinically appropriate diagnosis codes exist in the medical claims data. The selected list of medications includes those with the potential for misuse/abuse, medications that are high cost, and/or carry safety concerns. Mercer clinicians developed the corresponding list of clinically appropriate

diagnosis codes based on official compendia, peer reviewed literature, and Food and Drug Administration-approved indications.

Mercer identifies pharmacy claims in the base period that did not have a corresponding clinically appropriate diagnosis (i.e., matching ICD-10 codes) in the medical claims data set. Pharmacy claims for recipients without an appropriate diagnosis are considered inappropriate (or avoidable). Avoidable costs are calculated as the claim paid amount for the inappropriate pharmacy claim.

- **ED Utilization Analysis:** Mercer's Low Acuity Non-Emergent (LANE) ED analysis provides a systematic and evidence-based approach for identifying potentially inappropriate use of ED services. Mercer's approach is differentiated in the marketplace as we analyze a number of data points such as: diagnosis, physician evaluation and management coding, and treatment rendered during the ED event to quantify the preventable LANE utilization in a given state or population. In one analysis of a state's data, we identified over $13 million of potentially preventable program expenditures in the 2014 data study period.

- **Potentially Preventable Hospital Admissions:** Building off the Agency for Healthcare Research and Quality's prevention quality indicators for adult and pediatric populations (i.e., prevention quality indicators/pediatric quality indicators), Mercer has selected a subset of acute and ambulatory conditions that could be avoided through application of evidence-based disease management protocols, ongoing and comprehensive coordinated care, and promotion of self-efficacy. This analysis incorporates common conditions such as asthma, diabetes, heart disease, pneumonia, and dehydration and takes into account confounding diagnoses such as metastatic cancer and catastrophic events.

- **Unnecessary/Avoidable C-sections:** Rates of C-section deliveries vary across states and even within states. While there are medically-justifiable reasons for performing a C-section, there also occurrences of C-sections that are done for convenience or reasons that make them avoidable. A C-section is a significant medical procedure and can often cost much more than a vaginal delivery event. In collaboration with our clinical experts, Mercer has developed methodologies to evaluate C-section delivery events and assess what percentage of C-sections could have been avoided. Depending on the underlying data, analyses can be shown across hospitals and incorporated into the actuarial rate-development process.

Mercer has successfully performed and implemented the analyses described above in multiple states, resulting in millions of dollars of Medicaid and CHIP program savings through reduced capitation rates, more informed purchasing, and aggressive negotiations with MCOs. These analyses have been presented to MCOs and accepted by CMS through their review of our capitation rate development approach as outlined in our rate certification letters. The return on investment our state clients receive from these Mercer analyses can be quite substantial.

MCO Oversight and Monitoring Activities

We know that robust oversight and monitoring of MCOs is critical for program success. Our process is to work with our state clients to support and deliver monitoring activities that will provide the information and data needed to determine MCO performance. We

have provided MCO oversight and monitoring activities to many state clients, including those with MLTSS integrated delivery systems. We have the resources and the expertise to provide the level of support required by the client. This is one of the factors that sets us apart from many of our competitors. Below we highlight two examples of our ongoing managed care oversight and monitoring experience:

- **Arizona:** We designed a network analysis study to review BH service utilization in Maricopa County. This study was focused on reviewing the provider network for specific covered services provided to persons with serious mental illness. This included identification and validation of data sources to assess network adequacy in Maricopa County and utilized a multi-faceted approach combining direct testing activities such as phone calls, office visits, provider forums, and other mechanisms such as review of satisfaction data and member complaints regarding access and availability to triangulate on areas or services that may be under-served or even inappropriately served. Mercer implemented the study over two periods and generated a report for the state with the findings.

- **New Mexico:** We have been the actuary for New Mexico since 1997, and since 2011 we have also provided extensive policy consultation support. We have partnered with New Mexico to monitor their MCO performance since the inception of Centennial Care. Specific activities include:
  - Develop targeted MCO report templates to monitor specific issues
  - Assist in reviewing results of MCO reporting
  - Develop and deliver presentations to MCOs to better understand the rate range development process and to explain significant rating adjustments
  - Develop written responses to direct MCO inquiries on rate/financial issues
  - Facilitate conference calls on rate/financial issues with each MCO for each program and in-person program wide presentations
  - Analyze encounter data and generate reports identifying trends
  - Develop strategies for targeted care coordination record reviews and on-site reviews, participate in reviews, and develop reports to analyze results

Pharmacy Consulting

Mercer possesses a mix of technical, actuarial, and clinical expertise that is specifically designed to enable us to provide useful special projects to the Department from multiple perspectives on a wide variety of issues related to prescription drug spend within the Nebraska Medicaid and CHIP programs. Mercer's pharmacy management consulting approach focuses on pharmacy issues pertinent to publicly-funded programs across the country including policy development, risk assessment and adjustment, PDL strategy, provider reimbursement strategies, collaborative purchasing, trend evaluation, health plan efficiency evaluations, and pharmacy benefit manager and administrator vendor selection. Our pharmacy team boasts more than a dozen professionals – including five pharmacists – who have worked with over 25 state Medicaid programs. Below are examples of special projects Mercer has successfully provided to our clients:

- **Louisiana:** As the State continues the evaluation of cost-effective management strategies of its managed care program, it has considered the use of a Single PDL for Selected Therapeutic Classes. Mercer has worked with the State and its Pharmacy Benefits Manager to model the fiscal implications (the "what if") of mandating a specific PDL to the state budget based upon changes to capitation rates

and state supplemental rebates, including isolating anticipated changes to state general funds.

- **New York:** Mercer worked with state staff to model the "Medicaid Drug Cap" passed in the state's Fiscal Year (FY) 2018 Executive Budget. This included estimating FY 2018 Medicaid drug expenditures relative to the limit and identifying individual products, Therapeutic Classes, and manufacturers who are driving the program's drug spending.

- **North Carolina:** Mercer worked with the state to estimate cost neutrality of providing premium support for AIDS Drug Assistance Program recipients who were also eligible for either Medicare Part D or commercial coverage through the ACA exchange. Mercer prepared reports for the legislature outlining the most effective strategy to maximize cost savings to the state that can then be used to fund additional enrollment in the program.

Health Policy and Regulatory Compliance

Our clients look to us to stay abreast of current Federal requirements and policies affecting how they operate their Medicaid programs. We respond by regularly monitoring the Federal Department of Health and Human Services (DHHS) and CMS for current actions and updates. Our combination of good relationships with CMS officials and having former CMS officials on our policy and operations team who have insights into Federal operations gives us an upper hand benefiting our clients. We are well positioned to quickly bring relevant information to our clients' attention and to provide guidance on how to interpret Federal requirements, as well as the underlying factors driving requirements.

CMS Medicaid/CHIP Managed Care Final Rule

The Medicaid/CHIP Managed Care Final Rule, published May 6, 2016, implemented sweeping changes to how states deliver Medicaid managed care programs. In some instances, the Final Rule codified longstanding policy and implemented in lieu of regulations, particularly for MLTSS programs (i.e., beneficiary support systems). In other cases, the Final Rule imposed new requirements, some requiring time to implement, such as the quality rating system.

HCBS Final Rule

The HCBS Final Rule was published January 16, 2014. Most provisions of the Final Rule were effective March 14, 2014. Arguably, the most challenging requirement of the Final Rule is for states to determine that all HCBS settings are appropriate for providing integrated community supports.

Mercer in Action:

Since 2014, Mercer has provided support to clients in implementing the HCBS Final Rule. We have worked with Connecticut, Delaware, Missouri, and New Mexico in developing assessment strategies and tools to determine the status of HCBS providers' compliance with the settings requirements of the Final Rule. Most notably, we have worked with our clients to develop and implement participant, case manager, MCO, and provider surveys to determine that HCBS are provided in appropriate provider settings. Our specific tasks have included:

- *Determining the appropriate sample size for survey distribution.*
- *Developing the survey tools.*
- *Validating the survey tools.*
- *Developing and providing training on the use of the survey tools.*
- *Manning a hotline to address and respond to inquiries while surveys are live.*
- *Tracking the status of survey results.*
- *Analyzing survey results.*

With our support, Connecticut, Delaware, Missouri, and New Mexico were able to demonstrate successful compliance with the Federal settings requirements. Delaware has received both initial and final CMS approval. Connecticut, Missouri, and New Mexico have received initial approval. We are now working with clients to develop monitoring strategies and tools to measure ongoing provider compliance with all applicable requirements.

Mental Health Parity Rule

We have invested considerable resources to develop the expertise to support client implementation of the Mental Health Parity and Addiction Equity Act of 2008 (MHPAEA). An interdisciplinary team of Mercer policy, clinical, and actuarial consultants have been trained and are well prepared to assist in identifying areas within the Medicaid program that will require modification to comply with MHPAEA.

At the state level, we have provided MHPAEA training, technical assistance, analysis, and report drafting for Arizona, Delaware, Louisiana (technical assistance only), Missouri, New Mexico, Ohio, and Pennsylvania. Due to our partnership with CMS, we are uniquely positioned to advise states on the interpretation and implementation of the Rule and have successfully assisted each state in customizing their approach and timely submissions to CMS. In December 2017, we assisted New Mexico in completing the evaluation of MHPAEA and met compliance requirements with the final parity rule.

Training/Learning Collaborative Opportunities

Over the course of this engagement, the Department may be interested in targeted training/learning opportunities in which Mercer can help support. As health care continues to advance and evolve, Mercer identifies new areas where expertise is needed and we dedicate ourselves to meeting the need through targeted educational pursuits and/or hiring of new subject matter specialists. This strategy ensures we consistently bring a fresh perspective. As consultants, part of Mercer's make-up is to inform, advise, and help our clients be successful. Therefore, in almost every activity we do there is some form of "training" that is done whether it is explaining how a HEDIS®

measure is determined, walking through a shared savings calculation, or explaining how a Federal regulation pertaining to "in lieu of services" can be used to fund activities to support social determinants of health.

The format in which we do trainings can be informal (e.g., during a conference call/meeting) or more formal. Formal training sessions are held in person and/or via webcasts or webinars and can cover any topic conducive to such a forum. Depending on the topic and goal, training may be targeted to State staff, health plan staff, provider staff, and/or other key stakeholders. We want attendees to gain something from the time they spend with us; there is too little time in the day and too many demands on people's time to not efficiently use the time available to us.

The following are examples of what Mercer has successfully provided to our state clients, but perhaps Nebraska has a specific topic in mind?

- In 2017, the Washington State Health Care Authority (HCA) engaged Mercer to establish and lead a training session focused on the transition of BH services administration from single, regional Behavioral Health Organizations (BHO) to MCOs and the transition of the community-based BH purchasing authority and administrative functions from the Department of Social and Health Services to the HCA. The Mercer team collaborated to assist HCA with planning/curriculum development of the training and developed an evaluation tool and process to measure effectiveness. Sessions addressed a variety of topics that provided BHOs and MCOs an opportunity to identify action steps necessary for transition planning and the successful implementation of integrated managed care. The training session also allowed regional workgroups an opportunity to focus on local nuances or regionally-specific topics.

- In 2018, on behalf of Delaware's Medicaid program, following the shift of SUD withdrawal management and treatment services for all American Society of Addiction Medicine (ASAM) levels of care from FFS into managed care, the state requested Mercer develop and deliver a training for SUD providers and a training for the MCOs. The SUD provider training addressed documentation of medical necessity, the role of the MCO, appeal rights and processes, and a general overview of Parity expectations as they apply to SUD. The MCO training provided an in-depth review of ASAM principles and levels of care, assessment, and documentation expectations to determine medical necessity, the role of the MCO in provider collaboration/technical assistance, and a general overview of Parity expectations as they apply to SUD.

b. Proposed Development Approach

For each special project, Mercer will begin the process with a strategy/planning meeting or call with the Department to confirm the project scope and details. During this meeting, Mercer will discuss with the Department the availability of relevant data sources, methodology options, and deliverables. Mercer will then provide the Department with a scope and methodology document, outlining the project plan and timeline, identifying key project milestones, and due dates (i.e., work plan). As project parameters are heavily dependent on the specific nature of the special project, the needs of the State and the scope of the project, we have not included a detailed development approach at this time.

c. Technical Considerations

Each special project will present different technical considerations. For example, the issues that will be most critical to consider in a health plan review will be very different than the key factors that will influence the support needed in a procurement project or expansion of Heritage Health to include LTSS. As such, technical considerations that are relevant to each special project will be clarified in the scope and methodology document that will be developed for each project, but may include:

- Prioritization of needs. Special projects can encompass just about anything over the course of this long engagement, so at times the Department will likely need to prioritize activities so we can accomplish what you need in an efficient and effective manner within any budgetary constraints that may be present.

- Timing and resource availability of both the Department, MCO, and/or provider staff/entities to support the applicable special project(s).

- MCO systems capabilities vis-à-vis the State's systems in terms of encounter data validation/audits and/or successful reporting of other data/information to the State (e.g., future level of care/assessment plans for LTSS).

- Availability of MCO staff with the applicable expertise/responsibilities to take on new responsibilities (e.g., LTSS), participate in on-site audits or otherwise make themselves available for the services required in this RFP.

- Completeness, accuracy, and reliability of appropriate data sources provided to support the respective analyses, project, and/or financial evaluations can be key to successfully completing some potential special projects.

d. Detailed Project Work Plan

A detailed project work plan will be developed for each special project upon clarification of the scope and methodology, as discussed in the respective planning/strategy meeting(s).

e. Deliverables and Due Dates

Key project due dates and the associated deliverables will be outlined in the scope and methodology document for each special project after discussion with the Department and a thorough understanding of the specifics of each special project.

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VI

Proposal Instructions

A. PROPOSAL SUBMISSION

1. REQUEST FOR PROPOSAL FORM

Mercer has signed the "RFP for Contractual Services" form and provided it in Section I – Required Forms. The form provides the original ink signature of Frederick Gibison Jr, MBA, a Partner in Mercer with the authority to bind our organization.

Mercer guarantees compliance with the provisions stated in this RFP, agrees to the Terms and Conditions stated in this RFP unless otherwise agreed to, and certifies Mercer maintains a drug free work place environment.

Mercer's sealed proposals should have been received in the State Purchasing Bureau by the date and time of the proposal opening per the Schedule of Events. Mercer understands that no late proposals will be accepted and no electronic, e-mail, fax, voice, or telephone proposals will be accepted.

Mercer checked the Department's RFP website for all information relevant to this solicitation to include addenda and/or amendments issued prior to the opening date. We are in receipt of the following:

- Addendum 1 – Revised Schedule of Events – date posted June 27, 2018
- Addendum 2 – Questions and Answers – date posted June 29, 2018
- Addendum 3 – Revised Schedule of Events – date posted July 2, 2018

Mercer addressed each RFP section, II through VII, in corresponding sections of our response.

2. CORPORATE OVERVIEW (Delete Corporative Overview if Cost Only)

Mercer provides the following required information:

Corporate Name:	Mercer Health & Benefits LLC
Address (Headquarters):	1166 Avenue of the Americas New York, NY 10036
Address (Local):	2325 E. Camelback Road, Suite 600 Phoenix, AZ 85016
State of Incorporation:	Delaware
Year of Incorporation:	2004
Name Changes:	Mercer Health & Benefits LLC has not changed its name or form of organization since incorporated in 2004.

a. FINANCIAL STATEMENTS

Mercer is a wholly-owned subsidiary of Marsh & McLennan Companies. A separate financial audit is not performed and reported on Mercer LLC (global corporation), Mercer (US) Inc., or Mercer Health & Benefits LLC individually. Instead, all operations are reported in the consolidated statements of Marsh & McLennan Companies. Mercer is a world leader in the health and benefits marketplace, globally. We deliver innovative solutions that address the health and wellness needs of our clients and their employees. Whether your organization is a state governmental entity, small business, a domestic employer, or a large multinational firm, we can deliver a comprehensive array of health and benefits solutions.

Marsh & McLennan Companies is a public company traded on stock exchanges around the world with 2017 revenue of more than $14 billion (2017 Annual Report, page 2). The Consolidated Statements of Income is provided on page 52 and the Consolidated Balance Sheet is provided on page 54 of the Marsh & McLennan Companies 2017 Annual Report.

As required per the State's answer to question 25 on the RFP, a hardcopy of our 2017 Annual Report is included in Appendix C and is also available at 2017 Annual Report. The Annual Report includes three years (2015, 2016, and 2017) of financial information.

Specific information on Mercer is provided within the report as noted below:

- Mercer generated approximately 32% of the Company's total revenue in 2017. (2017 Annual Report, Introduction, page 5)
- Mercer's revenue increased 5% to $4.5 billion over the prior year, or 2% on an underlying basis. (2017 Annual Report, page 38)
- Mercer's Health and Benefits LLC line of business accounted for almost $1.65 billion of Mercer's total revenue. (2017 Annual Report, page 34)

In the ordinary course of business, Mercer is involved with legal and regulatory proceedings, investigations, and inquiries, some of which are conducted on an industry-wide basis. Based on information currently available, the outcomes of currently pending litigation, investigations, and inquiries are not expected to have any material adverse effect upon Mercer or its ability to service its clients in the ordinary course. Details regarding certain outstanding legal proceedings pertaining to Mercer and its affiliates are disclosed in the public Securities and Exchange Commission filings of Marsh & McLennan Companies, Mercer's ultimate parent company.

Mercer agrees to allow the State to use a third party to conduct credit checks as part of the corporate overview evaluation. Questions about Mercer's financial and banking information can be directed to our Chief Financial Officer:, Jackie Marks. Jackie is available at Jackie.Marks@mercer.com or +1 212 345 7000.

b. CHANGE OF OWNERSHIP

Mercer does not anticipate any change in ownership or control of the company in the next 12 months (or beyond) following the proposal due date. Mercer confirms our understanding that any change of ownership will require notification to the State.

c. OFFICE LOCATION

The contact person and office location pursuant to an award is:

Frederick (Fred) Gibison Jr, MBA
Partner
2325 E. Camelback Road, Suite 600
Phoenix, AZ 85016
+1 602 522 6526
Fred.Gibison@mercer.com

d. RELATIONSHIPS WITH THE STATE

The table below provides information that identifies Mercer's historical contracts with the State of Nebraska.

Contract Identification	Duration	Description
Contract 22572-04	04/01/06 – 03/31/13	DHHS Actuarial Services and Medicaid Reform
RFP 2346 Z1	05/01/08 – 12/31/08	Medicaid Alternative Benefits Study
DHHS Sole Source Contract	12/21/09 – 12/21/10	DHHS Psychiatric Residential Treatment Facility Strategy Development
RFP 11-002Z1	04/08/11 – 08/08/11	DOI Exchange Planning Activities (subcontractor)
DOI Sole Source Contract	03/28/12 – 06/30/12	DOI Essential Health Benefits Analysis
Contract Number 71799 O4	06/13/16 – 09/30/17	DHHS LTSS Redesign Consultation

e. BIDDER'S EMPLOYEE RELATIONS TO STATE

To the best of our knowledge, no such relationships exist.

f. CONTRACT PERFORMANCE

To the best of our knowledge, neither Mercer nor our proposed subcontractor, Lisa Knowles DDS, has not had any contract terminated for default, convenience, non-performance, non-allocation of funds, or for any other reason in the past 10 years.

g. SUMMARY OF BIDDER'S CORPORATE EXPERIENCE

i. Provide narrative descriptions to highlight the similarities between the bidder's experience and this RFP.

Medicaid is the core business of Mercer's Government Human Services Consulting specialty practice, a division of Mercer Health and Benefits LLC. To our knowledge, our Government specialty practice is the largest Medicaid consulting group in the United States, and we have dedicated ourselves to the development of intellectual capital, tools, and staffing capacity solely to serve Medicaid and CHIP programs. We have approximately 270 staff, including more than 50 actuaries as well as other experts including CPAs, statisticians, risk adjustment, programmers, policy experts, doctors, nurses, pharmacists, and BH clinicians, all ready to enhance and broaden our team when needed. No other firm has such a large and broad array of staffing resources specifically dedicated to publicly funded health care clients. This ensures we have the capabilities and resources available to partner with the State to accomplish all projects and tasks as covered under this contract.

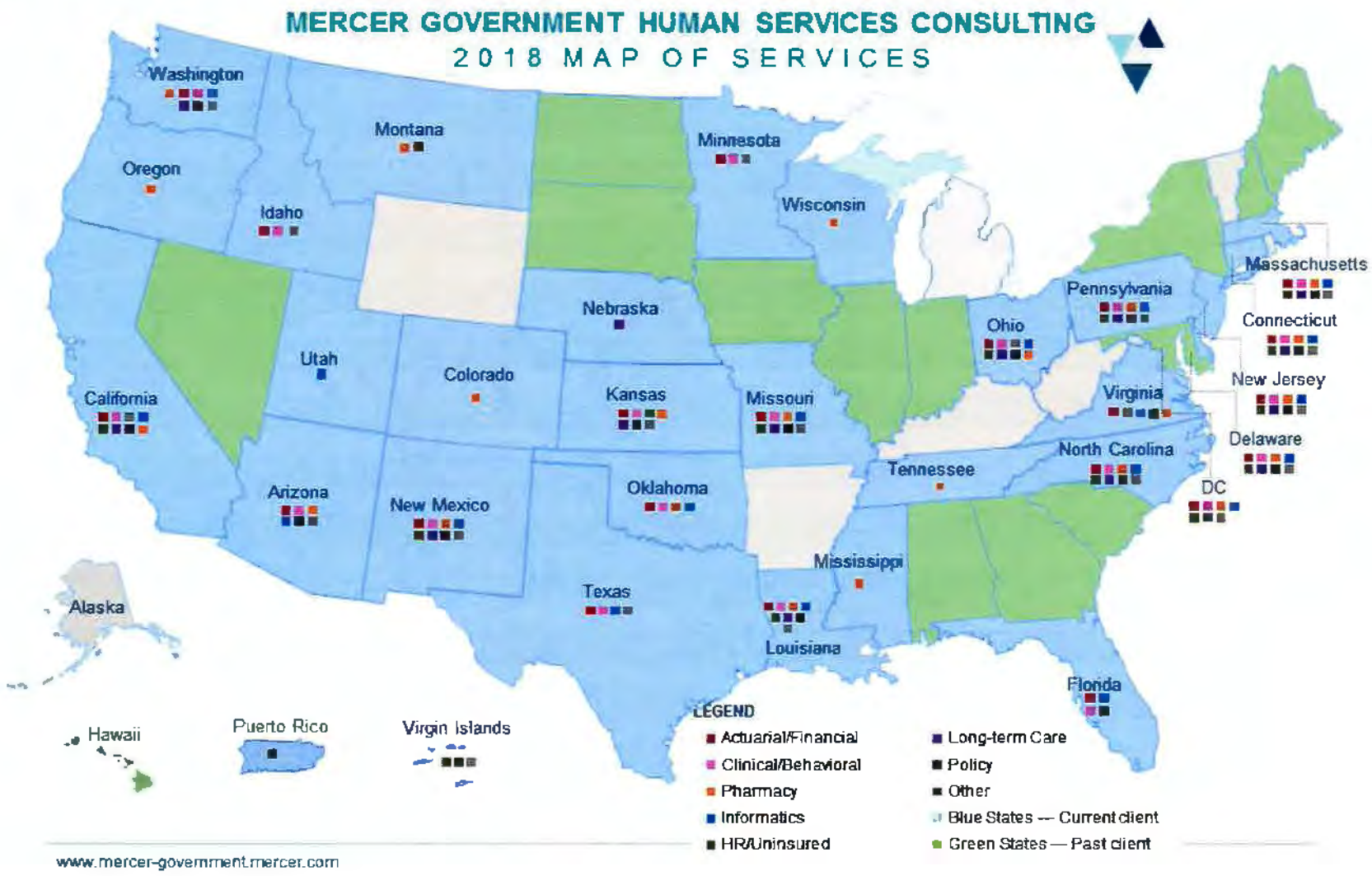
Over the past 30+ years Mercer has worked with more than 35 states and territories and currently holds contracts with 29 states and territories. Our relationships with the majority of our clients have been long term, attesting to their satisfaction with our services and faith in us as a trusted advisor. For example, we have been under contract performing services for more than 10 years for our five largest clients (California, Delaware, Massachusetts, New Jersey, and Pennsylvania). In fact, at least five of our state Medicaid clients have contracted with us for more than 20 years.

Mercer's Government specialty practice's current Medicaid portfolio of clients is comprised of 29 states and territories; with the majority (22) of these contracts having an actuarial rate-setting and/or risk-adjustment component. Among these current clients are 10 of the 14 largest state Medicaid agencies (by Medicaid spending). We are currently the actuary of record, performing actuarial services similar or larger in size and scope to those requested in this RFP, for a total of 13 states and the District of Columbia and there is significant variability in the size of the programs for which we are the actuary of record. In aggregate, these 13 states and the District of Columbia cover more than 16 million individuals through Medicaid and spend in excess of $214 billion annually on Medicaid spending.

We believe that a partnership between Nebraska and Mercer would be advantageous for a variety of reasons including our team's hands-on knowledge of different state Medicaid programs, the depth and breadth of experience of our staff, and the actuarial rate-setting and risk-adjustment reputation that is associated with the Mercer name. Our goal is to consult to Nebraska in a manner that supports your goals and initiatives and strengthens your program.

The map on the following page demonstrates the geographic diversity of our clients while simultaneously providing a snapshot of the services we provide to each of them. Following the map, we provided the requested summary matrix listing Mercer's previous projects similar to this RFP in size, scope, and complexity.

Map of Services



Summary Matrix

State	Physical Health Rate Setting	Behavioral Health Rate Setting	Long Term Care Rate Setting	Risk Adjusted Rates	Financial Reporting and Monitoring	Information Technology/ Data Systems	SPA and Waiver Development/ Renewal
Arizona	X	X	X	X	X	X	
California	X	X	X	X	X	X	X
Colorado				X	X	X	
Connecticut	X	X	X	X	X	X	X
Delaware	X	X	X	X	X	X	X
District of Columbia	X	X		X	X	X	X
Kansas	X	X			X	X	
Louisiana	X	X	X	X	X	X	X
Massachusetts	X	X	X	X	X	X	X
Minnesota		X				X	
Missouri	X		X	X	X	X	X
Mississippi						X	
Montana							X
Nebraska					X	X	X
New Jersey	X		X	X	X	X	X
New Mexico	X	X	X	X	X	X	X
North Carolina	X	X			X	X	X
Ohio	X	X		X	X	X	X
Oklahoma	X	X	X			X	
Pennsylvania	X	X	X	X	X	X	X
Puerto Rico					X		X
South Carolina		X	X				X
Texas						X	X
Utah						X	
Virginia	X	X	X	X			
Virgin Islands					X	X	X
Washington		X	X	X	X	X	X
Wisconsin						X	

References and State Narratives

The RFP expressly states, "The State will use no more than three (3) narrative project descriptions submitted by the bidder during its evaluation of the proposal." We chose the following three current state clients because of similarities in the work Mercer does for these clients that is requested in this RFP and commonalties in program design/delivery system as Nebraska. We welcome you to contact these state references and learn more about what Mercer does for each of their respective state Medicaid programs:

- Delaware
- Missouri
- New Mexico

The requested narrative summaries are provided below and include the required information such as the reference's contact information, time period of the contract, completion dates, whether Mercer was prime contractor or not, description of the work and similarities to Nebraska and information on staff assigned to the Mercer Nebraska team that also worked on one of these three reference states.

Recent feedback from our clients:

"Remained faithful to and furthered core values of ...Medicaid reform, and kept beneficiary rights and interests top of mind"

The Mercer team "came together and produced a solid, comprehensible model design"

"Worked rapidly, thoughtfully and in a manner that has reflected respect for our various disciplines"

"Consistently met or anticipated hair-raising deadlines"

"Walked the walk of excellent stakeholdering process"

"Good, good, good . . . I love all of the aspects of the shared savings design"

"You have really done a great job... Mercer has been extremely helpful"

"I couldn't have done it without Mercer"

Reference/State Narrative #1: State of Delaware

Reference/State Narrative #1: State of Delaware Department of Health and Social Services Division of Medicaid & Medical Assistance	
Reference Contact Person/Organization Address:	Steve Groff Director, Division of Medicaid & Medical Assistance PO Box 906, Lewis Building 1901 N. DuPont Highway New Castle, DE 19720 +1 302 255 9663 stephen.groff@state.de.us
Type of Contract/Nature of Work:	Actuarial, Financial and Consulting Services
Time Period/Contract Duration:	2008 through Present

Reference/State Narrative #1: State of Delaware Department of Health and Social Services Division of Medicaid & Medical Assistance	
Contractor Status (Prime or Subcontractor):	Prime
Major Related Project Completion Dates/Timeframes:	• MCO capitation rates are on a calendar year rating period with rates normally completed in approximately June prior to effective date. • Risk adjustment is normally applied semi-annually (Jan-Jun, Jul-Dec), unless more frequent updates are needed during times of change such as in 2018 when MCOs changed. Delaware uses the CDPS+Rx risk-adjustment model. • Complete sets of detailed person-level eligibility, encounter claims, and FFS claims data are currently received 2x/year (spring, fall) to support project work. • Financial monitoring is done on a quarterly and annual basis coinciding with when financial reports due from the MCOs. • Waiver work is completed according to the State's waiver cycle. Current 1115 waiver expires December 2018, so we are in the process of renewing/amending. • Consulting/technical support on Medicaid/CHIP policy matters, waivers, program changes and BH/SUD technical support occur as needed throughout a given year.

Contractor Responsibilities

Mercer won a competitive procurement in 2008 to become the State of Delaware, Department of Health and Social Services, Division of Medicaid & Medical Assistance actuarial/financial consultant. Under this engagement, Mercer has partnered with and provided the State a myriad of services as highlighted below.

Actuarial/Rate Setting

As Delaware's actuary, Mercer performs numerous tasks for the State's Medicaid/Children's Health Insurance Program (CHIP) managed care program including:

- Actuarially-sound capitation rates for the Temporary Assistance For Needy Families (TANF), Supplemental Security Income (SSI), Title XXI, Kids, Adults and Pregnant Women
- Actuarially-sound capitation rates for nursing facility/HCBS populations receiving Medicaid long-term services and supports (LTSS) including Medicare/Medicaid dual eligible populations
- Supplemental maternity care payment
- Actuarially-sound capitation rates for pre-ACA and post-ACA new adult expansion populations
- Numerous Centers for Medicare & Medicaid Services (CMS) actuarial rate certification reports
- Rate development presentations to the managed care organizations (MCOs) and financial rate negotiation support to the State
- Calculation of risk sharing/risk pool premiums for targeted issues
- Diagnostic-based risk adjustment
- MCO rate presentations and rate negotiations
- PACE UPLs/AOPs

Reference/State Narrative #1:

State of Delaware
Department of Health and Social Services
Division of Medicaid & Medical Assistance

Early on, Mercer's rate-setting methodology used fee-for-service (FFS), encounter data and/or financial data for the base of the rate development. Today our rate setting is based on MCO encounter data and audited financial data unless a program change requires the use of FFS data. Our process includes many steps such as data modeling, policy/program change adjustments, trend analyses, managed care administration/gain and risk adjustment. Current or recent policy changes accounted for the Health Insurance Providers Fee (HIPF) payment, behavioral health services carve-in, pharmacy carve-in, nursing facility mandated fee changes, MLTSS expansion, ACA Section 1202 physician fee increase, and alternative benefit package (ABP) for adult expansion populations. Mercer also analyzes family planning expenses, in lieu of services for Institutions for Mental Disease (IMDs), ACA Section 4106 preventive services, institutional FFS Upper Payment Limit (UPL) issues, and hospital provider tax strategic advice. Mercer's actuaries, pharmacists, data consultants, and Medicaid/health policy experts collaborate to offer the State trusted advice and options.

Value-based Purchasing (VBP) Strategies

As part of the 2017 rate-development process, Mercer introduced actuarial/clinical rate adjustments for ambulatory care sensitive conditions around potentially preventable inpatient hospitalization, low-acuity emergency room use, C-section percentages, and pharmacy efficiency/drug management. Mercer intends to expand on these and introduce an evaluation of hospital readmissions and enhanced pharmacy analyses. For the 2018 contract year, Mercer wrote new MCO contract language for VBP and quality metrics with related financial penalties for poor performance. The MCOs are now contractually required to meet spending thresholds on amount of medical/services paid to providers through VBP purchasing strategies such as shared savings and total cost of care provider contracting. Under a separate Delaware contract with the Delaware Health Care Commission, Mercer is supporting the State with payment reform, stakeholder engagement, quality metrics reporting (i.e., Common Scorecard) and development of Statewide spending and quality benchmarks.

Risk Adjustment and Risk Mitigation

When Mercer began working with Delaware the State did not have any risk-adjustment model in use. Together with the State staff, Mercer researched different models and then developed and successfully implemented diagnostic-based risk-adjustment into the capitated MCO program using the CDPS+Rx risk-adjustment model. This required numerous policy and strategic planning discussions with State staff and meetings with the MCOs to explain the process and related policies including some mock/trial runs. In support of the risk-adjustment process, Mercer collects and processes person-level encounter, FFS and MCO encounter data and eligibility data provided by the State. MCO risk factors are computed on a semi-annual basis using 12-month study period with member assignment based on a current MCO enrollment snapshot file. In 2015 and in 2018, the risk-adjustment process was temporarily revised to do more frequent runs to account for potential population changes among the MCOs due to reprocurement/change in MCOs. Mercer has explored developing Delaware-specific cost weight instead of using the CDPS model's national weights, but relatively small population size/data credibility concerns have been a concern to make this change/shift.

In addition to diagnostic-based risk adjustment, Mercer worked with the State to implement a pharmacy risk sharing arrangement related to Hepatitis C, cystic fibrosis and hemophiliac drug treatments, a high-dollar under age risk pool arrangement (no longer in use), a risk corridor based around a MLR as well as an evaluation of differences in the MCOs' provider network composition that contribute to differences in risk not otherwise accounted for in other adjustments.

Reference/State Narrative #1:

State of Delaware
Department of Health and Social Services
Division of Medicaid & Medical Assistance

Financial Reporting and Monitoring

To improve the State's financial monitoring and oversight of the MCO program, Mercer created, implemented and annually updates a new, comprehensive financial reporting and monitoring process including developing annual and quarterly financial reporting requirements (e.g., profit/loss schedules, balance sheet, income statement, utilization reports). Mercer's CPAs/accountants/analysts review the MCO financial reports and provide written questions and comments to the State which are subsequently sent to each MCO. This has greatly improved the State's monitoring ability of the MCOs' operations, expenses and fiscal condition. Mercer has conducted an on-site financial review of one of the MCOs to evaluate the MCO's coordination of benefit/cost avoid processes, corporate administrative agreements and vendor overpayments. Financial monitoring is ongoing with the refinement of a financial monitoring dashboard and targeted training(s) of the MCOs.

Managed Long-Term Services and Supports (MLTSS) Expansion and PACE

As a precursor to the State's MLTSS, Mercer produced a written research report on options to improve community-based Medicaid LTSS, presented our report at a Governor's stakeholder meeting and discussed strategy options with State staff. Mercer was involved at the initial stages and provided technical assistance in the program redesign, development of 1115 waiver amendment and negotiations with CMS. Mercer updated the MCO contract to incorporate the new LTSS design features/requirements, developed the actuarial rates inclusive of LTSS for the target populations (including a case mix adjustment to address potential differences between the populations enrolled in the two MCOs), developed FFS databook and provided other policy/operations support. Mercer also facilitated the consensus review process for State staff to evaluate RFP responses and actively participated with State staff in designing the MCO readiness review process and conducting the reviews. The MLTSS expansion successfully implemented April 1, 2012.

The State is also implement its first PACE site in 2013 and Mercer is supporting the PACE program with development of the PACE UPLs/Amounts Otherwise Paid (AOPs) and related technical support on PACE capitation rates. Mercer has also developed FFS HCBS provider services fees/rates for both the adult behavioral health and children's behavioral health programs.

Informatics/Data Management Support

As part of this engagement, Mercer collects and validates the eligibility, enrollment, claims and encounter data for the State's Medicaid/CHIP program. To the extent that issues are identified, Mercer works directly with the State's data vendor to resolve identified issues and with the plans, where necessary. Our team also provides information systems capabilities support as part of our separate EQRO contract. Mercer is also helping Delaware in its transition to a MMIS system and evaluating data credibility of new files being provided by the State's MMIS vendor.

Pharmacy Consulting

Effective January 1, 2015, the State carved in all outpatient pharmacy services to the MCOs. Working together with the State's Chief Pharmacist, Mercer developed actuarial rate adjustments along with modified financial reports to monitor the MCOs' management of the pharmacy benefit. Mercer is now undertaking enhanced data analytics to evaluate the MCOs' management and pricing of pharmacy services through a series of proprietary pharmacy efficiency analyses that analyze such thing as generic drug best pricing and appropriate drug use.

Reference/State Narrative #1:

State of Delaware
Department of Health and Social Services
Division of Medicaid & Medical Assistance

Policy/Operations/Waiver Support

An integral part of Mercer's support of the State is ongoing advice and evaluation of Medicaid/CHIP policy issues including:

- Renewal of the State's exiting 1115 waiver in addition to amendments for new populations added to managed care (e.g., LTSS) including strategic planning, CMS negotiations, budget neutrality and stakeholder support
- 1115 amendment for Substance Use Disorder (1115 SUD waiver amendment)
- Implemetnation of a 1915i-like community based program for the serious and persistently mentally ill via an 1115 waiver amendment (e.g., PROMISE program)
- Mercer facilitated the consensus review process for State staff to evaluate RFP responses and actively participated with State staff in designing the MCO readiness review process and conducting the reviews for the MLTSS expansion in 2012
- Assistance with Delaware in compliance with a Department of Justice Olmstead settlement
- Technical support on Medicaid claims rules and regulations for BH/substance abuse (SA) services provided to Medicaid-eligible populations
- Interpretation and summaries of the ACA as it applies to Delaware's programs and new options/alternatives/mandates in the ACA
- Technical support and comprehensive compliance support with the Medicaid/CHIP Managed Care Final Rule including a multi-track team to ensure State compliance with all Final Rule provisions
- Technical support and comprehensive compliance support with the HCBS Settings Final Rule including helping Delaware become one of a small number of states with CMS-approved transition plans
- Ad hoc questions related to non-emergent medical transportation (NEMT) services, ACA expansion populations, 1115 waivers, 1915c waivers, value-based purchasing options and summaries of other state Medicaid initiatives
- Research and evaluation of flexiblity to use managed care in lieu of services flexibility for value-added services

Clinical/Quality Consulting

Mercer provides consulting assistance related to clinical/quality related issues including the design and implementation of value based purchasing requirements in the current and upcoming managed care contracts, supporting the rate development through the use of clinical efficiency opportunities (e.g., unnecessary ED use) within the managed care programs to hold the MCOs to a higher pertormance standard. Through the identification of ambulatory-care sensitive conditions present in the MCO encounter data, we have been able to identify avoidable/unnecessary expenditures and reduce the capitation rates accordingly through clinical/actuarial adjustments for:

- Low-acuity/non-emergency ED use
- Medically unjustifiable/unnecessary C-section deliveries
- Potentially preventable hospital inpatient admissions
- Potentially preventable hospital readmissions

Behavioral Health/Substance Abuse Services

Mercer is working with the State on methods available to refine the way in which adult behavioral health/substance abuse services are delivered and financed by the Division of Substance Abuse and Mental Health (DSAMH, sister agency to DMMA). Mercer worked with DSAMH to develop and implement a new payment methodology and provider fees for Assertive

Reference/State Narrative #1:

State of Delaware
Department of Health and Social Services
Division of Medicaid & Medical Assistance

Community Treatment (ACT) services and Group Home services along with a 1915(i)-like community-based waiver amendment to the State's 1115 waiver targeted at adults with serious and persistent mental illness in response to an Olmstead suit brought by the Federal Department of Justice (DOJ). Mercer continues to collaborate with DSAMH on strategic planning and program design options for the delivery and payment of BH and substance use disorder (SUD) services including RFP development/vendor procurement support.

Project Deliverables

- Actuary of record
- Acute and LTSS actuarial rate development
- CMS actuarial rate certifications
- MCO financial reporting and monitoring system
- Clinical-based rate-setting efficiency adjustments
- Financial on-site review of MCO operations MLTSS research and program design
- Risk sharing/risk pool premiums/calculations
- CDPS+Rx risk-adjustment design, implementation and ongoing support
- PACE UPLs/AOPs
- VBP strategies
- Medical cost trend analyses
- Encounter data analyses and process evaluation
- Medicaid Managed Care Final Rule workplans
- Databooks
- BH/SA reimbursement and service delivery options
- ACT payment methodology and provider FFS fees
- Health policy summaries
- Advice on Medicaid claiming
- FFS provider fees for select BH services and DD services
- 1115 waiver concept paper and renewal support
- Program/policy changes
- 1115 waiver budget neutrality calculations
- Assessment of compliance with CMS rate-setting checklist
- MCO rate presentations
- HIPF calculations
- MCO rate negotiation support
- Other presentations/meeting facilitation
- NEMT procurement support, databook and PMPM review
- Mental Health Parity consultation
- MCO readiness reviews

Similarities Between Delaware Experience and Nebraska RFP 5838 Z1

Delaware has had risk-based managed care since the mid-1990s via an 1115 waiver, but LTSS, duals and institutional/HCBS individuals were originally excluded from the program. The State also operated multiple 1915(c) HCBS waivers for the Elderly/Disabled, HIV/AIDS, Traumatic Brain Injury (TBI) and intellectually/developmentally disabled (I/DD). Delaware's Medicaid population is approximately 240,000 individuals and total Medicaid program expenditures are approaching $2 billion. Like Nebraska, the vast majority of Medicaid/CHIP members are also mandatorily enrolled in two comprehensive, full-risk MCOs. Delaware's LTSS managed care expansion went live on April 1, 2012 under the program name Diamond State Health Plan Plus (DSHP Plus) which added long-stay nursing facility and elderly/physically disabled HCBS populations and services. Delaware also has one PACE organization in the urban area of New Castle County, but with plan to open an additional site in late 2018 or 2019. The pharmacy benefit was added to the MCO program in 2015 and in 2016 the MCOs were contractually precluded from collecting rebates so that the State could collect all Federal and state supplemental rebates on MCO drug spend; the MCOs are also required to follow Delaware's PDL (same as Nebraska). Discussions are underway to migrate the I/DD HCBS population into risk-based managed care, but continue to have the HCB waiver services paid FFS as Nebraska does.

Reference/State Narrative #1: State of Delaware Department of Health and Social Services Division of Medicaid & Medical Assistance
Staff Assigned to this Nebraska Proposal Who Worked on this Project and their Role on this Project • Fred Gibison Jr – Client leader/account manager • Jay Hall – Rate setting, project leadership and data analysis • Nicole Kaufman, JD, LL.M – CMS strategy/managed care final rule/policy subject matter expert • Kate Lyon – Behavioral/mental health consulting subject matter expert • Cheryl Howard – Encounter data/information systems consulting

Reference/State Narrative #2: State of Missouri

Reference/State Narrative #2: State of Missouri Department of Social Services – MO HealthNet Division (MHD) Department of Mental Health – Division of Developmental Disabilities (DDD)	
Reference Contact Person/Organization Address:	Valerie Huhn Director, DDD – Department of Mental Health (Former Interim Deputy Director of Finance, MHD) 1706 E. Elm Street Jefferson City, MO 65102 +1 573 751 8676 valerie.huhn@dmh.mo.gov
Type of Contract/Nature of Work:	Actuarial, Financial, Pharmacy and Policy Consulting Services
Time Period/Contract Duration:	1993 through Present
Contractor Status (Prime or Subcontractor):	Prime
Major Project Completion Dates/Timeframes:	• MCO capitation rates are on a state fiscal year rating period with rates normally completed in March prior to effective date. • Risk adjustment is normally applied on a quarterly basis with enrollment updates occurring quarterly and experience study periods occurring semi-annually. Missouri uses the CDPS+Rx risk-adjustment model. • Complete sets of detailed person-level eligibility, encounter claims and FFS claims data are currently received monthly and reviewed and summarized quarterly to support project work and encounter data validation/improvement activities. • Financial monitoring is done on a semi-annual basis coinciding with when financial reports are due from the MCOs. • Waiver work is completed according to the State's 2-year waiver cycle and is amended as needed. Current 1915(b) waiver expires June 30, 2018. The completed renewal application is submitted and is pending CMS approval. • Pharmacy pricing is completed on a quarterly basis for the State

Reference/State Narrative #2: State of Missouri Department of Social Services – MO HealthNet Division (MHD) Department of Mental Health – Division of Developmental Disabilities (DDD)	
	Maximum Allowable Cost schedule, specialty, and 340(b) pricing. Additionally, pharmacy claims are analyzed on a quarterly basis to provide program monitoring support and estimate achieved savings related to quality and cost initiatives. • Rate modeling work is ongoing to develop rate methodologies and FFS rates for residential and non-residential HCB services. Work is occurring in phases with residential services complete along with several other non-residential services. Work is wrapping up on transportation services and will move to case management services in the next phase. • Ad hoc consulting support on Medicaid/CHIP policy matters; program changes; program authority options; provider reimbursement; MCO financial, operational and clinical reviews; BH/SUD technical support; occur as needed throughout a given year.

Contractor Responsibilities

Mercer was the successful bidder in 2016 to continue to retain the Actuarial and Pharmacy Consulting Contract with the State of Missouri, Department of Social Services and Department of Mental Health. Services include or have included:

Actuarial Rate Setting and Risk Adjustment

Mercer has worked with Missouri to design, implement, and monitor its managed care programs for different regions across the State. Historically, the managed care program covered three geographic regions and initially covered Temporary Assistance for Needy Families (TANF), pregnant mothers, and foster care children. Mercer works with the State on rate setting for this program, including geographic expansions of the managed care regions and coverage expansions to additional children through CHIP. Effective May 1, 2017, the managed care program expanded statewide for these populations. Mercer supports the State in managing their State Plan, 1915(b) and 1115 waiver authorities for their various Medicaid programs. Mercer's actuarial support for the managed care program includes: developing actuarially-sound Medicaid/CHIP capitation rates; identifying family planning expenses for enhanced match; analyzing and evaluating in lieu of services for Institutions for Mental Disease and other services; assisting with templates for directed payment approvals; calculating HIPF adjustments; budget projections; supporting 1915(b) waiver renewals, amendments and cost-effectiveness analyses; providing provider/premium tax strategic advice; implementing diagnostic-based risk-adjustment into the capitated MCO program using the CDPS+Rx risk-adjustment model; and advising and providing analyses related to provider reimbursement reform initiatives.

Mercer works with the State to produce the annual evaluation report for CHIP. Mercer collects and analyzes the State's eligibility, enrollment, encounter and financial data, performs literature searches, produces year-to-year comparisons of performance indicators, and drafts the report. Mercer also supported the State's 1115 application for behavioral health crisis services, drafting budget neutrality documentation and conducting budget neutrality modeling. Additionally, Mercer works with the State to provide actuarial consulting on a variety of other MO HealthNet programs such as the Non-emergency Medical Transportation Program, the Certified Community Behavioral Health Clinics program, and the Health Home programs.

Mercer has developed fee-for-service upper payment limits (UPLs) for the Program for the All-inclusive Care of the Elderly (PACE) program; however, the State no longer has a PACE

Reference/State Narrative #2:

State of Missouri
Department of Social Services – MO HealthNet Division (MHD)
Department of Mental Health – Division of Developmental Disabilities (DDD)

program.

Financial Data Reporting and Monitoring

To improve the State's financial monitoring and oversight of the MCO program, Mercer created and continues to maintain the MCO financial reporting tool. Mercer accountants and financial staff review the semi-annual financial reports, documenting questions/concerns that each MCO must respond to in writing and providing technical assistance on all matters related to financial reporting and monitoring. Mercer also developed the minimum loss ratio reporting requirements for compliance with the Medicaid Managed Care Final Rule. Mercer recently conducted a financial desk-review of the administrative reporting of the MCOs in the financial reporting tool. This review included a reconciliation to DOI filings and general ledgers, as well as, a review of management and related party agreements. The findings of this review informed the rate-setting process in determining the cost appropriate to include in administrative costs and costs that are not allowed to be included in capitation rate development.

Encounter Data Reporting and Monitoring

To support the data analyses provided for the actuarial services and monitor the performance of the managed care program and MCOs, Mercer collects and validates the eligibility, enrollment, claims and encounter data for the Medicaid/CHIP populations. Mercer provides the State with quarterly reporting that summarizes experience by health plan, region, and category of service that is compared to regional averages. Additionally on a semi-annual basis, the encounter data is compared to the financial data. Mercer works closely with the State to facilitate an Encounter Data Workgroup comprised of representatives from the State, the MCOs, and Mercer to identify issues, present options for resolution, implement solutions, and monitor data improvements are occurring.

Clinical Quality

To encourage efficient and effective health care, Mercer incorporates managed care efficiency adjustments into the capitation rates annually to remove inefficiencies identified through encounter data that improves health outcomes and reduces costs through the capitation payments. Adjustments are made for non-emergent emergency room visits and potentially preventable inpatient hospital admissions. To further help the State address health outcomes and improve member services through the MCOs, Mercer has conducted health plan efficiency reviews to provide information on MCO performance in operations and clinical policies and procedures. These reviews provide MCO-specific information on areas of strength and recommendations for best practices where warranted. Mercer has also conducted similar reviews of the MCOs' contracted behavioral health vendors. As part of this process, Mercer has trained State staff to conduct these reviews to allow the State to conduct reviews in the future and utilize Mercer for review and recommendations, as needed. Mercer is also supporting the State in the redesign of the managed care performance withhold program where a portion of the capitation rates are at risk for achieving certain performance metrics.

Pharmacy Benefit Management

The pharmacy program has seen many changes over time in the State's Medicaid program. When managed care was first implemented in the State, the pharmacy services were included in managed care as the responsibility of the MCOs. Since that time, the MCOs had the option of covering pharmacy services and, currently, the pharmacy services are carved out of the managed care program and administered by the State in the FFS program. Mercer has conducted analyses and outlined the benefits and disadvantages of carving pharmacy services into the managed care program or retaining these services in FFS which includes consideration for the State pharmacy

Reference/State Narrative #2:

State of Missouri
Department of Social Services – MO HealthNet Division (MHD)
Department of Mental Health – Division of Developmental Disabilities (DDD)

provider tax. Mercer also works with the State and various stakeholders to strategize about different components of pharmacy management programs and assesses the advantages and disadvantages of implementing these components into the fee-for-service (FFS) pharmacy program.

Mercer maintains the State Maximum Allowable Cost (SMAC) schedule for pharmacy reimbursement including a cost schedule for select specialty drugs and hemophilia products. Additionally, Mercer provides quarterly pharmacy program analyses that includes information on SMAC savings and trends, generic compliance and comparisons to Federal Upper Limit and the National Average Drug Acquisition Cost. Mercer has also supported the State to develop reimbursement options and a State Plan Amendment for compliance with the Outpatient Pharmacy Final Rule.

Home- and Community-Based Services (HCBS)

To support the State in its efforts to comply with the HCBS settings rule, Mercer has developed rate methodologies and residential reimbursement rates for group homes and individualized supported living and fee schedule rates for community services such as personal assistant services, habilitation services, employment services and support broker services. In the next phase of services, Mercer will provide similar rate services for transportation and case management services.

Other Program and Policy Support

To support the operational efforts of the State and implement the policies and procedures in managed care, Mercer supports the State to interpret and implement Federal and state requirements. Mercer provides State training and consulting regarding the comprehensive requirements of the Medicaid Managed Care Final Rule and supports the State in developing and revising MCO contract language for compliance with the rule. Mercer provides procurement support for the MCO contracts as well as the NEMT program including: drafting of RFP language, developing evaluation criteria, responding to bidder questions and providing input on price evaluation. Mercer has worked with the State to provide policy and actuarial consulting related to the potential Medicaid expansion population as defined in the Affordable Care Act (ACA). Assistance has included alternative benefit package design, financial cost estimates for the expansion population under various delivery options and Federal authority options for streamlined efficiency that best meets the needs of the State.

Project Deliverables

- Actuary of Record
- 1115 waiver design, evaluation reports and budget neutrality calculations
- 1915(b) waiver design and cost-effectiveness analyses
- Auto assignment methodologies
- Budget projections
- Clinical policy review and assistance
- CMS rate certifications
- CMS negotiations
- Encounter data analyses and process evaluation
- Federal rule interpretation and implementation
- Financial reporting and monitoring
- HCBS fee schedules
- HCBS transition plan
- Managed care capitation rates
- MCO clinical, operational and financial reviews
- NEMT rates and strategy
- PACE rates and strategy
- Performance program development and support
- Pharmacy policies and program analyses
- Policy development
- Procurement support
- Program design and monitoring
- Risk adjustment/risk pools
- Staff training
- Stakeholder meetings

Reference/State Narrative #2: State of Missouri Department of Social Services – MO HealthNet Division (MHD) Department of Mental Health – Division of Developmental Disabilities (DDD)
Brief Description of Similarities Between Missouri Experience and Nebraska RFP 5838 Z1 Missouri has had risk-based managed care since the mid-1990s and has since expanded its managed care program to cover additional populations through CHIP and expansion statewide. The State's managed care population is approximately 717,000 individuals with total spend for the program of nearly $2.4 billion with the May 2017 statewide expansion. Although the populations in the Missouri managed care program are more limited than in Nebraska, it is mainly the physical health services and some behavioral services that are covered through managed care. The data sources and rate development process for these services will be similar to that of Nebraska. Not unlike Nebraska with the expansion of managed care, the State is heightening its focus on program monitoring, quality, and accountability. In additional to similar actuarial rate development, the work being done with Missouri related to financial reporting and monitoring; encounter data validation and process evaluation; managed care efficiency adjustments; MCO clinical, operational and financial reviews; performance metrics; evaluation of various delivery systems; and provider reimbursement transformation are all very similar to the requirements and optional special projects outlined in Nebraska's RFP.
Staff Assigned to this Nebraska Proposal Who Worked on this Project and their Role on this Project • Lisa deVries, RPh – Pharmacy benefit subject matter expert • Nicole Kaufman, JD, LL.M – Medicaid policy/waivers subject matter expert • Shawna Kittridge, RPh, MHS – Pharmacy benefit subject matter expert • Stefanie Kurlanzik, JD – Medicaid policy subject matter expert • Jane Szymanski – Managed care data/systems consultant

Reference/State Narrative #3: State of New Mexico

Reference/State Narrative #3: State of New Mexico Human Services Department Medical Assistance Division	
Reference Contact Person/Organization Address:	Nancy Smith-Leslie Director 2025 South Pacheco Santa Fe, NM +1 505 827 7704 nancy.smith-leslie@state.nm.us
Type of Contract/Nature of Work:	Actuarial, Financial, and Policy/Operations Consulting Services
Time Period/Contract Duration:	1997 through Present
Contractor Status (Prime or Subcontractor):	Prime
Major Related Project Completion Dates/Timeframes:	• MCO capitation rates (acute, behavioral health, and long-term services and supports) including risk-adjustment on a calendar year basis. Work is typically completed in the fall prior to the effective date for the capitation rates. New

Reference/State Narrative #3: State of New Mexico Human Services Department Medical Assistance Division	
	Mexico uses the Medicaid Rx risk-adjustment model. • MCO capitation rates for mid-year rate changes. Work is typically completed between April-May, prior to the July 1st effective date. • Receipt and analysis of person level eligibility and encounter data to support MCO capitation rates, financial analysis, policy / operations projects and dashboard reporting (public meetings, 1115 quarterly and annual reports, ad hoc reporting). Data is received immediately following the close of each calendar quarter. • Financial analysis to support reconciliations and risk corridors. Analysis is performed twice per calendar year for interim and final calculations. • Analysis and evaluation of MCO financial data submissions. Performed quarterly after receipt of quarterly data. • Evaluation of existing 1115 waiver budget neutrality. Performed quarterly. • Assisted the state develop 1115 renewal waiver concept paper, facilitated public stakeholder meetings for 1115 renewal waiver. Work performed between October 2016 and December 2017. • Developed 1115 Renewal Waiver application including budget neutrality. Work performed between May 2017 and December 2017. • Assisted the state with MCO procurement including readiness review activities. Work initiated in May 2017 through present. • Assisted the state meet compliance with Mental Health Parity requirements for managed care and FFS. Work performed between January 2017 and December 2017.

Contractor Responsibilities

Mercer has worked for the State of New Mexico, Human Services Department (HSD) on several projects for many years. Services include or have included:

Actuarial/Rate Setting/Financial

Mercer has been the actuary for New Mexico's Medicaid program since 1998. Our scope of work includes: establishing the rate-setting methodology, developing capitation rates including risk-adjustment and actuarial certifications to the Center for Medicare & Medicaid Services (CMS) for each Centennial Care population; identifying over numerous opportunities for cost efficiencies in the capitation rates; developing the impact of program changes including provider reimbursement and benefits, leading MCO rate discussions; developing and negotiating the current and renewal Section 1115 Wavier budget neutrality calculations; assist in the financial reconciliation and risk corridor evaluation; assist in ongoing reporting and monitoring of the MCOs, support HSD in communications and correspondence with CMS, legislative staff and other stakeholders regarding program development, rate setting and the cost impact of program design; develop PACE upper payment limits and assist the state evaluate the PACE organization's financial performance.

Reference/State Narrative #3:

State of New Mexico
Human Services Department
Medical Assistance Division

Informatics/Encounter Data Management Support

To support the actuarial, financial, policy / operations and clinical / quality assistance we receive quarterly data eligibility and encounter data from the states data vendor. Mercer is responsible for loaded, data validation, establishing category of service assignment, retroactive period assignment and is then used to support the delivery of quarterly performance measures (HEDIS), quarterly dashboard reporting, rate setting, financial reconciliations, and ad hoc data requests as necessary.

Policy/Operations/Waiver Support

Mercer has assisted HSD develop and implement numerous programs since 1997 including the initial implementation of its Salud! physical health, coordination of long term services and supports, state coverage insurance (low income adult expansion pre 2014) managed care programs, assisted HSD design, negotiate and implement its current Centennial Care 1115 Waiver and most recently their 1115 renewal Waiver; supported HSD develop managed care request for proposals processes in 2012 and 2017, managed care contract development including amendments, readiness reviews for the current managed care contractors and currently engaged in readiness for upcoming managed care contractors; supporting HSD in managed care program monitoring and oversight; supported HSD with data analysis including provider reimbursement studies, population health outcome studies, data evaluation, analytics and reporting; and support HSD implement Federal policy.

Clinical/Quality

Mercer provides consulting assistance related to clinical/quality related issues including the design and implementation of value based purchasing requirements in the current and upcoming managed care contracts, implementation of health homes in 2015 including expansion in 2018, supported the rate development through the use of clinical efficiency opportunities within the managed care programs and assisted HSD analyze and meet compliance requirements for Mental Health Parity in both managed care and fee-for-service programs.

Pharmacy Consulting

Mercer worked with the State to design a specialty pharmacy Maximum Allowable Cost program, ongoing support for rate-setting pharmacy efficiency adjustments and repricing claims using NADAC pricing.

Project Deliverables

- Actuary of Record
- Acute, behavioral health, long-term services and supports and Medicaid Expansion rate development
- Risk-adjustment (MedicaidRx)
- Lead MCO rate discussions
- CMS actuarial certifications
- MCO financial reporting and monitoring
- MLR and Underwriting gain limitation analysis
- Managed care procurement
- MCO readiness reviews
- Ongoing MCO monitoring
- Analysis to support enhanced Federal claiming
- 1115 Waiver application development, concept paper, facilitate public input and stakeholder meetings
- Mental Health Parity
- Value-based purchasing approach and evaluation
- Develop quarterly HEDIS performance measures
- External reporting (dashboards, public meetings and Legislative Finance Committee)
- Assist develop state plan amendments for Health Home implementation

Reference/State Narrative #3:

State of New Mexico
Human Services Department
Medical Assistance Division

- Financial reconciliations and risk corridor evaluations
- HIPF calculations
- Managed care contract and amendment development
- HCBS transition plan
- Design quarterly managed care report templates and instructions

Similarities Between New Mexico Experience and Nebraska LTSS Redesign

Mercer provided significant assistance to the State in 2008 when the state implemented their mandatory long-term services and supports managed care program. Beginning in 2011, Mercer assisted the state design their Centennial Care program, a fully integrated managed care program including long-term services and supports as well as traditional acute and behavioral health program. Additional details specific to the experience for the Nebraska LTSS redesign is noted below:

Centennial Care LTSS Redesign

In 2011, Mercer was contracted to assist with the design, development, implementation, and ongoing operations of the Centennial Care program (a fully-integrated Medicaid managed long term services and supports program operating under an 1115 waiver). Centennial Care was designed to provide members with the right care, in the right place at the right time. A cornerstone achievement of Centennial Care is that it provides access to home and community based services (referred to as the community benefit) for any member who meets a nursing facility level of care without the need for a waiver slot. Each phase of the project (design, development, implementation, etc.) required different resources, had specific requirements, and was subject to different risks, dependencies, and constraints.

During the initial phase, Mercer provided policy guidance regarding development of the concept and program design to meet the State's objectives, facilitated forums with stakeholders for feedback on the concept, including an initiative to improve the public meeting process. Mercer assisted the state develop the 1115 waiver application and standard terms and conditions including budget neutrality calculations. Mercer also provided technical assistance in state negotiations with CMS. Program design and development also included: facilitating combined stakeholder and staff workgroups for program design; developing the RFP for MCO selection; developing the MCO procurement; facilitating the consensus RFP evaluation process; developing report templates; and designing the readiness review process and readiness review materials and working with staff to conduct on-site and desk reviews. Regarding implementation, Mercer was actively involved in developing the process, tools, and reports for implementation, including heavy on-site presence the first three months to support initial implementation. Ongoing monitoring has included project management; review and analysis of MCO reports and ongoing technical assistance and support on various program issues.

Staff Assigned to this Nebraska Proposal Who Worked on this Project and their Role on this Project

- Nicole Kaufman, JD, LL.M – MCO contract language, MCO procurement assistance and CMS strategy and policy subject matter expert
- Brandon Odell, FSA, MAAA – Capitation rate development; financial reconciliations and risk corridor evaluation, and enhanced Federal claiming for family planning services
- Kate Lyon, PhD – Mental health parity compliance support
- Lisa deVries, RPh – Pharmacy subject matter expert
- Shawna Kittridge, RPh, MHS – Pharmacy subject matter expert
- Cheryl Howard – Managed care report development

You will note there is some overlap between our proposed Nebraska team and members that have or currently consult on the projects in these other three state references. It is Mercer's standard practice that our core actuarial team members are typically assigned to only one or two state clients, maybe on some occasions three if the work load is manageable. This helps ensure our core actuarial team can be responsive to your needs throughout the year, yet bring experiences and knowledge from other states into Nebraska. Other actuarial firms may have only a limited number of staff so the same actuarial resources are spread across different projects at the same time which, in our opinion, can cause too many distractions, time crunches, and rushed work. We prefer to have our core team focused on fewer clients and let our technical support staff/SMEs "float" between client teams to provide assistance when needed on specific issues such as our pharmacists providing input on pharmacy trends to all of our state clients.

We believe the combination of a semi-dedicated core Mercer actuarial team and a support staff of Mercer SMEs offers Nebraska a wonderful set of talent, experience, and assistance over the course of this engagement. Moreover, if for example a special project arises that requires a longer-term commitment of our support staff/SMEs (e.g., CMS comes out with a new Medicaid Managed Care Final Rule that needs to be operationalized, you want to develop a standardized LTSS assessment tool, etc.) we will evaluate our resource availability and may temporarily assign one or more of the 270+ professional Mercer staff to focus more on your special projects.

Experience with Risk-Adjusted Rate-Setting Techniques in General and Specifically with Various Risk Adjustment Models

Mercer is a national leader in developing and implementing risk-adjustment payment strategies. As noted previously in our response, in order to meet the risk-adjustment needs of our clients, we have established a team consisting of actuaries, statisticians, consultants, clinicians, and information technology specialists who are dedicated to supporting Mercer's risk assessment engagements. Several of our consultants speak regularly at national risk adjustment conferences and other stakeholder events that focus on emerging risk measurement tools.

As the table below illustrates, we are experienced with all the major risk adjustment groupers on the market today, including ACGs, CDPS and CDPS+Rx, CRGs, DCGs, ETG/ERG, Medicaid Rx, and DRG.

Risk Adjustment Model	Description	Years of Experience	Clients
ACGs	Uses diagnosis (and pharmacy where applicable) codes, as well as age/gender to classify members into medical condition categories; categories are mutually exclusive. Model includes many clinical applications.	10+ Years	(Total 8 states) Alabama, Connecticut, Delaware, Louisiana, Maryland, Minnesota, New York, North Carolina, and Commercial Carriers

Risk Adjustment Model	Description	Years of Experience	Clients
CDPS (formerly called DPS), including CDPS+Rx	Uses diagnosis (and pharmacy where applicable) codes, as well as age/gender to classify members into medical condition categories; categories are additive. This model was developed specifically for the Medicaid population.	15+ Years	(Total 14 states) Arizona, Colorado, Delaware, District of Columbia, Florida, Kansas, Missouri, New Jersey, New York, Ohio, Oklahoma, Oregon, Pennsylvania, and Texas
CRGs	Uses diagnoses, prescription drug use, and a set of procedure codes to generate a risk score. Categories are mutually exclusive.	5+ Years	(Total 2 states) New York and Pennsylvania
DCGs and HCC	Uses diagnosis codes along with age/gender to determine the medical condition category; categories are additive. A version of the model incorporates prescription drug usage in addition to diagnosis codes for disease classification.	10+ Years	(Total 1 state) Massachusetts, Washington Basic Health Plan, CMS, and Commercial Carriers
ETG	A grouping mechanism for medical and pharmacy information; classification based on entire episode of care. Commonly used for clinical-based applications.	5+ Years	(Total 4 states) Idaho, Massachusetts, North Carolina, Pennsylvania, and Commercial Carriers
Pharmacy-based Models (Disease State Analysis and Medicaid Rx)	Assigns members to medical condition category based on prescription drug use and age/gender; categories are additive.	10+ Years	(Total 12 states) California, Connecticut, Delaware, District of Columbia, Florida, Georgia, Maine, Missouri, New Jersey, New Mexico, New York, Pennsylvania, and Spain

We are regularly called upon to help our clients and their partners understand the pros and cons of risk adjustment. For example, in 2018, on behalf of Delaware's Medicaid program, Mercer completed a webinar training session with a new MCO under contract with the state on the topic of diagnostic-based risk adjustment. This training session walked the MCO's staff through the process Mercer uses to collect data, validate data, produce feedback files for the MCO to review itself, computation of member risk scores, member assignment/attribution, and determination of final health plan risk score. This training involved both technical elements and educational elements. This clear, inclusive process is the crux of our ability to help our clients make informed decisions about risk adjustment.

While our most extensive experience is with the CDPS/CDPS+Rx model as indicated by the letter of recommendation included in our response to SOW 1 from the CDPS model developer Todd Gilmer, PhD, Mercer does not corporately

prefer one risk assessment product over another. Instead, we ensure our clients have unbiased access to the latest risk-adjustment concepts, policies, models, and applications and then work collaboratively with state staff to help them understand which model best meets its own unique needs. Several states originally selected the CDPS model because it was free unlike some other risk-adjustment models that were on the market at the time which had a fee/cost to use.

When assisting states, Mercer frequently engages directly with the model developers of the chosen product to ensure we are using the models correctly. Once we have helped a client select a model, our consultants are adept at providing as much or as little technical assistance throughout the implementation phase as is desired. Generally speaking, the following steps are common to the implementation phase of risk adjustment regardless of the model selected:

- Decide between available national cost weights and state-specific Medicaid cost weights.
- If necessary, develop or update state-specific Medicaid cost weights.
- Collect data and calculate member risk scores for those with sufficient historical experience.
- Calculate raw risk scores by MCO, region, and rate cell, apply assumed risk for unscored members, and adjust to maintain budget neutrality.
- Make any other relevant adjustments and apply final adjusted risk scores to the capitation rates.
- Account for any add-on amounts that are outside the risk-adjustment process.

While model developers often provide national or standard cost weights, states may develop their own set of cost weights based on the experience specific to their managed care program if the data quality supports such an exercise.

We are very familiar with the encounter data nuances and preparation necessary for developing viable model weights and Mercer has developed state-specific cost weights for six Medicaid programs.

Furthermore, due to the long-term nature of several of our relationships with our risk-adjustment clients, evolution in the health care landscape, and the ever-changing goals and needs of our clients, Mercer has successfully assisted numerous states tailor risk-adjustment solutions for specialty populations, such as newborns, individuals with severe BH conditions, and Medicaid expansion eligibility groups.

While members of our core Nebraska actuarial team of Mike Nordstrom, ASA, MAAA, David Quinn, ASA, MAAA, Fred Gibison Jr, MBA, and Jay Hall all have direct hands-on experience with risk-adjustment strategies and processes, **we have included Rob O'Brien, ASA, MAAA to be our RAR leader based on his in-depth experience with risk adjustment.** With over 10 years of Medicaid experience, Rob's primary focuses have been in the areas of risk adjustment and managed care capitation rate setting. He has served in a lead role in the implementation and monitoring for several diagnosis and pharmacy-based risk assessment engagements, including Mercer's current engagements in California, District of Columbia, Pennsylvania, and Virginia. Rob has worked in a lead role in the development of managed care capitation rates for Mercer's current engagement in California, and is a co-certifying actuary for capitation rates for this engagement.

Experience Evaluating Plan Encounter Data

As described elsewhere in our response, particularly in SOW 6, we consider data validation and data use a core competency and an integral component of our daily work. Each of our clients, including Delaware, Missouri, and New Mexico, benefit from our expertise with complex data sets. Nebraska will benefit too.

Mercer has many years of hands-on experience in working with data from some of the nation's largest state programs (e.g., California, New Jersey, New York, and Pennsylvania, among others). In the past, Mercer has been engaged as the actual contracted encounter data vendor for three separate state Medicaid agencies: Connecticut, the District of Columbia, and Nevada. Additionally, several years ago, Mercer served as the temporary encounter data vendor for Pennsylvania while the Commonwealth converted to a new MMIS platform. By stepping into the role of encounter data vendor, we were able to maintain our key work projects of risk adjustment and actuarial rate setting while Pennsylvania resolved issues with their new MMIS vendor/platform.

In total, **we have received data from more than 25 state agencies and we take in over a billion lines of claims and encounter data annually to support a variety of activities including actuarial rate development, data analytics, fee schedule development, risk adjustment, and financial modeling to support program and policy changes.** To effectively use this array of data, Mercer has invested in commercially recognizable and globally-supported technology and tools to provide for the intake, validation, storage, analysis, and reporting of large claims and encounter data sets. All analysis tools currently used support Mercer's open architecture and are open database connectivity (ODBC) compliant. Mercer's technical platform assures a seamless interface between our systems and those of other parties including:

- State Medicaid agencies
- MCOs
- State fiscal agents

Mercer has a comprehensive, automated and integrated information technology system that is capable of:

- Exchanging files
- Receiving, storing, analysing, and reporting on state data in order to meet project timelines
- Supporting large data sets and exponential growth in a repository over the life of the contract

Our data warehouse utilizes Oracle database management software and our primary data analytic tools include SAS, PLSQL, and Cognos products.

Our data warehouse utilizes Oracle database management software. Our primary tools used to support intake, validation, analysis, and reporting of data are industry standard SAS, PLSQL, and Cognos software products. These tools and our in-house expertise allow us to receive, store, manipulate, and analyze millions of records for detailed claims, encounters, eligibility, enrollment, demographics, provider, level of care assessment, and other types of data. We have over 35 Informatics specialists trained in industry

standard SAS, PLSQL, and Cognos software products that support our data management and analyses.

Our information technology system configuration provides for scalability and expansion of both disk space and processing power, as needed, for data warehousing and other analytics. System backups allow for recoverability and business continuity, enabling stored data to be retrieved within hours. All application servers are connected to each other and to the mass storage device with gigabit fiber network connections.

To ensure the Health Insurance Portability and Accountability Act (HIPAA) privacy and security rules are enforced, Mercer controls, stores and transmits all personal health information (PHI) data as outlined by HIPAA law, industry standards, and Mercer confidentiality policies. Regarding the treatment of PHI, access to PHI is restricted to specific team members only and requires specific permissions to access this information. In addition to restricting access to PHI, all Mercer employees have received mandatory HIPAA training. Mercer also uses HIPAA compliant encryption software for data transfer.

Long-Term Care Managed Care Programs

As noted in the Delaware and New Mexico narratives and elsewhere in our response, we have a wealth of direct, hands-on experience in LTSS managed care programs. **As noted in the Summary Matrix, Mercer has LTSS experience in more than a dozen states including Nebraska.** Our experience is robust and runs the gamut of integrated MCO LTSS programs (e.g., Delaware) to separate MLTSS programs (e.g., Pennsylvania). Moreover, Fred Gibison was the co-director of Mercer's work as subcontractor to Truven with the CMS Medicare-Medicaid Coordination Office when the dual eligible financial alignment demonstrations were just getting started. In this role, Fred helped develop a national model for evaluating the range of PMPM impacts on Medicare and Medicaid spending of different managed care scenarios. Additionally, for the last few years, Mercer has also facilitated different workshops/learning sessions at the annual NASUAD HCBS conference on various LTSS topics including the 2016 conference workshop that Mercer, Nebraska staff, and NASUAD collaborated on related to the LTSS Redesign project work.

To further expand on our work with Delaware's MLTSS expansion, Mercer successfully addressed numerous issues such as:

- Developing new relationships with Delaware's Division of Aging and Physically Disabled which, prior to the MLTSS initiative, were not directly involved in the Medicaid managed care program. Over time we developed a strong relationship and today the former Division leader, Lisa Zimmerman, is now the Delaware Medicaid Agency's Deputy Director and one of the three professional references listed on Fred's resume.

- Working collaboratively with Delaware's leadership to incorporate the existing nursing facility quality assessment fee into the actuarially-sound capitation rate structure.

- Developing blended nursing facility and HCBS population rate cells that provided a distinct financial incentive for the MCOs to serve members in more cost-effective,

community-based settings. Mercer develops a projected weighting mix that puts more emphasis on the community-based population resulting in a more cost-effective capitation rate structure.

- Establishing MCO contract language requiring the MCOs to pay nursing homes at least Medicaid FFS rates to address concern from the Delaware Nursing Home Association over potential payment rate cuts in managed care.

- Working with Delaware staff to determine how patient liability/share of cost would be handled in the capitation rate development process to align with how capitation payments would actually be made—decision was to develop rates gross of patient liability and the state would deduct member-specific liability at the time of capitation payment processing.

- Evaluating risk mitigation options such as high-cost risk pools, risk sharing, or risk corridors to balance MCO concerns over adverse selection versus the state's desire to roll-out full-risk MLTSS.

- Exploring options for risk adjustment the nursing facility/HCBS rate cells given that traditional diagnostic risk-adjustment models do not work well in measuring Medicaid risk for an LTSS population (especially for duals where Medicare is the primary payer for most acute care services). Mercer developed a selection-based risk-adjustment process that adjusts rates based on actual enrollment mix relative to the assumptions inherent in the prospective NF/HCBS capitation rates.

Delaware considers the MLTSS expansion, DSHP Plus as the state refers to it, as a major success. Indeed, prior to April 2012 more people were in institutional settings than community-based settings. Today, community-based enrollment exceeds institutional placements which were one of the original goals for the DSHP Plus program.

Based on our array of LTSS managed care experience, we are looking forward to collaborating with the Department you consider your MLTSS expansion.

ii. Contractor and Subcontractor(s) experience should be listed separately. Narrative descriptions submitted for Subcontractors should be specifically identified as Subcontractor projects.

The three client/project narrative descriptions are of Mercer's work as the prime contractor to Delaware, Missouri, and New Mexico.

Separately, our proposed dental subcontract, **Lisa Knowles, DDS,** provided the following project/client narratives:

Contact Name #1:	Dr. Beth Ann Faber
Telephone:	+1 517 285 8714
Organization:	Beth Ann Faber, DDS.
Services Performed:	Personal consulting on leadership development and personal health and wellness guidance to help Dr. Faber gain better work/life balance.
Dates of Service:	2015

Contact Name #2:	Ms. Karen Burgess
Telephone:	+ 517 331 5885
Organization:	Michigan Dental Association
Services Performed:	Board of Trustees member 2015-Current Speaker for Dental Conferences: 2016, 2017, 2018, Current
Dates of Service:	2015-Current

Contact Name #3:	Dr. David Murphy
Telephone:	+ 269 217 8485
Organization:	My Community Dental Centers
Services Performed:	Dentist for public health, Medicaid based clinic. Helped organize local branch of this large, DSO while providing care to the patient base. Speaker on communication and leadership development for team leaders and managers-2016
Dates of Service:	2015-2017

iii. If the work was performed as a Subcontractor, the narrative description should identify the same information as requested for the Contractors above. In addition, Subcontractors should identify what share of contract costs, project responsibilities, and time period were performed as a Subcontractor.

The three Mercer client narrative descriptions (i.e., Delaware, Missouri, New Mexico) provided are of Mercer's work as the prime contractor in these states.

h. SUMMARY OF BIDDER'S PROPOSED PERSONNEL/MANAGEMENT APPROACH

"To make a decision, all you need is authority.
To make a good decision, you also need knowledge, experience, and insight."
— Denise Moreland, Management Culture

To help you make good decisions, **Mercer proposes Frederick (Fred) Gibison Jr, MBA as Mercer's Engagement Leader/Account Manager**. Having started with Mercer as an actuarial/financial analyst 20 years ago and working his way up to a Partner in the firm, Fred has gained the knowledge, experience, and insight to make good decisions. Fred is our Mercer Engagement Leader for the states of Delaware (10 years and counting) and Nebraska (current). He was the former Engagement Leader for the Commonwealth of Pennsylvania for many years; Mercer government specialty group's largest client and the third largest Medicaid program in the country. Both the Delaware and Pennsylvania engagements include actuarial rate setting, risk adjustment, risk mitigation, policy work, financial monitoring, waiver support, and a host of other ad hoc projects.

As noted previously, **our Principal and managing actuary is Mike Nordstrom, ASA, MAAA.** Mike has more than 30 years of professional experience and is the certifying actuary on our work with California Medi-Cal. In addition, Mike is Chairperson (since 2010) of the American Academy of Actuaries' Medicaid Subcommittee. Mike was also a

member of the Academy's Actuarial Standards Board Task Force on development of a Medicaid-specific Actuarial Standard of Practice (ASOP) for Medicaid Managed Care Rate Setting and Certification (now ASOP No. 49). Mike's extensive knowledge of Medicaid programs will benefit Nebraska.

Strong leadership underpins Mercer's approach to the management of a project, and we offer some of our strongest leaders in Fred and Mike. They will be ably assisted by **Jay Hall who will serve as the central Mercer Project Manager.** Fred and Jay have worked together for many years on both Pennsylvania and Delaware and know each other's style and habits very well. Fred's primary role as Engagement Leader is to use his experience and insight to ensure the overall success of Mercer's work, your satisfaction with Mercer's performance on this contract and consider the "big picture" of what Mercer can do to support the Department. Jay's role is to track and document each component of Mercer's work and ensure accuracy and timeliness of our deliverables to you.

Promoting efficiencies and synergies is also a key component of Mercer's approach to the management of a project. We do this by:

- **Using credentialed actuaries and knowledgeable staff.** Our proposed Nebraska team includes additional credentialed actuaries, actuarial students, and other financial analysts**. David Quinn, ASA, MAAA, Brandon Odell, FSA, AAA, Kodzo Dekpe, ASA, MAAA, and Rob O'Brien, ASA, MAAA** will be key project leaders in the actuarial work and be supported as needed by additional team members. This will ensure we always have an experienced person responsible to our senior team leadership.

- **Employing vigorous project management techniques** (discussed more in the next section). Strong project management enables us stay on top of work processes to meet deadlines and exceed your expectations. Our work plan, with your input and approval, will serve as the blueprint to accomplish the work outlined in the RFP. In our kick-off and subsequent status meetings with you, you will hear us reference the work plan frequently. We use it as the primary tool to guide our work.

- **Recognizing every Medicaid program has unique attributes.** Whoever said, "If you've seen one Medicaid program, you've seen one Medicaid program," was right. Every Medicaid program is different yet many share common features. We are fortunate to have Lisa deVries, RPh, on our team. Prior to joining Mercer, Lisa worked for the State of Nebraska DHHS as one of your pharmacists. While her experience is primarily with the pharmacy program, her experience, and local presence in Lincoln will be invaluable.

This combination of strong leadership, a skilled team, robust project management, and clear understanding of how Medicaid works (and could work better) is the foundation of our approach to the management of this project.

Proposed Personnel

In staffing any engagement, Mercer matches professionals with relevant consulting specialties and backgrounds. Before proposing a team, we check our RETAIN database. RETAIN warehouses capacity information for individual staff. By aligning the skill set

needed with availability during specific periods of the year, we are able to propose the specific staff person for a given role in a project. While our competitors may "bait-and-switch" personnel, pull their people in too many directions or have to outsource work to a variety of subcontractors, the Mercer team members proposed in the table below are immediately available to work on this project in the timeframes specified in the RFP. The names and titles in primary work areas of our proposed team are identified as well. Following the table, we provide a brief narrative of each of our key/lead staff for this engagement including the Engagement Leader, Principal/Managing Actuary, Project Manager, Supporting Actuaries, and Project Leads.

Unlike other firms that may only be able to do actuarial work, the Mercer team includes other professionals and SMEs in supporting roles that Nebraska can leverage. For example, **Laurie Klanchar, RN, MSN, CRNP, is a registered nurse and a certified registered nurse practitioner with experience ranging from direct care within inpatient and outpatient setting to BH/PH integration strategies.** We encourage you to look at the depth of experience of our SMEs and technical support staff in their resumes in Appendix B.

If and when needed, we can also draw from the depth and breadth of our 270+ full-time Mercer employees. Among our in-house staff are:

- 50+ credentialed actuaries
- 50+ actuarial students
- 5 CPAs
- 5 pharmacists
- 7 former CMS Staff
- More than a dozen clinicians (medical doctor, psychologists, nurses, social workers, etc.)
- Numerous financial/data analysts

Finally, in this section, we provide a proposed organizational chart to identify reporting relationships and a brief description of the team leadership, interface, and support functions.

Proposed Mercer Staff Table

Staff resumes for all key and SME team members are provided in Appendix B.

Team Member (all are Mercer FTEs)	Title/Primary Work Area
Frederick Gibison Jr, MBA	Engagement Leader/Account Manager All SOW Areas
Mike Nordstrom, ASA, MAAA	Principal/Managing Actuary All SOW Areas/Actuarial Rate Setting/Risk Adjustment/Other
Jay Hall	Project Manager All SOW Areas
David Quinn, ASA, MAAA	Actuary Actuarial Rate Setting/Risk Adjustment/Other
Brandon Odell, FSA, MAAA	Actuary Actuarial Rate Setting/PACE/Other

Team Member (all are Mercer FTEs)	Title/Primary Work Area
Kodzo Dekpe, ASA, MAAA	Actuary Actuarial Rate Setting/Dental PAHP
Rob O'Brien, ASA, MAAA	RAR Leader Risk-Adjustment Support
Nicole Kaufman, JD, LL.M	Waiver/Policy Lead Waiver/Policy Technical Support
Allison Campbell	Analyst Actuarial/Financial Support
Matthew Nye	Analyst Actuarial/Financial Support
Chris Babcock	Data Consultant Informatics/Data Manager
Cheryl Howard, MBA-ACC	Data Consultant Managed Care Data/Systems Consultant
Jane Szymanski	Data Consultant Managed Care Data/Systems Consultant
Lisa deVries, RPh	SME/Pharmacist Pharmacy Technical Support
Shawna Kittridge, MHS, RPh	SME/Pharmacist Pharmacy Technical Support
Laurie Klanchar, RN, MSN, CRNP	SME Managed Care and Behavioral/Physical Health Integration
Stefanie Kurlanzik, JD	SME Medicaid Policy
Kate Lyon, PhD	SME Behavioral Health/Mental Health/Addiction
Laura Pavlecic, RN, BSN, MBA	SME Managed Care Operations and Clinical Quality
Lorene Reagan, RN, MS	SME LTSS and HCBS
Alicia Smith, MHA	SME Medicaid Policy/Waivers
Lisa Knowles, DDS	Dentist/Subcontractor Dental Technical Support

Brief Narrative – SOW Lead Staff

Fred Gibison Jr, MBA
Engagement Leader/Account Manager
In Fred's nearly 20 year tenure with Mercer, he has always been part of Medicaid/CHIP managed care actuarial rate development projects with teams of actuaries, analysts, clinicians, policy specialists, data/Informatics, and pharmacists. Most recently, Fred has been the Engagement Leader for two of Mercer's largest actuarial clients including Delaware and Pennsylvania. If the quote at the beginning of this section is true – "…to make a good decision, you also need knowledge, experience, and insight", then we could not make a better choice than Fred.

Mike Nordstrom, ASA, MAAA
Principal/Managing Actuary
Mike Nordstrom is a nationally-recognized expert on all aspects of Medicaid actuarial work. He has served as the Chairperson of the American Academy of Actuaries Medicaid Subcommittee for over eight years, and has led Mercer's specialty practice Actuarial/Financial Sector for over 14 years. Mike has provided strategic actuarial program work and rate development and certifications for the states of Arizona (Children's Rehabilitative Services; Division of Behavioral Health Services), California, Massachusetts, Nebraska, New Jersey, Ohio, and Oklahoma. He has presented capitation rates and risk-sharing strategies such as minimum MLR, risk corridors, risk pools, and stop-loss reinsurance, to state, CMS, and MCO personnel.

Jay Hall
Project Manager
Jay has been involved with, and managed numerous projects in the Medicaid health care consulting space since 2000. Jay has over 17 years of direct experience in setting Medicaid managed care capitation rates and HCBS rates for numerous clients. Jay has not only been directly involved in, and responsible for the various components of rate development analyses, but he also leads large and diverse teams of actuaries, consultants, analysts, clinicians, and accountants to deliver appropriate solutions. Jay is currently a team member for the client states of Delaware and Pennsylvania. Jay manages the overall rate development projects and helps the teams analyze health care claims data and MCO financial experience to develop capitation rates and evaluate impacts of program design changes.

David Quinn, ASA, MAAA
Actuary
David, Supporting Actuary (Rate Setting and Risk Adjustment), adds value to his clients with his extensive experience in data analysis methods and development of Medicaid capitation rate rates for both acute and LTSS populations, including PACE. He has developed rates for the states of Delaware, New York, and Pennsylvania. Work included overseeing the designing, building, and scalability of models for program changes, trend, and rate development. In addition to technical expertise, he has presented to health plans and state staff for rate development, negotiations, and training.

Brandon Odell, FSA, MAAA
Actuary
Brandon has nearly 15 years' experience as an actuary, working with Medicaid, Medicare, and commercial lines of business, both as an in-house actuary at an insurer, and as an outside consultant. In his 5 years at Mercer, he has led multiple rate-setting projects for both full-risk and partial-risk enhanced Primary Care Case Management (ePCCM) programs. Brandon has also led the development of financial and encounter-based dashboards for some of Mercer's largest clients. Additionally, Brandon has served as the technical lead for 1115 waiver budget neutrality projections for multiple states.

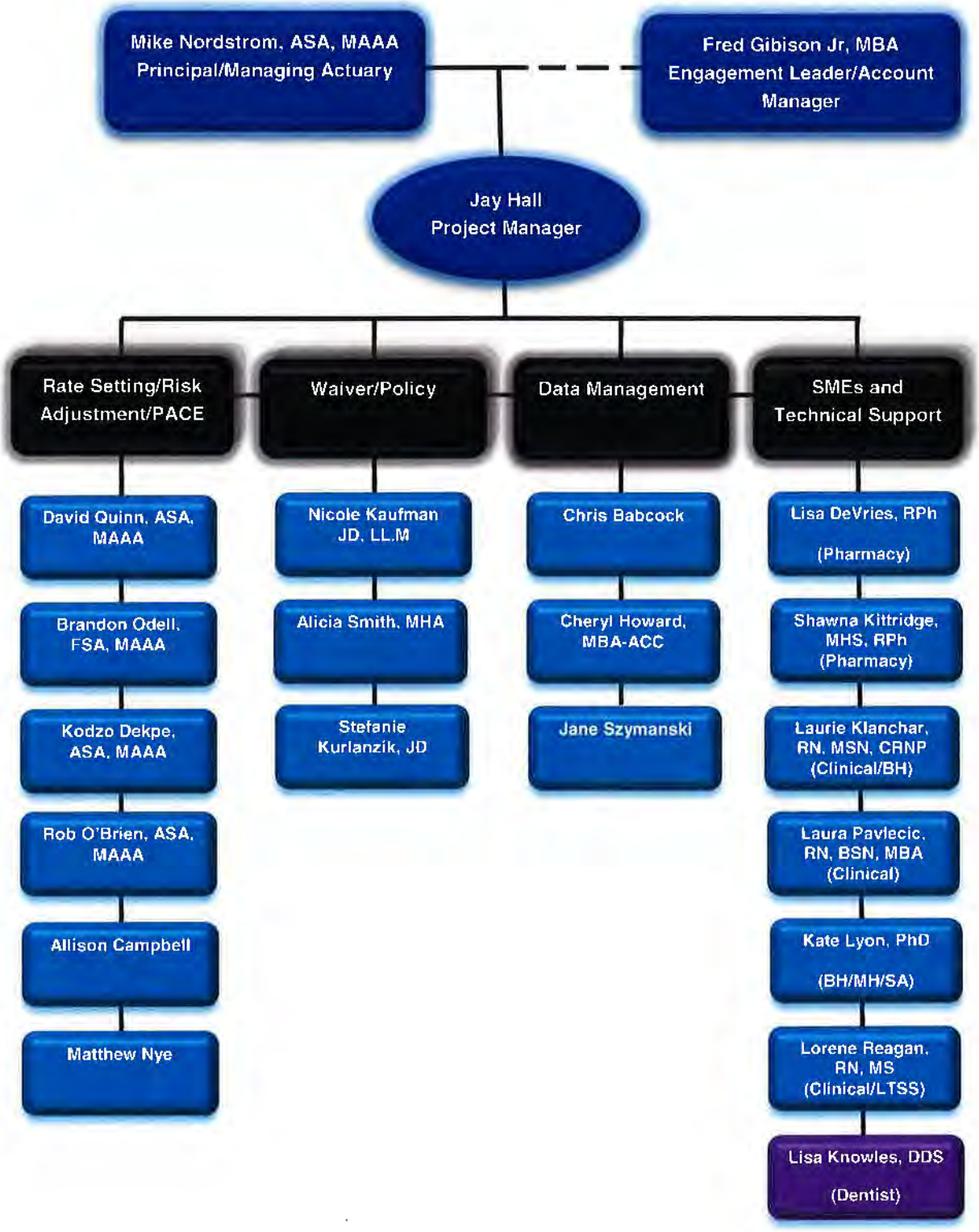
Kodzo Dekpe, ASA, MAAA
Actuary
Kodzo works on Louisiana's programs covering PH, pharmacy, dental, and BH services. He oversees the development of actuarially sound rates and certifies the rates for the

Louisiana's Dental Benefit Program. He works with the North Carolina ADAP projecting future program costs and has analyzed the cost implications of a number of program design changes. Kodzo reviews premium adjustment requests from the Florida Healthy Kids medical and dental carriers. He has also overseen Texas Medicaid Wellness Program's projects including cost-effectiveness analysis of 1915(b) waiver and evaluation of vendor's performance related to cost savings, humanistic outcomes, and clinical quality measures.

Nicole Kaufman, JD, LL.M
Waiver/Policy SME
Prior to joining Mercer in 2016, Nicole held a senior position in the CMS Baltimore Central Office's Division of Managed Care Plans. Nicole was the SME for Medicaid managed care policy and served as the primary author of CMS' Medicaid Managed Care Final Rule (April 2016) and Proposed Rule (June 2015). Nicole also specialized in the negotiation of complex section 1115 demonstration projects that involved delivery system integration and delivery system reform incentive payment programs. Nicole utilizes her past Federal Medicaid experience to support clients in the design, implementation, and oversight of Medicaid managed care program authorities and contracts, as well delivery system reform initiatives under section 1115 demonstration projects.

Organizational Chart

Our proposed organizational chart to identify reporting relationships is provided on the following page:


Mike Nordstrom, ASA, MAAA
Principal/Managing Actuary
Fred Gibison Jr, MBA
Engagement Leader/Account Manager
Jay Hall
Project Manager
Rate Setting/Risk Adjustment/PACE
Waiver/Policy
Data Management
SMEs and Technical Support
David Quinn, ASA, MAAA
Brandon Odell, FSA, MAAA
Kodzo Dekpe, ASA, MAAA
Rob O'Brien, ASA, MAAA
Allison Campbell
Matthew Nye
Nicole Kaufman JD, LL.M
Alicia Smith, MHA
Stefanie Kurlanzik, JD
Chris Babcock
Cheryl Howard, MBA-ACC
Jane Szymanski
Lisa DeVries, RPh (Pharmacy)
Shawna Kittridge, MHS, RPh (Pharmacy)
Laurie Klanchar, RN, MSN, CRNP (Clinical/BH)
Laura Pavlecic, RN, BSN, MBA (Clinical)
Kate Lyon, PhD (BH/MH/SA)
Lorene Reagan, RN, MS (Clinical/LTSS)
Lisa Knowles, DDS (Dentist)

Management of the Project

Mercer's approach with any engagement is one of collaboration. An effective project requires strong project management, good communication, internal quality control processes, and ongoing monitoring of budgets, scope, and timelines. Without collaboration, communication, and thorough project planning and monitoring, there is a greater likelihood of overruns, failure to achieve desired results, unfavorable media/litigation, and other detrimental outcomes.

To be effective, communication must be timely and clear. This includes two-way communication within the Mercer team, but equally important is two-way communication between the Mercer team and the Department. Our team members are in daily communication with each other and Mercer makes the communication as fluid as possible. We can employ these same communication tools in our interaction with you including:

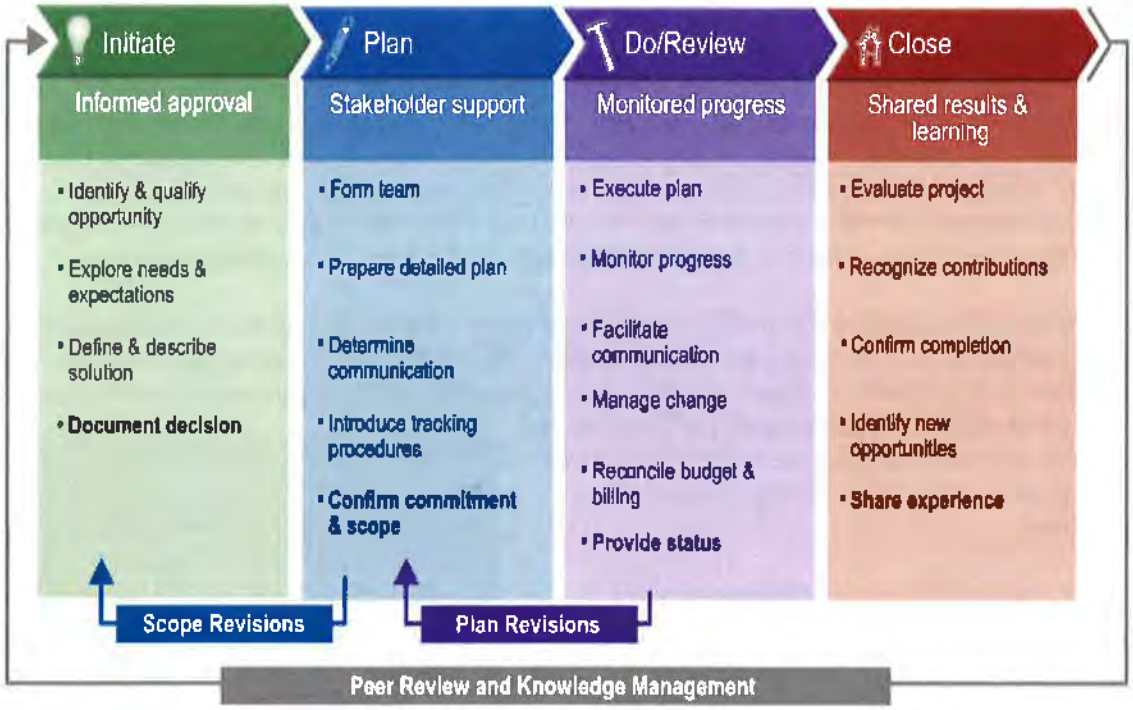
- Advanced conferencing capabilities with video and audio real time interface capability as well as recording capability.
- MercerConnect, a secure web-based application to share and store documents in real time.

As noted previously, **we believe a regularly scheduled (i.e., weekly, bi-weekly, or monthly as project activity dictates) conference call between our team and the appropriate Department personnel is critical in keeping the communication channels open, discuss current work activity, address any outstanding issues, identify new issues since the last call, and otherwise keep each other informed and up-to-date.** With other state clients, we have labeled these as "Rate Calls," but we can use any naming convention the Department would like. Mercer will offer a toll-free conference line for use by State staff to attend these calls. Separate ad hoc calls/meetings can be scheduled as required by the given project. Mercer attendees at these "Rate Calls" will at least be our Principal, Project Manager, and applicable key team members unless these individuals are unavailable due to vacation or other unavoidable conflicts.

Separate from our calls with you, our project team typically meet themselves weekly for a half hour or hour to discuss project status, issues, and related matters. Our Mercer internal "Nebraska team meetings" are important to enable sharing of information among team members, address work flow, discuss new issues, and prepare for upcoming calls/meetings that we have scheduled with you. Throughout the course of the respective project, our Project Manager is in regular, almost constant, contact with Project Leads and is similarly involved with the Principal and Engagement Leader as needed.

By virtue of our many years of direct hands-on experience, we have found that the success of our projects is highly dependent on our ability to effectively coordinate, manage, and monitor the efforts of assigned staff. Project management has been, and remains, a key area of emphasis for Mercer staff in providing the highest quality service and deliverables to our clients. **Our project management approach strives to balance the three main drivers/constraints inherent in all projects — *resources, results, and time.***

We define project management through a four-stage process measured against these primary project drivers. The stages include: initiate, plan, do/review, and close, as depicted in the graphic below:



Mercer is also proud of the support personnel we hire and promote. Perhaps their most important function other team members perform is peer review. We apply peer review from a number of perspectives, reviewing all work products for:

- Technical accuracy of all calculations and work products including overall reasonableness
- Consulting appropriateness to ensure soundness of the approach and that the appropriate issue/question has been completely addressed in a clear manner
- Editorial correctness (performed by our Administrative Assistants)
- Final look to ensure a professional work product appearance that meets delivery and other specifications

Part of our corporate culture is the necessity and benefit of peer review on every client deliverable. It allows us to deliver the highest quality to our clients.

i. PROJECT PLANNING AND MANAGEMENT

Mike Nordstrom, ASA, MAAA, is our dedicated Principal and managing actuary. Mike far exceeds the RFP's requirement with his more than 30 years actuarial experience with the past 20 years solely dedicated to Medicaid actuarial consulting. Mike holds a degree in Mathematics (specializing in Actuarial Science) and is an Associate in the Society of Actuaries and a Member of the American Academy of Actuaries. Mike will actively participate in all daily, weekly, and/or monthly deliverables in conjunction with all SOW projects performed by the contractor. Mercer understands and agrees the Department reserves the right to have complete approval rights to Mercer's assigned Principal. As required, Mercer concurs that changes in the assigned Principal must be approved by the Department.

Every Mercer state client is assigned a single Engagement Leader/Account Manager who is responsible for client satisfaction, strategic planning, contract management, technical assistance, and work support. For Nebraska that will be Fred Gibison Jr, MBA. Fred also exceeds the 10 years of actuarial consulting experience in the public sector with 20 years at Mercer, all in public sector consulting specializing in actuarial rate setting, strategic planning, payment reform, and MLTSS. Fred has a Bachelor's Degree in Mathematics (specializing in Actuarial Science), but is not a credentialed actuary.

Mercer operates based on a client team structure. Our proposed Nebraska team has been previously provided for your consideration. The Department can expect regular participation from relevant team members on applicable calls/meetings. Not everyone will need to come to each meeting of course, but our team dynamic enables us to "flex" the level of resources we bring to bear in response to your needs.

Our approach to staffing our state clients with a team approach ensures that we can "flex" based on your needs.

Mercer agrees that each SOW/project will require a mix of actuaries, consultants, analysts, and SMEs including both senior and junior staff to enable work be done efficiently and ensure we have peer review resources available, but each SOW will be led by an individual with at least 5 years relevant experience that works under the general direction of Mike and Fred.

j. SUBCONTRACTORS

Mercer is proposing one technical subcontractor/expert:

Lisa L. Knowles, DDS
1053 Lantern Hill Dr
East Lansing, MI, 48823
+ 517 331 3688

Lisa is a dentist so we intend to leverage her expertise and experience on the Dental PAHP SOWs to provide technical input and peer review on such issues as dental trends, relevant program changes, potential managed care adjustments, and other applicable

issues. As our only subcontractor, we estimate that Lisa will have less than 1% of total hours.

Mercer's longevity and reputation in the marketplace also means we do have a diverse contact list of other potential subcontractors. We would only consider requesting permission/prior approval to engage another subcontractor if there was a specialized skill set required that our team does not have or we needed additional bandwidth to augment our team to get work done in a specified time frame. At this time, we do not foresee the need to use additional subcontractors.

3. TECHNICAL APPROACH

Throughout our complete Technical Proposal inclusive of our response to each SOW, Mercer explicitly addressed subsections a – e as required.

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Appendix

A

APPENDIX A

Appendix A – Proposed Work Plan

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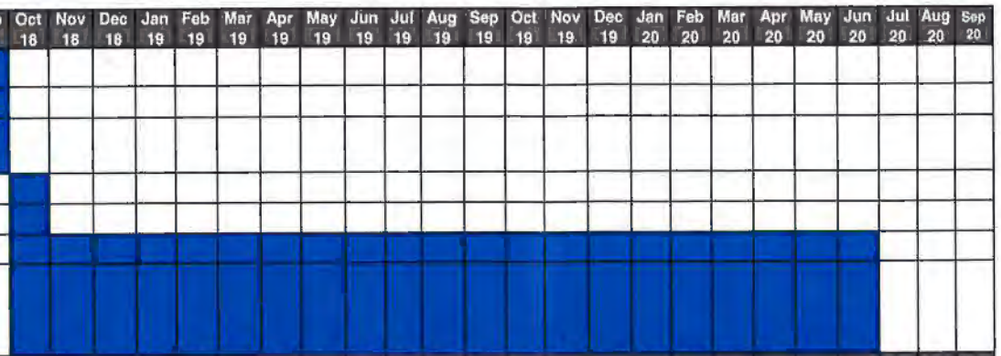
Medicaid Managed Care Actuarial and Consulting Services

Preliminary Work Plan Illustrating Annual Major Steps and Deliverables through 9/30/2020

0.0	Project Initiation and Planning Across all SOWs	Responsible Party	Deliverable	Notes/Comments	Est. Major Start Date	Est. Major End Date
0.1	**Schedule and facilitate soft launch meeting with project leadership team**	Mercer			09/03/18	09/05/18
0.2	**Prepare for initial contract kick-off meeting**	Mercer/DHHS			09/03/18	09/24/18
0.3	**Facilitate contract kick-off meeting with project team to discuss all SOWs**	Mercer	Agenda/Handouts	Pending availability of DHHS staff. 1-2 days expected	09/27/18	09/28/18
0.4	**Refine work plan**	Mercer			10/01/18	10/04/18
0.5	**Distribute work plan to project team**	Mercer	Work plan		10/05/18	10/05/18
0.6	**Update work plan(s) as needed over course of engagement**	Mercer	Work plan		10/08/18	06/30/20
0.7	**Regularly occurring project status calls with Mercer/DHHS on all respective SOWs (including SOW-specific calls as needed)**	Mercer/DHHS		We propose at least 1x month depending on work activity-more frequent when work is busiest for respective SOWs	10/08/18	06/30/20

1.0	SOW 1 – Capitation Rate Setting	Responsible Party	Deliverable	Notes/Comments	Est. Major Start Date	Est. Major End Date
1.1	**Kick-off meeting to discuss work flow and process**	Mercer/DHHS		TBD based on contract start	09/27/18	09/28/18
1.1.1	Decide if input from MCOs will be requested in support of rate update	Mercer/DHHS	Mercer can develop request as needed	Optional step-TBD	09/28/18	09/28/18
1.2	**Identify required data, data sources, and submit data request as needed (rate update)**	Mercer	Data request	Holidays fall in this time period	11/26/18	01/14/19
1.2.1	If input from MCOs will be requested, submit request to MCOs	Mercer/DHHS	MCO data request		01/14/19	01/14/19
1.3	**Receive data from the State/other sources as needed with control totals**	DHHS and/or MCOs	Data sets	Some flexibility in this date	02/28/19	02/28/19
1.4	**Validate data sources with assistance from the Department**	Mercer	Data summaries		02/28/19	03/15/19
1.4.1	Record counts by file, field control totals, dollar by COS, person counts, monthly totals and other as needed	Mercer/DHHS	Data summaries			
1.5	**Develop medical trends**	Mercer			03/25/19	04/29/19
1.5.1	Stratify the data by cohort and major COS by utilization, unit cost, and/or per member per month (PMPM)	Mercer				
1.5.2	Regression analyses	Mercer				
1.5.3	Review pertinent national health care trend indices	Mercer				
1.5.4	Benchmark observed trends against medical trends in similar Medicaid programs as available	Mercer				
1.6	**Program/policy changes**	Mercer/DHHS			03/25/19	05/24/19
1.6.1	Engage in discussions with the State to identify and determine the nature of potential program changes	Mercer/DHHS	DHHS provide information on known/expected changes	Initial discussions at kick-off meeting; follow-up as needed		
1.6.2	Analyze/evaluate data, perform other research as needed	Mercer		DHHS support/input may be needed		
1.6.3	Review preliminary adjustment values with DHHS and obtain agreement on impact	Mercer/DHHS	Summary of impacts			
1.6.4	Finalize program/policy change adjustments for rates	Mercer				



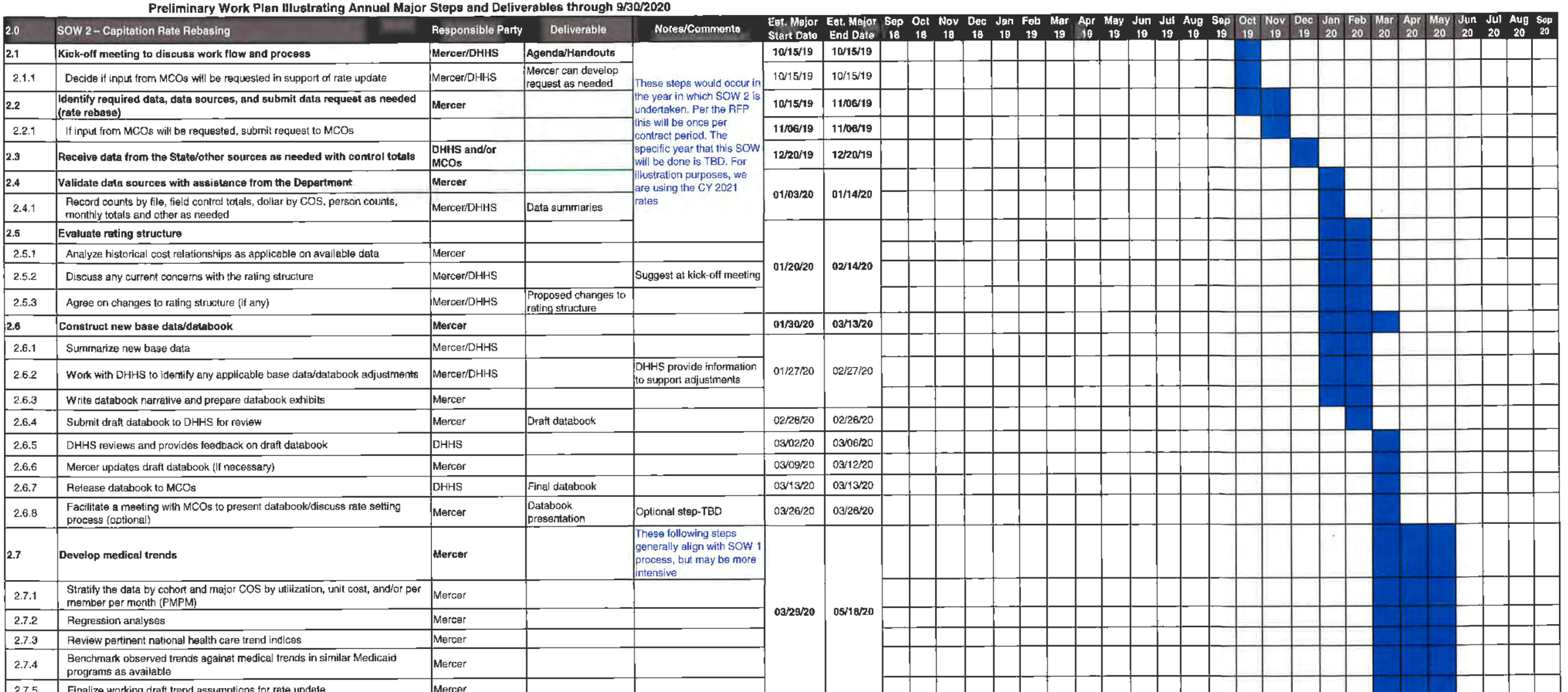
Medicaid Managed Care Actuarial and Consulting Services
Preliminary Work Plan Illustrating Annual Major Steps and Deliverables through 9/30/2020

1.0	SOW 1 – Capitation Rate Setting	Responsible Party	Deliverable	Notes/Comments	Est. Major Start Date	Est. Major End Date	Sep 18	Oct 18	Nov 18	Dec 18	Jan 19	Feb 19	Mar 19	Apr 19	May 19	Jun 19	Jul 19	Aug 19	Sep 19	Oct 19	Nov 19	Dec 19	Jan 20	Feb 20	Mar 20	Apr 20	May 20	Jun 20	Jul 20	Aug 20	Sep 20
1.7	**Non-medical expense loads**	**Mercer**			**05/27/19**	**06/14/19**																									
1.7.1	Evaluate administrative and care management expenses reported by the MCOs (as available) and contract requirements	Mercer																													
1.7.2	Establish an appropriate profit/risk contingency assumption for the program	Mercer																													
1.8	**Preliminary rates/rate ranges**	**Mercer**			**06/17/19**	**07/03/19**																									
1.8.1	Evaluate all components of rate update and change in rates from prior year including any input received from MCOs	Mercer			06/17/19	06/26/19																									
1.8.2	Make any final adjustments to trends, administration/risk/profit or other rate update components	Mercer			06/26/19	07/03/19																									
1.9	**Submit draft rates/rate Ranges to DHHS for review/feedback**	**Mercer**	**Draft rates/rate ranges**																												
1.9.1	Discuss key elements of new draft rates/rate ranges; DHHS provides feedback	Mercer/DHHS	Rate development overview	Mercer suggests an in-person meeting if schedules allow	**07/08/19**	**07/26/19**																									
1.9.2	Make any final adjustments to draft rates/rate ranges	Mercer																													
1.10	**Review risk mitigation processes/options and incorporate into rates (if needed)**	**Mercer/DHHS**	**TBD**	May not be necessary	**07/01/19**	**07/30/19**																									
1.11	**Submit final rates/ranges to DHHS**	**Mercer**	**Final rates**		**07/30/19**	**07/30/19**																									
1.12	**Risk adjustment (steps TBD)**	**Mercer/DHHS**	**TBD**		**TBD**	**TBD**																									
1.13	**Present updated CY 2020 rates to Heritage Health MCOs**	**Mercer/DHHS**	**Rate presentation**	Optional. We recommend an in-person meeting with all MCOs as schedules allow	**08/20/19**	**08/20/19**																									
1.14	**Support DHHS in rate negotiations (as needed)**	**Mercer/DHHS**	**TBD**		**TBD**	**TBD**																									
1.15	**Develop documentation (i.e., actuarial rate certification materials) and submit to DHHS**	**Mercer**	**Rate certification/report**		**07/31/19**	**09/15/19**																									
1.15.1	DHHS provides final MCO contract rates that are within rate ranges provided by Mercer	DHHS	Final MCO contract rates		TBD	TBD																									
1.15.2	Mercer writes rate certification report/CMS guide	Mercer	Documentation Report	Final MCO contract rates will be needed to finalize CMS documentation	07/30/19	09/15/19																									
1.16	**DHHS submits CY 2020 rates and actuarial documentation to CMS**	**DHHS**		TBD based on negotiations, signed contracts, State approvals	**09/30/19**	**9/30/19 or TBD**																									

Medicaid Managed Care Actuarial and Consulting Services

Preliminary Work Plan Illustrating Annual Major Steps and Deliverables through 9/30/2020

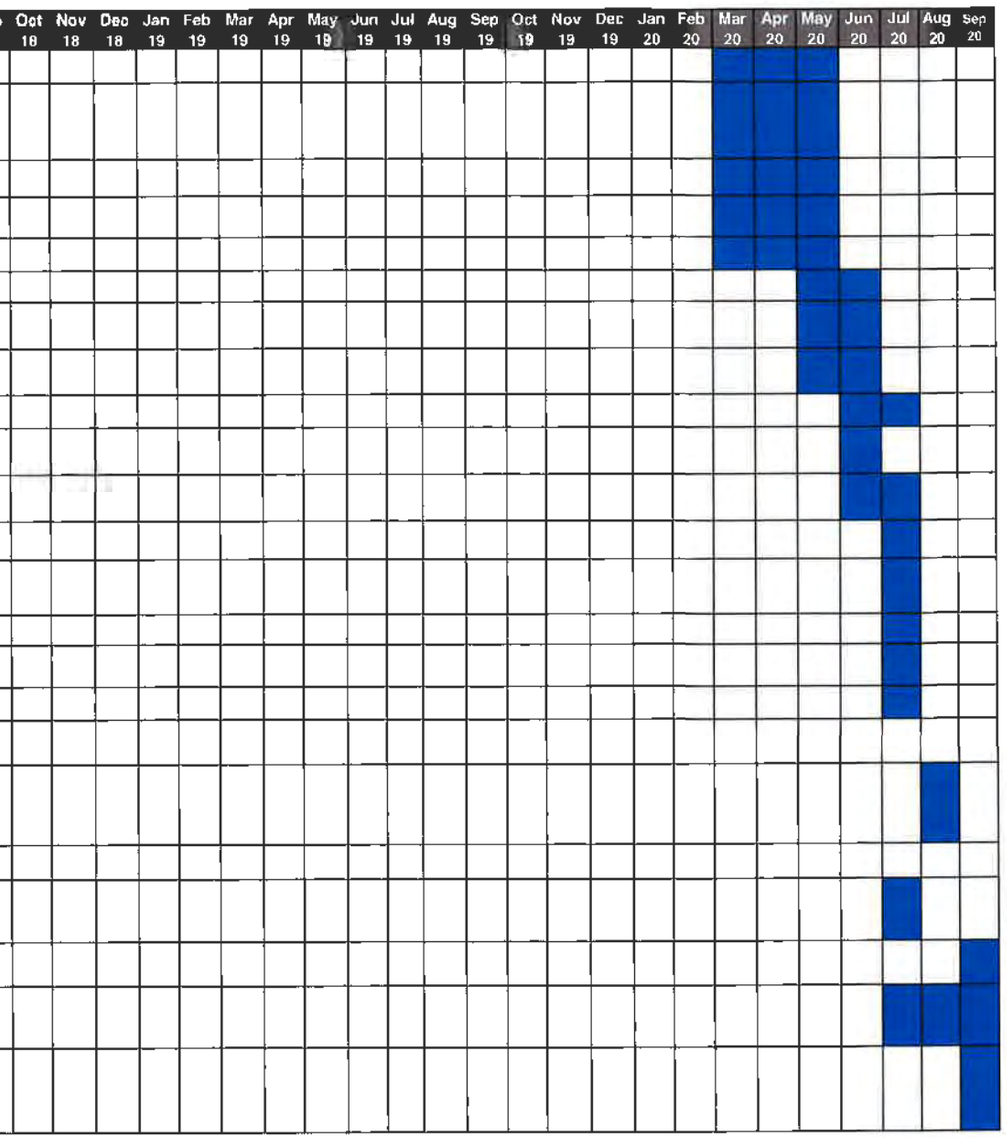
2.0	SOW 2 – Capitation Rate Rebasing	Responsible Party	Deliverable	Notes/Comments	Est. Major Start Date	Est. Major End Date
2.1	**Kick-off meeting to discuss work flow and process**	**Mercer/DHHS**	**Agenda/Handouts**	These steps would occur in the year in which SOW 2 is undertaken. Per the RFP this will be once per contract period. The specific year that this SOW will be done is TBD. For illustration purposes, we are using the CY 2021 rates	**10/15/19**	**10/15/19**
2.1.1	Decide if input from MCOs will be requested in support of rate update	Mercer/DHHS	Mercer can develop request as needed		10/15/19	10/15/19
2.2	**Identify required data, data sources, and submit data request as needed (rate rebase)**	**Mercer**			**10/15/19**	**11/06/19**
2.2.1	If input from MCOs will be requested, submit request to MCOs				**11/06/19**	**11/06/19**
2.3	**Receive data from the State/other sources as needed with control totals**	**DHHS and/or MCOs**			**12/20/19**	**12/20/19**
2.4	**Validate data sources with assistance from the Department**	**Mercer**			**01/03/20**	**01/14/20**
2.4.1	Record counts by file, field control totals, dollar by COS, person counts, monthly totals and other as needed	Mercer/DHHS	Data summaries			
2.5	**Evaluate rating structure**				**01/20/20**	**02/14/20**
2.5.1	Analyze historical cost relationships as applicable on available data	Mercer				
2.5.2	Discuss any current concerns with the rating structure	Mercer/DHHS		Suggest at kick-off meeting		
2.5.3	Agree on changes to rating structure (if any)	Mercer/DHHS	Proposed changes to rating structure			
2.6	**Construct new base data/databook**	**Mercer**			**01/30/20**	**03/13/20**
2.6.1	Summarize new base data	Mercer/DHHS			01/27/20	02/27/20
2.6.2	Work with DHHS to identify any applicable base data/databook adjustments	Mercer/DHHS		DHHS provide information to support adjustments		
2.6.3	Write databook narrative and prepare databook exhibits	Mercer				
2.6.4	Submit draft databook to DHHS for review	Mercer	Draft databook		02/26/20	02/26/20
2.6.5	DHHS reviews and provides feedback on draft databook	DHHS			03/02/20	03/06/20
2.6.6	Mercer updates draft databook (if necessary)	Mercer			03/09/20	03/12/20
2.6.7	Release databook to MCOs	DHHS	Final databook		03/13/20	03/13/20
2.6.8	Facilitate a meeting with MCOs to present databook/discuss rate setting process (optional)	Mercer	Databook presentation	Optional step-TBD	03/26/20	03/26/20
2.7	**Develop medical trends**	**Mercer**		These following steps generally align with SOW 1 process, but may be more intensive	**03/23/20**	**05/18/20**
2.7.1	Stratify the data by cohort and major COS by utilization, unit cost, and/or per member per month (PMPM)	Mercer				
2.7.2	Regression analyses	Mercer				
2.7.3	Review pertinent national health care trend indices	Mercer				
2.7.4	Benchmark observed trends against medical trends in similar Medicaid programs as available	Mercer				
2.7.5	Finalize working draft trend assumptions for rate update	Mercer				



Medicaid Managed Care Actuarial and Consulting Services

Preliminary Work Plan Illustrating Annual Major Steps and Deliverables through 9/30/2020

2.0	SOW 2 – Capitation Rate Rebasing	Responsible Party	Deliverable	Notes/Comments	Est. Major Start Date	Est. Major End Date
2.8	**Program/policy changes**	**Mercer/DHHS**				
2.8.1	Engage in discussions with the State to identify and determine the nature of potential program changes	Mercer/DHHS	DHHS provide information on known/expected changes	Initial discussions at kick-off meeting; follow-up as needed	**03/29/20**	**05/28/20**
2.8.2	Analyze/evaluate data, perform other research as needed	Mercer		DHHS support/input may be needed		
2.8.3	Review preliminary adjustment values with DHHS and obtain agreement on impact	Mercer/DHHS	Summary of impacts			
2.8.4	Finalize program/policy change adjustments for rates	Mercer				
2.9	**Non-medical expense loads**	**Mercer**				
2.9.1	Evaluate administrative and care management expenses reported by the MCOs (as available) and contract requirements	Mercer			**05/28/20**	**06/18/20**
2.9.2	Establish an appropriate profit/risk contingency assumption for the program	Mercer				
2.10	**Preliminary rates/rate ranges**	**Mercer**			**06/21/20**	**07/02/20**
2.10.1	Evaluate all components of rate update and change in rates from prior year including any input received from MCOs	Mercer			06/21/20	06/25/20
2.10.2	Make any final adjustments to trends, administration/risk/profit or other rate update components	Mercer			06/28/20	07/02/20
2.11	**Submit draft rates/rate ranges to DHHS for review/feedback**	**Mercer/DHHS**	**Draft rates/rate ranges**			
2.11.1	Discuss key elements of new draft rates/rate ranges; DHHS provides feedback	Mercer/DHHS		Mercer suggests an in-person meeting if schedules allow	**07/06/20**	**07/29/20**
2.11.2	Make any final adjustments to draft rates/rate ranges	Mercer				
2.12	**Review risk mitigation processes/options and incorporate into rates (if needed)**	**Mercer/DHHS**	**TBD**	May not be necessary	**07/01/20**	**07/29/20**
2.13	**Submit final rates/ranges to DHHS**	**Mercer**	**Final rates**		**07/30/20**	**07/30/20**
2.14	**Risk adjustment (steps TBD)**	**Mercer/DHHS**	**TBD**	Specifics TBD (may be a SOW 8 project)	**TBD**	**TBD**
2.15	**Present new CY 2021 rates to Heritage Health MCOs**	**Mercer/DHHS**	**Rate presentation**	Optional. We recommend an in-person meeting with all MCOs as schedules allow	**08/20/20**	**08/20/20**
2.16	**Support DHHS in rate negotiations (as needed)**	**Mercer/DHHS**	**TBD**		**TBD**	**TBD**
2.17	**Develop documentation (i.e., actuarial rate certification materials) and submit to DHHS**	**Mercer**	**Rate certification/CMS checklist**		**07/30/20**	**09/15/20**
2.17.1	DHHS provides final MCO contract rates that are within rate ranges provided by Mercer	DHHS	Final MCO contract rates		TBD	TBD
2.17.2	Mercer writes rate certification report/CMS guide	Mercer	Documentation report	Final MCO contract rates will be needed to finalize CMS documentation	07/30/20	09/15/20
2.18	**DHHS submits CY 2021 rates and actuarial documentation to CMS**	DHHS		TBD based on negotiations, signed contracts, State approvals	**09/30/20**	**9/30/20 or TBD**

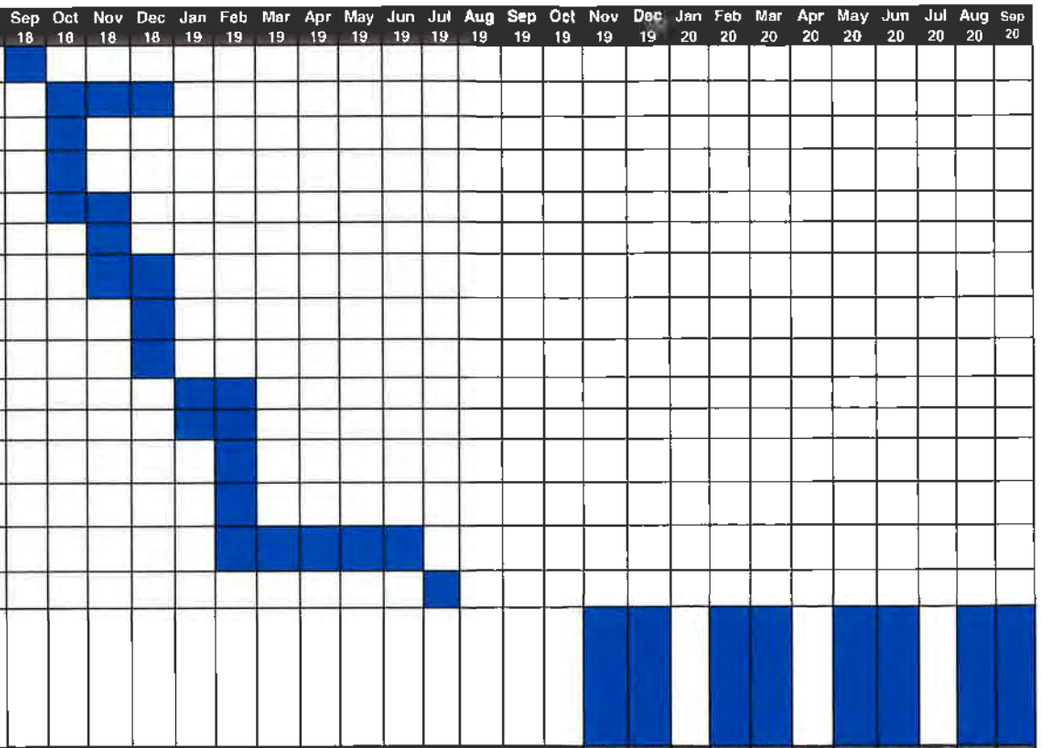


Medicaid Managed Care Actuarial and Consulting Services

Preliminary Work Plan Illustrating Annual Major Steps and Deliverables through 9/30/2020

3.0	SOW 3 - 1915(b) Waiver Renewal Cost-Effectiveness	Responsible Party	Deliverable	Notes/Comments	Est. Major Start Date	Est. Major End Date
3.1	**Kick-off meeting to discuss work flow and process**	**Mercer/DHHS**			**09/27/18**	**09/28/18**
3.2	**Develop waiver cost-effectiveness exhibits**	**Mercer**			**10/01/18**	**12/31/18**
3.2.1	Data request for Retrospective periods (R1 and partial R2)	Mercer	Data request		10/01/18	10/05/18
3.2.2	DHHS provides RP data	DHHS	Historical data for waiver renewal		10/24/18	10/24/18
3.2.3	Evaluate RP data PMPMs, check data for reasonableness	Mercer			10/24/18	11/02/18
3.2.4	Review and agree on enrollment figures for Prospective periods	Mercer/DHHS	Projected enrollment		11/05/18	11/14/18
3.2.5	Leverage rate setting trends, program change adjustments and other information to establish P1 and P2 amounts	Mercer			11/14/18	12/07/18
3.2.6	Write Section D preprint narrative	Mercer		Holidays fall in this time period	12/03/18	12/31/18
3.3	**Submit draft waiver renewal to DHHS for review**	**Mercer**	**Draft waiver submission**		**12/31/18**	**12/31/18**
3.4	**Finalize 1915(b) waiver**	**Mercer/DHHS**			**01/02/19**	**02/28/19**
3.4.1	DHHS reviews and provides feedback on draft	DHHS			01/02/19	02/01/19
3.4.2	Revise waiver submission as needed	Mercer	Final waiver submission		02/01/19	02/28/19
3.5	**DHHS submit waiver renewal to CMS**	**DHHS**	**Final waiver submission**		**02/28/19**	**02/28/19**
3.6	**Respond to CMS questions and assist DHHS with negotiations (as needed)**	**Mercer/DHHS**	**Responses to CMS questions**	Dates TBD	**02/28/19**	**06/30/19**
3.7	**Effective date of 1915(b) waiver**	**DHHS**			**07/01/19**	**07/01/19**
3.7.1	Routine, ad-hoc technical assistance with waiver reporting and cost-effectiveness monitoring	Mercer/DHHS		Review quarterly expenditure reports for cost-effectiveness monitoring; begin approximately 45-60 days after end of each waiver quarter	11/15/19	Quarterly

4.0	SOW 4 – PACE Rate Setting (UPLs)	Responsible Party	Deliverable	Notes/Comments	Est. Major Start Date	Est. Major End Date
4.1	**Kick-off meeting to discuss work flow and process**	**Mercer**	**Methodology document**		**09/27/18**	**09/28/18**
4.2	**Identify required data, data sources, and submit data request as needed (rate update)**	**Mercer**	**Data request**		**10/24/18**	**11/01/18**
4.3	**Receive data from the State/other sources as needed with control totals**	**DHHS**	**Data Sets**		**11/30/18**	**11/30/18**
4.4	**Validate data sources with assistance from the Department**	**Mercer**	**Data summaries**		**11/30/18**	**12/07/18**
4.4.1	Record counts by file, field control totals, dollar by COS, person counts, monthly totals and other as needed	Mercer/DHHS	Data summaries			



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4.0	SOW 4 – PACE Rate Setting (UPLs)	Responsible Party	Deliverable	Notes/Comments	Est. Major Start Date	Est. Major End Date	Sep 18	Oct 18	Nov 18	Dec 18	Jan 19	Feb 19	Mar 19	Apr 19	May 19	Jun 19	Jul 19	Aug 19	Sep 19	Oct 19	Nov 19	Dec 19	Jan 20	Feb 20	Mar 20	Apr 20	May 20	Jun 20	Jul 20	Aug 20	Sep 20
4.5	**Summarize into base data and apply base data adjustments as needed**	**Mercer**																													
4.5.1	PACE-comparable population (e.g., age 55 and older, geographic area, NF/HCBS populations)	Mercer			12/10/18	01/16/19																									
4.5.2	Completion factors	Mercer																													
4.5.3	Pharmacy rebates	Mercer																													
4.5.4	Other	Mercer																													
4.6	**Program/policy changes**	**Mercer/DHHS**																													
4.6.1	Collaborate with DHHS on material program changes applicable to PACE UPLs	Mercer/DHHS	DHHS provide information on known/expected changes	Initial discussions at kick-off meeting; follow-up as needed	01/16/19	02/10/19																									
4.6.2	Leverage where applicable program changes from other SOW work	Mercer																													
4.6.3	Review preliminary adjustment values with DHHS and obtain agreement on impact	Mercer/DHHS	Summary of impacts																												
4.6.4	Finalize program/policy change adjustments for rates	Mercer																													
4.7	**Develop medical trends**	**Mercer**																													
4.7.1	Leverage where applicable trend work from other SOW work	Mercer			01/28/19	02/18/19																									
4.7.2	Obtain input from DHHS on any budgetary inflation adjustments to HCBS and/or nursing facility per diems	DHHS																													
4.8	**Consider changes in HCBS/NF population mix over time and impact on PACE UPLs**	**Mercer**			02/18/19	02/23/19																									
4.9	**Include State administrative expense percentage**	**Mercer**			02/24/19	02/28/19																									
4.10	**Submit draft PACE UPLs to DHHS for review**	**Mercer**	**Draft PACE UPLs**		03/01/19	03/12/19																									
4.10.1	Discuss key elements of UPLs; DHHS feedback	Mercer/DHHS		Mercer suggests an in-person meeting if schedules allow	03/04/19	03/06/19																									
4.10.2	Make any final adjustments to draft PACE UPLs	Mercer			03/07/19	03/12/19																									
4.11	**Submit final PACE UPLs to DHHS**	**Mercer**			03/15/19	03/15/19																									
4.12	**PACE UPL documentation report to DHHS**	**Mercer**	**PACE UPL Report**		03/15/19	03/29/19																									
4.12.1	Draft report and submit to DHHS for review	Mercer	Draft report		03/07/19	03/20/19																									
4.12.2	DHHS provides feedback	DHHS			03/27/19	03/27/19																									
4.12.3	Final PACE UPL report to DHHS	Mercer	Final report		03/29/19	03/29/19																									
4.13	**Support DHHS in PACE rate negotiations (as needed)**	**Mercer**			03/15/19	TBD																									

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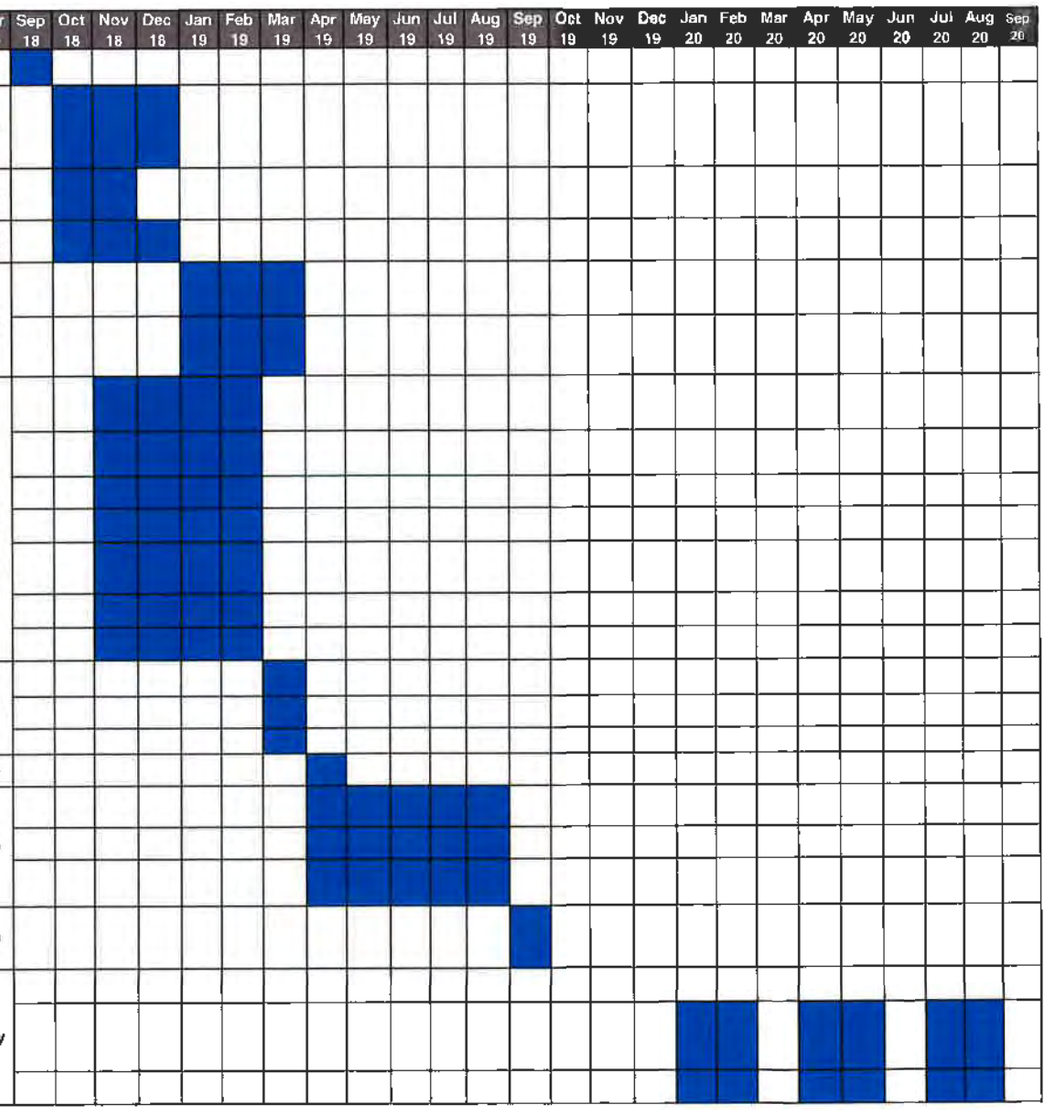
5.0	SOW 5 - Assist with SUD/OUD 1115 Waiver Design and Submission	Responsible Party	Deliverable	Notes/Comments	Est. Major Start Date	Est. Major End Date
5.1	**Kick-off meeting to discuss work flow and process**	**Mercer**			**09/27/18**	**09/28/18**
5.2	**Develop SUD 1115 waiver DRAFT application for Public Notice and tribal consultation (no budget neutrality)**	**Mercer/DHHS**		Budget neutrality not required in draft application for public notice	**10/01/18**	**12/31/18**
5.2.1	Develop estimates of historical and projected expenditures and enrollment required for public notice (per 438.408(a)(1)(i)(C))	Mercer			10/01/18	11/30/18
5.2.2	Develop draft application narrative for public notice	DHHS			10/01/18	12/31/18
5.3	**Publish draft application for public notice (per 431.408 and 438.412), hearings and tribal consultation**	**DHHS**		Assumed to be 60 days	**01/02/19**	**03/04/19**
5.3.1	Conduct public hearings/solicit feedback (if needed)	DHHS	TBD	Mercer can support as needed (potential SOW 8 project)		
5.4	**Develop SUD 1115 budget neutrality for final application to CMS**	**Mercer**		Runs concurrent with draft application development and public notice period	**11/01/18**	**02/28/19**
5.4.1	Identify required data, data sources, and submit data request as needed (rate update)	Mercer	Data request	Ability to identify IMDs is key issue		
5.4.2	DHHS provides required data	DHHS	Data sets			
5.4.3	Aggregate MEGs and 5-year historical data and 5-year projections	Mercer				
5.4.4	Develop and submit draft 1115 waiver application narrative and estimates of expenditures and enrollment for Department review	Mercer				
5.4.5	DHHS provides comments/feedback on draft	DHHS				
5.4.6	Send final budget neutrality spreadsheets and narrative to DHHS	Mercer				
5.5	**Finalize SUD 1115 waiver applicetion to CMS**	**Mercer/DHHS**			**03/05/19**	**03/30/19**
5.5.1	Summarize public comments and revise application as needed	DHHS				
5.5.2	Incorporate budget neutrality into application	Mercer				
5.6	**Submit completed 1115 SUD waiver to CMS**	**DHHS**			**04/01/19**	**04/01/19**
5.7	**Complete CMS negotiations**	**Mercer/DHHS**		After CMS 15-day completeness review	**04/16/19**	**08/31/19**
5.7.1	Budget neutrality negotiations	Mercer/DHHS		Mercer can lead		
5.7.2	Application design negotiations	Mercer/DHHS		Mercer can support as needed		
5.8	**CMS approves 1115 SUD waiver**	**DHHS**		Estimate for work plan purposes; CMS prefers start of quarter	**09/01/19**	**09/01/19**
5.9	**Support for SUD 1115 reporting and budget neutrality**				**Quarterly**	**Quarterly**
5.9.1	Quarterly and Annual reporting to CMS on budget neutrality (4 per year)	Mercer/DHHS		CMS permits 4th quarterly report to be combined with annual report		
5.9.2	Routine, ad hoc technical assistance with budget neutrality reporting	Mercer				



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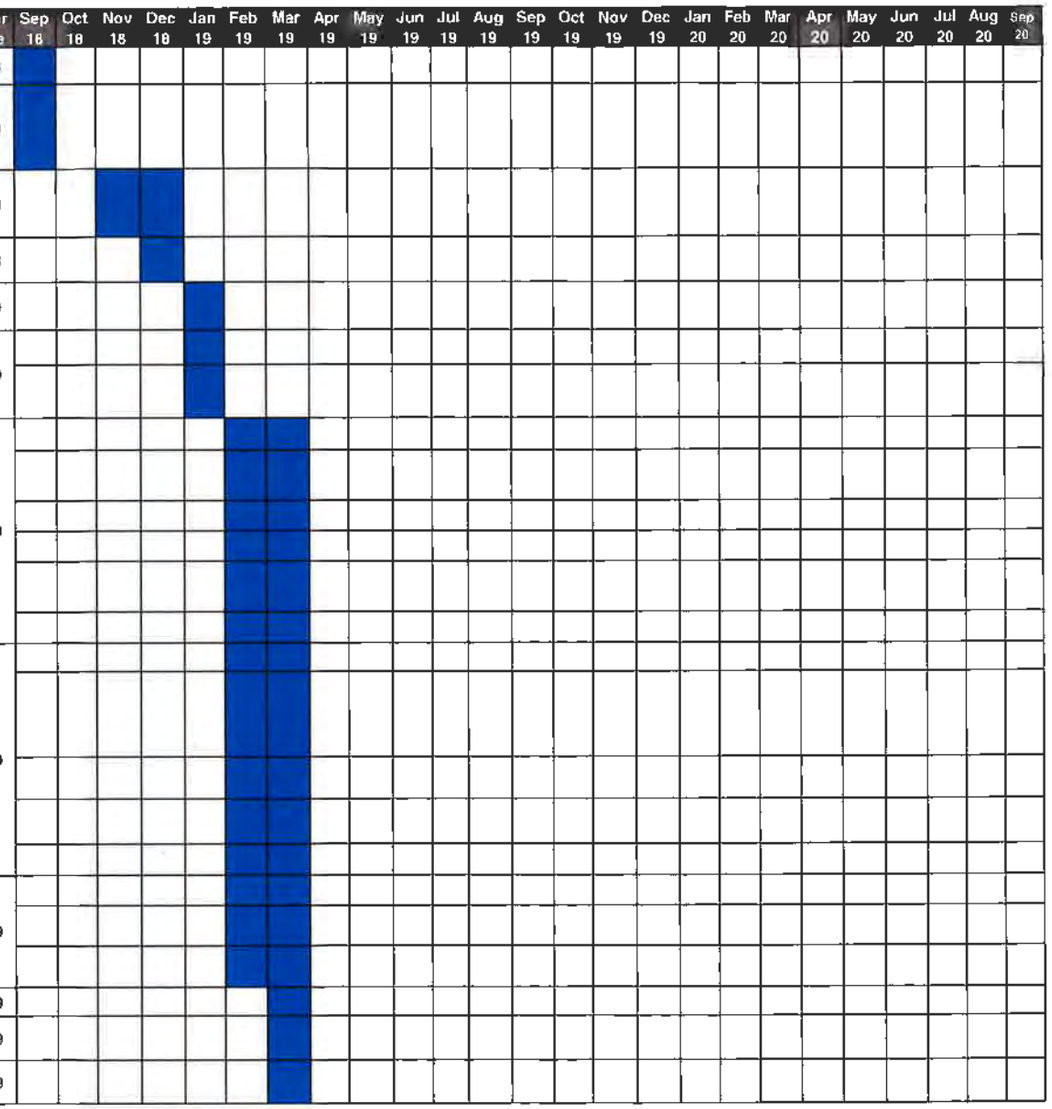
6.0	SOW 6 – Dental Capitation Rate Setting	Responsible Party	Deliverable	Notes/Comments	Est. Major Start Date	Est. Major End Date
6.1	**Kick-off meeting to discuss work flow and process**	**Mercer/DHHS**			**09/27/18**	**09/28/18**
6.1.1	Decide if input from the DBM will be requested in support of rate update	Mercer/DHHS	Notice to DBM to submit information to consider in rate update	Optional step-TBD	09/28/18	09/28/18
6.2	**Identify required data, data sources, and submit data request as needed (rate update)**	**Mercer**	**Data request**	Initial discussions at kick-off meeting; follow-up as needed	**11/05/18**	**12/14/18**
6.2.1	If input from DBM will be requested, submit request to DBM	Mercer/DHHS	Data request	Holidays fall in this time period	12/14/18	12/14/18
6.3	**Receive data from the State/other sources as needed with control totals**	**DHHS and/or DBM**	**Data sets**		**01/21/19**	**01/21/19**
6.4	**Validate data sources with assistance from the Department**	**Mercer**	**Data summaries**		**01/23/19**	**01/31/19**
6.4.1	Record counts by file, field control totals, dollar by COS, person counts, monthly totals and other as needed	Mercer/DHHS	Data summaries			
6.5	**Develop dental trends**	**Mercer**			**02/04/19**	**03/08/19**
6.5.1	Stratify the data by cohort and major dental sub-COS by utilization, unit cost, and/or per member per month (PMPM)	Mercer				
6.5.2	Regression analyses	Mercer				
6.5.3	Review pertinent national dental trend indices	Mercer				
6.5.4	Benchmark observed trends against dental trends in similar Medicaid programs as available	Mercer				
6.5.5	Finalize working draft trend assumptions for rate update	Mercer				
6.6	**Program/policy changes**	**Mercer/DHHS**			**02/04/19**	**03/08/19**
6.6.1	Engage in discussions with the State to identify and determine the nature of potential program changes	Mercer/DHHS	DHHS provide information on known/expected changes	Initial discussions at kick-off meeting; follow-up as needed		
6.6.2	Analyze/evaluate data, perform other research as needed	Mercer		DHHS support/input may be needed		
6.6.3	Review preliminary adjustment values with DHHS and obtain agreement on impact	Mercer/DHHS	Summary of impacts			
6.6.4	Finalize program/policy change adjustments for rates	Mercer				
6.7	**Non-medical expense loads**	Mercer			**02/28/19**	**03/08/19**
6.7.1	Evaluate administrative and care management expenses reported by the DBM (as available) and contract requirements	Mercer				
6.7.2	Establish an appropriate profit/risk contingency assumption for the program	Mercer				
6.8	**Preliminary rates/rate ranges**	**Mercer**			**03/12/19**	**03/28/19**
6.8.1	Evaluate all components of rate update and change in rates from prior year including any input received from the DBM	Mercer			03/12/19	03/22/19
6.8.2	Make any final adjustments to trends, administration/risk/profit or other rate update components	Mercer			03/22/19	03/29/19



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6.0	SOW 6 – Dental Capitation Rate Setting	Responsible Party	Deliverable	Notes/Comments	Est. Major Start Date	Est. Major End Date	Sep 18	Oct 18	Nov 18	Dec 18	Jan 19	Feb 19	Mar 19	Apr 19	May 19	Jun 19	Jul 19	Aug 19	Sep 19	Oct 19	Nov 19	Dec 19	Jan 20	Feb 20	Mar 20	Apr 20	May 20	Jun 20	Jul 20	Aug 20	Sep 20
6.9	**Submit draft rates/rate ranges to DHHS for review/feedback**	**Mercer**	**Draft rates/rate ranges**																												
6.9.1	Discuss key elements of new draft rates/rate ranges; DHHS provides feedback	Mercer/DHHS	Rate development overview	Mercer suggests an in-person meeting if schedules allow	**04/01/19**	**04/26/19**																									
6.9.2	Make any final adjustments to draft rates/rate ranges	Mercer																													
6.10	**Discuss risk mitigation processes/options and incorporate into rates (if applicable)**	**Mercer/DHHS**	**TBD**	May not be necessary	**04/01/19**	**04/30/19**																									
6.11	**Submit Final Rates/Ranges to DHHS**	**Mercer**			**04/30/19**	**04/30/19**																									
6.12	**Risk adjustment (if applicable, steps TBD)**	**Mercer/DHHS**	**TBD**	May not be applicable.	**TBD**	**TBD**																									
6.13	**Present final rates to the DBM**	**Mercer/DHHS**	**Rate presentation**	Optional. We recommend an in-person meeting with DBM as schedules allow	**05/23/19**	**05/23/19**																									
6.14	**Support DHHS in rate negotiations (as needed)**	**Mercer/DHHS**	**TBD**		**TBD**	**TBD**																									
6.15	**Develop documentation (i.e., actuarial rate certification materials) and submit to DHHS**	**Mercer**	**Rate certification/CMS checklist**		**04/30/19**	**06/14/19**																									
6.15.1	DHHS provides final Dental PAHP contract rates that are within rate ranges provided by Mercer	DHHS	Final DBM contract rates		TBD	TBD																									
6.15.2	Mercer writes rate certification report/CMS guide	Mercer	Documentation Report	Final DBM contract rates will be needed to finalize CMS documentation	04/30/19	06/14/19																									
6.16	**DHHS submits October 1, 2019 effective Dental rates and actuarial documentation to CMS**	**DHHS**		TBD based on negotiations, signed contracts, State approvals	**06/30/19**	**6/30/19 or TBD**																									

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7.0	SOW 7 – Dental Capitation Rate Rebasing	Responsible Party	Deliverable	Notes/Comments	Est. Major Start Date	Est. Major End Date	Sep 18	Oct 18	Nov 18	Dec 18	Jan 19	Feb 19	Mar 19	Apr 19	May 19	Jun 19	Jul 19	Aug 19	Sep 19	Oct 19	Nov 19	Dec 19	Jan 20	Feb 20	Mar 20	Apr 20	May 20	Jun 20	Jul 20	Aug 20	Sep 20
7.1	**Kick-off meeting to discuss work flow and process**	**Mercer/DHHS**		These steps would occur in the year in which SOW 7 is undertaken. Per the RFP this will be once per contract period. The specific year that this SOW will be done is TBD. For a rate rebasing, we would expect to start the process sooner than SOW 6. For illustration purposes, we are using 2020 as the year this SOW will be started for new Dental rates effective Oct 1, 2020	**10/15/19**	**10/15/19**																									
7.1.1	Decide if input from the DBM will be requested in support of rate update	Mercer/DHHS	Data Request		10/15/19	10/15/19																									
7.2	**Identify required data, data sources, and submit data request as needed (rate rebase)**	**Mercer**			**10/15/19**	**11/08/19**																									
7.2.1	If input from DBM will be requested, submit request to DBM	Mercer/DHHS	Data request		11/08/19	11/08/19																									
7.3	**Receive data from the State/other sources as needed with control totals**	**DHHS and/or DBM**			**12/02/19**	**12/02/19**																									
7.4	**Validate data sources with assistance from the Department**	**Mercer**			**12/05/19**	**12/09/19**																									
7.4.1	Record counts by file, field control totals, dollar by COS, person counts, monthly totals and other as needed	Mercer/DHHS	Data summaries																												
7.5	**Evaluate Rating Structure**				**11/01/19**	**12/06/19**																									
7.5.1	Analyze historical cost relationships as applicable on available data	Mercer			11/01/19	11/24/19																									
7.5.2	Discuss any current concerns with the rating structure	Mercer/DHHS		Can be done at kick-off mtg	10/15/19	10/15/19																									
7.5.3	Agree on changes to rating structure (if any)	Mercer/DHHS	Proposed changes to rating structure		12/02/19	12/06/19																									
7.6	**Construct new base data/databook**	**Mercer**			**12/09/19**	**01/31/20**																									
7.6.1	Summarize new base data	Mercer/DHHS																													
7.6.2	Work with DHHS to identify any applicable base data adjustments	Mercer/DHHS		DHHS provide information to support adjustments	12/09/19	01/16/20																									
7.6.3	Write databook narrative and prepare databook exhibits	Mercer																													
7.6.4	Submit draft databook to DHHS for review	Mercer	Draft databook		01/17/20	01/17/20																									
7.6.5	DHHS reviews and provides feedback on draft databook	DHHS			01/20/20	01/24/20																									
7.6.6	Mercer updates draft databook (if necessary)	Mercer			01/27/20	01/30/20																									
7.6.7	Release databook to DBM	DHHS	Final databook		01/31/20	01/31/20																									
7.6.8	Facilitate a meeting with DBM to present databook/discuss rate setting process (optional)	Mercer	Databook presentation	Optional step-TBD	02/18/20	02/18/20																									
7.7	**Develop dental trends**	**Mercer**		These following steps generally align with SOW 6 process, but may be more intensive	**02/10/20**	**03/11/20**																									
7.7.1	Stratify the data by cohort and major dental sub-COS by utilization, unit cost, and/or per member per month (PMPM)	Mercer																													
7.7.2	Regression analyses	Mercer																													
7.7.3	Review pertinent national dental trend indices	Mercer																													
7.7.4	Benchmark observed trends against dental trends in similar Medicaid programs as available	Mercer																													
7.7.5	Finalize working draft trend assumptions for rate update	Mercer																													

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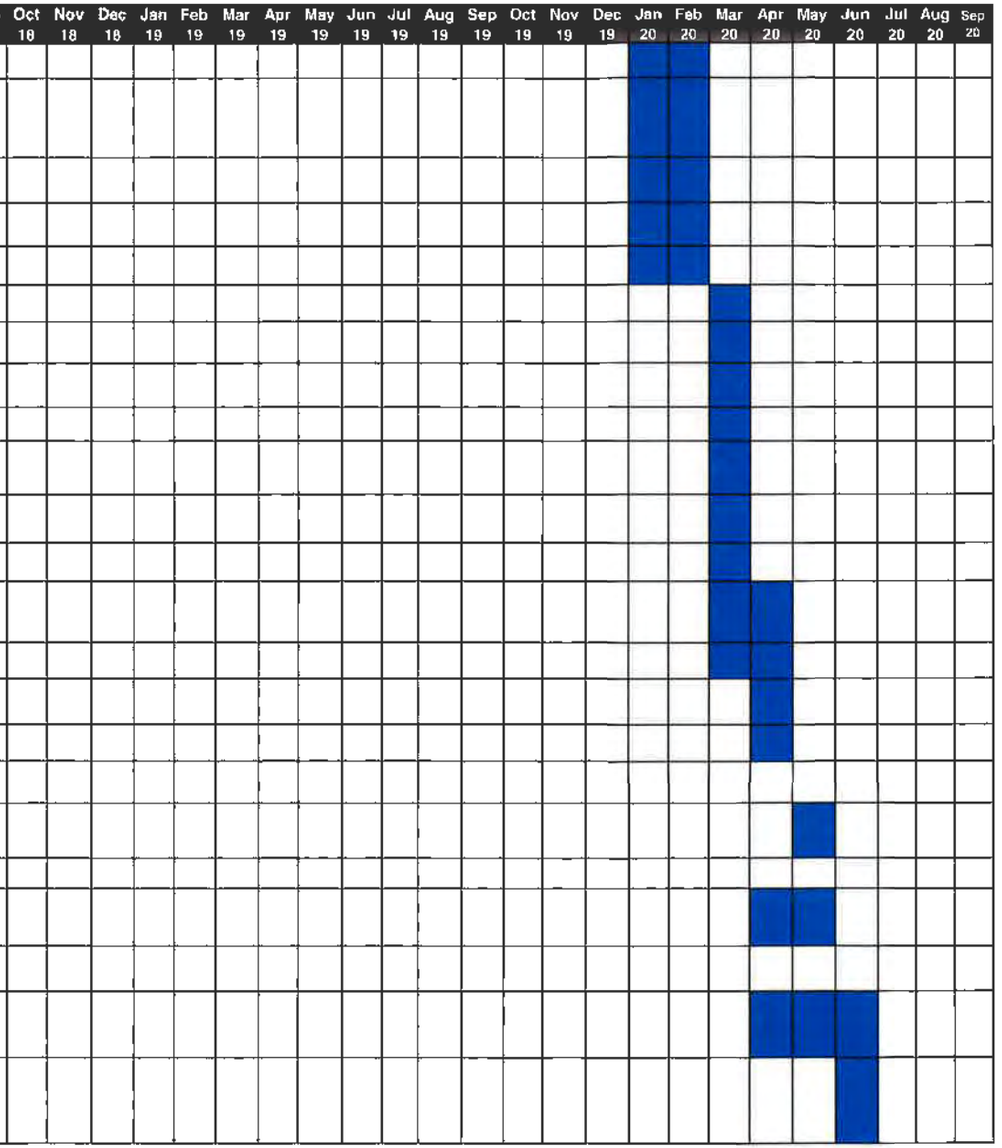
7.0	SOW 7 – Dental Capitation Rate Rebasing	Responsible Party	Deliverable	Notes/Comments	Est. Major Start Date	Est. Major End Date
7.8	**Program/policy changes**	**Mercer/DHHS**				
7.8.1	Engage in discussions with the State to identify and determine the nature of potential program changes	Mercer/DHHS	DHHS provide information on known/expected changes	Initial discussions at kick-off meeting; follow-up as needed	**01/29/20**	**02/28/20**
7.8.2	Analyze/evaluate data, perform other research as needed	Mercer		DHHS support/input may be needed		
7.8.3	Review preliminary adjustment values with DHHS and obtain agreement on impact	Mercer/DHHS	Summary of impacts			
7.8.4	Finalize program/policy change adjustments for rates	Mercer				
7.9	**Non-medical expense loads**	**Mercer**				
7.9.1	Evaluate administrative and care management expenses reported by the DBM (as available) and contract requirements	Mercer			**03/05/20**	**03/12/20**
7.9.2	Establish an appropriate profit/risk contingency assumption for the program	Mercer				
7.10	**Preliminary Rates/Rate Ranges**	**Mercer**			**03/12/20**	**03/27/20**
7.10.1	Evaluate all components of rate update and change in rates from prior year including any input received from the DBM	Mercer			03/12/20	03/20/20
7.10.2	Make any final adjustments to trends, administration/risk/profit or other rate update components	Mercer			03/23/20	03/27/20
7.11	**Submit draft rates/rate ranges to DHHS for review/feedback**	**Mercer/DHHS**	**Draft rates/rate ranges**			
7.11.1	Discuss key elements of new draft rates/rate ranges; DHHS provides feedback	Mercer/DHHS		Mercer suggests an in-person meeting if schedules allow	**03/30/20**	**04/27/20**
7.11.2	Make any final adjustments to draft rates/rate ranges	Mercer				
7.12	**Discuss risk mitigation processes/options and incorporate into rates (if applicable)**	**Mercer/DHHS**	**TBD**	May not be necessary	**04/01/20**	**04/30/20**
7.13	**Submit final rates/ranges to DHHS**	**Mercer**			**04/30/20**	**04/30/20**
7.14	**Risk adjustment (if applicable, steps TBD)**	**Mercer/DHHS**	**TBD**	Specifics TBD (may be a SOW 8 project)	**TBD**	**TBD**
7.15	**Present final rates to the DBM**	**Mercer/DHHS**	**Rate presentation**	Optional. We recommend an in-person meeting with DBM as schedules allow	**05/22/20**	**05/22/20**
7.16	**Support DHHS in rate negotiations (as needed)**	**Mercer/DHHS**	**TBD**		**TBD**	**TBD**
7.17	**Develop documentation (i.e., actuarial rate certification materials) and submit to DHHS**	**Mercer**	**Rate certification/CMS checklist**		**04/30/20**	**06/15/20**
7.17.1	DHHS provides final Dental PAHP contract rates that are within rate ranges provided by Mercer	DHHS	Final DBM contract rates		TBD	TBD
7.17.2	Mercer writes rate certification report/CMS guide	Mercer	Documentation Report	Final DBM contract rates will be needed to finalize CMS documentation	04/30/20	06/15/20
7.18	**DHHS submits October 1, 2020 effective Dental rates and actuarial documentation to CMS**	**DHHS**		TBD based on negotiations, signed contracts, State approvals	**06/30/20**	**6/30/20 or TBD**



Medicaid Managed Care Actuarial and Consulting Services
Preliminary Work Plan Illustrating Annual Major Steps and Deliverables through 9/30/2020

8.0	SOW 8 – Special Projects	Responsible Party	Deliverable	Notes/Comments	Est. Major Start Date	Est. Major End Date	Sep 18	Oct 18	Nov 18	Dec 18	Jan 19	Feb 19	Mar 19	Apr 19	May 19	Jun 19	Jul 19	Aug 19	Sep 19	Oct 19	Nov 19	Dec 19	Jan 20	Feb 20	Mar 20	Apr 20	May 20	Jun 20	Jul 20	Aug 20	Sep 20
8.1	**A work plan will be developed after a Special Project is identified**	**TBD**	**TBD**	TBD	**TBD**	**TBD**																									

B

APPENDIX B

Appendix B – Staff Biographies

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Christine Babcock

QUALIFICATIONS

Chris combines her knowledge of medical coding, data mining, reporting and programming to manage health care data for Mercer's Medicaid clients. She participates on client teams for Pennsylvania, District of Columbia, and Minnesota, and in the past worked extensively with Connecticut. She has contributed medical coding knowledge to almost every one of Mercer's Medicaid clients. This work includes interpreting Federal and State regulations and advising our Actuarial teams on implementing the regulations through medical coding. In her role with the Informatics department, Chris helps with loading and validation of Medicaid encounter, eligibility and provider data, as well as other supplemental data files. She investigates and researches topics within the various databases, develops and programs ad hoc analyses, provides medical data expertise and offers support to the Actuarial teams. She works with client teams to produce cubes, dashboards and reports using several tools including Cognos, QlikSense, and Excel. Chris also participates in on-site reviews of Medicaid health plans and works with health plans to improve the quality of their encounter data.

Christine Babcock
Data Consultant / Informatics/Data Manager

EDUCATION
Three years of graduate work in Zoology, Arizona State University
Bachelor's degree, in Biology, Earlham College, Richmond, IN

EXPERIENCE
30 years professional experience

CORE COMPETENCIES
Data mining and research
Medical Coding – including interpretation of policy and regulations
Medical Reporting using OLAP tools
Health Plan Reviews – Claims/Encounter/Eligibility focus
SAS programming

EXPERIENCE

Prior to joining Mercer in 2000, Chris was employed with Scottsdale Healthcare Hospitals in Scottsdale, Arizona. She spent 14 years in several positions in the hospital system. These include:

- Systems support for a practice management suite of software, which includes database maintenance, server maintenance, user support and development of reports.
- Office Manager for a Family Practice Residency program which involved managing front office and billing staff and procedures, training residents and staff in medical coding, physician credentialing, and managing residency billing.
- IT support and liaison for a Family Practice Residency program.
- Research assistant, helping Family Practice residents design and implement research studies and maintaining databases to support their work.

In her role as Government Consultant, Chris' accomplishments include:

- Supporting the Behavioral Health team for Pennsylvania through management of the data processing, investigation of data issues and mining data to discover trends.

- Managing fee-for-service data processing for Pennsylvania and developing programming and reports for ad hoc requests and special studies.
- Ongoing participation on the team that developed programming and reporting for producing monthly wrap payments for state and clinic participants in the Certified Community Behavioral Health Clinics demonstration program for Minnesota.
- Supporting the actuarial team for the District of Columbia by meeting quarterly with Managed Care health plans to improve the quality and completeness of encounter data.
- Supporting the actuarial teams for Pennsylvania and Connecticut's managed care rate setting by loading and preparing encounter, eligibility and provider data from the managed care organizations (MCOs), creating Cognos cubes to allow both team and client to query data directly, and developing SAS programs to provide summaries, reports and ad hoc requests.
- Participating on the team that conducts both desk and on-site reviews of health plans with a focus on claims processing and IT practices.
- Supporting all teams through review of medical codes and service categorizations, including ICD9 and ICD10 diagnosis and procedural codes, CPT4 and Healthcare Common Procedure Coding System procedure codes, Diagnosis-Related Groups and American Dental Association dental codes, as well as other codes specific to UB04 and the Centers for Medicare & Medicaid Services-1500 forms.
- Working to implement ICD10 changes, within both our own data systems and those of our clients.
- Helping to lead the transition of Louisiana's MCO encounter data to 5010 compliant electronic submissions to the state's data vendor.
- Managing encounter processing for Connecticut's managed care program including the data processing, interacting with the MCOs, and acting as data liaison with the State and its vendors.
- Managing the system changes, programming changes and health plan support in order to implement National Provider Identifier for Connecticut.
- Developing and running quarterly utilization reports for several clients.
- Completing performance measure calculations and writing reports for External Quality Review projects.
- Providing technical assistance to health plans concerning data submissions, mining, and reporting.

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REFERENCES

Name:	Lawrence Williams
Entity:	District of Columbia Division of Managed Care, Department of Health Care Finance
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Name:	DiAnn Robinson
Entity:	Minnesota Department of Human Services
Address:	P.O. Box 64981, St. Paul, Minnesota 55164-0981
Telephone #:	+1 651 431 2330

Name:	Howard Biederman, Senior Consultant
Entity:	Pennsylvania Department of Human Services, Office of Mental Health and Substance Abuse Services
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Telephone #:	+1 717 877 1616

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Allison Campbell

QUALIFICATIONS

Allison has experience in capitated rate setting for Medicaid, and has worked with long term care and home and community based services initiatives. She has been involved in Managed Long Term Services and Supports (MLTSS) programs, Dual Demonstration programs, and Programs of All-Inclusive Care for the Elderly (PACE). She works closely with project managers, senior actuaries, and client teams to navigate new efficiencies and program changes.

EXPERIENCE

Prior to joining Mercer, Allison studied Finance at the University of Arizona and worked at Intel as a Finance Analyst in the Global Supply Management group. In this capacity, Allison gained experience in several facets of corporate finance including budget planning and financial statement analysis.

Allison Campbell
Analyst
Actuarial/Financial Support

EDUCATION
Bachelor's degree, Finance
University of Arizona

EXPERIENCE
4 years
professional experience

CORE COMPETENCIES
Long term care rate setting
Validating and monitoring managed care organizations' financial statements and enrollment reports

Examples of Allison's experience and accomplishments include:

- Validating, analyzing and interpreting health care data including fee-for-service financial, and encounter data in the states of New Jersey and Massachusetts.
- Building and maintaining capitation rate calculation sheet models for MLTSS and PACE actuarial rate development processes.
- Analyzing various components of the rate setting process including base data development, incurred but not reported claims calculations, program changes, managed care efficiencies, care management, and administrative cost development.
- Performing technical reviews of various analyses and models used in the rate setting process.
- Completing monthly monitoring and analysis of enrollment for New Jersey's MLTSS program as membership ramped up during the early years of the program.
- Updating and reviewing quarterly dashboards to monitor enrollment, cost & utilization, and resource utilization groups.
- Analyzing financial data for New Jersey's PACE program and developing quarterly dashboards to monitor and refine financial reporting processes.

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REFERENCES

Name:	Kevin Thorpe
Entity:	Intel Corporation
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Name:	Kin Liu
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Name:	Mina Briggs
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Kodzo Dekpe, ASA, MAAA

QUALIFICATIONS

Kodzo is an Associate in Mercer's Government Human Services Consulting group, a part of Mercer Health & Benefits LLC (Mercer) in the Atlanta office. As an actuary, he works on Louisiana's programs covering physical health, pharmacy, dental and behavioral health services. He oversees the development of actuarially sound rates and certifies the rates for the Louisiana's Dental Benefit Program. He works with the North Carolina ADAP projecting future program costs and has analyzed the cost implications of a number of program design changes. Kodzo reviews premium adjustment requests from the Florida Healthy Kids medical and dental carriers. He has also overseen Texas Medicaid Wellness Program's projects including cost effectiveness analysis of 1915(b) waiver and evaluation of vendor's performance related to cost savings, humanistic outcomes and clinical quality measures.

Kodzo Dekpe, ASA, MAAA
Actuary
Actuarial Rate Setting/Dental PAHP

EDUCATION
Master of Actuarial Science
Georgia State University
Bachelor of Science, Mathematics
Pittsburg State University

EXPERIENCE
5 years
professional experience

CORE COMPETENCIES
Medicaid managed care rate setting
Design of quantitative studies
Fiscal forecasting
Actuarially sound practices

AFFILIATIONS
Associate Society of Actuaries
Member American Academy of Actuaries

EXPERIENCE

Kodzo's experience includes:

- Developing Medicaid managed care capitation rates (acute care as well as standalone dental managed care).
- Conducting rate setting analyses including analysis of financial statement data of managed care entities for capitation rate development purposes, analysis of programmatic changes and development of adjustment factors, analysis of service utilization and cost patterns and trends.
- Providing technical review and assistance in adjusting Medicaid capitation rates for health risk.
- Providing technical review and assistance in developing the Affordable Care Act Section 1202 physician fee increase adjustments.
- Analyzing and recommending strategies to achieve cost savings for program design changes.
- Reviewing actuarial soundness of rates proposed by managed care organizations and commercial carriers for government-sponsored program (acute care as well as standalone dental care).
- Evaluating cost-effectiveness of Medicaid program and financial performance of Medicaid program's contractor.

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REFERENCES

Name:	Brandon Bueche, Program Manager
Entity:	State of Louisiana, Louisiana Department of Health, Medical Vendor Payments Budget and Managed Care Finance
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Telephone #:	+1 225 384 0460

Name:	Marisa Naquin, Section Chief
Entity:	State of Louisiana, Louisiana Department of Health, Managed Care Finance Section
Address:	628 N. 4th St., Baton Rouge, LA 70802
Telephone #:	+1 504 408 1828

Name:	Jeff Dykes, Chief Financial Officer
Entity:	Florida Healthy Kids Corporation
Address:	661 East Jefferson Street, 2nd Floor, Tallahassee, FL 32301
Telephone #:	+1 850 701 6114

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Lisa deVries, RPh

QUALIFICATIONS

Lisa combines her experience in Medicaid and retail pharmacy to evaluate and assist Mercer Medicaid clients on management of the pharmacy benefit. Lisa is responsible for reimbursement rate setting for Fee-For-Service (FFS) Medicaid client's pharmacy claims for traditional and specialty medications. As a licensed pharmacist, her work experience includes pharmacy benefit management positions serving both government and commercial insurance claims processing.

EXPERIENCE

Prior to joining Mercer, Lisa worked for the State of Nebraska Department of Health and Human Services. During this time she had several roles beginning with oversight of the operational aspects of the pharmacy program which included liaising between the State and its contracted Pharmacy Benefit Manager. Eventually, as the Pharmacy Program Administrator her responsibilities encompassed contract management including Preferred Drug List (PDL) management, drug rebate and policy development. Prior to that, Lisa worked for Conduent/Xerox as the Clinical Account Manager for Nebraska. In her role as Director of Benefit Design at Prime Therapeutics she was responsible for new client implementation as well as ongoing maintenance of benefit design operations.

- **Lisa deVries, RPh**
  SME/Pharmacist
  Pharmacy Technical Support

EDUCATION
Bachelor's degree, Pharmacy
University of Iowa

EXPERIENCE
32 years
professional experience
Former state Medicaid pharmacy program administrator

CORE COMPETENCIES
Pharmacy benefit management
Pharmacy claims processing
Pharmacy rate setting and reimbursement
Drug rebate

AFFILIATION
Licensed pharmacist in Iowa, Missouri and Nebraska
Nebraska Pharmacists Association (NPA)

Examples of Lisa's Mercer experience and other accomplishments include:

- Analyze PDL utilization for select therapeutic classes, perform market shift assumptions and determine financial impact of market shift including Federal and Supplemental rebates for a large Medicaid program.
- Develop and manage multiple client Maximum Allowable Cost (MAC) and Actual Acquisition Cost (AAC) rate setting programs.
- Benchmark MAC and AAC performance for clients against the National Average Drug Acquisition Cost, federal upper limit and commercial MAC programs.
- Evaluate 340B drug pricing and fiscal impact for Medicaid FFS client.
- Serving as Mercer's Government Human Services Consulting Pharmacy Sector subject matter expert on drug reference databases; First Databank and MediSpan to support clinical initiatives and analyses.
- Evaluated rebate operations including rebate recovery for a large Medicaid program.
- Serving as pharmacy claim subject matter expert for Mercer Government Human Services Consulting Pharmacy Sector including leading technical initiatives related to pharmacy claims evaluations.

- Designing, implementing and evaluating next generation in-house drug rebate system and Physician administered drug rebate activities.
- Performing data analysis, clinical and financial evaluation, coupled with policy evaluation to develop management recommendations needed for compliance.
- Analyzing pharmacy expenses to identify inefficiency and operationalize changes for positive budget impact while minimizing provider and patient disruption.
- Analyzing physician administered drug billing inaccuracies and implementing changes to improve claims processing and rebate administration.

REFERENCES

Name:	Marcia Mueting
Entity:	Nebraska Pharmacist Association
Address:	6221 S 58th Street Suite A, Lincoln NE 68516
Telephone #:	+1 402 420 1500

Name:	Dani Feist
Entity:	Pharmacy Program Officer Montana Medicaid
Address:	111 North Sanders Street, Helena, MT 59601
Telephone #:	+1 406 444 2738

Name:	Karen Jaques
Entity:	Accountant Medicaid Rebate (retired)
Address:	7241 Kearney Avenue, Lincoln, NE 68507
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Frederick Gibison Jr, MBA

QUALIFICATIONS

With Fred's many years' of Medicaid/public health care experience, he combines his client management, analytical aptitude, actuarial rate-setting experience and team leadership/organization skills to effectively manage and lead some of Mercer's largest client engagements. Fred helps drive the strategic planning process, policy review and implications, actuarial decision-making process, project direction as well as being a primary point-of-contact for the relationship to ensure client satisfaction with Mercer's work.

Fred is the Mercer client leader for the states of Delaware (10 years and counting) and Nebraska (named) and former client leader for the Commonwealth of Pennsylvania (over 10 years; 18+ years total working with Pennsylvania). He is also a member of Mercer's business leadership group and a member of Mercer's long-term services and supports (LTSS) strategic initiative team.

EXPERIENCE

Prior to joining Mercer in 1998, Fred gained valuable experience in all aspects of business operations, accounting, client interaction, sales and workflow management in a small business in the rental/leasing industry.

Fred's experience includes:

- Team leader for Medicaid/Children's Health Insurance Program (CHIP) managed care actuarial rate development with teams of actuaries, analysts, clinicians, policy specialists, data/Informatics and pharmacy consultants.
- Working with Delaware to help design new health care delivery and payment models across multi-payer systems through the State Innovation Model Grant including the implementation of Statewide health care spending and quality benchmarks.
- Co-Project Director for Mercer's past engagement with the Centers for Medicare & Medicaid Services (CMS) Medicare-Medicaid Coordination Office for preliminary financial modeling of state Medicare/Medicaid dual eligible financial alignment demonstrations.
- Conducting numerous in-person presentations to clients, managed care plans and other entities.
- Rate setting, program design and purchasing strategies for Medicaid LTSS including Medicare/Medicaid dual eligibles.
- Negotiating annual prospective capitation rates with Medicaid/ CHIP managed care organizations (MCOs) on behalf state Medicaid agencies.

Fred Gibison Jr, MBA
Engagement Leader / Account Manager
All SOW Areas

EDUCATION
Master's degree, Business Administration
University of Phoenix
Bachelor's degree
Mathematics/Actuarial Science
Cum Laude
Central Washington University

EXPERIENCE
20 years professional experience

CORE COMPETENCIES
Client management
Team leadership
Manage care program design
Capitation rate development
Long-term services and supports
Payment strategy and reform
Financial evaluations
Data analysis
Health plan rate negotiations
Medicaid/CHIP policy

- Writing reports on LTSS options for Delaware, numerous rate-setting documentation letters for Pennsylvania and Delaware and a myriad of other research reports, options documents and evaluation papers related to health care payment, delivery and payment issues.
- Implementing and designing risk-adjusted rates strategies and policies using diagnostic and pharmacy information obtained from both managed care encounter data and fee-for-service (FFS) claims using the Chronic Disability Payment System (CDPS) and CDPS+Rx risk adjustment model.
- Incorporating innovative analyses in managed care rate setting to promote value-based purchasing and improved outcomes (e.g., avoidable hospitalizations, preventable readmissions, unnecessary emergency room use, inappropriate related-party agreements, inefficient provider contracting).
- Program for All-Inclusive Care for the Elderly (PACE) upper payment limits/FFS equivalents for Pennsylvania and Delaware including developing new PACE amounts otherwise paid for Delaware based on the MCO capitation rate development process for Duals/LTSS populations.
- Developing 1915(b) managed care waivers and 1915(c) home- and community-based long-term care programs including integrated Medicaid/Medicare programs for dual eligibles.
- Ongoing work with information/data systems staff to collect, process, and analyze Medicaid FFS claims and eligibility data and managed care encounter data.
- Developing, implementing and analyzing managed care financial cost reports on income, expenses, service utilization, and incurred claims for all types of services (e.g., inpatient, outpatient, pharmacy, physician, clinics, professional).
- Explaining rate methodologies, analyses, assumptions and other aspects of the prospective payment system for managed care.
- Interpreting new federal regulations as they pertain to Medicaid and CHIP programs (e.g., Affordable Care Act, Medicaid/CHIP Managed Care Final Rule, Mental Health/Substance Abuse Parity Act).
- Designing and calculating risk pool and risk sharing programs for high-cost/high-risk individuals and/or services (e.g., Hepatitis C, HIV/AIDS, hemophilia, newborns/NICU and home nursing care services).
- Consulting engagements with CMS, Arizona, Colorado, Connecticut, Delaware, New Mexico, Ohio, Pennsylvania, Tennessee, and West Virginia.
- Mentoring team members on payment reform, data analyses, project management and health policy issues.

PUBLICATIONS AND PUBLIC FORUM PRESENTATIONS

- National Governors Association Center for Best Practices – Medicaid Health Care Purchasing Compendium, January 2016. Lead author on Section V - Financial Models, Rate Setting, Risk Adjustment, and Performance Indicators. Available for download at: https://www.nga.org/files/live/sites/NGA/files/pdf/2016/1601NGAMedicaidCompendium.pdf.
- Testimony before Pennsylvania legislative committees on Medicaid managed care pharmacy carve-out versus carve-in options, 2008.

REFERENCES

Name:	Steve Groff, Director
Entity:	State of Delaware, Division of Medicaid & Medical Services
Address:	1901 N. DuPont Highway, Lewis Building, New Castle, DE 19720
Telephone #:	+1 302 255 9663

Name:	Lisa Zimmerman, Deputy Director
Entity:	State of Delaware, Division of Medicaid & Medical Services
Address:	1901 N. DuPont Highway, Lewis Building, New Castle, DE 19720
Telephone #:	+1 302 255 9535

Name:	George Rhyne, Director, Division of HealthChoices Rates
Entity:	Commonwealth of Pennsylvania, Department of Human Services, Bureau of Fiscal Management
Address:	Commonwealth Tower, 6th Floor, 303 Walnut Street, Harrisburg, PA 17101
Telephone #:	+1 717 705 8256

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Jay Hall

QUALIFICATIONS

Jay combines his experience in data analysis and project management to support a variety of projects for Mercer government healthcare clients. Jay is currently a team member for the client states of Pennsylvania and Delaware. He helps the teams analyze health care claims data and managed care organization financial experience to develop capitation rates and evaluate impacts of program design changes. Jay has been involved with, and managed numerous projects in the Medicaid healthcare consulting space since 2000.

EXPERIENCE

Jay has over 17 years of direct experience in setting Medicaid managed care capitation rates and Home and Community Based Services (HCBS) rates for numerous clients. Jay has not only been directly involved in, and responsible for the various components of rate development analyses, but he has also lead large and diverse teams of actuaries, consultants, analysts, clinicians, and accountants to deliver appropriate solutions.

Jay Hall
Project Manager
All SOW Areas

EDUCATION
Bachelor's degree, Finance, Magna Cum Laude, Arizona State University

EXPERIENCE
17.5 years
Professional healthcare consulting experience

CORE COMPETENCIES
Project management
Developing capitation rates
Analyzing health care data
Evaluating program design changes
HCBS fee development

Jay's experience includes:

- Medicaid managed care full-risk capitation rate setting for a number of states including Pennsylvania, Delaware, New Jersey, Ohio, and New Mexico.
- Calculating risk pool and risk sharing premiums and capitation withhold amounts for high cost/high risk individuals (e.g., HIV/AIDS, hemophiliacs, home nursing recipients).
- Developing prospective trend rates through regression analysis of plan financial and operational data.
- Financial on-site reviews of managed care organizations, focusing on administrative efficiency and related-party transactions.
- Presenting and explaining rate methodologies, analyses, assumptions and other aspects of the prospective payment system for managed care.
- Supporting Mercer clients in contract negotiations with managed care organizations.
- Evaluation of programmatic changes and their financial impact on capitation rate development and state budgets.
- Calculation of plan-specific incurred but not reported completion factors for plan-reported financial data.
- Development of numerous actuarial pricing models that incorporate the individual Medicaid program-specific needs in Pennsylvania, New Jersey, Ohio and Delaware.
- Creating managed care data books in support of capitation rate development.

- Reviewing audited financial reports and medical claims from managed care organizations in Pennsylvania, New Jersey, Delaware, New Mexico and Ohio.
- Market-based rate development for HCBS.
- Development and evaluation of provider cost reports and surveys supporting HCBS rate development.
- Fiscal analyses associated with HCBS payment structure and reimbursement changes.
- Providing strategic and technical review of rate-setting process to the Actuarial team.

REFERENCES

Name:	George Rhyne, Director, Division of HealthChoices Rates
Entity:	Commonwealth of Pennsylvania, Department of Human Services, Bureau of Fiscal Management
Address:	Commonwealth Tower, 6th Floor, 303 Walnut Street, Harrisburg, PA 17101
Telephone #:	+1 717 705 8256

Name:	John Miller, Director, Division of Budget and Contracts
Entity:	Commonwealth of Pennsylvania, Department of Human Services, Bureau of Fiscal Management
Address:	Commonwealth Tower, 6th Floor, 303 Walnut Street, Harrisburg, PA 17101
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Name:	Josh Aidala, Health Care Cost Containment Specialist
Entity:	State of Delaware, Division of Medicaid and Medical Assistance
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Telephone #:	+1 302 255 9589

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Cheryl Howard, MBA-ACC

QUALIFICATIONS

Since joining Mercer Health & Benefits LLC (Mercer), Cheryl has worked on multiple projects reviewing data, systems, contracts and policies for several states. Cheryl has worked with Medicaid programs for over 30 years. Cheryl's extensive background includes 18 years of service with the State of Arizona as well as working for national managed care plans. Her roles within the State of Arizona included: Managed Care Organization Auditor, Eligibility Quality Control Auditor, and Case Manager. Cheryl's passion for quality and efficiency has been a driving point for her work in rate and fee schedule development, auditing, healthcare economics, process improvement, cost containment, and quality initiatives. Cheryl's technical skills with data have been instrumental in investigation and research into problematic areas allowing for rapid execution of achievable solutions to complex problems.

Cheryl Howard, MBA-ACC
Data Consultant
Managed Care Data / Systems Consultant

EDUCATION
Master's Degree, Business Administration- Accounting Emphasis, University of Phoenix
Bachelor's Degree, Business Administration, University of Phoenix

EXPERIENCE
30 years professional experience

CORE COMPETENCIES
Managed care data
Managed care information systems
Operational auditing and review
Managed care finance
Policies and procedures
Contract language
Reporting

EXPERIENCE

Cheryl comes to Mercer from United Health Care Community Plans and before that Aetna (previously Schaller-Anderson, LLC). She maintained broad cross-functional positions with both organizations integrating finance, clinical, operational, and system teams to meet financial, data, organizational, and reporting needs.

Cheryl's wide-ranging experience allows her to lead, manage, or consult on a number of projects. Cheryl's experience in Mercer's Phoenix office is listed below and includes Arizona, California, Delaware, Louisiana, Minnesota, New York, New Jersey, New Mexico, North Carolina, Ohio, and Pennsylvania:

- Reviewed and analyzed data from more than 40 health plans to determine risk adjustments.
- Completed Information Systems Capabilities Assessment reviews as part of the External Quality Review compliance process.
- Compiled, calculated and reviewed data for rate development and rate setting.
- Provided technical assistance to states and contracted health plans for the submission of complete, timely, and accurate encounter data.
- Managed Care Rule support for Information Systems requirements including contract revisions.
- Conducted contractor readiness reviews.
- Provided advice and consulting for states implementing new Medicaid Management Information Systems.

- Consulted to states on the revision of; contract sections related to encounters, manuals, data dictionaries, or encounter edits to better meet state needs.
- Conducted detailed reviews of claims and encounter data to identify reporting gaps.
- Completed reconciliations of financial to encounter data.
- Built and revised state claims and clinical and reporting tools.
- Managed projects to compile and report on assessment data and the encounters and eligibility information associated with them.
- Supported clinical teams to use data to determine efficiency gaps.
- Reviewed medical codes, including ICD9 and ICD10 diagnosis and procedural codes, CPT4 and Healthcare Common Procedure Coding System procedure codes, Diagnosis-Related Groups and American Dental Association dental codes.
- Completed instructional webinars and trainings for encounter quality and claims reporting.

Prior to joining Mercer, some of her accomplishments included:

- Designed and maintained an original data process to set annual rates, reinsurance contract renewal, and regional contracts, as well as accurately calculate contractor capitation payments, and premiums.
- Devised a standalone process to identify and track claims which were reimbursable, including encounter work queue assignment, reporting, and accrual for revenue receivables which required in depth knowledge of the State Policies and Procedures related to Operations, Medical and Encounters.
- Built health care analytic models for staffing, membership, utilization, contract negotiation, revenue, contra-expenses such as TPL and reinsurance as well as administrative and medical expenses for multiple Managed Care Organizations (MCOs) and state agencies.
- Contract (including Policy and Procedure) compliance reviews on eligibility, financial, business and clinical operations for the State of Arizona Department of Health Services, Arizona Health Care Cost Containment Services, and Arizona Department of Economic Security.
- Implemented and monitored corrective action plans with contractors resulting in decreased losses and improved member services.
- Facilitated MCOs readiness reviews for new contracts by ensuring that all contractual encounter and reinsurance obligations could be met before the contract initialization, including adherence to State Policies and Procedures. As well as spearheaded MCO contract compliance reviews for encounters, reinsurance, and finance.
- Worked with data for high needs and high risk populations including: children with special health needs, Traumatic Brain Injury, Behavioral Health, Substance Use Disorder, Sickle Cell, Hemophilia, transplants as well as members utilizing telemedicine and other emerging technologies and medications.
- Created advanced models to assess member utilization for behavioral health and SUD comorbidity using existing clinical and claims/encounter data.
- Awarded Federal recognition for quality and efficiency of an effectively designed statewide training system.

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REFERENCES

Name:	DiAnn Robinson, CSW, MPA
Entity:	Minnesota Department of Human Services
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Name:	Julie Pearson, MSW, LISW
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Name:	Jonathan Starks, Informatics Manager
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Nicole Kaufman, JD, LL.M

QUALIFICATIONS

Nicole utilizes her past federal Medicaid experience to support clients in the design, implementation, and oversight of Medicaid managed care program authorities and contracts, as well as delivery system reform initiatives under section 1115 demonstration projects. She brings a unique understanding of federal policy and process to help clients develop and execute strategies to achieve federal approvals—spanning authorities, managed care contracts, and provider payment initiatives.

Nicole is a Senior Associate in Mercer's Government Human Services Consulting Policy and Operations Sector, a part of Mercer Health & Benefits LLC (Mercer) in the Phoenix office.

EXPERIENCE

Prior to joining Mercer in 2016, Nicole held a senior position in the Centers for Medicare & Medicaid Services Baltimore Central Office's Division of Managed Care Plans. Nicole was the subject matter expert for Medicaid managed care policy and served as the primary author of CMS' Medicaid Managed Care Final Rule (April 2016) and Proposed Rule (June 2015). Nicole also specialized in the negotiation of complex section 1115 demonstration projects that involved delivery system integration and delivery system reform incentive payment programs.

Nicole's client work and projects include:

- Assisting states in reviewing and modifying managed care contracts and policies for compliance with all aspects of the Medicaid Managed Care Final Rule.
- Collaborating with the Mercer actuarial team and state staff to evaluate provider payment initiatives and broader capitation rate development practices in light of the requirements in the Medicaid Managed Care Final Rule.
- Providing technical assistance to states in evaluating available managed care authorities in relation to program goals, including mental health initiatives under section 1115 demonstration authority.
- Supporting states throughout the procurement process, including development of proposal evaluation tools, facilitation of consensus scoring, and preparation of executive reports.

Nicole Kaufman, JD, LL.M
Waiver/Policy Lead
Waiver/Policy Technical Support

EDUCATION

Master of Laws (LL.M), Health Law, Saint Louis University School of Law

Juris Doctor (JD), Southern Illinois University School of Law (May 2007)

Bachelor of Arts, History and Political Science, University of Illinois

EXPERIENCE

9 years professional experience

CORE COMPETENCIES

Medicaid laws and regulations

Medicaid managed care rate setting and payment policies

Medicaid managed care state plan and waiver authorities

AFFILIATIONS

District of Columbia, Inactive Bar Member, Admitted June 2009

Missouri, Inactive Bar Member, Admitted September 2007

REFERENCES

Name:	James Golden, Division Director
Entity:	Centers for Medicare & Medicaid Services, Division of Managed Care Plans
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Name:	Debbie Anderson, Deputy Division Director
Entity:	Centers for Medicare & Medicaid Services, Division of Managed Care Plans
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Name:	Camille Dobson, Deputy Executive Director
Entity:	National Association of States United for Aging and Disabilities (NASUAD)
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Shawna Kittridge, MHS, RPh

QUALIFICATIONS

Shawna utilizes her past Medicaid work experience and knowledge of current pharmacy industry best practices to assist Medicaid clients in maximizing their drug expenditures and benefits coverage. She is able to combine her state and consulting experience to provide a big picture perspective for her clients. She and her team work closely with their state clients, growing the relationship to that of a trusted advisor, forming a true partnership to complement their current staff.

As a licensed pharmacist, her work experience includes pharmacy management positions with government, home infusion, and retail practice sites, as well as experience in long term care pharmacy and regulatory consulting as a home care surveyor for Joint Commission on the Accreditation of Healthcare Organizations

EXPERIENCE

Prior to joining Mercer, Shawna worked for the State of Idaho as the Medicaid Pharmacy Services Supervisor. Shawna was responsible for the implementation and evaluation of various cost containment projects including state maximum allowable cost (MAC) program, preferred drug list (PDL), enhanced prior authorization (PA) technology, and PA call center for the fee-for-service (FFS) pharmacy program.

She has consulted to states on program evaluation, policy review, and provider reimbursement rates across the outpatient and physician drug program. She is proactive on keeping up with industry trends and policy changes, including commercial trends, to ensure her clients understand any and all impact to their programs.

Shawna's project and client experience with Mercer includes:

- Leading the Mercer Government Pharmacy Sector.
- Advising clients on current and future pharmacy policy changes and the impact to the state Medicaid programs.
- Evaluating Medicaid Managed Care Organizations to identify inefficiencies and opportunities for programmatic changes that will improve access and services for Medicaid participants and maximize state revenues including the states of California, Pennsylvania and New Jersey.
- Analyzing pharmacy expenses, including unit cost and utilization trend components and development of pharmacy trends in the Medicaid population.

Shawna Kittridge, MHS, RPh
SME/Pharmacist
Pharmacy Technical Support

EDUCATION
Master's degree, Health Science with a public policy emphasis, Boise State University
Bachelor's degree, Pharmacy, Idaho State University

EXPERIENCE
31 years professional experience
Former state Medicaid pharmacy supervisor

CORE COMPETENCIES
Medicaid pharmacy policy and program design
Capitation rate setting analysis development and management
Medicaid MCO program onsite reviews and evaluations
Pharmacy trend analysis and projections
FFS pharmacy rate setting analysis development and management
SMAC and AAC program implementation and oversight
COD surveys
Pharmacy benefit management
Specialty pharmacy reimbursement and clinical therapy management
Home infusion therapy management

AFFILIATIONS
Licensed pharmacist in Idaho, Oklahoma and North Carolina
Member of Academy of Managed Care Pharmacy
Member of Idaho Society of Health System Pharmacists

- Reviewing drug and disease state combinations for application in capitation rate setting, including risk adjusted rate capitation models.
- Assisted state Medicaid programs with preparing and implementing FFS pharmacy reimbursement changes mandated by the Covered Outpatient Drug rule. Led Cost of Dispensing projects for the states of North Carolina, Colorado, Wisconsin, Ohio, Pennsylvania, California, Tennessee, and Oregon.
- Designing, implementing and evaluating pharmacy ingredient cost reimbursement programs including MAC program for North Carolina, Pennsylvania, Missouri, Wisconsin, Colorado and Montana and actual acquisition cost program for Colorado and Montana.
- Evaluating pharmacy PDL, medication therapy management, PA, and other utilization management programs affecting Medicaid populations for the states of North Carolina, Nebraska, Oklahoma, and Wisconsin.
- Performing data analysis, clinical and financial evaluation, and implementation of specialty pharmacy delivery channels, including physician administered drugs and reimbursement options for the states of North Carolina, Wisconsin, and Missouri.
- Mentoring team members on pharmacy reimbursement, data analyses, project management and health policy issues.

PUBLICATIONS AND PUBLIC FORUM PRESENTATIONS

- Webinar: "CMS Covered Outpatient Drugs Final Rule," Brenda Jackson, Shawna Kittridge, Ralph Magrish, Mercer, February 2016.
- Publication: "Medication Prescription Drugs: Purchasing and Management," Shawna Kittridge, J. Carmelina Rivera, Kristin Coyle, Michael Zucarelli, United Hospital Fund, 2011.

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REFERENCES

Name:	Terri Cathers, PharmD, Pharmacy Director
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Name:	Dan Peterson, Chief Allied Health Services Bureau
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Telephone #:	+1 406 444 4144

Name:	Cathy Traugott, JD, RPh, Pharmacy Section Manager
Entity:	Client and Clinical Care Office, Department of Healthcare Policy and Financing
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Laurie Klanchar, RN, MSN, CRNP

QUALIFICATIONS

Laurie is a Senior Associate within Mercer's Government Human Services Consulting group, a part of Mercer Health & Benefits LLC (Mercer) in the Phoenix office. Laurie brings extensive Medicaid and Commercial managed care proficiency to the Mercer team. Areas of expertise include clinical, quality and operations in the areas of mental health, substance use disorders and physical health integration. Laurie is a registered nurse and a certified registered nurse practitioner with experience ranging from direct care within inpatient and outpatient settings, case management, teaching, and quality management to senior leadership positions within a large statewide behavioral health managed care organization (BH-MCO).

Laurie Klanchar RN, MSN, CRNP
SME
Managed Care and Behavioral/ Physical Health Integration

EDUCATION
Master of Science, Nursing
University of Pittsburgh
Bachelor of Science, Nursing,
University of Pittsburgh

EXPERIENCE
29 years
professional experience

CORE COMPETENCIES
Medicaid Managed Care
Integrated care delivery
Quality Management
Member Services

AFFILIATIONS
RN and CRNP Licenses, Pennsylvania
Lean Six Sigma Green Belt Certified

EXPERIENCE

Laurie began her career working as a staff nurse in acute care behavioral health settings. She transitioned to a care management/utilization management role within managed care organizations (MCOs) and, upon earning a master's degree worked as a nurse practitioner providing primary care and obstetrics/gynecology services to uninsured women.

Prior to joining Mercer in 2017, Laurie served in various capacities over 12+ years at a BH-MCO that served nearly 1 million Medicaid lives within 10 contracts. Most recently, she served as the Senior Director of Care Management, Customer Services and Training, assuming oversight of nearly 300 employees over 10 office sites. She was accountable for all operations within the three departments and facilitated extensive interdepartmental collaboration with quality management, finance, data analytics, network relations, and provider reimbursement. Laurie assisted with integration of physical and behavioral health projects for seven physical health MCOs. She ensured compliance with all state regulatory agencies governing behavioral health managed care services, as well as oversight of three successful National Committee for Quality Assurance accreditations and one Utilization Review Accreditation Commission accreditation. Laurie was a leader in new business development pursuits, including drafting responses for entities implementing managed care or pursuing re-procurement opportunities. During her tenure, three contracts were awarded through re-procurement and three were a result of transition from fee-for service to managed care.

Some of Laurie's notable clinical accomplishments include:

- Designing a complex case management program.
- Developing a protocol for onsite care management.

- Promoting use of evidence based practices such as Clozapine and medication assisted therapy within care management.
- Developing metrics to evaluate performance and analyze outcomes.
- Policy and procedure development.

Laurie was responsible for the development and implementation of numerous operational projects including:

- Care management career ladder.
- Customer services career ladder.
- Work from home capability for care management and customer services staff.
- Call recording and after-call satisfaction survey.
- Use of document capture software.

While at Mercer, Laurie has worked with the states of Delaware, Ohio, Oregon, Missouri and Pennsylvania.

Laurie's experience includes:

- Extensive parity work including leading Mental Health Parity and Addiction Equity Act project for Pennsylvania Children's Health Insurance Program product.
- Conducting analysis of BH-MCO Value-based Purchasing proposals.
- Leading BH-MCO triennial care management reviews.
- Facilitating Ohio health plan readiness reviews for behavioral health redesign.
- Leading a project to evaluate the effectiveness of Psychiatric Residential Treatment Facilities.

REFERENCES

Name:	Kellie Wayda MSW, LSW Director of Western Operations
Entity:	Pennsylvania Department of Human Services Bureau of Community and Hospital Operations
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Name:	Judith deChamplain, Medical Services Analyst
Entity:	Pennsylvania Department of Human Services Office of Children's Health Insurance Program (CHIP)
Address:	1142 Strawberry Square Tower PO Box 2675| Harrisburg, PA 17105-2675
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Name:	Eric Martin, PhD, Director, Behavioral Health Services
Entity:	MO HealthNet Division, Department of Social Services
Address:	PO Box 6500, Jefferson City, MO 65102
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Stefanie Kurlanzik, JD

Stefanie Kurlanzik, JD
SME
Medicaid Policy

EDUCATION
Juris Doctor, Boston University School of Law
Bachelor of Arts, University of Pennsylvania, History & Sociology of Sciences

EXPERIENCE
10 years professional experience

CORE COMPETENCIES
Managed care contracts and Regulations
Program evaluation
Policy analysis

AFFILIATIONS
Member of New York State Bar

QUALIFICATIONS

Stefanie is a Principal in Mercer's Government Human Services Consulting group, a part of Mercer Health & Benefits LLC (Mercer) serving as a consultant on state policy and operations projects. Stefanie's area of focus is Medicaid policy consulting with a specific emphasis on assisting states and territories with developing requests for proposals for managed care contracts and associated waivers and Medicaid state plan amendments.

EXPERIENCE

Prior to joining Mercer, Stefanie practiced law with Akin Gump Strauss Hauer & Feld LLP and Cadwalader, Wickersham & Taft LLP where she specialized in corporate restructuring. Stefanie's exposure to financial restructurings and large lending transactions led to the development of excellent research, communication, strategy, and advocacy skills.

Stefanie has experience in providing clients with strategy and recommendations for Medicaid program design which includes drafting requests for proposals, managed care contracts, evaluations and readiness operational tools, and associated waivers and state plan amendments. She has assisted states in transitioning programs to managed care, developing integrated physical and behavioral health programs, and analyzing alternative payment models.

Stefanie's experience includes:

- Assisting Florida, Louisiana, Missouri, New Mexico, and Ohio in strategizing and developing Medicaid program changes and developing and drafting 1915(b), 1915(c), and 1115 waivers.
- Assisting Florida, Louisiana, New Mexico, and Puerto Rico in designing and implementing delivery system changes related to integration of long-term care services and supports and behavioral health.
- Drafting policy and strategy memorandums, reviewing regulations and providing a recommended course of action for Missouri, New Jersey, and Puerto Rico.
- Developing requests for proposals for re-designed statewide managed care and for regional managed care programs for Delaware, Missouri, New Mexico, and Puerto Rico.
- Assisting Delaware, Missouri, New Mexico, and Puerto Rico in developing re-designed managed care contracts.
- Assisting New Mexico in revising agency rules and regulations for its re-designed managed care program.
- Contributing to the drafting of a state-only funded behavioral health contract in Washington.

- Leading stakeholder engagement sessions for Arizona's State Innovation Model and Ohio's 1115 Waiver.
- Assisting Ohio in redesigning its non-emergency medical transportation program.
- Drafting deliverables for Arizona's State Innovation Model.
- Analyzing and reviewing alternative payment model designs with Arizona and New York.
- Conducting managed care plan readiness reviews in Puerto Rico.

REFERENCES

Name:	Rebecca Logan
Entity:	Missouri Department of Social Services, MO HealthNet, Managed Care
Address:	615 Howerton Court, Jefferson City, MO 65109
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Name:	Rafiat Eshett
Entity:	Bureau of Health Plan Policy, The Ohio Department of Medicaid
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Name:	George Jacobson
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Katharine V. Lyon, PhD

QUALIFICATIONS

Kate is a Principal within Mercer's Government Human Services Consulting group, a part of Mercer Health & Benefits LLC (Mercer). Kate has 37 years of clinical, administrative, and consulting experience in the field of behavioral health. She is a Clinical Psychologist with a specialty in substance use disorders treatment and research. Throughout her career she has held administrative positions of increasing responsibility within multiple areas of the behavioral health field. She was the Mental Health Director (single state authority) for the state of Florida and the Associate Director of Behavioral Health for the state of Rhode Island.

EXPERIENCE

Kate worked as a Principal for a national consulting company from January of 2011 to December of 2014 and was instrumental in the expansion of the company's behavioral health consulting sector. Kate secured the company's largest behavioral health contract during her four year tenure with the company. Kate also supported a large Midwestern state in the assessment of their jail based health care system and the development of a new request for proposal that better aligned the jails goals of budget, health outcomes, reduction in jail recidivism through a network of community partnerships. This approach included the development of outcome measures to determine the effectiveness of integrated services on the utilization of crisis and emergency department usage. In working with several states on 2703 health homes, Kate supported their development of physical health outcome measures for monitoring along with cross systems savings. Kate excels at leading complex projects that include multiple staff, state agencies, community stakeholders, subcontractors, and state/federal requirements.

Prior to her work as a consultant, she was the Mental Health Director for the State of Florida within the Department of Children and Families. The position required the oversight of the community based service system along with the forensic and civil mental health facilities. These facilities included a program for individuals designated as sexual violent predators. During her tenure as the mental health single state authority, Florida was the recipient of more SAMHSA integrated care grants than any other state. Kate also worked with Florida legislators and legislative staff to develop language to allow for the use of telepsychiatry for community mental health providers. In addition to telepsychiatry, Kate provided

Katharine V. Lyon, PhD
SME
Behavioral Health/ Mental Health/ Addiction

EDUCATION
Doctorate degree, Clinical Psychology, University of Binghamton (State University of New York)

Master's degree, Experimental Psychology, Florida Atlantic University

Bachelor's degree with High Honors in Psychology University of Florida

EXPERIENCE
37 years professional experience

CORE COMPETENCIES
Substance use disorders treatment and research
Behavioral health system design and re-design
Integration of behavioral and physical health care services
Clinical support for state plan amendments (SPA) and waivers
Clinical support for actuarial rate development

AFFILIATIONS
Licensed Clinical Psychologist State of New York

Member of Board of Directors for the National Association of Mental Health Program Directors 2008-2010

Member of Board of Directors of NRI Research Institute 2008-2010

guidance for the state of Florida toward the use of evidence or best practices. This included contracting with the University of South Florida to conduct the fidelity monitoring of Florida Assertive Community Treatment Teams the movement of the treatment system (child and adult) toward Trauma Informed Care, and the integration of mental health based Crisis Stabilization Units to include substance abuse treatment for individuals with co-occurring disorders.

Kate was the Vice-President for the Florida Council for Community Mental (CMHC) Health and represented the Community Mental Health Center Providers through lobbying and membership services. She was the Associate Director for the Division of Behavioral Health care in the state of Rhode Island and provided oversight of the adult system of care for individuals in need of substance abuse and mental health services, including the Substance Abuse Prevention and Treatment Block Grant. While at the State of Rhode Island, community mental health providers were incentivized to develop systems that allowed for the integration of primary and behavioral health care for the individuals they served. Each CMHC was encouraged to create a sustainable model that capitalized on naturally occurring community based relationships. Before moving to the state position, she worked as the Director for a non-profit substance abuse treatment agency that provided Detoxification services for the State of Rhode Island. She was the Regional Coordinator for mental health treatment in the State prison/jail system for Delaware working for a national corporation.

Examples of Kate's experience and accomplishments include:

- Supported the State of Delaware in Mental Health Parity and Addiction Equity Act (MHPAEA) the completion of the MHPAEA analysis. Delaware state staff from multiple state department/agencies participated in the analysis work.
- Supported the State of Delaware's children's agency with the design and development of the children's mental health system of care to include an evidence based practices.
- Provided training for State of Delaware staff and managed care staff on the use of American Society of Addiction Medicine.
- Provided training for State of Delaware staff on their role in care coordination within the mental health system of care.
- Supported the State of Ohio in the design and development of state plan amendments and waivers to re-design mental health and addictions treatment systems.
- Supported the State of Ohio to complete a 1915 (i) to allow for additional coverage for individuals diagnosed with serious and persistent mental illnesses.
- Supported the State of Louisiana in the development of their 1115 SUD waiver to allow for the timely submission to and acceptance by Centers for Medicare & Medicaid Services.
- Supports actuarial staff in the State of Lousiana to develop clinically based reimbursment rate.
- Participates in Request for Proposal development and evaluation for the States of South Carolina (Pharmacy), Delaware, Alabama, and Pennsylvania.
- Participates in readiness reviews and clinical performance reviews of behavoiral health-managed care organizatins on behalf of government clients for the states of North Carolina and Pennsylvania.
- Supported the States of New Mexico, Ohio and Pennsylvania with MHPAEA analysis.

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PUBLICATIONS/PRESENTATIONS/DESIGNATIONS

- Presentation at The National Association of State Human Services Finance Officers August 1, 2016 – Behavioral Health: Medicaid Funding Options - Kate Lyon and Jon Marsden.
- Medicaid Health Home Best Practices (or, "How do behavioral health providers realize the promise of Integrated Care via Health Homes?"), National Council for Behavioral Health Annual Conference February 2014.
- Report for SAMHSA-HRSA - Financing and Policy Considerations for Medicaid Health Homes for Individuals with Behavioral Health Conditions: A Discussion of Selected States' Approaches. Alicia D. Smith, Katharine V. Lyon, Ph.D. Juan Montanez, and Jennifer N. Edwards, Dr. PH., August 2013.
- National Association of Mental Health Program Directors Meeting July 2017 – National Trends and the Role of State Mental Health Commissioners As Seen by Former Commissioners.
- Member of Board of Directors for the National Association of Mental Health Program Directors 2008-2010.

REFERENCES

Name:	John Bryant
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Name:	Sally Cunningham
Entity:	Senior DCF Policy Director for the Florida Council for Community Mental Health
Address:	316 East Park Avenue, Tallahassee, FL 32301
Telephone #:	+1 850 224 6048

Name:	Lt. Colonel William Janes – retired
Entity:	Former Olmstead Consultant for state of Georgia Former Assistant Secretary for Substance Abuse and Mental Health for the Department of Children and Families for the state of Florida Former Director, Office of Drug Control Florida
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Telephone #:	+1 706 507 2126

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Michael E. Nordstrom, ASA, MAAA

QUALIFICATIONS

Mike, a Partner and Actuary with Mercer, leads the government practice Actuarial/Financial Sector, providing strategic and rate setting direction/guidance to approximately 50 credentialed actuaries and another 100 financial consultants, actuarial students, and analysts. He is also currently a senior strategic actuarial consultant and certifying actuary on our work with California Medi-Cal, and has worked for/with publicly-funded health care programs since 1997. He applies his actuarial background in risk and claims analysis, capitation rate setting, and project management for our Medicaid/Children's Health Insurance Program (CHIP) state partners.

Mike is Chairperson (since 2010) of the American Academy of Actuaries' Medicaid Subcommittee. Mike was also a member of the Academy's Actuarial Standards Board Task Force on development of a Medicaid-specific Actuarial Standard of Practice (ASOP) for Medicaid Managed Care Rate Setting and Certification (now ASOP No. 49). He is a member of the American Academy of Actuaries Health Practice Council, and as part of that group annually visits Capitol Hill to discuss Medicaid actuarial issues with members of Congress and/or their staffs, as well as agencies such as the Congressional Budget Office. Mike has presented at Medicaid industry conferences developed by AHIP and IIRUSA, to the Society of Actuaries, as well as to Centers for Medicare & Medicaid Services Central and Regional Office staff.

Mike Nordstrom, ASA, MAAA
Principal/Managing Actuary
All SOW Areas
Actuarial Rate Setting/
Risk Adjustment/
Other

EDUCATION
Bachelor's Degree, Mathematics, Minor in Statistics, University of Minnesota

EXPERIENCE
30+ years professional experience

CORE COMPETENCIES
Capitation rate development
Rate assumptions
Rate presentations and negotiations

AFFILIATIONS
Associate of the Society of Actuaries
Member, American Academy of Actuaries

EXPERIENCE

Before joining Mercer in November 2000, Mike was director of actuarial services (May 1997 to November 2000) for TriWest Healthcare Alliance in Phoenix, Arizona, a managed care support contractor in the Department of Defense TRICARE program. He built the start-up department, established monthly financial reserves through unpaid claim liability analysis, evaluated contract bid price adjustments and coordinated associated revenue revisions with the government. Prior to that, Mike worked for commercial health insurers for 14 years including five+ years at Blue Cross/Blue Shield of Oregon in Portland.

Mike's extensive experience with Medicaid & CHIP publicly-funded actuarial consulting has included:

- Strategic actuarial program work and rate development and certifications for the states of Arizona (Children's Rehabilitative Services and Division of Behavioral Health Services), California, Massachusetts, Nebraska, New Jersey, Ohio, and Oklahoma.
- Analyzing health care (physical, behavioral/mental, dental, long-term care, Program for All-Inclusive Care for the Elderly costs and trends, including actual to expected utilization and provider pricing. Provide claim cost trend factors.

- Close coordination with clinical and operational staff in the development and evaluation of benchmarks and best practices, including fee-for-service to managed care adjustments and managed care efficiency and effectiveness adjustments.
- Analysis and Certification of Ohio State Innovation Model Test Proposal which included enhanced primary care and value-based purchasing model initiatives. Ohio subsequently awarded $75 million over four years.
- Managed Care Organization (MCO) assumed administration and underwriting gain (cost of capital/risk/contingency) loads.
- MCO-specific financial adjustment analysis.
- Communicating rate methodologies, analyses, assumptions and other aspects of the prospective payment system for managed care.
- Presentation of capitation rates and risk-sharing strategies such as minimum medical loss ratio, risk corridors, risk pools, stop-loss reinsurance, to state, CMS, and MCO personnel and negotiating with those MCOs.
- Interpreting and analyzing new federal regulations as they pertain to Medicaid and CHIP programs (e.g., Medicaid Managed Care Final Rule, Affordable Care Act 1202, Health Insurance Providers Fee, and Mental Health Parity.)

LEAD AUTHORSHIP/SIGNIFICANT CONTRIBUTOR ON MEDICAID RATE SETTING/ACTUARIAL SOUNDNESS ISSUES

- http://www.actuary.org/files/Academy_Comments_on_Medicaid_NPRM_7_27_15.pdf (June 1, 2015 Medicaid NPRM).
- http://www.actuary.org/files/Medicaid_capitation_rates_and_BTD_medications_Letter_to_CMS_Nov%2011.pdf (Breakthrough Therapy Designation Drugs).
- http://www.actuary.org/files/Medicaid_Work_Group_HIP_Fee_Letter_CMS_July7docx.pdf (Health Insurance Providers Fee).
- http://www.actuary.org/files/American_Academy_of_Actuaries_Comment_Letter_CMS_2370_P_Medicaid.pdf (ACA 1202).
- http://www.actuary.org/files/publications/Medicaid_Work_Group_CMS_Presentation_Final.pdf (Medicaid Rate Setting 101 presentation).
- http://www.actuary.org/files/American_Academy_of_Actuaries_Letter_on_Rate_Setting_Checklist_to_CMS.4.pdf/American_Academy_of_Actuaries_Letter_on_Rate_Setting_Checklist_to_CMS.4.pdf (CMS Rate Setting Checklist topics).

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REFERENCES

Name:	Melinda Thomason, Director of Heath Care Systems Innovations
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Name:	Marianne Cantwell
Entity:	California State Medicaid Director, Department of Health Care Services
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Name:	Mitali Ghatak, Former Director of Financial Management, Planning and Rate Setting
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Matthew Nye

QUALIFICATIONS

Matt is a Government Actuarial Analyst within Mercer's Government Human Services Consulting group, a part of Mercer Health & Benefits LLC (Mercer) in the Phoenix office. Matt helps client teams review, analyze, and summarize healthcare data. Primarily, Matt works on different projects related to Medicaid managed care capitation rate setting. He has worked solely for the state of California.

Matthew Nye
Analyst
Actuarial/Financial Support

EDUCATION
Bachelor's degree, Mathematics
Brigham Young University-Idaho

EXPERIENCE
0.5 years
professional experience

CORE COMPETENCIES
Data summary, analysis, and presentation

EXPERIENCE

Prior to joining Mercer in 2017, Matt worked at Freeport-McMoran, serving as a LIMS data coordinator. Matt led the development of inventory tracking systems and trainings.

Examples of Matt's experience and accomplishments include:

- Development of project management system to efficiently summarize team management.
- Aggregating hospital data for use in comparisons and capitation rate setting.
- Provided modelling assistance for setting Potentially Preventable Admissions benchmark and rates.
- Providing technical and modelling assistance for setting Aids Health Foundation rates.
- Creating dashboard to compare Rate Development Templates, Supplemental Data Requests, and Gross Medical Expense reports across years.

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REFERENCES

Name:	Masoud Garshasb
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Name:	Dan Balls
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Name:	Kaycee Shultz
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Robert O'Brien, ASA, MAAA

QUALIFICATIONS

Rob is a credentialed actuary, and uses his analytical skills to improve the product on a variety of projects, most notably physical health rate setting and risk-adjusted rates.

EXPERIENCE

Rob's managed care experience includes a lead role in the implementation and monitoring for several diagnosis and pharmacy-based risk assessment engagements, including Mercer's current engagements in California, Virginia, Pennsylvania and the District of Columbia. Additionally, Rob has worked in a lead role in the development of managed care capitation rates for Mercer's current engagement in California, and is a co-certifying actuary for capitation rates for this engagement.

His experience includes:

- Over 10 years experience using various risk-adjustment grouper models used to assess population risk and disease prevalence, and adjust capitation payments. Rob has had both lead and supporting roles for risk-adjusted rates projects for either past or present client engagements in California, Pennsylvania, Virginia, Florida and the District of Columbia.
- Over 10 years experience in managed care capitation rate setting for multiple large state Medicaid programs, including rate setting for populations transitioning into managed care using fee-for-service data as the basis, rate setting for populations in which very limited data is available, and also rate setting for mature managed care populations. Additionally, Rob has extensive experience evaluating state programmatic changes and evaluating their impacts on state budgets and in the capitation rate setting process.
- Participated in several on-site health plan operational reviews and evaluated the encounter data submission processes of these health plans.
- Assisted in the development of behavioral health rates for the State of Arizona for multiple years.

Prior to joining Mercer, Rob attended the University of Florida (UF) as a graduate student in statistics. While at UF, Rob worked as a graduate assistant in the Statistics Department, where he taught statistics lab courses, served as a teacher's assistant for graduate level statistics courses, and held office to help other students when needed.

Robert O'Brien, ASA, MAAA
RAR Leader
Risk-Adjustment Support

EDUCATION
Master's degree, Statistics
University of Florida
Bachelor's degree, Mathematics and Statistics, University of Florida

EXPERIENCE
10 years
professional experience

CORE COMPETENCIES
Risk adjustment
Adjusted capitation
Rate setting
Encounter data

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REFERENCES

Name:	George Rhyne, Director, Division of HealthChoices Rates
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Name:	Jennifer Lopez, Division Chief
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Name:	Todd Gilmer, PhD, Professor and Chief
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Brandon Odell, FSA, MAAA

QUALIFICATIONS

Brandon is an associate actuary within Mercer's Government Human Services Consulting group, a part of Mercer Health & Benefits LLC (Mercer) in the Atlanta office. Brandon has extensive experience working in the area of financial analysis, efficient capitation rate setting, and Medicare Advantage bidding.

Brandon Odell, FSA, MAAA
Actuary
Actuarial Rate Setting/ PACE/ Other

EDUCATION
Bachelor of Science, Applied Mathematics with Honors, Ferris State University

EXPERIENCE
14 years professional experience

CORE COMPETENCIES
Managed care capitation rates
Actuarially sound practices
Adult Expansion rating
Financial analysis

AFFILIATIONS
Fellow Society of Actuaries
Member American Academy of Actuaries

EXPERIENCE

Prior to joining Mercer, Brandon worked at Milliman.

Brandon's experience includes:

- Medicaid managed care full-risk capitation rate setting for a number of states including Florida, Louisiana, New Mexico, and New York.
- Forecasting budget neutrality for an 1115 waiver.
- Leading analysis to determine financial impacts of risk corridors in Medicaid managed care programs.
- Analyzing Medicaid managed care cost savings.
- Analyzing costs of breakthrough therapy drugs.
- Review and validation of Managed Care Organization (MCO) financial reports and encounter data.
- Analyzing impact to capitation rates caused by migrating to a different risk-adjustment model.
- Leading transition from use of Access-based data analysis to SQL-based analytics.
- Leading development of financial and encounter-data based dashboards for use by both Medicaid agency leadership and participating health plans.
- Analyzing budgetary impacts of proposed changes to state contracts with medical providers.
- Pricing and rate filing of Medicare Advantage and Part D plans.
- Prospective trend analyses.
- Lead development of Enhanced Primary Care Case Management benchmarks and analysis of MCO performance to benchmarks.
- Presenting results and actuarial concepts to key stakeholders including state leadership and participating health plans.
- Development of fee for service rates for home –and community based services.
- Development of financial projections for a 1915(c) waiver.
- Evaluating savings generated by pediatric Accountable Care Organization.

- Analyzing claims seasonality for commercial consumer-driven health plan populations.
- Forecasting and financial reporting for commercial, Medicare Advantage, and Medicare Supplemental lines of business.
- Comparing commercial Preferred Provider Organization network costs.

REFERENCES

Name:	Jason Sanchez
Entity:	New Mexico Medical Assistance Division/HSD
Address:	2025 South Pacheco, Santa Fe, NM 87504
Telephone #:	+1 505 827 6234

Name:	Bob Maguire, Assistant Actuary (retired)
Entity:	Blue Cross Blue Shield of Michigan
Address:	11031 Hillcrest Street, Livonia, MI 48150
Telephone #:	+1 313 737 5825

Name:	Doug Bryant, Director – Strategic Planning, Finance, Compensation & Benefits
Entity:	General Motors
Address:	41094 Clermont Ave, Novi, MI 48375
Telephone #:	+1 248 910 9845

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Laura Pavlecic, RN, BSN, MBA

QUALIFICATIONS

Laura is a Principal in Mercer's Government Human Services Consulting group, a part of Mercer Health & Benefits LLC (Mercer). Laura has extensive experience in the healthcare delivery system for Medicaid and Medicare services within a variety of states. Utilization management (care and case management, care coordination, integration of physical health, behavioral health and pharmacy are areas of expertise. Laura has worked on the National Committee for Quality Assurance accreditation for health plans in a variety of states, resulting in consistent passing or exceeding expectations. Laura has worked with a variety of populations, i.e., Aged, Blind and Disabled Temporary Assistance for Needy Families Dual eligible and Special Needs Plan Children's Health Insurance Program She has conduct oversight of readiness reviews for the clinical staff.

Laura Pavlecic, RN, BSN, MBA
SME
Managed Care Operations and Clinical Quality

EDUCATION
Master Business Administration (MBA)
Chatham University, Pennsylvania
Bachelor Science in Nursing (BSN)
University of Pittsburgh, Pennsylvania

EXPERIENCE
31 years professional experience

CORE COMPETENCIES
Managed Care Clinical Operations
Utilization Management Analytics
Field and Office Based Care and Case Management Models
Quality Base Analytics
Budget design for care and administrative costs

AFFILIATIONS
Licensed Registered Nurse, Pennsylvania

EXPERIENCE

Prior to joining Mercer in 2016, Laura held various roles within Managed Care, last being, Vice President of Public Sector with oversight of clinical operations at multiple care management centers.

Since joining Mercer, Laura has worked with over 13 different states to design, implement and evaluate clinical quality programs. Highlights from her experience include:

- Led the clinical portion of the external quality review for the State of Delaware including both desk review and onsite assessment.
- Currently providing technical assistance on Quality, Case Management and Clinical Operations for efficiencies and improved outcomes.
- Lead the clinical focus of an Request for Proposal (RFP) project for a state with programming for Managed Long Term Services and Supports, physical and behavioral health integration and care coordination.
- Development of evaluation tools to be used by state partners in reviewing contractor submissions and facilitation of consensus meetings for RFP evaluations.
- Conducted best practice research for the inclusion of specified services within a Medicaid program.
- Led the targeted assessment of care coordination/case management operations for a children's specialty plan as follow-up to a broader review identifying opportunities for improvement.
- Currently providing technical assistance involving quality outcomes related to performance based initiatives and clinical efficiencies and development of quality strategy.

- Development of accountability models for cost and quality. Recent work includes extensive data analysis of readmissions and inappropriate ED utilization and research of evidence based practices to address identified drivers
- Identified Non-Qualitative Treatment Limitations within Managed Care Organization programs for compliance with the Mental Health Parity and Addiction Equity Act and Centers for Medicare & Medicaid Services directive.
- Development and implementation of integration of behavioral health services within an existing physical health operational unit.
- Collaboration with other departments, for example, network development on evaluating and intervening where there are identified gaps of services available.

REFERENCES

Name:	Maureen Ludlum
Entity:	Delaware Division of Medicaid & Medical Assistance
Address:	1901 N. DuPont Highway, New Castle, DE 19720
Telephone #:	+1 302 255 9637

Name:	Beverly Weigand
Entity:	Delaware Division of Medicaid & Medical Assistance
Address:	1901 N. DuPont Highway, New Castle, DE 19720
Telephone #:	+1 302 255 9529

Name:	Becky Ross
Entity:	Kansas Department of Health and Environment
Address:	Curtis State Office Building, 1000 SW Jackson, Topeka KS 66612
Telephone #:	+1 785 296 7773

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David A. Quinn, ASA, MAAA

QUALIFICATIONS

David adds value to his clients with his extensive experience in data analysis methods and development of Medicaid capitation rate rates for both acute and long-term services and supports (LTSS) populations, including Program for All-Inclusive Care for the Elderly. He has developed rates for the states of Delaware, New York, and Pennsylvania. Work included overseeing the designing, building, and scalability of models for, program changes, trend, and rate development. In addition to technical expertise, he has presented to health plans and state staff for rate development, negotiations, and training.

EXPERIENCE

Before joining Mercer, David was employed as an intern at both Towers Watson and Aon Hewitt, completing actuarial work for both retirement plans and commercial health benefits. David has earned his designation as an Associate of the Society of Actuaries (ASA) and is a Member of the American Academy of Actuaries (MAAA).

Since joining Mercer in 2012, David's consulting includes:

- Designing models for capitation rate development for Delaware, New York, and Pennsylvania.
- Writing regulatory certification letters for Pennsylvania's physical health care program (HealthChoices) and New York's LTSS programs', including New York's actuarial memorandums.
- Reorganizing Pennsylvania's HealthChoices rating regions using unsupervised machine learning algorithms to better match rate payment to risk.
- Compieting Centers for Medicaid and Medicaid Services (CMS) rate development guides for New York's LTSS programs' and Pennsylvania's HealthChoices rates.
- Forecasting drug utilization for rare and expensive diseases using Monte Carlo simulations.
- Traveling on-site to Pennsylvania's physical health Medicaid managed care organizations (PH-MCOs) to review their encounter data processing.
- Participating live in rate negations between Pennsylvania PH-MCOs and department staff.
- Building a template and instructions for health plans to comply with the Medicaid Managed Care/Children's Health Insurance Program Final Rule minimum loss ratio reporting requirements.
- Strategizing with Pennsylvania and New York state staff on new federal policy effecting rate setting.
- Presenting capitation rate development live to Pennsylvania's PH-MCOs.
- Developing medical and pharmacy trends from financial, fee-for-service, and encounter data.

David A. Quinn, ASA, MAAA
Actuary
Actuarial Rate Setting/ Risk Adjustment/ Other

EDUCATION
Bachelor's degree, Actuarial Science
Brigham Young University

EXPERIENCE
6.5 years professional experience

CORE COMPETENCIES
Model design
Exploratory data analysis
Rate presentations and trainings
Federal policy effecting managed care rate setting

AFFILIATIONS
Associate of the Society of Actuaries
Member of the American Academy of Actuaries

- Training Pennsylvania department staff on capitation rate setting and pharmacy trend development, including the treatment of new high-cost drugs.
- Responding to rate development questions from CMS on both New York and Pennsylvania's Medicaid programs.
- Understanding risk-adjustment theory and considerations when using different risk-adjustment models.
- Coding custom tools in Excel VBA, and coaching analysts on best practices for model building and validation.

REFERENCES

Name:	John Miller, Division Director
Entity:	Commonwealth of Pennsylvania, Department of Human Services , Division of Budgets and Contracts
Address:	Commonwealth Tower, 6th Floor, 303 Walnut Street, Harrisburg, PA 17101
Telephone #:	+1 717 705 8129

Name:	George Rhyne, Division Director
Entity:	Commonwealth of Pennsylvania, Department of Human Services , Division of HealthChoices Rates
Address:	Commonwealth Tower, 6th Floor, 303 Walnut Street, Harrisburg, PA 17101
Telephone #:	+1 717 705 8256

Name:	Laura Grassmann, Associate Healthcare Fiscal Analyst
Entity:	New York State, Department of Health, Office of Health Insurance Programs
Address:	One Commerce Plaza Rm. 1430, Albany, NY 12237
Telephone #:	+1 518 473 1421

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Lorene Reagan, RN, MS

QUALIFICATIONS

Lorene is a Senior Consultant within Mercer's Government Human Services Consulting group, a part of Mercer Health & Benefits LLC (Mercer) in the Phoenix office. Lorene has experience with Medicaid and other public assistance programs and has worked extensively with long-term services and supports (LTSS) and home - and community-based services (HCBS). She has designed and implemented 1915(c) and 1115 waivers and provided leadership for managed care implementation.

EXPERIENCE

Prior to joining Mercer in 2017, Lorene served as Bureau Chief for Developmental Services and as Senior Medicaid Health Systems Administrator at the New Hampshire Department of Health and Human Services. Her private sector work includes serving as Manager of Care Management for a Medicaid managed care plan. Lorene's focus is on LTSS and managed care.

Examples of Lorene's experience and accomplishments include:

- Operated four 1915 (c) waivers administered by the New Hampshire Department of Health and Human Services. Activities included: program design, waiver renewal, alignment of waiver services and performance measures, administrative rule development and oversight of contracted providers.
- Led the readiness initiative for mandatory enrollment of dual eligibles into the New Hampshire Medicaid managed care program for acute medical services. Developed a program specifically addressing readiness for complex populations including individuals receiving HCBS services, children with special health care needs, children receiving protective services and individuals with co-morbid medical and behavioral health challenges.
- Served as Manager of Care Management at the Boston Medical Center HealthNet and Well Sense Health Plan with responsibility for care management activities in Massachusetts and New Hampshire. Provided oversight and management of population-based and complex care management programs and ensured adherence with the National Committee for Quality Assurance standards. Provided leadership for the successful Medicaid managed care product launch for Well Sense Health Plan in New Hampshire.
- Provided presentations and briefings to state legislative committees and commissions on matters relating to Medicaid managed care, Mental Health and Substance Use Disorder Parity, the Fair Labor Standards Act, the HCBS Settings Rule and Nursing Delegation in HCBS.
- Provided leadership for the development of New Hampshire's Statewide Transition Plan for HCBS and led the initiative to implement web-based assessment and person-centered planning processes.

Lorene Reagan, RN, MS
SME
LTSS and HCBS

EDUCATION
Master's degree, Nursing
Excelsior College
Bachelor's degree, Nursing
Excelsior College

EXPERIENCE
35 years
professional experience

CORE COMPETENCIES
Long term services and supports for individuals with intellectual and developmental disabilities, physical disabilities and elders
Managed care operations
Medicaid policy

AFFILIATIONS
Registered Nurse: New Hampshire
Developmental Disabilities Nurses Association

- Served as the administrative lead for New Hampshire's 1115 Premium Assistance Program/Medicaid Expansion waiver serving 50,000 newly eligible adults. Activities included quarterly reporting, ensuring compliance with state and federal requirements, collaboration with the New Hampshire Insurance Department and liaison to the state's Qualified Health Plans and the Centers for Medicare and Medicaid Services.
- Provided technical assistance for New Hampshire's 1115 Delivery System Reform Incentive Payment waiver focusing on integration of behavioral and physical health and implementation of alternative payment models.

REFERENCES

Name:	Nicholas Toumpas, Commissioner Emeritus
Entity:	NH Department of Health and Human Services
Address:	10 Bass Drive, Rye, NH 03870
Telephone #:	+1 603 545 4995

Name:	Joyce Butterworth, RN, MS
Entity:	Centers for Medicare and Medicaid Services, Division of Medicaid & Children's Health Operations
Address:	JFK Federal Building, Suite 2275 Boston, Massachusetts 02203
Telephone #:	+1 617 565 1220

Name:	Kenda J. Howell, President
Entity:	Residential Resources, Inc.
Address:	39 Summer St Keene, NH 03431
Telephone #:	+1 800 287 2911

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Alicia D. Smith, MHA

QUALIFICATIONS

Alicia D. Smith is a Principal within Mercer's Government Human Services Consulting group, a part of Mercer Health & Benefits LLC (Mercer) in the Washington, DC office. Alicia has experience with Medicaid and other public assistance programs and has worked extensively with mental health and substance use disorder (SUD) systems and providers. She has assisted state and local government programs design and implement numerous service delivery and payment reform efforts, including the development and approval of Medicaid health homes and similar care management programs. Alicia has consulted to several states, including Michigan, Missouri, Ohio, Rhode Island, South Carolina, Virginia, and the District of Columbia on a wide range of issues including program design and implementation, Medicaid 1115 waiver and State Plan development, program analysis, and stakeholder engagement. She has also led several projects with Medicaid managed care organizations, community behavioral health providers, hospital and health systems, and state and national trade associations as well as supported MCOs to respond to state-issued requests for proposals.

Alicia D. Smith, MHA
SME
Medicaid Policy/Waivers

EDUCATION
Master's degree, Health Administration
The Ohio State University
Bachelor's degree, Political Science
Central State University

EXPERIENCE
25 years professional experience

CORE COMPETENCIES
Behavioral delivery system analysis and redesign
Behavioral health policy and program development
Medicaid waiver and state plan development
Managed care coordination models for vulnerable subpopulations
Fee-for-service rate setting

EXPERIENCE

Prior to joining Mercer in 2018, Alicia worked as a managing principal with a national health care consulting firm from 2007 through 2017 and was responsible for expanding the profile of the firm's behavioral health consulting practice. Alicia began her health care career in 1995 with the Ohio Department of Job and Family Services (now the Ohio Department of Medicaid) as a policy and program developer and has continued to utilize those skills to help clients establish and implement compliant, replicable, and sustainable health care reform strategies.

Examples of Alicia's experience and accomplishments include:

- Working with Virginia to develop a statewide strategy to address the long-term care needs of elderly adults with psychiatric conditions.
- Leading an effort on behalf of the City of Columbus (Ohio) to secure one million dollars for the Healthy Beginnings at Home: Housing Stabilization Program for Pregnant Women program for women at high risk for negative birth outcomes and experiencing housing instability.
- Assisting South Carolina develop a parity risk assessment plan and report.
- Providing targeted technical support, subject matter expertise, and resource development for the Medicaid Innovation Accelerator Program relating to SUD, primary/behavioral health integration, and severe mental illness (SMI) data analytics. The IAP is a collaborative effort between Centers for Medicare & Medicaid Services (CMS) and Children's Health Insurance Program services and the Center for Medicare & Medicaid Innovation launched by the CMS)in 2014.

- Serving as a national subject matter expert and developing a national guidance document for the CMS IAP to assist states conduct analysis of Medicaid claims and encounter data to better understand populations with SMI.
- Working with Michigan to develop and submit its 1115 Waiver for an expanded array of SUD services and assisted Michigan with development of its 1115 implementation plan.
- Assisting Missouri and Rhode Island become the first and second states in the U.S., respectively, receive CMS approval of their Medicaid Health Home State Plan Amendments. Working with Ohio, Michigan, and the District of Columbia to receive CMS approval of their Medicaid Health Home State Plan Amendments.
- Working with Michigan and the District of Columbia to support implementation of Health Home services, including design of information exchange and other technology solutions to ensure payment, quality outcomes reporting, and operational compliance.

PUBLICATIONS AND PUBLIC FORUM PRESENTATIONS

- Geropsychiatric System of Care in Virginia, November 10, 2017.
- Billing effectively (and accurately) for Integrated Behavioral Health Services, SAMHSA/HRSA Center for Integrated Health Solutions, June 6, 2016.
- Medicaid Health Home Best Practices (or, "How do behavioral health providers realize the promise of Integrated Care via Health Homes?"), National Council for Behavioral Health Annual Conference February 2014.
- Financing and Policy Considerations for Medicaid Health Homes for Individuals with Behavioral Health Conditions, April 15, 2013.
- Making the Ohio Medicaid Business Case for Integrated Physical and Behavioral Health Care, June 2010.
- Integrating Publicly Funded Physical and Behavioral Health Services: A Description of Selected Initiatives Final Report, February 2007.

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REFERENCES

Name:	Lynda Zeller, Deputy Director, Behavioral Health and Developmental Disabilities
Entity:	Michigan Department of Health and Human Services
Address:	333 S. Grand Ave, Lansing, Michigan 48909
Telephone #:	+1 517 373 3740

Name:	Oscar Morgan, Director of Adult Services
Entity:	District of Columbia Department of Behavioral Health
Address:	64 New York Ave NE, Washington, DC 20002
Telephone #:	+1 202 673 2200

Name:	Daniel Herr, Assistant Commissioner of Behavioral Health Services
Entity:	Virginia Department of Behavioral Health and Developmental Services
Address:	1220 Bank Street, Richmond, Virginia 23219
Telephone #:	+1 804 786 3921

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Jane Szymanski

QUALIFICATIONS

Jane's expertise is in managed care data/systems management and claims payment processes. Since joining Mercer, Jane has worked with more than 20 states, including Arizona, North Carolina, Missouri, Pennsylvania, and the District of Columbia. She has 35+ years of experience in the health care claims industry. With her expertise in managed care and encounter data, Jane has worked with numerous actuarial, clinical, and financial teams on data issues related to risk adjusted rates, external quality review, and the collection and analysis of encounters.

Jane Szymanski
Data Consultant
Managed Care Data/ Systems Consultant

EDUCATION
Bachelor's degree, Business Management, Western International University

EXPERIENCE
37years professional experience

CORE COMPETENCIES
Data management
Claims/encounter data expertise
Claims/clinical edit efficiency Analysis
MCO reviews readiness/ongoing reviews
MCO surveys

EXPERIENCE

Prior to joining Mercer, besides Jane's experience at setting of claims system benefit programs, Jane was the manager of data integrity for corporate quality assurance at First Health. She investigated, evaluated and performed troubleshooting of data to quantify data flow issues with claims, provider contract and clinical management staff. Recommendations for short- and long-term corrective procedures, including manual and systematic changes, were made that resulted in major network savings. At AmeriChoice, as the Director of Claims Training and Audit, company policies and procedures were created for monitoring claims processing. Jane also actively participated in system implementation projects for oversight of accuracy and integrity of data with effects on overall processes.

Jane has worked on several Medicaid claim system reviews and implementations. These projects have included readiness reviews for medical and behavioral health organizations including physical health plans, substance abuse and members with developmental disabilities, as well as the ongoing monitoring of claims systems required by federal and external quality review regulations and state initiatives. These plan reviews focused on the examination of eligibility, provider, claims and encounter data, policies and procedures, system edits, claim payment, reporting, encounter submissions, system security, and disaster planning. Jane has provided assistance with the Centers for Medicare & Medicaid Services encounter collection, data validations and claims system implementations/assessments.

Jane has worked on several projects that focus on the payment of claims and collection of encounter data and related processes at managed care organizations (MCOs), Prepaid Inpatient Health Plans Program for All-Inclusive Care for the Elderly and Long-term Care (LTC) program, and with the states' medical management information systems (MMIS).

Jane's experience includes:

- Performing oversight of claim system implementation processes for new systems for North Carolina PIHP 1915(b)(c) behavioral health initiatives and then annual reviews thereafter.

- Performing oversight of new processes in claims system for long term care individual monthly patient liability for LTC services in New Jersey or multiple fee schedules for providers depending on the service in New York.
- Reviewing of a state's fiscal agent's MMIS for:
  - Changes needed to share eligibility and provider data with MCOs.
  - Edits for encounter data submissions by MCOs.
  - Reports for monitoring encounter data.
- Perform oversight of system implementations for data integrity and payment accuracy.
- Analyzing MCO encounter data submission compliance, including accuracy of data elements, payments and potential duplicates for multiple projects for risk adjusted rates and rate setting activities.
- Performing MCO reviews through on-site reviews to verify eligibility load and update processes, encounter data collection and validation, claims payment accuracy, and reconciliation.
- Analyzing business requirements for MCO submitting encounters for completeness.
- Recommending improved data collection and processing efficiencies, including claims auditing, system edits, and data mining analysis for the District of Columbia and Delaware.
- Reviewing MCOs for adequate processes to collect and apply third party liability information during coordination of benefits claims payment in Pennsylvania behavioral health MCOs.
- Developing requests for proposals for managed care services for different types of services such as administrative services only, at-risk contracts, or additional services of LTC and home and community based services for Louisiana, Washington, and New York.
- Understanding of Certified Community Behavioral Health Clinics with clinic reviews and using electronic health records
- Assist in encounter data issues for rate setting and risk adjustment activities.
- Developing of tools for scoring proposals and readiness reviews.

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REFERENCES

Name:	Lawrence Williams
Entity:	DC Division of Managed Care, Department of Health Care Finance
Address:	9th Floor One Judiciary Square, 441 4th Street, NW, Washington, DC 20001
Telephone #:	+1 202 724 8864

Name:	Katherine Nichols
Entity:	NC Division of Mental Health Developmental Disabilities and Substance Abuse Services
Address:	306 N. Wilmington St., Raleigh, NC, 27601
Telephone #:	+1 919 715 2027

Name:	John Miller
Entity:	Pennsylvania Office of Medical Assistance Programs
Address:	Commonwealth Tower, 6th Floor, P.O. Box 2675, Harrisburg, PA 17105
Telephone #:	+1 717 705 8129

Lisa L. Knowles, D.D.S.

1053 Lantern Hill Dr. East Lansing, MI
48823; Phone: 517-332-1000
www.intentionaldental.com
intentionaldental@gmail.com

Education

Doctor of Dental Surgery, University of Michigan, Ann Arbor, MI
Graduation Date: May 1998

Bachelor of Arts, Alma College, Alma, MI
Major: Communication Minor: Biochemistry
Graduation Date: April 1994

Licensure

North East Regional Board (NERB) in Dentistry, Michigan Dental Board
Certified CE Instructor: State of Michigan Dental Board

Experience

Professional Speaker, Writer, and Consultant, September 3, 2012 – current
IntentionalDental Consulting, Beyond32Teeth.com

- Professional speaking, writing, and executive level coaching offered to dental professionals seeking awareness through a balanced, humanistic approach to health care
- Consultant for Mercer
- Speaker Bureau and Writing Bureau for Colgate
- Freelance writing for health related publications

Dentist/Owner, May 2017 – Current
Haslett East Lansing Dental Health & Wellness

- Providing overall health and wellness guidelines to patients while caring for their oral health. Owner and decision maker in all facets of this small business

Dentist, Feb. 2017 – Current
Volunteers of America Delta Dental Clinic for the Homeless, Lansing, Michigan

- Provide overall health and wellness guidelines to Medicaid insurance based patients. Educate and provide restorative, prosthodontics care, and oral surgery

Associate Dentist, May 2014 – 2017
MCDC, St. Johns, Michigan

- Serving under-represented patient base in clinic setting, Sarah Deck-Davis, D.D.S., Okemos, Michigan

Associate Dentist, January 1, 2013 – May, 2014
Renee Owen, D.D.S., P.C., Charlotte, MI Jan. 2013-May 2014
Constance Smith, D.D.S., P.C. May 2014-current
Jackson, Michigan

- Comprehensive health care professional in private dental practice

General Dentist/Owner, July 4, 2005 – January 1, 2013
Lisa L. Knowles, D.D.S., P.C.
2024 Lansing Rd., Charlotte, MI
General Dentist, November 1, 2004 – May 1, 2005

Dr. Dennis Kirkby, PC, Boyne City, MI
- Associate dentist. Expanded pediatric care to include well baby check-up by age one

General Dentist, November 1, 2004 – May 1, 2005
Dental Clinics North, Mancelona, MI
- General dentist. Position working one day per week in clinic providing care to Medicaid and lower income families

General Dentist, July 5, 1999 – May 1, 2003
Phipps, Levin and Associates, Bowling Green, OH
- Provided multi-procedural care for patients with emphasis in oral surgery, endodontics, and pedodontics within general practice setting of fifteen staff members. Supervised two dental assistants and co- supervised three receptionists. Worked with senior dentists to establish and implement staff development opportunities

Teaching Experience

• Preceptor for University of Michigan dental students in dental Clinic in St. Johns, Michigan through MCDC (My Community Dental Centers) and the Volunteers of American Clinic	Sep. 2015-Present
• Adjunct Faculty: University of Detroit Mercy School of Dentistry Developing Communication Skills DCD 8300	2013-2017
• Instructor for "Profiles for Success," program; University of Michigan Dental School. Prepped entering students for the D.A.T.	June, 1998
• Instructor for Academic Orientation: University of Michigan Dental School: lectured daily on Physiology and Gross Anatomy	Aug. 1995
• Literary Review Coordinator: students met monthly with faculty to learn how to analyze and evaluate journal articles	1997

Professional Development Membership

• Central District Dental Society	2005-Present
• Academy of General Dentists	2000-Present
• Michigan Dental Association (MDA)	1994-Present
• American Dental Association	1994-Present
• American Association of Women Dentists (AAWD)	1994-Present
• Eco-Dentistry Association	2013-2016
• Speaker's Consulting Network Member	2013-Present
• Academy of Dental Management Consultants Member	2013-Present
• Pierre Fauchard Academy Member	2015-Present
• International College of Dentists Member	2016-Present

Professional Activities and Service

• MDA Board of Trustee Member	2015-Present
• MDA Annual Session Committee, Chair	2015 2012-2015
• MDA Public Relations Committee	2012-2014
• Central District Dental Society Peer Review Committee	2011-2015
• Editor, *The Articulator* for Central District Dental Society	2014-2017
• Alma College Alumni Board, Member	2009-2015
• Lansing Area Women's Dental Study Club, Leader	2012-Present
• Completion of 12-week Dale Carnegie Human Relations Course	2013
• CanDo! (Charlotte Networking for Community Development)	2006-2013

- Dentist, Mildred Bayer Clinic for the Homeless 2000
- Multicultural Affairs Committee at Univ. Michigan 1996-1998
- Student Dentist for Traverse City Migrant Program July, 1997
- President, AAWD Student Chapter 1997
- Philanthropy Chair, Delta Sigma Delta Fraternity 1996, 1997
- Vice-President, AAWD Student Chapter 1996
- Social Chair, Delta Sigma Delta Fraternity 1995

Name	Dr. Beth Ann Faber
Title	Dentist and Business Owner
Organization	
Phone #	517-285-8714
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Name	Ms. Karen Burgess
Title	Executive Director
Organization	Michigan Dental Association
Phone #	517-331-5885
Fax #	
Email Address	kburgess@MichiganDental.org

Name	Dr. David Murphy
Title	Corporate Relations
Organization	My Community Dental Centers
Phone #	269-217-8485
Fax #	
Email Address	

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APPENDIX C

Appendix C – Annual Report

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MARSH & McLENNAN COMPANIES

2017

Opportunity in dynamic times

MARSH & McLENNAN COMPANIES
ANNUAL REPORT

With roots dating back to 1871, Marsh & McLennan is the world's leading professional services firm in the areas of risk, strategy and people.

Our market-leading businesses help clients minimize risk, maximize opportunity and energize their people to achieve great things:

RISK & INSURANCE SERVICES

MARSH
Insurance broking and risk management solutions

GUY CARPENTER
Reinsurance and capital strategies

CONSULTING

MERCER
Health, wealth and career consulting

OLIVER WYMAN
Strategy, economic and brand consulting

WE ARE COMMITTED TO:

ENABLING CLIENT SUCCESS
We anticipate the needs of our clients and act as their trusted advisors.

FINDING THE SMARTER WAY
We never stop searching for a better solution.

WORKING SIDE BY SIDE
We collaborate to harness our collective intelligence.

LIVING THE GREATER GOOD
We act with integrity and strive to improve our communities around the world.

This annual report contains "forward-looking statements," as defined in the Private Securities Litigation Reform Act of 1995. Please see "Information Concerning Forward-Looking Statements" on page (i) in the Form 10-K included in this annual report.

To our shareholders,

2017 was a year of disruption and challenge for the world. It tested the resilience of millions of people affected by extreme weather and natural disasters. It strained the limits of cooperation and diplomacy among nations and within governments. And it made demands on our larger society, as cultural flashpoints prompted us to articulate and reaffirm our fundamental values and beliefs.

Underpinning this complex and dynamic landscape are issues related to risk, strategy and people. Marsh & McLennan's expertise in these three core areas is at the heart of our sustained ability to create value. We develop solutions for clients that address the most pressing challenges of the day: shifting demographics, healthcare, cyber security, natural catastrophes and accelerating digital transformation, to list just a few.

I'm exceedingly proud of how our colleagues around the world harness our collective expertise to help address these challenges. Amidst the tumult of 2017, our people continued to deliver for our clients, while also supporting each other.

Marsh & McLennan's unique range of capabilities is more important today than ever. It not only sets us apart from other professional services firms, it positions us to deliver consistently strong performance, as we did again in 2017. Behind these results are nearly 65,000 dedicated colleagues who work side by side to make a meaningful difference in critical moments—for our clients, our communities and the larger society that surrounds us.

I am pleased to report the progress our firm made in 2017.

8 years

OF CONSECUTIVE ADJUSTED MARGIN GROWTH IN BOTH SEGMENTS

ANOTHER YEAR OF STRONG FINANCIAL PERFORMANCE

Marsh & McLennan produced excellent financial results in 2017. We generated $14 billion in consolidated revenue for the year, an increase of 6% compared with 2016, or 3% on an underlying basis.

We also delivered margin expansion in both our Risk and Insurance Services and Consulting segments, and strong growth in adjusted earnings per share.

Adjusted operating income[1] rose 10% to $3 billion and our consolidated adjusted margin increased 70 basis points to 21.2%, our tenth consecutive year of margin improvement.

Our adjusted EPS grew 15% to $3.92, compared with $3.42 in 2016, resulting in a strong shareholder return of 22.7%.

Since 2009, our adjusted EPS has grown at a compound annual growth rate of 13%. The consistency of our results during that time further sets us apart. We are among the elite 5% of S&P 500 companies with revenue over $5 billion that have grown adjusted EPS by at least 8% in each year since 2009.

In our operating segments, Risk and Insurance Services revenue of $7.6 billion reflected an increase of 7%, or 3% on an underlying basis. Adjusted operating income rose 11% to $1.9 billion, with the adjusted margin expanding 80 basis points to 25.5%.

Marsh continued to generate underlying revenue growth, with 2017 marking the seventh straight year of 3% or more.

Guy Carpenter produced 4% underlying revenue growth for 2017—continuing its record of positive underlying revenue growth that started in 2009.

1 For a reconciliation of non-GAAP results to GAAP results, as related to all non-GAAP references presented in this letter, please refer to the Company's Form 8-K, dated February 1, 2018, available on the Company's website at mmc.com

Our Consulting segment produced revenue of $6.4 billion, an increase of 5%, or 4% on an underlying basis. Adjusted operating income rose 6% to $1.2 billion, up from $1.1 billion in 2016. The adjusted margin was a strong 18.7%.

Mercer delivered 2% underlying revenue growth for the year, and its underlying revenue growth of 4% in the fourth quarter positions us well for 2018.

$2.5 billion

OF CAPITAL DEPLOYED IN 2017 TO ACQUISITIONS, SHARE REPURCHASES AND DIVIDENDS

Oliver Wyman generated underlying revenue growth of 7% for 2017, in line with its strong average annual underlying growth of 6% since 2010.

For the fourth year in a row, we fulfilled our two capital commitments to shareholders:

1) Increase our dividends per share by double digits; and
2) Reduce our total shares outstanding.

In 2017, we returned more than $1.6 billion to our shareholders in the form of dividends and share repurchases. We reduced our share count by six million shares, or 1.1%, and increased our dividends per share by 10%.

We have also consistently delivered value over time—over the past 10 years, our annual EPS growth has exceeded the S&P 500 by an average of six percentage points.

Over the long term, we expect to grow EPS at a higher rate than the S&P 500 with lower capital requirements—and lower relative volatility.

OUR VIEW OF THE MARKETS

While the nature of global risks will always change, one constant is the direct relevance of the world's top concerns to Marsh & McLennan's expertise in risk, strategy and people.

Look no further than the impact of technology. From artificial intelligence to cryptocurrencies, technology continues to transform our lives and tantalize us with its potential to solve some of the world's biggest challenges. But with advancement comes risk. Cyber, as an example, is a man-made peril spreading faster than companies can keep up.

Technological advances also create anxiety about the future of work. Digital transformation is reshaping virtually every industry. The cloud, the advent of the internet of things, advances in machine learning and faster networks are enabling our clients to realize the potential of new ideas faster than ever before, and at less cost. Imagine what will be possible, both positive and negative, when artificial intelligence and robotics become more integrated.

"We are among the elite 5% of S&P 500 companies with revenue over $5 billion that have grown adjusted EPS by at least 8% in each year since 2009."

21.2%
consolidated adjusted margin—an increase of 1,240 basis points since 2007

Highest adjusted margins in Risk & Insurance Services and Consulting in
14 YEARS

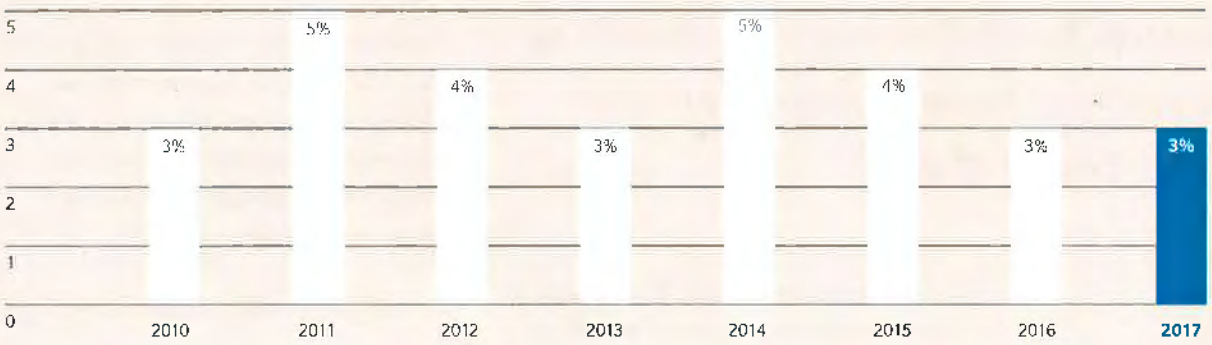
Risk & Insurance Services and Consulting adjusted operating income each at
RECORD HIGH

10 CONSECUTIVE YEARS
of consolidated adjusted margin expansion

Annual revenue exceeds
$14 BILLION

8 YEARS

of consecutive underlying revenue growth in the 3-5 percent range



Committed more than

$6 BILLION

across 140+ acquisitions and investments since 2009

10% DIVIDEND GROWTH

delivering on our annual commitment to increase dividends per share by double digits

Clients in more than

130 COUNTRIES

NEARLY 65,000

colleagues around the world making a difference for clients in critical moments

"Whether issues are economic, environmental, geopolitical, cultural or technological, Marsh & McLennan is working on almost every one of them."

Embedded in the promise of technology is a human challenge. Research shows that only about a third of employees' skills today will be relevant in the future. In addition to immediate issues like the retirement savings gap and sustainable healthcare, organizations must confront the existential challenge of reimagining their entire workforce, including how to use technology to augment, rather than replace, their greatest asset—their people.

The world continues to experience powerful social and cultural changes as society evolves against a backdrop of rapid technological change and volatility. Gender equality is one such issue. Marsh & McLennan is uncovering the impediments to gender equality and highlighting the critical importance of enabling women to thrive in the workplace and beyond. We're also contributing to the significant research that proves when women thrive, businesses thrive.

Whether issues are economic, environmental, geopolitical, cultural or technological, Marsh & McLennan is working on almost every one of them. In a complex and volatile environment, many organizations must seek advisors to help them navigate the immediate issues of the day—and to craft the strategies that will enable their businesses to prosper well into the future. We're pleased that many leaders are turning to Marsh & McLennan for insights and expertise on what can be achieved in an age of disruption and transformative opportunity.

OUR COMMITMENT TO LONG-TERM GROWTH

2017 forced businesses, governments, organizations—and our larger society—to respond to sudden shocks and shifts. That is what Marsh & McLennan is built to do. In ways big and small, today and for the long term, everyone at Marsh & McLennan is in the business of change. Together, we help our clients realize new futures, align their workforces and make the possible practical by foreseeing and understanding the risks

With our strategic positioning centered on risk, strategy and people issues, we've established true differentiation. Our areas of expertise are relevant and enduring, which is a principal reason we're able to deliver consistent results, year in and year out.

Our own businesses are also being transformed by technology, new forms of capital and people. We're always adjusting our mix of capabilities and positioning ourselves in new fields with acquisitions

and organic investments. Since 2009, we've invested nearly $9.2 billion of capital toward the growth and improvement of Marsh & McLennan. This includes $6.4 billion of capital across 143 transactions and $2.8 billion of capital expenditures.

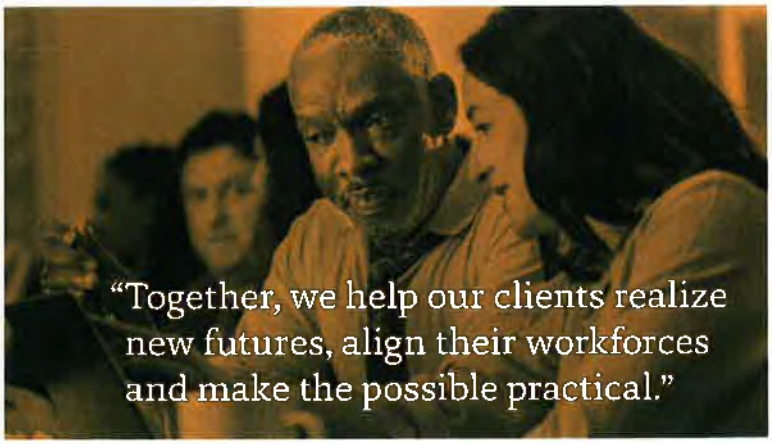
A great growth and innovation story is our expansion into US middle-market brokerage. Since 2009, we've built Marsh & McLennan Agency with $2.8 billion in capital deployed across 62 acquisitions. This business now has more than 5,000 colleagues and accounts for about $1.2 billion of annual revenue—and we're far from finished. This part of the brokerage market grows faster and offers the opportunity for differentiated performance, so we'll continue to invest in this expanding area.

Our goal is to deliver greater value to our clients and efficiency to the markets. We continue to expand our presence in the insurance value chain by growing our underwriting capabilities, claims capabilities and ability to model risk. Our momentum in this area includes Marsh's Torrent Technologies becoming the official provider for the National Flood Insurance Program (NFIP) at the start of 2017. Last spring, we launched Alternus, the first dedicated commercial insurance solution for retail clients backed by a combination of traditional and alternative capital. And in August, our Schinnerer managing general agency platform completed its acquisition of ICAT, which further expanded our capabilities in property, flood and smaller account sectors.

Guy Carpenter continues to invest and innovate in data and analytics as well as building out deeper expertise in the areas of public sector, including flood, mortgage, structured risk and cyber. In May, we announced a new alliance with Plug and Play's Insurtech vertical, which allows us to connect our clients with top innovators in the insurtech space, helping to drive efficiency gains and growth opportunities.

In our consulting businesses, emerging challenges are investment cues for us.

Mercer continued to expand its capabilities in cloud-based enterprise technology in 2017 through its investment in PayScale, a cloud-based provider of compensation management and real-time salary data. This move followed Mercer's recent acquisitions, including Thomsons Online Benefits, which made us a global leader in using



technology to address employee benefit and engagement needs; CPSG, a leading Workday services partner; and Jeitosa, a Workday implementation partner.

With clients needing digital offerings to be a core part of everything a firm does, Oliver Wyman repositioned its digital, technology and analytics team (DTA) to become a powerful resource, supporting clients across industries. The team comprises more than 400 partners, consultants and specialists dedicated to helping clients develop digital strategies, create new business models, build applications and solve major challenges through advanced analytics.

Over many years we've reinvested in our businesses to drive growth and value. We'll continue to put our capital to work where we see opportunities for sustained growth, whether it's expanding our presence in fast-growing economies, investing in under-penetrated growth segments around the world or adding new capabilities.

THE POWER OF CULTURE

We adjust our business mix all the time, which fuels our growth, but I credit our consistently strong performance in dynamic times to culture.

Marsh & McLennan is a successful organization because each and every day our colleagues come to work thinking about what they can do for our clients, the problems they need to solve and how to contribute to work of which they can be proud.

Our people help our clients and society realize new possibilities—this is a powerful magnet for those who want to work for a purpose beyond just making more profit. We attract people with heart as well as smarts, people with a social compass—people our clients want at their side when the future is at stake.

We promise every person we hire three things: work that matters, extraordinary colleagues and the opportunity to make a difference. Our colleagues like doing work the world needs—and we give them a big platform.

Shining in the moments that matter

2017 was filled with moments where our colleagues made a meaningful difference on behalf of the clients and communities we serve. Even when perilous events directly impacted their personal lives, our colleagues put the needs of our clients first.

Mari Rodriguez, CEO of our brokerage in Puerto Rico, Marsh Saldaña, is just one colleague who epitomizes the resilience and dedication of our people. After Hurricane Maria hit with devastating effects, Mari and more than a hundred of her colleagues overcame significant challenges and returned to our offices the next day. Relying on a generator for power, many worked through the weekend—with support from our global team—to ensure phones and data were restored by Monday morning so we could assist our clients.

Times of peril aren't the only times our colleagues spring into action. They're also passionate and creative volunteers. You can see how these activities make a difference in our latest *Corporate Citizenship Report*, available on mmc.com.

"Respect for one another is fundamental at Marsh & McLennan, but real inclusion is about who is at the table, not just in the room."

Our most impactful ideas grow out of client challenges. In a company of smart people, however, ideas are the easy part. We work hard to create an environment where it's safe to speak up, where everybody is expected to contribute and can expect to be heard—especially when their ideas are different from the conventional view. I've long believed that you can't have innovation without dissent. Innovation is dissent. The colleagues I admire most are alive to the world, learning and thinking and open to new possibilities. This helps make smarter ways of doing things organic to all our lines of business.

Colleagues enjoy working here because they enjoy the people with whom they work. That's our top attraction. It makes for an unusually collaborative spirit, across business units, borders and backgrounds. And it enables us to attract other smart, creative people.

Respect for one another is fundamental at Marsh & McLennan, but real inclusion is about who is at the table, not just in the room. This belief is what enables us to assemble the best talent for clients—talent that draws on a richness of diverse backgrounds and points of view to deliver superior service and solutions.

Without a strong culture anchored in transparency, respect and inclusion, the greatest threats to an enterprise can come from inside. Marsh & McLennan's policies are as clear-cut as we can make them, yet the best defense is cultural.

Culture is beliefs made visible; shared beliefs and behaviors that unite us in affirmation of what we stand for as an organization. For example, whether our larger society has reached a tipping point on abuse of power in the workplace, including sexual harassment, remains to be seen—yet the global conversation that has been sparked is long overdue. What's clear to us is that respect for every individual is fundamental at Marsh & McLennan. Each of us has a responsibility to uphold our culture, in which harassment and discrimination are not tolerated.

In a complex global operating environment, our firm exists to serve our clients and put their interests first. We do this by fostering a culture of open exchanges and constructive dissent, a culture of inclusion and respect, and a culture of doing what's right. We call this a culture of *integrity*.

"As we look ahead, we can expect accelerating change and new challenges; we can also expect our own opportunities to grow."

LOOKING FORWARD

We're living in a time of profound transformation. Inside every historical moment like this are a thousand individual opportunities to make a difference: A problem needs a solution. A client needs an answer. A colleague needs help. That's when Marsh & McLennan shines. We recognize those moments when they arrive and our people rise to the occasion. We act.

I'd like to thank our colleagues for their energy and commitment as they continue to deliver for our clients and each other in moments that matter.

None of us can do this alone. I'd like to thank our Board of Directors, led by Ed Hanway, our Independent Chairman, for their accountable and steadfast governance and exceptional leadership.

I'd also like to thank our clients for the opportunity to earn their trust every day.

And finally, I'd like to thank our investors for their continued support. We're always seeking investors who support our balanced approach of delivering strong financial performance today while investing for our future.

Whatever the complexities and uncertainties of the world we live in, our firm and the work we do will be relevant and vital. As we look ahead, we can expect accelerating change and new challenges; we can also expect our own opportunities to grow.

These next few years will be exciting ones for us, our clients and the world. Yes, it's the age of disruption, and it's also the age of possibility. At Marsh & McLennan, every one of us has the opportunity to make a difference.

Best regards,

DAN GLASER
PRESIDENT AND CHIEF EXECUTIVE OFFICER
MARSH & McLENNAN COMPANIES
FEBRUARY 22, 2018

Top, from left: R. David Yost, Marc D. Oken, Lloyd M. Yates, Daniel S. Glaser, Morton O. Schapiro, Bruce P. Nolop, Steven A. Mills, Anthony K. Anderson
Bottom, from left: Oscar Fanjul, Deborah C. Hopkins, H. Edward Hanway, Elaine La Roche

OUR BOARD OF DIRECTORS

ANTHONY K. ANDERSON
Former Vice Chair and
Midwest Area Managing Partner,
Ernst & Young LLP

OSCAR FANJUL
Vice Chairman, Omega Capital
Founding Chairman and Former
Chief Executive Officer, Repsol

DANIEL S. GLASER
President and Chief Executive Officer,
Marsh & McLennan Companies

H. EDWARD HANWAY
Former Chairman and
Chief Executive Officer,
CIGNA Corporation

DEBORAH C. HOPKINS
Former Chief Executive Officer
of Citi Ventures and
Chief Innovation Officer,
Citigroup

ELAINE LA ROCHE
Chief Executive Officer,
China International Capital Corporation US
Securities, Inc.
Former Chief Executive Officer,
China International Capital Corporation,
Beijing

STEVEN A. MILLS
Former Executive Vice President,
Software & Systems,
International Business Machines
Corporation (IBM)

BRUCE P. NOLOP
Former Executive Vice President and
Chief Financial Officer,
E*TRADE Financial Corporation

MARC D. OKEN
Managing Partner,
Falfurrias Capital Partners
Former Chief Financial Officer,
Bank of America Corporation

MORTON O. SCHAPIRO
President and Professor of Economics,
Northwestern University

LLOYD M. YATES
Executive Vice President, Market
Solutions of Duke Energy and President of
Duke Energy's Carolinas Region

R. DAVID YOST
Former President and
Chief Executive Officer,
AmerisourceBergen

Marsh & McLennan Companies awards

Named one of **America's Best Employers** by *Forbes* magazine

Ranked **#1 Insurance Broker** by *Business Insurance*

Named one of the **Best Places to Work for LGBT Equality** by Human Rights Campaign

Top, from left: Peter Hearn, John Q. Doyle, Scott McDonald, Peter J. Beshar, E. Scott Gilbert
Bottom, from left: Julio A. Portalatin, Daniel S. Glaser, Laurie Ledford, Mark McGivney

OUR EXECUTIVE COMMITTEE

PETER J. BESHAR
Executive Vice President and
General Counsel,
Marsh & McLennan Companies

JOHN Q. DOYLE
President and Chief Executive Officer,
Marsh

E. SCOTT GILBERT
Senior Vice President and
Chief Information Officer,
Marsh & McLennan Companies

DANIEL S. GLASER
President and Chief Executive Officer,
Marsh & McLennan Companies

PETER HEARN
President and Chief Executive Officer,
Guy Carpenter

LAURIE LEDFORD
Senior Vice President and
Chief Human Resources Officer,
Marsh & McLennan Companies

SCOTT McDONALD
President and Chief Executive Officer,
Oliver Wyman Group

MARK McGIVNEY
Chief Financial Officer,
Marsh & McLennan Companies

JULIO A. PORTALATIN
President and Chief Executive Officer,
Mercer

Marsh named *Reactions'* North America Awards' **Retail Broker of the Year**

Mercer named a **Top 12 Management Consulting Firm in the US** by *Forbes* magazine

Guy Carpenter named *Reactions'* London Market Awards' **Reinsurance Broking Team of the Year**

Oliver Wyman named a **Top 30 Family Friendly Employer** in the UK by Working Families

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

FORM 10-K

ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the fiscal year ended December 31, 2017
Commission File No. 1-5988

MARSH & McLENNAN COMPANIES

Marsh & McLennan Companies, Inc.
(Exact name of registrant as specified in its charter)

Delaware	**36-2668272**
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)

1166 Avenue of the Americas
New York, New York 10036-2774
(Address of principal executive offices; Zip Code)
(212) 345-5000
Registrant's telephone number, including area code
Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Name of each exchange on which registered
Common Stock, par value $1.00 per share	New York Stock Exchange Chicago Stock Exchange London Stock Exchange

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act.
Yes ☒ No ☐

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act.
Yes ☐ No ☒

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ☒ No ☐

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. Yes ☒ No ☐

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Website, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes ☒ No ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer or a smaller reporting Company. See the definitions of "large accelerated filer," "accelerated filer" and "smaller reporting Company" in Rule 12b-2 of the Exchange Act. (Check one):

Large Accelerated Filer ☒	Accelerated Filer ☐
Non-Accelerated Filer ☐ (Do not check if a smaller reporting company)	Smaller Reporting Company ☐
	Emerging Growth Company ☐

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

Indicate by check mark whether the registrant is a shell Company (as defined in Rule 12b-2 of the Exchange Act). Yes ☐ No ☒

As of June 30, 2017, the aggregate market value of the registrant's common stock held by non-affiliates of the registrant was approximately $39,350,425,982 computed by reference to the closing price of such stock as reported on the New York Stock Exchange on June 30, 2017.

As of February 19, 2018, there were outstanding 507,621,360 shares of common stock, par value $1.00 per share, of the registrant.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of Marsh & McLennan Companies, Inc.'s Notice of Annual Meeting and Proxy Statement for the 2018 Annual Meeting of Stockholders (the "2018 Proxy Statement") are incorporated by reference in Part III of this Form 10-K.

INFORMATION CONCERNING FORWARD-LOOKING STATEMENTS

This Annual Report on Form 10-K contains "forward-looking statements," as defined in the Private Securities Litigation Reform Act of 1995. These statements, which express management's current views concerning future events or results, use words like "anticipate," "assume," "believe," "continue," "estimate," "expect," "intend," "plan," "project" and similar terms, and future or conditional tense verbs like "could," "may," "might," "should," "will" and "would."

Forward-looking statements are subject to inherent risks and uncertainties that could cause actual results to differ materially from those expressed or implied in our forward-looking statements. Factors that could materially affect our future results include, among other things:

- the impact of any investigations, reviews, market studies or other activity by regulatory or law enforcement authorities, including the U.K. FCA wholesale insurance broker market study and the ongoing investigations by the European Commission;
- the impact from lawsuits, other contingent liabilities and loss contingencies arising from errors and omissions, breach of fiduciary duty or other claims against us;
- our organization's ability to maintain adequate safeguards to protect the security of our information systems and confidential, personal or proprietary information, particularly given the large volume of our vendor network and the need to patch software vulnerabilities;
- our ability to compete effectively and adapt to changes in the competitive environment, including to respond to disintermediation, digital disruption and other types of innovation;
- the financial and operational impact of complying with laws and regulations where we operate, including cybersecurity and data privacy regulations such as the E.U.'s General Data Protection Regulation, anti-corruption laws and trade sanctions regimes;
- the regulatory, contractual and reputational risks that arise based on insurance placement activities and various broker revenue streams;
- the extent to which we manage risks associated with the various services, including fiduciary and investments and other advisory services;
- our ability to successfully recover if we experience a business continuity problem due to cyberattack, natural disaster or otherwise;
- the impact of changes in tax laws, guidance and interpretations, including related to certain provisions of the U.S. Tax Cuts and Jobs Act, or disagreements with tax authorities;
- the impact of fluctuations in foreign exchange and interest rates on our results;
- the impact of macroeconomic, political, regulatory or market conditions on us, our clients and the industries in which we operate; and
- the impact of changes in accounting rules or in our accounting estimates or assumptions, including the impact of the adoption of the new revenue recognition, pension and lease accounting standards.

The factors identified above are not exhaustive. Further information concerning Marsh & McLennan Companies and its businesses, including information about factors that could materially affect our results of operations and financial condition, is contained in the Company's filings with the Securities and Exchange Commission, including the "Risk Factors" section in Part I, Item 1A of this report and the "Management's Discussion and Analysis of Financial Condition and Results of Operations" section in Part II, Item 7 of this report. We caution readers not to place undue reliance on any forward-looking statements, which are based only on information currently available to us and speak only as of the dates on which they are made. We undertake no obligation to update or revise any forward-looking statement to reflect events or circumstances arising after the date on which it is made.

TABLE OF CONTENTS

PART I

ITEM 1. BUSINESS.

References in this report to "we", "us" and "our" are to Marsh & McLennan Companies, Inc. and its consolidated subsidiaries (the "Company"), unless the context otherwise requires.

GENERAL

The Company is a global professional services firm offering clients advice and solutions in risk, strategy and people. Its businesses include: Marsh, the insurance broker, intermediary and risk advisor; Guy Carpenter, the risk and reinsurance specialist; Mercer, the provider of HR and investment related financial advice and services; and Oliver Wyman Group, the management, economic and brand consultancy. With nearly 65,000 colleagues worldwide and annual revenue of more than $14 billion, the Company provides analysis, advice and transactional capabilities to clients in more than 130 countries.

The Company conducts business through two segments:

- **Risk and Insurance Services** includes risk management activities (risk advice, risk transfer and risk control and mitigation solutions) as well as insurance and reinsurance broking and services. The Company conducts business in this segment through Marsh and Guy Carpenter.
- **Consulting** includes health, retirement, talent and investments consulting services and products, and specialized management, economic and brand consulting services. The Company conducts business in this segment through Mercer and Oliver Wyman Group.

We describe our current segments in further detail below. We provide financial information about our segments in our consolidated financial statements included under Part II, Item 8 of this report.

OUR BUSINESSES

RISK AND INSURANCE SERVICES

The Risk and Insurance Services segment generated approximately 54% of the Company's total revenue in 2017 and employs approximately 35,000 colleagues worldwide. The Company conducts business in this segment through Marsh and Guy Carpenter.

MARSH

Marsh is a global leader in delivering risk advisory and insurance solutions to companies, institutions and individuals around the world. From its founding in 1871 to the present day, Marsh has demonstrated a commitment to thought leadership, innovation and insurance expertise to meet its clients' needs. Marsh's pioneering contributions include introducing the practice of client representation through brokerage, the discipline of risk management, the globalization of risk management services and the development of service platforms that identify, quantify, mitigate and transfer risk.

Currently, approximately 32,700 Marsh colleagues provide risk management, insurance broking, insurance program management services, risk consulting, analytical modeling and alternative risk financing to a wide range of businesses, government entities, professional service organizations and individuals in more than 130 countries. Marsh generated approximately 46% of the Company's total revenue in 2017.

Insurance Broking and Risk Consulting

In its core insurance broking and risk advisory business, Marsh employs a team approach to identify, quantify and address clients' risk management and insurance needs. Marsh's product and service offerings include risk analysis, insurance program design and placement, insurance program support and administration, claims support and advocacy, alternative risk strategies and a wide array of risk analysis and risk management consulting services. Clients benefit from Marsh's advanced analytics, deep technical expertise, collaborative global culture and the ability to develop innovative solutions and products. The firm's resources also include more than 35 risk, specialty and industry practices, including

cyber, financial and professional service practices, along with a growing employee health & benefits business.

Marsh provides services to clients of all sizes, including large multinational companies, high growth middle-market businesses, small commercial enterprises and high net-worth private clients. Marsh segments clients to ensure that their needs are effectively addressed through tailored value propositions, which aim to provide solutions that best mitigate and manage their risk exposures.

Global Risk Management. Marsh has an extensive global footprint and market-leading advisory and placement services that benefit large domestic and international companies and institutions facing complex risk exposures. These clients are also supported by Marsh's robust analytics and a growing digital experience.

In addition, Marsh's largest multinational clients are serviced by a dedicated team of colleagues from around the world focused on delivering service excellence and insurance solutions to clients wherever they are located. Marsh provides global expertise and an intimate knowledge of local markets, helping clients navigate local regulatory environments to address the worldwide risk issues that confront them.

Middle Market & Corporate. A fast-growing segment, middle market and corporate clients are served by Marsh's brokerage operations globally and constitute a substantial majority of clients served by Marsh & McLennan Agency (MMA) in the United States, Jelf/Bluefin in the United Kingdom and large portions of Marsh's international business.

- ***MMA*** offers a broad range of commercial property and casualty products and services, as well as solutions for employee health and benefits, retirement and administration needs and a growing personal lines business in the United States and Canada. Since its first acquisition in 2009, MMA has acquired 62 agencies. MMA provides advice on insurance program structure and market dynamics, along with industry expertise and transactional capability.
- ***Jelf*** (acquired in December 2015) *and* ***Bluefin*** (acquired in December 2016) service more than 250,000 clients, primarily in the small to mid-market segment across the United Kingdom, and offer high quality technical advice, bespoke products and distinctive services including claims consultancy, employee health and benefit, personal lines solutions and risk management. As a result of these acquisitions, Marsh is now a leading SME (small and medium enterprise) broker in the United Kingdom.

Commercial & Consumer. Clients in this market segment typically face less complex risks and are served by Marsh's innovative product and placement offerings and growing capabilities in digitally enabled distribution.

- ***The Schinnerer Group*** is one of the largest underwriting managers of professional liability and specialty insurance programs worldwide. In the United States, Victor O. Schinnerer & Co. and ICAT Managers offer risk management and insurance solutions to over 125,000 insureds through a national third-party distribution network of licensed brokers. ENCON Group Inc., a leading managing general agent in Canada with over 43,000 insureds, offers professional liability and construction insurance, as well as group and retiree benefits programs and claims handling for individuals, professionals, organizations and businesses.
- ***Dovetail Insurance*** Is a leading provider of cloud-based insurance services and transaction processing tailored to the U.S. small commercial market. Based in Columbia, South Carolina, Dovetail deploys an advanced cloud-based technology platform that enables independent insurance agents, on behalf of their small business clients, to obtain online quotes from multiple insurance providers and bind insurance policies in real time.

High Net Worth (HNW). Individual high net worth clients are serviced by Marsh's Private Client Services (PCS), MMA and other personal lines businesses globally. These businesses provide a single-source solution for high net worth clients and are dedicated to sourcing protections across a complete spectrum of risk. Using a close consultative approach, PCS analyzes exposures and customizes programs to cover clients with complex asset portfolios.

Additional Services and Adjacent Businesses

In addition to insurance broking, Marsh provides certain other specialist advisory or placement services:

Marsh Risk Consulting (MRC) is a global practice comprising specialists that advise clients on identifying exposures, use data and analytics to assess critical business activities and evaluate existing risk practices and strategies. MRC provides client services in four main areas: Property Consulting; Casualty Consulting; Strategic Risk and Cybersecurity Consulting; and Financial Advisory Services.

Marsh Global Analytics helps organizations use data and analytical tools to better understand risks, make more informed decisions and support the implementation of innovative solutions and strategies. Marsh Global Analytics employs a suite of solutions including extensive, global placement data viewed using PlaceMAP (a benchmarking and placement application), statistical and financial analyses, decision modeling, catastrophic loss modeling and the Marsh Analytical Platform (Marsh's proprietary suite of analytics applications that delivers risk insights to clients for better decision making concerning retaining, mitigating and transferring risk).

Marsh Captive Solutions serves more than 1,200 captive facilities, including single-parent captives, reinsurance pools and risk retention groups. The Captive Solutions practice operates in 36 captive domiciles and leverages the consulting expertise within Marsh's brokerage offices worldwide. The practice includes the Captive Advisory Group, a consulting arm that performs captive feasibility studies and helps to structure and implement captive solutions; the Captive Management Group, an industry leader in managing captive facilities and in providing administrative, consultative and insurance-related services; and the Actuarial Services Group, which is comprised of credentialed actuaries and supporting actuarial analysts.

Torrent Technologies is a service provider to Write Your Own (WYO) insurers participating in the National Flood Insurance Program (NFIP) in the United States. It offers a comprehensive suite of flood insurance products and services to WYO carriers and agents. In December 2017, Torrent commenced responsibilities as the Direct Servicing Agent of the NFIP.

Marsh ClearSight is a cloud-based software platform that serves the needs of risk management professionals, insurance carriers and third-party administrators, through integration of its technology platform with analytics and data services. Marsh ClearSight enables its clients to manage their insurance claims and other risk data, analyze trends, gain industry insights, optimize safety, risk mitigation and other decision-making and reduce costs.

Bowring Marsh is an international placement broker primarily for property and casualty risks. Bowring Marsh uses placement expertise in major international insurance market hubs, including Bermuda, Brazil, China, United Arab Emirates, Ireland, Spain, United Kingdom, the United States, Singapore, Japan and Switzerland, and an integrated global network to secure advantageous terms and conditions for its clients throughout the world.

Services for Insurers

Insurer Consulting Group provides services to insurance carriers. Through Marsh's patented electronic platform, MarketConnect, and sophisticated data analysis, Marsh provides insurers with individualized preference setting and risk identification capabilities, as well as detailed performance data and metrics. Insurer consulting teams review performance metrics and preferences with insurers and provide customized consulting services to insurers designed to improve business planning and strategy implementation. Marsh's Insurer Consulting services are designed to improve the product offerings available to clients, assist insurers in identifying new opportunities and enhance insurers' operational efficiency. The scope and nature of the services vary by insurer and by geography.

GUY CARPENTER

Guy Carpenter, the Company's reinsurance intermediary and advisor, generated approximately 9% of the Company's total revenue in 2017. The workforce consists of approximately 2,300 colleagues who provide clients with a combination of specialized reinsurance broking expertise, strategic advisory services and analytics solutions. Guy Carpenter creates and executes reinsurance and risk management solutions for clients worldwide through risk assessment analytics, actuarial services, highly-specialized product knowledge and trading relationships with reinsurance markets. Client services also include contract and claims management and fiduciary accounting.

Acting as a broker or intermediary on all classes of reinsurance, Guy Carpenter places two main types of property and casualty reinsurance: treaty reinsurance, which involves the transfer of a portfolio of risks; and facultative reinsurance, which involves the transfer of part or all of the coverage provided by a single insurance policy.

Guy Carpenter provides reinsurance services in a broad range of specialty practice areas, including: agriculture; alternative risk transfer (such as group-based captives and insurance pools); aviation & aerospace; casualty clash (losses involving multiple policies or insureds); construction and engineering; credit, bond & political risk; cyber; excess & umbrella; flood; general casualty; life, accident & health; marine and energy; medical professional liability; professional liability; program manager solutions; property; public sector; retrocessional reinsurance (reinsurance between reinsurers); surety (reinsurance of surety bonds and other financial guarantees); terror, and workers compensation.

Guy Carpenter also offers clients alternatives to traditional reinsurance, including industry loss warranties and, through its licensed affiliates, capital markets alternatives such as transferring catastrophe risk through the issuance of risk-linked securities. GC Securities, the Guy Carpenter division of MMC Securities LLC and MMC Securities (Europe) Limited, offers corporate finance solutions, including mergers & acquisitions and private debt and equity capital raising, and capital markets-based risk transfer solutions that complement Guy Carpenter's strong industry relationships, analytical capabilities and reinsurance expertise.

Guy Carpenter also provides its clients with reinsurance-related services, including actuarial, enterprise risk management, financial and regulatory consulting, portfolio analysis and advice on the efficient use of capital. Guy Carpenter's Global Strategic Advisory ("GSA") unit helps clients better understand and quantify the uncertainties inherent in their businesses. Working in close partnership with Guy Carpenter account executives, GSA specialists help support clients' critical decisions in numerous areas, including reinsurance utilization, catastrophe exposure portfolio management, new product and market development, rating agency, regulatory and account impacts, loss reserve risk, capital adequacy and return on capital.

Compensation for Services in Risk and Insurance Services

Marsh and Guy Carpenter are compensated for brokerage and consulting services through commissions and fees. Commission rates and fees vary in amount and can depend on a number of factors, including the type of insurance or reinsurance coverage provided, the particular insurer or reinsurer selected, and the capacity in which the broker acts and negotiates with clients. In addition to compensation from its clients, Marsh also receives other compensation, separate from retail fees and commissions, from insurance companies. This other compensation includes, among other things, payments for consulting and analytics services provided to insurers; fees for administrative and other services provided to or on behalf of insurers (including services relating to the administration and management of quota shares, panels and other facilities in which insurers participate); and contingent commissions, which are paid by insurers based on factors such as volume or profitability of Marsh's placements, particularly at MMA and in parts of Marsh's international operations.

Marsh and Guy Carpenter receive interest income on certain funds (such as premiums and claims proceeds) held in a fiduciary capacity for others. For a more detailed discussion of revenue sources and factors affecting revenue in our Risk and Insurance Services segment, see Part II, Item 7 ("Management's Discussion and Analysis of Financial Condition and Results of Operations") of this report.

CONSULTING

The Company's Consulting segment generated approximately 46% of the Company's total revenue in 2017 and employs approximately 27,300 colleagues worldwide. The Company conducts business in this segment through Mercer and Oliver Wyman Group.

MERCER

Mercer delivers advice and digital solutions that help organizations meet the health, wealth and career needs of a changing workforce. Mercer has more than 22,600 colleagues based in 40 countries. Clients include a majority of the companies in the Fortune 1000 and FTSE 100, as well as medium- and small-market organizations. Mercer generated approximately 32% of the Company's total revenue in 2017.

Mercer operates in the following areas:

Health. Mercer assists public and private sector employers in the design and management of employee health care programs; administration of health benefits and flexible benefits programs, including benefits outsourcing; employee engagement with their health benefits through a digital experience; compliance with local benefits-related regulations; and the establishment of health and welfare benefits coverage for employees. Mercer provides a range of advice and solutions to clients, which, depending on the engagement, may include: total health management strategies; global health brokerage solutions; vendor performance and audit; life and disability management; and measurement of healthcare provider performance. These services are provided through traditional fee-based consulting as well as commission-based brokerage services in connection with the selection of insurance companies and healthcare providers. Mercer also provides solutions for private active and retiree exchanges in the United States, including its Mercer Marketplace 365℠ offering, as well as tools to enhance employee engagement with their health benefits through its Darwin℠ platform.

Wealth. Mercer assists clients worldwide in the design, governance and risk management of defined benefit, defined contribution and hybrid retirement plans. Mercer provides retirement plan outsourcing, including administration and delivery of defined benefit and defined contribution retirement benefits. Mercer also provides investment advice and related services to the sponsors and trustees of pension plans, master trusts, foundations, endowments, and insurance companies as well as wealth management and other financial intermediary firms.

Effective January 1, 2017, Mercer combined its Retirement and Investments businesses to form the Wealth business. The Wealth business is comprised of two practices: Defined Benefit Consulting & Administration (DBA) and Investment Management & Related Services (IMS).

DBA includes mature businesses primarily in defined benefit and actuarial consulting, defined benefit investment consulting and defined benefit plan administration. Through DBA, Mercer provides a range of retirement-related services and solutions to corporate, governmental and institutional clients. IMS includes businesses primarily in investments delegated solutions, defined contribution-related investment services, and financial wellness. Mercer's services cover all stages of the investment process, from strategy, structure and implementation to ongoing portfolio management. Mercer's investment management services are also referred to as delegated solutions or fiduciary management. Mercer provides these services to institutional and other sophisticated investors including retirement plans (defined benefit and defined contribution), master trusts, endowments and foundations and wealth managers and other financial intermediary firms, primarily through manager of manager funds sponsored and managed by Mercer. As of December 31, 2017, Mercer had assets under delegated management of approximately $227 billion worldwide. Mercer's financial wellness advice and services are designed to promote the financial well being of employees.

Career. Mercer's Career businesses, formerly known as Talent, advise organizations on the engagement, management and rewarding of employees; the design of executive remuneration programs; the transformation or improvement of human resource (HR) effectiveness; and the implementation of digital and cloud-based Human Resource Information Systems through Mercer Career Digital. In addition, through proprietary survey data and decision support tools, Mercer's Information Products Solutions business provides clients with human capital information and analytical capabilities to improve strategic human capital decision making. Mercer's Communications business helps clients plan and implement HR

programs and other organizational changes designed to maximize employee engagement, drive desired employee behaviors and achieve improvements in business performance.

OLIVER WYMAN GROUP

With more than 4,700 professionals and offices in 30 countries, Oliver Wyman Group delivers advisory services to clients through three operating units, each of which is a leader in its field: Oliver Wyman, Lippincott and NERA Economic Consulting. Oliver Wyman Group generated approximately 14% of the Company's total revenue in 2017.

Oliver Wyman is a leading global management consulting firm. Oliver Wyman's consultants specialize by industry and functional area, allowing clients to benefit from both deep sector knowledge and specialized expertise in strategy, operations, risk management and organization transformation. Industry groups include:

- Automotive
- Aviation, Aerospace & Defense
- Business Services
- Communications, Media & Technology
- Distribution & Wholesale
- Energy
- Financial Services (including corporate and institutional banking, insurance, wealth and asset management, public policy, and retail and business banking)
- Health & Life Sciences
- Industrial Products
- Public Sector
- Retail & Consumer Products
- Surface Transportation
- Travel & Leisure

Oliver Wyman overlays its industry knowledge with expertise in the following functional specializations:

- *Actuarial.* Oliver Wyman offers actuarial consulting services to public and private enterprises, self-insured group organizations, insurance companies, government entities, insurance regulatory agencies and other organizations.
- *Business & Organization Transformation.* Oliver Wyman advises organizations undergoing or anticipating profound change or facing strategic discontinuities or risks by providing guidance on leading the institution, structuring its operations, improving its performance and building its organizational capabilities.
- *Corporate Finance & Restructuring.* Oliver Wyman provides an array of capabilities to support investment decision making by private equity funds, hedge funds, sovereign wealth funds, investment banks, commercial banks, arrangers, strategic investors and insurers.
- *Digital.* Oliver Wyman has a dedicated cross-industry team helping clients capitalize on the opportunities created by digital technology and addressing the strategic threats.
- *Marketing & Sales.* Oliver Wyman advises leading firms in the areas of offer/pricing optimization; product/service portfolio management; product innovation; marketing spend optimization; value-based customer management; and sales and distribution model transformation.
- *OW Labs.* OW Labs applies innovative approaches to technology to drive business impact for its clients. The mission of OW Labs is to help clients to unleash the power of the information they already have or could capture - essentially to become knowledge-powered businesses - and through that to drive competitive advantage and sustained impact.
- *Operations & Technology.* Oliver Wyman offers market-leading IT organization design, IT economics management, Lean Six Sigma principles and methodologies, and sourcing expertise to clients across a broad range of industries.
- *Risk Management.* Oliver Wyman works with chief financial officers, chief risk officers, and other senior finance and risk management executives of corporations and financial institutions on risk management solutions. Oliver Wyman provides effective, customized solutions to the challenges presented by the evolving roles, needs and priorities of these individuals and organizations.

- *Strategy*. Oliver Wyman is a leading provider of corporate strategy advice and solutions in the areas of growth strategy and corporate portfolio; non-organic growth and M&A; performance improvement; business design and innovation; corporate center and shared services; and strategic planning.
- *Sustainability Center*. The Sustainability Center at Oliver Wyman supports leading companies and governments around the world in their efforts to foster economic growth while encouraging more responsible use of natural resources and environmental protection.
- *Value Sourcing*. Oliver Wyman helps organizations with optimization of purchasing processes or organization; cost monitoring; low-cost country sourcing; supply chain management; strategic sourcing; sequenced supply; part kitting; and with transforming procurement into a strong competitive advantage, delivering sustained value.

Lippincott is a brand strategy and design consulting firm that advises corporations around the world in a variety of industries on corporate branding, identity and image. Lippincott has helped create some of the world's most recognized brands.

NERA Economic Consulting provides economic analysis and advice to public and private entities to achieve practical solutions to highly complex business and legal issues arising from competition, regulation, public policy, strategy, finance and litigation. NERA professionals operate worldwide assisting clients including corporations, governments, law firms, regulatory agencies, trade associations, and international agencies. NERA's specialized practice areas include: antitrust; securities; complex commercial litigation; energy; environmental economics; network industries; intellectual property; product liability and mass torts; and transfer pricing.

Compensation for Services in Consulting

Mercer and the Oliver Wyman Group of businesses are compensated for advice and services primarily through fees paid by clients. Mercer's Health & Benefits business is compensated through commissions for the placement of insurance contracts (comprising more than half of the revenue in the Health & Benefits business) and consulting fees. Mercer's Delegated Solutions business and certain of Mercer's defined contribution administration services are compensated typically through fees based on assets under administration or management. For a majority of the Mercer-managed investment funds, revenue received from Mercer's investment management clients as sub-advisor fees is reported in accordance with U.S. GAAP, on a gross basis rather than a net basis. For a more detailed discussion of revenue sources and factors affecting revenue in the Consulting segment, see Part II, Item 7 ("Management's Discussion and Analysis of Financial Condition and Results of Operations") of this report.

REGULATION

The Company's activities are subject to licensing requirements and extensive regulation under U.S. federal and state laws, as well as laws of other countries in which the Company's subsidiaries operate. See Part I, Item 1A ("Risk Factors") below for a discussion of how actions by regulatory authorities or changes in legislation and regulation in the jurisdictions in which we operate may have an adverse effect on our businesses.

Risk and Insurance Services. While laws and regulations vary from location to location, every state of the United States and most foreign jurisdictions require insurance market intermediaries and related service providers (such as insurance brokers, agents and consultants, reinsurance brokers and managing general agents) to hold an individual or company license from a government agency or self-regulatory organization. Some jurisdictions issue licenses only to individual residents or locally-owned business entities; in those instances, if the Company has no licensed subsidiary, it may maintain arrangements with residents or business entities licensed to act in such jurisdiction. Such arrangements are subject to an internal review and approval process. Licensing of reinsurance intermediaries is generally less rigorous compared to that of insurance brokers, and most jurisdictions require only corporate reinsurance intermediary licenses.

The Insurance Mediation Directive was adopted by the United Kingdom and 26 other European Union Member States in 2005. Its implementation gave powers to the Financial Services Authority ("FSA"), the

United Kingdom regulator at the time, to expand their responsibilities in line with the Financial Services and Markets Act, the result of which was the regulation of insurance and reinsurance intermediaries. The enhanced regulatory regime implemented in the United Kingdom created a licensing system based on an assessment of factors which included professional competence, financial capacity and the requirement to hold professional indemnity insurance. In April 2013, the FSA was superseded by the Financial Conduct Authority ("FCA"). In April 2014, the FCA's responsibilities were expanded further to include the regulation of credit activities for consumers. This included the broking of premium finance to consumers who wished to spread the cost of their insurance. In April 2015, the FCA obtained concurrent competition powers enabling it to enforce prohibitions on anti-competitive behavior in relation to financial services.

Insurance authorities in the United States and certain other jurisdictions in which the Company's subsidiaries do business, including the FCA in the United Kingdom, also have enacted laws and regulations governing the investment of funds, such as premiums and claims proceeds, held in a fiduciary capacity for others. These laws and regulations typically provide for segregation of these fiduciary funds and limit the types of investments that may be made with them, and generally apply to both the insurance and reinsurance business.

Certain of the Company's Risk and Insurance Services activities are governed by other regulatory bodies, such as investment, securities and futures licensing authorities. In the United States, Marsh and Guy Carpenter use the services of MMC Securities LLC, a SEC registered broker-dealer in the United States, investment adviser and introducing broker. MMC Securities LLC is a member of the Financial Industry Regulatory Authority ("FINRA"), the National Futures Association and the Securities Investor Protection Corporation ("SIPC"), primarily in connection with capital markets and other investment banking-related services relating to insurance-linked and alternative risk financing transactions. Also in the United States, Marsh uses the services of MMA Securities LLC, a SEC registered broker-dealer and member of FINRA, SIPC and the Municipal Securities Rulemaking Board, primarily in connection with retirement, executive compensation and benefits consulting and advisory services to qualified and non-qualified benefits plans, companies and executives. In the United Kingdom, Marsh and Guy Carpenter use the expertise of MMC Securities (Europe) Limited, which is authorized and regulated by the FCA to provide advice on securities and investments, including mergers & acquisitions in the European Union. MMC Securities LLC, MMC Securities (Europe) Limited and MMA Securities LLC are indirect, wholly-owned subsidiaries of Marsh & McLennan Companies, Inc.

Consulting. Certain of Mercer's retirement-related consulting and investment services are subject to pension law and financial regulation in many countries. In addition, the trustee services, investment services (including advice to persons, institutions and other entities on the investment of pension assets and assumption of discretionary investment management responsibilities) and retirement and employee benefit program administrative services provided by Mercer and its subsidiaries and affiliates are also subject to investment and securities regulations in various jurisdictions, including regulations imposed or enforced by the SEC and the Department of Labor in the United States, the FCA in the United Kingdom, the Central Bank of Ireland and the Australian Prudential Regulation Authority and the Australian Securities and Investments Commission. In the United States, Mercer provides investment services through Mercer Investment Management, Inc. and Mercer Investment Consulting LLC, each an SEC-registered investment adviser in the United States. Mercer Trust Company, a New Hampshire chartered trust bank, provides services for Mercer's benefits administration and investment management business in the United States. The benefits insurance consulting and brokerage services provided by Mercer and its subsidiaries and affiliates are subject to the same licensing requirements and regulatory oversight as the insurance market intermediaries described above regarding our Risk and Insurance Services businesses. Mercer uses the services of MMC Securities LLC to provide certain retirement and employee benefit services. Oliver Wyman Group uses the services of MMC Securities (Europe) Limited in the European Union, primarily in connection with corporate finance advisory services.

FATCA. Regulations promulgated by the U.S. Treasury Department pursuant to the Foreign Account Tax Compliance Act and related legislation (FATCA) require the Company to take various measures relating to non-U.S. funds, transactions and accounts. The regulations impose on Mercer certain client financial account tracking and disclosure obligations with respect to non-U.S. financial institution and insurance clients, and require Marsh and Guy Carpenter (and Mercer, in limited circumstances) to collect, validate and maintain certain documentation from each foreign insurance entity that insures a risk that is subject

to the regulations. As of January 1, 2017, FATCA expanded to regulate a broader set of insurance and reinsurance placements, known as "foreign-to-foreign" transactions. The Company has adopted processes to substantially address FATCA's requirements.

COMPETITIVE CONDITIONS

The Company faces strong competition in all of its businesses from providers of similar products and services, including competition with regard to identifying and pursuing acquisition candidates. The Company also encounters strong competition throughout its businesses from both public corporations and private firms in attracting and retaining qualified employees. In addition to the discussion below, see "Risks Relating to the Company Generally — Competitive Risks," in Part I, Item 1A of this report.

Risk and Insurance Services. The Company's combined insurance and reinsurance services businesses are global in scope. Our insurance and reinsurance businesses compete principally on sophistication, range, quality and cost of the services and products they offer to clients. The Company encounters strong competition from other insurance and reinsurance brokerage firms that operate on a global, regional, national or local scale, from a large number of regional and local firms in the United States, the European Union and elsewhere, from insurance and reinsurance companies that market, distribute and service their insurance and reinsurance products without the assistance of brokers or agents and from other businesses, including commercial and investment banks, accounting firms, consultants and online platforms, that provide risk-related services and products or alternatives to traditional insurance brokerage services. In addition, third party capital providers have entered the insurance and reinsurance risk transfer market offering products and capital directly to the Company's clients. Their presence in the market increases the competitive pressures that the Company faces.

Certain insureds and groups of insureds have established programs of self insurance (including captive insurance companies) as a supplement or alternative to third-party insurance, thereby reducing in some cases their need for insurance placements. Certain insureds also obtain coverage directly from insurance providers. There are also many other providers of managing general agency, affinity programs and private client services, including specialized firms, insurance companies and other institutions.

Consulting. The Company's consulting businesses face strong competition from other privately and publicly held worldwide and national companies, as well as regional and local firms. These businesses generally compete on the basis of the range, quality and cost of the services and products they provide to clients. Competitors include independent consulting and outsourcing firms, as well as consulting and outsourcing operations affiliated with accounting, information systems, technology and financial services firms. Mercer's investments business faces competition from many sources, including investment consulting firms (many of which offer delegated services) and other financial institutions. In some cases, clients have the option of handling the services provided by Mercer and Oliver Wyman Group internally, without assistance from outside advisors.

Segmentation of Activity by Type of Service and Geographic Area of Operation.

Financial information relating to the types of services provided by the Company and the geographic areas of its operations is incorporated herein by reference to Note 15 to the consolidated financial statements included under Part II, Item 8 of this report.

Employees

As of December 31, 2017, the Company and its consolidated subsidiaries employed nearly 65,000 colleagues worldwide, including approximately 35,000 in Risk and Insurance Services and 27,300 in Consulting.

EXECUTIVE OFFICERS OF THE COMPANY

The executive officers of the Company are appointed annually by the Company's Board of Directors. The following individuals are the executive officers of the Company:

Peter J. Beshar, age 56, is Executive Vice President and General Counsel of Marsh & McLennan Companies. In addition to managing the Company's Legal, Compliance & Public Affairs Departments, Mr. Beshar also oversees the Company's Risk Management group. Before joining Marsh & McLennan Companies in November 2004, Mr. Beshar was a Litigation Partner in the law firm of Gibson, Dunn & Crutcher LLP. Mr. Beshar joined Gibson, Dunn & Crutcher in 1995 after serving as an Assistant Attorney General in the New York Attorney General's office and as the Special Assistant to the Honorable Cyrus Vance in connection with the peace negotiations in the former Yugoslavia.

John Q. Doyle, age 54, is President and Chief Executive Officer of Marsh and oversees Marsh's core businesses and operations globally. Mr. Doyle was named CEO of Marsh in July 2017. He joined Marsh & McLennan Companies as President of Marsh in April 2016. Prior to that, he was most recently Chief Executive Officer of American International Group's (AIG) commercial insurance businesses. Mr. Doyle began his career at AIG in 1986 and held several senior executive positions, including President and Chief Executive Officer of AIG property and casualty in the U.S., President and Chief Executive Officer of National Union Fire Insurance Company, and President of American Home Assurance Company.

E. Scott Gilbert, age 62, is Senior Vice President and Chief Information Officer of Marsh & McLennan Companies. Mr. Gilbert leads the Company's firm-wide efforts to improve the experience of clients and colleagues through the development and implementation of innovative and cost-effective technologies. In his role, he has responsibility for the Global Technology Infrastructure group, the Marsh & McLennan Innovation Centre, and chairs the Company's Technology Council. Mr. Gilbert also has direct oversight responsibilities over the technology leaders of the operating companies and corporate functions. In addition, Mr. Gilbert oversees the Company's global Business Resiliency and Security operations. Prior to assuming his current role in September 2015, Mr. Gilbert served as Senior Vice President and Chief Risk and Compliance Officer of the Company. Prior to joining Marsh & McLennan Companies in January 2005, he was the Chief Compliance Counsel of the General Electric Company since September 2004. Prior thereto, he was Counsel, Litigation and Legal Policy at GE. Between 1986 and 1992, when he joined GE, he served as an Assistant United States Attorney in the Southern District of New York.

Daniel S. Glaser, age 57, is President and Chief Executive Officer of Marsh & McLennan Companies. Prior to assuming his current role in 2013, Mr. Glaser served as Group President and Chief Operating Officer of the Company, with operational and strategic oversight of its Risk and Insurance Services and Consulting segments. He rejoined Marsh & McLennan in December 2007 as Chairman and Chief Executive Officer of Marsh, returning to the firm where he had begun his career right out of university in 1982. Mr. Glaser is an insurance industry veteran who has held senior positions in commercial insurance and insurance brokerage, working in the United States, Europe and the Middle East. Mr. Glaser was named Chairman of the Federal Advisory Committee on Insurance (FACI) in August 2014. He also serves on the Steering Committee of the Insurance Development Forum and on the International Advisory Board of BritishAmerican Business. He is a member of the Board of Trustees for The Institutes (American Institute for Chartered Property Casualty Underwriters) and Ohio Wesleyan University, and a member of the Board of Directors for the Partnership for New York City.

Peter Hearn, age 62, is President and Chief Executive Officer of Guy Carpenter. Previously, he was Global Chairman of Willis Re from March 2011 to June 2015. Prior to that, Mr. Hearn served as the company's Global CEO from February 2005 to March 2011, during which time he was also a member of the Willis Group Executive Committee. Mr. Hearn began his reinsurance career in 1978 with Willis Faber and Dumas, working in the North American casualty, facultative, marine, and North American reinsurance divisions until 1981, when he joined Towers Perrin Forster and Crosby. Mr. Hearn joined Willis Re as a Senior Vice President in 1994.

Laurie Ledford, age 60, is Senior Vice President and Chief Human Resources Officer of Marsh & McLennan Companies. Ms. Ledford is responsible for Marsh & McLennan Companies' overall human capital and talent strategy and the delivery of human resources services to all our colleagues worldwide. Prior to her current role, Ms. Ledford served as Chief Human Resources Officer (CHRO) for Marsh Inc.

Ms. Ledford joined Marsh in 2000 and was named CHRO in 2006, after having served as Senior Human Resources Director for Marsh's International Specialty Operations. Her prior experience was with Citibank and NationsBank.

Scott McDonald, age 51, is President and Chief Executive Officer of Oliver Wyman Group. Prior to assuming this role in January 2014, Mr. McDonald was President of Oliver Wyman. Before becoming President of Oliver Wyman in 2012, Mr. McDonald was the Managing Partner of Oliver Wyman's Financial Services practice and has held a number of senior positions, including the Global head of the Corporate & Institutional Banking practice. Before joining Oliver Wyman in 1995, he was an M&A investment banker with RBC Dominion Securities in Toronto.

Mark McGivney, age 50, is Chief Financial Officer of Marsh & McLennan Companies and has held this position since January 1, 2016. Prior to his current role, Mr. McGivney held a number of senior financial management positions since joining the Company in 2007, including Senior Vice President, Corporate Finance of Marsh & McLennan Companies, Chief Financial Officer of Marsh, and Chief Financial Officer and Chief Operating Officer of Mercer. His prior experience includes senior positions at The Hanover Insurance Group, including serving as Senior Vice President of Finance, Treasurer, and Chief Financial Officer of the Property & Casualty business, as well as positions at PricewaterhouseCoopers and Merrill Lynch.

Julio A. Portalatin, age 58, is President and Chief Executive Officer of Mercer. Prior to joining Mercer in February 2012, Mr. Portalatin was the President and CEO of Chartis Growth Economies, and Senior Vice President, American International Group (AIG). In that role, he had responsibility for operations in Asia Pacific, South Asia, Latin America, Africa, the Middle East and Central Europe. Mr. Portalatin began his career with AIG in 1993 and thereafter held a number of key leadership roles, including President of the Worldwide Accident & Health Division at American International Underwriters (AIU) from 2002-2007. From 2007-2010, he served as President and CEO of Chartis Europe S.A. and Continental European Region, based in Paris, before becoming President and CEO of Chartis Emerging Markets. Prior to joining AIG / Chartis, Mr. Portalatin spent 12 years with Allstate Insurance Company in various executive product underwriting, distribution and marketing positions. Mr. Portalatin also serves on the Board of Directors of DXC Technologies.

AVAILABLE INFORMATION

The Company is subject to the information reporting requirements of the Securities Exchange Act of 1934. In accordance with the Exchange Act, the Company files with, or furnishes to, the SEC annual reports on Form 10-K, quarterly reports on Form 10-Q and current reports on Form 8-K. The Company makes these reports and any amendments to these reports available free of charge through its website, www.mmc.com, as soon as reasonably practicable after they are filed with or furnished to the SEC. The SEC also maintains a website at www.sec.gov that contains reports, proxy and information statements and other information regarding issuers, like the Company, that file electronically with the SEC.

The Company also posts on its website certain governance and other information for investors.

The Company encourages investors to visit these websites from time to time, as information is updated and new information is posted. Website references in this report are provided as a convenience and do not constitute, and should not be viewed as, incorporation by reference of the information contained on, or available through, the websites. Therefore, such information should not be considered part of this report.

Item 1A. Risk Factors

You should consider the risks described below in conjunction with the other information presented in this report. These risks have the potential to materially adversely affect the Company's business, results of operations or financial condition.

RISKS RELATING TO THE COMPANY GENERALLY

Legal and Regulatory Risks

We are subject to significant uninsured exposures arising from errors and omissions, breach of fiduciary duty and other claims.

Our operating companies provide numerous professional services, including the placement of insurance and the provision of consulting, investment advisory and actuarial services, to clients around the world. As a result, the Company and its subsidiaries are subject to a significant number of errors and omissions, breach of fiduciary duty and similar claims, which we refer to collectively as "E&O claims." In our Risk and Insurance Services segment, such claims include allegations of damages arising from our failure to assess clients' risks, advise clients, place coverage or notify insurers of potential claims on behalf of clients in accordance with our obligations to them. In our Consulting segment, where we increasingly act in a fiduciary capacity through our investments business, such claims include allegations of damages arising from the provision of consulting, investments, actuarial, pension administration and other services. These services frequently involve complex calculations and other analysis, including (i) making assumptions about, and preparing estimates concerning, contingent future events, (ii) drafting and interpreting complex documentation governing pension plans, (iii) calculating benefits within complex pension structures, (iv) providing investment advice, including guidance on asset allocation and investment strategy, and (v) managing client assets, including the selection of investment managers. These matters often relate to services provided by the Company dating back many years. Such claims may subject us to significant liability for monetary damages, including punitive and treble damages, negative publicity and reputational harm, and may divert personnel and management resources. We may be unable to effectively limit our potential liability in certain jurisdictions, including through insurance, or in connection with certain types of claims, particularly those concerning claims of a breach of fiduciary duty.

In establishing liabilities for E&O claims under generally accepted accounting principles ("GAAP"), the Company uses case level reviews by inside and outside counsel, actuarial analysis by Oliver Wyman Group, a subsidiary of the Company, and other methods to estimate potential losses. A liability is established when a loss is both probable and reasonably estimable. The liability is assessed quarterly and adjusted as developments warrant. In many cases, the Company has not recorded a liability, other than for legal fees to defend the claim, because we are unable, at the present time, to make a determination that a loss is both probable and reasonably estimable. Given the challenges inherent in establishing liabilities in accordance with GAAP, as well as the unpredictability of E&O claims and the litigation that can flow from them, it is possible that an adverse outcome in a particular matter could have a material adverse effect on the Company's business, results of operations or financial condition in a given quarterly or annual period.

We are subject to regulatory investigations, reviews and other inquiries that consume significant management time and, if determined unfavorably to us, could have a material adverse effect on our business, results of operations or financial condition.

We are subject to regulatory investigations, reviews and other inquiries that consume significant management time and, if determined unfavorably to us, could have a material adverse effect on our business, results of operations or financial condition. For example, in 2017 we received notices related to four separate regulatory matters in Europe. In October 2017, the Company received a notice that the Directorate-General for Competition of the European Commission had commenced a civil investigation of a number of insurance brokers, including Marsh, regarding "the exchange of commercially sensitive information between competitors in relation to aviation and aerospace insurance and reinsurance broking products and services in the European Economic Area, as well as possible coordination between competitors." In June 2017, the FCA issued a final report in connection with a market study of the U.K. asset management industry, which includes asset managers and investment consultants, including

Mercer. Following the report, in September 2017, the FCA announced its decision to refer the investment consulting and fiduciary management markets to the U.K. Competition & Markets Authority (the "CMA") for a market investigation. In July 2017, the Directorate-General for Competition of the European Commission together with the Irish Competition and Consumer Protection Commission conducted on-site inspections at the offices of Marsh and other industry participants in Dublin in connection with an investigation regarding the "possible participation in anticompetitive agreements and/or concerted practices contrary to [E.U. competition law] in the market for commercial motor insurance in the Republic of Ireland." In November 2017, the FCA announced the terms of reference for a market study concerning the wholesale insurance broker sector in the United Kingdom to assess "how effective competition is working in the wholesale insurance broker sector" and "how brokers influence competition in the underwriting sector."

These regulatory matters are at early stages and we are unable to predict their likely timing, outcome or ultimate impact. Additional information regarding these investigations and certain other legal and regulatory proceedings is set forth in Note 14 to our consolidated financial statements included under Part II, Item 8 of this report.

We cannot guarantee that we are or will be in compliance with all current and potentially applicable U.S. federal and state or foreign laws and regulations, and actions by regulatory authorities or changes in legislation and regulation in the jurisdictions in which we operate could have a material adverse effect on our business.

Our activities are subject to extensive regulation under the laws of the United States and its various states, the United Kingdom, the European Union and its member states and the other jurisdictions in which we operate. For example, we are subject to regulation by agencies such as the Securities and Exchange Commission, FINRA and state insurance regulators in the United States, the FCA and the Competition and Markets Authority (CMA) in the United Kingdom, and the European Commission in the European Union, as further described above under Part I, Item 1 - Business (Regulation) of this report. We are also subject to trade sanctions laws relating to countries such as Cuba, Iran, Russia, Sudan and Syria, and anti-corruption laws such as the U.S. Foreign Corrupt Practices Act and the U.K. Anti-Bribery Act. We are subject to numerous other laws on matters as diverse as internal control over financial reporting and disclosure controls and procedures, securities regulation, data privacy and protection, taxation, anti-trust and competition, immigration, wage-and-hour standards and employment and labor relations.

The U.S. and foreign laws and regulations that apply to our operations are complex and may change rapidly, and our efforts to comply and keep up with them require significant resources. In some cases, these laws and regulations may decrease the need for our services, increase our costs, negatively impact our revenues or impose operational limitations on our business, including on the products and services we may offer or on the amount or type of compensation we may collect. While we attempt to comply with applicable laws and regulations, there can be no assurance that we, our employees, our consultants and our contractors and other agents are in full compliance with such laws and regulations or interpretations at all times, or that we will be able to comply with any future laws or regulations. If we fail to comply or are accused of failing to comply with applicable laws and regulations, including those referred to above, we may become subject to investigations, criminal penalties, civil remedies or other consequences, including fines, injunctions, loss of an operating license or approval, increased scrutiny or oversight by regulatory authorities, the suspension of individual employees, limitations on engaging in a particular business or redress to clients or other parties, and may become exposed to negative publicity or reputational damage. Moreover, our failure to comply with laws or regulations in one jurisdiction may result in increased regulatory scrutiny by other regulatory agencies in that jurisdiction or regulatory agencies in other jurisdictions. The cost of compliance and the consequences of failing to be in compliance could therefore have a material adverse effect on our business, results of operations and financial condition.

In most jurisdictions, government regulatory authorities have the power to interpret and amend or repeal applicable laws and regulations, and have discretion to grant, renew and revoke the various licenses and approvals we need to conduct our activities. Such authorities may require the Company to incur substantial costs in order to comply with such laws and regulations. In some areas of our businesses, we act on the basis of our own or the industry's interpretations of applicable laws or regulations, which may conflict from state to state or country to country. In the event those interpretations eventually prove

different from the interpretations of regulatory authorities, we may be penalized or precluded from carrying on our previous activities. Moreover, the laws and regulations to which we are subject may conflict among the various jurisdictions and countries in which we operate, which increases the likelihood of our businesses being non-compliant in one or more jurisdictions.

Cybersecurity and Data Protection Risks

We could incur significant liability or our reputation could be damaged if our information systems are breached or we otherwise fail to protect client or Company data or information systems.

We rely on the efficient, uninterrupted and secure operation of complex information technology systems and networks to operate our business and securely process, transmit and store electronic information. In the normal course of business, we also share electronic information with our vendors and other third parties. This electronic information comprises sensitive and confidential data, including information related to financial records, health care, mergers and acquisitions and clients' personal data. Our information technology systems and safety control systems, and those of our numerous third-party providers, are potentially vulnerable to damage or interruption from a variety of external threats, including cyber-attacks, computer viruses and other malware, ransomware and other types of data and systems related incidents. Our systems are also subject to compromise from internal threats such as improper action by employees, vendors and other third parties with otherwise legitimate access to our systems. Moreover, we face the ongoing challenge of managing access controls in a complex environment. The latency of a compromise is often measured in months but could be years, and we may not be able to detect a compromise in a timely manner. We could experience significant financial and reputational harm if our information systems are breached, sensitive client or Company data are compromised, surreptitiously modified, rendered inaccessible for any period of time or maliciously made public, or if we fail to make adequate disclosures to the public or law enforcement agencies following any such event.

We are at risk of attack by a growing list of adversaries, including state-sponsored organizations, organized crime, hackers or "hactivists" (activist hackers), through use of increasingly sophisticated methods of attack, including long-term, persistent attacks referred to as advanced persistent threats. Because the techniques used to obtain unauthorized access or sabotage systems change frequently and generally are not identified until they are launched against a target, we may be unable to anticipate these techniques or implement adequate preventative measures, resulting in potential data loss or other damage to information technology systems.

As the breadth and complexity of the technologies we use continue to grow, including as a result of the use of mobile devices, cloud services, social media and the increased reliance on devices connected to the Internet (known as the "Internet of Things"), the potential risk of security breaches and cyber-attacks also increases. Despite ongoing efforts to improve our ability to protect data from compromise, we may not be able to protect all of our data across our diverse systems. Should an attacker gain access to our network using compromised credentials of an authorized user, we are at risk that the attacker might successfully leverage that access to compromise additional systems and data. Certain measures that could increase the security of our systems, such as data encryption or deployment of multi-factor authentication, take significant time and resources to deploy broadly, and such measures may not be effective against an attack. The inability to implement, maintain and upgrade adequate safeguards could have a material adverse effect on our business.

Our information systems must be continually updated, patched, and upgraded to protect against known vulnerabilities. The volume of new software vulnerabilities has increased markedly, as has the criticality of patches and other remedial measures. In addition to remediating newly identified vulnerabilities previously identified vulnerabilities must also be continuously addressed. Accordingly, we are at risk that cyber attackers exploit these known vulnerabilities before they have been addressed. Due to the large number and age of the systems and platforms that we operate, the increased frequency at which vendors are issuing security patches to their products, the need to test patches and, in some cases coordinate with clients and vendors, before they can be deployed, we perpetually face the substantial risk that we cannot deploy patches in a timely manner. We are also dependent on third party vendors to keep their systems patched and secure in order to protect our data. Any failure related to these activities could have a material adverse effect on our business.

We have numerous vendors and other third parties who receive personal information from us in connection with the services we offer our clients. In addition, we have migrated certain data, and may increasingly migrate data, to the cloud hosted by third-party providers. Some of these vendors and third parties also have direct access to our systems. We are at risk of a cyber-attack involving a vendor or other third party, which could result in a breakdown of such third party's data protection processes or the cyber-attackers gaining access to our infrastructure through the third party. To the extent that a vendor or third party suffers a cyber-attack that compromises its operations, we could incur significant costs and possible service interruption, which could have an adverse effect on our business.

We have a history of making acquisitions and investments, including 111 in the period from 2012-2017. The process of integrating the information systems of the businesses we acquire is complex and exposes us to additional risk. For instance, we may not adequately identify weaknesses in an acquired entity's information systems, either before or after the acquisition, which could affect the value we are able to derive from the acquisition, expose us to unexpected liabilities or make our own systems more vulnerable to a cyber-attack. We may also be unable to integrate the systems of the businesses we acquire into our environment in a timely manner, which could further increase these risks until such integration takes place.

Our policies, employee training (including phishing prevention training), procedures and technical safeguards may be insufficient to prevent or detect improper access to confidential, personal or proprietary information by employees, vendors or other third parties with otherwise legitimate access to our systems. Improper access to or disclosure of sensitive client or Company information could harm our reputation and subject us to liability under our contracts, as well as under existing or future laws, rules and regulations.

We have from time to time experienced data incidents and cybersecurity breaches, such as malware incursions (including computer viruses and ransomware), users exceeding their data access authorization, employee misconduct and incidents resulting from human error, such as loss of portable and other data storage devices. Like many companies, we are subject to regular phishing email campaigns directed at our employees that can result in malware infections and data losses. Although these incidents have resulted in data loss and other damages, to date, they have not had a material adverse effect on our business or operations. In the future, these types of incidents could result in confidential, personal or proprietary information being lost or stolen, surreptitiously modified, rendered inaccessible for any period of time, or maliciously made public, including client, employee or company data, which could have a material adverse effect on our business. In the event of a cyber-attack, we might have to take our systems offline, which could interfere with services to our clients or damage our reputation. We also may be unable to detect an incident, assess its severity or impact, or appropriately respond in a timely manner. In addition, our liability insurance, which includes cyber insurance, may not be sufficient in type or amount to cover us against claims related to security breaches, cyber-attacks and other related data and system incidents.

The costs to comply with, or our failure to comply with, U.S. and foreign laws related to privacy, data security and data protection, such as the E.U. General Data Protection Regulation, could adversely affect our financial condition, operating results and our reputation.

In operating our business and providing services and solutions to clients, we store and transfer sensitive employee and client data, including personal data, in and across multiple jurisdictions. We leverage systems and applications that are spread all over the world requiring us to regularly move data across national borders. As a result, we are subject to a variety of laws and regulations in the United States, Europe and around the world regarding privacy, data protection and data security. These laws and regulations are continuously evolving and developing. In particular, the number of high-profile security breaches at major companies continues to accelerate, which will likely lead to even greater regulatory scrutiny.

The scope and interpretation of the laws that are or may be applicable to us are often uncertain and may be conflicting, particularly with respect to foreign laws. For example, the E.U. General Data Protection Regulation ("GDPR"), which becomes effective in May 2018, greatly increases the European Commission's jurisdictional reach of its laws and adds a broad array of requirements for handling personal data, such as the public disclosure of data breaches, privacy impact assessments, data

portability and the appointment of data protection officers in some cases. Other countries around the world, including China, Japan, Australia and Singapore, have recently adopted sweeping new data protection laws, or are enacting data localization laws that require data to stay within their borders. At a state level, the New York State Department of Financial Services, by way of example, has issued cybersecurity regulations which impose an array of detailed security measures on covered entities. All of these evolving compliance and operational requirements impose significant costs that are likely to increase over time, may divert resources from other initiatives and projects and could restrict the way services involving data are offered, all of which may adversely affect our results of operations.

Furthermore, enforcement actions and investigations by regulatory authorities related to data security incidents and privacy violations continue to increase. Unauthorized disclosure or transfer of sensitive or confidential client or Company data, whether through systems failure, employee negligence, fraud or misappropriation, by the Company, our vendors or other parties with whom we do business could subject us to significant litigation, monetary damages, regulatory enforcement actions, fines and criminal prosecution in one or more jurisdictions. For example, under the GDPR, violations could result in a fine of up to 4% of a corporation's global annual revenue.

Competitive Risks

Our business performance and growth plans could be negatively affected if we are not able to respond effectively to the threat of digital disruption and other technological change.

To remain competitive in many of our business areas, we must anticipate and respond effectively to the threat of digital disruption and other technological change. The threat comes from traditional players, such as insurers, through disintermediation as well as from new entrants, such as technology companies, "Insurtech" start-up companies and others. These players are focused on using technology and innovation, including artificial intelligence (AI) and blockchain, to simplify and improve the customer experience, increase efficiencies, alter business models and effect other potentially disruptive changes in the industries in which we operate.

In order to maintain a competitive position, we must continue to invest in new technologies and new ways to deliver our products and services. We have a number of strategic initiatives involving investments in technology systems and infrastructure to support our growth strategy. These investments may not be profitable or may be less profitable than what we have experienced historically. In some cases, we depend on key vendors and partners to provide technology and other support for our strategic initiatives. If these vendors or partners fail to perform their obligations or otherwise cease to work with us, our ability to execute on our strategic initiatives could be adversely affected. If we do not keep up with technological changes or execute well on our strategic initiatives, our business and results of operations could be adversely impacted.

Failure to maintain our corporate culture or damage to our reputation could have a material adverse effect on our business.

We strive to create a culture in which our colleagues act with integrity and respect and feel comfortable speaking up to report instances of misconduct. We are a people business, and our ability to attract and retain employees and clients is highly dependent upon our commitment to a diverse and inclusive workplace, our level of service, trustworthiness, ethical business practices and other qualities. Our colleagues are the cornerstone of this culture, and acts of misconduct by any employee, and particularly by senior management, could erode trust and confidence and damage our reputation among existing and potential clients and other stakeholders. Negative public opinion could result from actual or alleged conduct by us or those currently or formerly associated with us in any number of activities or circumstances, including operations, employment related offenses such as sexual harassment and discrimination, regulatory compliance, and the use and protection of data and systems, satisfaction of client expectations, and from actions taken by regulators or others in response to such conduct. This damage to our reputation could affect the confidence of our clients, rating agencies, regulators, stockholders and the other parties in a wide range of transactions that are important to our business and could have a material adverse effect on our business, financial condition and operating results.

The loss of members of our senior management team or other key colleagues could have a material adverse effect on our business.

We rely upon the contributions of our senior management team to establish and implement our business strategy and to manage the future growth of our business. The loss of any of the senior management team could limit our ability to successfully execute our business strategy or adversely affect our ability to retain existing and attract new clients. Moreover, we could be adversely affected if we fail to adequately plan for the succession of members of our senior management team.

Across all of our businesses, our colleagues are critical to developing and retaining the client relationships as well as performing the services on which our revenues are earned. It is therefore important for us to attract, incentivize and retain significant revenue-producing employees and the key managerial and other professionals who support them. We face numerous challenges in this regard, including the intense competition for talent and the general mobility of colleagues.

Losing colleagues who manage or support substantial client relationships or possess substantial experience or expertise could adversely affect our ability to secure and complete client engagements, which could adversely affect our results of operations. And, subject to applicable enforceable restrictive covenants, if a key employee were to join an existing competitor or form a competing company, some of our clients could choose to use the services of that competitor instead of our services.

We face significant competitive pressures in each of our businesses, including from disintermediation.

As a global professional services firm, the Company faces intense, sustained competition in each of its businesses, and the competitive landscape continues to change and evolve. Our ability to compete successfully depends on a variety of factors, including the quality and expertise of our colleagues, our geographic reach, the sophistication and quality of our services, our pricing relative to competitors, our customers' ability to self-insure or use internal resources instead of consultants, and our ability to respond to changes in client demand and industry conditions. Some of our competitors may have greater financial resources, or may be better positioned to respond to technological and other changes in the industries we serve, and they may be able to compete more effectively. If we are unable to respond successfully to the changing conditions we face, our businesses, results of operations and financial condition will be adversely impacted.

In our Risk and Insurance Services segment, in addition to the challenges posed by capital market alternatives to traditional insurance and reinsurance, we compete intensely against a wide range of other insurance and reinsurance brokerage and risk advisory firms that operate on a global, regional, national or local scale for both client business and employee talent. We also compete with insurance and reinsurance companies that market and service their insurance products directly to consumers and without the assistance of brokers or other market intermediaries, and with various other companies that provide risk-related services or alternatives to traditional brokerage services, including those that rely almost exclusively on technological solutions or platforms. This competition is intensified by an industry trend toward a "syndicated" or "distributed" approach to the purchase of insurance and reinsurance brokerage services, where a client engages multiple brokers to service different portions of the client's account. In addition, third party capital providers have entered the insurance and reinsurance risk transfer market offering products and capital directly to our clients.

In our Consulting segment, we compete for business with numerous consulting firms and similar organizations, many of whom also provide, or are affiliated with firms that provided, accounting, information systems, technology and financial services. Such competitors may be able to offer more comprehensive products and services to potential clients, which may give them a competitive advantage.

Consolidation in the industries we serve could adversely affect our business.

Companies in the industries that we serve may seek to achieve economies of scale and other synergies by combining with or acquiring other companies. If two or more of our current clients merge, or consolidate or combine their operations, it may decrease the amount of work that we perform for these clients. If one of our current clients merges or consolidates with a company that relies on another provider for its services, we may lose work from that client or lose the opportunity to gain additional work. Any of these or similar possible results of industry consolidation could adversely affect our business. The

insurance industry continued to see robust market consolidation in 2017, and this trend could continue or accelerate in 2018. As insurance and reinsurance companies continue to consolidate, Guy Carpenter's smaller client base may be more susceptible to this risk given the limited number of insurance company clients and reinsurers in the marketplace.

We rely on a large number of vendors and other third parties to perform key functions of our business operations and to provide services to our clients. These vendors and third parties may act in ways that could harm our business.

We rely on a large number of vendors and other third parties, and in some cases subcontractors, to provide services, data and information such as technology, information security, funds transfers, data processing, and administration and support functions that are critical to the operations of our business. These third parties include correspondents, agents and other brokers and intermediaries, insurance markets, data providers, plan trustees, payroll service providers, software and system vendors, health plan providers, investment managers, risk modeling providers, outsourced providers of client-related services and providers of human resource functions, such as recruiters. As we do not fully control the actions of these third parties, we are subject to the risk that their decisions or operations may adversely impact us and replacing these service providers could create significant delay and expense. A failure by the third parties to comply with service level agreement, or regulatory or legal requirements in a high quality and timely manner, particularly during periods of our peak demand for their services, could result in economic and reputational harm to us. In addition, these third parties face their own technology, operating, business and economic risks, and any significant failures by them, including the improper use or disclosure of our confidential client, employee, or company information or failure to comply with applicable law, could cause harm to our reputation or otherwise expose us to liability. An interruption in or the cessation of service by any service provider as a result of systems failures, capacity constraints, financial difficulties or for any other reason could disrupt our operations, impact our ability to offer certain products and services, and result in contractual or regulatory penalties, liability claims from clients or employees, damage to our reputation and harm to our business.

Business Resiliency Risks

Our inability to successfully recover should we experience a disaster or other business continuity problem could cause material financial loss, loss of human capital, regulatory actions, reputational harm or legal liability.

If we experience a local or regional disaster or other business continuity event, such as an earthquake, hurricane, flood, terrorist attack, pandemic, security breach, cyber-attack, power loss or telecommunications failure, our ability to operate will depend, in part, on the continued availability of our personnel, our office facilities and the proper functioning of our computer, telecommunication and other related systems and operations. In such an event, we could experience operational challenges that could have a material adverse effect on our business. The risk of business disruption is more pronounced in certain geographic areas, including major metropolitan centers, like New York or London, where we have significant operations and approximately 3,500 colleagues in each location, and in certain countries and regions in which we operate that are subject to higher potential threat of terrorist attacks or military conflicts.

Our operations depend in particular upon our ability to protect our technology infrastructure against damage. If a business continuity event occurs, we could lose client or Company data or experience interruptions to our operations or delivery of services to our clients, which could have a material adverse effect. A cyber-attack or other business continuity event affecting us or a key vendor or other third party could result in a significant and extended disruption in the functioning of our information technology systems or operations, requiring us to incur significant expense to address and remediate or otherwise resolve such issues. For example, hackers have increasingly targeted companies by attacking internet-connected industrial control and safety control systems. An extended outage could result in the loss of clients and a decline in our revenues.

We regularly assess and take steps to improve our existing business continuity plans and key management succession. However, a disaster or other continuity event on a significant scale or affecting certain of our key operating areas within or across regions, or our inability to successfully recover from such an event, could materially interrupt our business operations and result in material financial loss, loss

of human capital, regulatory actions, reputational harm, damaged client relationships and legal liability. Our business disruption insurance may also not fully cover, in type or amount, the cost of a successful recovery in the event of such a disruption.

Financial Risks

The impacts from recently-passed U.S. federal tax reform remain uncertain.

On December 22, 2017, President Trump signed into law the tax legislation commonly known as the "Tax Cuts and Jobs Act" (the "TCJA") that significantly changes the U.S. Internal Revenue Code of 1986, as amended. The TCJA, which generally became effective on January 1, 2018, revises the U.S. tax code by, among other things, lowering the corporate income tax rate from 35% to 21%, limiting deductibility of interest expense and implementing a broadly territorial tax system. The TCJA also imposes a one-time repatriation tax on deemed repatriated earnings of foreign subsidiaries.

While the TCJA is expected to have a favorable impact on our overall effective tax rate as reported under generally accepted accounting principles both in the first fiscal quarter of 2018 and subsequent reporting periods, the legislation also resulted in aggregate provisional tax charges in the fourth quarter of 2017 of approximately $460 million, primarily related to the re-measurement of the net U.S. deferred tax asset and the deemed repatriation tax. The TCJA was enacted late in 2017 and limited implementation guidance was provided. As clarified by the SEC in Staff Accounting Bulletin No. 118, we made provisional estimates of the deemed repatriation tax impact. Moreover, certain provisions of the TCJA, such as the Base Erosion and Anti-Abuse Tax and the Global Intangible Low-Tax Income ("GILTI") provision and any adverse impacts from new guidance on the implementation of the TCJA may create new pressure on our effective tax rate in future periods. It is also currently unknown if and to what extent various states will conform to the TCJA and the impact such changes in state-tax law may have.

The estimated impacts of the new law are based on our current knowledge and assumptions, and therefore the ultimate impacts remain uncertain. Given the significant complexity of the TCJA, anticipated guidance from the U.S. Treasury about implementing the TCJA, and the potential for new legislation or additional guidance from the Securities and Exchange Commission, the Financial Accounting Standards Board or other regulatory authorities related to the TCJA, recognized impacts in future periods could be significantly different from our current estimates. Such uncertainty may also result in increased scrutiny from, or disagreements with, tax authorities.

Our results of operations could be adversely affected by macroeconomic conditions, political events and market conditions.

Macroeconomic conditions, political events and other market conditions around the world affect our clients' businesses and the markets they serve. These conditions may reduce demand for our services or depress pricing for those services, which could have a material adverse effect on our results of operations. Changes in macroeconomic and political conditions could also shift demand to services for which we do not have a competitive advantage, and this could negatively affect the amount of business that we are able to obtain. For example, recently there has been a move toward protectionist laws and business practices in some countries, which could favor local competition and adversely affect our business. In particular, the United Kingdom's pending exit from the European Union, referred to as "Brexit," continues to create political and economic uncertainty, particularly in the United Kingdom and the E.U., and this uncertainty may last for years. Our business in the United Kingdom, the E.U. and worldwide could be affected during this period of uncertainty, and perhaps longer, by the impact of the United Kingdom's referendum. If the demand for our products and services declines as a result of these or any other macroeconomic conditions, political events or market conditions, we may be required to respond in a way which could adversely affect our ability to execute our business strategy.

Our investments, including our minority investments in other companies as well as our cash investments and those held in a fiduciary capacity, are subject to general credit, liquidity, counterparty, foreign exchange, market and interest rate risks. These risks may be exacerbated by global macroeconomic conditions, market volatility and regulatory, financial and other difficulties affecting the companies in which we have invested or that may be faced by financial institution counterparties. During times of stress in the banking industry, counterparty risk can quickly escalate, potentially resulting in substantial trading and investment losses for corporate and other investors. In addition, we may incur investment losses as a

result of unusual and unpredictable market developments, and we may continue to experience reduced investment earnings if the yields on investments deemed to be low risk remain at or near their current low levels. If the banking system or the fixed income, interest rate, credit or equity markets deteriorate, the value and liquidity of our investments could be adversely affected. Finally, the value of the Company's assets held in other jurisdictions, including cash holdings, may decline due to foreign exchange fluctuations.

If we are unable to collect our receivables, our results of operations and cash flows could be adversely affected.

Our business depends on our ability to obtain payment from our clients of the amounts they owe us for the work we perform. As of December 31, 2017, our receivables for our commissions and fees were approximately $3.8 billion, or approximately one-quarter of our total annual revenues. Macroeconomic or political conditions could result in financial difficulties for our clients, which could cause clients to delay payments to us, request modifications to their payment arrangements that could increase our receivables balance or default on their payment obligations to us. In addition, if we experience an increase in the time it takes to bill and collect for our services, our cash flows could be adversely affected.

We may not be able to obtain sufficient financing on favorable terms.

The maintenance and growth of our business, the payment of dividends and our ability to make share repurchases rely on our access to capital, which depends in large part on cash flow generated by our business and the availability of equity and debt financing. Certain of our businesses such as GC Securities and MMC Securities (Europe) Limited also rely on financings by us to fund debt and equity capital raising offerings by their clients. There can be no assurance that our operations will generate sufficient positive cash flow to finance all of our capital needs or that we will be able to obtain equity or debt financing on favorable terms. In addition, our ability to obtain financing will depend in part upon prevailing conditions in credit and capital markets, which are beyond our control.

Our defined benefit pension plan obligations could cause the Company's financial position, earnings and cash flows to fluctuate.

Our defined benefit pension obligations and the assets set aside to fund those obligations are sensitive to certain changes in the financial markets. Any such changes may result in increased pension expense or additional cash payments to fund these plans.

The Company has significant defined benefit pension obligations to its current and former employees, totaling approximately $16.3 billion, and related plan assets of approximately $16.2 billion, at December 31, 2017 on a U.S. GAAP basis. The Company's policy for funding its defined benefit pension plans is to contribute amounts at least sufficient to meet the funding requirements set forth by law. In the United States, contributions to these plans are based on ERISA guidelines. Outside the United States, contributions are generally based on statutory requirements and local funding practices, which may differ from measurements under U.S. GAAP. In the U.K., for example, the assumptions used to determine pension contributions are the result of legally-prescribed negotiations between the Company and the plans' trustee. Currently, the use of these assumptions results in a lower funded status than determined under U.S. GAAP and may result in contributions irrespective of the U.S. GAAP funded status.

The financial calculations relating to our defined benefit pension plans are complex. Pension plan assets could decrease as the result of poor future asset performance. Also, pension plan liabilities, periodic pension expense and future funding amounts could increase as a result of a decline in the interest rates we use to discount our pension liabilities, longer lifespans than those reflected in our mortality assumptions, actual investment return that is less than the expected return on assets, adverse changes in laws or regulations and other variables.

While we have taken steps to mitigate the impact of pension volatility on our earnings and cash funding requirements, these strategies may not be successful. Accordingly, given the magnitude of our worldwide pension plans, variations in or reassessment of the preceding or other factors or potential miscalculations relating to our defined benefit pension plans could cause significant fluctuation from year to year in our earnings and cash flow, as well as our pension plan assets, liabilities and equity, and may result in increased levels of contributions to our pension plans.

Our significant non-U.S. operations expose us to exchange rate fluctuations and various risks that could impact our business.

A significant portion of our business is located outside of the United States. We are subject to exchange rate movement because we must translate the financial results of our foreign subsidiaries into U.S. dollars and also because some of our subsidiaries receive revenue other than in their functional currencies. Exchange rate movements may change over time, and they could have a material adverse impact on our financial results and cash flows reported in U.S. dollars. Our U.S. operations earn revenue and incur expenses primarily in U.S. dollars. In certain jurisdictions, however, our Risk and Insurance Services operations generate revenue in a number of different currencies, but expenses are almost entirely incurred in local currency. Due to fluctuations in foreign exchange rates, we are subject to economic exposure as well as currency translation exposure on the net operating results of our operations. Because the non-U.S. based revenue that is exposed to foreign exchange fluctuations is approximately 50% of total revenue, exchange rate movement can have a significant impact on our business, financial condition, results of operations and cash flow. For additional discussion, see "Market Risk and Credit Risk-Foreign Currency Risk" in Part II, Item 7A ("Quantitative and Qualitative Disclosures about Market Risk") of this report.

We may not be able to receive dividends or other distributions in needed amounts from our subsidiaries.

The Company is organized as a legal entity separate and distinct from our operating subsidiaries. Because we do not have significant operations of our own, we are dependent upon dividends and other payments from our operating subsidiaries to meet our obligations for paying principal and interest on outstanding debt obligations, paying dividends to stockholders, repurchasing our common stock under our share repurchase program and paying corporate expenses. In the event our operating subsidiaries are unable to pay sufficient dividends and make other payments to the Company, we may not be able to service our debt, pay dividends on or repurchase our common stock or meet our other obligations.

Further, the Company derives a significant portion of its revenue and operating profit from operating subsidiaries located outside the United States. Funds from the current year's earnings of the Company's non-U.S. operating subsidiaries are regularly repatriated to the United States. A number of factors could arise that could limit our ability to repatriate funds or could make repatriation cost-prohibitive, including, but not limited to, the imposition of currency controls and other government restrictions on repatriation in the jurisdictions in which our subsidiaries operate, fluctuations in foreign exchange rates and the imposition of withholding and other taxes on such payments.

In the event we are unable to generate or repatriate cash from our operating subsidiaries, our overall liquidity could deteriorate and our ability to finance our obligations, including to pay dividends on or repurchase our common stock, could be adversely affected.

Our quarterly revenues and profitability may fluctuate significantly.

Quarterly variations in revenues and operating results may occur due to several factors. These include:

- the number of client engagements during a quarter;
- the possibility that clients may decide to delay or terminate a current or anticipated project as a result of factors unrelated to our work product or progress;
- fluctuations in hiring and utilization rates and clients' ability to terminate engagements without penalty;
- the impact of changes in accounting standards or in our accounting estimates or assumptions, including from the adoption of the new revenue recognition, pension or lease accounting standards;
- the impact on us or our clients of changes in legislation, regulation and legal guidance or interpretations in the jurisdictions in which we operate, including with respect to U.S. tax reform;
- seasonality due to the impact of regulatory deadlines, policy renewals and other timing factors to which our clients are subject;
- the success of our acquisitions or investments;

- macroeconomic factors such as changes in foreign exchange rates, interest rates and global securities markets, particularly in the case of Mercer, where fees in its investments business and certain other business lines are derived from the value of assets under management or administration; and
- general economic conditions, including factors beyond our control affecting economic conditions such as severe weather or other catastrophic events, since results of operations are directly affected by the levels of business activity of our clients, which in turn are affected by the level of economic activity in the industries and markets that they serve.

A significant portion of our total operating expenses is relatively fixed in the short term. Therefore, a variation in the number of client assignments or in the timing of the initiation or the completion of client assignments can cause significant variations in quarterly operating results for these businesses.

Credit rating downgrades would increase our financing costs and could subject us to operational risk.

Currently, the Company's senior debt is rated A- by S&P and Baa1 by Moody's. The ratings from both S&P and Moody's currently carry a Stable outlook.

If we need to raise capital in the future (for example, in order to fund maturing debt obligations or finance acquisitions or other initiatives), credit rating downgrades would increase our financing costs, and could limit our access to financing sources. Further, a downgrade to a rating below investment-grade could result in greater operational risks through increased operating costs and increased competitive pressures.

Global Operations

We are exposed to multiple risks associated with the global nature of our operations.

We conduct business globally. In 2017, approximately 50% of the Company's total revenue was generated from operations outside the United States, and over one-half of our employees were located outside the United States. We expect to expand our non-U.S. operations further.

The geographic breadth of our activities subjects us to significant legal, economic, operational, market, compliance and reputational risks. These include, among others, risks relating to:

- economic and political conditions in the countries in which we operate;
- client concentration in certain high-growth countries in which we operate;
- the length of payment cycles and potential difficulties in collecting accounts receivable;
- unexpected increases in taxes or changes in U.S. or foreign tax laws, rulings, policies or related legal and regulatory interpretations, including recent international initiatives to require multinational enterprises, like ours, to report profitability on a country-by-country basis, which could increase scrutiny by, or cause disagreements with, foreign tax authorities;
- potential transfer pricing-related tax exposures that may result from the flow of funds among our subsidiaries and affiliates in the various jurisdictions in which we operate;
- withholding or other taxes that foreign governments may impose on the payment of dividends or other remittances to us from our non-U.S. subsidiaries;
- potential conflicts of interest that may arise as we expand the scope of our businesses and our client base;
- international hostilities, terrorist activities, natural disasters and infrastructure disruptions;
- local investment or other financial restrictions that foreign governments may impose;
- potential lawsuits, investigations, market studies, reviews or other activity by foreign regulatory or law enforcement authorities, which may result in related private litigation or increased scrutiny from U.S. or other regulators;
- potential costs and difficulties in complying with a wide variety of foreign laws and regulations (including tax systems) administered by foreign government agencies, some of which may conflict with U.S. or other sources of law;
- potential costs and difficulties in complying, or monitoring compliance, with foreign and U.S. laws and regulations that are applicable to our operations abroad, including trade

sanctions laws relating to countries such as Cuba, Iran, Russia, Sudan and Syria and anti-corruption laws such as the U.S. Foreign Corrupt Practices Act and the U.K. Bribery Act 2010;

- limitations or restrictions that foreign or U.S. governments and regulators may impose on the products or services we sell, the methods by which we sell our products and services and the manner in which and the amounts we are compensated;
- limitations that foreign governments may impose on the conversion of currency or the payment of dividends or other remittances to us from our non-U.S. subsidiaries;
- engaging and relying on third parties to perform services on behalf of the Company; and
- potential difficulties in monitoring employees in geographically dispersed locations.

Acquisitions and Dispositions Risks

We face risks when we acquire and dispose of businesses.

We have a history of making acquisitions and investments, including a total of 111 in the period 2012-2017. We expect that acquisitions will continue to be a key part of our business strategy. Our success in this regard will depend on our ability to identify and compete for appropriate acquisition candidates and to complete the transactions we decide to pursue with favorable results. As we typically acquire other professional services firms, the success of our transactions is also highly dependent on the retention of the key employees of our acquisition targets.

While we intend that our acquisitions will improve our competitiveness and profitability, we cannot be certain that our past or future acquisitions will be accretive to earnings or otherwise meet our operational or strategic expectations. Acquisitions involve special risks, including accounting, regulatory, compliance, tax, information technology or human resources issues that could arise in connection with, or as a result of, the acquisition of the acquired company; the assumption of unanticipated liabilities and contingencies; difficulties in integrating acquired businesses; possible management distraction; and the inability of acquired businesses to achieve the levels of revenue, profit, productivity or synergies we anticipate or otherwise perform as we expect on the timeline contemplated. In addition, if in the future, the performance of our reporting units or an acquired business varies from our projections or assumptions, or estimates about future profitability of our reporting units or an acquired business change, the estimated fair value of our reporting units or an acquired business could change materially and could result in an impairment of goodwill and other acquisition-related intangible assets recorded on our balance sheet or in adjustments in contingent payment amounts. As of December 31, 2017, the Company's consolidated balance sheet reflected $10.4 billion of goodwill and intangible assets, representing approximately 51% of the Company's total consolidated assets and allocated by reporting segment as follows: Risk and Insurance Services, $7.6 billion and Consulting, $2.8 billion. Given the significant size of the Company's goodwill and intangible assets, an impairment could have a material adverse effect on our results of operations in any given period.

When we dispose of businesses, we may continue to be subject to certain liabilities of that business after its disposition relating to the period of our ownership and may not be able to negotiate for limitations on those liabilities. We are also subject to the risk that the sales price is less than the amount reflected on our balance sheet.

RISKS RELATING TO OUR RISK AND INSURANCE SERVICES SEGMENT

Our Risk and Insurance Services segment, conducted through Marsh and Guy Carpenter, represented 54% of the Company's total revenue in 2017. Our business in this segment is subject to particular risks.

Results in our Risk and Insurance Services segment may be adversely affected by a general decline in economic activity.

Demand for many types of insurance and reinsurance generally rises or falls as economic growth expands or slows. This dynamic affects the level of commissions and fees generated by Marsh and Guy Carpenter. To the extent our clients become adversely affected by declining business conditions, they may choose to limit their purchases of insurance and reinsurance coverage, as applicable, which would inhibit our ability to generate commission revenue and other revenue based on premiums placed by us. Also, the insurance they seek to obtain through us may be impacted by changes in their assets, property values, sales or number of employees, which may reduce our commission revenue, and they may decide not to purchase our risk advisory or other services, which would inhibit our ability to generate fee revenue. Moreover, insolvencies and combinations associated with an economic downturn, especially insolvencies and combinations in the insurance industry, could adversely affect our brokerage business through the loss of clients or by limiting our ability to place insurance and reinsurance business, as well as our revenues from insurers. Guy Carpenter is especially susceptible to this risk given the limited number of insurance company clients and reinsurers in the market place.

Volatility or declines in premiums and other market trends may significantly impede our ability to grow revenues and profitability.

A significant portion of our Risk and Insurance Services revenue consists of commissions paid to us out of the premiums that insurers and reinsurers charge our clients for coverage. We do not determine the insurance premiums on which our commissions are generally based. Our revenues and profitability are subject to change to the extent that premium rates fluctuate or trend in a particular direction. The potential for changes in premium rates is significant, due to the normal cycles of pricing in the commercial insurance and reinsurance markets.

As traditional insurance companies continue to rely on non-affiliated brokers or agents to generate premium, those insurance companies may seek to reduce their expenses by lowering their commission rates. The reduction of these commission rates, along with general volatility or declines in premiums, may significantly affect our profitability. Because we do not determine the timing or extent of premium pricing changes, it is difficult to accurately forecast our commission revenues, including whether they will significantly decline. As a result, we may have to adjust our plans for future acquisitions, capital expenditures, dividend payments, loan repayments and other expenditures to account for unexpected changes in revenues, and any decreases in premium rates may adversely affect the results of our operations.

In addition to movements in premium rates, our ability to generate premium-based commission revenue may be challenged by disintermediation and the growing availability of alternative methods for clients to meet their risk-protection needs. This trend includes a greater willingness on the part of corporations to self-insure, the use of captive insurers, and the presence of capital markets-based solutions for traditional insurance and reinsurance needs. Further, the profitability of our Risk and Insurances Services segment depends in part on our ability to be compensated for the analytical services and other advice that we provide, including the consulting and analytics services that we provide to insurers. If we are unable to achieve and maintain adequate billing rates for all of our services, our margins and profitability could decline.

Adverse legal developments and future regulations concerning how intermediaries are compensated by insurers or clients, as well as allegations of anti-competitive behavior or conflicts of interest more broadly, could have a material adverse effect on Marsh's business, results of operations and financial condition.

The ways in which insurance intermediaries are compensated receive scrutiny from regulators in part because of the potential for anti-competitive behavior and conflicts of interest. The vast majority of the compensation that Marsh receives is in the form of retail fees and commissions that are paid by the client or paid from premium that is paid by the client. The amount of other compensation that we receive from

insurance companies, separate from retail fees and commissions, has increased in the last several years, both on an underlying basis and through acquisition. This other compensation includes payment for (i) consulting and analytics services provided to insurers; (ii) administrative and other services provided to insurers (including services relating to the administration and management of quota shares, lineslips, panels and other facilities); and (iii) contingent commissions (paid by insurers based on factors such as volume or profitability of Marsh's placements). These other revenue streams present potential regulatory, litigation and reputational risks that may arise from alleged anti-competitive behavior or conflicts of interest, and future changes in the regulatory environment may impact our ability to collect such revenue. For example, in November 2017, the FCA announced the terms of reference for a market study concerning the London wholesale insurance broker sector, which affects Marsh and Guy Carpenter. The FCA is conducting the study to assess "how effective competition is working in the wholesale insurance broker sector" and "how brokers influence competition in the underwriting sector." Many of the questions raised by the FCA in the terms of reference relate to broker compensation and fee-generating business practices. The FCA is expected to publish its interim report in the fall of 2018, with a final report expected in 2019. The timing and impacts of the study remain uncertain, and the study may lead to remedies on the industry that could adversely impact Marsh or Guy Carpenter's business. These or other adverse regulatory, legal or other developments could have a material adverse effect on our business and expose the Company to negative publicity and reputational harm.

RISKS RELATING TO OUR CONSULTING SEGMENT

Our Consulting segment, conducted through Mercer and Oliver Wyman Group, represented 46% of our total revenue in 2017. Our businesses in this segment are subject to particular risks.

Mercer's Investment Management and Related Services (IMS) business is subject to a number of risks, including risks related to third-party investment managers, operational risk, conflicts of interest, asset performance and regulatory compliance, that, if realized, could result in significant damage to our business.

Mercer's IMS business provides clients with investment consulting and investment management (also referred to as "delegated solutions" or "fiduciary management") services. In the investment consulting business, clients make and implement their own investment decisions based upon advice provided by Mercer. In its delegated solutions business, Mercer implements the client's investment policy by engaging and overseeing third-party asset managers who determine which investments to buy and sell. To effect implementation of a client's investment policy, Mercer may utilize its "manager of managers" investment funds.

Mercer's IMS business is subject to a number of risks, including risks related to third-parties, our operations, conflicts of interest, asset performance and regulatory compliance and scrutiny, which could arise in connection with these offerings. For example, Mercer's due diligence on an asset manager may fail to uncover material deficiencies or fraud that could result in investment losses to a client. There is a risk that Mercer will fail to properly implement a client's investment policy, which could cause an incorrect or untimely allocation of client assets among asset managers or strategies. Mercer may also be perceived as recommending certain asset managers to clients, or offering delegated solutions to an investment consulting client, solely to enhance its own compensation. Asset classes may perform poorly, or asset managers may underperform their benchmarks, due to poor market performance, a downturn in the global equity markets, negligence or other reasons, resulting in poor returns or loss of client capital. These risks, if realized, could result in significant liability and damage our business. In addition, in June 2017, the FCA issued a final report in connection with a market study of the U.K. asset management industry, which includes asset managers and investment consultants, including Mercer. Following the report, in September 2017, the FCA announced its decision to refer the investment consulting and fiduciary management markets to the U.K. Competition & Markets Authority (the "CMA") for a market investigation. The CMA expects to conclude its investigation of the investment consulting and fiduciary management markets by March 2019, and the CMA may impose remedies on the industry that may adversely affect Mercer's U.K. investment consulting and delegated solutions businesses.

Revenues for the services provided by our Consulting segment may decline for various reasons, including as a result of changes in economic conditions, the value of equity, debt and other asset markets, our clients' or an industry's financial condition or government regulation.

Until recently, global economic conditions have negatively affected businesses and financial institutions. Many of our clients, including financial institutions, corporations, government entities and pension plans, have reduced expenses, including amounts spent on consulting services, and used internal resources instead of consultants. The evolving needs and financial circumstances of our clients may reduce demand for our consulting services and our revenues and profitability. If the economy or markets in which we operate experience weakness or deteriorate, our business, financial condition and results of operations could be materially and adversely affected.

In addition, some of Mercer's IMS business generates fees based upon the value of the clients' assets under management or advisement. Changes in the value of equity, debt, currency, real estate, commodities or other asset classes could cause the value of assets under management or advisement, and the fees received by Mercer, to decline. Such changes could also cause clients to withdraw funds from Mercer's IMS business in favor of other investment service providers. In either case, our business, financial condition and results of operations could be materially and adversely affected. Further, revenue received by Mercer as investment manager to the majority of the Mercer-managed investment funds is reported in accordance with U.S. GAAP on a gross basis rather than a net basis, with sub-advisor fees reflected as an expense. Therefore the reported revenue for these offerings does not fully reflect the amount net revenue ultimately attributable to Mercer.

Demand for many of Mercer's benefits services is affected by government regulation and tax laws, rulings, policies and interpretations, which drive our clients' needs for benefits-related services. Significant changes in government regulations affecting the value, use or delivery of benefits and human resources programs, including changes in regulations relating to health and welfare plans, defined contribution plans or defined benefit plans, may adversely affect the demand for or profitability of Mercer's services.

Factors affecting defined benefit pension plans and the services we provide relating to those plans could adversely affect Mercer.

Mercer currently provides corporate, multi-employer and public clients with actuarial, consulting and administration services relating to defined benefit pension plans. The nature of our work is complex. Our actuarial services involve numerous assumptions and estimates regarding future events, including interest rates used to discount future liabilities, estimated rates of return for a plan's assets, healthcare cost trends, salary projections and participants' life expectancies. Our consulting services involve the drafting and interpretation of trust deeds and other complex documentation governing pension plans. Our administration services include calculating benefits within complicated pension plan structures. Clients dissatisfied with our services have brought, and may bring, significant claims against us, particularly in the United States and the United Kingdom. In addition, a number of Mercer's clients have frozen or curtailed their defined benefit plans and have moved to defined contribution plans resulting in reduced revenue for Mercer's retirement business. These developments could adversely affect Mercer's business and operating results.

The profitability of our Consulting segment may decline if we are unable to achieve or maintain adequate utilization and pricing rates for our consultants.

The profitability of our Consulting businesses depends in part on ensuring that our consultants maintain adequate utilization rates (i.e., the percentage of our consultants' working hours devoted to billable activities). Our utilization rates are affected by a number of factors, including:

- our ability to transition consultants promptly from completed projects to new assignments, and to engage newly-hired consultants quickly in revenue-generating activities;
- our ability to continually secure new business engagements, particularly because a portion of our work is project-based rather than recurring in nature;
- our ability to forecast demand for our services and thereby maintain appropriate headcount in each of our geographies and workforces;
- our ability to manage attrition;
- unanticipated changes in the scope of client engagements;

- the potential for conflicts of interest that might require us to decline client engagements that we otherwise would have accepted;
- our need to devote time and resources to sales, training, professional development and other non-billable activities;
- the potential disruptive impact of acquisitions and dispositions; and
- general economic conditions.

If the utilization rate for our consulting professionals declines, our profit margin and profitability could decline.

In addition, the profitability of our Consulting businesses depends in part on the prices we are able to charge for our services. The prices we charge are affected by a number of factors, including:

- clients' perception of our ability to add value through our services;
- market demand for the services we provide;
- our ability to develop new services and the introduction of new services by competitors;
- the pricing policies of our competitors;
- the extent to which our clients develop in-house or other capabilities to perform the services that they might otherwise purchase from us; and
- general economic conditions.

If we are unable to achieve and maintain adequate billing rates for our services, our profit margin and profitability could decline.

Item 1B. Unresolved Staff Comments.

There are no unresolved comments to be reported pursuant to Item 1B.

Item 2. Properties.

Marsh & McLennan Companies maintains its corporate headquarters in New York City. We also maintain other offices around the world, primarily in leased space. In certain circumstances we may have space that we sublet to third parties, depending upon our needs in particular locations.

Marsh & McLennan Companies and certain of its subsidiaries own, directly and indirectly through special purpose subsidiaries, a 58% condominium interest covering approximately 900,000 square feet of office space in a 44 story condominium in New York City. This real estate serves as the Company's headquarters and is occupied primarily by the Company and its subsidiaries for general corporate use. The condominium interests are financed by a 30-year mortgage loan that is non-recourse to the Company unless the Company (i) is downgraded below B (stable outlook) by S&P or Fitch or B2 (stable outlook) by Moody's and such downgrade is continuing or (ii) an event of default under the mortgage loan has occurred. The mortgage is secured by a first priority assignment of leases and rents, including the leases which the Company and certain of its subsidiaries entered into with their affiliated special purpose subsidiaries which own the mortgaged condominium interests. The net rent due under those leases in effect services the mortgage debt.

Item 3. Legal Proceedings.

In April 2017, the Financial Conduct Authority in the United Kingdom (the "FCA") commenced a civil competition investigation into the aviation insurance and reinsurance sector. In connection with that investigation, the FCA carried out an on-site inspection at the London office of Marsh Limited, our Marsh and Guy Carpenter operating subsidiary in the United Kingdom. The FCA indicated that it had reasonable grounds for suspecting that Marsh Limited and other participants in the market have been sharing competitively sensitive information within the aviation insurance and reinsurance broking sector.

In October 2017, the Company received a notice that the Directorate-General for Competition of the European Commission had commenced a civil investigation of a number of insurance brokers, including Marsh, regarding "the exchange of commercially sensitive information between competitors in relation to aviation and aerospace insurance and reinsurance broking products and services in the European Economic Area ("EEA"), as well as possible coordination between competitors." In light of the action

taken by the European Commission, the FCA informed Marsh Limited at the same time that it has discontinued its investigation under U.K. competition law into the aviation insurance and reinsurance sector.

In July 2017, the Directorate-General for Competition of the European Commission together with the Irish Competition and Consumer Protection Commission conducted on-site inspections at the offices of Marsh and other industry participants in Dublin in connection with an investigation regarding the "possible participation in anticompetitive agreements and/or concerted practices contrary to [E.U. competition law] in the market for commercial motor insurance in the Republic of Ireland." In December 2017, we received a request from the Directorate-General for Competition of the European Commission seeking documents and information relating to its investigation.

We are cooperating with these investigations and are conducting our own reviews. As these investigations are at early stages, we are unable to predict their likely timing, outcome or ultimate impact. There can be no assurance that the ultimate resolution of these or any related matters will not have a material adverse effect on our consolidated results of operations, financial condition or cash flows.

We and our subsidiaries are also party to a variety of other legal, administrative, regulatory and government proceedings, claims and inquiries arising in the normal course of business. Additional information regarding certain legal proceedings and related matters is set forth in Note 14 to the consolidated financial statements appearing under Part II, Item 8 ("Financial Statements and Supplementary Data") of this report.

Item 4. Mine Safety Disclosures.

Not applicable.

PART II

Item 5. Market for the Company's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities.

For information regarding dividends paid and the number of holders of the Company's common stock, see the table entitled "Selected Quarterly Financial Data and Supplemental Information (Unaudited)" below on the last page of Part II, Item 8 ("Financial Statements and Other Supplementary Data") of this report.

The Company's common stock is listed on the New York, Chicago and London Stock Exchanges. The following table indicates the high and low prices (NYSE composite quotations) of the Company's common stock during 2017 and 2016 and each quarterly period thereof:

	2017 Stock Price Range		2016 Stock Price Range	
	High	Low	High	Low
First Quarter	$75.52	$66.75	$60.96	$50.81
Second Quarter	$80.47	$71.79	$68.57	$59.85
Third Quarter	$84.32	$76.68	$68.69	$65.48
Fourth Quarter	$86.54	$80.12	$69.77	$62.33
Full Year	$86.54	$66.75	$69.77	$50.81

On February 21, 2018, the closing price of the Company's common stock on the NYSE was $82.77.

The Company repurchased 3.6 million shares of its common stock for $300 million during the fourth quarter of 2017, resulting in full year 2017 repurchases of 11.5 million shares for $900 million. In November 2016, the Board of Directors of the Company authorized the Company to repurchase up to $2.5 billion in shares of the Company's common stock, which superseded any prior authorizations. As of December 31, 2017, the Company remained authorized to repurchase up to approximately $1.5 billion in shares of its common stock. There is no time limit on the authorization.

Period	Total Number of Shares (or Units) Purchased	Average Price Paid per Share (or Unit)	Total Number of Shares (or Units) Purchased as Part of Publicly Announced Plans or Programs	Maximum Number (or Approximate Dollar Value) of Shares (or Units) that May Yet Be Purchased Under the Plans or Programs
Oct 1-31, 2017	1,364,124	$ 83.4481	1,364,124	$ 1,727,022,334
Nov 1-30, 2017	1,460,560	$ 83.0467	1,460,560	$ 1,605,727,627
Dec 1-31, 2017	771,990	$ 84.1654	771,990	$ 1,540,752,770
Total	3,596,674	$ 83.4391	3,596,674	$ 1,540,752,770

Item 6. Selected Financial Data.

Marsh & McLennan Companies, Inc. and Subsidiaries
FIVE-YEAR STATISTICAL SUMMARY OF OPERATIONS

For the Years Ended December 31, *(In millions, except per share figures)*	2017	2016	2015	2014	2013
Revenue	$ 14,024	$ 13,211	$ 12,893	$ 12,951	$ 12,261
Expense:					
Compensation and Benefits	7,884	7,461	7,334	7,515	7,226
Other Operating Expenses	3,284	3,086	3,140	3,135	2,958
Operating Expenses	11,168	10,547	10,474	10,650	10,184
Operating Income [(a)]	2,856	2,664	2,419	2,301	2,077
Interest Income	9	5	13	21	18
Interest Expense	(237)	(189)	(163)	(165)	(167)
Cost of Extinguishment of Debt	—	—	—	(137)	(24)
Investment Income	15	—	38	37	69
Income Before Income Taxes	2,643	2,480	2,307	2,057	1,973
Income Tax Expense [(b)]	1,133	685	671	586	594
Income From Continuing Operations	1,510	1,795	1,636	1,471	1,379
Discontinued Operations, Net of Tax	2	—	—	26	6
Net Income Before Non-Controlling Interests	1,512	1,795	1,636	1,497	1,385
Less: Net Income Attributable to Non-Controlling Interests	20	27	37	32	28
Net Income Attributable to the Company	$ 1,492	$ 1,768	$ 1,599	$ 1,465	$ 1,357
Basic Net Income Per Share Information:					
Income From Continuing Operations	$ 2.91	$ 3.41	$ 3.01	$ 2.64	$ 2.46
Income From Discontinued Operations	—	—	—	0.05	0.01
Net Income Attributable to the Company	$ 2.91	$ 3.41	$ 3.01	$ 2.69	$ 2.47
Average Number of Shares Outstanding	513	519	531	545	549
Diluted Income Per Share Information:					
Income From Continuing Operations	$ 2.87	$ 3.38	$ 2.98	$ 2.61	$ 2.42
Discontinued Operations, Net of Tax Per Share	—	—	—	0.04	0.01
Net Income Attributable to the Company	$ 2.87	$ 3.38	$ 2.98	$ 2.65	$ 2.43
Average Number of Shares Outstanding	519	524	536	553	558
Dividends Paid Per Share	$ 1.43	$ 1.30	$ 1.18	$ 1.06	$ 0.96
Return on Average Equity	22 %	27 %	23 %	19 %	19 %
Year-End Financial Position:					
Working capital	$ 1,300	$ 802	$ 1,336	$ 1,856	$ 2,027
Total assets	$ 20,429	$ 18,190	$ 18,216	$ 17,793	$ 16,960
Long-term debt	$ 5,225	$ 4,495	$ 4,402	$ 3,368	$ 2,619
Total equity	$ 7,442	$ 6,272	$ 6,602	$ 7,133	$ 7,975
Total shares outstanding (net of treasury shares)	509	514	522	540	547
Other Information:					
Number of employees	64,000	60,000	60,000	57,000	55,000
Stock price ranges—					
U.S. exchanges — High	$ 86.54	$ 69.77	$ 59.99	$ 58.74	$ 48.56
— Low	$ 66.75	$ 50.81	$ 50.90	$ 44.25	$ 34.43

(a) Includes the impact of net restructuring costs of $40 million, $44 million, $28 million, $12 million and $22 million in 2017, 2016, 2015, 2014 and 2013, respectively.

(b) Income tax expense in 2017 includes a $460 million provisional charge related to the enactment of U.S. tax reform.

See "Management's Discussion and Analysis of Financial Condition and Results of Operations", appearing under Part II, Item 7 of this report, for discussion of significant items affecting the results of operations in 2017, 2016 and 2015.

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations

General

Marsh & McLennan Companies, Inc. and its consolidated subsidiaries (the "Company") is a global professional services firm offering clients advice and solutions in risk, strategy and people. Its businesses include: Marsh, the insurance broker, intermediary and risk advisor; Guy Carpenter, the risk and reinsurance specialist; Mercer, the provider of HR and investment related financial advice and services; and Oliver Wyman Group, the management, economic and brand consultancy. With nearly 65,000 colleagues worldwide and annual revenue of more than $14 billion, the Company provides analysis, advice and transactional capabilities to clients in more than 130 countries.

The Company conducts business through two segments:

- **Risk and Insurance Services** includes risk management activities (risk advice, risk transfer and risk control and mitigation solutions) as well as insurance and reinsurance broking and services. The Company conducts business in this segment through Marsh and Guy Carpenter.
- **Consulting** includes health, retirement, talent and investments consulting services and products, and specialized management, economic and brand consulting services. The Company conducts business in this segment through Mercer and Oliver Wyman Group.

We describe the primary sources of revenue and categories of expense for each segment below, in our discussion of segment financial results. A reconciliation of segment operating income to total operating income is included in Note 15 to the consolidated financial statements included in Part II, Item 8 in this report. The accounting policies used for each segment are the same as those used for the consolidated financial statements.

This Management's Discussion & Analysis ("MD&A") contains forward-looking statements as that term is defined in the Private Securities Litigation Reform Act of 1995. See "Information Concerning Forward-Looking Statements" at the outset of this report.

Consolidated Results of Operations

For the Years Ended December 31, *(In millions, except per share figures)*	**2017**	2016	2015
Revenue	**$ 14,024**	$ 13,211	$ 12,893
Expense			
Compensation and Benefits	**7,884**	7,461	7,334
Other Operating Expenses	**3,284**	3,086	3,140
Operating Expenses	**11,168**	10,547	10,474
Operating Income	**$ 2,856**	$ 2,664	$ 2,419
Income from Continuing Operations	**$ 1,510**	$ 1,795	$ 1,636
Discontinued Operations, Net of Tax	**2**	—	—
Net Income Before Non-Controlling Interests	**$ 1,512**	$ 1,795	$ 1,636
Net Income Attributable to the Company	**$ 1,492**	$ 1,768	$ 1,599
Net Income from Continuing Operations Per Share:			
Basic	**$ 2.91**	$ 3.41	$ 3.01
Diluted	**$ 2.87**	$ 3.38	$ 2.98
Net Income Per Share Attributable to the Company:			
Basic	**$ 2.91**	$ 3.41	$ 3.01
Diluted	**$ 2.87**	$ 3.38	$ 2.98
Average number of shares outstanding:			
Basic	**513**	519	531
Diluted	**519**	524	536
Shares outstanding at December 31,	**509**	514	522

In 2017, the Company's results of operations and earnings per share were impacted negatively, in part, as a result of two significant items in 2017:

- U.S. tax reform - On December 22, 2017, the U.S. enacted comprehensive tax legislation commonly referred to as the Tax Cuts and Jobs Act (the "TCJA"). The TCJA provides for a reduction in the U.S. corporate tax rate to 21% and the creation of a territorial tax system. The TCJA also changes the deductibility of certain expenses, primarily executive officers compensation. An aggregate charge of $460 million was recorded in the fourth quarter of 2017 as a result of the enactment of the TCJA. The TCJA provides for a transition to the territorial system through a deemed repatriation tax (the "transition tax") on undistributed earnings of non-U.S. subsidiaries. The Company recorded a provisional charge of $240 million in the fourth quarter of 2017 as an estimate of U.S. transition taxes and ancillary effects, including state taxes and foreign withholding taxes related to the change in permanent reinvestment status with respect to our pre-2018 foreign earnings. This transition tax is payable over eight years. The reduction of the U.S. corporate tax rate from 35% to 21%, reduces the value of the U.S. deferred tax assets and liabilities, accordingly, a net charge of $220 million was recorded. A more complete discussion of the TCJA and its impact on the Company's results is included under the heading "Income Taxes".
- Pension Settlement charge in the U.K. - The Defined Benefit Pension Plans in the U.K. allow participants an option for the payment of a lump sum distribution from plan assets before retirement in full satisfaction of the retirement benefits due to the participant as well as any survivor's benefit. The Company's policy under applicable U.S. GAAP is to treat these lump sum payments as a partial settlement of the plan liability if they exceed the sum of service cost plus interest cost components of net period pension cost of a plan for the year ("settlement thresholds"). The amount of lump sum payments through December 31, 2017 exceeded the settlement thresholds in two of the U.K. plans. This resulted in a non-cash settlement charge of $54 million recorded in December 2017, of which approximately 85% impacted Risk and Insurance Services.

Consolidated operating income increased 7%, to $2.9 billion, in 2017 compared with $2.7 billion in 2016, reflecting the combined impact of a 6% increase in revenue and a 6% increase in expenses as compared with the prior year. Income before income taxes increased 7%, to $2.6 billion, reflecting the increase in operating income partly offset by higher interest expense, primarily reflecting an increase in average debt outstanding during the year resulting from the issuance of $1 billion of senior notes in January 2017, partly offset by the repayment of $250 million of senior notes in April 2017.

Diluted earnings per share was $2.87 in 2017, compared with $3.38 in 2016. The decrease reflects a significantly higher effective tax rate in 2017, primarily resulting from an aggregate provisional charge of $460 million related to the enactment in December 2017 of U.S. tax reform and a pension settlement charge, which are discussed above. The impact from U.S. tax reform was partly offset by discrete tax items during the year, in particular the benefit from the required change in accounting for tax consequences related to stock compensation. The $460 million provisional charge related to U.S. tax reform reduced diluted earnings per share by $0.89.

Average diluted shares outstanding for 2017 decreased to 519 million, compared with 524 million during 2016. Shares issued related to the vesting of share awards and the exercise of employee stock options, were more than offset by share repurchases during the year. Average shares outstanding in 2017 was also impacted by the change in accounting for stock compensation. Under the applicable guidance, the excess tax benefits for unvested shares and unexercised stock options are no longer included in the calculation of common stock equivalents ("CSEs") under the treasury stock method. This had the effect of increasing CSEs by approximately 1.7 million shares in 2017.

Risk and Insurance Services operating income increased $118 million, or 7%, in 2017 compared with 2016. Revenue increased 7%, reflecting a 3% increase on an underlying basis and a 4% increase from acquisitions. Expense increased 7% or 2% on an underlying basis in 2017 compared with 2016.

Consulting operating income increased $71 million, or 6%, to $1.2 billion in 2017 compared with 2016, reflecting the combined impact of 5% growth for both revenue and expense.

Consolidated operating income increased 10% to $2.7 billion in 2016 compared with $2.4 billion in 2015, reflecting the combined impact of a 2% increase in revenue and a 1% increase in expenses as compared to the prior year.

Risk and Insurance Services operating income increased $214 million, or 14% in 2016 compared with 2015. Revenue increased 4% reflecting a 3% increase on an underlying basis and a 3% increase from acquisitions, partly offset by a decrease resulting from the impact of foreign currency translation of 2%. Expense increased 1% in 2016 compared with 2015.

Consulting operating income increased $28 million, or 3%, to $1.1 billion in 2016 compared with 2015, reflecting the combined impact of 1% revenue growth, while expense was flat.

Consolidated Revenue and Expense

Revenue - Components of Change

The Company conducts business in many countries. As a result, foreign exchange rate movements may impact period-to-period comparisons of revenue. Similarly, certain other items such as the revenue impact of acquisitions and dispositions, including transfers among businesses, may impact period-to-period comparisons of revenue. Underlying revenue measures the change in revenue from one period to another by isolating these impacts. The impact of foreign currency exchange fluctuations, acquisitions and dispositions, including transfers among businesses, on the Company's operating revenues by segment was as follows:

	Year Ended December 31,		Components of Revenue Change*			
(In millions, except percentage figures)	**2017**	2016	**% Change GAAP Revenue**	**Currency Impact**	**Acquisitions/ Dispositions Impact**	**Underlying Revenue**
Risk and Insurance Services						
Marsh	**$ 6,404**	$ 5,976	7%	—	5%	3%
Guy Carpenter	**1,187**	1,141	4%	—	—	4%
Subtotal	**7,591**	7,117	7%	—	4%	3%
Fiduciary Interest Income	**39**	26				
Total Risk and Insurance Services	**7,630**	7,143	7%	—	4%	3%
Consulting						
Mercer	**4,528**	4,323	5%	—	2%	2%
Oliver Wyman Group	**1,916**	1,789	7%	—	—	7%
Total Consulting	**6,444**	6,112	5%	—	2%	4%
Corporate/Eliminations	**(50)**	(44)				
Total Revenue	**$ 14,024**	$ 13,211	6%	—	3%	3%

* Components of revenue change may not add due to rounding.

The following table provides more detailed revenue information for certain of the components presented above:

	Year Ended December 31,		Components of Revenue Change*			
(In millions, except percentage figures)	**2017**	2016	**% Change GAAP Revenue**	**Currency Impact**	**Acquisitions/ Dispositions Impact**	**Underlying Revenue**
Marsh:						
EMEA	**$ 2,033**	$ 1,924	6 %	(1)%	7 %	—
Asia Pacific	**645**	635	2 %	—	(5)%	6 %
Latin America	**404**	374	8 %	(3)%	3 %	7 %
Total International	**3,082**	2,933	5 %	(1)%	4 %	2 %
U.S. / Canada	**3,322**	3,043	9 %	—	6 %	4 %
Total Marsh	**$ 6,404**	$ 5,976	7 %	—	5 %	3 %
Mercer:						
Defined Benefit Consulting & Administration	**$ 1,381**	$ 1,447	(5)%	(1)%	(2)%	(2)%
Investment Management & Related Services	**767**	606	26 %	1 %	15 %	10 %
Total Wealth	**2,148**	2,053	5 %	—	3 %	2 %
Health	**1,648**	1,588	4 %	—	2 %	2 %
Career	**732**	682	7 %	—	2 %	5 %
Total Mercer	**$ 4,528**	$ 4,323	5 %	—	2 %	2 %

Underlying revenue measures the change in revenue using consistent currency exchange rates, excluding the impact of certain items that affect comparability such as: acquisitions, dispositions, transfers among businesses and the deconsolidation of Marsh India.

Effective January 1, 2017, Mercer established a Wealth business reflecting a unified client strategy for its former Retirement and Investment business. The 2016 information in the chart above has been conformed to the current presentation.

* Components of revenue change may not add due to rounding.

(In millions, except percentage figures)	Year Ended December 31, 2016	2015	% Change GAAP Revenue	Components of Revenue Change* Currency Impact	Acquisitions/ Dispositions Impact	Underlying Revenue
Risk and Insurance Services						
Marsh	$ 5,976	$ 5,727	4%	(2)%	4%	3%
Guy Carpenter	1,141	1,121	2%	—	—	2%
Subtotal	7,117	6,848	4%	(2)%	3%	3%
Fiduciary Interest Income	26	21				
Total Risk and Insurance Services	7,143	6,869	4%	(2)%	3%	3%
Consulting						
Mercer	4,323	4,313	—	(2)%	—	3%
Oliver Wyman Group	1,789	1,751	2%	(2)%	—	3%
Total Consulting	6,112	6,064	1%	(2)%	—	3%
Corporate/Eliminations	(44)	(40)				
Total Revenue	$ 13,211	$ 12,893	2%	(2)%	2%	3%

* Components of revenue change may not add due to rounding.

The following table provides more detailed revenue information for certain of the components presented above:

(In millions, except percentage figures)	Year Ended December 31, 2016	2015	% Change GAAP Revenue	Components of Revenue Change* Currency Impact	Acquisitions/ Dispositions Impact	Underlying Revenue
Marsh:						
EMEA	$ 1,924	$ 1,848	4 %	(4)%	6 %	2%
Asia Pacific	635	636	—	—	(3)%	3%
Latin America	374	380	(2)%	(10)%	—	8%
Total International	2,933	2,864	2 %	(4)%	4 %	3%
U.S. / Canada	3,043	2,863	6 %	—	4 %	2%
Total Marsh	$ 5,976	$ 5,727	4 %	(2)%	4 %	3%
Mercer:						
Defined Benefit Consulting & Administration	$ 1,447	$ 1,579	(8)%	(4)%	(6)%	—
Investment Management & Related Services	606	584	4 %	(3)%	1 %	6%
Total Wealth	2,053	2,163	(5)%	(3)%	(4)%	2%
Health	1,588	1,558	2 %	(1)%	—	3%
Career	682	592	15 %	(2)%	12 %	5%
Total Mercer	$ 4,323	$ 4,313	—	(2)%	—	3%

Underlying revenue measures the change in revenue using consistent currency exchange rates, excluding the impact of certain items that affect comparability such as: acquisitions, dispositions and transfers among businesses. For 2015, the impact of a $37 million gain from the disposal of Mercer's U.S. defined contribution recordkeeping business is included in acquisitions/dispositions in Mercer's Defined Benefit Consulting & Administration business.

* Components of revenue change may not add due to rounding.

Revenue

Consolidated revenue was $14 billion in 2017, an increase of 6%, or 3% on an underlying basis. Revenue in the Risk and Insurance Services segment increased 7% in 2017 compared with 2016, or 3% on an underlying basis. Revenue increased 3% and 4% on an underlying basis at Marsh and Guy Carpenter, respectively, as compared with 2016. The Consulting segment's revenue increased 5% compared with 2016, or 4% on an underlying basis. Revenue increased 2% and 7% on an underlying basis at Mercer and Oliver Wyman Group, respectively, as compared with 2016.

Consolidated revenue was $13.2 billion in 2016, an increase of 2%, or 3% on an underlying basis. Revenue in the Risk and Insurance Services segment increased 4% in 2016 compared with 2015, or 3% on an underlying basis. Revenue increased 3% and 2% on an underlying basis at Marsh and Guy Carpenter, respectively, as compared with 2015. The Consulting segment's revenue increased 1% on a reported basis compared with 2015, or 3% on an underlying basis. Both Mercer and Oliver Wyman Group's revenue increased 3% on an underlying basis compared with 2015.

Operating Expense

Consolidated operating expenses increased 6% in 2017 compared with 2016, or 2% on an underlying basis. The increase in underlying expenses was primarily due to higher base salaries and incentive compensation costs, and the pension settlement charge discussed previously, partly offset by lower costs related to liabilities for errors and omissions.

Consolidated operating expenses increased 1% in 2016 compared with the same period in 2015 on both a reported and underlying basis. The underlying expense increase reflects higher base salary costs, higher amortization of identified intangible assets and the impact of the net benefit from the termination of the Company's post-65 retiree medical reimbursement plan in the United States (the "RRA Plan"), which was recorded in the first quarter of 2015, partly offset by decreases in defined benefit plan pension expense and contingent acquisition consideration expense.

Risk and Insurance Services

In the Risk and Insurance Services segment, the Company's subsidiaries and other affiliated entities act as brokers, agents or consultants for insureds, insurance underwriters and other brokers in the areas of risk management, insurance broking and insurance program management services, primarily under the name of Marsh; and engage in reinsurance broking, catastrophe and financial modeling services and related advisory functions, primarily under the name of Guy Carpenter.

Marsh and Guy Carpenter are compensated for brokerage and consulting services primarily through fees paid by clients or commissions paid out of premiums charged by insurance and reinsurance companies. Commission rates vary in amount depending upon the type of insurance or reinsurance coverage provided, the particular insurer or reinsurer, the capacity in which the broker acts and negotiates with clients. Revenues can be affected by premium rate levels in the insurance/reinsurance markets, the amount of risk retained by insurance and reinsurance clients themselves and by the value of the risks that have been insured since commission-based compensation is frequently related to the premiums paid by insureds/reinsureds. In many cases, fee compensation may be negotiated in advance, based on the type of risk, coverage required and service provided by the Company and ultimately, the extent of the risk placed into the insurance market or retained by the client. The trends and comparisons of revenue from one period to the next can be affected by changes in premium rate levels, fluctuations in client risk retention and increases or decreases in the value of risks that have been insured, as well as new and lost business, and the volume of business from new and existing clients.

Marsh also receives other compensation from insurance companies, separate from retail fees and commissions. This compensation includes, among other things, payment for consulting and analytics services provided to insurers; administrative and other services provided to or on behalf of insurers (including services relating to the administration and management of quota share, panels and other facilities in which insurers participate); and contingent commissions. Marsh and Guy Carpenter also receive interest income on certain funds (such as premiums and claims proceeds) held in a fiduciary capacity for others. The investment of fiduciary funds is regulated by state and other insurance authorities. These regulations typically require segregation of fiduciary funds and limit the types of investments that may be made with them. Interest income from these investments varies depending on the amount of funds invested and applicable interest rates, both of which vary from time to time. For presentation purposes, fiduciary interest is segregated from the other revenues of Marsh and Guy Carpenter and separately presented within the segment, as shown in the revenue by segments charts presented earlier in this MD&A.

The results of operations for the Risk and Insurance Services segment are presented below:

(In millions of dollars, except percentages)	**2017**	2016	2015
Revenue	**$ 7,630**	$ 7,143	$ 6,869
Compensation and Benefits	**4,031**	3,732	3,629
Other Operating Expenses	**1,728**	1,658	1,701
Operating Expenses	**5,759**	5,390	5,330
Operating Income	**$ 1,871**	$ 1,753	$ 1,539
Operating Income Margin	**24.5%**	24.5%	22.4%

Revenue

Revenue in the Risk and Insurance Services segment increased 7% in 2017 compared with 2016, due to a 3% growth in underlying revenue and 4% growth from acquisitions.

In Marsh, revenue increased 7% to $6.4 billion in 2017 as compared with 2016, reflecting a 3% increase on an underlying basis and a 5% increase from acquisitions. U.S./Canada had underlying revenue growth of 4%. International operations increased 2% on an underlying basis, reflecting increases of 6% in Asia Pacific and 7% in Latin America, while growth in EMEA was flat.

Guy Carpenter's revenue increased 4% to $1.2 billion in 2017 compared with 2016, for both a reported and underlying basis.

Fiduciary interest income was $39 million in 2017 compared with $26 million in 2016 due to the combined effect of higher average invested funds and higher interest rates.

The Risk and Insurance Services segment completed seven acquisitions during 2017. Information regarding those acquisitions is included in Note 4 to the consolidated financial statements.

Revenue in the Risk and Insurance Services segment increased 4% in 2016 compared with 2015, as a 3% growth in underlying revenue and 3% growth from acquisitions was partly offset by a 2% decrease resulting from the impact of foreign currency translation.

In Marsh, revenue of $6 billion increased 4% in 2016 as compared with 2015, reflecting a 3% increase on an underlying basis and a 4% increase from acquisitions, offset by a 2% decrease resulting from the impact of foreign currency translation. The underlying revenue increase reflects growth in all major geographies. International operations had underlying revenue growth of 3% reflecting increases of 2% in EMEA, 3% in Asia Pacific and 8% in Latin America, while U.S./Canada increased 2%.

Guy Carpenter's revenue increased 2% to $1.1 billion in 2016 compared with 2015, for both a reported and underlying basis.

Fiduciary interest income was $26 million in 2016 compared with $21 million in 2015 due to the combined effect of higher average invested funds and higher interest rates.

The Risk and Insurance Services segment completed nine acquisitions during 2016.

Expense

Expense in the Risk and Insurance Services segment increased 7% in 2017 compared with 2016, reflecting a 2% increase on an underlying basis and a 5% increase from acquisitions. The underlying expense increase is primarily due to higher base salaries, incentive compensation costs and the U.K. pension settlement charge discussed previously, partly offset by lower costs related to liabilities for errors and omissions.

Expense in the Risk and Insurance Services segment increased 1% on both a reported and underlying basis in 2016 compared with 2015. The impact of foreign currency translation reduced expenses by 3%, which was offset by a 3% increase related to acquisitions. The increase in underlying expense reflects higher base salary and incentive compensation costs, higher identified intangible asset amortization expense and the impact of the net benefit from the termination of the RRA Plan which was recorded in the first quarter of 2015, offset by a decrease in defined benefit plan pension expense and lower contingent consideration costs related to acquisitions.

Consulting

Effective January 1, 2017, Mercer merged its investment and retirement businesses into a newly-created wealth business. We believe this combination better aligns Mercer's investment management capabilities globally.

The Company conducts business in its Consulting segment through two main business groups, Mercer and Oliver Wyman Group. Mercer provides consulting expertise, advice, services and solutions in the areas of health, retirement, talent and investments. Oliver Wyman Group provides specialized management, economic and brand consulting services.

The major component of revenue in the Consulting business is fees paid by clients for advice and services. Mercer, principally through its health line of business, also earns revenue in the form of commissions received from insurance companies for the placement of group (and occasionally individual) insurance contracts, primarily life, health and accident coverages. Revenue for Mercer's investment management business and certain of Mercer's defined contribution administration services consists principally of fees based on assets under management or administration.

Revenue in the Consulting segment is affected by, among other things, global economic conditions, including changes in clients' particular industries and markets. Revenue is also affected by competition due to the introduction of new products and services, broad trends in employee demographics, including levels of employment, the effect of government policies and regulations, and fluctuations in interest and foreign exchange rates. Revenues from the provision of investment management services and retirement trust and administrative services are significantly affected by the level of assets under management or administration and securities market performance.

For the investment management business, revenues from the majority of funds are included on a gross basis in accordance with U.S. GAAP and include reimbursable expenses incurred by professional staff and sub-advisory fees, and the related expenses are included in other operating expenses.

The results of operations for the Consulting segment are presented below:

(In millions of dollars, except percentages)	**2017**	2016	2015
Revenue	**$ 6,444**	$ 6,112	$ 6,064
Compensation and Benefits	**3,509**	3,385	3,354
Other Operating Expenses	**1,761**	1,624	1,635
Operating Expenses	**5,270**	5,009	4,989
Operating Income	**$ 1,174**	$ 1,103	$ 1,075
Operating Income Margin	**18.2%**	18.1%	17.7%

Revenue

Consulting revenue in 2017 increased 5% compared with 2016, reflecting a 4% increase on an underlying basis and 2% growth from acquisitions. Mercer's revenue increased 5% to $4.5 billion over the prior year, or 2% on an underlying basis. Mercer's year over year revenue comparison also reflects an increase of 2% from acquisitions. The underlying revenue growth reflects an increase in Career of 5%, Health of 2% and Wealth of 2%. Within Wealth, Investment Management & Related Services increased 10% while Defined Benefit Consulting & Administration decreased 2% compared with the prior year. Oliver Wyman Group's revenue increased 7% in 2017 compared with 2016, for both a reported and underlying basis.

The Consulting segment completed three acquisitions during 2017. Information regarding these acquisitions is included in Note 4 to the consolidated financial statements.

Consulting revenue in 2016 increased 1% compared with 2015, reflecting a 3% increase on an underlying basis offset by a 2% decrease from the impact of foreign currency translation. Mercer's revenue of $4.3 billion was flat when compared with 2015 but increased 3% on an underlying basis. Mercer's year over year revenue comparison reflects a decrease of 2% from the impact of foreign currency translation. The underlying revenue growth reflects an increase in Wealth of 2%, Health of 3% and Career of 5%. Within Wealth, Investment Management & Related Services increased 6% while Defined Benefit Consulting & Administration was flat compared with 2015. Oliver Wyman Group's revenue increased 2% in 2016

compared with 2015, reflecting an increase of 3% on an underlying basis, partly offset by a decrease of 2% from the impact of foreign currency translation.

The Consulting segment completed six acquisitions during 2016.

Expense

Consulting expense in 2017 increased 5% compared with 2016, reflecting an increase of 3% on an underlying basis and a 3% increase from the impact of acquisitions. The increase in underlying expense reflects higher base salaries, asset based fees and outside service costs, partly offset by lower severance costs and lower costs related to liabilities for errors and omissions.

Consulting expense in 2016 was essentially flat compared with 2015, reflecting an increase of 2% on an underlying basis offset by a 2% decrease from the impact of foreign currency translation. The increase in underlying expense reflects higher base salaries and the impact of the net benefit from the termination of the RRA plan which was recorded in the first quarter of 2015, partly offset by lower defined benefit plan pension expense.

Corporate and Other

Corporate expense in 2017 was $189 million compared with $192 million in 2016. The decrease in expense is primarily due to lower consulting, occupancy and general insurance costs.

Corporate expense in 2016 was $192 million compared with $195 million in 2015, reflecting lower executive compensation and lower defined benefit pension costs.

Other Corporate Items

Interest

Interest income earned on corporate funds amounted to $9 million in 2017 compared with $5 million in 2016. Interest expense in 2017 was $237 million compared with $189 million in 2016. The increase in interest expense was primarily due to higher average debt outstanding in 2017.

Interest income earned on corporate funds amounted to $5 million in 2016 compared with $13 million in 2015. The decrease is due to the combined effects of a lower level of invested funds and lower interest rates. Interest expense in 2016 was $189 million compared with $163 million in 2015 due to higher average outstanding debt in 2016.

Investment Income

The caption "Investment income (loss)" in the consolidated statements of income comprises realized and unrealized gains and losses from investments recognized in current earnings. It includes, when applicable, other-than-temporary declines in the value of debt and available-for-sale securities and equity method gains or losses on its investment in private equity funds. The Company's investments may include direct investments in insurance, consulting and related companies and investments in private equity funds. The Company recorded net investment income of $15 million in 2017 compared to less than $1 million in 2016 and $38 million in 2015. The increase in 2017 versus 2016 was primarily due to a gain on the sale of an investment and higher equity method gains related to the Company's investments in private equity funds. Net investment income in 2015 was primarily related to the general partner carried interest from Trident III. Stonepoint Capital, the investment manager of Trident III, substantially liquidated the remaining two investments of Trident III during the third quarter of 2015, which resulted in the Company recognizing its remaining deferred performance fees.

Income Taxes

On December 22, 2017, the U.S. enacted the TCJA. The TCJA provides for a reduction in the U.S. corporate tax rate to 21% and the creation of a territorial tax system. The TCJA also changes the deductibility of certain expenses, primarily executive officers compensation. The Company recorded a provisional charge of $460 million related to the enactment of the TCJA. As discussed in Note 6 to the consolidated financial statements this provisional charge may be adjusted in 2018. The TCJA provides for a transition to the territorial system via a transition tax on undistributed earnings of non-U.S. subsidiaries. The Company recorded a provisional charge of $240 million in the fourth quarter as an estimate of U.S. transition taxes and ancillary effects, including state taxes and foreign withholding taxes related to the

change in permanent reinvestment status with respect to our pre-2018 foreign earnings. This transition tax is payable over eight years. The reduction of the U.S. corporate tax rate from 35% to 21%, reduces the value of the US deferred tax assets and liabilities, accordingly, a charge of $220 million was recorded. The more complete discussion of the TCJA and its impact on the Company's results is further below.

The Company's consolidated effective tax rate was 42.9%, 27.6% and 29.1% in 2017, 2016 and 2015, respectively. The effective tax rate in 2017 reflects the provisional estimate of U.S. tax reform as well as the impact of the required change in accounting for the tax effects of equity awards. The 2017, 2016 and 2015 rates also reflect foreign operations which historically have been taxed at rates below the U.S. statutory tax rate, including the effect of repatriation, as well as the impact of discrete tax matters such as tax legislation, changes in valuation allowances, nontaxable adjustments to contingent acquisition consideration and the true-up of the tax provision to amounts filed in the Company's tax returns. In 2017, pre-tax income in the U.K., Barbados, Canada, Australia, and Ireland accounted for approximately 60% of the Company's total non-U.S. pre-tax income, with effective rates in those countries of 20%, 1%, 27%, 31% and 12%, respectively.

As noted above, the TCJA significantly increased income tax expense from two discrete charges discussed above. The lower U.S. corporate rate is expected to provide a significant ongoing benefit to our effective tax rate and U.S. cash tax liabilities due to the significantly lower U.S. statutory tax rate and the quasi-territorial system.

As a U.S. domiciled parent holding company, Marsh & McLennan Companies, Inc. is the issuer of essentially all of the Company's external indebtedness, and incurs the related interest expense in the U.S. Further, most senior executive and oversight functions are conducted in the U.S. and the associated costs are incurred primarily in the United States.

The mandatory taxation of accumulated undistributed foreign earnings through the transition tax substantially changed the economic considerations of continued permanent investment of those accumulated earnings, a key component of our global capital strategy. As a result of the transition tax, the Company anticipates repatriating the majority of the accumulated earnings that was previously intended to be permanently re-invested outside of the U.S. We continue to evaluate our global investment strategy in light of expected relief from U.S. tax reform under the new territorial tax regime for future foreign earnings.

The effective tax rate may vary significantly from period to period. The rate is sensitive to the geographic mix of the Company's earnings and repatriation of cash, which may result in higher or lower effective tax rates. Losses in certain jurisdictions cannot be offset by earnings from other operations, and may require valuation allowances that affect the rate, depending on estimates of the realizability of associated deferred tax assets. The effective tax rate is also sensitive to changes in unrecognized tax benefits, including the impact of settled tax audits and expired statutes of limitation.

The realization of deferred tax assets depends on generating future taxable income during the periods in which the tax benefits are deductible or creditable. Tax liabilities are determined and assessed jurisdictionally by legal entity or filing group. Certain taxing jurisdictions allow or require combined or consolidated tax filings. The Company assessed the realizability of its deferred tax assets. The Company considered all available evidence, including the existence of a recent history of losses, placing particular weight on evidence that could be objectively verified. A valuation allowance was recorded to reduce deferred tax assets to the amount that the Company believes is more likely than not to be realized.

Changes in tax laws, rulings, policies or related legal and regulatory interpretations occur frequently and may also have significant favorable or adverse impacts on our current assumptions and effective tax rate.

Liquidity and Capital Resources

The Company is organized as a legal entity separate and distinct from its operating subsidiaries. As the Company does not have significant operations of its own, the Company is dependent upon dividends and other payments from its operating subsidiaries to pay principal and interest on its outstanding debt obligations, pay dividends to stockholders, repurchase its shares and pay corporate expenses. The Company also provides financial support to its operating subsidiaries for acquisitions, investments and certain parts of their business that require liquidity, such as the capital markets business of Guy Carpenter. Other sources of liquidity include borrowing facilities discussed below in financing cash flows.

The Company derives a significant portion of its revenue and operating profit from operating subsidiaries located outside of the United States. Funds from those operating subsidiaries are regularly repatriated to the United States out of annual earnings. At December 31, 2017, the Company had approximately $1.0 billion of cash and cash equivalents in its foreign operations, which includes $171 million of operating funds required to be maintained for regulatory requirements or as collateral under certain captive insurance arrangements. The Company expects to continue its practice of repatriating foreign funds from its non-U.S. operating subsidiaries out of current annual earnings, and with respect to repatriating 2017 and prior earnings, it is in the process of fully evaluating such factors as its short- and long-term capital needs, acquisition and borrowing strategies, and the availability of cash for repatriation for each of its subsidiaries as it considers its permanent reinvestment assertions going forward in light of the enactment at the end of 2017 of the TCJA. During 2017, the Company recorded foreign currency translation adjustments which increased net equity by $715 million. A weakening of the U.S. dollar against foreign currencies would increase the translated U.S. dollar value of the Company's net investments in its non-U.S. subsidiaries, as well as the translated U.S. dollar value of cash repatriations from those subsidiaries.

Cash on our consolidated balance sheets includes funds available for general corporate purposes. Funds held on behalf of clients in a fiduciary capacity are segregated and shown separately in the consolidated balance sheets as an offset to fiduciary liabilities. Fiduciary funds cannot be used for general corporate purposes, and should not be considered as a source of liquidity for the Company.

Operating Cash Flows

The Company generated $1.9 billion of cash from operations in 2017, compared with $2.0 billion in 2016. These amounts reflect the net income of the Company during those periods, excluding gains or losses from investments, adjusted for non-cash charges and changes in working capital which relate primarily to the timing of payments of accrued liabilities or receipts of assets and pension contributions.

Pension-Related Items

Contributions

During 2017, the Company contributed $85 million to its U.S. pension plans and $229 million to non-U.S. pension plans compared to contributions of $27 million to U.S. plans and $187 million to non-U.S. plans in 2016.

In the United States, contributions to the tax-qualified defined benefit plans are based on ERISA guidelines and the Company generally expects to maintain a funded status of 80% or more of the liability determined under the ERISA guidelines. There was a $6 million contribution to the U.S. qualified plan to meet the ERISA funding requirement in 2017. In addition, the Company made a $50 million discretionary contribution to the U.S. qualified plan in December 2017 and $29 million of contributions to its non-qualified plans. The Company expects to contribute approximately $27 million to its U.S. pension plans in 2018.

The Company contributed $129 million to the U.K. plans in 2017, including an expense allowance of approximately $9 million. Based on the funding test carried out at November 1, 2017, the Company contributions to the U.K. plans in 2018 are expected to be approximately $22 million, including the expense allowance.

Outside the United States, the Company has a large number of non-U.S. defined benefit pension plans, the largest of which are in the U.K., which comprise approximately 81% of non-U.S. plan assets at December 31, 2017. Contribution rates for non-U.S. plans are generally based on local funding practices and statutory requirements, which may differ significantly from measurements under U.S. GAAP. In the U.K., the assumptions used to determine pension contributions are the result of legally-prescribed negotiations between the Company and the plans' trustee that typically occur every three years in conjunction with the actuarial valuation of the plans. Currently, this results in a lower funded status than under U.S. GAAP and may result in contributions irrespective of the U.S. GAAP funded status. In November 2016, the Company and the Trustee of the U.K. Defined Benefits Plans agreed to a funding deficit recovery plan for the U.K. defined benefit pension plans. The current agreement with the Trustee sets out the annual deficit contributions which would be due based on the deficit at December 31, 2015. The funding level is subject to re-assessment, in most cases on November 1 of each year. If the funding

level on November 1 is sufficient, no deficit funding contributions will be required in the following year, and the contribution amount will be deferred. The funding level was re-assessed on November 1, 2017 and no deficit funding contributions are required in 2018. The funding level will be re-assessed on November 1, 2018. As part of a long-term strategy, which depends on having greater influence over asset allocation and overall investment decisions, in November 2016 the Company renewed its agreement to support annual deficit contributions by the U.K. operating companies under certain circumstances, up to GBP 450 million over a seven-year period.

In the aggregate, the Company expects to contribute approximately $82 million to its non-U.S. defined benefit plans in 2018, comprising approximately $60 million to plans outside of the U.K. and $22 million to the U.K. plans.

Changes to Pension Plans

In March 2017, the Company modified its defined benefit pension plans in Canada to discontinue further benefit accruals for participants after December 31, 2017 and replaced them with a defined contribution arrangement. The Company also amended its post-retirement benefits plan in Canada so that individuals who retire after April 1, 2019 will not be eligible to participate, except in certain situations. The Company re-measured the assets and liabilities of the plans, based on assumptions and market conditions on the amendment date.

In October 2016, the Company modified its U.S. defined benefit pension plans to discontinue further benefit accruals for participants after December 31, 2016. At the same time, the Company amended its U.S. defined contribution retirement plans for most of its U.S. employees to add an automatic Company contribution equal to 4% of eligible base pay beginning on January 1, 2017. This new Company contribution, together with the Company's current matching contribution, provides eligible U.S. employees with the opportunity to receive a total contribution of up to 7% of eligible base pay. As required under GAAP, the defined benefit plans that were significantly impacted by the modification were re-measured in October 2016 using market data and assumptions as of the modification date. The net periodic pension expense recognized in 2016 reflects the weighted average costs of the December 31, 2015 measurement and the October 2016 re-measurement. In addition, the U.S. qualified plans were merged effective December 30, 2016, since no participants would be receiving benefit accruals after December 2016.

Effective August 1, 2015, the Company amended its Ireland defined benefit pension plans to close those plans to future benefit accruals and replaced those plans with a defined contribution arrangement. The Company re-measured the assets and liabilities of the plans, based on assumptions and market conditions on the amendment date.

Changes in Funded Status and Expense

The year-over-year change in the funded status of the Company's pension plans is impacted by the difference between actual and assumed results, particularly with regard to return on assets, and changes in the discount rate, as well as the amount of Company contributions, if any. Unrecognized actuarial losses were approximately $1.8 billion and $2.6 billion at December 31, 2017 for the U.S. plans and non-U.S. plans, respectively, compared with $1.7 billion and $3.1 billion at December 31, 2016. The increase in the U.S. was primarily due to a decrease in the discount rate used to measure plan liabilities partly offset by investment returns. The decrease in the non-U.S. plans was primarily due to higher investment returns, the impact of assumption changes and the U.K. settlement in the fourth quarter of 2017 as discussed above, partly offset by the impact of a decrease in discount rates and foreign exchange translation. In the past several years, the amount of unamortized losses has been significantly impacted, both positively and negatively, by actual asset performance and changes in discount rates. The discount rate used to measure plan liabilities decreased in both the U.S. and the U.K. (the Company's largest plans) in 2017 and in 2016. The decreases in 2017 and 2016 followed an increase in 2015. An increase in the discount rate decreases the measured plan benefit obligation, resulting in actuarial gains, while a decrease in the discount rate increases the measured plan obligation, resulting in actuarial losses. During 2017, the Company's defined benefit pension plan assets had actual returns of 19.3% and 9.1% in the U.S. and U.K., respectively. During 2016, the Company's defined benefit pension plan assets had actual returns of 9.8% and 22.1% in the U.S. and U.K., respectively. During 2015, the Company's defined benefit pension plan assets had a loss of 3.9% in the U.S. and gain of 1.2% in the U.K.

Overall, based on the measurement at December 31, 2017, expenses related to the Company's defined benefit plans are expected to decrease in 2018 by approximately $90 million compared to 2017. Approximately $80 million of the reduction relates to non-U.S. plans, primarily in the U.K. and in Canada. In the U.K., the net benefit credit was reduced in 2017 by the $54 million settlement charge discussed previously. The recognition of a similar charge in 2018 and the amount of such a charge, if any, is dependent upon whether participant lump sum elections reach or exceed the settlement threshold. The remaining decrease primarily relates to plans in Canada, which ceased the accrual of future benefits on January 1, 2018. Approximately half of the defined benefit expense decrease in Canada will be offset by increased costs for contributions to its defined contribution plans.

Historically, service and interest costs were estimated using a single weighted average discount rate derived from the yield curves used to measure the benefit obligations at the beginning of the period. In 2016, the Company changed the approach used to estimate the service and interest cost components of net periodic benefit cost for its significant non-U.S. plans. This change in approach was made to improve the correlation between the projected benefit cash flows and the corresponding yield curve spot rates and to provide a more precise measurement of service and interest costs. The change did not impact the measurement of the plans' total projected benefit obligation. The Company accounted for this change as a change in estimate, that was applied prospectively beginning in 2016 and resulted in pension expense being approximately $45 million lower than if the prior approach had been used.

The Company's accounting policies for its defined benefit pension plans, including the selection of and sensitivity to assumptions, are discussed below under Management's Discussion of Critical Accounting Policies. For additional information regarding the Company's retirement plans, see Note 7 to the consolidated financial statements.

In March 2015, the Company amended the RRA, resulting in its termination, with benefits to certain participants to be paid through December 31, 2016. As a result of the termination of the RRA plan, the Company recognized a net credit of approximately $125 million in the first quarter of 2015.

Financing Cash Flows

Net cash used for financing activities was $1.0 billion in 2017 compared with $1.1 billion used in 2016.

Debt

The Company increased outstanding debt by approximately $680 million in 2017 and $400 million in 2016.

The Company has established a short-term debt financing program of up to $1.5 billion through the issuance of commercial paper. The proceeds from the issuance of commercial paper are used for general corporate purposes. The Company had no commercial paper outstanding at December 31, 2017.

In January 2017, the Company issued $500 million of 2.75% senior notes due in 2022 and $500 million of 4.35% senior notes due in 2047. The Company used the net proceeds for general corporate purposes, which included the repayment of a $250 million debt maturity in April 2017.

In March 2016, the Company issued $350 million of 3.30% seven-year senior notes. In September 2015, the Company issued $600 million of 3.75% 10.5-year senior notes, and in March 2015, the Company issued $500 million of 2.35% five-year senior notes. The Company used the net proceeds from these issuances for general corporate purposes.

Credit Facilities

The Company and certain of its subsidiaries maintain a $1.5 billion multi-currency five-year unsecured revolving credit facility. The interest rate on this facility is based on LIBOR plus a fixed margin which varies with the Company's credit ratings. This facility expires in November 2020 and requires the Company to maintain certain coverage and leverage ratios which are tested quarterly. There were no borrowings outstanding under this facility at December 31, 2017.

The Company also maintains other credit facilities, guarantees and letters of credit with various banks, aggregating $624 million at December 31, 2017 and $376 million at December 31, 2016. There were no

outstanding borrowings under these facilities at December 31, 2017 and $1.6 million of outstanding borrowings under these facilities at December 31, 2016.

The Company's senior debt is currently rated A- by Standard & Poor's and Baa1 by Moody's. The Company's short-term debt is currently rated A-2 by Standard & Poor's and P-2 by Moody's. The Company carries a stable outlook from both firms.

Share Repurchases

During 2017, the Company repurchased 11.5 million shares of its common stock for total consideration of $900 million at an average price per share of $77.93. In November 2016, the Board of Directors authorized an increase in the Company's share repurchase program, which supersedes any prior authorization, allowing management to buy back up to $2.5 billion of the Company's common stock going forward. As of December 31, 2017, the Company remained authorized to purchase additional shares of its common stock up to a value of approximately $1.5 billion. There is no time limit on this authorization.

During 2016, the Company repurchased 12.7 million shares of its common stock for total consideration of $800 million at an average price per share of $63.18.

Dividends

The Company paid total dividends of $740 million in 2017 ($1.43 per share), $682 million in 2016 ($1.30 per share) and $632 million in 2015 ($1.18 per share).

Contingent Payments Related To Acquisitions

During 2017, the Company paid $108 million of contingent payments related to acquisitions made in prior years. These payments are split between financing and operating cash flows in the consolidated statements of cash flows. Payments of $81 million related to the contingent consideration liability that was recorded on the date of acquisition are reflected as financing cash flows. Payments related to increases in the contingent consideration liability subsequent to the date of acquisition of $27 million are reflected as operating cash flows. Remaining estimated future contingent consideration payments of $189 million for acquisitions completed in 2017 and in prior years are included in accounts payable and accrued liabilities or other liabilities in the consolidated balance sheet at December 31, 2017. The Company paid deferred purchase consideration related to prior years' acquisitions of $55 million, $54 million and $36 million in the years ended December 31, 2017, 2016 and 2015, respectively. Remaining deferred cash payments of approximately $121 million are included in accounts payable and accrued liabilities or other liabilities in the consolidated balance sheet at December 31, 2017.

In 2016, the Company paid $86 million of contingent payments related to acquisitions made in prior periods, of which $44 million was reported as financing cash flows and $42 million as operating cash flows. In 2015, the Company made $47 million of contingent payments related to acquisitions made in prior periods, of which $13 million was reported as financing cash flows and $34 million as operating cash flows.

Investing Cash Flows

Net cash used for investing activities amounted to $956 million in 2017 compared with $1.1 billion used for investing activities in 2016.

The Company paid $655 million and $813 million, net of cash acquired, for acquisitions it made during 2017 and 2016, respectively.

On February 24, 2015, Mercer purchased shares of common stock of Benefitfocus (NASDAQ:BNFT) constituting approximately 9.9% of BNFT's outstanding capital stock as of the acquisition date. The purchase price for the BNFT shares and certain other rights and other consideration was approximately $75 million. In 2015, the Company elected to account for this investment under the cost method of accounting as the shares purchased were categorized as restricted. Effective December 31, 2016, these shares were no longer considered restricted for the purpose of determining if they are marketable securities under GAAP, and are accounted for as available for sale securities and included in other assets in the consolidated balance sheets.

The Company's additions to fixed assets and capitalized software, which amounted to $302 million in 2017 and $253 million in 2016, primarily relate to computer equipment purchases, the refurbishing and modernizing of office facilities and software development costs.

The Company has commitments for potential future investments of approximately $57 million in four private equity funds that invest primarily in financial services companies.

Commitments and Obligations

The following sets forth the Company's future contractual obligations by the types identified in the table below as of December 31, 2017:

	Payment due by Period				
Contractual Obligations *(In millions of dollars)*	Total	Within 1 Year	1-3 Years	4-5 Years	After 5 Years
Current portion of long-term debt	$ 262	$ 262	$ —	$ —	$ —
Long-term debt	5,261	—	830	1,030	3,401
Interest on long-term debt	1,935	206	384	325	1,020
Net operating leases	2,057	314	542	429	772
Service agreements	387	228	134	12	13
Other long-term obligations	338	136	185	13	4
Total	$ 10,240	$ 1,146	$ 2,075	$ 1,809	$ 5,210

The above does not include the liability for unrecognized tax benefits of $71 million as the Company is unable to reasonably predict the timing of settlement of these liabilities, other than approximately $1 million that may become payable during 2018. The above does not include net pension liabilities of approximately $1.8 billion because the timing and amount of ultimate payment of such liability is dependent upon future events, including, but not limited to, future returns on plan assets and changes in the discount rate used to measure the liabilities. The above does not include the provisional estimate of transitional tax payments related to the TCJA of $240 million. The amounts of estimated future benefits payments to be made from pension plan assets are disclosed in Note 7 to the consolidated financial statements. In 2018, the Company expects to contribute approximately $27 million and $82 million to its U.S. and non-U.S. defined benefit pension plans, respectively.

Management's Discussion of Critical Accounting Policies

The preparation of financial statements in conformity with accounting principles generally accepted in the United States ("GAAP") requires management to make estimates and judgments that affect reported amounts of assets, liabilities, revenue and expenses, and disclosure of contingent assets and liabilities. Management considers the policies discussed below to be critical to understanding the Company's financial statements because their application places the most significant demands on management's judgment, and requires management to make estimates about the effect of matters that are inherently uncertain. Actual results may differ from those estimates.

Legal and Other Loss Contingencies

The Company and its subsidiaries are subject to numerous claims, lawsuits and proceedings including claims for errors and omissions ("E&O"). GAAP requires that a liability be recorded when a loss is both probable and reasonably estimable. Significant management judgment is required to apply this guidance. The Company utilizes case level reviews by inside and outside counsel, an internal actuarial analysis by Oliver Wyman Group, a subsidiary of the Company, and other methods to estimate potential losses. The liability is reviewed quarterly and adjusted as developments warrant. In many cases, the Company has not recorded a liability, other than for legal fees to defend the claim, because we are unable, at the present time, to make a determination that a loss is both probable and reasonably estimable. Given the unpredictability of E&O claims and of litigation that could flow from them, it is possible that an adverse outcome in a particular matter could have a material adverse effect on the Company's businesses, results of operations, financial condition or cash flow in a given quarterly or annual period.

In addition, to the extent that insurance coverage is available, significant management judgment is required to determine the amount of recoveries that are probable of collection under the Company's various insurance programs.

Retirement Benefits

The Company maintains qualified and non-qualified defined benefit pension and defined contribution plans for its eligible U.S. employees and a variety of defined benefit and defined contribution plans for its eligible non-U.S. employees. The Company's policy for funding its tax-qualified defined benefit retirement plans is to contribute amounts at least sufficient to meet the funding requirements set forth in U.S. and applicable foreign laws.

The Company recognizes the funded status of its over-funded defined benefit pension and retiree medical plans as a net benefit plan asset and its unfunded and underfunded plans as a net benefit plan liability. The gains or losses and prior service costs or credits that have not been recognized as components of net periodic costs are recorded as a component of Accumulated Other Comprehensive Income ("AOCI"), net of tax, in the Company's consolidated balance sheets. The gains and losses that exceed specified corridors are amortized prospectively out of AOCI over a period that approximates the remaining life expectancy of participants in plans where substantially all participants are inactive or the average remaining service period of active participants for plans with active participants. The vast majority of unrecognized losses relate to inactive plans and are amortized over the remaining life expectancy of the participants.

The determination of net periodic pension cost is based on a number of assumptions, including an expected long-term rate of return on plan assets, the discount rate, mortality and assumed rate of salary increase. The assumptions used in the calculation of net periodic pension costs and pension liabilities are disclosed in Note 7 to the consolidated financial statements. The assumptions for expected rate of return on plan assets and the discount rate are discussed in more detail below.

The long-term rate of return on plan assets assumption is determined for each plan based on the facts and circumstances that exist as of the measurement date, and the specific portfolio mix of each plan's assets. The Company utilizes a model developed by Mercer, a subsidiary of the Company, to assist in the determination of this assumption. The model takes into account several factors, including: actual and target portfolio allocation; investment, administrative and trading expenses incurred directly by the plan trust; historical portfolio performance; relevant forward-looking economic analysis; and expected returns, variances and correlations for different asset classes. These measures are used to determine probabilities using standard statistical techniques to calculate a range of expected returns on the portfolio.

The target asset allocation for the U.S. Plans is 64% equities and equity alternatives and 36% fixed income. At December 31, 2017, the actual allocation for the U.S. Plans was 63% equities and equity alternatives and 37% fixed income. At the end of 2016, the target asset allocation for the U.K. Plans, which comprise approximately 81% of non-U.S. Plan assets, was 48% equities and equity alternatives and 52% fixed income. During 2017, due to improvement in the funded status of the U.K. Plans, the Trustee revised the target asset allocation to 34% equities and equity alternatives and 66% fixed income. At December 31, 2017, the actual allocation for the U.K. Plans was 48% equities and equity alternatives and 52% fixed income and the Company expects to continue to move the actual portfolio allocation toward the revised targets during 2018.

The discount rate selected for each U.S. Plan is based on a model bond portfolio with coupons and redemptions that closely match the expected liability cash flows from the plan. Discount rates for non-U.S. plans are based on appropriate bond indices adjusted for duration; in the U.K., the plan duration is reflected using the Mercer yield curve.

The table below shows the weighted average assumed rate of return and the discount rate at the December 31, 2017 measurement date (for measuring pension expense in 2018) for the total Company, the U.S. and the Rest of World ("ROW").

	Total Company	U.S.	ROW
Assumed Rate of Return on Plan Assets	5.83%	7.95%	4.94%
Discount Rate	3.07%	3.86%	2.58%

Holding all other assumptions constant, a half-percentage point change in the rate of return on plan assets and discount rate assumptions would affect net periodic pension cost for the U.S. and U.K. plans, which together comprise approximately 85% of total pension plan liabilities, as follows:

	0.5 Percentage Point Increase		0.5 Percentage Point Decrease	
(In millions of dollars)	U.S.	U.K.	U.S.	U.K.
Assumed Rate of Return on Plan Assets	$ (23)	$ (40)	$ 23	$ 40
Discount Rate	$ (1)	$ (3)	$ —	$ 2

The impact of discount rate changes shown above relates to the increase or decrease in actuarial gains or losses being amortized through net periodic pension cost, as well as the increase or decrease in interest expense, with all other facts and assumptions held constant. It does not contemplate nor include potential future impacts a change in the interest rate environment and discount rates might cause, such as the impact on the market value of the plans' assets. Changing the discount rate and leaving the other assumptions constant also may not be representative of the impact on expense, because the long-term rates of inflation and salary increases are often correlated with the discount rate. Changes in these assumptions will not necessarily have a linear impact on the net periodic pension cost.

The Company contributes to certain health care and life insurance benefits provided to its retired employees. The cost of these post-retirement benefits for employees in the U.S. is accrued during the period up to the date employees are eligible to retire, but is funded by the Company as incurred. The key assumptions and sensitivity to changes in the assumed health care cost trend rate are discussed in Note 7 to the consolidated financial statements.

Income Taxes

The Company's tax rate reflects its income, statutory tax rates and tax planning in the various jurisdictions in which it operates. In 2017, the Company's tax expense was significantly impacted by the enactment of the TCJA, which is discussed in more detail in Note 6 to the consolidated financial statements included in this report. Significant judgment is required in determining the annual effective tax rate and in evaluating uncertain tax positions. The Company reports a liability for unrecognized tax benefits resulting from uncertain tax positions taken or expected to be taken in a tax return. The evaluation of a tax position is a two-step process. The first step involves recognition. The Company determines whether it is more likely than not that a tax position will be sustained upon tax examination, including resolution of any related appeals or litigation, based on only the technical merits of the position. The technical merits of a tax position derive from both statutory and judicial authority (legislation and statutes, legislative intent, regulations, rulings, and case law) and their applicability to the facts and circumstances of the tax position. If a tax position does not meet the more-likely-than-not recognition threshold, the benefit of that position is not recognized in the financial statements. The second step is measurement. A tax position that meets the more-likely-than-not recognition threshold is measured to determine the amount of benefit to recognize in the financial statements. The tax position is measured as the largest amount of benefit that is greater than 50 percent likely of being realized upon ultimate resolution with a taxing authority.

Uncertain tax positions are evaluated based upon the facts and circumstances that exist at each reporting period and involve significant management judgment. Subsequent changes in judgment based upon new information may lead to changes in recognition, derecognition, and measurement. Adjustments may result, for example, upon resolution of an issue with the taxing authorities, or expiration of a statute of limitations barring an assessment for an issue.

Certain items are included in the Company's tax returns at different times than the items are reflected in the financial statements. As a result, the annual tax expense reflected in the consolidated statements of income is different than that reported in the tax returns. Some of these differences are permanent, such as expenses that are not deductible in the returns, and some differences are temporary and reverse over time, such as depreciation expense. Temporary differences create deferred tax assets and liabilities, which are measured at existing tax rates. Deferred tax liabilities generally represent tax expense recognized in the financial statements for which payment has been deferred, or expense for which a deduction has been taken already in the tax return but the expense has not yet been recognized in the financial statements. Deferred tax assets generally represent items that can be used as a tax deduction or credit in tax returns in future years for which a benefit has already been recorded in the financial statements. The Company evaluates all significant available positive and negative evidence, including the existence of losses in recent years and its forecast of future taxable income by jurisdiction, in assessing the need for a valuation allowance. The Company also considers tax planning strategies that would result in realization of deferred tax assets, and the presence of taxable income in prior period tax filings in jurisdictions that allow for the carryback of tax attributes pursuant to the applicable tax law. The underlying assumptions the Company uses in forecasting future taxable income require significant judgment and take into account the Company's recent performance. The ultimate realization of deferred tax assets is dependent on the generation of future taxable income during the periods in which temporary differences or carry-forwards are deductible or creditable. Valuation allowances are established for deferred tax assets when it is estimated that it is more likely than not that future taxable income will be insufficient to fully use a deduction or credit in that jurisdiction.

Fair Value Determinations

Goodwill Impairment Testing—The Company is required to assess goodwill and any indefinite-lived intangible assets for impairment annually, or more frequently if circumstances indicate impairment may have occurred. The Company performs the annual impairment test for each of its reporting units during the third quarter of each year. In accordance with applicable accounting guidance, the Company assesses qualitative factors to determine whether it is necessary to perform the two-step goodwill impairment test. The Company considered numerous factors, which included that the fair value of each reporting unit exceeded its carrying value by a substantial margin in its most recent estimate of reporting unit fair values, whether significant acquisitions or dispositions occurred which might alter the fair value of its reporting units, macroeconomic conditions and their potential impact on reporting unit fair values, actual performance compared with budget and prior projections used in its estimation of reporting unit fair values, industry and market conditions, and the year-over-year change in the Company's share price.

The Company completed its qualitative assessment in the third quarter of 2017 and concluded that a two-step goodwill impairment test was not required in 2017 and that goodwill was not impaired.

Share-Based Payment

The guidance for accounting for share-based payments requires, among other things, that the estimated fair value of stock options be charged to earnings. Significant management judgment is required to determine the appropriate assumptions for inputs such as volatility and expected term necessary to estimate option values. In addition, management judgment is required to analyze the terms of the plans and awards granted thereunder to determine if awards will be treated as equity awards or liability awards, as defined by the accounting guidance.

As of December 31, 2017, there was $14.9 million of unrecognized compensation cost related to stock option awards. The weighted-average period over which the costs are expected to be recognized is 1.36 years. Also as of December 31, 2017, there was $197.4 million of unrecognized compensation cost related to the Company's restricted stock, restricted stock unit and performance stock unit awards. The weighted-average period over which that cost is expected to be recognized is approximately 1.08 years.

See Note 8 to the consolidated financial statements for additional information regarding accounting for share-based payments.

New Accounting Pronouncements

Note 1 to the consolidated financial statements contains a summary of the Company's significant accounting policies, including a discussion of recently issued accounting pronouncements and their impact or potential future impact on the Company's financial results, if determinable, under the sub-heading "New Accounting Pronouncements".

Item 7A. Quantitative and Qualitative Disclosures About Market Risk

Market Risk and Credit Risk

Certain of the Company's revenues, expenses, assets and liabilities are exposed to the impact of interest rate changes and fluctuations in foreign currency exchange rates and equity markets.

Interest Rate Risk and Credit Risk

Interest income generated from the Company's cash investments as well as invested fiduciary funds will vary with the general level of interest rates.

The Company had the following investments subject to variable interest rates:

(In millions of dollars)		December 31, 2017
Cash and cash equivalents invested in money market funds, certificates of deposit and time deposits	$	1,205
Fiduciary cash and investments	$	4,847

Based on the above balances, if short-term interest rates increased or decreased by 10%, or 11 basis points, over the full year, annual interest income, including interest earned on fiduciary funds, would increase or decrease by approximately $4 million.

In addition to interest rate risk, our cash investments and fiduciary fund investments are subject to potential loss of value due to counter-party credit risk. To minimize this risk, the Company and its subsidiaries invest pursuant to a Board approved investment policy. The policy mandates the preservation of principal and liquidity and requires broad diversification with counter-party limits assigned based primarily on credit rating and type of investment. The Company carefully monitors its cash and fiduciary fund investments and will further restrict the portfolio as appropriate to market conditions. The majority of cash and fiduciary fund investments are invested in short-term bank deposits and liquid money market funds.

Foreign Currency Risk

The translated values of revenue and expense from the Company's international operations are subject to fluctuations due to changes in currency exchange rates. The non-U.S. based revenue that is exposed to foreign exchange fluctuations is approximately 50% of total revenue. We periodically use forward contracts and options to limit foreign currency exchange rate exposure on net income and cash flows for specific, clearly defined transactions arising in the ordinary course of business. Although the Company has significant revenue generated in foreign locations which is subject to foreign exchange rate fluctuations, in most cases both the foreign currency revenue and expenses are in the functional currency of the foreign location. As such, under normal circumstances, the U.S. dollar translation of both the revenues and expenses, as well as the potentially offsetting movements of various currencies against the U.S. dollar, generally tends to mitigate the impact on net operating income of foreign currency risk. However, there have been periods where the impact was not mitigated due to external market factors, and external macroeconomic events, such as the vote on "Brexit" in the United Kingdom, may result in greater foreign exchange rate fluctuations in the future. If foreign exchange rates of major currencies (Euro, Sterling, Australian dollar and Canadian dollar) moved 10% in the same direction against the U.S. dollar compared with the foreign exchange rates in 2017, the Company estimates net operating income would increase or decrease by approximately $60 million. The Company has exposure to approximately 80 foreign currencies overall. In Continental Europe, the largest amount of revenue from renewals for the Risk & Insurance Services segment occurs in the first quarter.

Equity Price Risk

The Company holds investments in both public and private companies as well as private equity funds. Investments of approximately $97 million are classified as available for sale, which includes the Company's investment in Benefitfocus. Approximately $62 million are accounted for using the cost method and $405 million are accounted for using the equity method, which includes the Company's

investments in Alexander Forbes. The investments are subject to risk of changes in market value, which, if determined to be other than temporary, could result in realized impairment losses. The Company periodically reviews the carrying value of such investments to determine if any valuation adjustments are appropriate under the applicable accounting pronouncements.

As of December 31, 2017, the carrying value of the Company's investment in Alexander Forbes was $266 million. As of December 31, 2017, the market value of the approximately 443 million shares of Alexander Forbes owned by the Company, based on the December 31, 2017 closing share price of 6.87 South African Rand per share, was approximately $239 million.

Other

A number of lawsuits and regulatory proceedings are pending. See Note 14 ("Claims, Lawsuits and Other Contingencies") to the consolidated financial statements included in this report.

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

MARSH & McLENNAN COMPANIES, INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF INCOME

For the Years Ended December 31, *(In millions, except per share figures)*	**2017**	2016	2015
Revenue	**$ 14,024**	$ 13,211	$ 12,893
Expense:			
Compensation and benefits	**7,884**	7,461	7,334
Other operating expenses	**3,284**	3,086	3,140
Operating expenses	**11,168**	10,547	10,474
Operating income	**2,856**	2,664	2,419
Interest income	**9**	5	13
Interest expense	**(237)**	(189)	(163)
Investment income	**15**	—	38
Income before income taxes	**2,643**	2,480	2,307
Income tax expense	**1,133**	685	671
Income from continuing operations	**1,510**	1,795	1,636
Discontinued operations, net of tax	**2**	—	—
Net income before non-controlling interests	**1,512**	1,795	1,636
Less: Net income attributable to non-controlling interests	**20**	27	37
Net income attributable to the Company	**$ 1,492**	$ 1,768	$ 1,599
Basic net income per share – Continuing operations	**$ 2.91**	$ 3.41	$ 3.01
– Net income attributable to the Company	**$ 2.91**	$ 3.41	$ 3.01
Diluted net income per share – Continuing operations	**$ 2.87**	$ 3.38	$ 2.98
– Net income attributable to the Company	**$ 2.87**	$ 3.38	$ 2.98
Average number of shares outstanding – Basic	**513**	519	531
– Diluted	**519**	524	536
Shares outstanding at December 31,	**509**	514	522

The accompanying notes are an integral part of these consolidated statements.

MARSH & McLENNAN COMPANIES, INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME

For the Years Ended December 31, *(In millions)*	**2017**	2016	2015
Net income before non-controlling interests	**$ 1,512**	$ 1,795	$ 1,636
Other comprehensive income (loss), before tax:			
Foreign currency translation adjustments	**717**	(742)	(639)
Unrealized investment (loss) income	**(7)**	21	1
Gain (loss) related to pension/post-retirement plans	**408**	(119)	337
Other comprehensive income (loss), before tax	**1,118**	(840)	(301)
Income tax expense on other comprehensive income	**68**	33	72
Other comprehensive income (loss), net of tax	**1,050**	(873)	(373)
Comprehensive income	**2,562**	922	1,263
Less: Comprehensive income attributable to non-controlling interests	**20**	27	37
Comprehensive income attributable to the Company	**$ 2,542**	$ 895	$ 1,226

The accompanying notes are an integral part of these consolidated statements.

MARSH & McLENNAN COMPANIES, INC. AND SUBSIDIARIES
CONSOLIDATED BALANCE SHEETS

December 31, *(In millions, except share figures)*	2017	2016
ASSETS		
Current assets:		
Cash and cash equivalents	$ 1,205	$ 1,026
Receivables		
Commissions and fees	3,777	3,370
Advanced premiums and claims	65	83
Other	401	286
	4,243	3,739
Less-allowance for doubtful accounts and cancellations	(110)	(96)
Net receivables	4,133	3,643
Other current assets	224	215
Total current assets	5,562	4,884
Goodwill	9,089	8,369
Other intangible assets	1,274	1,126
Fixed assets, net	712	725
Pension related assets	1,693	776
Deferred tax assets	669	1,097
Other assets	1,430	1,213
	$ 20,429	$ 18,190
LIABILITIES AND EQUITY		
Current liabilities:		
Short-term debt	$ 262	$ 312
Accounts payable and accrued liabilities	2,083	1,969
Accrued compensation and employee benefits	1,718	1,655
Accrued income taxes	199	146
Total current liabilities	4,262	4,082
Fiduciary liabilities	4,847	4,241
Less – cash and investments held in a fiduciary capacity	(4,847)	(4,241)
	—	—
Long-term debt	5,225	4,495
Pension, postretirement and postemployment benefits	1,888	2,076
Liability for errors and omissions	301	308
Other liabilities	1,311	957
Commitments and contingencies	—	—
Equity:		
Preferred stock, $1 par value, authorized 6,000,000 shares, none issued	—	—
Common stock, $1 par value, authorized 1,600,000,000 shares, issued 560,641,640 shares at December 31, 2017 and December 31, 2016	561	561
Additional paid-in capital	784	842
Retained earnings	13,140	12,388
Accumulated other comprehensive loss	(4,043)	(5,093)
Non-controlling interests	83	80
	10,525	8,778
Less – treasury shares, at cost, 51,930,135 shares at December 31, 2017 and 46,150,415 shares at December 31, 2016	(3,083)	(2,506)
Total equity	7,442	6,272
	$ 20,429	$ 18,190

The accompanying notes are an integral part of these consolidated statements.

MARSH & McLENNAN COMPANIES, INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CASH FLOWS

For the Years Ended December 31, *(In millions)*	**2017**	2016	2015
Operating cash flows:			
Net income before non-controlling interests	**$ 1,512**	$ 1,795	$ 1,636
Adjustments to reconcile net income to cash provided by operations:			
Depreciation and amortization of fixed assets and capitalized software	**312**	308	314
Amortization of intangible assets	**169**	130	109
Adjustments and payments related to contingent consideration liability	**(24)**	(33)	11
Gain on deconsolidation of entity	**—**	(11)	—
Provision for deferred income taxes	**396**	68	178
Gain on investments	**(15)**	—	(38)
Loss (Gain) on disposition of assets	**10**	6	(13)
Share-based compensation expense	**149**	109	88
Changes in assets and liabilities:			
Net receivables	**(454)**	(154)	(52)
Other current assets	**(3)**	(9)	3
Other assets	**(199)**	34	(10)
Accounts payable and accrued liabilities	**87**	55	(125)
Accrued compensation and employee benefits	**63**	2	23
Accrued income taxes	**37**	(21)	(15)
Contributions to pension and other benefit plans in excess of current year expense/credit	**(457)**	(279)	(231)
Other liabilities	**406**	(97)	(60)
Effect of exchange rate changes	**(96)**	104	70
Net cash provided by operations	**1,893**	2,007	1,888
Financing cash flows:			
Purchase of treasury shares	**(900)**	(800)	(1,400)
Net increase in commercial paper	**—**	50	—
Proceeds from issuance of debt	**987**	347	1,091
Repayments of debt	**(315)**	(12)	(61)
Shares withheld for taxes on vested units – treasury shares	**(49)**	(39)	(49)
Issuance of common stock from treasury shares	**166**	188	224
Payments of deferred and contingent consideration for acquisitions	**(136)**	(98)	(49)
Distributions of non-controlling interests	**(22)**	(21)	(30)
Dividends paid	**(740)**	(682)	(632)
Net cash used for financing activities	**(1,009)**	(1,067)	(906)
Investing cash flows:			
Capital expenditures	**(302)**	(253)	(325)
Net (purchases) sales of long-term investments	**(13)**	2	(65)
Proceeds from sales of fixed assets	**8**	4	2
Dispositions	**—**	—	71
Acquisitions	**(655)**	(813)	(952)
Other, net	**6**	4	4
Net cash used for investing activities	**(956)**	(1,056)	(1,265)
Effect of exchange rate changes on cash and cash equivalents	**251**	(232)	(301)
Increase (decrease) in cash and cash equivalents	**179**	(348)	(584)
Cash and cash equivalents at beginning of year	**1,026**	1,374	1,958
Cash and cash equivalents at end of year	**$ 1,205**	$ 1,026	$ 1,374

The accompanying notes are an integral part of these consolidated statements.

MARSH & McLENNAN COMPANIES, INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF EQUITY

For the Years Ended December 31, *(In millions, except per share figures)*	**2017**	2016	2015
COMMON STOCK			
Balance, beginning and end of year	**$ 561**	$ 561	$ 561
ADDITIONAL PAID-IN CAPITAL			
Balance, beginning of year	**$ 842**	$ 861	$ 930
Change in accrued stock compensation costs	**63**	44	16
Issuance of shares under stock compensation plans and employee stock purchase plans and related tax impact	**(120)**	(63)	(85)
Other	**(1)**	—	—
Balance, end of year	**$ 784**	$ 842	$ 861
RETAINED EARNINGS			
Balance, beginning of year	**$ 12,388**	$ 11,302	$ 10,335
Net income attributable to the Company	**1,492**	1,768	1,599
Dividend equivalents declared - (per share amounts: $1.43 in 2017, $1.30 in 2016, and $1.18 in 2015)	**(6)**	(7)	(4)
Dividends declared – (per share amounts: $1.43 in 2017, $1.30 in 2016, and $1.18 in 2015)	**(734)**	(675)	(628)
Balance, end of year	**$ 13,140**	$ 12,388	$ 11,302
ACCUMULATED OTHER COMPREHENSIVE LOSS			
Balance, beginning of year	**$ (5,093)**	$ (4,220)	$ (3,847)
Other comprehensive income (loss), net of tax	**1,050**	(873)	(373)
Balance, end of year	**$ (4,043)**	$ (5,093)	$ (4,220)
TREASURY SHARES			
Balance, beginning of year	**$ (2,506)**	$ (1,991)	$ (925)
Issuance of shares under stock compensation plans and employee stock purchase plans	**323**	285	334
Purchase of treasury shares	**(900)**	(800)	(1,400)
Balance, end of year	**$ (3,083)**	$ (2,506)	$ (1,991)
NON-CONTROLLING INTERESTS			
Balance, beginning of year	**$ 80**	$ 89	$ 79
Net income attributable to non-controlling interests	**20**	27	37
Distributions and other changes	**(17)**	(22)	(27)
Deconsolidation of subsidiary	**—**	(14)	—
Balance, end of year	**$ 83**	$ 80	$ 89
TOTAL EQUITY	**$ 7,442**	$ 6,272	$ 6,602

The accompanying notes are an integral part of these consolidated statements.

1. Summary of Significant Accounting Policies

Nature of Operations: Marsh & McLennan Companies, Inc. (the "Company"), a global professional services firm, is organized based on the different services that it offers. Under this structure, the Company's two business segments are Risk and Insurance Services and Consulting.

The Risk and Insurance Services segment provides risk management solutions, services, advice and insurance broking, reinsurance broking and insurance program management services for businesses, public entities, insurance companies, associations, professional services organizations, and private clients. The Company conducts business in this segment through Marsh and Guy Carpenter.

The Company conducts business in its Consulting segment through Mercer and Oliver Wyman Group. Mercer provides consulting expertise, advice, services and solutions in the areas of health, retirement, talent and investments. Oliver Wyman Group provides specialized management and economic and brand consulting services.

Acquisitions impacting the Risk and Insurance Services and Consulting segments are discussed in Note 4 below.

Principles of Consolidation: The accompanying consolidated financial statements include all wholly-owned and majority-owned subsidiaries. All significant inter-company transactions and balances have been eliminated.

Fiduciary Assets and Liabilities: In its capacity as an insurance broker or agent, generally the Company collects premiums from insureds and after deducting its commissions, remits the premiums to the respective insurance underwriters. The Company also collects claims or refunds from underwriters on behalf of insureds. Unremitted insurance premiums and claims proceeds are held by the Company in a fiduciary capacity. Risk and Insurance Services revenue includes interest on fiduciary funds of $39 million, $26 million and $21 million in 2017, 2016 and 2015, respectively. The Consulting segment recorded fiduciary interest income of $4 million, $3 million and $4 million in 2017, 2016 and 2015, respectively. Since fiduciary assets are not available for corporate use, they are shown in the consolidated balance sheets as an offset to fiduciary liabilities.

Net uncollected premiums and claims and the related payables were $6.8 billion and $7 billion at December 31, 2017 and 2016, respectively. The Company is not a principal to the contracts under which the right to receive premiums or the right to receive reimbursement of insured losses arises. Accordingly, net uncollected premiums and claims and the related payables are not assets and liabilities of the Company and are not included in the accompanying consolidated balance sheets.

In certain instances, the Company advances premiums, refunds or claims to insurance underwriters or insureds prior to collection. These advances are made from corporate funds and are reflected in the accompanying consolidated balance sheets as receivables.

Mercer manages approximately $227 billion of assets in trusts or funds for which Mercer's management or trustee fee is not considered a variable interest, since the fees are commensurate with the level of effort required to provide those services. Mercer is not the primary beneficiary of these trusts or funds. Mercer's maximum exposure to loss of its interests is, therefore, limited to collection of its fees.

Revenue: Risk and Insurance Services revenue includes insurance commissions, fees for services rendered and interest income on certain fiduciary funds. Insurance commissions and fees for risk transfer services generally are recorded as of the effective date of the applicable policies or, in certain cases (primarily in the Company's reinsurance broking operations), as of the effective date or billing date, whichever is later. A reserve for policy cancellation is provided based on historic and current data on cancellations. Consideration for fee arrangements covering multiple insurance placements, the provision of risk management and/or other services is allocated to all deliverables on the basis of the relative selling prices. Fees for non-risk transfer services provided to clients are recognized over the period in which the services are provided, using a proportional performance model. Fees resulting from achievement of

certain performance thresholds are recorded when such levels are attained and such fees are not subject to forfeiture.

Consulting revenue includes fees paid by clients for advice and services and commissions from insurance companies for the placement of individual and group contracts. Fee revenue for engagements where remuneration is based on time plus out-of-pocket expenses is recognized based on the amount of time consulting professionals expend on the engagement. For fixed fee engagements, revenue is recognized using a proportional performance model. Revenue from insurance commissions not subject to a fee arrangement is recorded over the effective period of the applicable policies. Revenue for asset based fees is recognized on an accrual basis by applying the daily/monthly rate as contractually agreed with the client to the applicable net asset value. On a limited number of engagements, performance fees may also be earned for achieving certain prescribed performance criteria. Such fees are recognized when the performance criteria have been achieved and, when required, agreed to by the client. Reimbursable expenses incurred by professional staff in the generation of revenue and sub-advisory fees related to the majority of funds in the investment management business are included in revenue and the related expenses are included in other operating expenses.

Cash and Cash Equivalents: Cash and cash equivalents primarily consist of certificates of deposit and time deposits, with original maturities of three months or less, and money market funds. The estimated fair value of the Company's cash and cash equivalents approximates their carrying value. The Company is required to maintain operating funds primarily related to regulatory requirements outside the United States or as collateral under captive insurance arrangements. At December 31, 2017, the Company maintained $187 million related to these regulatory requirements.

Fixed Assets: Fixed assets are stated at cost less accumulated depreciation and amortization. Expenditures for improvements are capitalized. Upon sale or retirement of an asset, the cost and related accumulated depreciation and amortization are removed from the accounts and any gain or loss is reflected in income. Expenditures for maintenance and repairs are charged to operations as incurred.

Depreciation of buildings, building improvements, furniture, and equipment is provided on a straight-line basis over the estimated useful lives of these assets. Furniture and equipment is depreciated over periods ranging from three to ten years. Leasehold improvements are amortized on a straight-line basis over the periods covered by the applicable leases or the estimated useful life of the improvement, whichever is less. Buildings are depreciated over periods ranging from thirty to forty years. The Company periodically reviews long-lived assets for impairment whenever events or changes indicate that the carrying value of assets may not be recoverable.

The components of fixed assets are as follows:

December 31, *(In millions of dollars)*	**2017**	2016
Furniture and equipment	**$ 1,179**	$ 1,113
Land and buildings	**385**	389
Leasehold and building improvements	**974**	906
	2,538	2,408
Less-accumulated depreciation and amortization	**(1,826)**	(1,683)
	$ 712	$ 725

Investments: The Company holds investments in certain private equity funds. Investments in private equity funds are accounted for under the equity method of accounting using a consistently applied three-month lag period adjusted for any known significant changes from the lag period to the reporting date of the Company. The underlying private equity funds follow investment company accounting, where investments within the fund are carried at fair value. Investment gains or losses for its proportionate share of the change in fair value of the funds are recorded in earnings. Investments using the equity method of accounting are included in other assets in the consolidated balance sheets.

In 2017, the Company recorded investment income of $15 million compared to less than $1 million in 2016 and $38 million in 2015. The investment income in 2015 was primarily due to general partner carried interest from the Company's investment in Trident III, which was substantially liquidated in 2015.

Goodwill and Other Intangible Assets: Goodwill represents acquisition costs in excess of the fair value of net assets acquired. Goodwill is reviewed at least annually for impairment. The Company performs an annual impairment test for each of its reporting units during the third quarter of each year. When a step 1 test is performed, fair values of the reporting units are estimated using either a market approach or a discounted cash flow model. Carrying values for the reporting units are based on balances at the prior quarter end and include directly identified assets and liabilities as well as an allocation of those assets and liabilities not recorded at the reporting unit level. As discussed in Note 5, the Company may elect to assess qualitative factors to determine if a step 1 test is necessary. Other intangible assets, which primarily consist of acquired customer lists, that are not deemed to have an indefinite life, are amortized over their estimated lives, typically ranging from 10 to 15 years, and reviewed for impairment upon the occurrence of certain triggering events in accordance with applicable accounting literature. The Company had no indefinite lived identified intangible assets at December 31, 2017 and 2016.

Capitalized Software Costs: The Company capitalizes certain costs to develop, purchase or modify software for the internal use of the Company. These costs are amortized on a straight-line basis over periods ranging from 3 to 10 years. Costs incurred during the preliminary project stage and post implementation stage, are expensed as incurred. Costs incurred during the application development stage are capitalized. Costs related to updates and enhancements are only capitalized if they will result in additional functionality. Capitalized computer software costs of $486 million and $482 million, net of accumulated amortization of $1.3 billion and $1.1 billion at December 31, 2017 and 2016, respectively, are included in other assets in the consolidated balance sheets.

Legal and Other Loss Contingencies: The Company and its subsidiaries are subject to a significant number of claims, lawsuits and proceedings including claims for errors and omissions ("E&O"). The preparation of financial statements in conformity with accounting principles generally accepted in the United States ("GAAP") requires that a liability be recorded when a loss is both probable and reasonably estimable. Significant management judgment is required to apply this guidance. The Company utilizes case level reviews by inside and outside counsel, an internal actuarial analysis by Oliver Wyman Group, a subsidiary of the Company, and other methods to estimate potential losses. The liability is reviewed quarterly and adjusted as developments warrant. In many cases, the Company has not recorded a liability, other than for legal fees to defend the claim, because we are unable, at the present time, to make a determination that a loss is both probable and reasonably estimable. Given the unpredictability of E&O claims and of litigation that could flow from them, it is possible that an adverse outcome in a particular matter could have a material adverse effect on the Company's businesses, results of operations, financial condition or cash flow in a given quarterly or annual period.

In addition, to the extent that insurance coverage is available, significant management judgment is required to determine the amount of recoveries that are probable of collection under the Company's various insurance programs.

The legal and other contingent liabilities described above are not discounted.

Income Taxes: The Company's effective tax rate reflects its income, statutory tax rates and tax planning in the various jurisdictions in which it operates. Significant judgment is required in determining the annual tax provision and in evaluating uncertain tax positions and the ability to realize deferred tax assets.

Specific considerations related to the enactment of U.S. tax reform are discussed in more detail in Note 6 to the consolidated financial statements.

The Company reports a liability for unrecognized tax benefits resulting from uncertain tax positions taken or expected to be taken in a tax return. The Company determines whether it is more likely than not that a tax position will be sustained upon tax examination, including resolution of any related appeals or litigation, based on only the technical merits of the position. The technical merits of a tax position derive from both statutory and judicial authority (legislation and statutes, legislative intent, regulations, rulings, and case law) and their applicability to the facts and circumstances of the tax position. If a tax position

does not meet the more-likely-than-not recognition threshold, the benefit of that position is not recognized in the financial statements. A tax position that meets the more-likely-than-not recognition threshold is measured to determine the amount of benefit to recognize in the financial statements. The tax position is measured as the largest amount of benefit that is greater than 50 percent likely to be realized upon ultimate resolution with a taxing authority. Uncertain tax positions are evaluated based upon the facts and circumstances that exist at each reporting period. Subsequent changes in judgment based upon new information may lead to changes in recognition, de-recognition, and measurement. Adjustments may result, for example, upon resolution of an issue with the taxing authorities, or expiration of a statute of limitations barring an assessment for an issue. The Company recognizes interest and penalties, if any, related to unrecognized tax benefits in income tax expense.

Tax law may require items be included in the Company's tax returns at different times than the items are reflected in the financial statements. As a result, the annual tax expense reflected in the consolidated statements of income is different than that reported in the income tax returns. Some of these differences are permanent, such as expenses that are not deductible in the returns, and some differences are temporary and reverse over time, such as depreciation expense. Temporary differences create deferred tax assets and liabilities. Deferred tax assets generally represent items that can be used as a tax deduction or credit in tax returns in future years for which benefit has already been recorded in the financial statements. Valuation allowances are established for deferred tax assets when it is estimated that future taxable income will be insufficient to use a deduction or credit in that jurisdiction. Deferred tax liabilities generally represent tax expense recognized in the financial statements for which payment has been deferred, or expense for which a deduction has been taken already in the tax return but the expense has not yet been recognized in the financial statements.

Derivative Instruments: All derivatives, whether designated in hedging relationships or not, are recorded on the balance sheet at fair value. If the derivative is designated as a fair value hedge, the changes in the fair value of the derivative and of the hedged item attributable to the hedged risk are recognized in earnings. The fair value of the derivative is recorded in the consolidated balance sheet in other receivables or accounts payable and accrued liabilities. The change in the fair value of a derivative is recorded in the consolidated statement of income in other operating expenses. If the derivative is designated as a cash flow hedge, the effective portions of changes in the fair value of the derivative are recorded in other comprehensive income and are recognized in the income statement when the hedged item affects earnings. Changes in the fair value attributable to the ineffective portion of cash flow hedges are recognized in earnings.

Concentrations of Credit Risk: Financial instruments which potentially subject the Company to concentrations of credit risk consist primarily of cash and cash equivalents, commissions and fees receivable and insurance recoverables. The Company maintains a policy providing for the diversification of cash and cash equivalent investments and places its investments in a large number of high quality financial institutions to limit the amount of credit risk exposure. Concentrations of credit risk with respect to receivables are generally limited due to the large number of clients and markets in which the Company does business, as well as the dispersion across many geographic areas.

Per Share Data: Basic net income per share attributable to the Company and income from continuing operations per share are calculated by dividing the respective after-tax income attributable to common shares by the weighted average number of outstanding shares of the Company's common stock.

Diluted net income per share attributable to the Company and income from continuing operations per share are calculated by dividing the respective after-tax income attributable to common shares by the weighted average number of outstanding shares of the Company's common stock, which have been adjusted for the dilutive effect of potentially issuable common shares. Reconciliations of the applicable components used to calculate basic and diluted EPS - Continuing Operations are presented below. The reconciling items related to the EPS calculation are the same for both basic and diluted EPS.

Basic and Diluted EPS Calculation - *Continuing Operations*			
(In millions, except per share figures)	**2017**	2016	2015
Net income from continuing operations	**$ 1,510**	$ 1,795	$ 1,636
Less: Net income attributable to non-controlling interests	**20**	27	37
	$ 1,490	$ 1,768	$ 1,599
Basic weighted average common shares outstanding	**513**	519	531
Dilutive effect of potentially issuable common shares	**6**	5	5
Diluted weighted average common shares outstanding	**519**	524	536
Average stock price used to calculate common stock equivalents	**$ 77.30**	$ 63.51	$ 56.27

There were 10.2 million, 13.2 million and 14.8 million stock options outstanding as of December 31, 2017, 2016 and 2015, respectively.

Estimates: GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of assets and liabilities at the date of the financial statements, and the reported amounts of revenues and expenses during the reporting period. Actual results may vary from those estimates.

New Accounting Pronouncements Recently Adopted:

In October 2016, the FASB issued new guidance which changes the evaluation of whether a reporting entity is the primary beneficiary of a variable interest entity by changing how a reporting entity that is a single decision maker of a variable interest entity treats indirect interests in the entity held through related parties that are under common control with the reporting entity. If a reporting entity satisfies the first characteristic of a primary beneficiary (such that it is the single decision maker of a variable interest entity), the new guidance requires that reporting entity, in determining whether it satisfies the second characteristic of a primary beneficiary, include all of its direct variable interest in a variable interest entity and, on a proportionate basis, its indirect variable interests in a variable interest entity held through related parties, including related parties that are under common control with the reporting entity. The adoption of this guidance did not have a significant impact on its financial position, results of operations and statement of cash flows.

In April 2016, the FASB issued new guidance which simplifies several aspects of the accounting for employee share-based payment transactions, including the accounting for income taxes, forfeitures and statutory tax withholding requirements, as well as classification in the statement of cash flows. The new guidance requires that companies record all excess tax benefits and tax deficiencies as an income tax benefit or expense in the income statement and classify excess tax benefits as an operating activity in the statement of cash flows. The Company adopted this new guidance prospectively, effective January 1, 2017 and prior periods have not been adjusted. For the year ended December 31, 2017, the adoption of this new standard reduced income tax expense in the consolidated statement of income by approximately $79 million. For the years ended December 31, 2016 and 2015, the Company recorded an excess tax benefit of $44 million and $53 million, respectively, as an increase to equity in its consolidated balance sheets, which was reflected as cash provided by financing activities in the consolidated statements of cash flows.

In March 2016, the FASB issued new guidance which eliminates the requirement that when an investment qualifies for use of the equity method as a result of an increase in the level of ownership interest or degree of influence, an investor must adjust the investment, results of operations and retained earnings retroactively on a step-by-step basis as if the equity method had been in effect during all previous periods that the investment had been held. The amendments require that the equity method investor add the cost of acquiring the additional interest in the investee to the current basis of the investor's previously held interest and adopt the equity method of accounting as of the date the investment becomes qualified for equity method accounting. Therefore, upon qualifying for the equity method of accounting, no retroactive adjustment of the investment is required. The amendments require that an entity that has an available-for-sale equity security that becomes qualified for the equity method of accounting recognize through earnings the unrealized holding gain or loss in accumulated other comprehensive income at the date the investment becomes qualified for use of the equity method. The

new guidance is effective for all entities for fiscal years, and interim periods within those fiscal years, beginning after December 15, 2016. The guidance was adopted on January 1, 2017 and did not have an impact on the Company's financial position or results of operations.

In September 2015, the FASB issued new guidance intended to simplify the accounting for adjustments made to provisional amounts recognized in business combinations. The guidance requires the acquirer to recognize adjustments to estimated amounts that are identified during the measurement period in the reporting period in which the adjustments are determined, and to record, in the same period's financial statements, the effect on earnings of changes in depreciation, amortization, or other income effects, if any, as a result of the change to the estimated amounts, calculated as if the accounting had been completed as of the acquisition date. The guidance also requires additional disclosures required for the amounts recorded in current period earnings arising from such adjustments. The guidance was adopted on January 1, 2016 and did not have a material impact on the Company's financial position or results of operations.

In May 2015, the FASB issued new guidance which removes the requirement to present certain investments for which the practical expedient is used to measure fair value at net asset value within the fair value hierarchy table. Instead, an entity is required to include those investments as a reconciling item so that the total fair value amount of investments in the disclosure is consistent with the fair value investment balance in the consolidated balance sheets. This guidance is effective for fiscal years beginning after December 15, 2015, including interim periods within those fiscal years. The adoption of this new guidance affected footnote disclosure only, and therefore did not have a material impact on the Company's financial position or results of operations.

In February 2015, the FASB issued new accounting guidance intended to improve targeted areas of consolidation guidance for legal entities such as limited partnerships, limited liability corporations and securitization structures. The guidance focuses on the consolidation evaluation for reporting organizations that are required to evaluate whether they should consolidate certain legal entities. The guidance is effective for periods beginning after December 15, 2015. The adoption of this guidance did not have a material impact on the Company's financial statements.

In January 2015, the FASB issued new accounting guidance that eliminated the concept of extraordinary items. The guidance is effective for annual periods beginning after December 15, 2015. Adoption of the guidance did not materially affect the Company's financial condition, results of operations or cash flows.

New Accounting Pronouncements Effective January 1, 2018:

New Revenue Recognition Pronouncement

In May 2014, the FASB issued new accounting guidance related to revenue from contracts with customers. The core principle of the guidance is that an entity should recognize revenue to depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services. The Company adopted the new guidance effective January 1, 2018, using the modified retrospective method, which applies the new guidance beginning with the year of adoption, with the cumulative effect of initially applying the guidance recognized as an adjustment to retained earnings at January 1, 2018. The Company elected to apply the modified retrospective method to all contracts.

The guidance includes requirements to estimate variable or contingent consideration to be received, which will result in revenue being recognized earlier than under legacy GAAP. In addition, the guidance requires the capitalization and amortization of certain costs which were expensed as incurred under legacy GAAP. As discussed in more detail below, the adoption of this new revenue recognition standard will shift revenue among quarters from historical patterns, but is not expected to have a significant year-over-year impact on annual revenue.

In the Risk and Insurance Services segment, there will be significant movement in the quarterly timing of revenue recognition. In particular, under the new standard the recognition of revenue in the Company's reinsurance broking operations will be accelerated from historical patterns. Prior to the adoption of this standard, revenue related to most reinsurance placements was recognized on the later of billing or effective date as premiums are determined by the primary insurers and attached to the reinsurance treaties.

Typically, this resulted in revenue being recognized over a 12 to 24 month period. Under the new guidance, estimated revenue from these treaties will be recognized largely at the policy effective date. In the insurance brokerage operations, revenue from commission based arrangements will continue to be recorded at the policy effective date, while the timing of revenue recognition for certain fee based arrangements will shift among quarters. However, since the vast majority of our fee arrangements involve contracts that cover a single year of services, the Company does not expect there will be a significant change in the amount of revenue recognized in an annual period.

In the Risk and Insurance Services segment, certain pre-placement costs will be deferred and amortized into earnings when the revenue from the placement is recognized. These costs were previously expensed as incurred. As such, the Company expects the recognition of costs to shift among quarters.

In the Consulting segment, the adoption of the new revenue standard will not have a significant impact on the timing of revenue recognition in quarterly or annual periods.

In its Consulting segment, the Company incurs implementation costs necessary to facilitate the delivery of the contracted services. Although certain implementation costs are deferred under current GAAP, the Company has concluded that certain additional implementation costs currently expensed under legacy GAAP will be deferred under the new guidance. In addition, the amortization period for these implementation costs will be longer under the new guidance as the amortization period will include the initial contract term plus expected renewals. Currently, deferred implementation costs are amortized over the initial contract term.

The cumulative effect of adopting the standard, net of tax, on January 1, 2018 are expected to result in an increase to the opening balance of retained earnings of approximately $325 million to $425 million, with offsetting increases/decreases to other balance sheet accounts, e.g. accounts receivable, other assets and deferred income taxes. The comparative information and prior periods will not be restated and will continue to be reported under the legacy accounting standards that were in effect for those periods.

Other Standards Adopted Effective January 1, 2018

In March 2017, the FASB issued new guidance that changes the presentation of net periodic pension cost and net periodic postretirement cost ("net periodic benefit costs"). The new guidance requires employers to report the service cost component of net periodic benefit costs in the same line item as other compensation costs in the income statement. The other components of net periodic benefit costs are required to be presented in the income statement separately from the service cost component and outside a subtotal of income from operations. In addition, only the service cost component is eligible for capitalization, when applicable. The guidance is effective for annual periods beginning after December 15, 2017, including interim periods within those annual periods. The new guidance requires retrospective application for the presentation of the service cost component and the other components of net periodic benefit costs as discussed in more detail below, and prospective application for the capitalization of the service cost component.

The adoption of this guidance will impact the line item presentation of the Company's results of operations, and will not change income before taxes, net income or earnings per share. When the Company files its financial statements for 2018, the consolidated statements of income for 2017 and 2016 will include the following reclassification:

		2017		2016
Risk and Insurance Services	**$**	**140**	$	172
Consulting		**64**		65
Corporate		**(3)**		(4)
Increase in Compensation and Benefits		**201**		233
Other Net Periodic Benefit Credit		**(201)**		(233)
Net Impact of Reclassification	**$**	**—**	$	—

In January 2016, the FASB issued new guidance intended to improve the recognition and measurement of financial instruments. The new guidance requires equity investments (except those accounted for under the equity method of accounting, or those that result in consolidation of the investee) to be

measured at fair value with changes in fair value recognized in net income; requires public business entities to use the exit price notion when measuring the fair value of financial instruments for disclosure purposes; requires separate presentation of financial assets and financial liabilities by measurement category and form of financial asset (i.e., securities or loans and receivables) on the balance sheet or the accompanying notes to the financial statements; eliminates the requirement for public business entities to disclose the method(s) and significant assumptions used to estimate the fair value that is required to be disclosed for financial instruments measured at amortized cost on the balance sheet; and requires a reporting organization to present separately in other comprehensive income the portion of the total change in the fair value of a liability resulting from a change in the instrument-specific credit risk (also referred to as "own credit") when the organization has elected to measure the liability at fair value in accordance with the fair value option for financial instruments. The new guidance is effective for public companies for fiscal years beginning after December 15, 2017, including interim periods within those fiscal years. The Company holds certain equity investments that are currently treated as available for sale securities, whereby the mark to market change is recorded to other comprehensive income in its consolidated balance sheet. The Company adopted the new accounting guidance prospectively, effective January 1, 2018, recording a cumulative-effect adjustment increase to retained earnings as of the beginning of the period of adoption of $14 million, reflecting the reclassification of cumulative unrealized gains, net of tax as of December 31, 2017 from other comprehensive income to retained earnings. Therefore, prior periods have not been restated.

In October 2016, the FASB also issued new guidance which requires an entity to recognize the income tax consequences of an intra-entity transfer of an asset other than inventory when the transfer occurs. The new guidance eliminates the exception for an intra-entity transfer of an asset other than inventory. The new guidance is effective for public companies for fiscal years beginning after December 15, 2017, including interim periods within those fiscal years. The new guidance must be applied on a modified retrospective basis through a cumulative-effect adjustment to retained earnings as of the beginning of the period of adoption. The Company adopted the new guidance prospectively, effective January 1, 2018, recording a cumulative-effect adjustment increase to retained earnings of approximately $15 million as of the beginning of the period of adoption.

In November 2016, the FASB issued new guidance which requires that a statement of cash flows explain the change during the period in the total of cash, cash equivalents and amounts generally described as restricted cash or restricted cash equivalents. As a result, amounts generally described as restricted cash and restricted cash equivalents should be included with cash and cash equivalents when reconciling the beginning-of-period and end-of-period total amounts shown on the statement of cash flows. The new guidance is effective for public companies for fiscal years beginning after December 15, 2017, including interim periods within those fiscal years. The guidance must be applied retrospectively to all periods presented. Early adoption is permitted. The Company does not expect the adoption of this guidance to impact the Company's consolidated balance sheets or consolidated statements of cash flows.

In August 2016, the FASB issued new guidance which adds or clarifies guidance on the classification of certain cash receipts and payments in the statement of cash flows, including cash payments for debt prepayments or debt extinguishment costs, contingent consideration payments made after a business combination and distributions received from equity method investees. The guidance is effective for fiscal years beginning after December 15, 2017, including interim periods within those fiscal years. The guidance must be applied retrospectively to all periods presented unless retrospective application is impracticable. The Company does not expect the adoption of this guidance to impact the Company's consolidated statements of cash flows.

In January 2017, the FASB issued guidance which clarifies the definition of a business in order to assist companies with evaluating whether transactions should be accounted for as acquisitions (or disposals) of assets or businesses. The guidance is effective for annual periods beginning after December 15, 2017, including interim periods within those annual periods. The Company does not expect the adoption of this standard to have an impact on the Company's financial position or results of operations.

New Accounting Pronouncements Not Yet Adopted:

In January 2017, the FASB issued new guidance to simplify the test for goodwill impairment. The new guidance eliminates the second step in the current two-step goodwill impairment process, under which a goodwill impairment loss is measured by comparing the implied fair value of a reporting unit's goodwill with the carrying amount of that goodwill for that reporting unit. The new guidance requires a one-step impairment test, in which the goodwill impairment charge is based on the amount by which the carrying amount exceeds the reporting unit's fair value; however, the loss recognized should not exceed the total amount of goodwill allocated to that reporting unit. An entity still has the option to perform the qualitative assessment for a reporting unit to determine if the quantitative impairment test is necessary. The guidance should be applied on a prospective basis with the nature of and reason for the change in accounting principle disclosed upon transition. The guidance is effective for annual or any interim goodwill impairment tests in fiscal years beginning after December 15, 2019. Early adoption is permitted. The Company does not expect the adoption of this standard to have a material impact on its financial position or results of operations.

In February 2016, the FASB issued new guidance intended to improve financial reporting for leases. Under the new guidance, a lessee will be required to recognize assets and liabilities for leases with lease terms of more than 12 months. Consistent with current GAAP, the recognition, measurement, and presentation of expenses and cash flows arising from a lease by a lessee primarily will depend on its classification as a financing or operating lease. However, unlike current GAAP, which requires that only capital leases be recognized on the balance sheet, the new guidance requires that both types of leases be recognized on the balance sheet. The new guidance will require additional disclosures to help investors and other financial statement users better understand the amount, timing, and uncertainty of cash flows arising from leases. These disclosures include qualitative and quantitative requirements, and additional information about the amounts recorded in the financial statements. The accounting by organizations that own the assets ("lessor") leased by the lessee will remain largely unchanged from current GAAP. However, the guidance contains targeted improvements that are intended to align, where necessary, lessor accounting with the lessee accounting model. The new guidance on leases is effective for public companies for fiscal years, and interim periods within those fiscal years, beginning after December 15, 2018. Early application is permitted. The Company is currently evaluating the impact the adoption of the guidance will have on its financial position and results of operations, but expects material "right to use" assets and lease liabilities to be recorded on its consolidated balance sheets.

2. Supplemental Disclosures

The following schedule provides additional information concerning acquisitions, interest and income taxes paid:

(In millions of dollars)	**2017**	2016	2015
Assets acquired, excluding cash	**$ 898**	$ 960	$ 1,327
Liabilities assumed	**(134)**	(111)	(199)
Contingent/deferred purchase consideration	**(109)**	(36)	(176)
Net cash outflow for acquisitions	**$ 655**	$ 813	$ 952

(In millions of dollars)	**2017**	2016	2015
Interest paid	**$ 199**	$ 178	$ 146
Income taxes paid, net of refunds	**$ 583**	$ 642	$ 433

The classification of contingent consideration payments in the consolidated statement of cash flows is dependent upon whether the payment was part of the initial liability established on the acquisition date (financing) or an adjustment to the acquisition date liability (operating). Deferred payments are classified as financing activities in the consolidated statements of cash flows.

The following amounts are included in the consolidated statements of cash flows as a financing activity. The Company paid deferred and contingent consideration of $136 million in the year ended December 31, 2017, consisting of deferred purchase consideration of $55 million and contingent purchase

consideration of $81 million. In the year ended December 31, 2016 the Company paid deferred and contingent consideration of $98 million, consisting of deferred purchase consideration of $54 million and contingent consideration of $44 million, and in the year ended December 31, 2015 the Company paid deferred and contingent consideration of $49 million, consisting of deferred purchase consideration of $36 million and contingent consideration of $13 million.

The following amounts are included in the operating section of the consolidated statements of cash flows. For the year ended December 31, 2017, the Company recorded a net charge for adjustments to acquisition related accounts of $3 million and contingent consideration payments of $27 million. For the year ended December 31, 2016, the Company recorded a net charge for adjustments to acquisition related accounts of $9 million and contingent consideration payments of $42 million, and for the year ended December 31, 2015 the Company recorded a net charge for adjustments to acquisition related accounts of $45 million and contingent consideration payments of $34 million.

The Company had non-cash issuances of common stock under its share-based payment plan of $88 million, $73 million and $72 million for the years ended December 31, 2017, 2016 and 2015, respectively. The Company recorded stock-based compensation expense related to restricted stock units, performance stock units and stock options of $149 million, $109 million and $88 million for the years ended December 31, 2017, 2016 and 2015, respectively.

In 2015, the consolidated statement of cash flows includes the cash flow impact of discontinued operations from indemnification payments related to the Putnam disposition that reduced the net cash flow provided by operations by $82 million.

As discussed in Note 1, for the years ended December 31, 2016 and 2015, the Company recorded an excess tax benefit of $44 million and $53 million, respectively, as an increase to equity in its consolidated balance sheets, which was reflected as cash provided by financing activities in the consolidated statements of cash flows.

An analysis of the allowance for doubtful accounts is as follows:

For the Years Ended December 31, *(In millions of dollars)*	**2017**	2016	2015
Balance at beginning of year	**$ 96**	$ 87	$ 95
Provision charged to operations	**31**	31	14
Accounts written-off, net of recoveries	**(17)**	(20)	(18)
Effect of exchange rate changes and other	**—**	(2)	(4)
Balance at end of year	**$ 110**	$ 96	$ 87

3. Other Comprehensive Income (Loss)

The changes in the balances of each component of Accumulated Other Comprehensive Income ("AOCI") for the years ended December 31, 2017 and 2016, including amounts reclassified out of AOCI, are as follows:

(In millions of dollars)	**Unrealized Investment Gains (Losses)**	**Pension/Post-Retirement Plans Gains (Losses)**	**Foreign Currency Translation Adjustments**	**Total**
Balance as of January 1, 2017	**$ 19**	**$ (3,232)**	**$ (1,880)**	**$ (5,093)**
Other comprehensive (loss) income before reclassifications	**(5)**	**160**	**715**	**870**
Amounts reclassified from accumulated other comprehensive loss	**—**	**180**	**—**	**180**
Net current period other comprehensive (loss) income	**(5)**	**340**	**715**	**1,050**
Balance as of December 31, 2017	**$ 14**	**$ (2,892)**	**$ (1,165)**	**$ (4,043)**

(In millions of dollars)	Unrealized Investment Gains	Pension/Post-Retirement Plans Gains (Losses)	Foreign Currency Translation Adjustments	Total
Balance as of January 1, 2016	$ 6	$ (3,124)	$ (1,102)	$ (4,220)
Other comprehensive income (loss) before reclassifications	13	(294)	(778)	(1,059)
Amounts reclassified from accumulated other comprehensive loss	—	186	—	186
Net current period other comprehensive income (loss)	13	(108)	(778)	(873)
Balance as of December 31, 2016	$ 19	$ (3,232)	$ (1,880)	$ (5,093)

The components of other comprehensive income (loss) are as follows:

For the Years Ended December 31,	2017		
(In millions of dollars)	Pre-Tax	Tax (Credit)	Net of Tax
Foreign currency translation adjustments	$ 717	$ 2	$ 715
Unrealized investment losses	(7)	(2)	(5)
Pension/post-retirement plans:			
Amortization of losses included in net periodic pension cost:			
Prior service credits (a)	(1)	—	(1)
Net actuarial losses (a)	167	30	137
Effect of curtailment (a)	(1)	—	(1)
Effect of settlement (a)	54	9	45
Subtotal	219	39	180
Net gains arising during period	374	62	312
Foreign currency translation adjustments	(201)	(36)	(165)
Other adjustments	16	3	13
Pension/post-retirement plans gains	408	68	340
Other comprehensive income	$ 1,118	$ 68	$ 1,050

(a) Components of net periodic pension cost are included in compensation and benefits in the Consolidated Statements of Income. Tax on prior service gains and net actuarial losses is included in income tax expense.

For the Years Ended December 31,	2016		
(In millions of dollars)	Pre-Tax	Tax (Credit)	Net of Tax
Foreign currency translation adjustments	$ (742)	$ 36	$ (778)
Unrealized investment gains	21	8	13
Pension/post-retirement plans:			
Amortization of losses included in net periodic pension cost:			
Prior service losses (a)	3	1	2
Net actuarial losses (a)	166	46	120
Subtotal	169	47	122
Effect of curtailment	102	38	64
Net losses arising during period	(855)	(175)	(680)
Foreign currency translation adjustments	416	70	346
Other adjustments	49	9	40
Pension/post-retirement plans losses	(119)	(11)	(108)
Other comprehensive (loss) income	$ (840)	$ 33	$ (873)

(a) Components of net periodic pension cost are included in compensation and benefits in the Consolidated Statements of Income. Tax on prior service gains and net actuarial losses is included in income tax expense.

For the Years Ended December 31,	2015		
(In millions of dollars)	Pre-Tax	Tax (Credit)	Net of Tax
Foreign currency translation adjustments	$ (639)	$ 4	$ (643)
Unrealized investment gains	1	—	1
Pension/post-retirement plans:			
Amortization of (gains) losses included in net periodic pension cost:			
Prior service credits (a)	(1)	—	(1)
Net actuarial losses (a)	271	96	175
Subtotal	270	96	174
Effect of curtailment	(3)	—	(3)
Plan Termination	(6)	(3)	(3)
Net losses arising during period	(125)	(62)	(63)
Foreign currency translation adjustments	214	43	171
Other	(13)	(6)	(7)
Pension/post-retirement plans gains	337	68	269
Other comprehensive (loss) income	$ (301)	$ 72	$ (373)

(a) Components of net periodic pension cost are included in compensation and benefits in the Consolidated Statements of Income. Tax on prior service gains and net actuarial losses is included in income tax expense.

The components of accumulated other comprehensive income (loss) are as follows:

(In millions of dollars)	**December 31, 2017**	December 31, 2016
Foreign currency translation adjustments (net of deferred tax adjustments of $(11) in 2017 and deferred tax adjustments of $(9) in 2016, respectively)	**$ (1,165)**	$ (1,880)
Net unrealized investment gains (net of deferred tax liability of $7 in 2017 and $10 in 2016)	**14**	19
Net charges related to pension/post-retirement plans (net of deferred tax asset of $1,462 and $1,530 in 2017 and 2016, respectively)	**(2,892)**	(3,232)
	$ (4,043)	$ (5,093)

4. Acquisitions / Dispositions

The Company's acquisitions have been accounted for as business combinations. Net assets and results of operations are included in the Company's consolidated financial statements commencing at the respective purchase closing dates. In connection with acquisitions, the Company records the estimated value of the net tangible assets purchased and the value of the identifiable intangible assets purchased, which typically consist of purchased customer lists, trademarks and non-compete agreements. The valuation of purchased intangible assets involves significant estimates and assumptions. Until final valuations are complete, any change in assumptions could affect the carrying value of tangible assets, goodwill and identifiable intangible assets.

The Risk and Insurance Services segment completed seven acquisitions during 2017.

- January – Marsh & McLennan Agency ("MMA") acquired J. Smith Lanier & Co. ("JSL"), a privately held insurance brokerage firm providing insurance, risk management, and employee benefits solutions to businesses and individuals throughout the U.S.
- February – MMA acquired iaConsulting, a Texas-based employee benefits consulting firm.
- March – MMA acquired Blakestad, Inc., a Minnesota-based private client and commercial lines insurance agency, and RJF Financial Services, a Minnesota-based retirement advisory firm.
- May – MMA acquired Insurance Partners of Texas, a Texas-based employee benefits consulting firm.
- August – Marsh acquired International Catastrophe Insurance Managers, LLC, a Colorado-based managing general agent providing property catastrophe insurance to business and homeowners, and MMA acquired Hendrick & Hendrick, Inc., a Texas-based insurance agency.

The Consulting segment completed three acquisitions during 2017.

- August – Mercer acquired Jaeson Associates, a Portugal-based talent management consulting organization.
- December – Mercer acquired Promerit AG, a Germany-based consultancy specializing in HR digitalization and business and HR transformation and BFC Asset Management Co., Ltd., a Japan-based independently owned asset manager, focused on alternative investment strategies.

Total purchase consideration for acquisitions made during 2017 was approximately $777 million, which consisted of cash paid of $668 million and deferred purchase and estimated contingent consideration of $109 million. Contingent consideration arrangements are based primarily on EBITDA and/or revenue targets over periods of two to four years. The fair value of the contingent consideration was based on projected revenue and earnings of the acquired entities. Estimated fair values of assets acquired and liabilities assumed are subject to adjustment when purchase accounting is finalized. During 2017, the Company also paid $55 million of deferred purchase consideration and $108 million of contingent consideration related to acquisitions made in prior years.

The following table presents the preliminary allocation of the acquisition cost to the assets acquired and liabilities assumed, based on their fair values:

(In millions)	2017
Cash	$ 668
Estimated fair value of deferred/contingent consideration	109
Total consideration	$ 777
Allocation of purchase price:	
Cash and cash equivalents	$ 13
Accounts receivable, net	30
Other current assets	6
Property, plant, and equipment	6
Other intangible assets	304
Goodwill	551
Other assets	1
Total assets acquired	911
Current liabilities	25
Other liabilities	109
Total liabilities assumed	134
Net assets acquired	$ 777

Other intangible assets acquired are based on initial estimates and subject to change based on final valuations during the measurement period post acquisition date. The following chart provides information of other intangible assets acquired during 2017:

	Amount	Weighted Average Amortization Period
Client relationships	$ 263	12 years
Other (a)	41	5 years
	$ 304	

(a) Primarily non-compete agreements, trade names and developed technology.

Prior Year Acquisitions

During 2016, the Risk and Insurance Services segment completed nine acquisitions.

- February – MMA acquired The Celedinas Agency, Inc., a Florida-based brokerage firm providing property and casualty and marine insurance as well as employee benefits services, and Aviation Solutions, LLC, a Missouri-based aviation risk advisor and insurance broker.
- March – MMA acquired Corporate Consulting Services, Ltd., a New York-based insurance brokerage and human resource consulting firm.
- August – MMA acquired Benefits Advisory Group LLC, an Atlanta-based employee benefits consulting firm.
- September – MMA acquired Vero Insurance, Inc., a Florida-based agency specializing in private client insurance services.
- November – MMA acquired Benefits Resource Group Agency, LLC, an Ohio-based benefits consulting firm and Presidio Benefits Group, Inc., a California-based employee benefits consulting firm.
- December – Marsh acquired AD Corretora, a multi-line broker located in Brazil, and Bluefin Insurance Group, Ltd, a U.K.-based insurance brokerage.

The Consulting segment completed six acquisitions during 2016.

- January – Mercer acquired The Positive Ageing Company Limited, a U.K.-based firm providing advice on issues surrounding the aging workforce.
- April – Mercer acquired the Extratextual software system and related client contracts. Extratextual is a web based compliance system that helps clients manage and meet their compliance and risk management obligations.
- December – Oliver Wyman acquired LShift Limited, a software development company, and Mercer acquired Sirota Consulting LLC, a global provider of employee benefit solutions; Pillar Administration, a superannuation provider located in Australia; and Thomsons Online Benefits, a U.K.-based global benefits software business.

Total purchase consideration for acquisitions made during 2016 was approximately $901 million, which consisted of cash paid of $865 million and deferred purchase and estimated contingent consideration of $36 million. Contingent consideration arrangements are based primarily on EBITDA and/or revenue targets over periods of two to four years. The fair value of the contingent consideration was based on projected revenue and earnings of the acquired entities. Estimated fair values of assets acquired and liabilities assumed are subject to adjustment when purchase accounting is finalized. During 2016, the Company also paid $54 million of deferred purchase consideration and $86 million of contingent consideration related to acquisitions made in prior years.

Pro-Forma Information

The following unaudited pro-forma financial data gives effect to the acquisitions made by the Company during 2017, 2016 and 2015. In accordance with accounting guidance related to pro-forma disclosures, the information presented for current year acquisitions is as if they occurred on January 1, 2016 and reflects acquisitions made in 2016 as if they occurred on January 1, 2015. The pro-forma information includes the effects of amortization of acquired intangibles. The unaudited pro-forma financial data is presented for illustrative purposes only and is not necessarily indicative of the operating results that would have been achieved if such acquisitions had occurred on the dates indicated, nor is it necessarily indicative of future consolidated results.

	Years Ended December 31,		
(In millions, except per share data)	**2017**	2016	2015
Revenue	**$ 14,100**	$ 13,724	$ 13,528
Income from continuing operations	**$ 1,514**	$ 1,787	$ 1,643
Net income attributable to the Company	**$ 1,496**	$ 1,759	$ 1,606
Basic net income per share:			
– Continuing operations	**$ 2.91**	$ 3.39	$ 3.02
– Net income attributable to the Company	**$ 2.92**	$ 3.39	$ 3.02
Diluted net income per share:			
– Continuing operations	**$ 2.88**	$ 3.36	$ 2.99
– Net income attributable to the Company	**$ 2.88**	$ 3.36	$ 2.99

The consolidated statement of income for 2017 includes approximately $156 million of revenue and $19 million of operating income related to acquisitions made during 2017. The consolidated statement of income for 2016 includes approximately $25 million of revenue and $4 million of operating income related to acquisitions made during 2016, and the consolidated statement of income for 2015 includes approximately $124 million of revenue and $7 million of operating income related to acquisitions made during 2015.

Acquisition-related expenses incurred in 2017 and 2016 were $3 million and $14 million, respectively.

Dispositions

In December 2015, Mercer sold its U.S. defined contribution recordkeeping business. The Company recognized pre-tax gains of $37 million in 2015 and $6 million in 2016 from this transaction, which are included in revenue in the consolidated statements of income in those years.

5. Goodwill and Other Intangibles

The Company is required to assess goodwill and any indefinite-lived intangible assets for impairment annually, or more frequently if circumstances indicate impairment may have occurred. The Company performs the annual impairment assessment for each of its reporting units during the third quarter of each year. In accordance with applicable accounting guidance, the Company assesses qualitative factors to determine whether it is necessary to perform the two-step goodwill impairment test. As part of its assessment, the Company considers numerous factors, including that the fair value of each reporting unit exceeds its carrying value by a substantial margin based on its most recent estimates, whether significant acquisitions or dispositions occurred which might alter the fair value of its reporting units, macroeconomic conditions and their potential impact on reporting unit fair values, actual performance compared with budget and prior projections used in its estimation of reporting unit fair values, industry and market conditions, and the year-over-year change in the Company's share price. The Company completed its qualitative assessment in the third quarter of 2017 and concluded that a two-step goodwill impairment test was not required in 2017 and that goodwill was not impaired.

Other intangible assets that are not deemed to have an indefinite life are amortized over their estimated lives and reviewed for impairment upon the occurrence of certain triggering events in accordance with applicable accounting literature. The Company concluded that these intangible assets are not impaired.

Changes in the carrying amount of goodwill are as follows:

(In millions of dollars)	**2017**	2016
Balance as of January 1, as reported	**$ 8,369**	$ 7,889
Goodwill acquired	**551**	556
Other adjustments[(a)]	**169**	(76)
Balance at December 31,	**$ 9,089**	$ 8,369

(a) Primarily due to the impact of foreign exchange in both years.

The goodwill acquired of $551 million in 2017 (approximately $9 million of which is deductible for tax purposes) is comprised of $522 million related to the Risk and Insurance Services segment and $29 million related to the Consulting segment.

Goodwill allocable to the Company's reportable segments is as follows: Risk and Insurance Services, $6.5 billion and Consulting, $2.6 billion.

The gross cost and accumulated amortization at December 31, 2017 and 2016 are as follows:

(In millions of dollars)	**2017**			2016		
	Gross Cost	**Accumulated Amortization**	**Net Carrying Amount**	Gross Cost	Accumulated Amortization	Net Carrying Amount
Client relationships	**$ 1,672**	**$ 518**	**$ 1,154**	$ 1,390	$ 392	$ 998
Other (a)	**234**	**114**	**120**	204	76	128
Amortized intangibles	**$ 1,906**	**$ 632**	**$ 1,274**	$ 1,594	$ 468	$ 1,126

(a) Primarily non-compete agreements, trade names and developed technology.

Aggregate amortization expense was $169 million for the year ended December 31, 2017, $130 million for the year ended December 31, 2016 and $109 million for the year ended December 31, 2015. The estimated future aggregate amortization expense is as follows:

For the Years Ending December 31, *(In millions of dollars)*	
2018	$ 180
2019	170
2020	149
2021	139
2022	125
Subsequent years	511
	$ 1,274

6. Income Taxes

The tax information presented below includes a provisional estimate of the impact of the enactment, in December 2017, of U.S. tax legislation commonly known as the Tax Cuts and Job Act (the "TCJA"), which is discussed in more detail below. For financial reporting purposes, income before income taxes includes the following components:

For the Years Ended December 31, *(In millions of dollars)*	**2017**	2016	2015
Income before income taxes:			
U.S.	**$ 819**	$ 725	$ 702
Other	**1,824**	1,755	1,605
	$ 2,643	$ 2,480	$ 2,307
The expense for income taxes is comprised of:			
Current–			
U.S. Federal	**$ 313**	$ 208	$ 90
Other national governments	**388**	366	385
U.S. state and local	**36**	43	52
	737	617	527
Deferred–			
U.S. Federal	**286**	26	125
Other national governments	**72**	32	15
U.S. state and local	**38**	10	4
	396	68	144
Total income taxes	**$ 1,133**	$ 685	$ 671

The significant components of deferred income tax assets and liabilities and their balance sheet classifications are as follows:

December 31, *(In millions of dollars)*	2017	2016
Deferred tax assets:		
Accrued expenses not currently deductible	**$ 369**	$ 582
Differences related to non-U.S. operations [(a)]	**139**	127
Accrued U.S. retirement benefits	**394**	629
Net operating losses [(b)]	**67**	56
Income currently recognized for tax	**49**	71
Other	**31**	50
	$ 1,049	$ 1,515
Deferred tax liabilities:		
Differences related to non-U.S. operations	**$ 235**	$ 217
Depreciation and amortization	**338**	377
Accrued retirement & postretirement benefits - non-U.S. operations	**172**	10
Other	**16**	14
	$ 761	$ 618

(a) Net of valuation allowances of $18 million in 2017 and $3 million in 2016.
(b) Net of valuation allowances of $11 million in 2017 and $17 million in 2016.

December 31, *(In millions of dollars)*	2017	2016
Balance sheet classifications:		
Deferred tax assets	**$ 669**	$ 1,097
Other liabilities	**$ 381**	$ 200

A reconciliation from the U.S. Federal statutory income tax rate to the Company's effective income tax rate is shown below:

For the Years Ended December 31,	2017	2016	2015
U.S. Federal statutory rate	**35.0%**	35.0%	35.0%
U.S. state and local income taxes—net of U.S. Federal income tax benefit	**1.5**	1.5	1.6
Differences related to non-U.S. operations	**(8.6)**	(9.2)	(8.0)
U.S. Tax Reform	**17.4**	—	—
Equity compensation	**(2.6)**	—	—
Other	**0.2**	0.3	0.5
Effective tax rate	**42.9%**	27.6%	29.1%

The Company's consolidated effective tax rate was 42.9%, 27.6% and 29.1% in 2017, 2016 and 2015, respectively. The tax rate in each year reflects foreign operations, which are generally taxed at rates lower than the U.S. statutory tax rate. The effective tax rate in 2017 reflects a provisional estimate of the impact of the enactment of the TCJA, as well as the impact of the required change in accounting for equity awards.

As a result of TCJA, two discrete charges were recorded. The transition to the new territorial tax system resulted in a transition tax payable over eight years on undistributed earnings of non-U.S. subsidiaries. This mandatory taxation of accumulated foreign earnings substantially changed the economic considerations of continued permanent investment of those accumulated earnings, a key component of

our global capital strategy. As a result of the transition tax, the Company anticipates repatriating the majority of the accumulated earnings that it previously intended to permanently invest. A charge of $240 million was recorded in the fourth quarter as a provisional estimate of the transition tax and ancillary effects.

The provisional estimate of transition tax includes state taxes and foreign withholding taxes related to the change in the Company's indefinite reinvestment assertion with respect to our pre-2018 foreign earnings. The Company previously considered most unremitted earnings of our non-U.S. subsidiaries, except amounts repatriated in the year earned, to be permanently reinvested and, accordingly, recorded no deferred U.S. income taxes on such earnings. The Company has initially analyzed our global capital requirements and potential tax liabilities attributable to repatriation. The Company estimates that it will repatriate $3.4 billion that was previously considered indefinitely invested. Included in the $240 million charge is a $53 million provisional estimate for withholding and state income taxes. These estimates may be adjusted during 2018 after the Company has finalized its analysis of all the relevant information.

U.S. federal income taxes are not provided on the excess of the amount for financial reporting over the tax basis of investments in foreign subsidiaries that are essentially permanent in duration. The determination of the unrecognized deferred tax liability with respect to these investments is not practicable.

In addition, reducing the U.S. corporate tax rate from 35% to 21%, and the change in deductibility of certain compensation awards to executive officers of the Company effective on January 1, 2018, resulted in a net charge of $220 million to reduce the value of our U.S. deferred tax assets and liabilities.

In December of 2017, the SEC issued Staff Accounting Bulletin 118 ("SAB 118"), establishing a one-year measurement period to complete the accounting for the income tax effects of the TCJA. SAB 118 anticipates three alternative states of completion at the end of the reporting period of accounting for these effects: (1) the tax accounting work has been completed with respect to an item; (2) a provisional amount has been recognized because a reasonable estimate was possible, or (3) a reasonable estimate cannot be provided. The Company believes its analysis of the TCJA to date provides an appropriate basis to record a provisional estimate. Our provisional estimates include the effects of the deemed repatriation tax and the Company's position with respect to permanently reinvested earnings, the impacts of the Global Intangible Low Taxed Income ("GILTI") and Base Erosion and Anti-abuse Tax ("BEAT") provisions, and the remeasurement of U.S. deferred tax based on estimated enactment-date deferred tax balances, which may be adjusted in 2018 when the 2017 tax return is filed. However, given the significant complexity of the TCJA, anticipated guidance from the U.S. Treasury about its implementation, the potential for additional guidance from the SEC or FASB, and the global complexity of the Company, these estimates may be adjusted during 2018.

Valuation allowances had net increases of $9 million in 2017 and net decreases of $8 million and $69 million in 2016 and 2015, respectively. During 2017, adjustments of the beginning of the year balances of valuation allowances increased income tax expense by $11 million, and decreased income tax expense by $7 million and $14 million in 2016, and 2015, respectively. The decrease in the valuation allowance in 2015 also reflects the write down of a deferred tax asset along with its full valuation allowance because the Company cannot utilize a net operating loss. Approximately 81% of the Company's net operating loss carryforwards expire from 2018 through 2036, and others are unlimited. The potential tax benefit from net operating loss carryforwards at the end of 2017 comprised federal, state and local, and non-U.S. tax benefits of $6 million, $49 million and $31 million, respectively, before reduction for valuation allowances.

The realization of deferred tax assets depends on generating future taxable income during the periods in which the tax benefits are deductible or creditable. Tax liabilities are determined and assessed jurisdictionally by legal entity or filing group. Certain taxing jurisdictions allow or require combined or consolidated tax filings. The Company assessed the realizability of its deferred tax assets, and considered all available evidence, including the existence of a recent history of losses, placing particular weight on evidence that could be objectively verified. A valuation allowance was recorded to reduce deferred tax assets to the amount that the Company believes is more likely than not to be realized.

Following is a reconciliation of the Company's total gross unrecognized tax benefits for the years ended December 31, 2017, 2016 and 2015:

(In millions of dollars)	**2017**	2016	2015
Balance at January 1,	**$ 65**	$ 74	$ 97
Additions, based on tax positions related to current year	**1**	2	3
Additions for tax positions of prior years	**14**	6	22
Reductions for tax positions of prior years	**(6)**	(6)	(10)
Settlements	**—**	(7)	(20)
Lapses in statutes of limitation	**(3)**	(4)	(18)
Balance at December 31,	**$ 71**	$ 65	$ 74

Of the total unrecognized tax benefits at December 31, 2017, 2016 and 2015, $56 million, $53 million and $53 million, respectively, represent the amount that, if recognized, would favorably affect the effective tax rate in any future periods. The total gross amount of accrued interest and penalties at December 31, 2017, 2016 and 2015, before any applicable federal benefit, was $12 million, $11 million and $8 million, respectively.

The Company is routinely examined by tax authorities in the jurisdictions in which it has significant operations. In the US federal jurisdiction the Company participates in the Internal Revenue Service's ("IRS") Compliance Assurance Process ("CAP"), which is structured to conduct real-time compliance reviews. The IRS is currently examining the Company's 2015 and 2016 tax returns and is performing a pre-filing review of 2017. In 2015, the Company settled its federal tax audit for the year 2014.

New York State and New York City have examinations underway for various entities covering the years 2007 through 2014. Outside the United States, there are ongoing examinations in Germany for the years 2009 through 2012, in France for the years 2011 and 2012, and in Italy for the year 2015. There are ongoing examinations in Canada of tax years 2013 and 2014. The United Kingdom's examination of year 2014 is ongoing and an examination of year 2015 has been commenced. The Company regularly considers the likelihood of assessments in each of the taxing jurisdictions resulting from examinations. The Company has established liabilities for uncertain tax positions in relation to the potential assessments. The Company believes the resolution of tax matters will not have a material effect on the consolidated financial position of the Company, although a resolution of tax matters could have a material impact on the Company's net income or cash flows and on its effective tax rate in a particular future period. It is reasonably possible that the total amount of unrecognized tax benefits will decrease between zero and approximately $6 million within the next twelve months due to settlement of audits and expiration of statutes of limitation.

7. Retirement Benefits

The Company maintains qualified and non-qualified defined benefit pension plans for its U.S. and non-U.S. eligible employees. The Company's policy for funding its tax qualified defined benefit retirement plans is to contribute amounts at least sufficient to meet the funding requirements set forth by U.S. law and the laws of the non-U.S. jurisdictions in which the Company offers defined benefit plans.

Combined U.S. and non-U.S. Plans

The weighted average actuarial assumptions utilized for the U.S. and significant non-U.S. defined benefit plans and postretirement benefit plans are as follows:

	Pension Benefits		Postretirement Benefits	
	2017	2016	**2017**	2016
Weighted average assumptions:				
Discount rate (for expense)	**3.40%**	4.10%	**3.64%**	4.12%
Expected return on plan assets	**6.64%**	7.06%	—	—
Rate of compensation increase (for expense)	**1.77%**	2.44%	—	—
Discount rate (for benefit obligation)	**3.07%**	3.40%	**3.21%**	3.64%
Rate of compensation increase (for benefit obligation)*	**1.73%**	1.77%	—	—

*The 2017 and 2016 assumption do not include a rate of compensation increase for the U.S. defined benefit plans since future benefit accruals were discontinued for those plans after December 31, 2016.

The Company uses actuaries from Mercer, a subsidiary of the Company, to perform valuations of its pension plans. The long-term rate of return on plan assets assumption is determined for each plan based on the facts and circumstances that exist as of the measurement date, and the specific portfolio mix of each plan's assets. The Company utilizes a model developed by the Mercer actuaries to assist in the determination of this assumption. The model takes into account several factors, including: actual and target portfolio allocation; investment, administrative and trading expenses incurred directly by the plan trust; historical portfolio performance; relevant forward-looking economic analysis; and expected returns, variances and correlations for different asset classes. These measures are used to determine probabilities using standard statistical techniques to calculate a range of expected returns on the portfolio. Generally, the Company does not adjust the rate of return assumption from year to year if, at the measurement date, it is within the range between the 25th and 75th percentile of the expected long-term annual returns. Historical long-term average asset returns of the most significant plans are also reviewed to determine whether they are consistent and reasonable compared with the rate selected. The expected return on plan assets is determined by applying the assumed long-term rate of return to the market-related value of plan assets. This market-related value recognizes investment gains or losses over a five-year period from the year in which they occur. Investment gains or losses for this purpose are the difference between the expected return calculated using the market-related value of assets and the actual return based on the market value of assets. Since the market-related value of assets recognizes gains or losses over a five-year period, the future market-related value of the assets will be impacted as previously deferred gains or losses are reflected.

The target asset allocation for the U.S. Plans is 64% equities and equity alternatives and 36% fixed income. At the end of 2017, the actual allocation for the U.S. Plans was 63% equities and equity alternatives and 37% fixed income. The target asset allocation for the U.K. Plans, which comprise approximately 81% of non-U.S. Plan assets, is 34% equities and equity alternatives and 66% fixed income. At the end of 2017, the actual allocation for the U.K. Plans was 48% equities and equity alternatives and 52% fixed income. The assets of the Company's defined benefit plans are diversified and are managed in accordance with applicable laws and with the goal of maximizing the plans' real return within acceptable risk parameters. The Company uses threshold-based portfolio re-balancing to ensure the actual portfolio remains consistent with target asset allocation ranges.

The Company reduced the U.K. Plans' target asset allocation to equity and equity alternatives to 34% effective December 31, 2017. The re-balancing took place in early January 2018.

The discount rate selected for each U.S. plan is based on a model bond portfolio with coupons and redemptions that closely match the expected liability cash flows from the plan. Discount rates for non-U.S. plans are based on appropriate bond indices adjusted for duration; in the U.K., the plan duration is reflected using the Mercer yield curve.

The components of the net periodic benefit cost for defined benefit and other postretirement plans are as follows:

Combined U.S. and significant non-U.S. Plans	Pension			Postretirement		
For the Years Ended December 31,	Benefits			Benefits		
(In millions of dollars)	**2017**	2016	2015	**2017**	2016	2015
Service cost	**$ 76**	$ 178	$ 196	**$ 1**	$ 2	$ 3
Interest cost	**497**	537	587	**4**	5	5
Expected return on plan assets	**(921)**	(940)	(977)	**—**	—	—
Amortization of prior service (credit) cost	**(2)**	(1)	(1)	**1**	4	3
Recognized actuarial loss (gain)	**167**	168	271	**—**	(2)	(1)
Net periodic benefit (credit) cost	**$ (183)**	$ (58)	$ 76	**$ 6**	$ 9	$ 10
Curtailment (loss) gain	**(1)**	(4)	5	**—**	—	—
Plan termination	**—**	—	—	**—**	—	(128)
Settlement loss	**54**	—	1	**—**	—	—
Total (credit) cost	**$ (130)**	$ (62)	$ 82	**$ 6**	$ 9	$ (118)

Pension Settlement Charge

Defined Benefit Pension Plans in the U.K. allow participants an option for the payment of a lump sum distribution from plan assets before retirement in full satisfaction of the retirement benefits due to the participant as well as any survivor's benefit. The Company's policy under applicable U.S. GAAP is to treat these lump sum payments as a partial settlement of the plan liability if they exceed the total of interest plus service costs ("settlement thresholds"). Based on the amount of lump sum payments through December 31, 2017, the lump sum payments exceeded the settlement thresholds in two of the U.K. plans. This resulted in a non-cash settlement charge of $54 million which was recorded in December 2017.

Plan Assets

For the U.S. Plans, investment allocation decisions are made by a fiduciary committee composed of senior executives appointed by the Company's Chief Executive Officer. For the non-U.S. plans, investment allocation decisions are made by local fiduciaries, in consultation with the Company for the larger plans. Plan assets are invested in a manner consistent with the fiduciary standards set forth in all relevant laws relating to pensions and trusts in each country. Primary investment objectives are (1) to achieve an investment return that, in combination with current and future contributions, will provide sufficient funds to pay benefits as they become due, and (2) to minimize the risk of large losses. The investment allocations are designed to meet these objectives by broadly diversifying plan assets among numerous asset classes with differing expected returns, volatilities, and correlations.

The major categories of plan assets include equity securities, equity alternative investments, and fixed income securities. For the U.S. Plan, the category ranges are 59-69% for equities and equity alternatives, and 31-41% for fixed income. For the U.K. Plans, the category ranges are 35-41% for equities and equity alternatives, and 59-65% for fixed income. Asset allocation is monitored frequently and re-balancing actions are taken as appropriate.

Plan investments are exposed to stock market, interest rate, and credit risk. Concentrations of these risks are generally limited due to diversification by investment style within each asset class, diversification by investment manager, diversification by industry sectors and issuers, and the dispersion of investments across many geographic areas.

Unrecognized Actuarial Gains/Losses

In accordance with applicable accounting guidance, the funded status of the Company's pension plans is recorded in the consolidated balance sheets and provides for a delayed recognition of actuarial gains or losses arising from changes in the projected benefit obligation due to changes in the assumed discount rates, differences between the actual and expected value of plan assets and other assumption changes. The unrecognized pension plan actuarial gains or losses and prior service costs not yet recognized in net periodic pension cost are recognized in Accumulated Other Comprehensive Income ("AOCI"), net of tax. These gains and losses are amortized prospectively out of AOCI over a period that approximates the remaining life expectancy of participants in plans where substantially all participants are inactive, or the average remaining service period of active participants for plans with active participants.

Interest and Service Cost

In 2016, the Company modified the approach used to estimate the service and interest cost components of net periodic benefit cost for its significant non-U.S. plans. Historically, service and interest costs were estimated using a single weighted average discount rate derived from the yield curves used to measure the benefit obligations at the beginning of the period. This change in approach was made to improve the correlation between the projected benefit cash flows and the corresponding yield curve spot rates and to provide a more precise measurement of service and interest costs. The change does not impact the measurement of the plans' total Projected Benefit Obligation. The Company has accounted for this change as a change in estimate, that was applied prospectively beginning in 2016.

U.S. Plans

The following schedules provide information concerning the Company's U.S. defined benefit pension plans and postretirement benefit plans:

	U.S. Pension Benefits		U.S. Postretirement Benefits	
(In millions of dollars)	**2017**	2016	**2017**	2016
Change in benefit obligation:				
Benefit obligation at beginning of year	**$ 5,894**	$ 5,685	**$ 37**	$ 40
Service cost	**—**	106	**—**	**—**
Interest cost	**264**	264	**2**	2
Employee contributions	**—**	**—**	**3**	3
Effect of curtailment	**—**	(98)	**—**	**—**
Actuarial loss (gain)	**538**	160	**3**	**—**
Benefits paid	**(475)**	(223)	**(9)**	(8)
Benefit obligation, December 31	**$ 6,221**	$ 5,894	**$ 36**	$ 37
Change in plan assets:				
Fair value of plan assets at beginning of year	**$ 4,365**	$ 4,160	**$ 2**	$ 3
Actual return on plan assets	**812**	401	**—**	**—**
Employer contributions	**85**	27	**6**	5
Employee contributions	**—**	**—**	**3**	3
Benefits paid	**(475)**	(223)	**(9)**	(8)
Other	**—**	**—**	**—**	(1)
Fair value of plan assets, December 31	**$ 4,787**	$ 4,365	**$ 2**	$ 2
Net funded status, December 31	**$ (1,434)**	$ (1,529)	**$ (34)**	$ (35)
Amounts recognized in the consolidated balance sheets:				
Current liabilities	**$ (27)**	$ (27)	**$ (2)**	$ (2)
Non-current liabilities	**(1,407)**	(1,502)	**(32)**	(33)
Net liability recognized, December 31	**$ (1,434)**	$ (1,529)	**$ (34)**	$ (35)
Amounts recognized in other comprehensive income (loss):				
Prior service (cost) credit	$ **—**	$ **—**	**$ —**	$ (3)
Net actuarial (loss) gain	**(1,766)**	(1,720)	**6**	11
Total recognized accumulated other comprehensive (loss) income, December 31	**$ (1,766)**	$ (1,720)	**$ 6**	$ 8
Cumulative employer contributions in excess of (less than) net periodic cost	**332**	191	**(40)**	(43)
Net amount recognized in consolidated balance sheet	**$ (1,434)**	$ (1,529)	**$ (34)**	$ (35)
Accumulated benefit obligation at December 31	**$ 6,221**	$ 5,894	**$ —**	$ **—**

	U.S. Pension Benefits		U.S. Postretirement Benefits	
(In millions of dollars)	**2017**	2016	**2017**	2016
Reconciliation of prior service credit (cost) recognized in accumulated other comprehensive income (loss):				
Beginning balance	**$ —**	$ **—**	**$ (3)**	$ (7)
Recognized as component of net periodic benefit cost	**—**	**—**	**3**	4
Prior service cost, December 31	**$ —**	$ **—**	**$ —**	$ (3)

	U.S. Pension Benefits		U.S. Postretirement Benefits	
(In millions of dollars)	**2017**	2016	**2017**	2016
Reconciliation of net actuarial (loss) gain recognized in accumulated other comprehensive income (loss):				
Beginning balance	**$ (1,720)**	$ (1,754)	**$ 11**	$ 13
Recognized as component of net periodic benefit cost (credit)	**37**	74	**(1)**	(2)
Changes in plan assets and benefit obligations recognized in other comprehensive income (loss):				
Effect of curtailment	**—**	98	**—**	—
Other	**—**	—	**(1)**	—
Liability experience	**(538)**	(160)	**(3)**	—
Asset experience	**455**	22	**—**	—
Total (loss) gain recognized as change in plan assets and benefit obligations	**(83)**	(40)	**(4)**	—
Net actuarial (loss) gain, December 31	**$ (1,766)**	$ (1,720)	**$ 6**	$ 11

For the Years Ended December 31,	U.S. Pension Benefits			U.S. Postretirement Benefits		
(In millions of dollars)	**2017**	2016	2015	**2017**	2016	2015
Total recognized in net periodic benefit cost and other comprehensive (income) loss	**$ (10)**	$ 31	$ 146	**$ 5**	$ 2	$ (138)

Estimated amounts that will be amortized from accumulated other comprehensive loss to net periodic pension cost in the next fiscal year:

	U.S. Pension Benefits	U.S. Postretirement Benefits
(In millions of dollars)	2018	2018
Net actuarial loss	$ 54	$ 1

The weighted average actuarial assumptions utilized in determining the above amounts for the U.S. defined benefit and other U.S. postretirement plans as of the end of the year are as follows:

	U.S. Pension Benefits		U.S. Postretirement Benefits	
	2017	2016	**2017**	2016
Weighted average assumptions:				
Discount rate (for expense)	**4.58%**	4.71%	**4.12%**	4.36%
Expected return on plan assets	**7.95%**	8.72%	**—**	—
Rate of compensation increase (for expense)	**—**	2.00%	**—**	—
Discount rate (for benefit obligation)	**3.86%**	4.58%	**3.67%**	4.12%

In recent years, the Society of Actuaries in the United States has issued new mortality tables and mortality improvement scales. The Company considered the effect of these tables and scales, along with other available information on mortality improvement and industry specific mortality studies, to select its assumptions for measurement of the plans' benefit obligations at December 31, 2017 and 2016.

The projected benefit obligation, accumulated benefit obligation and aggregate fair value of plan assets for U.S. pension plans with accumulated benefit obligations in excess of plan assets were $6.2 billion, $6.2 billion and $4.8 billion, respectively, as of December 31, 2017 and $5.9 billion, $5.9 billion and $4.4 billion, respectively, as of December 31, 2016.

The projected benefit obligation and fair value of plan assets for U.S. pension plans with projected benefit obligations in excess of plan assets was $6.2 billion and $4.8 billion, respectively, as of December 31, 2017 and $5.9 billion and $4.4 billion, respectively, as of December 31, 2016.

As of December 31, 2017, the U.S. qualified plan holds 4 million shares of the Company's common stock which were contributed to the qualified plan by the Company in 2005. This represented approximately 6.8% of that plan's assets as of December 31, 2017. In addition, plan assets may be invested in funds managed by Mercer Investments, a subsidiary of the Company.

The components of the net periodic benefit cost (credit) for the U.S. defined benefit and other postretirement benefit plans are as follows:

U.S. Plans only For the Years Ended December 31,	Pension Benefits			Postretirement Benefits		
(In millions of dollars)	**2017**	2016	2015	**2017**	2016	2015
Service cost	**$ —**	$ 106	$ 114	**$ —**	$ —	$ 1
Interest cost	**264**	264	254	**2**	2	2
Expected return on plan assets	**(357)**	(379)	(373)	**—**	—	—
Amortization of prior service (credit) cost	**—**	—	—	**3**	4	3
Recognized actuarial loss (gain)	**37**	74	146	**(1)**	(2)	(2)
Net periodic benefit (credit) cost	**$ (56)**	$ 65	$ 141	**$ 4**	$ 4	$ 4
Plan termination	**—**	—	—	**—**	—	(128)
Total (credit) cost	**$ (56)**	$ 65	$ 141	**$ 4**	$ 4	$ (124)

Effective September 1, 2015, the Company divided its U.S. qualified defined benefit plan to provide enhanced flexibility to manage the risk associated with those participants not receiving benefit accruals. The existing plan was amended to cover only the retirees then receiving benefits and terminated vested participants as of August 1, 2015. The Company's active participants as of that date were transferred into a newly established, legally separate qualified defined benefit plan. The benefits offered to the plans' participants were unchanged. As a result of the plan amendment and establishment of the new plan, the Company re-measured the assets and liabilities of the two plans as required under U.S. GAAP, based on assumptions and market conditions at the amendment date. The net periodic pension expense recognized in 2015 reflects the weighted average costs of the December 31, 2014 measurement and the September 1, 2015 re-measurement.

In October 2016, the Company modified its U.S. defined benefit pension plans to discontinue further benefit accruals for participants after December 31, 2016. At the same time, the Company amended its U.S. defined contribution retirement plans for most of its U.S. employees to add an automatic Company contribution equal to 4% of eligible base pay beginning on January 1, 2017. This new Company contribution, together with the Company's matching contribution, provides eligible U.S. employees with the opportunity to receive a total contribution of up to 7% of eligible base pay. As required under GAAP, the defined benefit plans that were significantly impacted by the modification were re-measured in October 2016 using market data and assumptions as of the modification date. The net periodic pension expense recognized in 2016 reflects the weighted average costs of the December 31, 2015 measurement and the October 2016 re-measurement. In addition, the U.S. qualified plans were merged effective December 30, 2016, since no participants would be receiving benefit accruals after December 31, 2016.

In March 2015, the Company amended its U.S. Post-65 retiree medical reimbursement plan (the "RRA plan"), resulting in its termination, with benefits to certain participants paid through December 31, 2016. As a result of the termination of the RRA plan, the Company recognized a net credit of approximately $125 million in the first quarter of 2015.

The assumed health care cost trend rate for Medicare eligibles and non-Medicare eligibles is approximately 6.38% in 2017, gradually declining to 4.5% in 2039. Assumed health care cost trend rates have a small effect on the amounts reported for the U.S. health care plans because the Company caps its share of health care trend at 5%. A one percentage point change in assumed health care cost trend rates would have no effect on the total service and interest cost components or the postretirement benefit

obligation.

Estimated Future Contributions

The Company expects to contribute approximately $27 million to its U.S. plans in 2018. The Company's policy for funding its tax-qualified defined benefit retirement plans is to contribute amounts at least sufficient to meet the funding requirements set forth in the U.S. and applicable foreign law.

Non-U.S. Plans

The following schedules provide information concerning the Company's non-U.S. defined benefit pension plans and non-U.S. postretirement benefit plans:

	Non-U.S. Pension Benefits		Non-U.S. Postretirement Benefits	
(In millions of dollars)	**2017**	2016	**2017**	2016
Change in benefit obligation:				
Benefit obligation at beginning of year	**$ 9,670**	$ 9,076	**$ 81**	$ 79
Service cost	**76**	72	**1**	2
Interest cost	**233**	273	**2**	3
Employee contributions	**7**	7	**—**	—
Actuarial (gain) loss	**(149)**	1,966	**—**	5
Plan amendments	**—**	(49)	**(17)**	—
Effect of settlement	**(211)**	(27)	**—**	—
Effect of curtailment	**(1)**	(7)	**—**	—
Benefits paid	**(291)**	(352)	**(3)**	(3)
Foreign currency changes	**703**	(1,290)	**4**	(5)
Other	**16**	1	**—**	—
Benefit obligation December 31	**$ 10,053**	$ 9,670	**$ 68**	$ 81
Change in plan assets:				
Fair value of plan assets at beginning of year	**$ 10,017**	$ 9,826	**$ —**	$ —
Actual return on plan assets	**875**	1,815	**—**	—
Effect of settlement	**(211)**	(27)	**—**	—
Company contributions	**229**	187	**3**	3
Employee contributions	**7**	7	**—**	—
Benefits paid	**(291)**	(352)	**(3)**	(3)
Foreign currency changes	**749**	(1,439)	**—**	—
Other	**13**	—	**—**	—
Fair value of plan assets, December 31	**$ 11,388**	$ 10,017	**$ —**	$ —
Net funded status, December 31	**$ 1,335**	$ 347	**$ (68)**	$ (81)
Amounts recognized in the consolidated balance sheets:				
Non-current assets	**$ 1,684**	$ 766	**$ —**	$ —
Current liabilities	**(6)**	(5)	**(4)**	(3)
Non-current liabilities	**(343)**	(414)	**(64)**	(78)
Net asset (liability) recognized, December 31	**$ 1,335**	$ 347	**$ (68)**	$ (81)
Amounts recognized in other comprehensive (loss) income:				
Prior service credit	**$ 43**	$ 43	**$ 15**	$ —
Net actuarial loss	**(2,646)**	(3,081)	**(10)**	(11)
Total recognized accumulated other comprehensive (loss) income, December 31	**$ (2,603)**	$ (3,038)	**$ 5**	$ (11)
Cumulative employer contributions in excess of (less than) net periodic cost	**3,938**	3,385	**(73)**	(70)
Net asset (liability) recognized in consolidated balance sheets, December 31	**$ 1,335**	$ 347	**$ (68)**	$ (81)
Accumulated benefit obligation, December 31	**$ 9,783**	$ 9,397	**$ —**	$ —

	Non-U.S. Pension Benefits		Non-U.S. Postretirement Benefits	
(In millions of dollars)	**2017**	2016	**2017**	2016
Reconciliation of prior service credit (cost) recognized in accumulated other comprehensive income (loss):				
Beginning balance	**$ 43**	$ (3)	**$ —**	$ —
Recognized as component of net periodic benefit credit:				
Amortization of prior service credit	**(2)**	(1)	**(2)**	—
Effect of curtailment	**(1)**	—	**—**	—
Total recognized as component of net periodic benefit credit	**(3)**	(1)	**(2)**	—
Changes in plan assets and benefit obligations recognized in other comprehensive income:				
Plan amendments	**—**	49	**17**	—
Exchange rate adjustments	**3**	(2)	**—**	—
Prior service credit, December 31	**$ 43**	$ 43	**$ 15**	$ —

	Non-U.S. Pension Benefits		Non-U.S. Postretirement Benefits	
(In millions of dollars)	**2017**	2016	**2017**	2016
Reconciliation of net actuarial (loss) gain recognized in accumulated other comprehensive (loss) income:				
Beginning balance	**$ (3,081)**	$ (2,887)	**$ (11)**	$ (6)
Recognized as component of net periodic benefit cost:				
Amortization of net loss	**130**	94	**1**	—
Effect of settlement	**54**	—	**—**	—
Total recognized as component of net periodic benefit credit	**184**	94	**1**	—
Changes in plan assets and benefit obligations recognized in other comprehensive income (loss):				
Liability experience	**149**	(1,966)	**—**	(5)
Asset experience	**311**	1,254	**—**	—
Other	**(5)**	—	**—**	—
Effect of curtailment	**1**	3	**—**	—
Total amount recognized as change in plan assets and benefit obligations	**456**	(709)	**—**	(5)
Exchange rate adjustments	**(205)**	421	**—**	—
Net actuarial loss, December 31	**$ (2,646)**	$ (3,081)	**$ (10)**	$ (11)

For the Years Ended December 31,	Non-U.S. Pension Benefits			Non-U.S. Postretirement Benefits		
(In millions of dollars)	**2017**	2016	2015	**2017**	2016	2015
Total recognized in net periodic benefit cost and other comprehensive loss (income)	**$ (513)**	$ 21	$ (407)	**$ (14)**	$ 10	$ (2)

Estimated amounts that will be amortized from accumulated other comprehensive loss to net periodic pension cost in the next fiscal year:

	Non-U.S. Pension Benefits	Non-U.S. Postretirement Benefits
(In millions of dollars)	**2018**	**2018**
Prior service credit	**$ (2)**	**$ (2)**
Net actuarial loss	**90**	**—**
Projected cost	**$ 88**	**$ (2)**

The weighted average actuarial assumptions utilized for the non-U.S. defined and postretirement benefit plans as of the end of the year are as follows:

	Non-U.S. Pension Benefits		Non-U.S. Postretirement Benefits	
	2017	2016	**2017**	2016
Weighted average assumptions:				
Discount rate (for expense)	**2.69%**	3.71%	**3.42%**	4.00%
Expected return on plan assets	**6.07%**	6.36%	**—**	—
Rate of compensation increase (for expense)	**2.85%**	2.72%	**—**	—
Discount rate (for benefit obligation)	**2.58%**	2.69%	**2.97%**	3.42%
Rate of compensation increase (for benefit obligation)	**2.80%**	2.85%	**—**	—

The projected benefit obligation, accumulated benefit obligation and fair value of plan assets for the non-U.S. pension plans with accumulated benefit obligations in excess of plan assets were $1.3 billion, $1.2 billion and $1.0 billion, respectively, as of December 31, 2017 and $1.2 billion, $1.2 billion and $0.9 billion, respectively, as of December 31, 2016.

The projected benefit obligation and fair value of plan assets for non-U.S. pension plans with projected benefit obligations in excess of plan assets was $2.2 billion and $1.9 billion, respectively, as of December 31, 2017 and $2.1 billion and $1.7 billion, respectively, as of December 31, 2016.

Non-U.S. Plan Amendments

In March 2017, the Company modified its defined benefit pension plans in Canada to discontinue further benefit accruals for participants after December 31, 2017 and replaced them with a defined contribution arrangement. The Company also amended its post-retirement benefits plan in Canada so that individuals who retire after April 1, 2019 will not be eligible to participate, except in certain situations. The Company re-measured the assets and liabilities of the plans, based on assumptions and market conditions on the amendment date.

Effective August 1, 2015, the Company amended its Ireland defined benefit pension plans to close those plans to future benefit accruals and replaced those plans with a defined contribution arrangement. The Company re-measured the assets and liabilities of the plans, based on assumptions and market conditions on the amendment date. The net periodic pension costs recognized in 2015 reflect the weighted average costs of the December 31, 2014 measurement and the August 1, 2015 re-measurement.

After completion of a consultation period with affected colleagues, in January 2015, the Company amended its U.K. defined benefit pension plans to close those plans to future benefit accruals effective August 1, 2015 and replaced those plans, along with its existing defined contribution plans, with a new, comprehensive defined contribution arrangement. This change resulted in a curtailment of the U.K. defined benefit plans and, as required under GAAP, the Company re-measured the defined benefit plans' assets and liabilities at the amendment date, based on assumptions and market conditions at that date. The net periodic benefit costs recognized in 2015 are the weighted average resulting from the December 31, 2014 measurement and the January 2015 re-measurement.

Components of Net Periodic Benefits Costs

The components of the net periodic benefit cost for the non-U.S. defined benefit and other postretirement benefit plans and the curtailment, settlement and termination expenses are as follows:

For the Years Ended December 31,	Non-U.S. Pension Benefits			Non-U.S. Postretirement Benefits		
(In millions of dollars)	**2017**	2016	2015	**2017**	2016	2015
Service cost	**$ 76**	$ 72	$ 82	**$ 1**	$ 2	$ 2
Interest cost	**233**	273	333	**2**	3	3
Expected return on plan assets	**(564)**	(561)	(604)	**—**	—	—
Amortization of prior service credit	**(2)**	(1)	(1)	**(2)**	—	—
Recognized actuarial loss	**130**	94	125	**1**	—	1
Net periodic benefit (credit) cost	**(127)**	(123)	(65)	**2**	5	6
Settlement loss	**54**	—	1	**—**	—	—
Curtailment (gain) loss	**(1)**	(4)	5	**—**	—	—
Total (credit) cost	**$ (74)**	$ (127)	$ (59)	**$ 2**	$ 5	$ 6

The non-U.S. pension credit in 2017 includes the impact of the pension settlement charge in the U.K., as previously discussed.

The assumed health care cost trend rate was approximately 5.12% in 2017, gradually declining to 4.41% in 2027. Assumed health care cost trend rates can have a significant effect on the amounts reported for the non-U.S. health care plans. A one percentage point change in assumed health care cost trend rates would have the following effects:

(In millions of dollars)	1 Percentage Point Increase	1 Percentage Point Decrease
Effect on total of service and interest cost components	$ —	$ —
Effect on postretirement benefit obligation	$ 7	$ (6)

Estimated Future Contributions

The Company expects to contribute approximately $82 million to its non-U.S. pension plans in 2018. Funding requirements for non-U.S. plans vary by country. Contribution rates are generally based on local funding practices and requirements, which may differ significantly from measurements under U.S. GAAP. Funding amounts may be influenced by future asset performance, the level of discount rates and other variables impacting the assets and/or liabilities of the plan. Discretionary contributions may also be affected by alternative uses of the Company's cash flows, including dividends, investments and share repurchases.

In the U.K., the assumptions used to determine pension contributions are the result of legally-prescribed negotiations between the Company and the plans' trustee that typically occurs every three years in conjunction with the actuarial valuation of the plans. Currently, this results in a lower funded status than under U.S. GAAP and may result in contributions irrespective of the U.S. GAAP funded status. In November 2016, the Company and the Trustee of the U.K. Defined Benefits Plans agreed to a funding deficit recovery plan for the U.K. defined benefit pension plans. The current agreement with the Trustee sets out the annual deficit contributions which would be due based on the deficit at December 31, 2015. The funding level is subject to re-assessment, in most cases on November 1 of each year. If the funding level on November 1 is sufficient, no deficit funding contributions will be required in the following year, and the contribution amount will be deferred. The funding level was re-assessed on November 1, 2017 and no deficit funding contributions are required in 2018. The funding level will be re-assessed on November 1, 2018. As part of a long-term strategy, which depends on having greater influence over asset allocation and overall investment decisions, in November 2016 the Company renewed its agreement to support annual deficit contributions by the U.K. operating companies under certain circumstances, up to GBP 450 million over a seven-year period.

Estimated Future Benefit Payments

The estimated future benefit payments for the Company's pension and postretirement benefit plans are as follows:

For the Years Ended December 31,	Pension Benefits		Postretirement Benefits	
(In millions of dollars)	U.S.	Non-U.S.	U.S.	Non-U.S.
2018	$ 254	$ 279	$ 4	$ 3
2019	$ 268	$ 297	$ 4	$ 4
2020	$ 285	$ 305	$ 4	$ 4
2021	$ 294	$ 316	$ 4	$ 3
2022	$ 303	$ 326	$ 3	$ 3
2023-2027	$ 1,642	$ 1,837	$ 14	$ 17

Defined Benefit Plans Fair Value Disclosures

The U.S. and non-U.S. plan investments are classified into Level 1, which refers to investments valued using quoted prices from active markets for identical assets; Level 2, which refers to investments not traded on an active market but for which observable market inputs are readily available; Level 3, which refers to investments valued based on significant unobservable inputs; and NAV, which refers to investments valued using net asset value as a practical expedient. Assets and liabilities are classified in their entirety based on the lowest level of input that is significant to the fair value measurement.

The following table sets forth, by level within the fair value hierarchy, a summary of the U.S. and non-U.S. plans' investments measured at fair value on a recurring basis at December 31, 2017 and 2016:

	Fair Value Measurements at December 31, 2017				
Assets *(In millions of dollars)*	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	NAV	Total
Common/collective trusts	$ 375	$ —	$ —	$ 7,611	$ 7,986
Corporate obligations	—	3,620	20	—	3,640
Corporate stocks	1,467	34	2	—	1,503
Private equity/partnerships	—	—	—	803	803
Government securities	15	556	—	—	571
Real estate	—	—	—	566	566
Short-term investment funds	391	16	—	—	407
Company common stock	326	—	—	—	326
Other investments	12	12	350	—	374
Total investments	$ 2,586	$ 4,238	$ 372	$ 8,980	$ 16,176

	Fair Value Measurements at December 31, 2016				
Assets *(In millions of dollars)*	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	NAV	Total
Common/collective trusts	$ 16	$ —	$ —	$ 6,805	$ 6,821
Corporate obligations	—	3,024	9	—	3,033
Corporate stocks	2,009	3	2	—	2,014
Private equity/partnerships	—	—	—	722	722
Government securities	11	380	—	—	391
Real estate	—	—	—	412	412
Short-term investment funds	297	22	—	—	319
Company common stock	270	—	—	—	270
Other investments	15	23	312	—	350
Total investments	$ 2,618	$ 3,452	$ 323	$ 7,939	$ 14,332

The tables below set forth a summary of changes in the fair value of the plans' Level 3 assets for the years ended December 31, 2017 and December 31, 2016:

Assets *(In millions)*	Fair Value, January 1, 2017	Purchases	Sales	Unrealized Gain/ (Loss)	Realized Gain/ (Loss)	Exchange Rate Impact	Transfers in/(out) and Other	Fair Value, December 31, 2017
Other investments	$ 312	$ 20	$ (15)	$ (7)	$ —	$ 40	$ —	$ 350
Corporate stocks	2	—	—	—	—	—	—	2
Corporate obligations	9	9	(1)	9	—	1	(7)	20
Total assets	$ 323	$ 29	$ (16)	$ 2	$ —	$ 41	$ (7)	$ 372

Assets *(In millions)*	Fair Value, January 1, 2016	Purchases	Sales	Unrealized Gain/ (Loss)	Realized Gain/ (Loss)	Exchange Rate Impact	Transfers in/(out) and Other	Fair Value, December 31, 2016
Other investments	$ 257	$ 27	$ (28)	$ 67	$ 1	$ (12)	$ —	$ 312
Corporate stocks	2	—	—	—	—	—	—	2
Corporate obligations	1	8	—	1	—	(1)	—	9
Total assets	$ 260	$ 35	$ (28)	$ 68	$ 1	$ (13)	$ —	$ 323

The following is a description of the valuation methodologies used for assets measured at fair value:

Company common stock: Valued at the closing price reported on the New York Stock Exchange.

Common stocks, preferred stocks, convertible equity securities, rights/warrants and real estate investment trusts (included in Corporate stocks): Valued at the closing price reported on the primary exchange.

Corporate bonds (included in Corporate obligations): The fair value of corporate bonds is estimated using recently executed transactions, market price quotations (where observable) and bond spreads. The spread data used are for the same maturity as the bond. If the spread data does not reference the issuer, then data that references a comparable issuer are used. When observable price quotations are not available, fair value is determined based on cash flow models.

Commercial mortgage-backed and asset-backed securities (included in Corporate obligations): Fair value is determined using discounted cash flow models. Observable inputs are based on trade and quote activity of bonds with similar features including issuer vintage, purpose of underlying loan (first or second lien), prepayment speeds and credit ratings. The discount rate is the combination of the appropriate rate from the benchmark yield curve and the discount margin based on quoted prices.

Common/Collective trusts: Valued at the net asset value of units of a bank collective trust. The net asset value as provided by the trustee, is used as a practical expedient to estimate fair value. The net asset value is based on the fair value of the underlying investments held by the fund less its liabilities. This practical expedient is not used when it is determined to be probable that the fund will sell the investment for an amount different than the reported net asset value.

U.S. government bonds (included in Government securities): The fair value of U.S. government bonds is estimated by pricing models that utilize observable market data including quotes, spreads and data points for yield curves.

U.S. agency securities (included in Government securities): U.S. agency securities are comprised of two main categories consisting of agency issued debt and mortgage pass-throughs. Agency issued debt securities are valued by benchmarking market-derived prices to quoted market prices and trade data for identical or comparable securities. Mortgage pass-throughs include certain "To-be-announced" (TBA) securities and mortgage pass-through pools. TBA securities are generally valued using quoted market prices or are benchmarked thereto. Fair value of mortgage pass-through pools are model driven with respect to spreads of the comparable TBA security.

Private equity and real estate partnerships: Investments in private equity and real estate partnerships are valued based on the fair value reported by the manager of the corresponding partnership and reported on a one quarter lag. The managers provide unaudited quarterly financial statements and audited annual financial statements which set forth the value of the fund. The valuations obtained from the managers are based on various analyses on the underlying holdings in each partnership, including financial valuation models and projections, comparable valuations from the public markets, and precedent private market transactions. Investments are valued in the accompanying financial statements based on the Plan's beneficial interest in the underlying net assets of the partnership as determined by the partnership agreement.

Insurance group annuity contracts: The fair values for these investments are based on the current market value of the aggregate accumulated contributions plus interest earned.

Swap assets (included in Other investments): Fair values for interest rate swaps, equity index swaps and inflation swaps are estimated using a discounted cash flow pricing model. These models use observable market data such as contractual fixed rate, spot equity price or index value and dividend data. The fair values of credit default swaps are estimated using an income approach model which determines expected cash flows based on default probabilities from the issuer-specific credit spread curve and credit loss recovery rates, both of which are dependent on market quotes.

Short-term investment funds: Primarily high-grade money market instruments valued at net asset value at year-end.

Registered investment companies: Valued at the closing price reported on the primary exchange.

Defined Contribution Plans

The Company maintains certain defined contribution plans for its employees, including the Marsh & McLennan Companies 401(k) Savings & Investment Plan ("401(k) Plan"), that are qualified under U.S. tax laws. Under these plans, eligible employees may contribute a percentage of their base salary, subject to certain limitations. For the 401(k) Plan, the Company matches a fixed portion of the employees' contributions. In addition, as mentioned above, as part of the modification to its U.S. defined benefit pension plans, the Company also amended its U.S. defined contribution retirement plans for most of its U.S. employees to add an automatic Company contribution equal to 4% of eligible base pay beginning on January 1, 2017. The 401(k) Plan contains an Employee Stock Ownership Plan feature under U.S. tax law. Approximately $499 million of the 401(k) Plan's assets at December 31, 2017 and $436 million at December 31, 2016 were invested in the Company's common stock. If a participant does not choose an investment direction for his or her future contributions, they are automatically invested in a BlackRock LifePath Portfolio that most closely matches the participant's expected retirement year. The cost of these defined contribution plans was $130 million in 2017, $53 million in 2016 and $51 million in 2015. The increase in cost in 2017 as compared to 2016 is primarily due to the additional automatic Company contribution mentioned above. In addition, the Company has a significant defined contribution plan in the U.K. As noted above, effective August 1, 2014, a newly formed defined contribution plan replaced the existing defined contribution and defined benefit plans with regard to future service. The cost of the U.K. defined contribution plan was $75 million, $81 million and $93 million in 2017, 2016 and 2015, respectively. The decrease in cost over the past three years is primarily due to the impact of foreign currency translation.

8. Stock Benefit Plans

The Company maintains multiple stock-based payment arrangements under which employees are awarded grants of restricted stock units, stock options and other forms of stock-based benefits.

Marsh & McLennan Companies, Inc. Incentive and Stock Award Plans

On May 19, 2011, the Marsh & McLennan Companies, Inc. 2011 Incentive and Stock Award Plan (the "2011 Plan") was approved by the Company's stockholders. The 2011 Plan replaced the Company's two previous equity incentive plans (the 2000 Senior Executive Incentive and Stock Award Plan and the 2000 Employee Incentive and Stock Award Plan).

The types of awards permitted under the 2011 Plan include stock options, restricted stock and restricted stock units payable in Company common stock or cash, and other stock-based and performance-based awards. The Compensation Committee of the Board of Directors (the "Compensation Committee") determines, at its discretion, which affiliates may participate in the 2011 Plan, which eligible employees will receive awards, the types of awards to be received, and the terms and conditions thereof. The right of an employee to receive an award may be subject to performance conditions as specified by the Compensation Committee. The 2011 Plan contains a provision which, in the event of a change in control of the Company, may accelerate the vesting of the awards. This provision requires both a change in control of the Company and a subsequent specified termination of employment for vesting to be accelerated.

The 2011 Plan retains the remaining share authority of the two previous plans as of the date the 2011 Plan was approved by stockholders. Thus, approximately 23.2 million shares of common stock, plus shares remaining unused under the previous plans, are available for awards over the life of the 2011 Plan.

The current practice is to grant non-qualified stock options, restricted stock units and/or performance stock units ("PSUs") on an annual basis to senior executives and a limited number of other employees as part of their total compensation. Restricted stock units are also granted to new hires or as retention awards for certain employees. Restricted stock has not been granted since 2005.

Stock Options: Options granted under the 2011 Plan may be designated as either incentive stock options or non-qualified stock options. The Compensation Committee determines the terms and conditions of the option, including the time or times at which an option may be exercised, the methods by which such exercise price may be paid, and the form of such payment. Options are generally granted with an exercise price equal to the market value of the Company's common stock on the date of grant. These option awards generally vest 25% per annum and have a contractual term of 10 years.

The estimated fair value of options granted is calculated using the Black-Scholes option pricing valuation model. This model takes into account several factors and assumptions. The risk-free interest rate is based on the yield on U.S. Treasury zero-coupon issues with a remaining term equal to the expected life assumption at the time of grant. The expected life (estimated period of time outstanding) is estimated using the contractual term of the option and the effects of employees' expected exercise and post-vesting employment termination behavior. The Company uses a blended volatility rate based on the following: (i) volatility derived from daily closing price observations for the 10-year period ended on the valuation date, (ii) implied volatility derived from traded options for the period one week before the valuation date and (iii) average volatility for the 10-year periods ended on 15 anniversaries prior to the valuation date, using daily closing price observations. The expected dividend yield is based on expected dividends for the expected term of the stock options.

The assumptions used in the Black-Scholes option pricing valuation model for options granted by the Company in 2017, 2016 and 2015 are as follows:

	2017	2016	2015
Risk-free interest rate	**2.09%**	1.39%	1.78%
Expected life (in years)	**6.0**	6.0	6.0
Expected volatility	**23.23%**	25.55%	23.75%
Expected dividend yield	**1.86%**	2.15%	1.97%

A summary of the status of the Company's stock option awards as of December 31, 2017 and changes during the year then ended is presented below:

	Shares	Weighted Average Exercise Price	Weighted Average Remaining Contractual Term	Aggregate Intrinsic Value ($000)
Balance at January 1, 2017	**13,242,529**	**$ 39.15**		
Granted	**1,710,853**	**$ 73.20**		
Exercised	**(4,258,027)**	**$ 30.42**		
Forfeited	**(494,653)**	**$ 62.00**		
Balance at December 31, 2017	**10,200,702**	**$ 47.39**	**5.9 years**	**$ 351,317**
Options vested or expected to vest at December 31, 2017	**10,052,720**	**$ 47.17**	**5.9 years**	**$ 348,494**
Options exercisable at December 31, 2017	**6,247,224**	**$ 37.75**	**4.6 years**	**$ 275,398**

In the above table, forfeited options are unvested options whose requisite service period has not been met. Expired options are vested options that were not exercised. The weighted-average grant-date fair value of the Company's option awards granted during the years ended December 31, 2017, 2016 and 2015 was $15.01, $11.57 and $11.34, respectively. The total intrinsic value of options exercised during the same periods was $195.3 million, $137.7 million and $124.6 million, respectively.

As of December 31, 2017, there was $14.9 million of unrecognized compensation cost related to the Company's option awards. The weighted-average period over which that cost is expected to be recognized is approximately 1.36 years. Cash received from the exercise of stock options for the years ended December 31, 2017, 2016 and 2015 was $126.7 million, $105.4 million and $134.7 million, respectively.

The Company's policy is to issue treasury shares upon option exercises or share unit conversion. The Company intends to issue treasury shares as long as an adequate number of those shares is available.

Restricted Stock Units and Performance Stock Units: Restricted stock units may be awarded under the Company's 2011 Incentive and Stock Award Plan. The Compensation Committee determines the restrictions on such units, when the restrictions lapse, when the units vest and are paid, and under what terms the units are forfeited. The cost of these awards is amortized over the vesting period, which is generally three years. Awards to senior executives and other employees may include three-year performance-based restricted stock units and three-year service-based restricted stock units. The payout of performance stock units (payable in shares of the Company's common stock) ranges, generally, from 0-200% of the number of units granted, based on the achievement of objective, pre-determined Company performance measure(s), generally, over a three-year performance period. The Company accounts for these awards as performance condition restricted stock units. The performance condition is not considered in the determination of grant date fair value of such awards. Compensation cost is recognized over the performance period based on management's estimate of the number of units expected to vest and shares to be paid and is adjusted to reflect the actual number of shares paid out at the end of the three-year performance period. Dividend equivalents are not paid out unless and until such time that the award vests.

A summary of the status of the Company's restricted stock units and performance stock units as of December 31, 2017 and changes during the period then ended is presented below:

	Restricted Stock Units		Performance Stock Units	
	Shares	Weighted Average Grant Date Fair Value	Shares	Weighted Average Grant Date Fair Value
Non-vested balance at January 1, 2017	3,044,029	$ 56.40	722,017	$ 54.68
Granted	2,610,599	$ 73.23	260,387	$ 73.20
Vested	(1,307,825)	$ 55.31	(212,458)	$ 48.19
Forfeited	(294,056)	$ 65.06	(79,345)	$ 61.92
Non-vested balance at December 31, 2017	4,052,747	$ 66.97	690,601	$ 62.82

The weighted-average grant-date fair value of the Company's restricted stock units granted during the years ended December 31, 2016 and 2015 was $57.54 and $56.81, respectively. The weighted average grant date fair value of the Company's performance stock units granted during the years ended December 31, 2016 and 2015 was $57.47 and $57.33, respectively. The total fair value of the shares distributed during the years ended December 31, 2017, 2016 and 2015 in connection with the Company's non-option equity awards was $117.1 million, $91.4 million and $114.3 million, respectively.

The payout of shares in 2017 with respect to the PSUs awarded in 2014 was 120% of target based on performance for the three-year performance period. The payout of shares with respect to the PSUs that vested in 2017 due to certain types of termination was based on performance for the abbreviated performance period. In aggregate, 254,455 shares became distributable in respect to PSUs vested in 2017.

As of December 31, 2017, there was $197.4 million of unrecognized compensation cost related to the Company's restricted stock units and performance stock unit awards. The weighted-average period over which that cost is expected to be recognized is approximately 1.08 years.

Marsh & McLennan Companies Stock Purchase Plans

In May 1999, the Company's stockholders approved an employee stock purchase plan (the "1999 Plan") to replace the 1994 Employee Stock Purchase Plan (the "1994 Plan"), which terminated on September 30, 1999 following its fifth annual offering. Under the current terms of the Plan, shares are purchased four times during the plan year at a price that is 95% of the average market price on each quarterly purchase date. Under the 1999 Plan, after including the available remaining unused shares in the 1994 Plan and reducing the shares available by 10,000,000 consistent with the Company's Board of Directors' action in March 2007, no more than 35,600,000 shares of the Company's common stock may be sold. Employees purchased 428,244 shares during the year ended December 31, 2017 and at December 31, 2017, 1,353,166 shares were available for issuance under the 1999 Plan. Under the 1995 Company Stock Purchase Plan for International Employees (the "International Plan"), after reflecting the additional 5,000,000 shares of common stock for issuance approved by the Company's Board of Directors in July 2002, and the addition of 4,000,000 shares due to a shareholder action in May 2007, no more than 12,000,000 shares of the Company's common stock may be sold. Employees purchased 121,292 shares during the year ended December 31, 2017 and there were 2,491,910 shares available for issuance at December 31, 2017 under the International Plan. The plans are considered non-compensatory.

9. Fair Value Measurements

Fair Value Hierarchy

The Company has categorized its assets and liabilities that are valued at fair value on a recurring basis into a three-level fair value hierarchy as defined by the FASB. The fair value hierarchy gives the highest priority to quoted prices in active markets for identical assets and liabilities (Level 1) and lowest priority to unobservable inputs (Level 3). In some cases, the inputs used to measure fair value might fall into different levels of the fair value hierarchy. In such cases, the level in the fair value hierarchy, for disclosure purposes, is determined based on the lowest level input that is significant to the fair value measurement. Assets and liabilities recorded in the consolidated balance sheets at fair value are categorized based on the inputs in the valuation techniques as follows:

Level 1. Assets and liabilities whose values are based on unadjusted quoted prices for identical assets or liabilities in an active market (examples include active exchange-traded equity securities and exchange-traded money market mutual funds).

Assets and liabilities using Level 1 inputs include exchange-traded equity securities, exchange-traded mutual funds and money market funds.

Level 2. Assets and liabilities whose values are based on the following:

a) Quoted prices for similar assets or liabilities in active markets;

b) Quoted prices for identical or similar assets or liabilities in non-active markets (examples include corporate and municipal bonds, which trade infrequently);

c) Pricing models whose inputs are observable for substantially the full term of the asset or liability (examples include most over-the-counter derivatives, including interest rate and currency swaps); and

d) Pricing models whose inputs are derived principally from or corroborated by observable market data through correlation or other means for substantially the full asset or liability (for example, certain mortgage loans).

The Company does not have any assets or liabilities that use Level 2 inputs.

Level 3. Assets and liabilities whose values are based on prices, or valuation techniques that require inputs that are both unobservable and significant to the overall fair value measurement. These inputs reflect management's own assumptions about the assumptions a market participant would use in pricing the asset or liability (certain commercial mortgage whole loans, and long-dated or complex derivatives including certain foreign exchange options and long-dated options on gas and power).

Liabilities using Level 3 inputs include liabilities for contingent purchase consideration.

Valuation Techniques

Equity Securities, Money Market Funds and Mutual Funds - Level 1

Investments for which market quotations are readily available are valued at the sale price on their principal exchange or, for certain markets, official closing bid price. Money market funds are valued using a valuation technique that results in price per share at $1.00.

Contingent Purchase Consideration Liability - Level 3

Purchase consideration for some acquisitions made by the Company includes contingent consideration arrangements. These arrangements typically provide for the payment of additional consideration if earnings and revenue targets are met over periods from two to four years. The fair value of contingent consideration is estimated as the present value of future cash flows resulting from the projected revenue and earnings of the acquired entities.

The following fair value hierarchy table presents information about the Company's assets and liabilities measured at fair value on a recurring basis as of December 31, 2017 and 2016:

(In millions of dollars)	Identical Assets (Level 1)		Observable Inputs (Level 2)		Unobservable Inputs (Level 3)		Total	
	12/31/17	12/31/16	**12/31/17**	12/31/16	**12/31/17**	12/31/16	**12/31/17**	12/31/16
Assets:								
Financial instruments owned:								
Exchange traded equity securities [a]	**$ 81**	$ 89	**$ —**	$ —	**$ —**	$ —	**$ 81**	$ 89
Mutual funds [a]	**158**	141	**—**	—	**—**	—	**158**	141
Money market funds [b]	**143**	22	**—**	—	**—**	—	**143**	22
Total assets measured at fair value	**$ 382**	$ 252	**$ —**	$ —	**$ —**	$ —	**$ 382**	$ 252
Fiduciary Assets:								
Money market funds	**$ 111**	$ 90	**$ —**	$ —	**$ —**	$ —	**$ 111**	$ 90
Total fiduciary assets measured at fair value	**$ 111**	$ 90	**$ —**	$ —	**$ —**	$ —	**$ 111**	$ 90
Liabilities:								
Contingent purchase consideration liability [c]	**$ —**	$ —	**$ —**	$ —	**$ 189**	$ 241	**$ 189**	$ 241
Total liabilities measured at fair value	**$ —**	$ —	**$ —**	$ —	**$ 189**	$ 241	**$ 189**	$ 241

(a) Included in other assets in the consolidated balance sheets.
(b) Included in cash and cash equivalents in the consolidated balance sheets.
(c) Included in accounts payable and accrued liabilities and other liabilities in the consolidated balance sheets.

During the year ended December 31, 2017, there were no assets or liabilities that were transferred between any of the levels.

The table below sets forth a summary of the changes in fair value of the Company's Level 3 liabilities for the years ended December 31, 2017 and December 31, 2016 that represent contingent purchase consideration related to acquisitions:

(In millions)	**2017**	2016
Balance at January 1,	**$ 241**	$ 309
Additions	**51**	17
Payments	**(108)**	(86)
Revaluation Impact	**3**	9
Other [a]	**2**	(8)
Balance at December 31,	**$ 189**	$ 241

[a] Primarily reflects the impact of foreign exchange.

The fair value of the contingent purchase consideration liability is based on projections of revenue and earnings for the acquired entities that are reassessed on a quarterly basis. As set forth in the table above, based on the Company's ongoing assessment of the fair value of contingent consideration, the Company recorded a net increase in the estimated fair value of such liabilities for prior period acquisitions of $3 million for the year ended December 31, 2017. A 5% increase in the above mentioned projections would increase the liability by approximately $18 million. A 5% decrease in the above mentioned projections would decrease the liability by approximately $19 million.

Long-Term Investments

The Company holds investments in certain private equity investments, public companies and private companies that are accounted for using the equity method of accounting. The carrying value of these investments was $405 million and $389 million at December 31, 2017 and 2016, respectively.

Private Equity Investments

The Company's investments in private equity funds were $76 million and $79 million at December 31, 2017 and December 31, 2016, respectively. The carrying values of these private equity investments approximates fair value. The underlying private equity funds follow investment company accounting, where investments within the fund are carried at fair value. The Company records in earnings, investment gains/losses for its proportionate share of the change in fair value of the funds. These investments are included in other assets in the consolidated balance sheets.

Investments in Public and Private Companies

Alexander Forbes: The Company owns approximately 33% of the common stock of Alexander Forbes, a South African company listed on the Johannesburg Stock Exchange, which it purchased in 2014 for 7.50 South African Rand per share. As of December 31, 2017, the carrying value of the Company's investment in Alexander Forbes was approximately $266 million. As of December 31, 2017, the market value of the approximately 443 million shares of Alexander Forbes owned by the Company, based on the December 31, 2017 closing share price of 6.87 South African Rand per share, was approximately $239 million. The Company considered several factors in assessing its investment in Alexander Forbes, including its financial position, the near- and long-term prospects of Alexander Forbes and the broader South African economy and capital markets, the length of time and extent to which the market value was below cost and the Company's intent and ability to retain the investment for a sufficient period of time to allow for anticipated recovery in market value. The shares traded over a broad range during the year, with a high of 7.95 Rand and a low of 5.26 Rand, and experienced several cycles of price declines and recovery in 2017. The shares traded above 7.50 Rand multiple times during the fourth quarter of 2017. Based on its assessment of the factors discussed above, the Company determined the investment was not impaired.

The Company's investment in Alexander Forbes and its other equity investments in private insurance and consulting companies are accounted for using the equity method of accounting, the results of which are included in revenue in the consolidated income statements and the carrying value of which is included in other assets in the consolidated balance sheets. The Company records its share of income or loss on its equity method investments on a one quarter lag basis.

Benefitfocus: On February 24, 2015, Mercer purchased shares of common stock of Benefitfocus (NASDAQ:BNFT) constituting approximately 9.9% of BNFT's outstanding capital stock as of the acquisition date. The purchase price for the BNFT shares and certain other rights and other consideration was approximately $75 million. Until December 31, 2016, the Company accounted for this investment under the cost method of accounting as the shares purchased were categorized as restricted. Effective December 31, 2016, these shares were no longer considered restricted for the purpose of determining if they are marketable securities under applicable accounting guidance, and are now accounted for as available for sale securities and included in other assets in the consolidated balance sheets. The value of the BNFT shares based on the closing price on the NASDAQ at December 31, 2017 was approximately $76 million.

Deconsolidation of a Subsidiary

Marsh operates in India through Marsh India Insurance Brokers Limited (Marsh India), which is owned 26% by Marsh and 74% by local shareholders. Prior to the second quarter of 2016, under the terms of its shareholders' agreement with the local shareholders, Marsh had a controlling financial interest in Marsh India and its results were consolidated as required under U.S. GAAP. Under the Insurance Laws (Amendment) Act 2015 of India and related regulations issued by the Indian Insurance Regulatory and Development Authority, Indian insurance companies (including insurance intermediaries and brokers like Marsh India) must now be controlled by Indian promoters or Indian investors.

In the second quarter of 2016, the shareholders' agreement among the shareholders of Marsh India was amended to comply with these new regulations, which resulted in Marsh no longer having a controlling financial interest under U.S. GAAP. In accordance with U.S. GAAP, the Company was required to deconsolidate Marsh India and recognize its interest in Marsh India at fair value, with the difference between the carrying value and fair value recognized in earnings. The Company estimated the fair value of its interest in Marsh India, primarily using a discounted cash flow approach, which considered various

cash flow scenarios and a discount rate appropriate for the investment. Certain provisions relating to restrictions on sales and repurchase of shares of Marsh India owned by its employees were also required to be removed by the new regulations. As a result, the deferred compensation expense related to those shares was accelerated in the second quarter of 2016. The net gain on the Company's pre-tax income as a result of these changes was approximately $11 million, which is included in revenue for the year ended 2016. Beginning on May 1, 2016, the Company accounted for its investment in Marsh India using the equity method of accounting.

The summarized financial information presented below reflects the aggregated financial information of all equity method investees as of and for the twelve months ended September 30 of each year (or portion of those twelve months the Company owned its investment), consistent with the Company's recognition of the results of its equity method investments on a one quarter lag. The investment income information presented below reflects the net realized and unrealized gains/losses, net of expenses, related to the Company's investments in several private equity funds. Certain of the Company's equity method investments, including Alexander Forbes, have unclassified balance sheets. Therefore, the asset and liability information presented below are not split between current and non-current.

Below is a summary of the financial information for the Company's equity method investees:

For the Twelve Months Ended September 30, *(In millions of dollars)*		**2017**		2016		2015
Revenue	$	**628**	$	843	$	1,018
Net investment income (a)	$	**1,834**	$	1,824	$	1,620
Net income	$	**476**	$	91	$	196

As of September 30, *(In millions of dollars)*		**2017**		2016
Total assets	$	**24,739**	$	22,997
Total liabilities	$	**22,817**	$	21,087
Non-controlling interests	$	**19**	$	12

(a) Net investment income in 2017, 2016 and 2015 includes approximately $1.5 billion, $1.9 billion and $1.5 billion, respectively, related to Alexander Forbes, substantially all of which is credited to policy holders.

10. Long-term Commitments

The Company leases office facilities, equipment and automobiles under non-cancelable operating leases. These leases expire on varying dates, in some instances contain renewal and expansion options, do not restrict the payment of dividends or the incurrence of debt or additional lease obligations, and contain no significant purchase options. In addition to the base rental costs, occupancy lease agreements generally provide for rent escalations resulting from increased assessments for real estate taxes and other charges. Approximately 99% of the Company's lease obligations are for the use of office space.

The consolidated statements of income include net rental costs of $354 million, $367 million and $381 million for 2017, 2016 and 2015, respectively, after deducting rentals from subleases ($8 million in 2017, $9 million in 2016 and $14 million in 2015). These net rental costs exclude rental costs and sublease income for previously accrued restructuring charges related to vacated space.

At December 31, 2017, the aggregate future minimum rental commitments under all non-cancelable operating lease agreements are as follows:

For the Years Ended December 31, *(In millions of dollars)*	Gross Rental Commitments	Rentals from Subleases	Net Rental Commitments
2018	$ 355	$ 41	$ 314
2019	$ 316	$ 34	$ 282
2020	$ 291	$ 31	$ 260
2021	$ 226	$ 3	$ 223
2022	$ 207	$ 1	$ 206
Subsequent years	$ 773	$ 1	$ 772

The Company has entered into agreements, primarily with various service companies, to outsource certain information systems activities and responsibilities and processing activities. Under these agreements, the Company is required to pay minimum annual service charges. Additional fees may be payable depending upon the volume of transactions processed, with all future payments subject to increases for inflation. At December 31, 2017, the aggregate fixed future minimum commitments under these agreements are as follows:

For the Years Ended December 31, *(In millions of dollars)*	Future Minimum Commitments
2018	$ 228
2019	106
2020	28
Subsequent years	25
	$ 387

11. Debt

The Company's outstanding debt is as follows:

December 31, *(In millions)*	2017	2016
Short-term:		
Commercial paper	$ —	$ 50
Current portion of long-term debt	**262**	262
	262	312
Long-term:		
Senior notes – 2.30% due 2017	—	250
Senior notes – 2.55% due 2018	**250**	249
Senior notes – 2.35% due 2019	**299**	299
Senior notes – 2.35% due 2020	**498**	497
Senior notes – 4.80% due 2021	**498**	498
Senior notes – 2.75% due 2022	**496**	—
Senior notes – 3.30% due 2023	**348**	347
Senior notes – 4.05% due 2023	**248**	248
Senior notes – 3.50% due 2024	**596**	596
Senior notes – 3.50% due 2025	**496**	495
Senior notes – 3.75% due 2026	**596**	596
Senior notes – 5.875% due 2033	**297**	297
Senior notes – 4.35% due 2047	**492**	—
Mortgage – 5.70% due 2035	**370**	382
Other	**3**	3
	5,487	4,757
Less current portion	**262**	262
	$ 5,225	$ 4,495

The senior notes in the table above are registered by the Company with the Securities and Exchange Commission, and are not guaranteed.

The Company has established a short-term debt financing program of up to $1.5 billion through the issuance of commercial paper. The proceeds from the issuance of commercial paper are used for general corporate purposes. The Company had no commercial paper outstanding at December 31, 2017.

In January 2017, the Company issued $500 million of 2.75% senior notes due 2022 and $500 million of 4.35% senior notes due 2047. The Company used the net proceeds for general corporate purposes, including the repayment of a $250 million debt maturity in April 2017.

In March 2016, the Company issued $350 million of 3.30% seven-year senior notes. The Company used the net proceeds for general corporate purposes.

The Company and certain of its foreign subsidiaries maintain a $1.5 billion multi-currency five-year unsecured revolving credit facility. The interest rate on this facility is based on LIBOR plus a fixed margin which varies with the Company's credit ratings. This facility expires in November 2020 and requires the Company to maintain certain coverage and leverage ratios which are tested quarterly. There were no borrowings outstanding under this facility at December 31, 2017.

Additional credit facilities, guarantees and letters of credit are maintained with various banks, primarily related to operations located outside the United States, aggregating $624 million at December 31, 2017 and $376 million at December 31, 2016. There was $0 million of outstanding borrowings under these facilities at December 31, 2017 and $1.6 million of outstanding borrowings under these facilities at December 31, 2016.

Scheduled repayments of long-term debt in 2018 and in the four succeeding years are $262 million, $316 million, $514 million, $515 million and $515 million, respectively.

Fair value of Short-term and Long-term Debt

The estimated fair value of the Company's short-term and long-term debt is provided below. Certain estimates and judgments were required to develop the fair value amounts. The fair value amounts shown below are not necessarily indicative of the amounts that the Company would realize upon disposition, nor do they indicate the Company's intent or need to dispose of the financial instrument.

	December 31, 2017		December 31, 2016	
(In millions of dollars)	**Carrying Amount**	**Fair Value**	Carrying Amount	Fair Value
Short-term debt	**$ 262**	**$ 264**	$ 312	$ 313
Long-term debt	**$ 5,225**	**$ 5,444**	$ 4,495	$ 4,625

The fair value of the Company's short-term debt consists primarily of commercial paper and term debt maturing within the next year and its fair value approximates its carrying value. The estimated fair value of a primary portion of the Company's long-term debt is based on discounted future cash flows using current interest rates available for debt with similar terms and remaining maturities. Short- and long-term debt would be classified as Level 2 in the fair value hierarchy.

12. Integration and Restructuring Costs

In 2017, the Company implemented restructuring actions which resulted in costs totaling $40 million. Restructuring costs consist primarily for severance at Mercer, Marsh and Corporate, as well as future rent under non-cancelable leases at Corporate. These costs were incurred as follows: Risk and Insurance Services—$11 million; Consulting—$19 million; and Corporate—$10 million.

Details of the restructuring liability activity from January 1, 2016 through December 31, 2017, including actions taken prior to 2017, are as follows:

(In millions)	Balance at 1/1/16	Expense Incurred	Cash Paid	Other	Balance at 12/31/16	Expense Incurred	Cash Paid	Other	**Balance at 12/31/17**
Severance	$ 15	$ 40	$ (22)	$ (1)	$ 32	$ 31	$ (49)	$ 1	**$ 15**
Future rent under non-cancelable leases and other costs	78	4	(17)	(4)	61	9	(22)	2	**50**
Total	$ 93	$ 44	$ (39)	$ (5)	$ 93	$ 40	$ (71)	$ 3	**$ 65**

As of January 1, 2015, the liability balance related to restructuring activity was $92 million. In 2015, the Company accrued $28 million and had cash payments and other adjustments of $27 million related to restructuring activities that resulted in the liability balance at January 1, 2016 reported above.

The expenses associated with the above initiatives are included in compensation and benefits and other operating expenses in the consolidated statements of income. The liabilities associated with these initiatives are classified on the consolidated balance sheets as accounts payable and accrued liabilities, other liabilities, or accrued compensation and employee benefits, depending on the nature of the items.

13. Common Stock

During 2017, the Company repurchased 11.5 million shares of its common stock for total consideration of $900 million. In November 2016, the Board of Directors of the Company authorized the Company to repurchase up to $2.5 billion of the Company's common stock, which superseded any prior authorizations. The Company remains authorized to purchase additional shares of its common stock up to a value of approximately $1.5 billion. There is no time limit on the authorization. During 2016, the Company purchased 12.7 million shares of its common stock for total consideration of $800 million.

The Company issued approximately 5.8 million and 5.3 million shares related to stock compensation and employee stock purchase plans during the years ended December 31, 2017 and 2016, respectively.

14. Claims, Lawsuits and Other Contingencies

Litigation Matters

The Company and its subsidiaries are subject to a significant number of claims, lawsuits and proceedings in the ordinary course of business. Such claims and lawsuits consist principally of alleged errors and omissions in connection with the performance of professional services, including the placement of insurance, the provision of actuarial services for corporate and public sector clients, the provision of investment advice and investment management services to pension plans, the provision of advice relating to pension buy-out transactions and the provision of consulting services relating to the drafting and interpretation of trust deeds and other documentation governing pension plans. These claims may seek damages, including punitive and treble damages, in amounts that could be significant. In establishing liabilities for errors and omissions claims in accordance with FASB guidance on Contingencies - Loss Contingencies, the Company uses case level reviews by inside and outside counsel, and internal actuarial analysis by Oliver Wyman Group, a subsidiary of the Company, and other methods to estimate potential losses. A liability is established when a loss is both probable and reasonably estimable. The liability is reviewed quarterly and adjusted as developments warrant. In many cases, the Company has not recorded a liability, other than for legal fees to defend the claim, because we are unable, at the present time, to make a determination that a loss is both probable and reasonably estimable.

To the extent that expected losses exceed our deductible in any policy year, the Company also records an asset for the amount that we expect to recover under any available third-party insurance programs. The Company has varying levels of third-party insurance coverage, with policy limits and coverage terms varying significantly by policy year.

Governmental Inquiries and Enforcement Matters

Our activities are regulated under the laws of the United States and its various states, the European Union and its member states, and the other jurisdictions in which the Company operates.

Risk and Insurance Services Segment

In April 2017, the Financial Conduct Authority in the United Kingdom (the "FCA") commenced a civil competition investigation into the aviation insurance and reinsurance sector. In connection with that investigation, the FCA carried out an on-site inspection at the London office of Marsh Limited, our Marsh and Guy Carpenter operating subsidiary in the United Kingdom. The FCA indicated that it had reasonable grounds for suspecting that Marsh Limited and other participants in the market have been sharing competitively sensitive information within the aviation insurance and reinsurance broking sector.

In October 2017, the Company received a notice that the Directorate-General for Competition of the European Commission had commenced a civil investigation of a number of insurance brokers, including Marsh, regarding "the exchange of commercially sensitive information between competitors in relation to aviation and aerospace insurance and reinsurance broking products and services in the European Economic Area ("EEA"), as well as possible coordination between competitors." In light of the action taken by the European Commission, the FCA informed Marsh Limited at the same time that it has discontinued its investigation under U.K. competition law into the aviation insurance and reinsurance sector.

In July 2017, the Directorate-General for Competition of the European Commission together with the Irish Competition and Consumer Protection Commission conducted on-site inspections at the offices of Marsh and other industry participants in Dublin in connection with an investigation regarding the "possible participation in anticompetitive agreements and/or concerted practices contrary to [E.U. competition law] in the market for commercial motor insurance in the Republic of Ireland." In December 2017, we received a request from the Directorate-General for Competition of the European Commission seeking documents and information relating to its investigation.

We are cooperating with these investigations and are conducting our own reviews. As these investigations are at early stages, we are unable to predict their likely timing, outcome or ultimate impact.

There can be no assurance that the ultimate resolution of these or any related matters will not have a material adverse effect on our consolidated results of operations, financial condition or cash flows.

In November 2017, the FCA announced the terms of reference for a market study concerning the wholesale insurance broker sector in the United Kingdom, which affects Marsh and Guy Carpenter. The FCA is conducting the study to assess "how effective competition is working in the wholesale insurance broker sector" and "how brokers influence competition in the underwriting sector." The FCA is expected to publish its interim report in the fall of 2018, with a final report expected in 2019.

Consulting Segment

In June 2017, the FCA issued a final report in connection with a market study of the U.K. asset management industry, which includes asset managers and investment consultants, including Mercer. Following the report, in September 2017, the FCA announced its decision to refer the investment consulting and fiduciary management markets to the U.K. Competition & Markets Authority (the "CMA") for a market investigation. The CMA expects to conclude its investigation of the investment consulting and fiduciary management markets by March 2019.

In the ordinary course of business, the Company is also subject to other investigations, market studies, subpoenas, lawsuits and other regulatory actions undertaken by governmental authorities.

Other Contingencies-Guarantees

In connection with its acquisition of U.K.-based Sedgwick Group in 1998, the Company acquired several insurance underwriting businesses that were already in run-off, including River Thames Insurance Company Limited ("River Thames"), which the Company sold in 2001. Sedgwick guaranteed payment of claims on certain policies underwritten through the Institute of London Underwriters (the "ILU") by River Thames. The policies covered by this guarantee were reinsured up to £40 million by a related party of River Thames. Payment of claims under the reinsurance agreement is collateralized by segregated assets held in a trust. As of December 31, 2017, the reinsurance coverage exceeded the best estimate of the projected liability of the policies covered by the guarantee. To the extent River Thames or the reinsurer is unable to meet its obligations under those policies, a claimant may seek to recover from the Company under the guarantee.

From 1980 to 1983, the Company owned indirectly the English & American Insurance Company ("E&A"), which was a member of the ILU. The ILU required the Company to guarantee a portion of E&A's obligations. After E&A became insolvent in 1993, the ILU agreed to discharge the guarantee in exchange for the Company's agreement to post an evergreen letter of credit that is available to pay claims by policyholders on certain E&A policies issued through the ILU and incepting between July 3, 1980 and October 6, 1983. Certain claims have been paid under the letter of credit and the Company anticipates that additional claimants may seek to recover against the letter of credit.

* * * *

The pending proceedings described above and other matters not explicitly described in this Note 14 on Claims, Lawsuits and Other Contingencies may expose the Company or its subsidiaries to liability for significant monetary damages, fines, penalties or other forms of relief. Where a loss is both probable and reasonably estimable, the Company establishes liabilities in accordance with FASB guidance on Contingencies - Loss Contingencies. Except as described above, the Company is not able at this time to provide a reasonable estimate of the range of possible loss attributable to these matters or the impact they may have on the Company's consolidated results of operations, financial position or cash flows. This is primarily because these matters are still developing and involve complex issues subject to inherent uncertainty. Adverse determinations in one or more of these matters could have a material impact on the Company's consolidated results of operations, financial condition or cash flows in a future period.

15. Segment Information

The Company is organized based on the types of services provided. Under this structure, the Company's segments are:

- **Risk and Insurance Services**, comprising insurance services (Marsh) and reinsurance services (Guy Carpenter); and
- **Consulting**, comprising Mercer and Oliver Wyman Group

The accounting policies of the segments are the same as those used for the consolidated financial statements described in Note 1. Segment performance is evaluated based on segment operating income, which includes directly related expenses, and charges or credits related to integration and restructuring but not the Company's corporate-level expenses. Revenues are attributed to geographic areas on the basis of where the services are performed.

Selected information about the Company's segments and geographic areas of operation are as follows:

For the Year Ended December 31, *(In millions of dollars)*	Revenue	Operating Income (Loss)	Total Assets	Depreciation and Amortization	Capital Expenditures
2017 –					
Risk and Insurance Services	**$ 7,630 (a)**	**$ 1,871**	**$ 16,490**	**$ 282**	**$ 139**
Consulting	**6,444 (b)**	**1,174**	**8,200**	**129**	**88**
Total Segments	**14,074**	**3,045**	**24,690**	**411**	**227**
Corporats/Eliminations	**(50)**	**(189)**	**(4,261) (c)**	**70**	**75**
Total Consolidated	**$ 14,024**	**$ 2,856**	**$ 20,429**	**$ 481**	**$ 302**
2016 –					
Risk and Insurance Services	$ 7,143 (a)	$ 1,753	$ 14,728	$ 248	$ 128
Consulting	6,112 (b)	1,103	6,770	121	68
Total Segments	13,255	2,856	21,498	369	196
Corporate/Eliminations	(44)	(192)	(3,308) (c)	69	57
Total Consolidated	$ 13,211	$ 2,664	$ 18,190	$ 438	$ 253
2015 –					
Risk and Insurance Services	$ 6,869 (a)	$ 1,539	$ 13,290	$ 240	$ 136
Consulting	6,064 (b)	1,075	6,485	120	108
Total Segments	12,933	2,614	19,775	360	244
Corporate/Eliminations	(40)	(195)	(1,559) (c)	63	81
Total Consolidated	$ 12,893	$ 2,419	$ 18,216	$ 423	$ 325

(a) Includes inter-segment revenue of $5 million in 2017 and $6 million in both 2016 and 2015, interest income on fiduciary funds of $39 million, $26 million and $21 million in 2017, 2016 and 2015, respectively, and equity method income of $14 million, $12 million and $6 million in 2017, 2016 and 2015, respectively.

(b) Includes inter-segment revenue of $45 million, $38 million and $34 million in 2017, 2016 and 2015, respectively, interest income on fiduciary funds of $4 million, $3 million and $4 million in 2017, 2016 and 2015, respectively and equity method income of $17 million, $19 million and $21 million in 2017, 2016 and 2015, respectively.

(c) Corporate assets primarily include insurance recoverables, pension related assets, the owned portion of the Company headquarters building and intercompany eliminations.

Details of operating segment revenue are as follows:

For the Years Ended December 31, *(In millions of dollars)*	**2017**	2016	2015
Risk and Insurance Services			
Marsh	**$ 6,433**	$ 5,997	$ 5,745
Guy Carpenter	**1,197**	1,146	1,124
Total Risk and Insurance Services	**7,630**	7,143	6,869
Consulting			
Mercer	**4,528**	4,323	4,313
Oliver Wyman Group	**1,916**	1,789	1,751
Total Consulting	**6,444**	6,112	6,064
Total Segments	**14,074**	13,255	12,933
Corporate/Eliminations	**(50)**	(44)	(40)
Total	**$ 14,024**	$ 13,211	$ 12,893

Information by geographic area is as follows:

For the Years Ended December 31, *(In millions of dollars)*	**2017**	2016	2015
Revenue			
United States	**$ 6,870**	$ 6,573	$ 6,316
United Kingdom	**2,112**	2,019	2,036
Continental Europe	**2,197**	2,022	1,902
Asia Pacific	**1,517**	1,363	1,333
Other	**1,378**	1,278	1,346
	14,074	13,255	12,933
Corporate/Eliminations	**(50)**	(44)	(40)
Total	**$ 14,024**	$ 13,211	$ 12,893

For the Years Ended December 31, *(In millions of dollars)*	**2017**	2016	2015
Fixed Assets, Net			
United States	**$ 399**	$ 412	$ 460
United Kingdom	**91**	94	115
Continental Europe	**57**	53	57
Asia Pacific	**78**	76	49
Other	**87**	90	92
Total	**$ 712**	$ 725	$ 773

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Shareholders and the Board of Directors of Marsh & McLennan Companies, Inc.

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of Marsh & McLennan Companies, Inc. and subsidiaries (the "Company") as of December 31, 2017 and 2016, the related consolidated statements of income, comprehensive income, cash flows, and equity for each of the three years in the period ended December 31, 2017, and the related notes (collectively referred to as the "financial statements"). In our opinion, the financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2017 and 2016, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2017, in conformity with accounting principles generally accepted in the United States of America.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company's internal control over financial reporting as of December 31, 2017, based on the criteria established in *Internal Control - Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission and our report dated February 22, 2018 expressed an unqualified opinion on the Company's internal control over financial reporting.

Basis for Opinion

These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's financial statements based on our audits. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide reasonable basis for our opinion.

/s/ Deloitte & Touche LLP

New York, New York
February 22, 2018

We have served as the Company's auditor since 1989.

Marsh & McLennan Companies, Inc. and Subsidiaries
SELECTED QUARTERLY FINANCIAL DATA AND SUPPLEMENTAL INFORMATION (UNAUDITED)

	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
(In millions, except per share figures)				
2017:				
Revenue	**$ 3,503**	**$ 3,495**	**$ 3,341**	**$ 3,685**
Operating income	**$ 809**	**$ 764**	**$ 597**	**$ 686**
Income from continuing operations	**$ 578**	**$ 507**	**$ 397**	**$ 28**
Discontinued operations, net of tax	**$ —**	**$ —**	**$ —**	**$ 2**
Net income attributable to the Company	**$ 569**	**$ 501**	**$ 393**	**$ 29**
Basic Per Share Data[(a)]:				
Continuing operations	**$ 1.10**	**$ 0.98**	**$ 0.77**	**$ 0.05**
Discontinued operations, net of tax	**$ —**	**$ —**	**$ —**	**$ 0.01**
Net income attributable to the Company	**$ 1.10**	**$ 0.98**	**$ 0.77**	**$ 0.06**
Diluted Per Share Data[(a)]:				
Continuing operations	**$ 1.09**	**$ 0.96**	**$ 0.76**	**$ 0.05**
Discontinued operations, net of tax	**$ —**	**$ —**	**$ —**	**$ 0.01**
Net income attributable to the Company	**$ 1.09**	**$ 0.96**	**$ 0.76**	**$ 0.06**
Dividends Paid Per Share	**$ 0.34**	**$ 0.34**	**$ 0.375**	**$ 0.375**
2016:				
Revenue	$ 3,336	$ 3,376	$ 3,135	$ 3,364
Operating income	$ 733	$ 726	$ 572	$ 633
Income from continuing operations	$ 490	$ 480	$ 384	$ 441
Discontinued operations, net of tax	$ —	$ —	$ —	$ —
Net income attributable to the Company	$ 481	$ 472	$ 379	$ 436
Basic Per Share Data:				
Continuing operations	$ 0.92	$ 0.91	$ 0.73	$ 0.85
Discontinued operations, net of tax	$ —	$ —	$ —	$ —
Net income attributable to the Company	$ 0.92	$ 0.91	$ 0.73	$ 0.85
Diluted Per Share Data:				
Continuing operations	$ 0.91	$ 0.90	$ 0.73	$ 0.84
Discontinued operations, net of tax	$ —	$ —	$ —	$ —
Net income attributable to the Company	$ 0.91	$ 0.90	$ 0.73	$ 0.84
Dividends Paid Per Share	$ 0.31	$ 0.31	$ 0.34	$ 0.34

As of February 19th, 2018, there were 5,346 stockholders of record.

(a) Includes the impact of a $460 million provisional charge related to the enactment of U.S. tax reform.

Item 9. Changes In and Disagreements with Accountants on Accounting and Financial Disclosure.

None.

Item 9A. Controls and Procedures.

Disclosure Controls and Procedures. Based on their evaluation, as of the end of the period covered by this annual report on Form 10-K, the Company's chief executive officer and chief financial officer have concluded that the Company's disclosure controls and procedures (as defined in Rules 13a-15(e) or 15d-15(e) under the Securities Exchange Act of 1934) are effective.

Internal Control over Financial Reporting.

(a) *Management's Annual Report on Internal Control Over Financial Reporting*

MANAGEMENT'S ANNUAL REPORT ON INTERNAL CONTROL OVER FINANCIAL REPORTING

The management of Marsh & McLennan Companies, Inc. is responsible for establishing and maintaining adequate internal control over financial reporting for the Company. The Company's internal control over financial reporting is designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles.

The Company's internal control over financial reporting includes those policies and procedures relating to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the Company; the recording of all necessary transactions to permit the preparation of the Company's consolidated financial statements in accordance with generally accepted accounting principles; the proper authorization of receipts and expenditures in accordance with authorizations of the Company's management and directors; and the prevention or timely detection of the unauthorized acquisition, use or disposition of assets that could have a material effect on the Company's consolidated financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Management evaluated the effectiveness of the Company's internal control over financial reporting as of December 31, 2017 under the supervision and with the participation of the Company's principal executive and principal financial officers. In making this evaluation, management used the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission (COSO) in Internal Control—Integrated Framework issued in 2013. Based on its evaluation, management determined that the Company maintained effective internal control over financial reporting as of December 31, 2017.

Deloitte & Touche LLP, the Independent Registered Public Accounting Firm that audited and reported on the Company's consolidated financial statements included in this annual report on Form 10-K, also issued an audit report on the effectiveness of the Company's internal control over financial reporting as of December 31, 2017.

(b) *Audit Report of the Registered Public Accounting Firm.*

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Shareholders and the Board of Directors of Marsh & McLennan Companies, Inc.

Opinion on Internal Control over Financial Reporting

We have audited the internal control over financial reporting of Marsh & McLennan Companies, Inc. and subsidiaries (the "Company") as of December 31, 2017, based on criteria established in *Internal Control - Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2017, based on the criteria established in *Internal Control - Integrated Framework (2013)* issued by COSO.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated financial statements as of and for the year ended December 31, 2017, of the Company and our report dated February 22, 2018, expressed an unqualified opinion on those financial statements.

Basis for Opinion

The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management's Annual Report on Internal Control Over Financial Reporting. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/ Deloitte & Touche LLP

New York, New York
February 22, 2018

(c) *Changes in Internal Control Over Financial Reporting*

There were no changes in the Company's internal control over financial reporting identified in connection with the evaluation required by Rules 13a-15(d) or 15d-15(d) under the Securities Exchange Act of 1934 that occurred during the quarter ended December 31, 2017 that have materially affected, or are reasonably likely to materially affect, the Company's internal control over financial reporting.

Item 9B. Other Information.

None.

PART III

Item 10. Directors, Executive Officers and Corporate Governance.

Information as to the directors and nominees for the board of directors of the Company is incorporated herein by reference to the material set forth under the heading "Item 1: Election of Directors" in the 2018 Proxy Statement.

The executive officers of the Company are Peter J. Beshar, John Q. Doyle, E. Scott Gilbert, Daniel S. Glaser, Peter Hearn, Laurie Ledford, Scott McDonald, Mark C. McGivney and Julio A. Portalatin. Information with respect to these individuals is provided in Part I, Item 1 above under the heading "Executive Officers of the Company".

The information set forth in the 2018 Proxy Statement in the sections "Corporate Governance—Codes of Conduct", "Board of Directors and Committees—Committees—Audit Committee", "Additional Information —Transactions with Management and Others" and "Additional Information—Section 16(a) Beneficial Ownership Reporting Compliance" is incorporated herein by reference.

Item 11. Executive Compensation.

The information set forth in the sections "Board of Directors and Committees—Director Compensation" and "Executive Compensation—Compensation of Executive Officers" in the 2018 Proxy Statement is incorporated herein by reference.

Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters.

The information set forth in the sections "Additional Information—Stock Ownership of Directors, Management and Certain Beneficial Owners" and "Additional Information—Equity Compensation Plan Information" in the 2018 Proxy Statement is incorporated herein by reference.

Item 13. Certain Relationships and Related Transactions, and Director Independence.

The information set forth in the sections "Corporate Governance—Director Independence", "Corporate Governance—Review of Related-Person Transactions" and "Additional Information—Transactions with Management and Others" in the 2018 Proxy Statement is incorporated herein by reference.

Item 14. Principal Accountant Fees and Services.

The information set forth under the heading "Item 3: Ratification of Selection of Independent Registered Public Accounting Firm—Fees of Independent Registered Public Accounting Firm" in the 2018 Proxy Statement is incorporated herein by reference.

PART IV

Item 15. Exhibits and Financial Statement Schedules. †

The following documents are filed as a part of this report:

(1) Consolidated Financial Statements:

Consolidated Statements of Income for each of the three years in the period ended December 31, 2017

Consolidated Statements of Comprehensive Income for each of the three years in the period ended December 31, 2017

Consolidated Balance Sheets as of December 31, 2017 and 2016

Consolidated Statements of Cash Flows for each of the three years in the period ended December 31, 2017

Consolidated Statements of Shareholders Equity for each of the three years in the period ended December 31, 2017

Notes to Consolidated Financial Statements

Report of Independent Registered Public Accounting Firm

Other:

Selected Quarterly Financial Data and Supplemental Information (Unaudited) for fiscal years 2017 and 2016

Five-Year Statistical Summary of Operations

(2) All required Financial Statement Schedules are included in the Consolidated Financial Statements or the Notes to Consolidated Financial Statements.

(3) The following exhibits are filed as a part of this report:

(2.1) Stock Purchase Agreement, dated as of June 6, 2010, by and between Marsh & McLennan Companies, Inc. and Altegrity, Inc. (incorporated by reference to the Company's Quarterly Report on Form 10-Q for the quarter ended June 30, 2010)

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†As permitted by Item 601(b)(4)(iii)(A) of Regulation S-K, the Company has not filed with this Form 10-K certain instruments defining the rights of holders of long-term debt of the Company and its subsidiaries because the total amount of securities authorized under any of such instruments does not exceed 10% of the total assets of the Company and its subsidiaries on a consolidated basis. The Company agrees to furnish a copy of any such agreement to the Commission upon request.

(3.1) Restated Certificate of Incorporation of Marsh & McLennan Companies, Inc. (incorporated by reference to the Company's Current Report on Form 8-K dated July 17, 2008)

(3.2) Amended and Restated By-Laws of Marsh & McLennan Companies, Inc. (incorporated by reference to the Company's Current Report on Form 8-K dated January 12, 2017)

(4.1) Indenture dated as of June 14, 1999 between Marsh & McLennan Companies, Inc. and State Street Bank and Trust Company, as trustee (incorporated by reference to the Company's Registration Statement on Form S-3, Registration No. 333-108566)

(4.2) Third Supplemental Indenture dated as of July 30, 2003 between Marsh & McLennan Companies, Inc. and U.S. Bank National Association (as successor to State Street Bank and Trust Company), as trustee (incorporated by reference to the Company's Quarterly Report on Form 10-Q for the quarter ended June 30, 2003)

(4.3) Indenture dated as of March 19, 2002 between Marsh & McLennan Companies, Inc. and State Street Bank and Trust Company, as trustee (incorporated by reference to the Company's Registration Statement on Form S-4, Registration No. 333-87510)

(4.4) Indenture, dated as of July 15, 2011, between Marsh & McLennan Companies, Inc. and The Bank of New York Mellon, as trustee (incorporated by reference to the Company's Quarterly Report on Form 10-Q for the quarter ended June 30, 2011)

(4.5) First Supplemental Indenture, dated as of July 15, 2011, between Marsh & McLennan Companies, Inc. and The Bank of New York Mellon, as trustee (incorporated by reference to the Company's Quarterly Report on Form 10-Q for the quarter ended June 30, 2011)

(4.6) Form of Third Supplemental Indenture between Marsh & McLennan Companies, Inc. and The Bank of New York Mellon, as trustee (incorporated by reference to the Company's Current Report on Form 8-K dated September 24, 2013)

(4.7) Form of Fourth Supplemental Indenture between Marsh & McLennan Companies, Inc. and The Bank of New York Mellon, as trustee (incorporated by reference to the Company's Current Report on Form 8-K dated May 27, 2014)

(4.8) Form of Fifth Supplemental Indenture between Marsh & McLennan Companies, Inc. and The Bank of New York Mellon, as trustee (incorporated by reference to the Company's Current Report on Form 8-K dated September 10, 2014)

(4.9) Sixth Supplemental Indenture, dated as of March 6, 2015, between Marsh & McLennan Companies, Inc. and The Bank of New York Mellon, as trustee (incorporated by reference to the Company's Quarterly Report on Form 10-Q for the quarter ended March 31, 2015)

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*Management contract or compensatory plan or arrangement required to be filed as an exhibit pursuant to Item 15(b) of Form 10-K.

(4.10) Seventh Supplemental Indenture, dated as of September 14, 2015, between Marsh & McLennan Companies, Inc. and The Bank of New York Mellon, as trustee (incorporated by reference to the Company's Current Report on Form 8-K filed on September 14, 2015)

(4.11) Eighth Supplemental Indenture, dated as of March 14, 2016, between Marsh & McLennan Companies, Inc. and The Bank of New York Mellon, as trustee (incorporated by reference to the Company's Quarterly Report on Form 10-Q filed on May 2, 2016)

(4.12) Ninth Supplemental Indenture, dated as of January 12, 2017, between Marsh & McLennan Companies, Inc. and The Bank of New York Mellon, as trustee (incorporated by reference to the Company's Annual Report on Form 10-K filed on February 24, 2017)

(10.1) *Marsh & McLennan Companies, Inc. U.S. Employee 1996 Cash Bonus Award Voluntary Deferral Plan (incorporated by reference to the Company's Annual Report on Form 10-K for the year ended December 31, 1996)

(10.2) *Marsh & McLennan Companies, Inc. U.S. Employee 1997 Cash Bonus Award Voluntary Deferral Plan (incorporated by reference to the Company's Annual Report on Form 10-K for the year ended December 31, 1997)

(10.3) *Marsh & McLennan Companies, Inc. U.S. Employee 1998 Cash Bonus Award Voluntary Deferral Plan (incorporated by reference to the Company's Annual Report on Form 10-K for the year ended December 31, 1998)

(10.4) *Marsh & McLennan Companies, Inc. 2000 Senior Executive Incentive and Stock Award Plan (incorporated by reference to the Company's Annual Report on Form 10-K for the year ended December 31, 1999)

(10.5) *Amendments to Marsh & McLennan Companies, Inc. 2000 Senior Executive Incentive and Stock Award Plan and the Marsh & McLennan Companies, Inc. 2000 Employee Incentive and Stock Award Plan (incorporated by reference to the Company's Quarterly Report on Form 10-Q for the quarter ended June 30, 2005)

(10.6) *Form of Awards under the Marsh & McLennan Companies, Inc. 2000 Senior Executive Incentive and Stock Award Plan (incorporated by reference to the Company's Quarterly Report on Form 10-Q for the quarter ended September 30, 2004)

(10.7) *Additional Forms of Awards under the Marsh & McLennan Companies, Inc. 2000 Senior Executive Incentive and Stock Award Plan (incorporated by reference to the Company's Quarterly Report on Form 10-Q for the quarter ended March 31, 2005)

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*Management contract or compensatory plan or arrangement required to be filed as an exhibit pursuant to Item 15(b) of Form 10-K.

(10.8) *Marsh & McLennan Companies, Inc. 2000 Employee Incentive and Stock Award Plan (incorporated by reference to the Company's Annual Report on Form 10-K for the year ended December 31, 2001)

(10.9) *Form of Awards under the Marsh & McLennan Companies, Inc. 2000 Employee Incentive and Stock Award Plan (incorporated by reference to the Company's Quarterly Report on Form 10-Q for the quarter ended September 30, 2004)

(10.10) *Additional Forms of Awards under the Marsh & McLennan Companies, Inc. 2000 Employee Incentive and Stock Award Plan (incorporated by reference to the Company's Quarterly Report on Form 10-Q for the quarter ended March 31, 2005)

(10.11) *Form of Long-term Incentive Award under the Marsh & McLennan Companies, Inc. 2000 Senior Executive Incentive and Stock Award Plan and the Marsh & McLennan Companies, Inc. 2000 Employee Incentive and Stock Award Plan (incorporated by reference to the Company's Quarterly Report on Form 10-Q for the quarter ended March 31, 2006)

(10.12) *Form of 2007 Long-term Incentive Award under the Marsh & McLennan Companies, Inc. 2000 Senior Executive Incentive and Stock Award Plan and the Marsh & McLennan Companies, Inc. 2000 Employee Incentive and Stock Award Plan (incorporated by reference to the Company's Quarterly Report on Form 10-Q for the quarter ended March 31, 2007)

(10.13) *Form of 2008 Long-term Incentive Award under the Marsh & McLennan Companies, Inc. 2000 Senior Executive Incentive and Stock Award Plan and the Marsh & McLennan Companies, Inc. 2000 Employee Incentive and Stock Award Plan (incorporated by reference to the Company's Quarterly Report on Form 10-Q for the quarter ended March 31, 2008)

(10.14) *Form of 2009 Long-term Incentive Award under the Marsh & McLennan Companies, Inc. 2000 Senior Executive Incentive and Stock Award Plan and the Marsh & McLennan Companies, Inc. 2000 Employee Incentive and Stock Award Plan (incorporated by reference to the Company's Quarterly Report on Form 10-Q for the quarter ended March 31, 2009)

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*Management contract or compensatory plan or arrangement required to be filed as an exhibit pursuant to Item 15(b) of Form 10-K.

(10.15) *Form of 2010 Long-term Incentive Award under the Marsh & McLennan Companies, Inc. 2000 Senior Executive Incentive and Stock Award Plan and the Marsh & McLennan Companies, Inc. 2000 Employee Incentive and Stock Award Plan (incorporated by reference to the Company's Quarterly Report on Form 10-Q for the quarter ended March 31, 2010)

(10.16) *Form of 2011 Long-term Incentive Award under the Marsh & McLennan Companies, Inc. 2000 Senior Executive Incentive and Stock Award Plan and the Marsh & McLennan Companies, Inc. 2000 Employee Incentive and Stock Award Plan (incorporated by reference to the Company's Quarterly Report on Form 10-Q for the quarter ended June 30, 2011)

(10.17) *Form of 2011 Long-term Incentive Award dated as of June 1, 2011 under the Marsh & McLennan Companies, Inc. 2011 Incentive and Stock Award Plan (incorporated by reference to the Company's Quarterly Report on Form 10-Q for the quarter ended September 30, 2011)

(10.18) *Form of 2012 Long-term Incentive Award under the Marsh & McLennan Companies, Inc. 2011 Incentive and Stock Award Plan (incorporated by reference to the Company's Quarterly Report on Form 10-Q for the quarter ended March 31, 2012)

(10.19) *Form of 2013 Long-term Incentive Award under the Marsh & McLennan Companies, Inc. 2011 Incentive and Stock Award Plan (incorporated by reference to the Company's Quarterly Report on Form 10-Q for the quarter ended March 31, 2013)

(10.20) *Form of 2014 Long-term Incentive Award under the Marsh & McLennan Companies, Inc. 2011 Incentive and Stock Award Plan (incorporated by reference to the Company's Quarterly Report on Form 10-Q for the quarter ended March 31, 2014)

(10.21) *Form of 2015 Long-term Incentive Award under the Marsh & McLennan Companies, Inc. 2011 Incentive and Stock Award Plan (incorporated by reference to the Company's Quarterly Report on Form 10-Q for the quarter ended March 31, 2015)

(10.22) *Form of 2016 Long-term Incentive Award under the Marsh & McLennan Companies, Inc. 2011 Incentive and Stock Award Plan (incorporated by reference to the Company's Quarterly Report on Form 10-Q for the quarter ended March 31, 2016)

(10.23) *Form of Deferred Stock Unit Award, dated as of February 24, 2012, under the Marsh & McLennan Companies, Inc. 2011 Incentive and Stock Award Plan (incorporated by reference to the Company's Quarterly Report on Form 10-Q for the quarter ended March 31, 2012)

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*Management contract or compensatory plan or arrangement required to be filed as an exhibit pursuant to Item 15(b) of Form 10-K.

(10.24) *Form of Deferred Stock Unit Award, dated as of March 1, 2013, under the Marsh & McLennan Companies, Inc. 2011 Incentive and Stock Award Plan (incorporated by reference to the Company's Quarterly Report on Form 10-Q for the quarter ended March 31, 2013)

(10.25) *Form of Deferred Stock Unit Award, dated as of March 1, 2014, under the Marsh & McLennan Companies, Inc. 2011 Incentive and Stock Award Plan (incorporated by reference to the Company's Quarterly Report on Form 10-Q for the quarter ended March 31, 2014)

(10.26) *Form of Deferred Stock Unit Award, dated as of March 1, 2015, under the Marsh & McLennan Companies, Inc. 2011 Incentive and Stock Award Plan (incorporated by reference to the Company's Quarterly Report on Form 10-Q for the quarter ended March 31, 2015)

(10.27) *Form of Deferred Stock Unit Award, dated as of March 1, 2016 under the Marsh & McLennan Companies, Inc. 2011 Incentive and Stock Award Plan (incorporated by reference to the Company's Quarterly Report on Form 10-Q for the quarter ended March 31, 2016)

(10.28) *Form of Deferred Stock Unit Award, with grant dates from March 1, 2017 through February 1, 2018, under the Marsh & McLennan Companies, Inc. 2011 Incentive and Stock Award Plan (incorporated by reference to the Company's Quarterly Report on Form 10-Q for the quarter ended March 31, 2017)

(10.29) *Form of Restricted Stock Unit Award, dated as of April 1, 2016 under the Marsh & McLennan Companies, Inc. 2011 Incentive and Stock Award Plan (incorporated by reference to the Company's Quarterly Report on Form 10-Q for the quarter ended June 30, 2016)

(10.30) *Form of Restricted Stock Unit Award, dated as of February 22, 2017 under the Marsh & McLennan Companies, Inc. 2011 Incentive and Stock Award Plan (incorporated by reference to the Company's Quarterly Report on Form 10-Q for the quarter ended March 31, 2017)

(10.31) *Form of Performance Stock Unit Award, dated as of February 22, 2017, under the Marsh & McLennan Companies, Inc. 2011 Incentive and Stock Award Plan (incorporated by reference to the Company's Quarterly Report on Form 10-Q for the quarter ended March 31, 2017)

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*Management contract or compensatory plan or arrangement required to be filed as an exhibit pursuant to Item 15(b) of Form 10-K.

(10.32) *Form of Stock Option Award, dated as of February 22, 2017, under the Marsh & McLennan Companies, Inc. 2011 Incentive and Stock Award Plan (incorporated by reference to the Company's Quarterly Report on Form 10-Q for the quarter ended March 31, 2017)

(10.33) *Marsh & McLennan Companies, Inc. 2011 Incentive and Stock Award Plan (incorporated by reference to the Company's Registration Statement on Form S-8 dated August 5, 2011, Registration No. 333-176084)

(10.34) *Amendments to Certain Marsh & McLennan Companies Equity-Based Awards Due to U.S. Tax Law Changes Affecting Equity-Based Awards granted under the Marsh & McLennan Companies, Inc. 2000 Senior Executive Incentive and Stock Award Plan and the Marsh & McLennan Companies, Inc. 2000 Employee Incentive and Stock Award Plan, effective January 1, 2009 (incorporated by reference to the Company's Annual Report on Form 10-K for the year ended December 31, 2008)

(10.35) *Section 409A Amendment Document, effective as of January 1, 2009 (incorporated by reference to the Company's Annual Report on Form 10-K for the year ended December 31, 2008)

(10.36) *Section 409A Amendment Regarding Payments Conditioned Upon Employment-Related Action to Any and All Plans or Arrangements Entered into by the Marsh & McLennan Companies, Inc., or any of its Direct or Indirect Subsidiaries, that Provide for the Payment of Section 409A Nonqualified Deferred Compensation, effective December 21, 2012 (incorporated by reference to the Company's Annual Report on Form 10-K for the year ended December 31, 2012)

(10.37) *Marsh & McLennan Companies Supplemental Savings & Investment Plan (formerly the Marsh & McLennan Companies Stock Investment Supplemental Plan) Restatement, effective January 1, 2012 (incorporated by reference to the Company's Annual Report on Form 10-K for the year ended December 31, 2012)

(10.38) *First Amendment to the Marsh & McLennan Companies Supplemental Savings & Investment Plan Restatement effective January 1, 2012 (incorporated by reference to the Company's Annual Report on Form 10-K for the year ended December 31, 2016)

(10.39) *Second Amendment to the Marsh & McLennan Companies Supplemental Savings & Investment Plan Restatement effective January 1, 2012

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*Management contract or compensatory plan or arrangement required to be filed as an exhibit pursuant to Item 15(b) of Form 10-K.

(10.40) *Marsh & McLennan Companies Benefit Equalization Plan and Marsh & McLennan Companies Supplemental Retirement Plan as Restated, effective January 1, 2012 (incorporated by reference to the Company's Annual Report on Form 10-K for the year ended December 31, 2012)

(10.41) *First Amendment to the Marsh & McLennan Companies Benefit Equalization Plan and Marsh & McLennan Companies Supplemental Retirement Plan as Restated effective January 1, 2012 (incorporated by reference to the Company's Annual Report on Form 10-K for the year ended December 31, 2016)

(10.42) *Second Amendment to the Marsh & McLennan Companies Benefit Equalization Plan and Marsh & McLennan Companies Supplemental Retirement Plan as Restated effective January 1, 2012 (incorporated by reference to the Company's Annual Report on Form 10-K for the year ended December 31, 2016)

(10.43) *Marsh & McLennan Companies, Inc. Senior Executive Severance Pay Plan (incorporated by reference to the Company's Quarterly Report on Form 10-Q for the Quarter ended March 31, 2008)

(10.44) *Amendment to the Marsh & McLennan Companies, Inc. Senior Executive Severance Pay Plan, effective December 31, 2009 (incorporated by reference to the Company's Annual Report on Form 10-K for the year ended December 31, 2009)

(10.45) *Marsh & McLennan Companies, Inc. Senior Management Incentive Compensation Plan (incorporated by reference to the Company's Annual Report on Form 10-K for the year ended December 31, 1994)

(10.46) *Marsh & McLennan Companies, Inc. Directors' Stock Compensation Plan - May 31, 2009 Restatement (incorporated by reference to the Company's Quarterly Report on Form 10-Q for the quarter ended June 30, 2009)

(10.47) *Marsh & McLennan Companies International Retirement Plan As Amended and Restated Effective January 1, 2009 (incorporated by reference to the Company's Quarterly Report on Form 10-Q for the quarter ended March 31, 2014)

(10.48) *Description of compensation arrangements for independent directors of Marsh & McLennan Companies, Inc. effective June 1, 2016 (incorporated by reference to the Company's Quarterly Report on Form 10-Q for the quarter ended June 30, 2016)

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*Management contract or compensatory plan or arrangement required to be filed as an exhibit pursuant to Item 15(b) of Form 10-K.

(10.49) *Letter Agreement, effective as of March 20, 2013, between Marsh & McLennan Companies, Inc. and Daniel S. Glaser (incorporated by reference to the Company's Quarterly Report on Form 10-Q for the quarter ended September 30, 2013)

(10.50) *Non-Competition and Non-Solicitation Agreement, effective as of September 18, 2013, between Marsh & McLennan Companies, Inc. and Daniel S. Glaser (incorporated by reference to the Company's Quarterly Report on Form 10-Q for the quarter ended September 30, 2013)

(10.51) *Letter Agreement, effective as of May 14, 2014, between Marsh & McLennan Companies, Inc. and Daniel S. Glaser (incorporated by reference to the Company's Quarterly Report on Form 10-Q for the quarter ended June 30, 2014)

(10.52) *Letter Agreement, effective as of February 22, 2016, between Marsh & McLennan Companies, Inc. and Daniel S. Glaser (incorporated by reference to the Company's Quarterly Report on Form 10-Q for the quarter ended June 30, 2016)

(10.53) *Letter Agreement, effective as of February 22, 2017, between Marsh & McLennan Companies, Inc. and Daniel S. Glaser (incorporated by reference to the Company's Quarterly Report on Form 10-Q for the quarter ended September 30, 2017)

(10.54) *Letter Agreement, effective as of January 1, 2016, between Marsh & McLennan Companies, Inc. and Mark C. McGivney (incorporated by reference to the Company's Quarterly Report on Form 10-Q for the quarter ended September 30, 2015)

(10.55) *Non-Competition and Non-Solicitation Agreement, effective as of January 1, 2016, between Marsh & McLennan Companies, Inc. and Mark C. McGivney (incorporated by reference to the Company's Quarterly Report on Form 10-Q for the quarter ended September 30, 2015)

(10.56) *Letter Agreement, effective as of January 17, 2018, between Marsh & McLennan Companies, Inc. and Mark C. McGivney

(10.57) *Letter Agreement, effective as of March 20, 2013, between Marsh & McLennan Companies, Inc. and Peter Zaffino (incorporated by reference to the Company's Annual Report on Form 10-K for the year ended December 31, 2013)

(10.58) *Non-Competition and Non-Solicitation Agreement, effective as of November 21, 2013, between Marsh & McLennan Companies, Inc. and Peter Zaffino (incorporated by reference to the Company's Annual Report on Form 10-K for the year ended December 31, 2013)

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*Management contract or compensatory plan or arrangement required to be filed as an exhibit pursuant to Item 15(b) of Form 10-K.

(10.59) *Letter Agreement, effective as of May 14, 2014, between Marsh & McLennan Companies, Inc. and Peter Zaffino (incorporated by reference to the Company's Quarterly Report on Form 10-Q for the quarter ended June 30, 2014)

(10.60) *Letter Agreement, effective as of May 18, 2016, between Marsh & McLennan Companies, Inc. and Peter Zaffino (incorporated by reference to the Company's Quarterly Report on Form 10-Q for the quarter ended June 30, 2016)

(10.61) *Letter Agreement, effective as of March 20, 2013, between Marsh & McLennan Companies, Inc. and Julio A. Portalatin (incorporated by reference to the Company's Annual Report on Form 10-K for the year ended December 31 2013)

(10.62) *Non-Competition and Non-Solicitation Agreement, effective as of November 21, 2013, between Marsh & McLennan Companies, Inc. and Julio A. Portalatin (incorporated by reference to the Company's Annual Report on Form 10-K for the year ended December 31, 2013)

(10.63) *Letter Agreement, effective as of May 14, 2014, between Marsh & McLennan Companies, Inc. and Julio A. Portalatin (incorporated by reference to the Company's Quarterly Report on Form 10-Q for the quarter ended June 30, 2014)

(10.64) *Letter Agreement, effective as of May 18, 2016, between Marsh & McLennan Companies, Inc. and Julio A. Portalatin (incorporated by reference to the Company's Quarterly Report on Form 10-Q for the quarter ended June 30, 2016)

(10.65) *Letter Agreement, effective as of July 12, 2017, between Marsh & McLennan Companies, Inc. and Julio A Portalatin (incorporated by reference to the Company's Quarterly Report on Form 10-Q for the quarter ended September 30, 2017)

(10.66) *Letter Agreement, effective as of March 20, 2013, between Marsh & McLennan Companies, Inc. and Peter J. Beshar (incorporated by reference to the Company's Quarterly Report on Form 10-Q for the quarter ended March 31, 2015)

(10.67) *Non-Competition and Non-Solicitation Agreement, effective as of November 21, 2013, between Marsh & McLennan Companies, Inc. and Peter J. Beshar (incorporated by reference to the Company's Quarterly Report on Form 10-Q for the quarter ended March 31, 2015)

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*Management contract or compensatory plan or arrangement required to be filed as an exhibit pursuant to Item 15(b) of Form 10-K.

(12.1)	Statement Re: Computation of Ratio of Earnings to Fixed Charges
(14.1)	Code of Ethics for Chief Executive and Senior Financial Officers (incorporated by reference to the Company's Annual Report on Form 10-K for the year ended December 31, 2002)
(21.1)	List of Subsidiaries of Marsh & McLennan Companies, Inc.
(23.1)	Consent of Independent Registered Public Accounting Firm
(24.1)	Power of Attorney (included on signature page)
(31.1)	Rule 13a-14(a)/15d-14(a) Certification of Chief Executive Officer
(31.2)	Rule 13a-14(a)/15d-14(a) Certification of Chief Financial Officer
(32.1)	Section 1350 Certifications
101.INS	XBRL Instance Document
101.SCH	XBRL Taxonomy Extension Schema
101.CAL	XBRL Taxonomy Extension Calculation Linkbase
101.DEF	XBRL Taxonomy Extension Definition Linkbase
101.LAB	XBRL Taxonomy Extension Label Linkbase
101.PRE	XBRL Taxonomy Extension Presentation Linkbase

*Management contract or compensatory plan or arrangement required to be filed as an exhibit pursuant to Item 15(b) of Form 10-K.

Item 16. Form 10-K Summary

None.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

MARSH & McLENNAN COMPANIES, INC.

Dated: February 22, 2018

By /s/ DANIEL S. GLASER
Daniel S. Glaser
President and Chief Executive Officer

Each person whose signature appears below hereby constitutes and appoints Katherine J. Brennan and Connor Kuratek, and each of them singly, such person's lawful attorneys-in-fact and agents, with full power to them and each of them to sign for such person, in the capacity indicated below, any and all amendments to this Annual Report on Form 10-K filed with the Securities and Exchange Commission.

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant and in the capacities indicated this 22nd day of February, 2018.

Name	Title	Date
/s/ DANIEL S. GLASER Daniel S. Glaser	Director, President & Chief Executive Officer	February 22, 2018
/s/ MARK C. MCGIVNEY Mark C. McGivney	Chief Financial Officer	February 22, 2018
/s/ STACY M. MILLS Stacy M. Mills	Vice President & Controller (Chief Accounting Officer)	February 22, 2018
/s/ ANTHONY K. ANDERSON Anthony K. Anderson	Director	February 22, 2018
/s/ OSCAR FANJUL Oscar Fanjul	Director	February 22, 2018
/s/ H. EDWARD HANWAY H. Edward Hanway	Director	February 22, 2018
/s/ DEBORAH C. HOPKINS Deborah C. Hopkins	Director	February 22, 2018
/s/ ELAINE LA ROCHE Elaine La Roche	Director	February 22, 2018
/s/ STEVEN A. MILLS Steven A. Mills	Director	February 22, 2018
/s/ BRUCE P. NOLOP Bruce P. Nolop	Director	February 22, 2018
/s/ MARC D. OKEN Marc D. Oken	Director	February 22, 2018
/s/ MORTON O. SCHAPIRO Morton O. Schapiro	Director	February 22, 2018
/s/ LLOYD M. YATES Lloyd M. Yates	Director	February 22, 2018
/s/ R. DAVID YOST R. David Yost	Director	February 22, 2018

Exhibit 31.1

CERTIFICATIONS

I, Daniel S. Glaser, certify that:

1. I have reviewed this Annual Report on Form 10-K of Marsh & McLennan Companies, Inc. (the "registrant");

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: February 22, 2018

/s/ Daniel S. Glaser

Daniel S. Glaser

President and Chief Executive Officer

Exhibit 31.2

CERTIFICATIONS

I, Mark C. McGivney, certify that:

1. I have reviewed this Annual Report on Form 10-K of Marsh & McLennan Companies, Inc. (the "registrant");

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: February 22, 2018

/s/ Mark C. McGivney

Mark C. McGivney

Chief Financial Officer

Exhibit 32.1

Certification of Chief Executive Officer and Chief Financial Officer

The certification set forth below is being submitted in connection with the Annual Report on Form 10-K for the year ended December 31, 2017 of Marsh & McLennan Companies, Inc. (the "Report") for the purpose of complying with Rule 13a-14(b) or Rule 15d-14(b) under the Securities Exchange Act of 1934, as amended (the "Exchange Act"), and Section 1350 of Chapter 63 of Title 18 of the United States Code.

Daniel S. Glaser, the President and Chief Executive Officer, and Mark C. McGivney, the Chief Financial Officer, of Marsh & McLennan Companies, Inc. each certifies that, to the best of his knowledge:

1. the Report fully complies with the requirements of Section 13(a) or 15(d) of the Exchange Act; and
2. the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of Marsh & McLennan Companies, Inc.

Date: February 22, 2018

/s/ Daniel S. Glaser
Daniel S. Glaser
President and Chief Executive Officer

Date: February 22, 2018

/s/ Mark C. McGivney
Mark C. McGivney
Chief Financial Officer

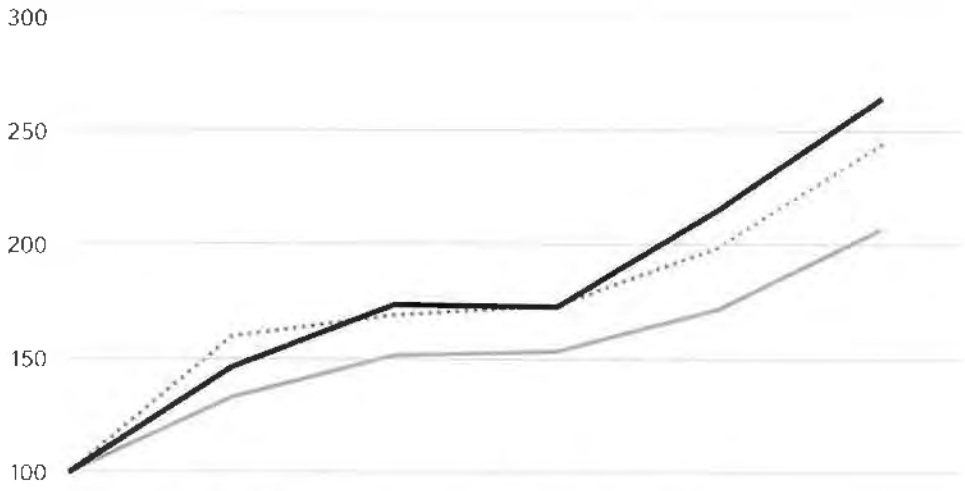
Stock performance graph

The following graph compares the annual cumulative stockholder return for the five-year period ended December 31, 2017 on: Marsh & McLennan Companies common stock; a management-constructed composite industry index; and the Standard & Poor's 500 Stock Index. The graph assumes an investment of $100 on December 31, 2012 in Marsh & McLennan Companies common stock and each of the two indices, with dividends reinvested.

Returns on the composite industry index reflect allocation of the total amount invested among the constituent stocks on a pro rata basis according to each issuer's start-of-the-year market capitalization. The composite industry index consists of Aon plc, Willis Towers Watson Public Limited Company and Arthur J. Gallagher & Co.

Comparison of Cumulative Total Stockholder Return

($100 INVESTED 12/31/12 WITH DIVIDENDS REINVESTED)



	2012	2013	2014	2015	2016	2017
Marsh & McLennan Companies	100	144	174	172	214	263
Composite Industry Index	100	158	168	173	198	244
S&P 500	100	132	150	153	171	208

Stockholder information

ANNUAL MEETING
The 2018 Annual Meeting of Stockholders will be held at 10:00 a.m., Thursday, May 17, 2018, at the principal executive offices of Marsh & McLennan Companies, Inc. at the following location:

1166 Avenue of the Americas
New York, NY 10036

INVESTOR INFORMATION
Stockholders of record inquiring about reinvestment and payment of dividends, consolidation of accounts, stock certificate holdings, stock certificate transfers and address changes should contact:

Equiniti Shareowner Services
P.O. Box 64854
St. Paul, MN 55164-0854
Telephone: 800 457 8968 or
651 450 4064 (Outside US/Canada)

Mailing Address:
1110 Centre Pointe Curve, Suite 101
Mendota Heights, MN 55120-4100
Equiniti's website:
shareowneronline.com

Stockholders who hold shares of Marsh & McLennan Companies beneficially through a broker, bank or other intermediary organization should contact that organization for these services.

DIRECT PURCHASE PLAN
Stockholders of record and other interested investors can purchase Marsh & McLennan Companies common stock directly through the Company's transfer agent and the Administrator for the Plan, Equiniti Shareowner Services. A brochure on the Plan is available on the Equiniti Shareowner Services website or by contacting Equiniti Shareowner Services directly:

Equiniti Shareowner Services
P.O. Box 64854
St. Paul, MN 55164-0854
Telephone: 800 457 8968 or
651 450 4064 (Outside US/Canada)
Equiniti's website:
shareowneronline.com

FINANCIAL INFORMATION
Copies of Marsh & McLennan Companies annual reports and Forms 10-K and 10-Q are available on the Company's website. These documents also may be requested by contacting:

Marsh & McLennan Companies, Inc.
Investor Relations
1166 Avenue of the Americas
New York, NY 10036
Telephone: 212 345 0072
Website: mmc.com

STOCK LISTINGS
Marsh & McLennan Companies common stock (NYSE ticker symbol: MMC) is listed on the New York, Chicago and London Stock Exchanges.

PROCEDURES FOR RAISING COMPLAINTS AND CONCERNS REGARDING ACCOUNTING MATTERS
Marsh & McLennan Companies is committed to complying with all applicable accounting standards, internal accounting controls, audit practices and securities laws and regulations (collectively, "Accounting Matters"). To raise a complaint or concern regarding Accounting Matters, you may contact the Company by mail, telephone or online. You may review the Company's procedures for handling complaints and concerns regarding Accounting Matters at mmc.com.

By mail:
Marsh & McLennan Companies, Inc.
Audit Committee
c/o Katherine J. Brennan,
Corporate Secretary
1166 Avenue of the Americas
New York, NY 10036

By telephone or online:
Visit ethicscomplianceline.com for dialing instructions or to raise a concern online.

ON THE COVER: Marsh & McLennan colleagues in Sydney, Australia

Marsh & McLennan Companies, Inc
1166 Avenue of the Americas
New York, NY 10036
mmc.com

Mercer Health & Benefits LLC
2325 E. Camelback Road, Suite 600
Phoenix, AZ 85016