IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF WISCONSIN

ALINA BOYDEN and
SHANNON ANDREWS,

Plaintiffs,

Case No. 17-cv-264

vs.

STATE OF WISCONSIN DEPARTMENT OF EMPLOYEE TRUST FUNDS, et al.,

Defendants.

DECLARATION OF JOAN C. BARRETT

I, Joan C. Barrett, hereby declare under penalty of perjury:

1. All of the matters in this declaration are based on my personal knowledge, and I am competent to testify thereto.

2. Attached to this declaration as Exhibit 1 is a true and correct copy of my expert report prepared for the above-captioned case. A true and correct copy of my curriculum vitae is appended to my expert report.

3. My expert report was peer-reviewed by Elaine Corrough. A true and correct copy of Ms. Corrough's curriculum vitae is appended to my expert report.

4. I am prepared to testify to the information set out in Exhibit 1, which accurately states my expert qualifications, my opinions in this case, and the bases for those opinions.

In accordance with 28 U.S.C. § 1746, I declare under penalty of perjury that the foregoing is true and correct. Executed this 6th day of June, 2018.

Joan C. Barrett, FSA, MAAA

Exhibit 1

EXPERT REPORT OF JOAN C. BARRETT AND ELAINE T. CORROUGH SUBMITTED ON BEHALF OF THE PLAINTIFFS

Alina Boyden and Shannon Andrews, Plaintiffs
v.
State of Wisconsin Department of Employee Trust Funds et al., Defendants

CASE NO. 17-CV-264 IN the United States District Court for the Western District of Wisconsin

May 31, 2018

Presented by:
Joan C. Barrett, FSA, MAAA
Senior Consulting Actuary
Axene Health Partners, LLC

Elaine Corrough, FSA, FCA, MAAA
Partner and Consulting Actuary
Axene Health Partners, LLC

This report has been prepared solely for the use of the American Civil Liberties Union of Wisconsin Foundation and the American Civil Liberties Union Foundation (the ACLU) for the purpose of providing expert information and analysis for the above mentioned lawsuit.

axene health partners
HEALTH ACTUARIES & CONSULTANTS

Table of Contents

Executive Summary

The American Civil Liberties Union of Wisconsin Foundation and the American Civil Liberties Union Foundation (the ACLU), on behalf of Alina Boyden and Shannon Andrews, plaintiffs, engaged Axene Health Partners, LLC (AHP) to provide an expert report in rebuttal to the expert report of David V. Williams submitted on behalf of the State defendants in Case No. 17-CV-264 in the United States District Court for the Western District of Wisconsin. In addition to this report, AHP has agreed to provide expert testimony in depositions and at trial as necessary.

In preparation for this report, AHP reviewed the expert report of David V. Williams ("the Williams Report"), submitted on behalf of the defendants and the supporting information referenced in the Williams Report as well as other related sources of information. We did not attempt to duplicate the calculations described in the Williams report due to time constraints. We do reserve the right to perform that analysis at a later date, however. We did test the calculations and assumptions Mr. Williams describes for reasonability and consistency with standard actuarial principles. Similarly, we did not attempt to provide an independent estimate of the costs. As part of our review, however, we did compare Mr. Williams' estimate to independent sources of cost estimates.

The purpose of the Williams Report was to estimate the healthcare costs associated with removing the exclusion (the "Exclusion") in the Wisconsin State Employees Benefit Plan (the "State Plan") that excludes coverage for "surgical procedures, services and supplies related to surgery and hormone therapy associated with gender reassignment." Mr. Williams' work was done in support of the State defendants in the civil rights case of Boyden, et al., v. State of Wisconsin Group Ins. Board, et al., No. 17-CV-264 (United States District Court for the Western District of Wisconsin).

Conclusions

In our expert opinion, the methods used by Mr. Williams are generally appropriate, but his estimate of a cost of $0.15 per member per month (PMPM) is on the high end of the range we would consider reasonable. Although it was not explicitly stated, we assume that this estimate represents the cost in 2016 based on Mr. Williams' description of his work. Based on that estimate, however, it is our opinion that the cost to cover this benefit is immaterial. Based on the information described in the Interrogatories, we estimate that the average 2016 cost for covered services under the state plan is $495 PMPM, which would make the cost of removing the exclusion 0.03 % of total costs. In our expert opinion, any benefit that is less than 0.1% of total cost is considered immaterial, since it amounts to a rounding error.

Professional Qualifications

This report has been prepared by Joan C. Barrett, FSA, MAAA and peer-reviewed by Elaine T. Corrough, FSA, FCA, MAAA in accordance with the following Standards of

Practice as promulgated by the Actuarial Standards Board of the American Academy of Actuaries:

- Actuarial Standards of Practice No. 1, "Introductory Standard of Practice"
- Actuarial Standards of Practice No. 5, "Incurred Health and Disability Claims"
- Actuarial Standards of Practice No. 17, "Expert Testimony by Actuaries"
- Actuarial Standards of Practice No. 23, "Data Quality"
- Actuarial Standards of Practice No. 25, "Credibility Procedures Applicable to Accident and Health, Group Term Life, and Property/Casualty Coverages"
- Actuarial Standards of Practice No. 41, "Actuarial Communication"

Compensation

The billing rates for Ms. Barrett and Ms. Corrough are $400 per hour and $445 per hour respectively. The compensation is not dependent on the outcome of the case or on the opinions contained in this report.

Personal Qualifications

Both Ms. Barrett and Ms. Corrough are Fellows of the Society of Actuaries (FSA) and Members of the American Academy of Actuaries (MAAA) in good standing and are qualified to perform this work.

Before joining AHP, Ms. Barrett led the National Accounts Actuarial area for UnitedHealth Care. In that role Ms. Barrett and her team provided pricing and benefit strategy work for large self-insured groups, including developing the complex actuarial systems underlying this work. As part of that work, she often estimated the cost of specific benefits like transgender surgery.

Ms. Corrough provided similar support during her tenure at Aon/Aon Hewitt. In that position, she frequently reviewed the work of other actuaries. Since joining AHP, Ms. Corrough has provided expert witness services and developed a measurement system for a targeted condition management program.

Brief biographies and curricula vitae, which include a list of publications in the past ten years, are included in the appendix of this report. Neither Ms. Barrett nor Ms. Corrough has provided expert testimony.

Background

We relied on our knowledge of actuarial pricing principles in reviewing the Williams Report. In this section we describe those principles and their application to the circumstances of this case.

We reviewed the following documents in performing this review: the second amended complaint; the Defendants' Responses to Plaintiffs' First Set of Requests to Admit, Interrogatories and Requests for Production ("Interrogatories"); the Williams Report; the expert report of Stephanie Budge, Ph.D.; two reports by Segal Consulting on the costs of providing surgical and related services for treatment of gender dysphoria; the Terms and Conditions for Comprehensive Medical Plan Participation in the State of Wisconsin Group Health Benefit Program and Uniform Benefits for the 2016 Benefit Year; the World Professional Association for Transgender Health (WPATH) Standards of Care; and each of the references listed in Mr.Williams' bibliography, with the exception of the Diagnostic and Statistical Manual of the American Psychiatric Association. In addition to the sources included in the discovery process, we reviewed the Behavioral Risk Factor Surveillance System website https://www.cdc.gov/brfss) and the American Society of Plastic Surgeons website (https://www.plasticsurgery.org).

The Estimation Process

The general formula for calculating the estimated net cost of adding a benefit to a plan or removing an exclusion reflects:

- The direct costs associated with adding the benefit
- The incremental costs in currently covered benefits due to the new benefit
- Savings in currently covered benefits as a result of adding the benefit
- A risk premium

A few comments on this concept:

- Costs are based on a specific time period, usually a calendar year.
- Costs are typically calculated on a per member per month (PMPM) basis, where the definition of a member includes employees and dependents.
- The formula for calculating a PMPM = [expected number of claims during the year] x [average cost per claim]÷[average number of members covered]÷12.
- Cost of a benefit may also be expressed as a percent of total costs, in which case both the numerator and denominator need to be consistent in terms of time period and applicable population.
- The estimate should reflect typical clinical treatment patterns and accepted standards of care for the procedure or underlying condition in question.
- Similarly, the estimate should reflect the plan provisions regarding which services are covered, which services are excluded as well as any limitations or exceptions to those services.
- Whenever possible, the starting point for the estimate should be the plan's own historical experience. To the extent that is not possible, the experience of similar plans may be used, with appropriate adjustments.
- Other sources of information, like published papers and data, should be used to test the reasonableness of the estimate.
- The determination of the risk premium depends on the purpose of the estimate. If the purpose of the estimate is to provide a best estimate, then the value of the risk premium should be zero. If the purpose of the estimate is to reflect some

measure of risk, then the risk premium should be greater than zero. Typically, the risk premium does not reflect the "worst case" scenario. Instead, it is calculated assuming that there is about an 80% to 90% chance that the actual costs will not exceed the estimate.

- The final value of the risk premium should reflect potential overstatements and understatements in the best estimate calculation.

There are always uncertainties in estimating the cost of a new benefit, so approximations are necessary. In reviewing the Williams Report we consistently looked to see if the general principles described above were followed, if the approximations were reasonable and the potential impact on the risk premium.

Clinical Considerations

Clinical care for transgender individuals may include:

- Counseling and therapy before reassignment surgery, after the surgery or instead of the surgery
- Hormone replacement therapy
- Surgical procedures to feminize or masculinize the chest and genitals
- Other gender confirmation surgeries to alter the body to feminize or masculinize the patient's physical appearance

The World Professional Association for Transgender Health (WPATH) has established standards of care which include both eligibility and readiness requirements. The transition process may take multiple years to complete.

The State Plan

The State Plan currently excludes "procedures, services and supplies related to surgery and sex hormones associated with gender reassignment". In addition to this exclusion, the plan excludes cosmetic and experimental procedures, but covers other medically necessary surgeries. Our interpretation of this language is that the State Plan currently covers surgeries like mastectomies, hysterectomies, breast reconstruction and similar procedures unless there is a diagnosis code or other indicator that implies that the procedure is related to gender confirmation. We have no way to validate that with the information available but that interpretation is consistent with our knowledge of typical claims-payment policies and procedures.

If the Exclusion is removed, then the State plan may attempt to specify whether or not members under age 18 are eligible for coverage and whether or not related procedures to masculinize or feminize appearance are covered. For purposes of this analysis, we assume that there will be coverage for members under age 18 and that all gender confirmation surgeries will be covered.

Baseline Numbers

In our review we assumed that all numbers relate to calendar year 2016 unless otherwise noted. Using the answers to Questions 6 and 7 in the Interrogatories, we further assumed:

- The number of employees with individual coverage in 2016 was 26,168 and the number with family coverage was family coverage was 43,054 for a total of 69,222.
- Assuming 1 member per employee for individual coverage and 3.2 for family coverage, we estimated that there were 165,000 members in total.
- The total cost for the employer portion of the plan was $979,741,313.30, which results in a PMPM cost of $495.

Claims-Based Analysis

In preparing his report, Mr. Williams relied primarily on a claims-based analysis described in this section. AHP reviewed Mr. Williams' description of the steps that he used to calculate his estimate and we compared these steps to the general principles described above.

Methodology

The specific steps he described are:

- Define the benefit. Mr. Williams states that he used a broad approach in defining the benefit for his initial estimate. Specifically, he included individuals with a diagnosis of gender dysphoria and services that may be related to gender reassignment surgery, both in preparation for surgery and for post-surgical treatment as a starting point for his analysis. Later in his analysis, he adjusted the initial estimate to account for a potential overstatement.
- Define criteria for identifying individuals with relevant claims. The first step in Mr. Williams' analysis was to determine which individuals submitted a gender dysphoria claim. To do that, he compiled a list of diagnostic and procedure codes that indicate a potential diagnosis of gender dysphoria. To compile the list, Mr. Williams relied on the Blue Cross and Blue Shield of Massachusetts (BCBSMA) medical policy for gender dysphoria since that policy included extensive information about coding procedures. He then compared the substance of that policy to the policies used by the State Plan third-party administrators, Dean Health Plan and WPS. He concluded that the policies were similar enough that he could rely on the BCBSMA coding procedures for his analysis.
- Gather data. Using the criteria described above, Mr. Williams identified 8,200 individuals with a diagnosis of gender dysphoria using the 2016 Truven MarketScan commercial data base. Based on his description of the process, it appears that this process was HIPAA-compliant. He then assumed that the groups associated with those 8,200 individuals and only those groups covered

transgender surgery benefits. Using that assumption, he calculated the total number of members for those groups (20,037,382) and the corresponding gender dysphoria claims.

While we are familiar with the Truven data at a high level, we relied on Mr. Williams' work regarding the quality of the data and the accuracy of his calculations. We did not attempt to duplicate his work, but we do reserve the right to do so at a later date.

Findings

The following table summarizes the findings in Tables 1A and 1B of the Williams Report.

		Individuals	Total Costs	% of Costs	Cost Per Person	PMPM
Non-Surgical Patients	Counseling	4,260	$ 7,411,724	51%	$ 1,740	$ 0.03
	Hormone Therapy	4,072	$ 2,717,390	19%	$ 667	$ 0.01
	Other	6,515	$ 4,332,024	30%	$ 665	$ 0.02
	Sub-total	7,731	$ 14,400,221	100%	$ 1,863	$ 0.06
Surgical Patients	Counseling	259	$ 424,909	4%	$ 1,641	$ 0.00
	Hormone Therapy	417	$ 229,705	2%	$ 551	$ 0.00
	Reassignment Surgery	469	$ 7,318,440	73%	$ 15,604	$ 0.03
	Other	458	$ 2,017,564	20%	$ 4,405	$ 0.01
	Sub-total	469	$ 9,990,618	100%	$ 21,302	$ 0.04
All Patients	Counseling	4,519	$ 7,836,633	32%	$ 1,734	$ 0.03
	Hormone Therapy	4,489	$ 2,947,095	12%	$ 657	$ 0.01
	Reassignment Surgery	469	$ 7,257,523	30%	$ 15,474	$ 0.03
	Other	6,973	$ 6,349,588	26%	$ 911	$ 0.03
	Total	8,200	$ 24,390,839	100%	$ 2,974	$ 0.10

From this table, the total cost of covering all gender dysphoria benefits is $0.10, with $0.04 being the direct cost for gender reassignment surgeries and $0.06 for all other gender dysphoria claims, even if those claims are currently covered under the terms of the State Plan. Translating these numbers to the State Plan, the total cost would be approximately $200,000 for 68 individuals. The direct cost of the surgery would be about $85,000 for 4 surgical patients.

Mr. Williams used the midpoint of the $0.04 to $0.10 range ($0.07) as his best estimate before adding the risk premium as discussed below. In effect, his final estimate reflects a $0.04 PMPM for gender reassignment surgical services and a net increase of $0.03 for gender dysphoria services not currently covered under the Uniform Benefits provision of the State Plan. The difference between the $0.10 originally calculated for all gender dysphoria claims and the $0.07 represents the net effect of accounting for services already covered under the State Plan and the potential clinical savings associated with fewer claims for services that would be rendered unnecessary if the patients' gender dysphoria is effectively treated by hormones or surgical procedures.

Review

Overall, Mr. Williams followed sound actuarial principles and made appropriate use of the available data. That said, we have a few observations:

- Mr. Williams stated that his determinations might have overstated the average number of members which would have understated the costs. While that may be true, it is also likely that some groups with coverage had no claims, which would have resulted in an understatement in the number of members and an overstatement of the costs per member.
- It appears Mr. Williams' analysis corresponds to our assumptions about coverage described earlier.
- We reviewed several published sources, including those listed in the Williams Report, and did not find a source that helped us to quantify the potential savings associated with removing the Exclusion or the percent of gender dysphoria claims already being covered. That said, based on the expert witness testimony of Dr. Budge, transition-related care is considered cost-effective because "denial of care is associated with increased disparities in depression, drug abuse, HIV and additional conditions that are costly to treat." Based on that, we assume savings exist, even though they cannot be quantified precisely.
- In theory, the $0.03 difference between the $0.10 and the $0.07 mentioned above represents the net impact of potential savings and the overstatement from services already covered.

In addition to the review described above, we looked at the January 17, 2017 estimate provided to Lisa Ellinger by Segal consultants, Kirsten R. Schlatten, ASA, MAAA and Kenneth C. Vieira, FSA, MAAA. They estimated the impact to be in the $0.05 to $0.13 range. In addition, in a letter to Ann Timmons dated March 3, 2014, Segal consultants estimated the cost to be between 0.02% and 0.03% of total costs. Both estimates are consistent with Mr. Williams' estimate.

Given all the considerations described above, we agree that Mr. Williams' best estimate of $0.07 is an appropriate starting point. Under that scenario, the net impact to the State Plan would be $140,000 or 0.01% of total costs.

Final Estimate and Materiality

Although we agree that Mr. Williams' best estimate is appropriate, we believe his risk premium represents a "worst case" scenario as opposed to a more reasonable scenario.

Risk Premium and Final Estimate

Mr. Williams' final estimate was $0.15 PMPM. For the State Plan this translates to a total cost of 0.03% of total costs. He derived this estimate by including a risk premium of 50% for utilization and 50% for costs. In effect, he doubled the best estimate.

To put that in perspective, the difference between the best estimate and the final estimate is $160,000 ($300,000 - $140,000). This could happen under scenarios like:

- An additional single reassignment surgery at a cost of $160,000. This would be almost 8 times the average cost of such surgeries.
- 8 additional reassignment surgeries at an average cost of $20,000. This would triple the expected number of surgeries.
- 80 additional non-surgical patients at an average cost of $2,000. This would more than double the number of patients.

Given that the probability of any claim for services is close to zero, each of these scenarios is highly unlikely. Our recommendation would be to use a 25% margin, resulting in a $0.09 PMPM. This would support a scenario where there was one additional reassignment surgery and 16 additional non-surgical patients. The net impact to the State Plan would be $175,000 or 0.02% of total costs.

There were two factors supporting our recommended margin. First, according to the American Society of Plastic Surgeons, there were only 3,200 gender confirmation surgeries of all types performed in 2016 even though the surgical techniques have been around since the 1950's. We expect to see a steady growth over time, but not a doubling of the number of surgeries in the near future. Second, in our experience there is a natural tendency to overstate the cost of a benefit when it is relatively new since there is so little known about costs and utilization initially. Employers have been offering this benefit for over a decade now, so there is no need to be overly cautious.

Materiality

Even at Mr. Williams' estimate of $0.15, the removal of the Exclusion rounds to 0.0%, so it is clearly immaterial. It is standard actuarial practice to assume that any benefit that is 0.1% of total costs or less is immaterial for several reasons, but mostly because it is considered a rounding error. In our experience, no employer has made a benefits decision based on cost for a benefit that costs less than 0.1%. Regardless, there would be no way to validate the the accuracy of a projection of a cost at or below this threshhold after the fact, because normal variance for a group the size of the State Plan is between 3% and 5% based on our experience.

For the State Plan, this 0.1% materiality level translates to a 2016 PMPM of $0.50, or more than triple Mr. Williams' final estimate of $0.15, more than 5 times our final estimate of $0.09 and more than 7 times our mutual best estimate of $0.07.

Actuarial Disclosures

Reliance on Data Supplied by Others

In preparing this report, I have relied on data and reports supplied by the ACLU of Wisconsin including the Williams Report. While we have reviewed the information in detail to determine reasonability, we have not audited the data and report, and do not attest herein to their accuracy.

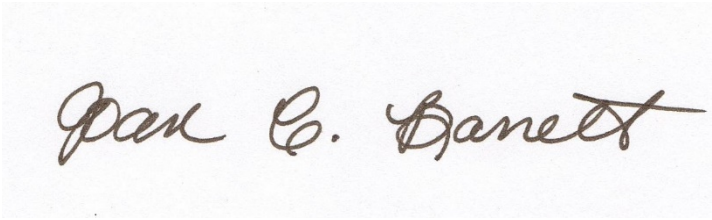
Responsible Actuary

Unless otherwise noted, I am responsible for the assumptions and methodologies presented in this report. Questions regarding this report should be directed to my attention.

Qualifications

I, Joan Barrett, am a Fellow of the Society of Actuaries and a Member of the American Academy of Actuaries in good standing, and am qualified to complete this work.

Respectfully submitted,



Joan Barrett, FSA, MAAA
Senior Consulting Actuary
Axene Health Partners, LLC
May 31, 2018

CURRICULUM VITAE

JOAN C. BARRETT, FSA, MAAA
Axene Health Partners, LLC
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SUMMARY

Seasoned health actuary with over 35 years of professional experience, recognized for technical experience, leadership, communication skills and professional integrity.

CURRENT POSITION

Advisor to Insurers and Employers
Senior Consulting Actuary, Axene Health Partners, LLC, June 2015 – Present
Role: Consulting with health insurers and employers on a variety of actuarial assignments.
Recent projects:

- Rate-making procedures and strategies
- Rate fling support
- Employee benefits pricing and strategy

PREVIOUS WORK EXPERIENCE

National Accounts Actuary
Vice President, National Accounts, UnitedHealthcare. February 1993 – June 2015
Roles: Providing actuarial support to senior management and employers

1. Actuarial support and risk management for senior management
2. Benefit design and strategic consulting for Fortune 500 employers
3. Consumerism and actuarial research
4. Small and large group rate filings and pricing
5. Actuarial support for union negotiations
6. Analysis of self-funded network reimbursement methodologies
7. Rate-filings and pricing

QUALIFICATIONS AND DESIGNATIONS

- FSA – Fellow of the Society of Actuaries (SOA)
- MAAA – Member of the American Academy of Actuaries (AAA)

EDUCATION

- Bachelor of Arts, Frederick College, Portsmouth Virginia (Mathematics)
- Master of Arts, Miami University, Oxford, Ohio (Mathemetics)

PUBLICATIONS IN THE LAST 10 YEARS

- Barrett, Joan. (2018) Time to Update Your Trend Process?. *HealthWatch* (Society of Actuaries).
- Barrett, Joan (2017). Evolution of the Health Actuary: A Health Section Strategic Initiative. *HealthWatch.*
- Barrett, Joan. (2017) Accountability: Rates. *Inspire Accountability Series*. (Axene Health Partners)
- Barrett, Joan. (2017) The Chronic Disease Burden. *Inspire Series on the U.S. Healthcare Sytem*. (Axene Health Partners)
- Barrett, Joan. (2016). Making Predictive Analytics Our Own. *Predictive Analytics and Futurism* (Society of Actuaries)
- Barrett, Joan. (2016). Ch. 34: Medical Claims Cost Trend Analysis. *Group Insurance*, Skwire, Daniel D., 7th Edition.
- Barrett, Joan and Kessler, Emily. (2015) New Directions: The SOA in China. *The Actuary* (Society of Actuaries.
- Barrett, Joan. (2010) Chairperson's Corner. *Expanding Horizons.* (Society of Actuaries)
- Barrett, Joan. (2009) Chairperson's Corner. *Expanding Horizons.* (Society of Actuaries)
- Barrett, Joan. (2008) Timing's Everything: The Impact of Benefit Rush (Society of Actuaries)

EXPERT WITNESS EXPERIENCE

- None

CURRENT AND RECENT SOCIETY OF ACTUARIES (SOA) ENGAGEMENTS, ACTIVITIES AND ACCOMPLISHMENTS

- Vice-President, 2015 to 2017
  - Chair, Value of the Credential Task Force
  - Member, Issues Advisory Committee
  - Member, Policy and Governance Committee
  - Member, Cultivating Opportunities Team
- Elected Board Member, 2011 to 2014
  - Chair, International Committee
  - Chair, Audit Committee
  - Member, Business Analytics Team
  - Academic Partner
- Initiative 18/11: What Can We Do About the Cost of Health Care
  - Planning Committee member
  - Participant
- Section Experience
  - Chair, Education and Research Section Council
  - Board Partner, Health Section Council
  - Board Partner, Predictive Analytics and Futurism Section Council
  - Chair, Evolution of the Health Actuary Task Force, chartered by the Health Section Council
  - Member, Health Section Council
- Basic Education Experience
  - General Officer, General Insurance Curriculum
  - General Officer, Group and Health

- Continuing Professional Development Experience
    - Chair, Health Meeting
    - Board Partner, Continuing Professional Development Committee
    - Frequent speaker
- Research
    - Chair, Project Oversight Group, “Enterprise Risk Management Practice as Applied to Health Insurers, Self-Insured Plans and Health Financial Professionals”
    - Chair, Project Oversight Group, “Risk and Mitigation for Health Insurance Companies”
    - Chair, Project Oversight Group, “Measurement of Healthcare Quality and Efficiency: Resources for Healthcare Professionals”

BRIEF BIOGRAPHY

JOAN C. BARRETT, FSA, MAAA
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Joan Barrett is a Senior Consulting Actuary with Axene Health Partners, LLC. She is a well-known and well-respected actuary. Joan brings great value to AHP clients with a knack for developing strong systems for analyzing network value and core actuarial functions, such as trends and pricing.
Joan joined AHP following a successful career at UnitedHealth Group, where she led the National Accounts Actuarial area for many years. In that role, she was instrumental in developing several innovative concepts in risk analysis and consumer analytics.

In 2017 she completed her service as a Society of Actuaries Vice-President. During her terms on the Board of Directors, she chaired both the International Committee and the Audit Committee. In 2011 she was named one of the Top Ten Volunteers for the Society of Actuaries. In part, this was because of her work as Chair of the Group and Health Curriculum Committee, the group that defines what every aspiring health actuary needs to know.

Joan recently chaired the Evolution of the Health Actuary Task Force which was been charged with defining the needs of health actuaries in the years to come and recommending a path to meet these needs. She is also a frequent speaker and author.

Joan received her Bachelor of Arts in mathematics from Frederick College and her Master of Arts in mathematics from Miami University. She is a Fellow of the Society of Actuaries and a Member of the American Academy of Actuaries.

Joan lives in Tolland, Connecticut near her children and grand-children.

CURRICULUM VITAE

Elaine Corrough, FSA, FCA, MAAA
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SUMMARY

Seasoned health actuary with over 20 years of professional experience, recognized for technical experience, communication skills and professional integrity.

CURRENT POSITION

Advisor to Health Systems, Insurers, and Related Organizations.
Partner & Consulting Actuary, Axene Health Partners, LLC, January 2016 – Present
Senior Consulting Actuary, Axene Health Partners, LLC, March 2012 – December 2016
Role: Consulting with health systems and health insurers on Medicaid, Medicare, and commercial blocks of business on a variety of actuarial assignments.
Recent projects:

- Expert witness services regarding health actuarial practice and provider payment levels
- Contract review and analysis, cost model development, reimbursement schemes, and risk-based rate analysis
- Actuarial support for provider-payor contract negotiations and network development
- Analysis of self-funded rates for trusts and self-funded employers
- Strategies and structures for alternative payment models
- Evaluation of operational expenses for health plan, including negotiated MSO rates
- Cost analysis for setting network provider reimbursement rates on fee-for-service and risk (capitation) bases
- Claims analysis and payment model development for health systems
- Evaluation of risk readiness for health systems
- Measurement model for targeted condition management program

PREVIOUS WORK EXPERIENCE

Employee Benefits Actuary.
Vice President, Aon/Aon Hewitt, January 2009–December 2011. Employee benefits consulting.
Actuary/Consultant, Hewitt Associates, October 1995–December 2006 and December 2007–December 2008
Role: Consulting with employers on all aspects of their health and welfare benefits.

- Analysis of self-funded network reimbursements and overall health plan performance
- Claims analytics and reserves calculations
- Benefit design and strategic consulting
- Various national roles at Hewitt including national development leader and manager of actuarial operations for the health practice

Staff Fellow.
Health Staff Fellow, Society of Actuaries, January 2007 – November 2007.
Role: Unique national position focusing on the educational and research needs of practicing health actuaries.

QUALIFICATIONS AND DESIGNATIONS

- FSA – Fellow of the Society of Actuaries (SOA)
- MAAA – Member of the American Academy of Actuaries (AAA)
- FCA – Fellow of the Conference of Consulting Actuaries (CCA)

EDUCATION

- Bachelor of Arts 1992, Washington University in St. Louis, Classics (Languages)

EXPERT WITNESS WORK

- None

PUBLICATIONS IN THE LAST 10 YEARS

- Corrough, Elaine. (2017) Data Intermediaries: Pulling Insights from Confidential Data. *Inspire* Series (Axene Health Partners)
- Corrough, Elaine. (2016). Chairperson's Corner. *HealthWatch*. (Society of Actuaries)
- Elaine, Corrough. (2016) Ch. 18: The Affordable Care Act. *Group Insurance*, 7th Edition (Skwire)

CURRENT AND RECENT PROFESSIONAL ENGAGEMENTS, ACTIVITIES AND ACCOMPLISHMENTS

- Project Oversight Group member (Society of Actuaries Research – MACRA), 2018
- Merit Reviewer (multiple grant applications – improving healthcare systems), PCORI, 2018
- SOA Nominating Committee – 2017-18
- Merit Reviewer (multiple grant applications – dissemination & implementation), PCORI, 2017
- Project Oversight Group member (Society of Actuaries Research – Healthcare Fraud), 2017
- Presenter (Health Research), 2016 SOA Annual Meeting – Outstanding Session Award
- Presenter (ACA co-op failures), September 2016 Portland Actuarial Club
- Presenter (ACA marketplace sustainability), 2016 State of Reform-Portland
- Panelist (Actuarial Standards of Practice), 2016 SOA Spring Health Meeting
- Editorial Board member, *HealthWatch*, 2016
- SOA Health Section Council – 2015-16 Chair (elected position)
- Contributing author, *Group Insurance* (textbook, 7th edition)
- Presenter (provider reimbursement models), 2016 State of Reform-Seattle
- Presenter (actuarial communications and writing), 2015 SOA Spring Health Meeting
- Panelist (clinical measures for payment models), 2015 SOA Spring Health Meeting
- Presenter (provider reimbursement models), 2015 State of Reform-Los Angeles
- Moderator (options for small groups under ACA), SOA Webcast, July 2015
- SOA Health Section Council – 2014-15 Vice-Chair (elected position)
- SOA Health Research Committee – 2014-17 member
- SOA Health Research Oversight Committee – 2016-17 member
- CCA – 2015 Health Reform Meeting planning committee member

- Actuarial Standards Board (ASB) MV/AV Task Force and related Actuarial Standard of Practice (ASOP) – task force member
- Joint Discipline Panel – 2016 member
- Panel moderator, 2014 CCA Health Reform Meeting, *State Perspectives on Rate Filing Reviews*
- SOA Public Relations – 2013-2014 media interviews
    - "Is This the Hardest Job in America?" Wall Street Journal, 5/1/2014
    - Commentary on ACA and rate development interviews with media outlets including CNN (11/2013), BloombergBusinessWeek (11/2013), Politico (12/2013), Modern Healthcare (4/2014), Vox.com (4/2014), Kaiser Health News (4/2014), MarketWatch (4/14), Associated Press (4/2014)
- CCA – 2014 Health Reform Meeting planning committee member
- SOA Basic Education – 2013 volunteer, General Insurance track
- Panel moderator, 2013 SOA Annual Meeting & Exhibit, *Healthcare Cost Trends*
- Scorecard committee member, Healthcare Cost Institute, April 2012
- Public testimony, Joint Legislation Audit & Review Subcommittee (State of Washington), February 2011
- SOA Basic Education – 2007-08 volunteer, Health track (wrote original content)

BRIEF BIOGRAPHY

Elaine Corrough, FSA, FCA, MAAA
Axene Health Partners, LLC
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Elaine is a Partner and Consulting Actuary with Axene Health Partners, and has recently opened our new office in Portland, Oregon after working in the Murrieta headquarters for several years. With over 20 years of health actuarial experience, Elaine's recent work has focused on actuarial analysis, cost modeling, and formal certifications for carriers and health systems, including state ACA rate filings; actuarial reviews for the Round 2 Centers for Medicare and Medicaid Innovation (CMMI) Health Care Innovations Awards; and strategic and tactical support for health systems taking on risk. Elaine especially enjoys projects linking regulatory and contractual requirements with actuarial methods.

Prior to joining AHP, Elaine consulted on all aspects of health and welfare benefits for plan sponsors ranging from small public entities to Fortune 100 companies. In addition to traditional consulting activities such as pricing, discount analysis, and claims analysis for self-funded employer plans, her expertise includes actuarial analysis of legislative and regulatory developments; ROI assessments; health risk migration and mapping; and complex model design and development. She was also the national measurement leader for the healthcare consulting practice of a large consulting firm. In addition, Elaine is a past Staff Fellow in health for the Society of Actuaries.

Elaine has presented at multiple industry conferences on a variety of topics. She is a Fellow of the Society of Actuaries, a Fellow of the Conference of Consulting Actuaries, and a Member of the American Academy of Actuaries. In addition to serving on multiple committees for these organizations, she was a member of the Actuarial Standards Board Health Committee's Task Force focused on developing an actuarial standard of practice for determining minimum value and actuarial value under the Affordable Care Act. She was the 2015-16 chairperson of the SOA Health Section Council (elected position), and is also a member of the SOA's Health Research Advisory Committee.

Elaine earned a Bachelor of Arts degree in Classics (with an emphasis on languages) from Washington University in St. Louis.

CURRENT STAFF BILLING RATES

Elaine Corrough, FSA, FCA, MAAA
Axene Health Partners, LLC
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As of March 2018, hourly billing rates are as follows:

Elaine Corrough, FSA, FCA, MAAA - $445
Project Lead and Lead Actuary

Other team members:
Peer Review - $405-$545
Medical Director/Clinical Consultant - $435-$475
Senior Consulting Actuary - $310-$415
Consulting Actuary - $295-$345
Actuary - $170-$300