Session 118 PD, Evolution of the Health Actuary

Moderator/Presenter:
Joan C. Barrett, FSA, MAAA

Presenters:
Roy Goldman, FSA, CERA, MAAA
Brian Edward Pauley, FSA, MAAA
### Today’s Agenda

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<th>Topics/Perspective</th>
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<td>Joan Barrett</td>
<td>• Introduction</td>
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<td>• The disruptors</td>
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<td>Brian Pauley</td>
<td>• An up and coming actuary</td>
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<td>Roy Goldman</td>
<td>• A “retired” executive</td>
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<td>All</td>
<td>• Discussion</td>
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About the project

- Health Section Council strategic initiative
- Charter/Goals
  - Identify disruptors for the next 5-10 years
  - Identify risks and opportunities for actuaries
  - Recommendations to Health Section Council
  - Two HealthWatch articles
  - This session
- Scope: US medical only
Polling Question –
When did you attain your ASA?

1. 1970’s
2. 1980’s
3. 1990’s
4. 2000’s
5. 2010’s
Polling Question – What best describes your day-to-day work?

1. Core actuarial work like pricing, product development, reserving and trends for a health plan
2. Non-traditional roles, like provider contracting and medical economics, for a health plan
3. Predictive analytics and/or research
4. ERM/Strategy/Operations
5. Consulting on multiple topics
6. Something else
Polling Question –
What is your current primary area of practice?

1. Individual
2. Small Group (fully-insured)
3. Large Group (fully-insured)
4. ASO/Key Accounts (usually under 3,000 lives or so)
5. National Accounts/Employee Benefits
6. Medicare/Medicaid
7. Supplementary Benefits (Med Supp, Dental, Vision, etc)
8. Disability/LTC
9. Executive/Strategy/ERM
10. Something else/Not applicable
The Analytical Perspective
My Evolution as an Actuary

- An A student in math/statistics
- Sometimes simpler is better
- Data, data, data
- OMG. Competition!
- Non-actuaries are smart too
- Time to make predictive analytics our own
The Major Disruptors

- Next Gen Health Care Reform
- Reducing the Chronic Disease Burden
- Value-Based Reimbursement/MACRA

Can you think of other disruptors?
NextGen Healthcare Reform
Stakeholder Concerns

- Consumers
  - Coverage or no coverage?
  - If coverage, which plan?

- Health plans
  - Participate or not participate?
  - If participating, what is pricing strategy?

Will the next bill passed be the final bill or will major changes follow?
Health Care Analytical Challenges

- Estimating the change in the risk pool
- Consumer behavior
- Quantifying risk
Polling Question –
On average, how much did the Exchange risk scores change from 2014 to 2015 according to SOA research?

1. 0%
2. 5%
3. 10%
4. 15%
Predicting a Risk Pool

- **Expand data sources**
  - Rx history, with permission
  - Income, nationality and education level
  - Electronic medical records

- **Winners-losers analyses**

- **Amazon.com like analytics/regression**

- **Consumer behavioral analysis**
## Key Behavioral Finance Questions

<table>
<thead>
<tr>
<th>Questions</th>
<th>Analytical Concepts</th>
<th>Comments</th>
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<tr>
<td>• Coverage or no coverage?</td>
<td>• Selection</td>
<td>• How well can an individual forecast his or her needs?</td>
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<td>• If covered, which plan?</td>
<td>• Price elasticity</td>
<td>• When will a person over-insure?</td>
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<tr>
<td>• Selection</td>
<td>• Utility theory</td>
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<td>• When will a person over-insure?</td>
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<td>• Seek treatment or not?</td>
<td>• Benefit rush</td>
<td>• Health literacy/TMI</td>
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<td>• Timing of treatment?</td>
<td>• Price elasticity</td>
<td>• Wellness campaign impact</td>
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<tr>
<td>• Services and providers?</td>
<td>• Choice architecture</td>
<td>• Role of physician</td>
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<td>• Healthier lifestyle?</td>
<td>• Incentives effectiveness</td>
<td>• What incentives work best for some type of action</td>
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<tr>
<td>• Incentives effectiveness</td>
<td></td>
<td>• Which actions are most effective in improving quality or reducing costs?</td>
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Risk: Moving Beyond Margins

- Probability of payout = 34%
- Expected profit/loss = $6 PMPM
- Probability of losing more than $1 million - 24.8%
- Probability of losing more than $5 million - 3.6%
Pricing Risk vs. Process Risk

**Process Risk**
- Risk due to random variation, even if pricing is absolutely correct
- Mostly due to large claims
- Credibility: Chance that a sub-group, say a specific employer, will have different experience than the book

**Pricing Risk**
- Missed trend
- Unexpected population shifts

**Total Risk**
- Process risk + weighted average of pricing risk by scenario
Polling Question –
According to the CDC, what percent of total health care expenditures are for the direct care of chronic diseases like diabetes and cancer?

1. 10%
2. 25%
3. 50%
4. 75%
What are we doing about the costs?

- New technologies
- Consumer health apps
- Predictive analytics
- Quality strategies
  - CMS
  - Triple Aim
  - CDC 6/18
## Dynamic Return on Investment

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<th>Component</th>
<th>Traditional ROI</th>
<th>Dynamic ROI</th>
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<td>Investment</td>
<td>• Fixed admin PMPM</td>
<td>• Fixed admin PMPM</td>
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<td>• Tests, office visits, <em>sometimes</em></td>
<td>• Test, office visits, etc</td>
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<tr>
<td>Return</td>
<td>• Fewer admits, ER visits</td>
<td>• Fewer admits, ER visits</td>
</tr>
<tr>
<td></td>
<td>• Tests office visits, <em>sometimes</em></td>
<td></td>
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<tr>
<td>Payback Period</td>
<td>• <em>Fixed period</em></td>
<td>• <em>Variable period</em></td>
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<td>• Usually long enough to show positive ROI</td>
<td>• Reflects fact that patient may leave before investment is recouped</td>
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*Sometimes* indicates uncertainty or variability in the occurrence of these costs.
Value-Based Reimbursement

- **Value-Based Reimbursement (VBR)**
  - Usually includes a fee-for-service element
  - Includes bonus and/or penalty for meeting specified quality and efficiency measures

- **Commercial (VBR)**
  - Narrow Networks
  - Accountable care organizations

- **MACRA**
  - Medicare Access and CHIP Reimbursement Act
  - Medicare physicians’ reimbursement
Provider Challenges

- Too much paperwork
- New measures to price/manage risk
  - Scorecard measures
  - Percentile risks
- Strategic considerations
  - Mix of contracts
  - Long term planning
  - Clinical practice changes to meet optimize income
- Cost-shift to commercial?
Cost-Shifting: Historical Perspective

Hospital Payment to Cost Ratios

- Medicare
- Medicaid
- Private Payer

Health Plan Analytical Challenges

- Projecting cost-Shifting
- New measures
- Competition
  - Network negotiations
  - Price
- VBR impact on pricing and reserving
My Vision of the End Game

- Actuaries become the undisputed risk management profession
  - Break open the “black box” to measure and monitor risk
  - Provide recommendations to decision-makers
  - Business acumen + analytics key to our success

- Policy makers, C-Suite seek out the voice of the actuary for leading edge insights, direction
A Few Parting Thoughts

“All models are wrong, but some are useful”
- George Box

“Statisticians, like artists, have the bad habit of falling in love with their models”
- George Box

“An approximate answer to the right problem is worth a good deal more than an exact answer to an approximate problem”
- John Tukey
An Up and Coming Actuary
My Health Actuary Evolution

- From C math student to FSA
- Scientist turned actuary
- Life to health insurance
- Success in a recent non-actuarial, health operations role
- The next episode
Polling Question – Have you ever changed your career path?

1. No
2. Yes, I changed my practice area
3. Yes, I went from a non-actuarial career to an actuarial career
4. Yes, I shifted from an actuarial career to a non-actuarial focus, like sales

- 51% chose No
- 22% chose Yes, I changed my practice area
- 20% chose Yes, I went from a non-actuarial career to an actuarial career
- 7% chose Yes, I shifted from an actuarial career to a non-actuarial focus, like sales
Value-Added Experiences

❖ John Maxwell Team certified leadership speaker, trainer and coach

❖ Having non-actuary leaders and direct reports

❖ SOA volunteer experiences

❖ My recent job search
My Evolution -- SOA Volunteer

- Leading volunteers is a different skill to develop
- Opportunity to perform executive and operational duties without having to change jobs at work
- Education versus section volunteer work
- Communication
- Networking
Polling Question –
What best describes your current SOA volunteer involvement?

1. Little or no involvement
2. I occasionally volunteer (speaking, articles, etc)
3. I am highly engaged on a regular basis
Skills to Add to Your Evolution

- Learn to think like a CEO
- Understand what leadership is, for most really don’t
- Strategic partner > the answer
- Accounting has its place. But, don’t get sucked into ‘the number’
- Get in the weeds without getting muddy
- If you are in your comfort zone, you are not growing
- Have a well-formed opinion
- Be different!
My Vision of the End Game

- “Health” and “well-being” are turning into corporate buzzwords
- A case for privatization – the Medicare Part D program
- Value-based care and making sure everyone has skin in the game to reach a common goal
- Removing HMO from the dictionary and truly coordinating care
- There will continue to be lots of work for health actuaries, but remember that leadership is ALWAYS in demand
A “Retired” Executive
My Evolution as a Health Actuary

- From the college classroom to pension consulting
- From pension consulting to a large insurer
- Early experiences with computers
  - Exams without calculators
  - Using a Service Bureau
  - How to take a square root in Cobol
  - Where should we put that first PC?
  - Where should one put the outlets?
Job Experiences

- Never reported to an actuary
- Benefit design, Pricing, Filing, and Reserving
- Benefit and Provider Contracting
- Compliance and Advertising Review
- Claim administration
- Systems and Data Analysis
- CFO
- Interim CEO
- Chief Actuary – build an actuarial community
Reacting to New Legislation/Regulation

- Pricing and plan design for ACA was “Actuarial Nirvana”
- READ the legislation or regulation
- Comment at least internally
- Sign up for daily e-mails
  - Health Affairs blog
  - BenefitsLink.com
  - AIS Daily Health briefing
- Join industry committees or work individually
  - Strengthen the voice of the actuary in public policy
  - Influence both legislation and regulation
  - We need to be timely and take a stand where we have the expertise
Skills for new Legislation or Initiatives

- Actuaries are often the only ones who know both the big picture and the details
- Volunteer to direct teams of other experts
- Lead or participate on Strategic Planning teams
  - White Papers
  - Enterprise Risk Management/ORSA
- Help develop winning Tactical Plans
  - Use Predictive Analytics
  - Create Scenarios with probabilities
- Make RECOMMENDATIONS
Polling Question – Which of the following best describes your involvement in the 2010 ACA roll-out?

1. Not applicable to my situation at the time
2. Participated in pricing and implementation for my employer or client
3. Strategic consulting/decision-making for my employer or client
4. Participated in SOA/Academy efforts in addition to my job responsibilities
Opportunities for Actuaries

- CFO of insurer/health plan/medical group/ACO
- Medical management evaluation/Quality Improvement (e.g., STARS)
- Provider arrangements/contract negotiations
- Risk Adjustment processing and accuracy
- Predictive analytics (e.g., medical mgmt. programs, target marketing, risk adjustment, program evaluation)
- Risk Management/Public Policy
- Careers or rotations at CMS, CBO, or CCIIO
My Vision of the End Game

- Importance of an individual mandate...or else single payer

- Traditional Medicare
  - Not a true single payer/insurer
  - Cannot control costs or quality

- Let federal government be single payer and insurer but bid out management of the health system in various regions to private companies
  - Paid on fee basis
  - Provide admin services to beneficiaries and providers
  - Coordinate beneficiaries’ care
  - Designing incentive systems for providers to deliver quality care in the most efficient manner
  - Develop incentive systems for beneficiaries to take better care of their health
  - Bonuses for exceeding targets for quality and efficiency

- Plenty of roles left for actuaries!