Large Medical & Rx Claims

Trends, new realities, and funding from a health reinsurance perspective

Willis Re

Who We Are

Reid Kinney	Reid leads the health analytics team within Willis Re's Life Accident and Health practice. In his, 17th year in the insurance industry, Reid consults to risk-taking entities within healthcare on reinsurance, ground-up and excess risks, ERM, and risk strategy.

Willis Re at a Glance

Leading reinsurance advisor and intermediary

Representing **800+** insurers and reinsurers

Revenue **$545M**

Industry-leading organic growth

94% Client retention ratio

Representing clients in over **110** countries

$12B annual ceded premium placed

Lines of business

- Aerospace
- Casualty (GL)
- Credit & Pol. Risk
- Energy
- Engineering & Construction
- Healthcare (Med. PL)
- Life Solutions
- **Life, Accident & Health**
- Marine
- Motor
- Professional Liability
- Property
- Retrocession
- Surety & Fidelity
- Workers' Compensation

180-year history

Delivering global expertise through dedicated Client Advocates

Session Description

In today's session, we will provide an update on large medical and Rx claims, with a discussion of trends, funding, reinsurance structures and marketplace, and health plan challenges and sensitivities.

Actuaries from all disciplines should find these topics informative.

Session agenda

- Why protect?
- What can go wrong?
- Reinsurance
- Health reinsurance: industry at an inflection point
- Wrap up

Why Protect?

- Motivation for reinsurance
  - How often do plans miss and by how much?
  - Capital impacts? / how much do they hold?
  - What can lead to large misses?

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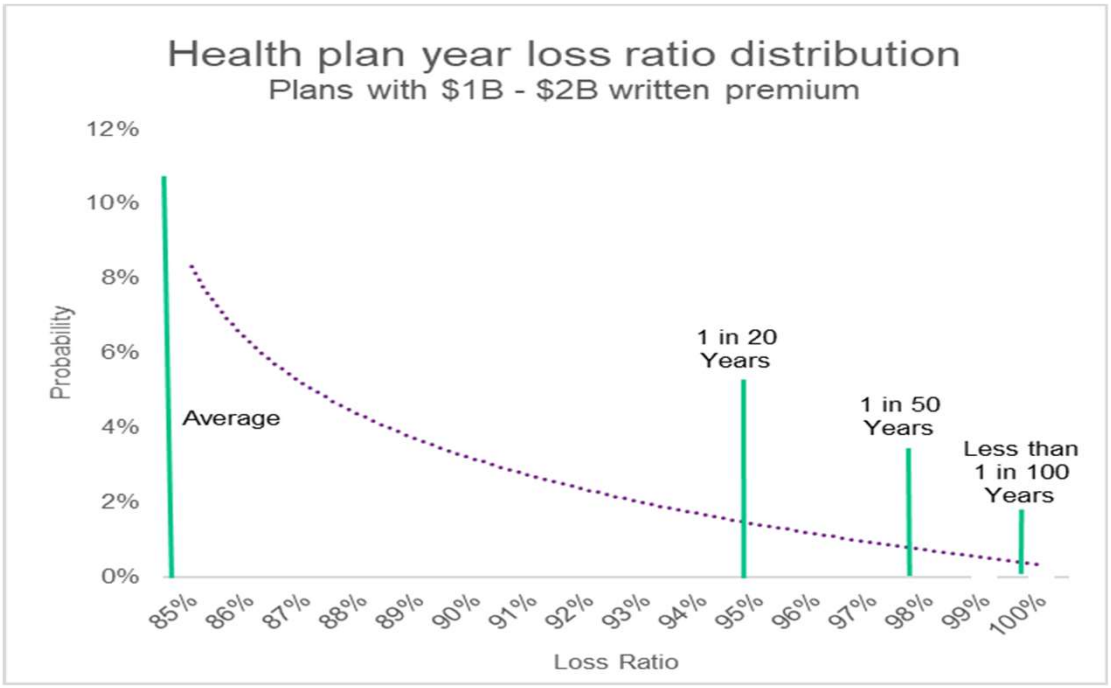
Health Plan Historical Volatility: Sample Industry Loss Ratios



Health Plan Statutory Loss Ratios 2009-2018

- Loss ratios at or above 95% are infrequent (but do occur).
- Plans typically hold capital between 15% and 30% of annual premium.
- Loss ratio distribution will vary with the size of the Health Plan.
- What types of events could lead to a large miss?

*Data Source: US Statutory data from S&P Global Market Intelligence

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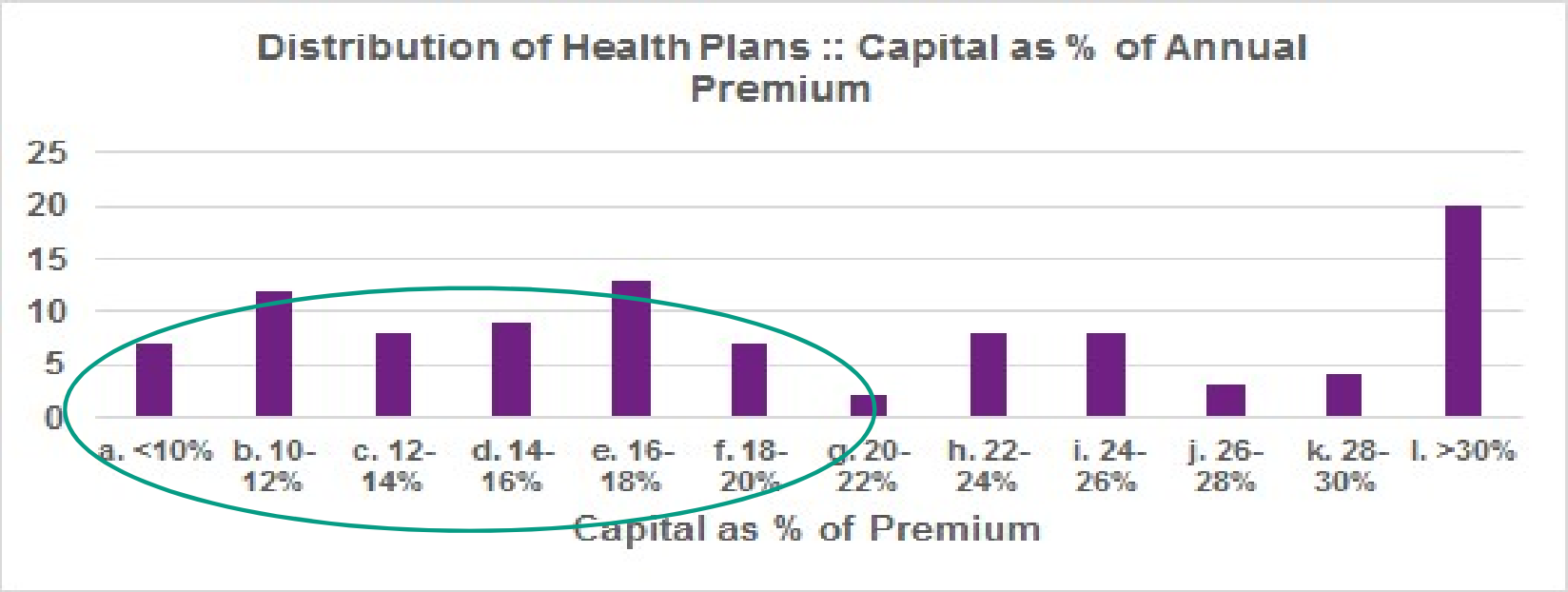
How Much Capital Do Health Plans Hold?

How material is a large loss ratio miss, in capital terms?



- Almost half of health plans hold < 20% annual premium as capital.
- A loss ratio miss of more than 10 points would wipe out greater than half of each of these companies' capital.

*Data Source: US Statutory data from S&P Global Market Intelligence

What can go wrong?

A lot!

- Jumbo claims
- Provider actions
- Population health event
- Regulatory changes / new rules (or failure to uphold current rules)
- Strategy failure
- Specialty Rx / new blockbuster drug
- Pricing miss
- Material demographic shift
- Large membership loss with adverse-selection
- Product or market expansion failure

Health industry dynamics

A ‘perfect storm’ of challenges?

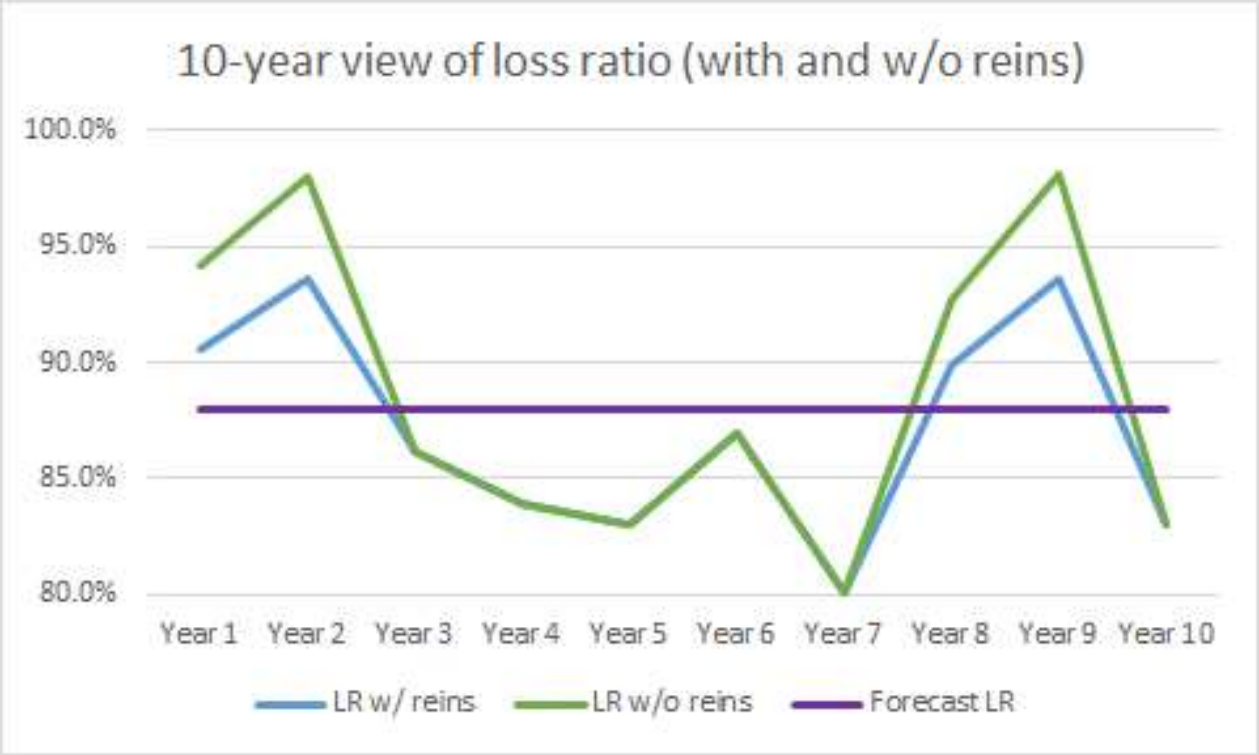
- ACA
  - Removal of unlimited maxes, lifetime maxes, underwriting
- Population health
  - Increasingly obese, chronically ill, aging society
- Proliferation of Specialty Rx
  - GT 15% annual increases
  - Rx pipeline / gene therapy drugs
- Public ‘acceptance’ of 7% annual increases
  - Due to available ‘funding’?
  - Seemingly unlimited consumer demand for ‘latest and greatest’ technology
  - Non-transparency of hospital costs

Health plans work hard and take a lot of risk for modest margins!

Commercial Members & Large Claims

- Graph represents cumulative share of membership versus member claim sizes

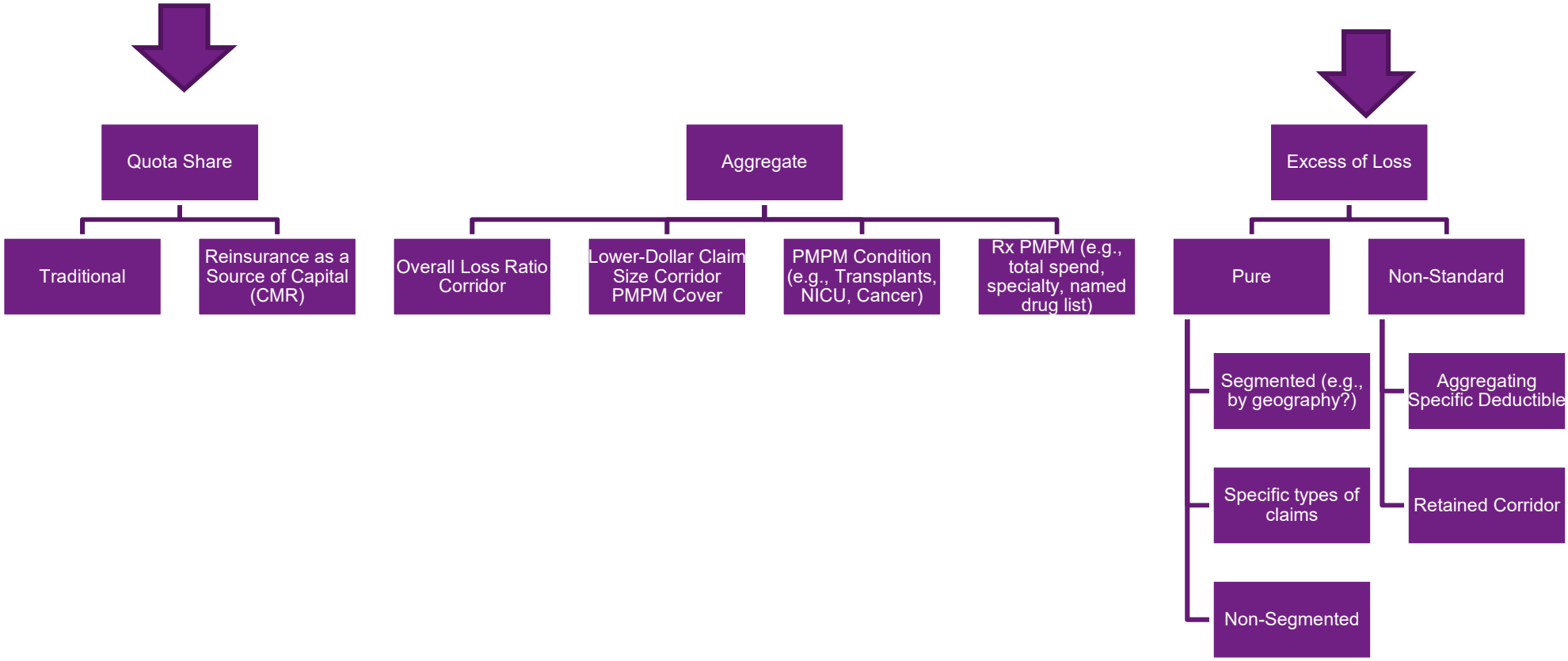
Reinsurance to smooth earnings



- Optimal structure creates efficient trade-off / avoidance of “dollar-swapping”
- Modest amount of absolute profit dollars, for lower year-to-year profit variation

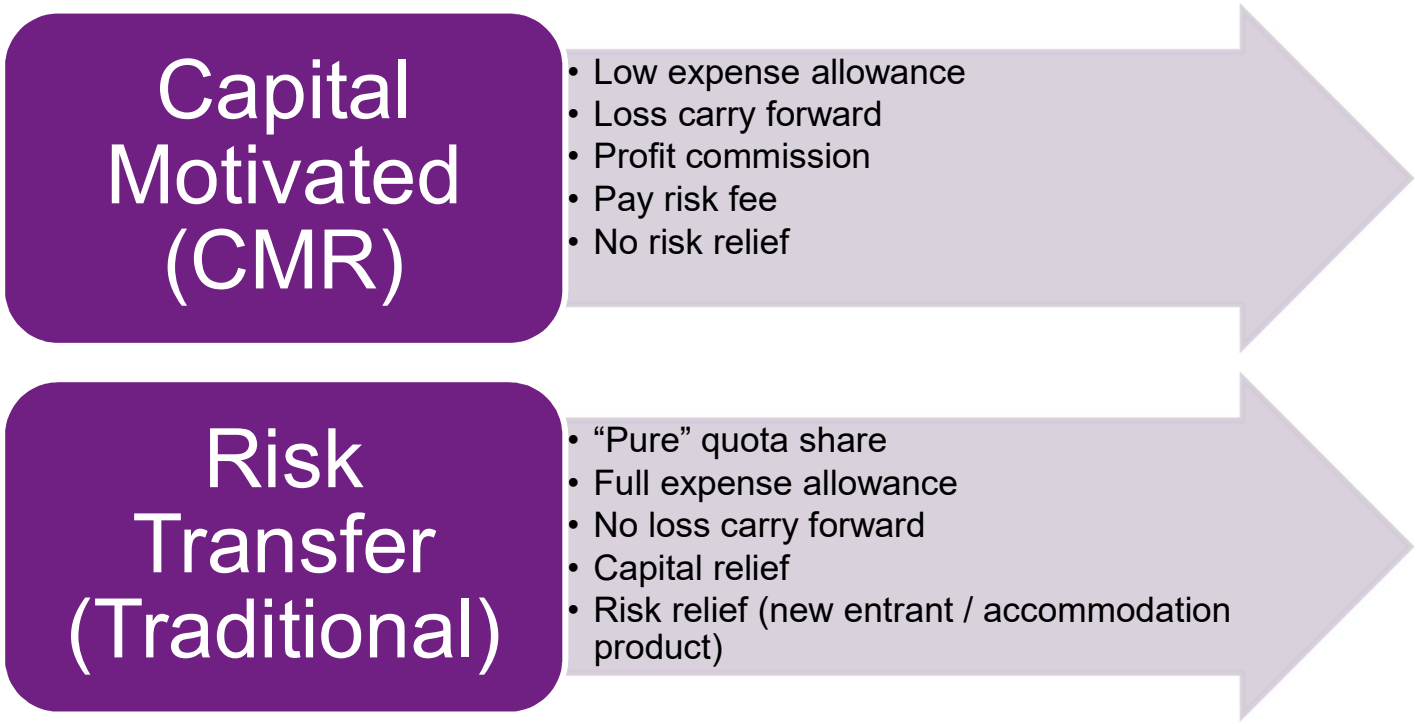
Reinsurance structures

Ultimate list for consideration will be subset of below



Quota share reinsurance

CMR versus risk transfer*



*Claim risk is shared proportionally in both CMR and traditional QS structures, but CMR refunds ceded profit less a risk fee to the ceding company. Any losses incurred by the reinsurer are carried forward and offset against future experience refunds, which allows the reinsurer to recover losses.

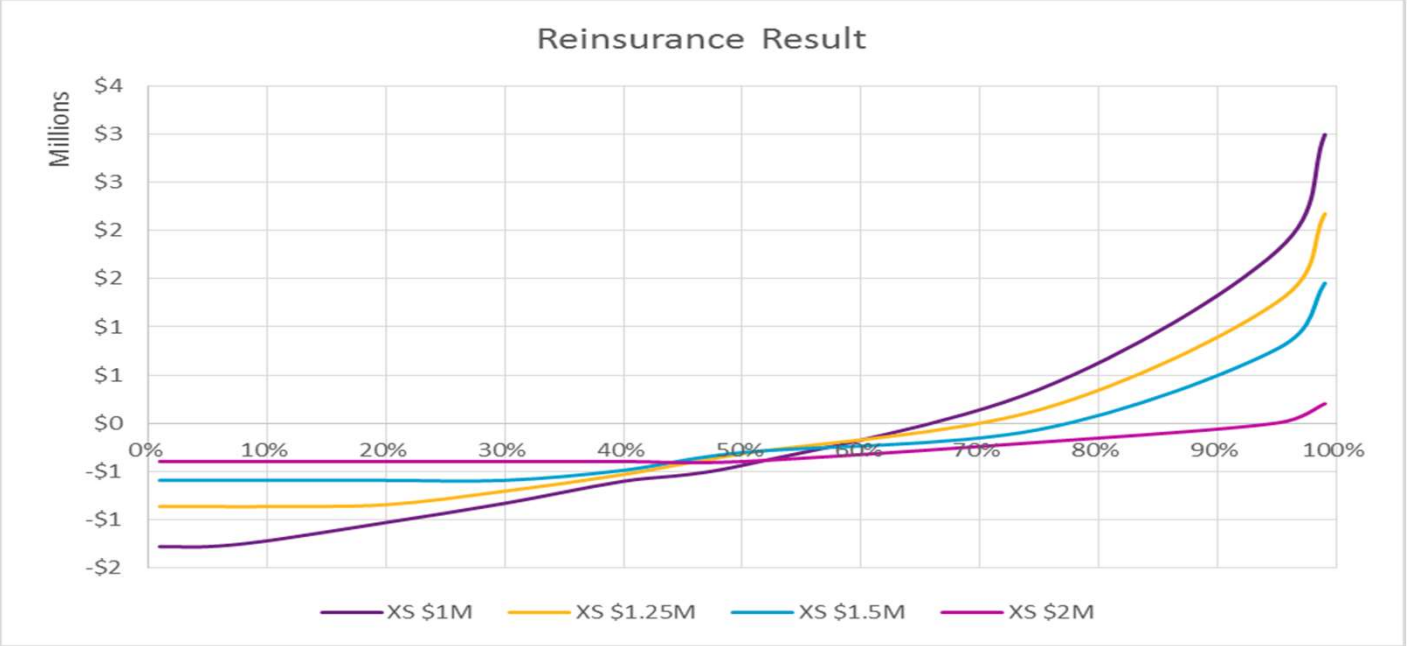
XOL reinsurance cover

How does it work?

- Individual claims in excess of a specified amount covered by reinsurance
- What risks are covered?
  - High-dollar claims at the individual claimant level
- Potential XOL product variations
  - Aggregating specific deductible (ASD)
  - Retained corridor
  - Swing rate
  - Coverage for only certain types of claims or population segments
  - Laser of known claims

Monte Carlo Simulation Results: reinsurance results versus percentile

Well-structured XOL program – results in insurer gain > 1/3 of the time



- Chart shows gain/loss by option. Company ABC losses are limited to reinsurer premium, while gains at higher percentiles show high gain potential.
- Results include experience refund, current reinsurer quoted premiums, and modeled 2017 claims.

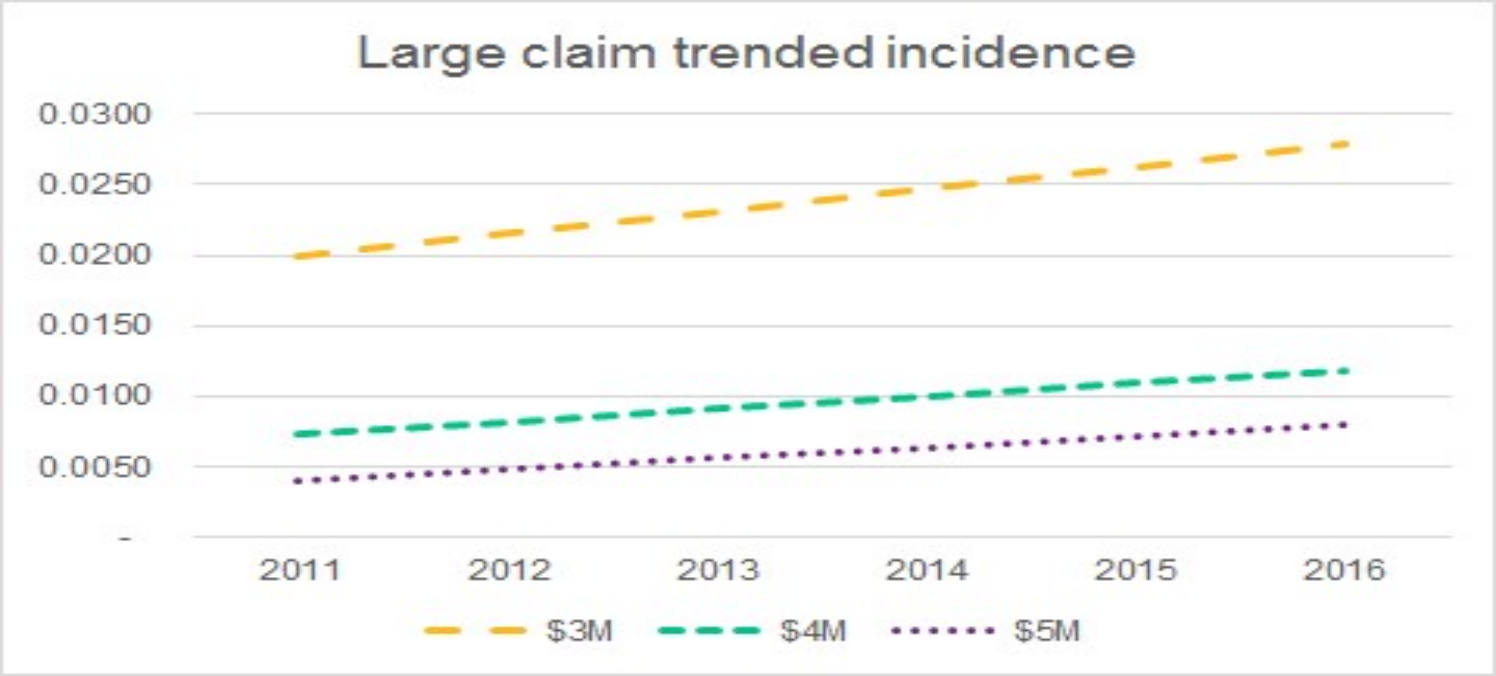
Why does my reinsurance premium increase by so much each year?

A brief leveraged trend refresher

- Assumptions:
  - Your XOL deductible is $600K
  - Ground-up medical trend = 6%
  - Year 1, a certain large claim
    - Costs $1M [ground-up]
    - Reinsurance excess = $1M - $600K = $400K
- Year 2, that same claim would cost
  - The same claim, ground-up cost = $1M x 1.06 = $1,060,000
  - Reinsurance excess = $1,060,000 - $600K = $460K

YOY claim excess "leveraged" trend = $460K / $400K – 1 = +15%

Commercial incidence trends (2011-2016)



- Incidence = claim count per 10K members
- Graph: trend lines, applied to 2011-2016 data points.
- Source: national commercial data set
- Trended at 6% annually
- 5-yr increase in incidence:
  - $2M: +26%
  - $3M: +40%
  - $4M: +61%
  - $5M: +100%

Pre-Gene Therapy Drug Trends

- PMPM Specialty Rx costs growing at an average of 18.4% per annum*:
  - Small population accounts for about one-third of pharmacy cost
    - This percent of cost is forecasted to increase exponentially as specialty drug costs rise
- By 2021, PMPM cost associated with Specialty Rx is expected to surpass Traditional Rx:
  - **Projection does not contemplate the impact of gene therapy on drug trends**

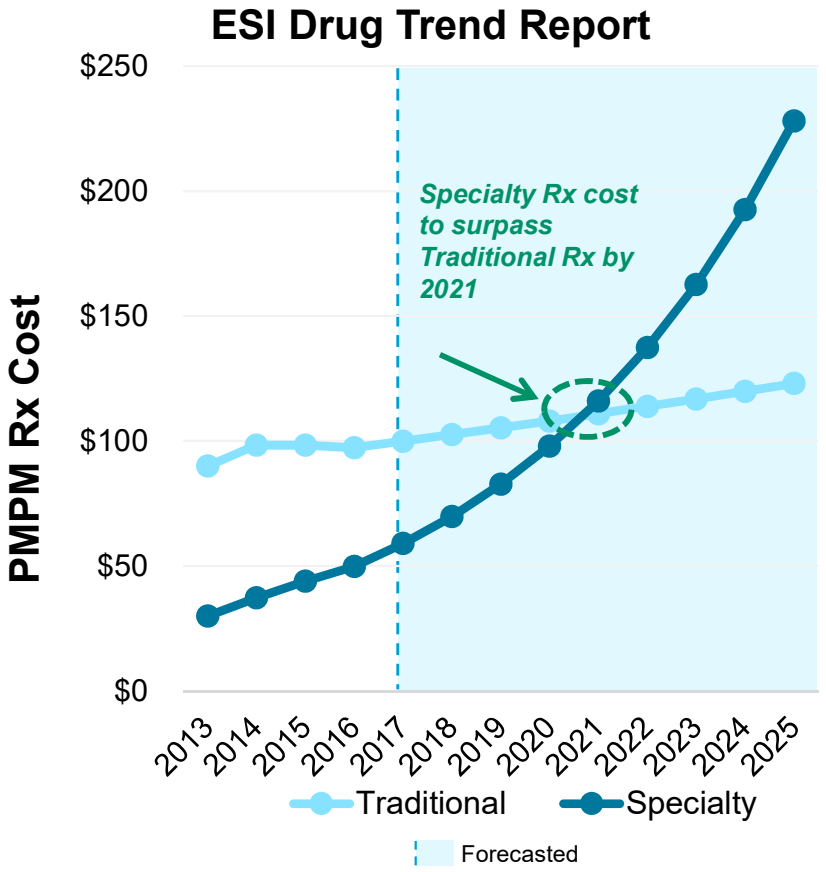
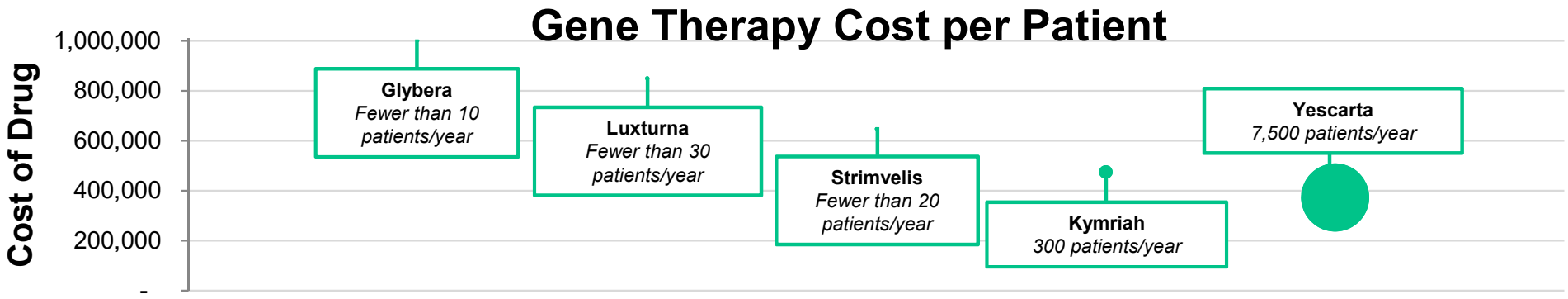


Chart Source:
*Figures from 2017-2025 extrapolated from 2016 ESI drug trend report; chart does not contemplate impact of gene therapy

Gene Therapy & Specialty Pharmacy

- Specialty pharmacy's rising cost expected to increase more rapidly with the advent of approved gene therapy drugs
  - Kymriah: $475,000 for single treatment (Leukemia)
  - Luxturna: $425,000 per eye (gene mutation causing retinitis pigmentosa)

- Accelerated FDA approval leads to additional potential cost burden for payers
  - Side effects and consequences of drugs may not be fully understood until a sufficiently large population receives treatment



Difficult for payer to predict cost, number of eligible patients in advance of each gene therapy approval

Chart Source: https://www.technologyreview.com/s/609197/tracking-the-cost-of-gene-therapy/

Sovaldi (sofosbuvir)

High Cost - The cost of a 12-week regimen of Sovaldi along with two companion medications that patients must also take was around $100,000

Prevalence – an estimated 3.2 million people are infected with hepatitis C virus

Pent-up Initial Demand - In Sovaldi's first 30 weeks on the market, 62,000 new patients tried the drug

https://www.npr.org/sections/health-shots/2014/10/28/359553282/insurers-may-cover-costly-hepatitis-c-drugs-only-for-the-very-ill

https://www.mercurynews.com/2014/07/29/gileads-sovaldi-prescribed-more-than-all-other-hepatitis-c-drugs-combined/

Future of Specialty Drug Market

Gene Therapy and Cellular Immunotherapy

40-60 approvals by 2030*; 500,000+ patients in US across all markets (cumulative)

Price range: $375,000+ for cellular immunotherapies to $1M+ per patient for gene therapy

*Source: MIT NEWDIGS FoCUS, 10/2018

Challenges

Most have no close substitutes, rendering health plans' traditional efforts to control costs by encouraging generic substitution largely ineffective

Removal of annual and lifetime maximums, aging population, increase in patients with chronic and complex conditions

While comprising less than 1% of all U.S. prescriptions, specialty medications in 2013 for the first time accounted for more than a quarter (27%) of the country's total pharmacy spending.\

Cumulative prevalence increasing but still unknown

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4123806/

Recent SL / health reinsurer results

- In the middle of a market correction
- Historically, a lot of capacity
  - Led to aggressive pricing
  - Emerging: Specialty Rx, new medical therapies, leveraged trend, worsening health, lasers, chronic spend
  - Less capacity as a result: hardening market / corrective pricing
- Lasers:
  - 2018: 30% of cases
  - 2020: 50% of cases