



**2019 HEALTH**  
MEETING

JUNE 24-26 | PHOENIX, AZ



## **Session 121, Trends in Catastrophic medical claims: what is going on and what can be done about them?**

[SOA Antitrust Disclaimer](#)

[SOA Presentation Disclaimer](#)

# 2019 Health Meeting

**Session 121: Trends in Catastrophic Medical Claims: What is Going on and What Can be Done About Them?**

**Paul Fallisi FSA, MAAA**

**Windsor Strategy Partners**

June 26, 2019



# SOCIETY OF ACTUARIES

## Antitrust Compliance Guidelines

Active participation in the Society of Actuaries is an important aspect of membership. While the positive contributions of professional societies and associations are well-recognized and encouraged, association activities are vulnerable to close antitrust scrutiny. By their very nature, associations bring together industry competitors and other market participants.

The United States antitrust laws aim to protect consumers by preserving the free economy and prohibiting anti-competitive business practices; they promote competition. There are both state and federal antitrust laws, although state antitrust laws closely follow federal law. The Sherman Act, is the primary U.S. antitrust law pertaining to association activities. The Sherman Act prohibits every contract, combination or conspiracy that places an unreasonable restraint on trade. There are, however, some activities that are illegal under all circumstances, such as price fixing, market allocation and collusive bidding.

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- **Do not** discuss prices for services or products or anything else that might affect prices
- **Do not** discuss what you or other entities plan to do in a particular geographic or product markets or with particular customers.
- **Do not** speak on behalf of the SOA or any of its committees unless specifically authorized to do so.
- **Do** leave a meeting where any anticompetitive pricing or market allocation discussion occurs.
- **Do** alert SOA staff and/or legal counsel to any concerning discussions
- **Do** consult with legal counsel before raising any matter or making a statement that may involve competitively sensitive information.

Adherence to these guidelines involves not only avoidance of antitrust violations, but avoidance of behavior which might be so construed. These guidelines only provide an overview of prohibited activities. SOA legal counsel reviews meeting agenda and materials as deemed appropriate and any discussion that departs from the formal agenda should be scrutinized carefully. Antitrust compliance is everyone's responsibility; however, please seek legal counsel if you have any questions or concerns.

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# Background

- Day 21,235
- Temple University
- Hartford
- John Alden
- Cairnstone
- Munich Re Stop Loss
- Windsor Strategy Partners
- <https://www.wspactuaries.com/>

# Employer Stop Loss

- Pre-Obamacare
- 95% of policies had \$1 million maximum

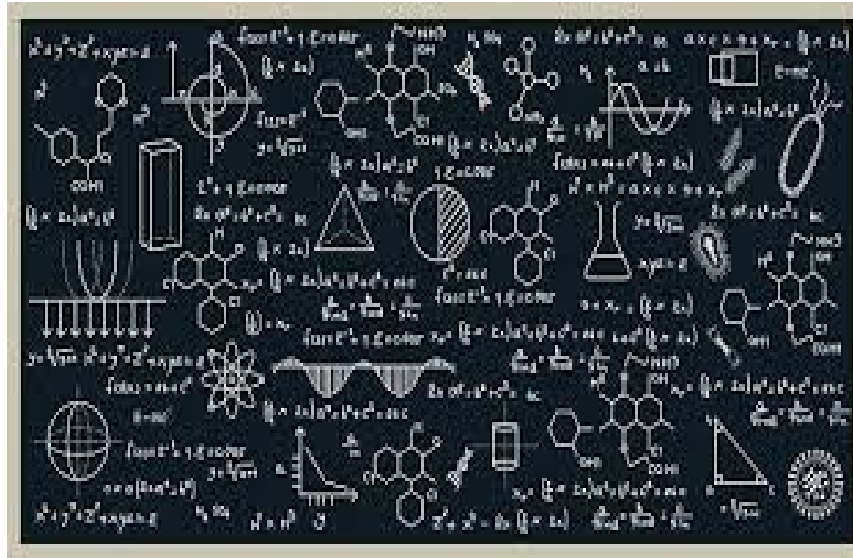
Post Obamacare

97.5% of policies have **UNLIMITED** maximum



# Claims over \$1 Million

- WSP Proprietary Data Base
- Over 20 million life/years



# Claims over \$1 Million

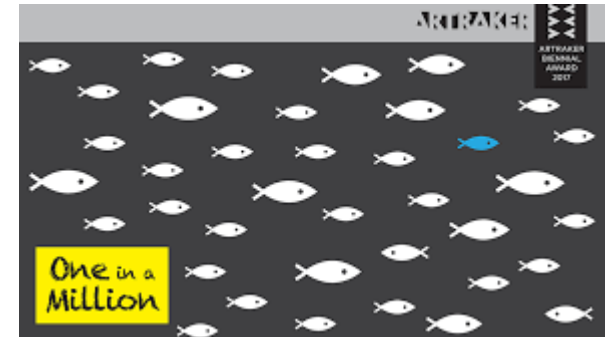
- Number of claims over \$1 million has **Doubled** over the past 4 years
- Severity creeping up slightly – frequency is the driving force





# Statistics

- $1/30,000$  = chance of being claim over \$1 million
- 1 person in Salem NH
  
- $1/750,000$  = chance of being over \$3 million
- 1 Person in Seattle WA



# Statistics

- Causes for \$1 Million Plus Claims
  - Premature Baby
  - Cancer
  - Hemophilia
  - Transplant
- Causes for \$3 Million Plus – same except Transplant

# Statistics

- 78% of charges are for inpatient hospital charges
- Includes J Code Drugs
  
- Average Stay for \$1 million claims = 123 inpatient days

# Statistics

- Average Stay for \$1 million claims = 123 inpatient days
- Chances of becoming infected while in the hospital (HAI):
  - Assuming 10 touches per day:
  - Error rate = .1% (1 out of 1,000)
- **71%**



# Statistics

- 11% chance they will be  $> \$1$  million in year 2



# Statistics

- Male = 60%

- Female = 40%



- Very consistent over all 4 years

# Statistics

- Employee = 35%
- Spouse = 15%
- Dependent = 50%
- Very consistent over all 4 years

# Chronic Conditions

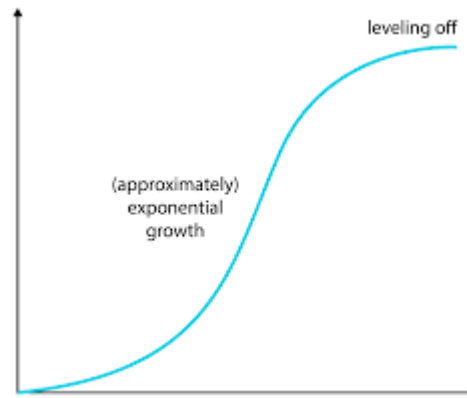
- Most common for claims over \$1 million?
- Diabetes
- Hypertension
- Cancer
- Congestive Heart Failure
- Blood Disorder
- Average \$1 million claimant = 4.4 chronic conditions



# Chronic Conditions

Member with 4 comorbidities:

Expected claim cost = **40x** member with 0-1 comorbidity



# Chronic Conditions

70% of members with ESRD are diabetic

78% of diabetics are also hypertensive

62% of morbid obese are also diabetic



# Babies

- 25% of claims over \$1 million
- Both by number and dollars
- Combo of older Mom's and Infertility Treatment
- Saving kids at only 22 weeks!
- 25 week survival rate is now 72%
- Zolgensma – gene therapy drug – cure spinal muscular atrophy

# Babies - Trivia

■ 2007 = 4,315,000 (300 million US population)

■ 1957 = 4,300,000 (170 million US population)

■ 1959 = 4,295,000

■ 1961 = 4,268,000

# Babies - Trivia

- Most Popular Birthday:
- September 9<sup>th</sup> – September 15<sup>th</sup>
- Exception: December 30<sup>th</sup> (Tiger and LeBron)
- Least Popular?
- 51 boys and 49 girls per 100 babies

# Babies - Trivia

Twins:

- 1915-1980 = 2.0%
- 1995 = 2.5%
- 2001 = 3.0%
- 2013 = 3.4%
- 1 Million extra twins between 1981 – 2012
- Older Moms (1/3)
- Infertility Treatments (2/3)
- More (triplets plus) = 1 in 837



# Closing Thoughts - Technology is Exponential!



# Closing Thoughts





# Closing Thoughts



# 2019 Health Meeting

6/26/2019 9:00 AM

Session 121 - Trends in Catastrophic Medical Claims: What is Going On and What Can be Done About Them?

## Catastrophic Medical Claims – Numbers and Drivers

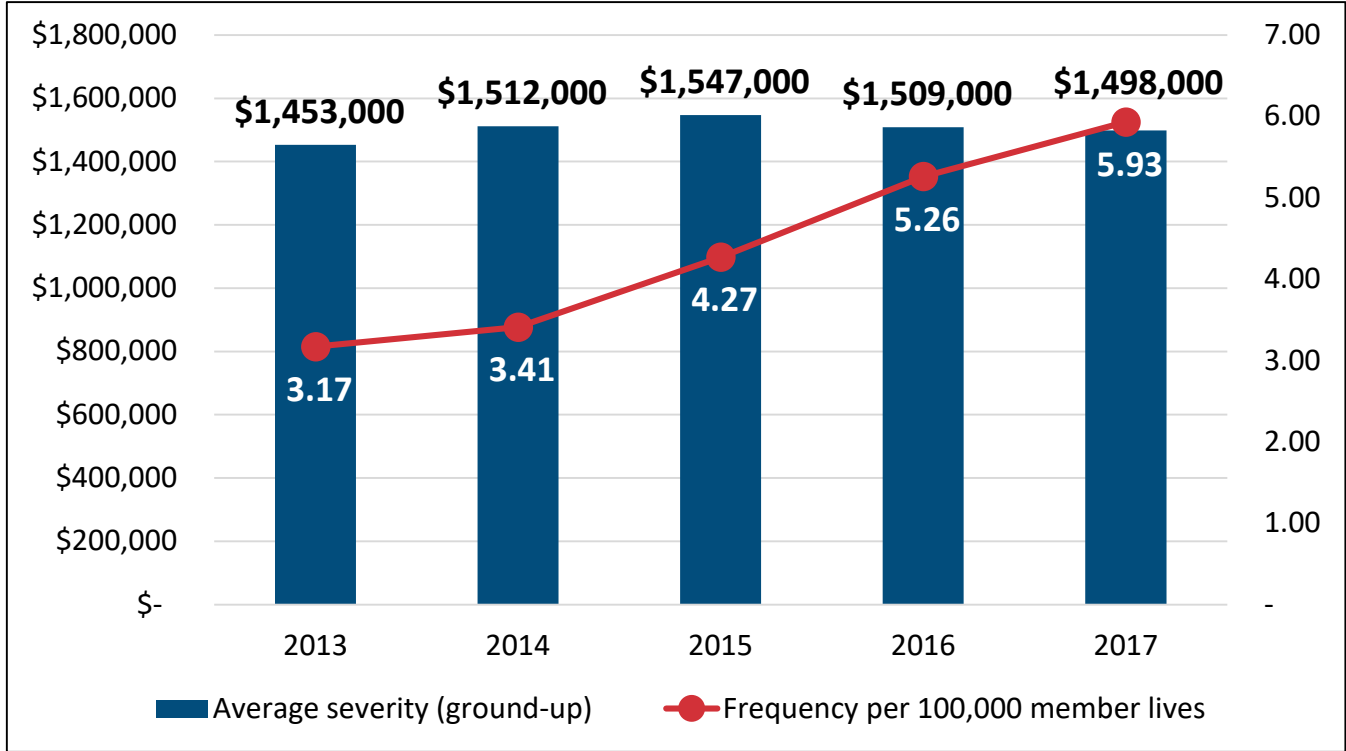
Yang Hu, ASA, MAAA

Swiss Re America Holding Corporation

Email: [Yang\\_Hu@swissre.com](mailto:Yang_Hu@swissre.com)



# \$1M+ Claims Frequency & Severity (Commercial PPO market)



Frequency:  
Up  
Severity...not  
so much

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## Number of Claims Per 10 Million Member Lives by Size Band (Commercial PPO market)

Claim Size	2013	2014	2015	2016	2017
<b>\$1M - \$2M</b>	276	296	371	460	516
<b>\$2M - \$3M</b>	32	28	41	48	59
<b>\$3M - \$5M</b>	8	12	11	13	12
<b>\$5M +</b>	1	4	5	6	6
<b>Total</b>	317	341	427	526	593

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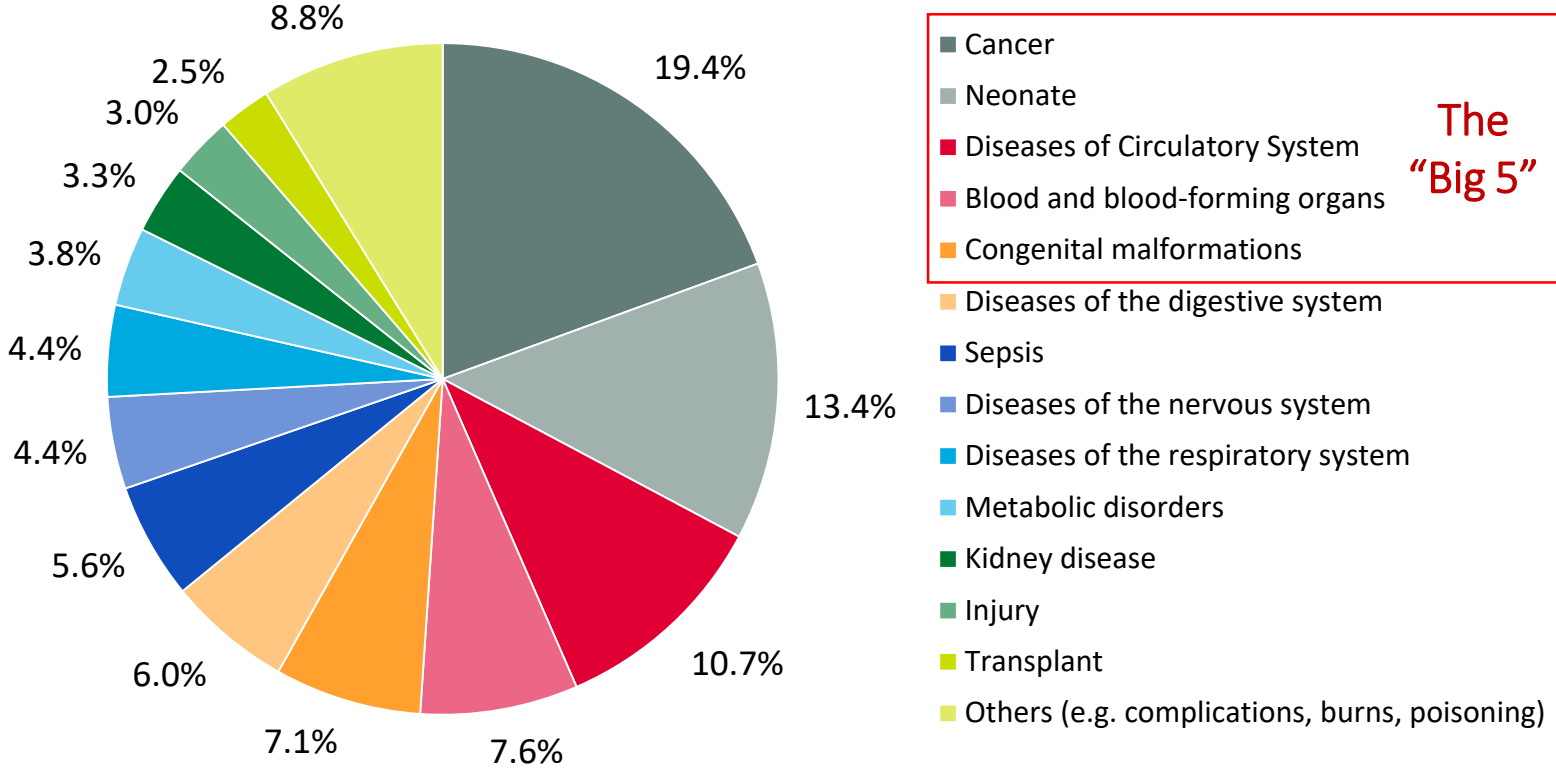
## \$1M+ Claims Frequency & Severity by Area in 2017

(Commercial PPO market)

Census Division	Frequency per 100,000 members	Per Member Per Month (PMPM) Excess of \$1M
East North Central Division	5.51	\$ 2.38
East South Central Division	2.40	\$ 1.45
Middle Atlantic Division	5.09	\$ 2.01
Mountain Division	6.97	\$ 3.33
New England Division	3.32	\$ 1.38
Pacific Division	9.60	\$ 4.52
South Atlantic Division	4.82	\$ 1.79
West North Central Division	4.52	\$ 1.40
<b>US Nationwide</b>	<b>5.93</b>	<b>\$ 2.46</b>

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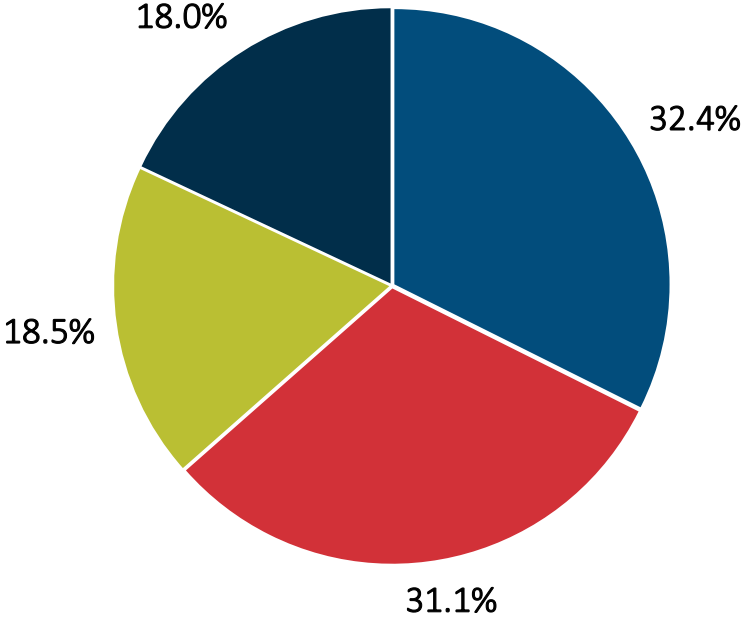
# Catastrophic Claim Drivers: Medical-driven claims (Medical charges > 50% of total)



Percentages represent the distribution of the total ground-up claims cost of all catastrophic claims (\$1M+) in 2017 that are medical-driven

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# Catastrophic Claim Drivers: Drug-driven claims (Rx charges > 50% of total)



## Specialty and blood factor drugs

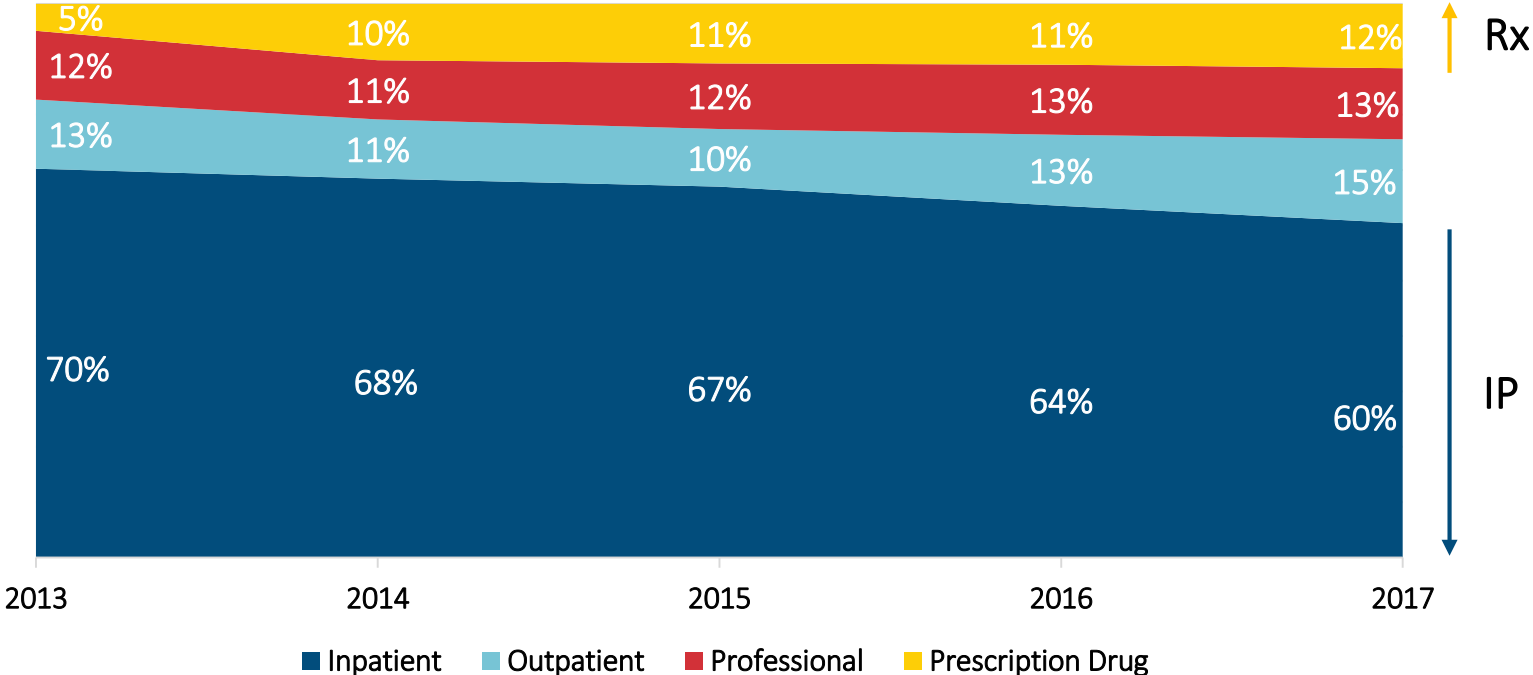
- Hemophilia
- Hereditary angioedema
- Hypophosphatasia
- Others (e.g. immunosuppressive, multiple sclerosis)

Percentages represent the distribution of the total ground-up claims cost of all catastrophic claims (\$1M+) in 2017 that are drug-driven

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# Impact from Prescription Drugs

## Distribution of Catastrophic Claim Costs by Service Category, by Year

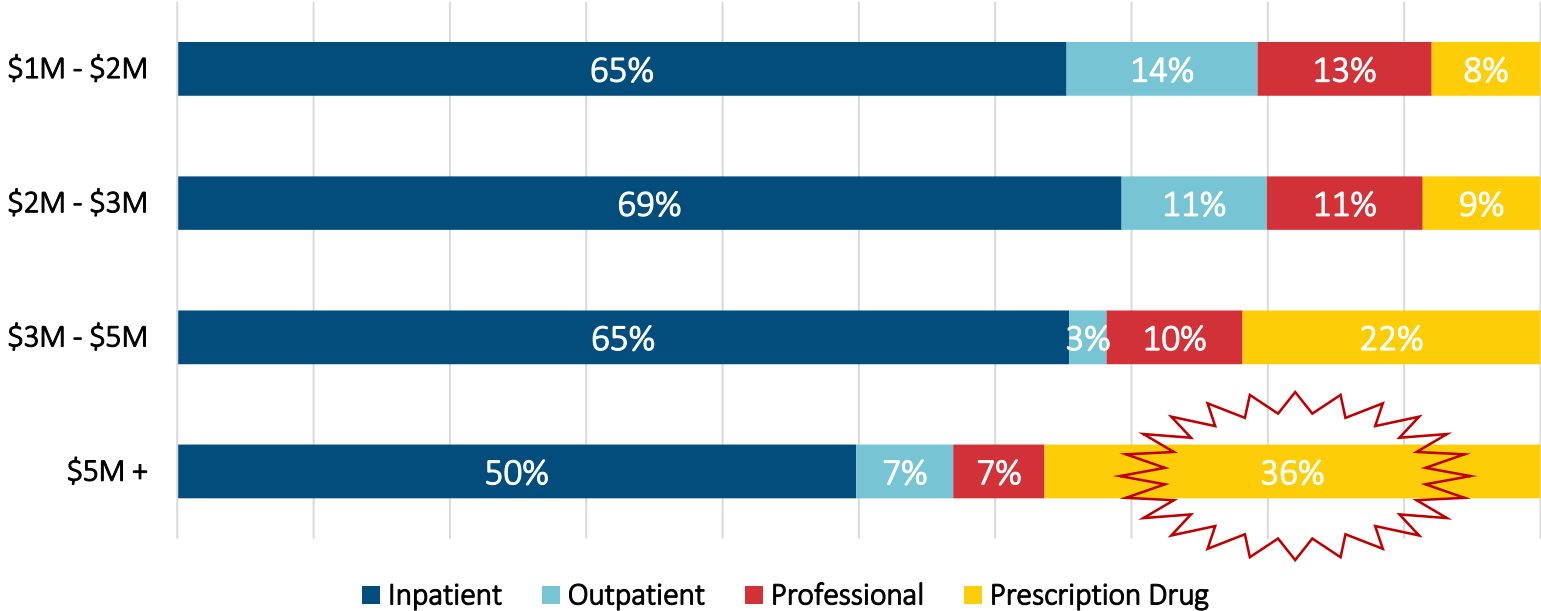


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# Impact from Prescription Drugs

Distribution of Catastrophic Claim Costs by Service Category, by Claim Size



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## Impact from Prescription Drugs

Rank	Brand Name	Treatment for	Count of \$1M+ claims during 2013-2017
1	Cinryze	Hereditary Angioedema (HAE)	53
2	Firazyr	Hereditary Angioedema (HAE)	39
3	Strensiq	Hypophosphatasia	26
4	NovoSeven	Hemophilia	23
5	ADVATE	Hemophilia	16
6	ELOCTATE	Hemophilia	11
7	ALPROLIX	Hemophilia	10
8	Berinert	Hereditary Angioedema (HAE)	10
9	BeneFIX	Hemophilia	9
10	Novoeight	Hemophilia	9

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## Trends

- 2018: **40-45** new fast tracked FDA drugs approved, mostly in oncology.
- May 2019: **Zolgensma** - genomic for curing Spinal Muscular Atrophy (SMA) costs **\$2.1m**.
- **Genomics is the big trend** - expensive as they may be a cure rather than ongoing Rx therapeutics. Exmpls:
  - **CAR-T**: leukemia, and potentially other cancers
  - **Hemlibra**: hemophiliacs
- Prediction in **2022: 40** gene therapy treatments are expected to be approved\*.
- Deploying AI and machine learning could lead to some 30% reduction in development cycle times and 40% improvement in productivity\*\*.

Sources:

\*<https://www.biospace.com/article/gottlieb-at-bio-2018-40-gene-therapy-approvals-by-2022/>

\*\*<https://www2.deloitte.com/content/dam/Deloitte/ch/Documents/life-sciences-health-care/ch-en-lshc-life-sciences-health-care-predictions-2022.pdf>