

Healthcare Risk Insights: Benchmark Study of Healthcare Professional Liability Claims



Benchmark Study of Healthcare Professional Liability Claims



Zurich is pleased to present our tenth annual Benchmark Study of Healthcare Professional Liability Claims, a Healthcare Risk Insights publication. Zurich's robust claims database continues to grow and includes nearly \$26 billion in losses from healthcare organizations collectively representing over 8 million exposure units.

The analysis herein provides a variety of data points and trends regarding claim frequency and severity, classified by facility type and across multiple venues. Such insights will serve as a foundation for driving meaningful discussion about loss experience and loss mitigation strategies in order to better manage total cost of risk. Some of the key findings of the study include:

- Claim frequency remains steady, in line with the prior year's study, and is projected to remain so in the near future.
- Average claim severity continues to increase with an annual trend of approximately 4% over the period 2007-2012.
- Teaching and children's hospitals continue to drive the highest severity by facility type.
- The percentage of claims closing with no payment remains stable and is consistent with results from other professional liability lines of business.

The healthcare industry continues to endure unprecedented changes. Organizations are facing an evolving spectrum of risks as a result of physician integration, use of technology, care coordination, provider mergers and acquisitions, new payer contracting strategies and more. Risk professionals must proactively address these issues while fulfilling their organization's mission of providing high quality patient care, in a safe environment, as cost effectively as possible in order to achieve optimal outcomes.

Providing these data insights is just one way in which Zurich aims to support our customers' efforts to achieve these challenging goals. Zurich remains committed to providing comprehensive insurance solutions, claims management and risk services to the healthcare industry. We look forward to the discussion and feedback on this year's study.

Thank you for your partnership and support of Zurich Healthcare.

Patrick Moylan
Senior Vice President – Head of Healthcare Professional Liability



Facts about the data

Zurich's database contains 363,000 claims of which 121,000 are already closed with expense payment, indemnity payment or both. Additionally, there are 20,000 open claims that are expected to close with payment, bringing the estimated total number of 'ultimate claims' to 141,000.

Of the 141,000 ultimate claims, there are over 35,000 with total incurred of at least \$100,000. We expect an additional 1,000 claims to breach this threshold bringing the number of claims with at least \$100,000 in total incurred to over 36,000.

There are \$25.6 billion in losses from across the country, Washington, D.C. included. Factoring in development on open claims yields an additional \$2.5 billion for a total of \$28.1 billion in estimated ultimate losses. To limit much of the subjective component of claim evaluations, the 2012 year was used as the cutoff point.

Uncertainty

Although the database is very large the results reported in this study have an inherent uncertainty because assumptions had to be made with respect to loss development and trends. These assumptions consider the long-tailed nature of many of the claims in the database and are unavoidable. However, they also open up the possibility that results could be quite different depending on the interpretation of the data by each individual reviewer.

Differences in results versus prior studies

Results reported in this study differ somewhat from previous years' because of the volatile nature of claims and claim maturity. Additionally, these results are based on data collected from healthcare facilities seeking quotes for professional liability insurance from Zurich over the past year. Although a large portion of the submissions we receive from one year to the next are from the same facilities, this is not always the case.

Predictions

Estimates of future costs are limited by the ability to predict the course of future events such as jury decisions, judicial decisions, legislative changes, public attitudes, and social and economic conditions that may impact losses. In addition, state or regional results vary in credibility because of the amount of available data. Therefore, we provide no assurance as to actual future events.

What data goes into these 7 dashboards?

Losses are developed to ultimate, are brought to the same level via trend and then capped at \$1 million each. All 'ultimate claims' with dates of report from 2004 to 2012 are included. With the exception of these dashboards and the loss cost map at the back of the publication, none of the remaining graphs or analyses incorporate trend.

Visualizing claim metrics – How often, how expensive?

The severity of claims from teaching and children's hospitals remains much higher than the national average claim severity, even after capping claims at \$1 million each. This is not necessarily surprising. Markedly lower, however, is their claim frequency. Are these facilities handling patient safety or risk mitigation differently than acute care hospitals? Or is it a result of something less in their control, such as the geographic location of their facilities?



**Claim Frequency
Acute Care Hospitals**



**Claim Severity
Acute Care Hospitals**



**Loss Cost per Exposure
Acute Care Hospitals**



**Claim Frequency
Teaching & Children's Hospitals**



**Claim Severity
Teaching & Children's Hospitals**



**Loss Cost per Exposure
Teaching & Children's Hospitals**

What does one exposure year look like?

Beds	324,000
Visits and procedures	519 million
Professionals	170,000

How much data is included in the study?

Losses	25.6 billion
Losses including development	28.1 billion
Occupied bed equivalents	8.4 million
Total claims	363,000
Claims expected to close with defense or indemnity payment or both	141,000

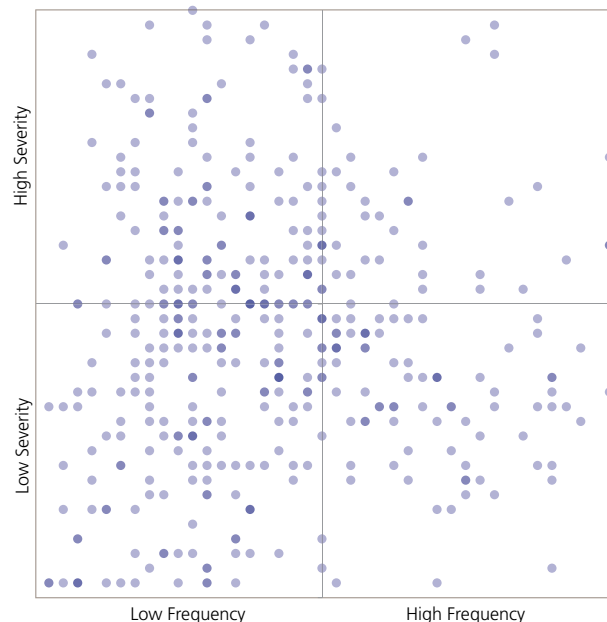
Why are some points darker?

The darker the point the more account observations we have for that particular mix of frequency and severity. For reference, the graphic to the right depicts around 90 percent of the accounts used for the study.

What is our data mix?

The data available for Healthcare Risk Insights is undoubtedly robust. This study is based on over 8 million occupied bed equivalents from thousands of locations across the country; it contains almost \$26 billion dollars in ground up undeveloped losses which we are able to parse out at an individual claim level. The underlying account mix that makes up our dataset is also quite diverse as shown below.

General mix of accounts in Zurich's submission database



Claim frequency

Overall frequency continues to be quite stable and our data suggests this will continue through report year 2013 with a projected frequency between 1.5 and 2 claims per 100 occupied bed equivalents. In last year's publication we made a frequency projection for 2012. As seen in the graph below the actual frequency came in below expectations. This difference could be due to better than expected claim activity or could be reflective of the change in the account mix of this year's submission database compared to last year. Claim frequency in Texas remains significantly below the national average; the lasting impact of reform in Texas cannot be understated.

What is an "ultimate" claim?

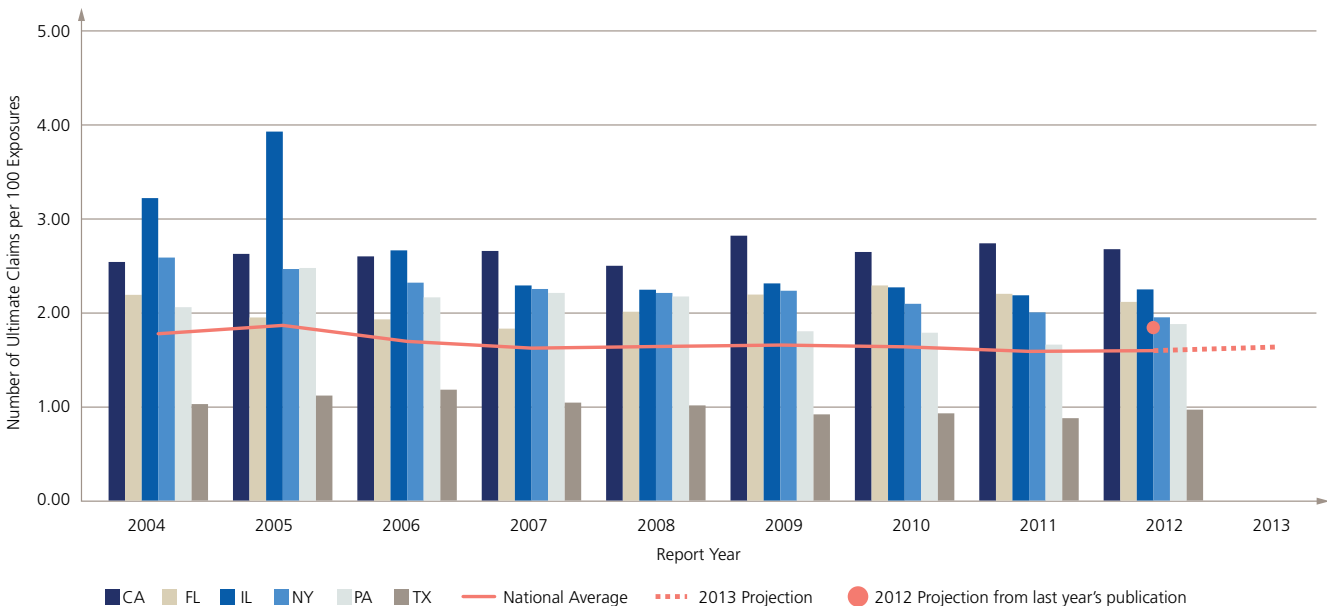
Throughout this publication you will see references to "ultimate" claims. An ultimate claim is one that is expected to close with defense payment, indemnity payment or both.

Why use an occupied bed "equivalent"?

Using a standardized measure of exposure allows hospitals to compare themselves against their peers. In order to use a standardized unit, several factors must be blended together.

Zurich's proprietary relativity standardization allows us the ability to combine dozens of different exposure types into an acute care hospital bed equivalent. These exposures can range from bed type such as acute care or long term care to emergency room visits, laboratory services, physicians and professionals of varying specialties.

Ultimate frequency by state



Other professional lines

For the past six years around 60 percent of claims have closed due with no payment. Interestingly, a closed-no-pay ratio of this general magnitude is consistent with observations seen in other professional lines.

Is the decrease for the “latest” year the start of a new pattern?

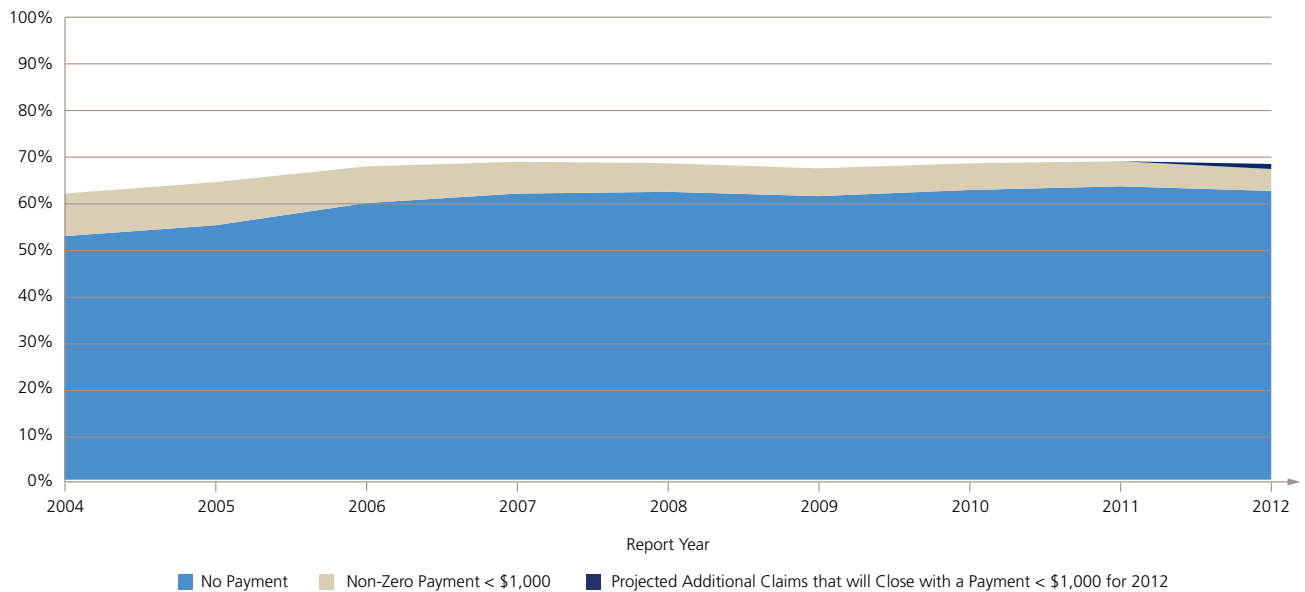
The slight decrease in the 2012 closed-no-pay ratio is most likely due to claim age rather than the start of a new pattern to closed ratios. As this year matures uncertainty will decrease. Some of the claims open with reserves and no pay will end up closing with no pay, resulting in a higher ratio.

Closed-no-pay (CNP) claims and small non-zero closed claims

Since 2004 there has been a clear uptick in the percentage of claims that close with no payment, but from 2007 onward the ratio has remained steady; perhaps equilibrium has been reached. In addition to looking at CNP claims we have also found it useful to consider claims that have closed with a very small payment. Interestingly, the percentage of these small non-zero claims (below \$1,000) has actually shrunk over time as the thinning width of the top section of the plotted area will attest. At first glance this ‘decrease’ may seem like a good thing. However, the inflationary impact on claim severity over time is a possible driving force, effectively pushing claims out of the ‘very small’ category and into the next level.

Lastly, the slight drop in the CNP ratio for 2012 relative to the prior years is probably due to claim maturity rather than to a start of a new pattern or a better than historical year. Impacts on the ‘latest’ year CNP ratio have been noted in prior publications of Healthcare Risk Insights as well.

Percentage of claims that closed with payment < \$1,000



Average claim severity

Average severity has increased steadily over the past several years. With respect to trends, the implied long term average annual trend was approximately 4 percent for the period from 2007 to 2012, and 5 percent annually for the period 2004 to 2007.

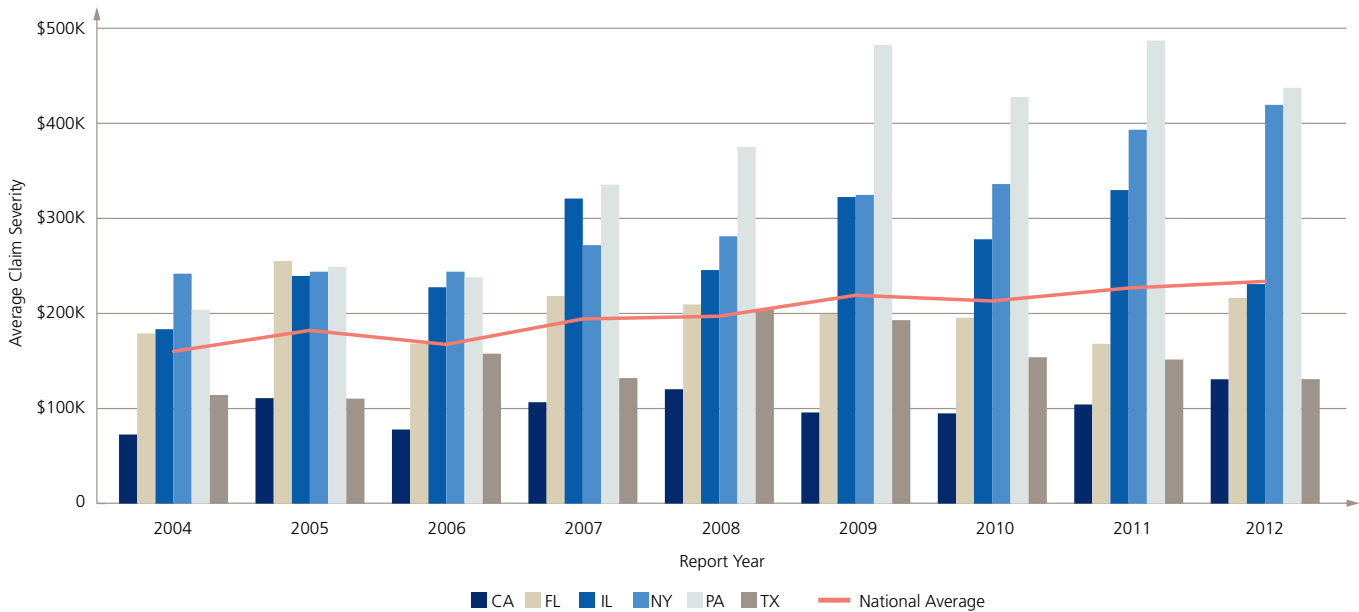
Illinois, New York and Pennsylvania versus the national average

Consistent with the findings in last year's publication, these three states had an overall claim severity higher than the national average – in many cases significantly higher through 2011. Illinois and Pennsylvania also experienced a much more drastic increase in 2007 relative to 2006 than the national average (40 versus 16 percent). In terms of trend, Pennsylvania has a double digit implied annual trend of approximately 12 percent since 2004, though this is not the result of consistent increases throughout the entire period. As emphasized in the prior publication, Pennsylvania's claim behavior is markedly different than what we are seeing in our national average.

Loss development

All open claims are developed to their projected ultimate settlement value using loss development factors. The impact of development is mitigated by using losses from 2012 and prior since 94 percent of claims are already closed.

Average claim severity by state



Impact of quality initiatives on HPL claims

By Susan Salpeter,

Vice President, Risk Engineering Healthcare, The Zurich Services Corporation

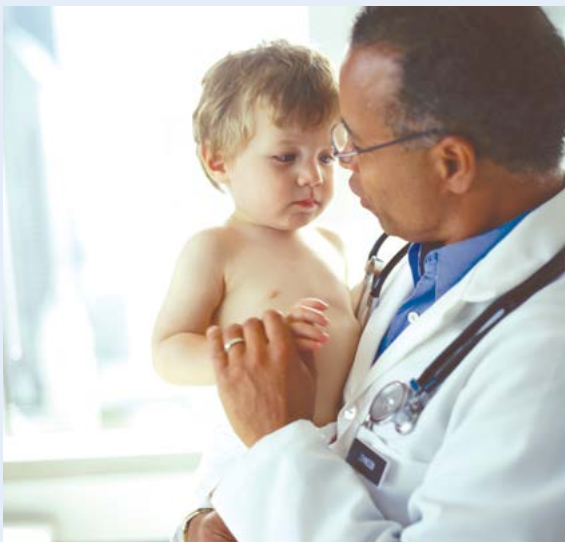


Much has changed in the healthcare industry in the decade that Zurich has published its claims benchmarking study — the Affordable Care Act now providing access to millions of new patients, electronic health records becoming the norm, computerized

physician order entries reducing medication errors and organizations, such as the Institute for Healthcare Improvement (IHI), publishing standardized guidelines and tool kits to improve the quality and safety of patient care.

But have all these positive changes impacted professional liability claims? Zurich has not seen a substantial decrease in the frequency and severity of claims over the past ten years.

The types of loss causes that Zurich has seen often involve deficits in critical thinking or technical skills that are not significantly impacted by new technologies and protocols. Poor communication is also a major factor in most claims, regardless of the specialty or allegation. And lastly, most patients who experience adverse outcomes do not sue. So even if a new technology prevented some adverse events, the total number of events prevented and the associated lawsuits impact will be small.



So what does work? We have seen some improvement — at least in quality outcomes, if not malpractice claims — over the past several years. These include:

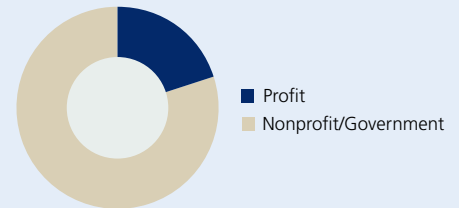
- Hospital Engagement Networks (HEN) – The Hospital Engagement Networks are collaborations between hospitals to share data, information and expertise to address patient safety issues. The Premier, Inc. HEN uses a three-phased approach focusing on accurate and timely measurement, reporting and analysis of actionable data, and sharing best practices and innovations. Hospitals participating in Premier's HEN showed a 32 percent reduction in adverse events compared to a 2010 baseline. They also achieved a reduction in patient readmissions (over 58,000 in the third year of Premier's HEN) and avoided \$749 million costs during year three of its program.¹
- Bundles – The use of care bundles has been shown to improve patient outcomes at some healthcare organizations. The Seton Family of Hospitals instituted the IHI perinatal bundles, and reduced the percentage of birth trauma (defined as birth injuries/total newborns) from 0.3 percent to 0.03 percent in the initial six years of the program.² Yale New-Haven Hospital instituted a comprehensive obstetric safety program in 2013. Annual cases per 1000 deliveries decreased from 30, before the program was implemented, to 14 after. Payments also decreased from \$50.7 million down to \$2.9 million.³

These examples show that the implementation of patient safety techniques can improve patient outcomes, reduce adverse events and, in some cases, reduce malpractice costs — having an impact on a healthcare organization's overall financial performance. They may help reduce patient readmissions, avoid "never events" and decrease length of stay. Improved outcomes also result in increased patient and provider satisfaction, justifying the investment in continually implementing patient safety initiatives.

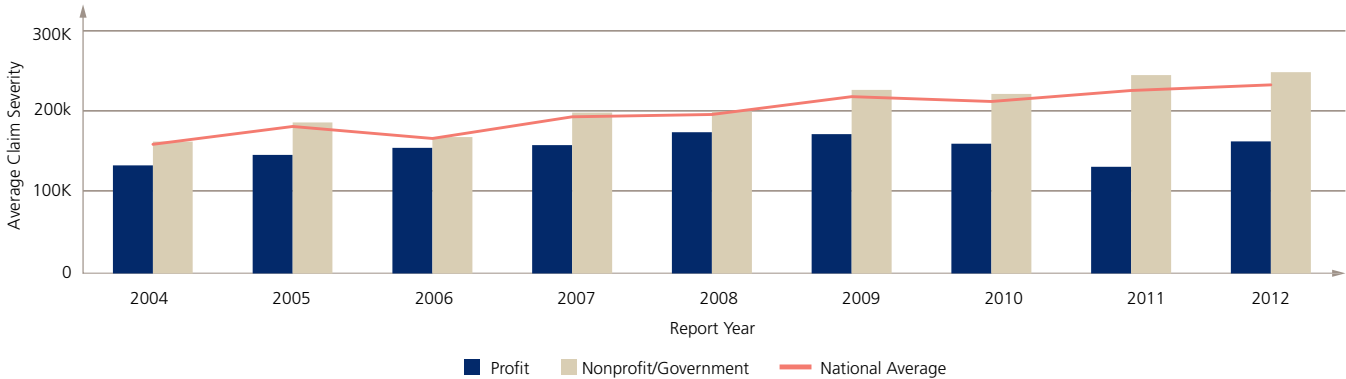
Average claim severity – Profit status

Aggressive claim management, differences in case-mix index and patient populations could be contributing factors driving the lower average severity of for-profit hospitals.

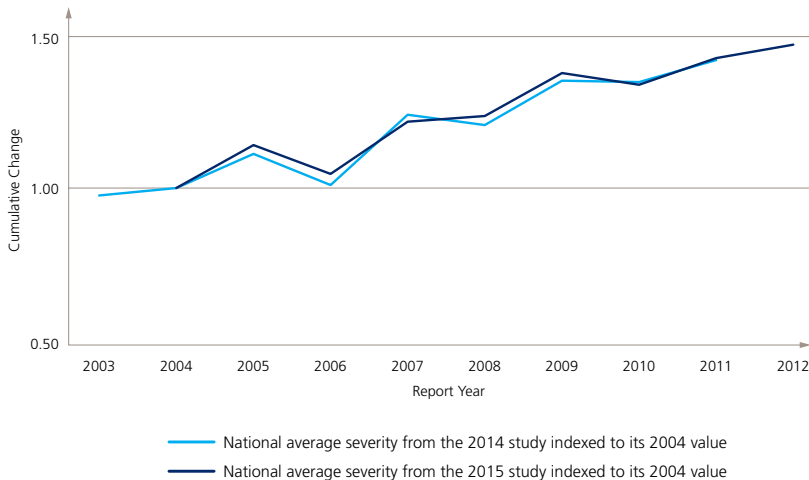
Data composition % of OBEs



Average claim severity by profit status



Indexed national average severity



Data fluctuations and a consistent message

Differences in historical figures are expected from one publication to the next. These differences are primarily a result of:

- Movement in claim values, although mitigated by using a mature year as the cutoff
- Changes in the mix of submission data underlying each study

Despite any fluctuations in absolute figures, however, we have a high degree of confidence in the patterns displayed and overall messages on the healthcare professional liability landscape inferred via these publications. The Indexed National Average Severity graph to the left compares the national average severity from this year's publication to that of last year's publication indexed to each of their respective 2004 values. By indexing the results we can clearly see the extraordinary consistency in severity patterns between studies.

Facility classifications

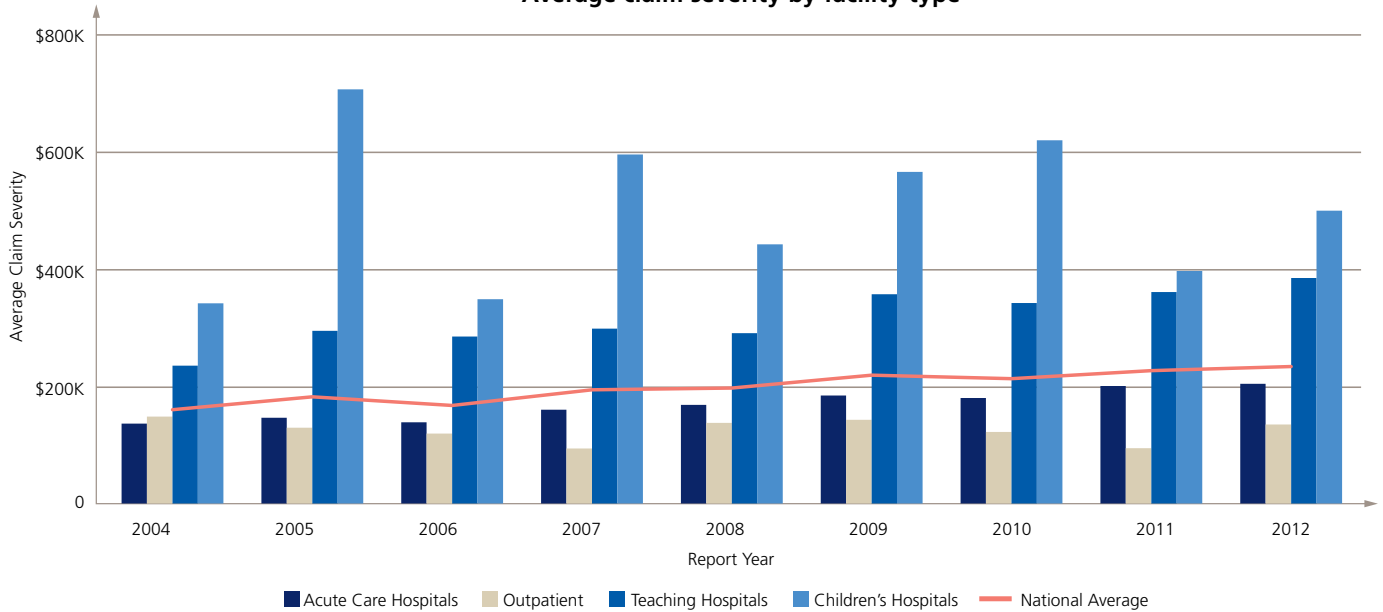
Zurich uses dozens of categories and sub categories to uniquely classify facility types. We show four classifications, some rolled up to a higher level for the purposes of this publication. Having classifications at such a granular level provides us with the opportunity to perform deep dive analyses and could prove important for future benchmarking.

Average claim severity – Facility type

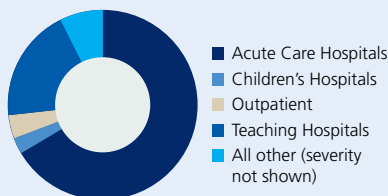
Children’s and teaching hospitals continue to have claim severities that are substantially higher than the national average severity. Absolute numbers have moved over time, partially driven by the mix of accounts in our database as well as changing claim values, but the overall message remains the same.

As emphasized in prior publications, providing lifetime care is a possible driving force behind the high severities in children’s hospitals and may also be leveraged by the general interest rate environment. For teaching hospitals, the complex care provided to patients may carry higher risk along with it.

Average claim severity by facility type



Data composition % of OBEs



Understanding claim evaluation

By Robert Bartolone,
Assistant Vice President, Healthcare Claims, The Zurich Services Corporation



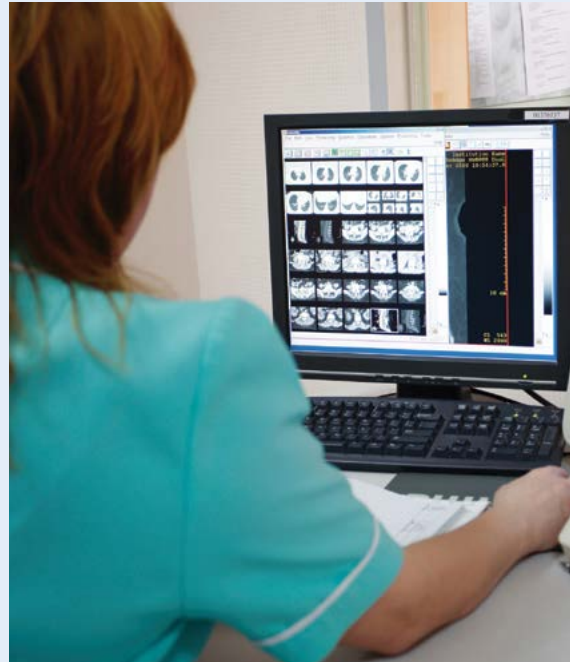
Zurich and our healthcare customers share a common, but challenging, objective in claims management practices regarding setting claim reserves: be as accurate and timely as possible (often with imperfect information).

We continue to see ongoing issues with reserve accuracy in claims managed within our customers' retentions as a result of late development and evaluation miscues. With respect to timing, reserve accuracy has been negatively impacted by the failure to set structured reserve review periods internally and for defense counsel to assess claim value; the failure to focus on the damage defenses to a claim; and waiting for the completion of all aspects of liability and damages discovery before evaluating claim value.

Evaluation miscues are more complex. Evaluation errors often occur when the factors affecting plaintiff's chance of success and apportionment of fault are not considered or balanced incorrectly. The factors at issue are:

- Whether a provider's own testimony can support compliance with the standard of care
- The plaintiff's sympathetic appeal
- The presence of aggravating factors, such as falsification of records or credibility issues
- The caliber of plaintiff's attorney you are up against
- The predictability of your jury
- Which provider was most influential in causing the plaintiff's problems

Subjectively assessing these factors, or not considering one when present, lead to miscalculation of the chance of success and the underestimation of the claim's ultimate value.



Damage evaluation miscues often occur when the following factors are improperly assessed:

- The value of future medical specials (life expectancy and cost of care annually)
- The value of pain, suffering, disability and/or disfigurement
- The loss of enjoyment of life

In medical malpractice claims, liability evaluations are often given precedence over damage evaluations, resulting in incomplete analysis and development of damages defenses. This opens the door for plaintiffs to overreach on these elements of their claim and, in the absence of counterarguments, drive up the value of the claim. Undeveloped damages defenses are usually caught late in the claim cycle and are a key driver of inaccurate reserves.

Do interest rates have an impact?

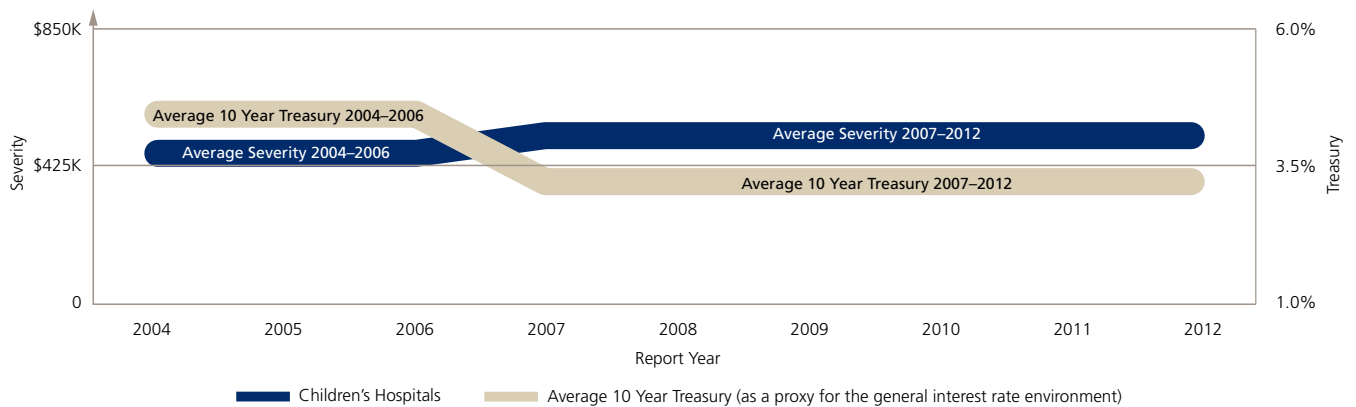
There was a noticeable spike in the severity of claims from children's hospitals starting in 2007. We suspect this may be due to the low interest rate environment, which increases the present value of life care plans.

Average claim severity from children's hospitals and the general interest rate environment

Claims involving lifetime medical care are conceptually akin to annuities, with interest rates playing a major role in their present values. For example, given two annuities with equal payment streams but unequal interest rates, the one with the lower interest rate will have the higher present value. If the annuity is particularly long, then even small differences in interest rates can have a big impact on present values due to leveraging.

Although correlation does not imply causation, the results shown in the graph below — updated with more recent data from this year's study — are difficult to ignore. Will a return to a high interest rate environment result in tempered severities? Or has a new floor been reached after so many consecutive years of high average claim settlements? Only time will tell.

Average claim severity of children's hospitals and the general interest rate environment

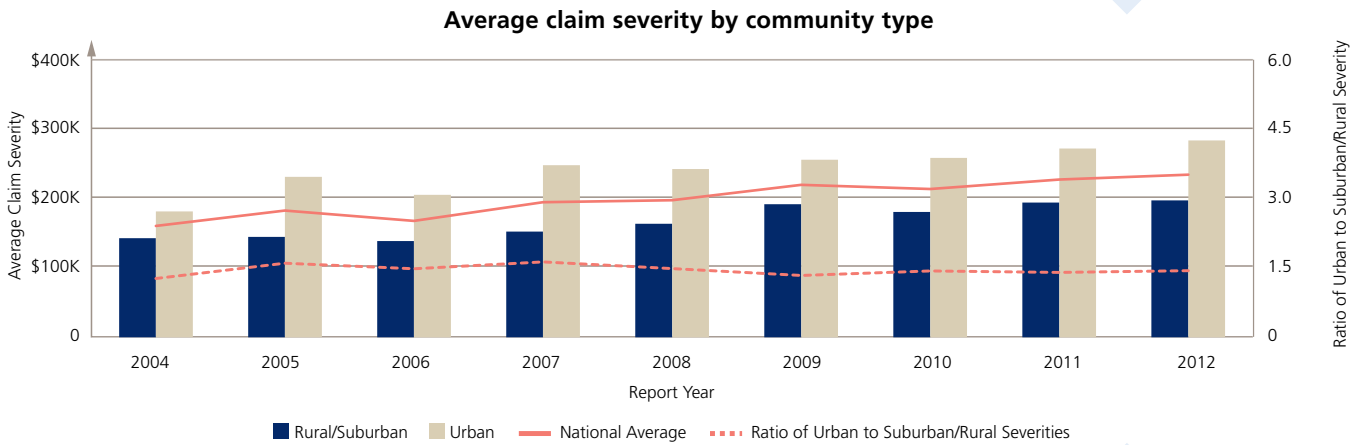


Average claim severity – Community type

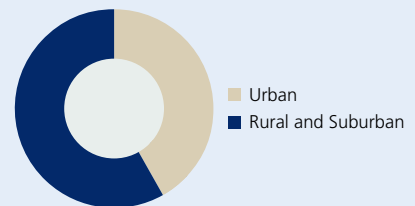
We continue to see that claim severity from facilities in urban areas is higher than those in rural and suburban locales. The spread between the two in terms of actual dollars has moved over time, but on a relative scale they are mostly stable, especially in the later years as the dotted line attests.

How do we classify geographic areas?

Areas with populations of 200,000 or higher are considered urban. Those with less than 10,000 are considered rural and everything in between is considered suburban.



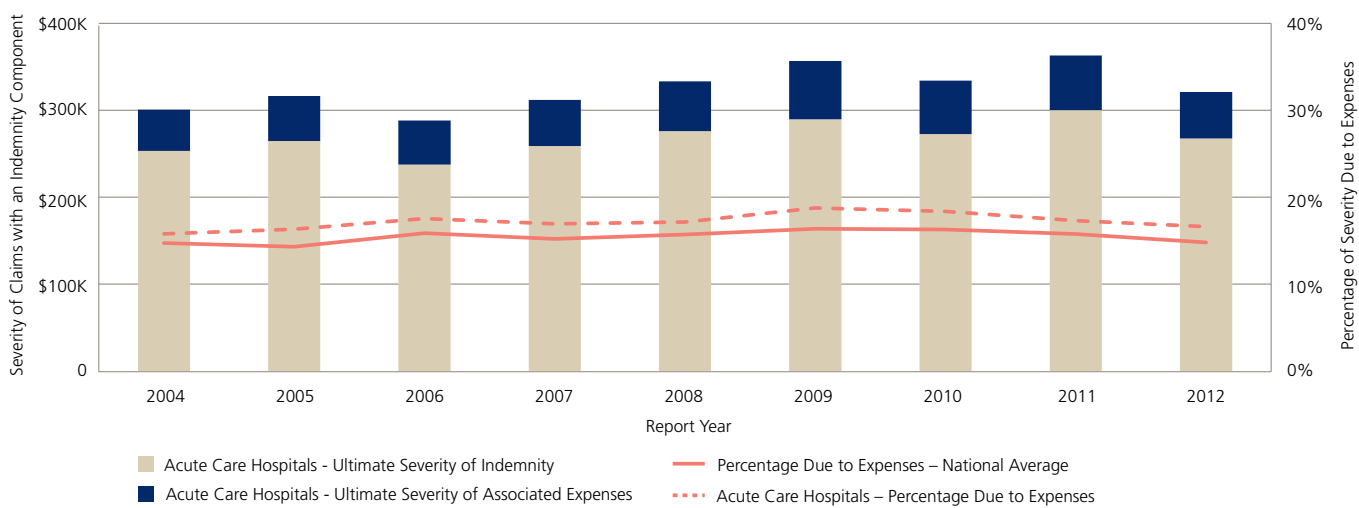
Data composition % of OBEs



Expense component of claims with indemnity – National average versus acute care

The difference between the national average percentage of severity due to expenses and the same ratio from just acute care hospitals is quite stable. Interestingly, these values have not materially converged or diverged over time.

Percentage of ultimate losses due to expenses for claims with an indemnity component



Medium and large claims – Moving at a similar pace

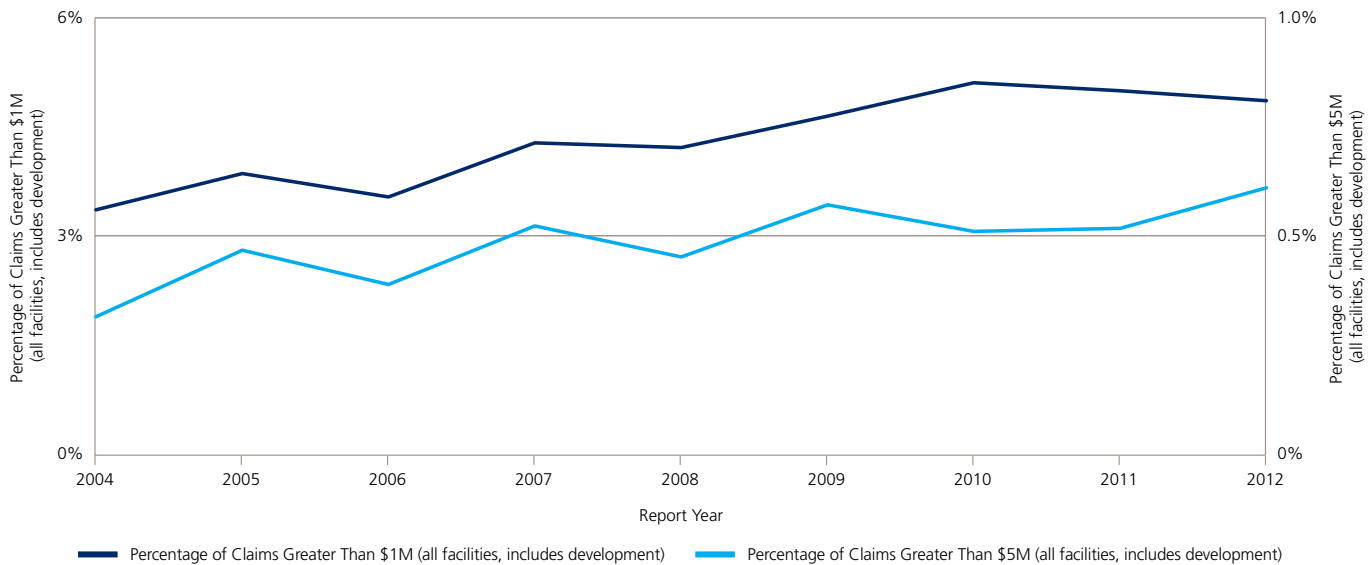
There has been no major change in the general pattern or trajectory of medium and large claims since our prior review. The raw number of medium and large claims relative to the total number of ultimate claims has both increased over time and at roughly the same pace.

Medium and large claims

On average, 4 claims exceed \$1M per every 100 ultimate claims.

On average, 5 claims exceed \$5M per every 1,000 ultimate claims.

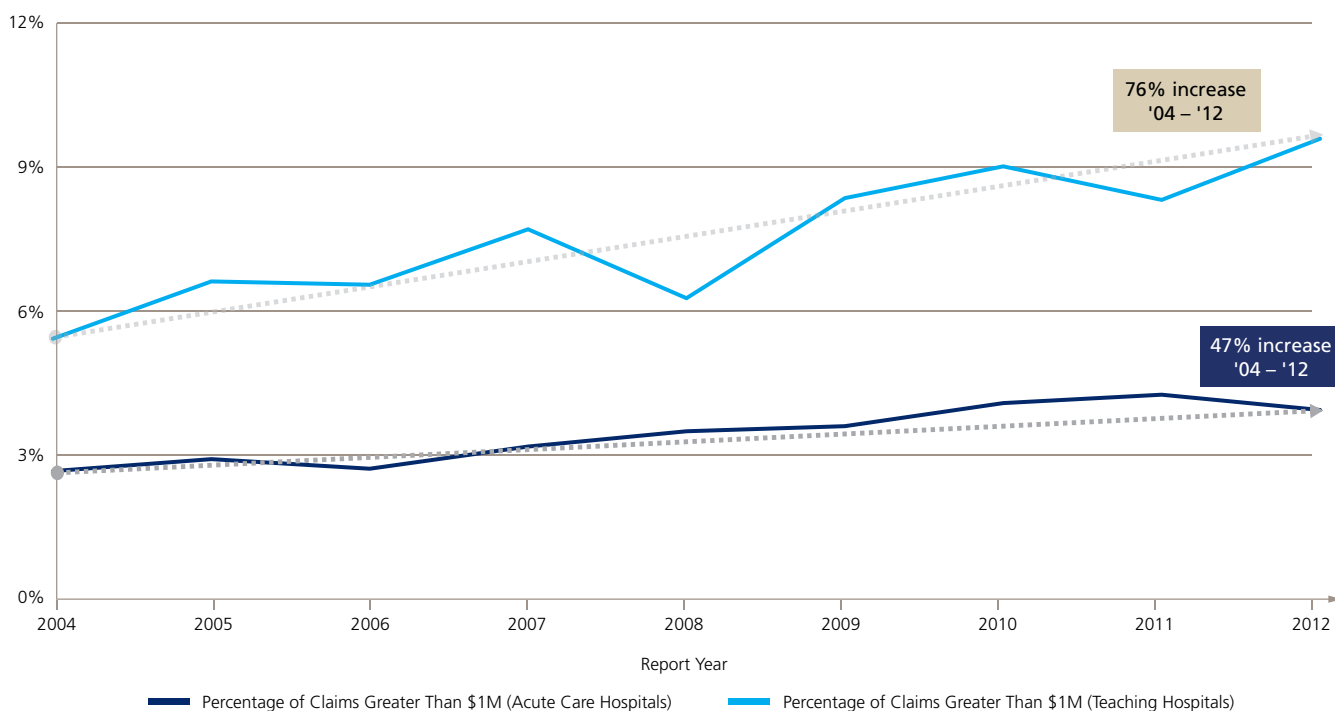
Percentage of ultimate claims greater than \$1M and \$5M



Medium claims and facility type

Claim severities from teaching hospitals are higher than those from acute care hospitals as seen earlier. Looking at raw counts of claims greater than \$1 million as a proportion of total ultimate claim counts can help shed light on severity drivers. Based on the graph below, the high severity of claims from teaching hospitals is driven by a large quantity of large claims per year rather than skewed by just a few very large claims. And, as compared to acute care hospitals, the pace of \$1 million claims has increased faster over time for teaching hospitals. Although not shown below, teaching hospitals represent only 18 percent of the ultimate claim counts in our database — yet represent 31 percent of claims greater than \$1 million. For acute care, the relationship is just the opposite at 73 percent and 58 percent respectively.

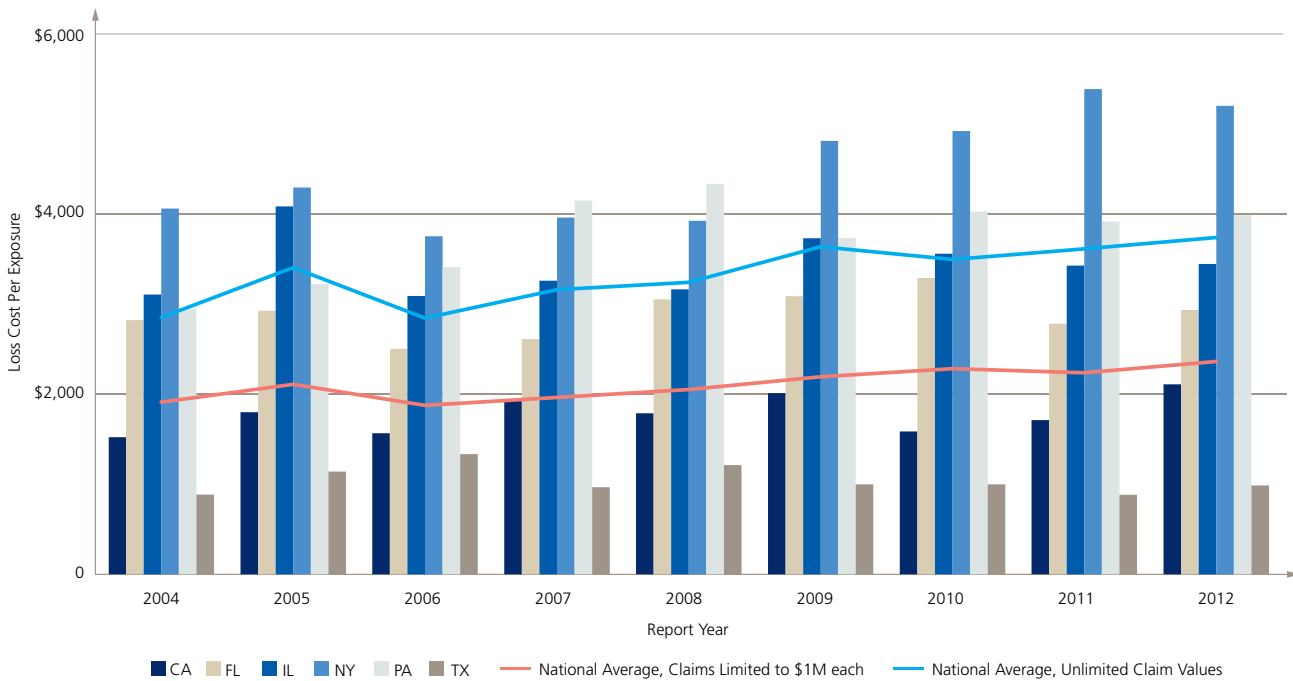
**Percentage of ultimate claims greater than \$1M
Teaching hospitals vs acute care hospitals**



Loss cost

Year over year changes in loss cost appear to be severity driven given the relatively benign movement in frequency since 2007. The implied annual trend in loss costs on an unlimited basis is approximately 3.3 percent from 2007 to 2012. Although not shown, indexing loss cost results between studies yields a message similar to that indicated by severity indexing.

Loss cost per exposure
Losses are developed to ultimate and limited to \$1M



Implied average annual trends

	04-12	07-12
National average		
Claims limited to \$1M each	2.6%	3.6%
Unlimited claim values	3.1%	3.3%

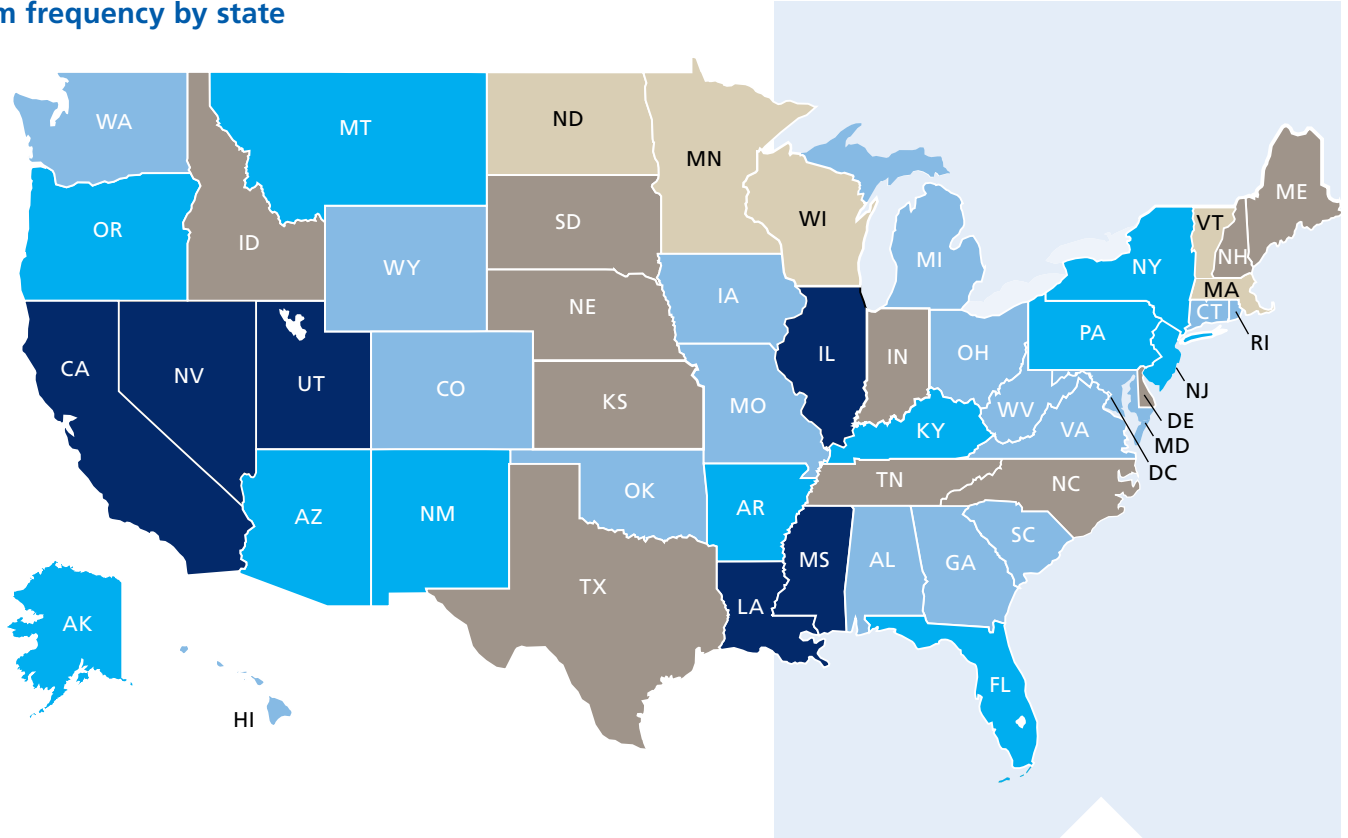


Conclusion

The amount of data available to Zurich is vast and robust. Combining this information with the collective expertise of our underwriting, claims, risk and actuarial professionals allow us the unique opportunity to provide key insights on the complex healthcare professional liability landscape. We hope that this study has sparked discussion within your organization and we are excited to see what the future holds in the ever changing healthcare arena.



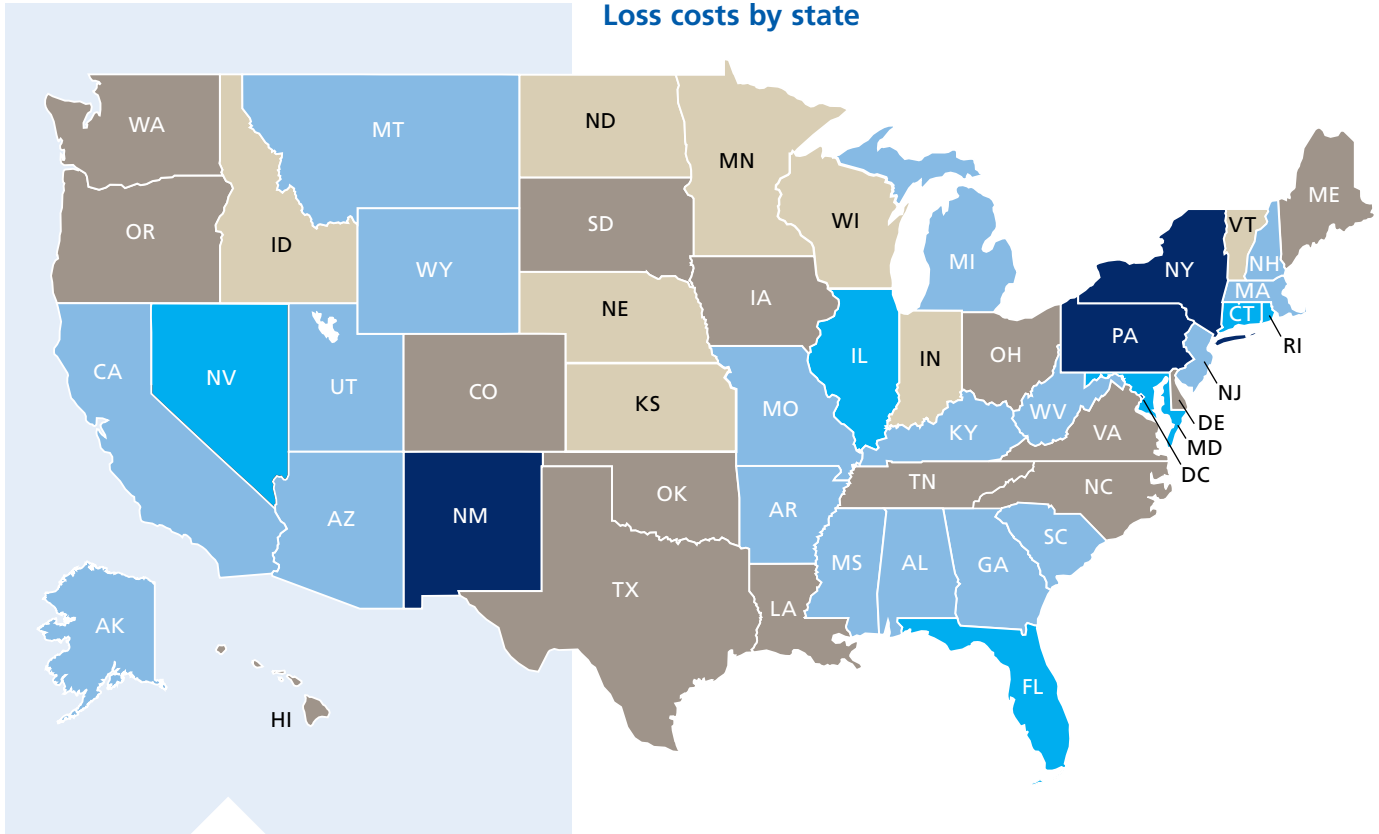
Claim frequency by state



Average claims frequency per 100 OBEs:

Below 0.85	0.90 to 1.20	1.25 to 1.75	1.80 to 2.30	2.35 to 3.40
MA	DE	AL	AK	CA
MN	ID	CO	AR	IL
ND	IN	CT	AZ	LA
VT	KS	DC	FL	MS
WI	ME	GA	KY	NV
	NC	HI	MT	UT
	NE	IA	NJ	
	NH	MD	NM	
	SD	MI	NY	
	TN	MO	OR	
	TX	OH	PA	
		OK		
		RI		
		SC		
		VA		
		WA		
		WV		
		WY		

Loss costs by state



Average loss cost per OBE:

Below \$1,200	\$1,300 - \$1,900	\$2,000 - \$3,000	\$3,400 - \$4,200	\$4,500 - \$5,600
ID	CO	AK	CT	DC
IN	DE	AL	FL	NM
KS	HI	AR	IL	NY
MN	IA	AZ	MD	PA
ND	LA	CA	NV	
NE	ME	GA	RI	
VT	NC	KY		
WI	OH	MA		
	OK	MI		
	OR	MO		
	SD	MS		
	TN	MT		
	TX	NH		
	VA	NJ		
	WA	SC		
		UT		
		WV		
		WY		

Footnotes

- (1) Premier Hospital Engagement Network (HEN) – Partnership for Patients Improvements in Safety Across the Board. Courtesy of Premier, Inc. November, 2014
- (2) Reisner, Dale; Landers, Susan. 2010. Collaboration Between Obstetricians and Neonatologists: Perinatal Safety Programs and Improved Clinical Outcomes. Clinical Perinatology. Retrieved from: www.pediatrix.com
- (3) Pettker, C. et al. October 2014. A comprehensive obstetric patient safety program reduces liability claims and payments. American Journal of Obstetrics and Gynecology. Retrieved from: www.ajog.org

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A1-112004058-C (10/15) 112006503

