

Medical Malpractice Claims-Made

# SOCIAL INFLATION AND LOSS DEVELOPMENT REPORT

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Moore Actuarial Consulting, LLC,  
on behalf of The Doctors Company



# EXECUTIVE SUMMARY

Using insurance company annual statement data, this study estimates that in the decade ending in 2021, between \$2.4 and \$3.5 billion, or 8 to 11 percent, of all medical malpractice losses incurred by physician-focused insurers stemmed from social inflation.

## KEY TAKEAWAYS

- There is evidence of social inflation in the physicians' medical malpractice marketplace, but it is not as dramatic as in other lines of business, such as commercial auto liability. National Practitioner Data Bank (NPDB) data showed some evidence of social inflation, and its trends were roughly consistent with trends in annual statement data, though more muted.
- The evidence in the annual statement data points to an acceleration beginning around the year 2012, with a more drastic acceleration around 2017.
- Annual statement data indicate that the impact of social inflation is estimated to be between \$2.4 billion and \$3.5 billion over the past 10 years, or 8 to 11 percent of all incurred losses in that period for the scope of companies analyzed.
- Marketplace realities such as changes in the medical marketplace, the impact of COVID-19 on claims behavior, and changes in the reserving philosophies of major medical malpractice writers limit the ability to more precisely identify and quantify social inflation.
- Restrictions on noneconomic damages in medical malpractice may be mitigating social inflation. Typical explanations for social inflation cite the growing ability of the plaintiff's bar to coax enormous awards from sympathetic juries. Even the threat of such awards affects negotiations. States that cap noneconomic damages reduce the impact of that phenomenon. States that relax caps or remove them are likely to realize sharp rises in claim severity as well as a change in the variety of medical malpractice claims.

The Doctors Company engaged Moore Actuarial Consulting, LLC, to determine the degree of social inflation, if any, that is present in the U.S. medical malpractice claims-made market for physicians. Social inflation occurs when an insurer's average claim amount grows faster than the overall inflation rate. When that happens, insurers are forced to increase their rates and/or decrease coverage to keep up.

## EXECUTIVE SUMMARY (cont.)

The study examined loss development factors (LDFs), a standard actuarial metric, across more than a decade for physician-focused medical malpractice insurers. In theory, these factors should change little except for random variation. Instead, they have been rising. The study used the increase in LDFs to estimate the impact of social inflation. In addition, the study examined data from the NPDB—a federal dataset that collects information on, among other things, malpractice payments—and the study showed that the pace of settlements larger than \$1 million has accelerated. Large settlements are a significant driver of social inflation.

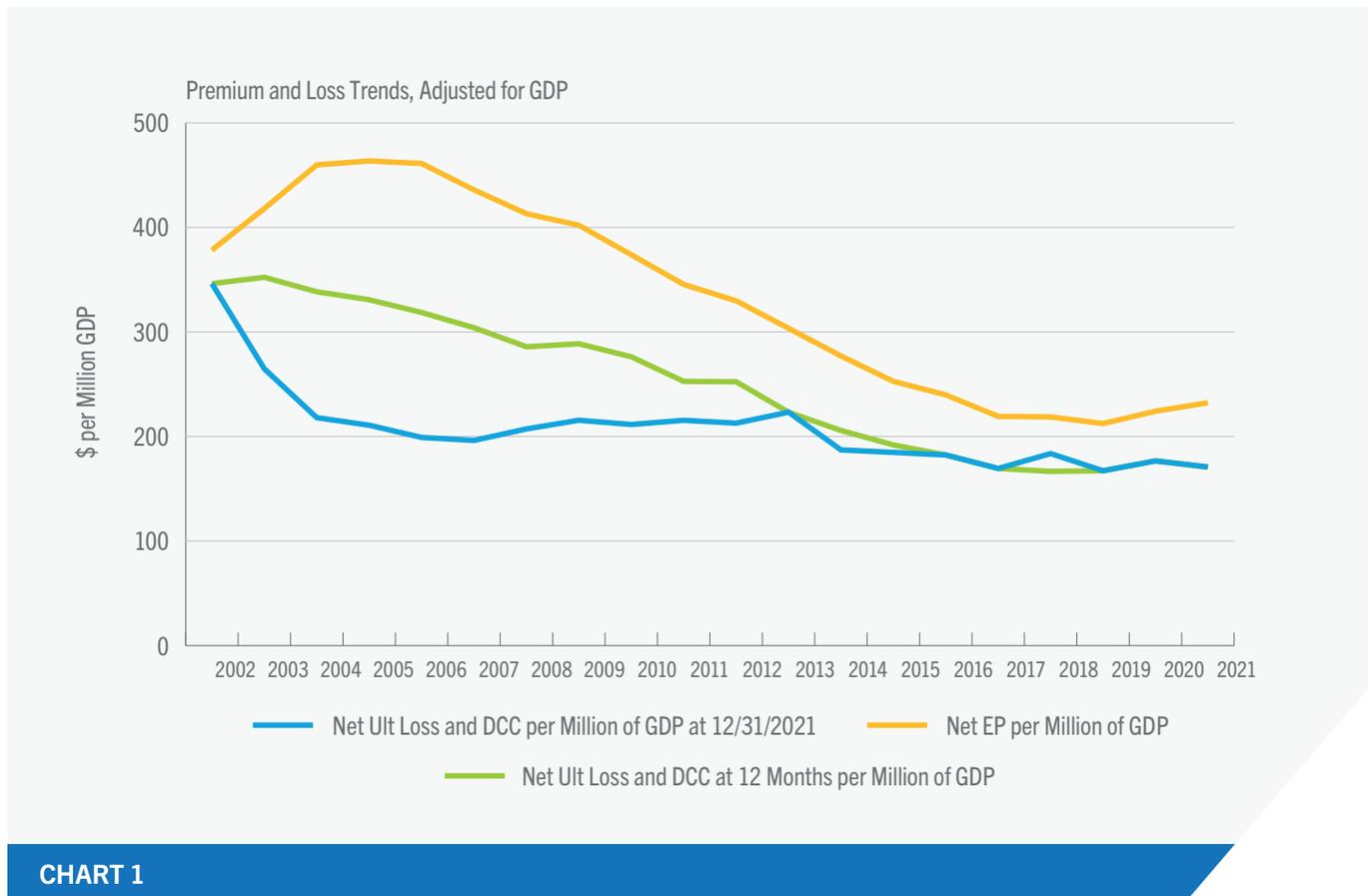
Moore Actuarial performed the analysis on aggregated annual statement data, adjusted to focus on the physicians market, and supplemented it with information from industry reports provided by The Doctors Company and discussions with The Doctors Company actuaries. We also performed additional quantitative analysis on medical malpractice reports in the NPDB, again focusing on the physicians market.

The study was performed by Dave Moore, FCAS, CERA, MLIS, FCA, MAAA, President, Moore Actuarial Consulting, LLC, and Jim Lynch, FCAS, MAAA, Owner, James Lynch Casualty Actuary, on behalf of The Doctors Company.

# OBSERVATIONS

## PREMIUM AND LOSS TRENDS, ADJUSTED FOR GDP

Annual statement data<sup>1</sup> indicate that losses, adjusted for the size of the economy, have been falling, as has premium. We assume that exposures grow at approximately the same pace as the overall economy. Adjusting data for the size of the economy helps focus on insurance trends.



In CHART 1, the gold line shows that by the end of the period studied, the amount of net earned premium (NEP), adjusted for the size of the economy, had fallen by roughly 50 percent since its peak in 2005. This mainly reflects the extended soft market in medical malpractice insurance.<sup>2</sup>

The soft market appears to have ended in 2019. Since then, NEP has risen more than 9 percent, adjusted for GDP growth. This analysis is consistent with the assessment of most market observers.

The green line shows estimates of net ultimate loss and defense and cost containment (DCC)<sup>3</sup> at 12 months, the first full accident year assessment insurers report. The blue line shows the most recent estimate for each accident year. Note that in the older years, 2003 to 2014, the green line is above the blue line. This indicates that insurers have been bringing their accident year loss estimates down.

The gap has narrowed, though. Ultimate losses for accident years 2017 and later, as of December 31, 2021, have fluctuated within a narrow range, when adjusted for GDP. Accident years since 2016 have overall experienced slightly unfavorable development. Most observers believe the line remains redundant, though far less redundant than a few years ago.

The unfavorable loss development in recent years is likely a factor in the hardening market. The white paper on social inflation “Social Inflation and Loss Development” focused on commercial auto. In that line, premium began to rise two to three years after recognition that losses were increasing. A similar process may be at work in medical malpractice. We also note that underwriting returns have been declining in medical malpractice. According to the National Association of Insurance Commissioners (NAIC) analysis of Insurance Expense Exhibit data, medical malpractice had an underwriting loss of 13.6 percent in 2020, the worst in at least a decade. However, the pandemic complicates comparisons.

In the pandemic years, AY2020 and AY2021, medical malpractice claims-made net ultimate loss and DCC booked are generally higher than prior years, but there is evidence that the number of claims fell dramatically.<sup>4</sup> For example, 42 percent of primary care physicians reported being sued during 2020 and early 2021, down from 52 percent two years earlier, according to the Medscape Malpractice Report 2021. The percentage of specialists reporting being sued fell to 56 percent, from 62 percent.

Claim count data from the annual statement provides more evidence, though it lacks precision for more robust analysis. The number of direct and assumed reported claims in the annual statement data fell 14 percent from 2019 to 2020 and another 14 percent the following year. And nine of the 10 organizations excluded from the dataset reported fewer claims in AY2021 than in AY2019. The exception was MagMutual, which only increased by three claims.

## NET PAID LOSS AND DCC LINK RATIOS

The actuarial team looked at two sets of calendar year loss development factors (CYLDFs), paid and case-incurred. A paid link ratio in TABLE 1 is shaded blue if it is higher than its predecessor. For example, the AY2003 12–24 factor is shaded blue because it is larger than the AY2002 factor.

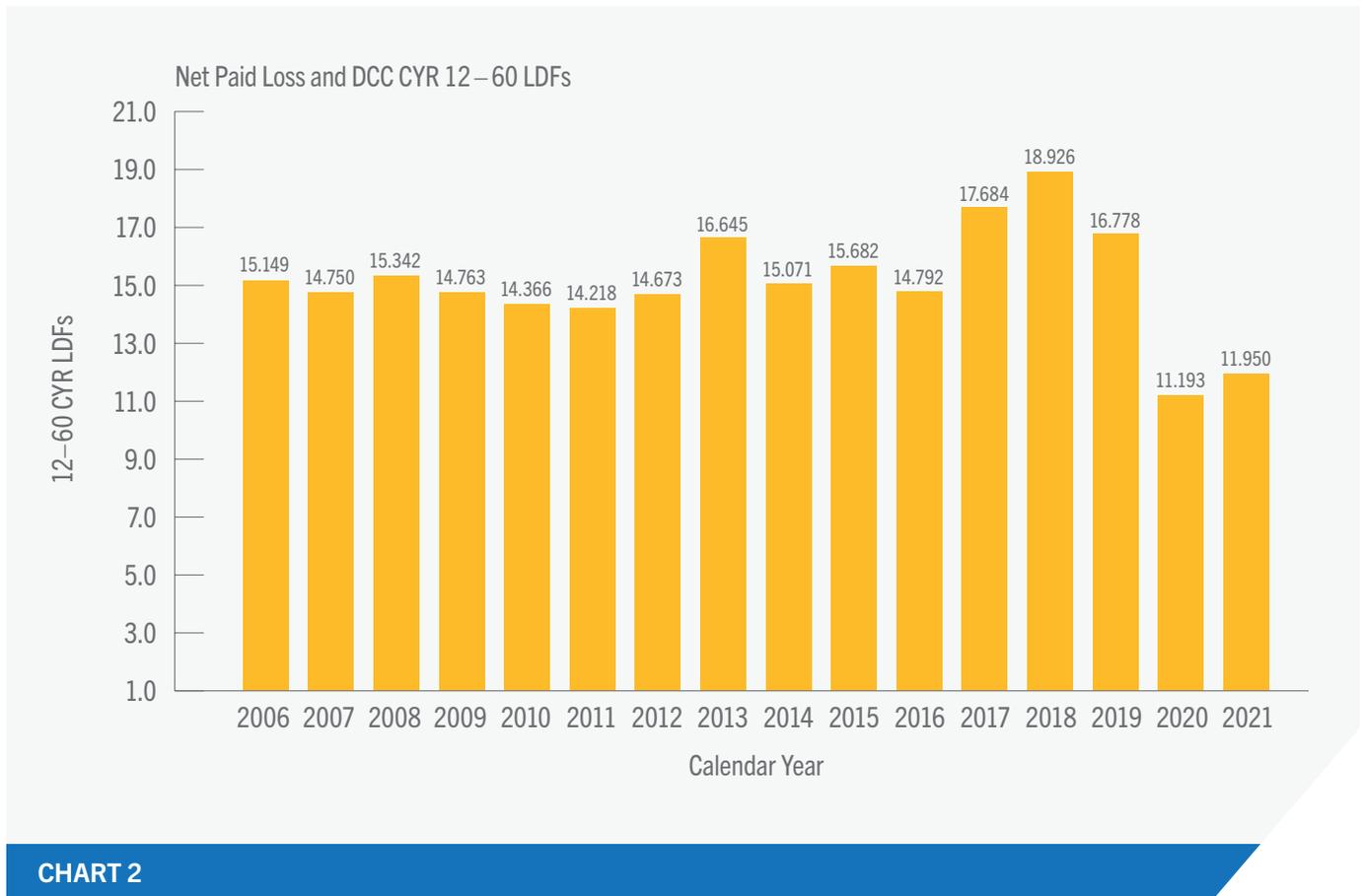
TABLE 1

Acc Year	12–24	24–36	36–48	48–60	60–72	72–84	84–96	96–108	108–120	CYR 12–60
2002	5.320	1.956	1.344	1.160	1.098	1.051	1.036	1.019	1.017	
2003	6.200	1.892	1.305	1.175	1.092	1.056	1.028	1.014	1.020	
2004	4.896	1.874	1.380	1.167	1.090	1.041	1.030	1.021	1.013	
2005	5.339	1.952	1.394	1.188	1.069	1.049	1.029	1.015	1.013	
2006	4.664	1.933	1.354	1.178	1.099	1.043	1.020	1.018	1.014	15.149
2007	4.875	1.942	1.292	1.181	1.086	1.045	1.033	1.022	1.018	14.750
2008	4.726	1.920	1.368	1.174	1.079	1.041	1.040	1.024	1.018	15.342
2009	4.914	1.894	1.364	1.164	1.090	1.046	1.038	1.016	1.006	14.763
2010	4.647	1.876	1.331	1.194	1.096	1.048	1.039	1.020	1.010	14.366
2011	4.884	2.015	1.344	1.214	1.094	1.047	1.040	1.017	1.021	14.218
2012	5.332	1.958	1.399	1.168	1.096	1.054	1.026	1.013	1.009	14.673
2013	4.797	1.982	1.337	1.193	1.092	1.068	1.026	1.015		16.645
2014	4.659	1.924	1.393	1.195	1.109	1.039	1.017			15.071
2015	4.925	2.176	1.389	1.175	1.083	1.038				15.682
2016	4.889	2.106	1.387	1.163	1.086					14.792
2017	5.413	2.011	1.273	1.173						17.684
2018	5.116	1.806	1.321							18.926
2019	4.184	1.809								16.778
2020	4.264									11.193
2021										11.950

No obvious trend emerges upon inspection of accident year factors. In addition, we fitted each column of link ratios via exponential regression. None of the traditional link ratio columns showed significant growth. Here we saw no evidence of social inflation.

## NET PAID LOSS AND DCC CYR 12–60 LDFs

Combining link ratios into CYLDFs, as CHART 2 does, yields evidence of social inflation. The factors fluctuate within a range (14.366 and 15.342) from 2006 to 2010. They then rise slowly until 2017, when they increase significantly.

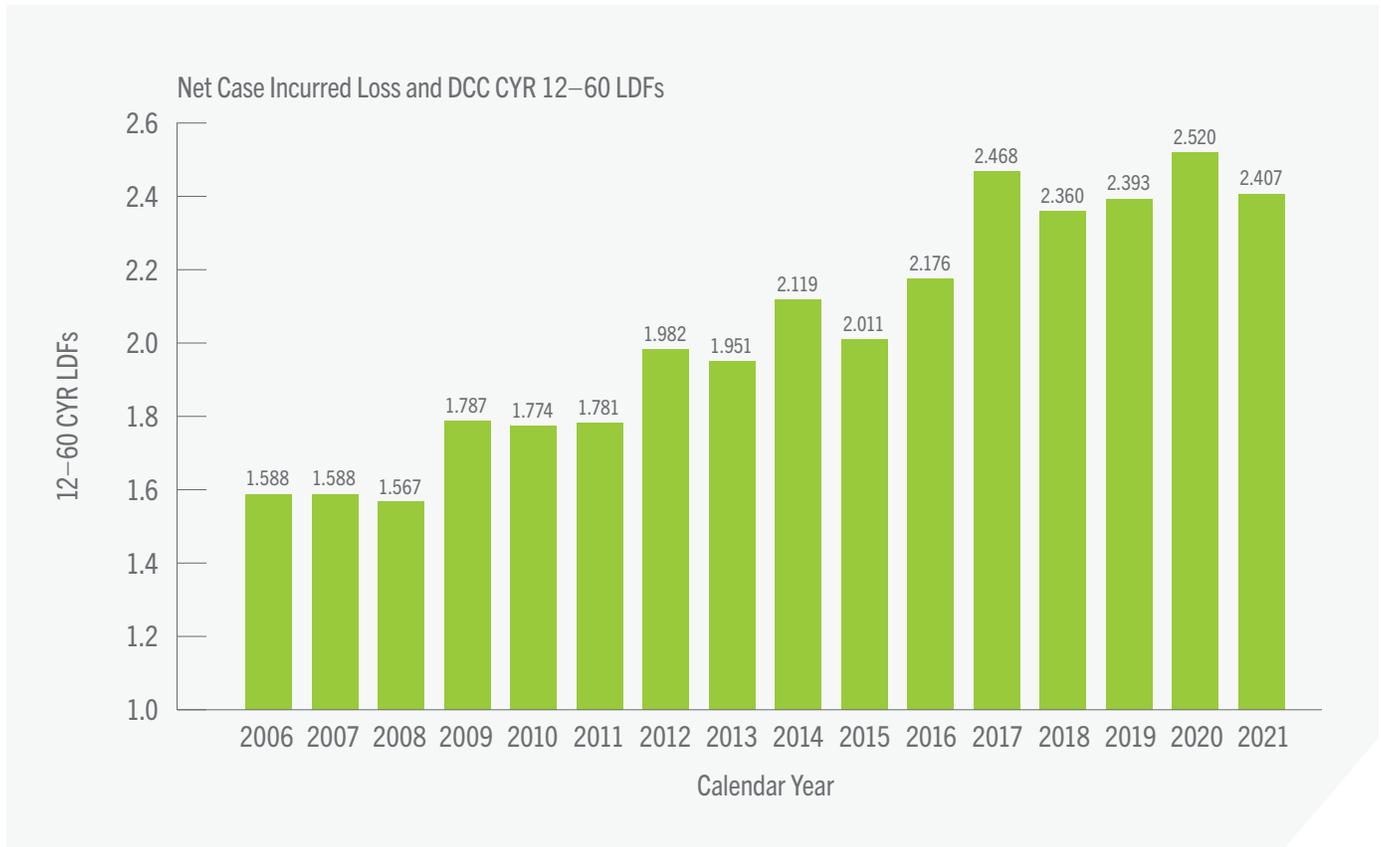


In the first two years of the pandemic, the factors fall to their lowest levels, 11.193 and 11.950. The decline is consistent with the well-documented litigation slowdown during the pandemic. The NPDB public use file shows a similar slowdown. The number of medical malpractice reports, which generally reflect settled claims, fell 18 percent in 2020 and another 10 percent in 2021.

Whatever might have happened starting in 2012 that accelerated around 2017 was interrupted by the pandemic. The data do not indicate which pattern—the pandemic pattern or the prepandemic pattern—will emerge.

## NET CASE INCURRED LOSS AND DCC CYR 12–60 LDFs

Case-incurred development patterns, shown in CHART 3, show a definite increasing pattern. Factors begin increasing in 2009 and grow a phenomenal amount. The 2021 factor, 2.407, is 52 percent higher than the 2006 factor, 1.588. We do not believe this is primarily caused by social inflation.<sup>5</sup>



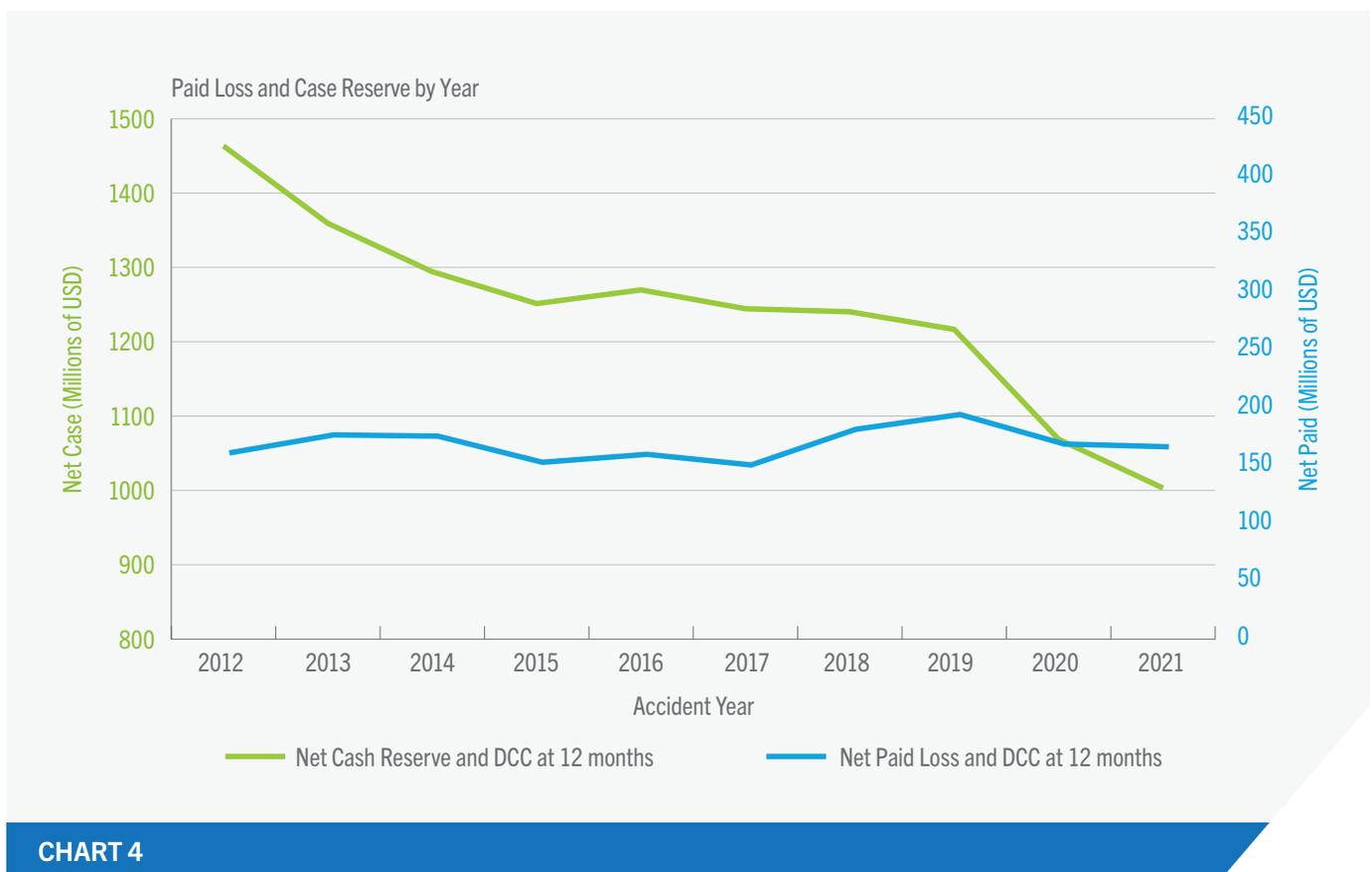
**CHART 3**

## PAID LOSS AND CASE RESERVE BY YEAR

Instead, we note that medical malpractice case reserves at 12 months have been declining, while paid losses at 12 months have not. The green line in CHART 4 shows that since 2012, aggregate case reserves at 12 months have fallen by more than 30 percent (\$460 million), while paid losses at 12 months have not declined. Despite a growing economy, paid losses at 12 months have stayed relatively flat, fluctuating in a much narrower range, between \$150 million and \$194 million.

**The fact that paid losses are holding steady implies that ultimate losses will as well. Should that be true, falling case reserves will result in large case-incurred LDFs.**

What we observe in CHART 4 is consistent with a reduction in case reserve adequacy at 12 months. A reduction in case reserve adequacy at 12 months would result in an increase in the development factors at later evaluation points. The change in case reserves is so great that we hold no opinion on whether social inflation might be embedded in the case-incurred LDFs. The rest of the annual statement analysis focuses on paid losses.



## ACTUAL VS. EXPECTED NET LOSS AND DCC (IN MILLIONS)

If social inflation is forcing development factors higher, actual loss emergence should exceed what a standard analysis would expect. TABLE 2 gives an ambiguous result. Across the past 10 years, the actual vs. expected emergence variance on paid losses is negative; actual losses fell \$537 million short of what rolling three-year average LDFs projected. The entire shortfall is attributable to the pandemic years. In 2020, actual loss emergence fell \$807 million below expected; in 2021, actual emergence fell \$409 million below expected. Excluding those two years, actual emergence exceeded expected by \$679 million, or about 2.9 percent.

To estimate the potential cost of social inflation, we calculated the implied net ultimate loss and DCC for medical malpractice claims-made using loss development factors as of December 31, 2010.

We compared that with the booked net ultimate loss and DCC as of December 31, 2021.

TABLE 2

Calendar Year	Paid Emergence on Prior Accident Years through 120 Months			
	Expected	Actual	Variance	% Variance
2012	2,788	2,795	7	0.3%
2013	2,738	2,816	78	2.8%
2014	2,924	2,952	28	1.0%
2015	2,966	3,180	214	7.2%
2016	2,986	2,920	(65)	-2.2%
2017	2,919	3,169	250	8.6%
2018	3,034	3,200	166	5.5%
2019	3,260	3,261	1	0.0%
2020	3,517	2,710	(807)	-22.9%
2021	2,985	2,576	(409)	-13.7%
2012–2016	14,402	14,663	261	1.8%
2016–2019	12,199	12,551	352	2.9%
2012–2019	23,615	24,293	679	2.9%
2012–2021	30,117	29,580	(537)	-1.8%

## ESTIMATE OF IMPACT OF SOCIAL INFLATION VS. BOOKED LOSSES

Column E of TABLE 3 shows that over the last decade, had paid development patterns remained as they had been prior to 2010, ultimate losses and DCC for medical malpractice claims-made would have been \$3.99 billion less than what insurers booked. That amounts to 11.2 percent of booked losses for the period.

The \$3.99 billion difference has two parts. One part is the reserve redundancy. The other part is the potential impact of social inflation.

We used a market-share approach to estimate redundancy. Our set of medical malpractice insurers constituted about 75 percent of losses in the market. Credible estimates of the redundancy range from \$600 million (Conning) to \$2.1 billion (AM Best). Adjusting those estimates by market share yields a range of \$450 million to just under \$1.6 billion for the redundancy on the insurers we studied. That indicates the impact of social inflation lies in a range between \$2.4 billion and

\$3.5 billion, or between 8 and 11 percent of the booked losses over the past 10 years.

Data from the public use file of the NPDB were roughly consistent with annual statement data, though more muted.

A discussion of NPDB data appears below. Here, it is important to note that the data rarely include loss adjustment expenses. This dataset will not show any increases driven by loss adjustment expenses' growth. In addition, a single event can generate reports from several indemnifying parties. For example, a single large claim could generate a report from a hospital (paying its self-insured retention for one of its physician employees), a primary insurance company paying its limits, and an excess insurer paying its piece. This would have the effect of understating the ground-up severity, as they are treated as multiple reports in the NPDB.

**TABLE 3**

Calendar Year	A	B	C	D = A* (Alternative LDF)	E = D - C
	Per 12/31/YYYY Schedule P		Per 12/31/2021 Schedule P	3-Year Weighted Average as of 12/31/2010 (Paid)	
	Net Paid Loss and DCC at 12 months	Net Case-Incurred Loss and DCC at 12 months	Net Ultimate Loss and DCC	Implied Net Ultimate Loss and DCC Using Alternative LDFs	Variance to Booked
2012	161	1,624	3,445	3,005	-440
2013	177	1,536	3,427	3,296	-131
2014	175	1,470	3,280	3,276	-4
2015	153	1,404	3,370	2,855	-515
2016	160	1,430	3,572	2,984	-588
2017	151	1,395	3,382	2,811	-570
2018	181	1,422	3,785	3,386	-399
2019	194	1,411	3,584	3,626	41
2020	169	1,238	3,709	3,150	-559
2021	166	1,170	3,926	3,104	-822
Total	1,687	14,098	35,479	31,493	-3,987
				% Variance	-11.2%

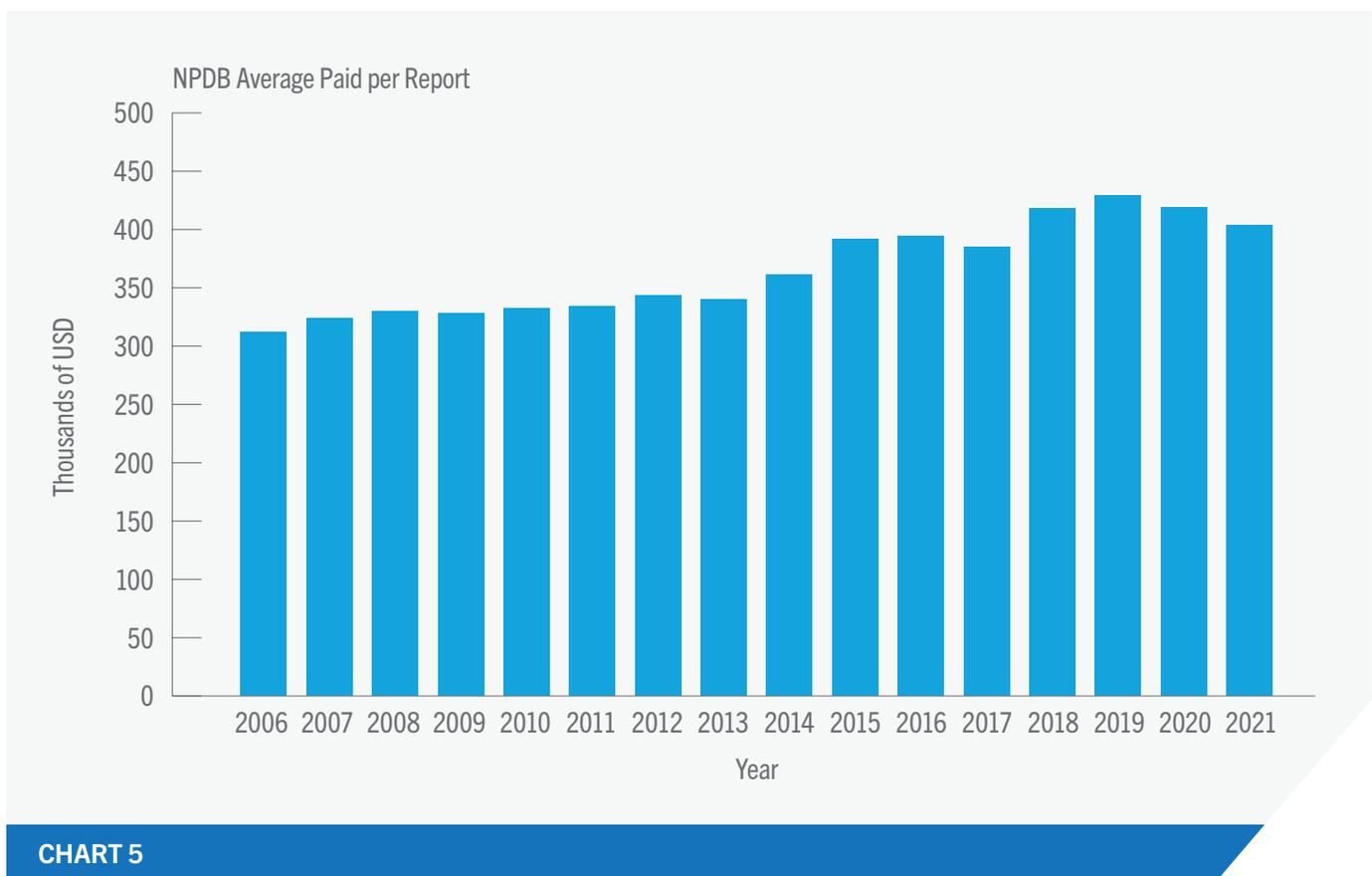
\* Amount in millions

## NPDB AVERAGE PAID PER REPORT

Our work focuses on physicians (MDs and DOs). Annual statement analysis showed four distinct growth periods:

- 2006–2011: fluctuating.
- 2011–2017: slight growth.
- 2017–2019: accelerated growth.
- 2019–2021: shrinkage attributable to the pandemic.

CHART 5 shows a similar pattern: slow growth in the average amount paid per report<sup>6</sup> from 2006 to 2011 (1.3 percent per year on average); somewhat faster growth from 2011 to 2017 (2.4 percent); and considerably faster growth from 2017 to 2019 (5.6 percent). The average paid declines during the pandemic years.



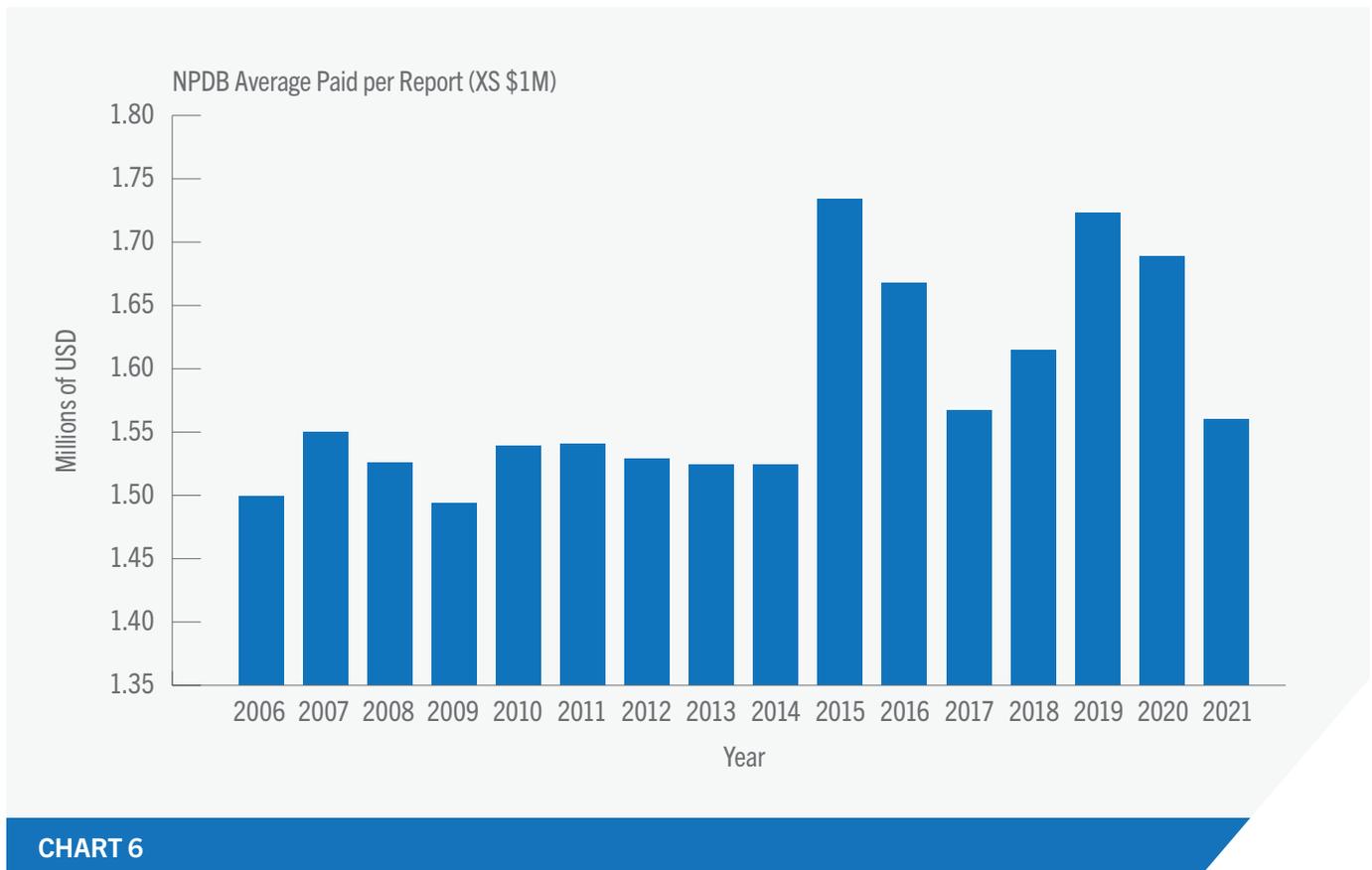
Growth from 2017 to 2019 consists of a significant increase (8.6 percent) from 2017 to 2018, followed by a smaller increase (2.6 percent) the next year. The fluctuation might be random or could be evidence of social inflation. The following two years don't provide much insight. The average paid per report declines, almost certainly showing the impact of the pandemic.

Had the average paid claim grown at the same rate as the Consumer Price Index for All Urban Consumers (CPI-U) in 2018 and 2019, aggregate paid would have been approximately \$450 million, or about 6.2 percent, less than it was.

## NPDB AVERAGE PAID PER REPORT (XS \$1M)

Reports in excess of \$1 million were similar, though growth in the 2006–2011 era was slightly higher than during the next seven years, 0.6 percent per year on average vs. 0.3 percent. The 2017–2019 period realized 4.9 percent annual growth on average. It should be noted that average loss was much more variable year to year, as CHART 6 shows.

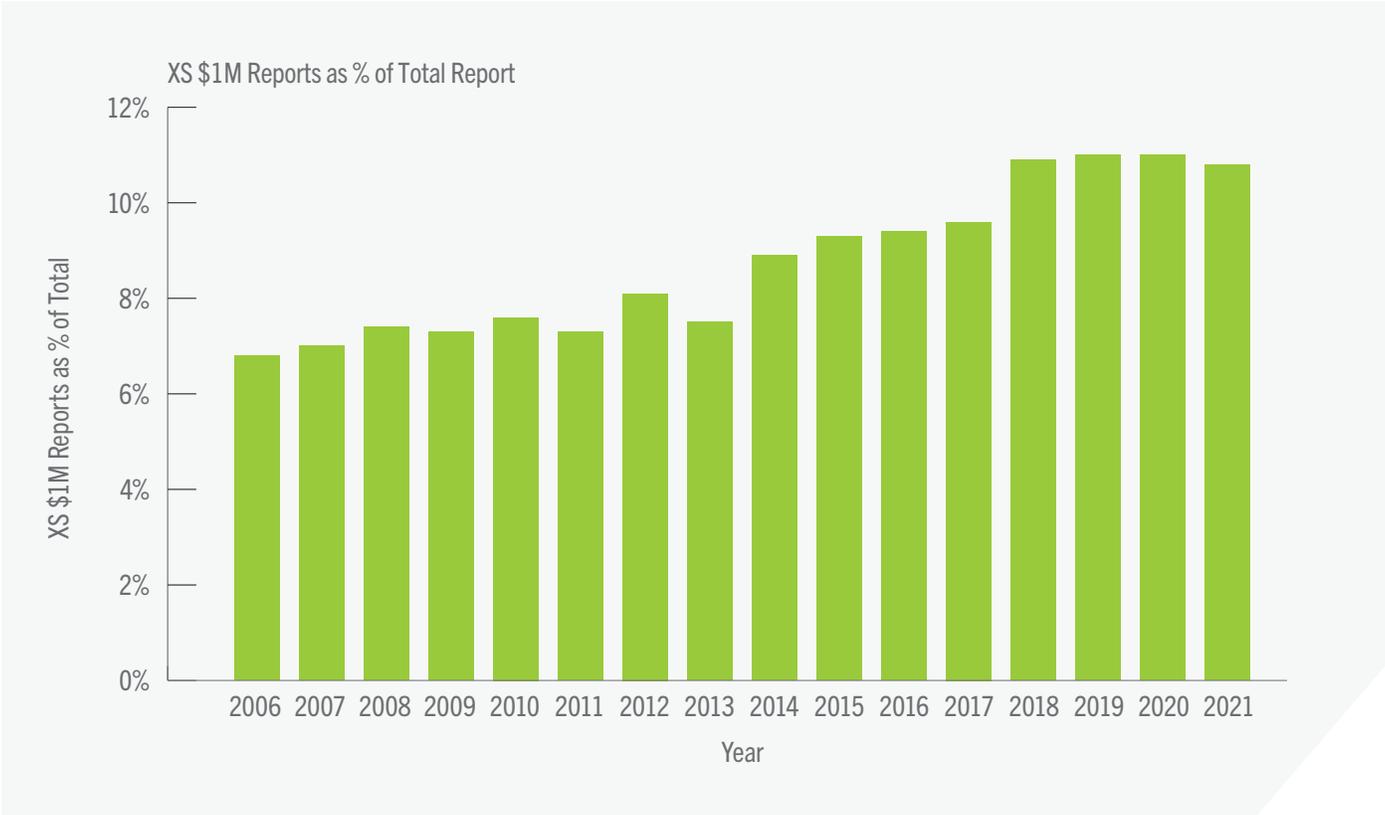
The comparative growth rates are counterintuitive. At every stage, the growth rate is growing faster for all reports than for reports in excess of \$1 million. Usually, excess claims grow faster.



# XS \$1M REPORTS AS PERCENTAGE OF TOTAL REPORTS

**The frequency of large reports is also increasing.**

CHART 7 shows the number of reports for physicians in excess of \$1 million as a percentage of total reports. From 2006 to 2011, they grew at 1.4 percent per year on average. From 2011 to 2017, they grew somewhat faster, 4.5 percent per year. From 2017 to 2019, they grew 7.1 percent per year. In a normal scenario, we expect the rate of large losses to grow. Every year, normal inflation rates turn losses just under \$1 million to just over \$1 million. Still, the pattern suggests that physician malpractice insurers are seeing an increase in the number of large losses as much as they are seeing an increase in claims severity.



**CHART 7**

# CONCLUSIONS

We found evidence of social inflation in the annual statement data as well as the NPDB's public access file we examined. It did not hit as hard in medical malpractice as in other portfolios we have examined, but it did appear to constitute between 8 and 11 percent of all ultimate losses in that period. NPDB data indicate there may be an increase in the number of large losses that is as damaging as the increasing size of claim settlements.

**Social inflation accelerated immediately before the pandemic. It seems to have disappeared when the pandemic began, though it is hard to imagine that it won't return.**

A related question: why has the impact on medical malpractice been (relatively) benign? Precise answers are beyond the scope of this analysis, but thinking about the elements that the plaintiff's bar has honed elsewhere does provide some insight into past and possible future trends.

Most observers agree that commercial auto liability has been especially hard hit by social inflation, which often takes the form of nuclear verdicts. The prototypical example: a 2014 accident in which the comedian Tracy Morgan was critically injured when a tractor-trailer struck from behind the vehicle he rode in. Instead of pursuing the driver, the plaintiffs sought judgment against Walmart, the deep-pocketed corporation for which he drove. The claim settled for \$10 million.

Plaintiffs have effectively argued that sophisticated monitoring systems such as cameras within truck cabs and "black box" technology allow larger firms to exercise more control over drivers than before. Plaintiffs' attorneys contend, often successfully, that this makes the firm liable for the accident.

The promise of megaverdicts lets plaintiffs' attorneys tap their arsenal. They go to capital markets for litigation funding, which provides them with more money than ever to pursue lawsuits. They develop sensational narratives that make jurors furious against the defendant, which can result in enormous noneconomic damages.

All of that can happen in medical malpractice as well, but there are mitigating factors:

- About 30 states cap noneconomic damages in medical malpractice cases. The nature of the caps varies, sometimes significantly, but even the weaker caps offer medical professionals protection that large companies lack.
- **The public continues to esteem doctors and nurses.** In Gallup's 2021 survey, 81 percent of respondents rated nurses as high or very high for having honesty and ethics, highest of any profession. It was the 20th consecutive year they were number one. Medical doctors were number two (67 percent). Pharmacists were number four (63 percent).<sup>7</sup> It's harder for the enraging stories told by the plaintiff's bar to stick.

- Regard for medical professionals grew in 2020, as they faced the challenges of caring for COVID-19 patients. Nurses that year held the second-highest rating ever. (The highest was firefighters at the end of 2001.) Doctors and pharmacists enjoyed higher ratings, as well. This may have helped hold down the number of claims that year, a “halo effect” that plaintiffs were reluctant to attempt to breach.
- A physician’s practice doesn’t have the financial depth of, say, Walmart, and they have lower limits of insurance than a major corporation. This could deter some lawsuits.

**Several of these elements are in flux:**

- California has revised its \$250,000 noneconomic damages cap, in place since the mid-1970s. The limit for noneconomic damages in wrongful death claims resolved in 2023 climbs to \$500,000 and increases \$50,000 per year for 10 years, then grows 2 percent per year annually. The cap for other claims rises to \$350,000 in 2023, grows \$40,000 per year for 10 years, then 2 percent annually. And the cap can be stacked up to three times, depending on the negligence of providers and/or hospitals. Any changes in California, which has nearly 12 percent of the nation’s population, can have a significant impact on countrywide averages. It is beyond the scope of this work to assess whether California’s actions will be mimicked elsewhere.

- **The COVID-19 “halo effect” has evaporated.** Gallup surveys show ratings for nurses, medical doctors, and pharmacists in 2021 returned to long-term trends.
- Physicians are increasingly leaving solo practices to work at hospitals and larger organizations, which could, potentially, provide the deeper pockets that plaintiffs’ attorneys seek.

**Should their protections erode, medical malpractice lines could see social inflation accelerate.**

# METHODOLOGY AND DATA

The analysis identifies inflation by looking for “drift” in LDFs. LDFs that are consistently rising provide evidence of increases in loss cost trends. If the trend in the Consumer Price Index has been stable or decreasing, this drift would likely be attributable to social inflation. If the Consumer Price Index has been rising, this drift would likely be attributable to general inflation or a combination of the two.

The methodology followed the white paper on social inflation “Social Inflation and Loss Development,” published jointly by the Insurance Information Institute and the Casualty Actuarial Society in February 2022. That paper defined social inflation as “excessive inflation in claims” and primarily looked for evidence that the size of claims has increased. The methodology is not as well-suited to identifying increases in claim frequency or a subset thereof, such as an increase in the frequency of large losses.

Basic actuarial techniques assume that losses move from unreported to reported to paid in a predictable fashion. There are many factors behind that movement. Inflation is one.

Actuaries usually select an LDF by averaging several link ratios, their assumption being that they are observing a random process with a stable mean. That assumption implies that inflation has been constant.

If link ratios are increasing, it is likely that the process no longer has a stable mean. The instability could, in theory, have many causes. One of those is what is today known as social inflation. The presence of rising link ratios in lines of business where those ratios are normally stable can be evidence of social inflation.

The Doctors Company requested that we examine medical malpractice claims-made data from the annual statement to see if there was evidence of social inflation. The Doctors Company’s own experience indicated that industrywide annual statement data have two significant sources of anomalies:

- A few companies have unusual Schedule P triangles, thanks to unconventional reserving practices and/or anomalies caused by large financial transactions, such as mergers and loss portfolio transfers.
- Some companies primarily write hospital business. Hospitals have different retention and limit profiles than physicians, which leaves them with different loss development patterns.

To address these potential problems, The Doctors Company supplied a list of companies to exclude from the industry dataset. Those companies are:

- Berkshire Hathaway Group
- Endurance American Specialty Insurance Company
- MagMutual
- Franklin Casualty Insurance Company
- Missouri Hospital Plan
- Healthcare Underwriting Company
- MCIC Vermont
- Community Hospital Alternative
- Controlled Risk Insurance Co. of Vermont
- California Healthcare Insurance Company

These companies constitute roughly 25 percent of industry NEPs and losses for the medical malpractice claims-made line of business. The first two companies on the list above were excluded because of distorting intercompany transactions and/or loss portfolio transfers. The remaining companies were excluded based on a list provided by The Doctors Company of top hospital writers. The Doctors Company provided a list of companies and the percentage of hospital premium relative to medical malpractice premium.

They instructed us to remove the top writers where 70 percent or more of their medical malpractice premiums were for hospitals. Some of these companies had little net premium, so we focused only on those companies with material net premium.

The actuarial team excluded those companies and analyzed the resulting data. First, we examined trends in aggregate premium and losses by calendar year and accident year, as standardized by the size of the overall economy. Next, we examined loss development on net paid loss and DCC triangles and net reported loss and DCC triangles. We focused on the product of link ratios along each diagonal of the triangle from 12 months to 60 months. If this product, the calendar year loss development factor, or CYLDF, is consistently growing, it is a sign that social inflation is present. The team performed similar analysis on gross losses and found consistent patterns with what the net showed.

Next, we compared the actual emergence of losses to what was predicted by recent link ratios.

To project emergence in each year, we use a three-year weighted average of the previous link ratios. The calculation is as follows:

- Let  $E(L_{i,j})$  = expected cumulative paid loss and DCC for accident year  $i$  at age  $j$  in months
- Let  $A_{i,j}$  = actual cumulative paid loss and DCC for accident year  $i$  at age  $j$  in months
- $E(L_{i,j}) = (A_{i,j-12}) * (A_{i-3,j} + A_{i-2,j} + A_{i-1,j}) / (A_{i-3,j-12} + A_{i-2,j-12} + A_{i-1,j-12})$

The expected projection is only one diagonal forward; for example, the 2021 diagonal starts with the 2020 actual diagonal and applies three-year average link ratios to project the 2021 diagonal.

If actual emergence greatly exceeds predictions, it is a sign that social inflation is present.

Finally, we compared booked ultimate losses to what ultimate losses would have been prior to social inflation. We calculated the implied net ultimate loss and DCC based on the paid loss development method using alternative LDF assumptions. These alternative LDF assumptions are based on using three-year weighted average link ratios from the latest three calendar years as of December 31, 2010. We reason that in the absence of social inflation, LDFs would not be creeping higher.

This yields an estimate of the impact of social inflation on the portfolio.

Annual statement data have advantages and disadvantages for this kind of analysis. Data are affected by legal changes, changes in types of claims, changes in laws and regulations, and changes in policy limits and attachment points. Often these considerations, such as the homogeneity, credibility, development patterns, reinsurance, and use of discounting and operational changes are muted when analyzing industry-level results.<sup>8</sup>

Based on discussions with The Doctors Company actuaries and research by the actuarial team, the following factors might make it harder to detect social inflation:

- Evolving business models. Over the past decade, the number of physician practices has declined. The number of physicians working for hospitals and medical groups has increased. Medical malpractice written premiums have followed the shift in exposures. AM Best estimates that in 2021, 67 percent of medical malpractice premium covered physicians' practices, down from 72 percent four years earlier. Hospitals and other healthcare facilities were 30 percent of direct premium written in 2021, up from 19 percent. Hospitals tend to have higher limits and retentions than a typical physician's practice. These could increase LDFs, particularly in later development years as the higher retention is overcome and a settlement approaches the higher limit.
- COVID-19 and the courts. The global pandemic greatly reduced the number of claims. Fewer lawsuits were filed, and progress on existing lawsuits slowed. It is not clear how the lawsuits filed differ from those that would have been filed had the courts been accessible. There is also a question of whether the latter will ever be filed. These could greatly affect development patterns.
- Changes in reserve philosophy. As previously noted, we observe what appears to be a reduction in case reserve adequacy at 12 months in the annual statement data. A less conservative reserve generally has lower case reserves at earlier stages of claim handling and tends to rise as more information is known. Development factors in such an environment are generally higher than under more conservative practices. If major insurers are reserving less conservatively, industry development factors will tend to rise, as it will take longer to reach adequate case reserves.

The actuarial team also assessed the utility of data from the NPDB, which contains, among other things, extensive nationwide information regarding payments to settle medical malpractice disputes.

The NPDB was created by Title IV of the Health Care Quality Improvement Act of 1986, Public Law 99-660. It began accumulating information in 1990. It is overseen by the Health Resources and Services Administration, an agency of the Department of Health and Human Services.

The data bank collects and disseminates information about medical professionals to “prevent incompetent practitioners from moving state to state without disclosure or discovery of previous damaging or incompetent performance.”<sup>9</sup> The law requires medical malpractice payers, hospitals, medical and dental licensing boards, and certain other healthcare entities to report adverse actions taken against medical professionals.<sup>10</sup>

Although it was designed as a clearinghouse that lets organizations like hospitals and medical boards check on the fitness of a medical professional, the data bank also makes available anonymized data in a public use file. In 2012, a data analysis tool was added to query high-level information, and the actuarial team used this tool.

For insurance purposes, the reports from the public use file can be useful to establish rate relativities—how losses vary from, say, state to state or among specialties. In other respects, their insurance use is limited. The reports give paid amounts only, with no information on insurer loss reserves. Reports are classified by the year of payment, not the year a claim was made or an event occurred. In almost all cases, payments exclude loss adjustment expenses.

Instead of recording the amount paid, the public use file contains an amount that slots the payment into a range. For example, payments between \$30,001 and \$35,000 are coded as \$32,500. Overall, this doesn't distort aggregate payments much. For data through June 30, 2021, the average payment was \$240,896, and the median was \$97,500. Comparable amounts in the public use file are \$243,753 and \$100,000.

The distortion may be greater at higher amounts. Payments between \$50 million and \$100 million are coded at the midpoint of \$10 million increments, so payments between \$50 million and \$60 million are coded as \$55 million. The maximum paid report is \$105 million. Higher reports are coded as \$105 million.

Some incidents result in multiple reports of payments. For example, a multimillion dollar verdict could result in reports from a payer of a self-insured retention, such as a hospital, from a primary insurer and from an excess insurer. These would exist as three separate reports in the database, and database managers have made no attempt to join them.

Collecting reports by the year of payment (essentially by calendar year) makes inflation trends easier to spot.

Some of the insurance limitations, though, provide insights into public policy issues like social inflation. Paid data are not subjective. Occasionally insurance industry skeptics suggest that insurers pad their claim estimates to exaggerate their plight. Paid data can't be subject to exaggeration, so the skeptics' argument vanishes.

The database contains information not included in annual statement data. Hospitals that indemnify a physician must report a payment, even if the hospital is self-insured. Non-U.S. insurers must also report into the database. They do not file an annual statement.

The database can isolate reports on physicians. The annual statement cannot.

Lacking loss adjustment expenses, the database allows analysts to focus on how much indemnity costs contribute to social inflation. The annual statement has similar information (direct paid losses).

Tracking the number of reports allows analysis by size of claim. The database also separates reports by their size. The annual statement collects claim counts, but lack of uniformity in how companies define a claim presents challenges to severity analyses.

The actuarial team extracted the following information by year from 1991 through 2021.

- Total reports.
- Total dollars paid.
- Total reports in excess of \$1 million.
- Total dollars paid on reports in excess of \$1 million.
- Total reports for MDs and DOs.
- Total dollars paid for MDs and DOs.
- Total reports in excess of \$1 million for MDs and DOs.
- Total dollars paid on reports in excess of \$1 million for MDs and DOs.
- Total reports on other professionals (not MDs and DOs).
- Total dollars paid on other professionals.
- Total reports in excess of \$1 million for other professionals.
- Total dollars paid on reports in excess of \$1 million for other professionals.

The public use file appeared to capture details that, using more sophisticated tools, would allow further study—for example, payment by the severity of injury and whether hospitals pay more than insurers for similar injuries. Exploring this opportunity was considered beyond the scope of the current study.

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## Notes

1. For simplicity, the term “annual statement data” from here on refers to the dataset created by removing from aggregate annual statement data the 10 companies listed in the “Methodology and Data” section of this paper.
2. The shift from physician exposures to hospital exposures may be a contributor. The higher retentions that hospitals normally purchase would remove exposures from the general market.
3. DCC stands for defense and cost containment. Most people refer to these expenses as allocated loss adjustment expenses, or ALAE.
4. Companies may be taking a prudent approach in setting AY2020 and AY2021 reserves.
5. By contrast, commercial auto liability factors rose just 23 percent between 2009 and 2019, from 1.653 to 2.031.
6. “Report” is the name used for each payment recorded in the database. Usually it represents the settlement of a dispute. Therefore a “report year” would be akin to the insurance term “settlement year.”
7. Elementary school teachers were number three (64 percent).
8. These are discussed in detail in Lynch and Moore, “Social Inflation and Loss Development,” February 2022.
9. Originally, the data bank monitored doctors and dentists. Other medical professionals were added in 2010. See NPDB history.
10. In addition to malpractice payments, the database collects information on disciplinary actions.

# PURPOSE AND SCOPE

The Doctors Company has engaged Dave Moore of Moore Actuarial Consulting, LLC (“Moore Actuarial”) and Jim Lynch of James Lynch Casualty Actuary to attempt to determine the degree of social inflation, if any, present in the U.S. medical malpractice claims-made market for physicians. The Doctors Company requested use of the quantitative methods they employed in their white paper on social inflation, “Social Inflation and Loss Development.”

The decision to implement or act upon any of the information, indications, or recommendations presented herein is the sole responsibility of the Company.

For the intended purposes of this report, the Accounting Date (the date used to separate paid versus unpaid claim amounts) and the Valuation Date (the date through which transactions are included in the data) for the latest annual statement data are assumed to be 12/31/2021.

In addition, we reviewed summary-level information from the National Practitioner Data Bank (NPDB), a federal dataset that collects information on, among other things, malpractice payments. Reports of payments for malpractice settlements since September 1990 are summarized and made available with an online data analysis tool. The Valuation Date of data contained in the NPDB is 3/31/2022.

And the Review Date (the cutoff date for including information known to the actuary in the analysis) and information date (the date through which data or other information has been considered in developing the findings include in this report) was 6/29/2022.

# DISTRIBUTION AND USE

We have prepared this report in conformity with its intended utilization by person(s) technically competent in the areas addressed and for the stated purposes only. Our services and deliverables are not for a third party's use, benefit, or reliance, and we disclaim any contractual or other responsibility or duty of care to others based upon these services or deliverables or advice we provide.

Any third-party recipient of this report should understand that this report in no way relieves them of the responsibility to perform their own due diligence and should place no reliance on this report or the data contained herein without independent verification. Furthermore, reliance on this report or the data contained herein by any third party does not create any duty or liability on our behalf to the third party.

# QUALIFICATIONS, RISKS, AND UNCERTAINTY

David P. Moore is a Fellow of the Casualty Actuarial Society, Member of the American Academy of Actuaries, and a Chartered Enterprise Risk Analyst and meets the qualification standards of the American Academy of Actuaries.

James Lynch is a Fellow of the Casualty Actuarial Society and a Member of the American Academy of Actuaries and meets the qualification standards of the American Academy of Actuaries.

This report provides modeled indications based upon the data, assumptions, and methods described herein. As with any forward-looking statements, there is risk of material adverse deviation of actual results from those modeled and/or projected. We assume no liability for deviation in actual results from those estimated and provides no guarantee of the actual results and/or financial condition of the Company.

# CONDITIONS AND LIMITATIONS

## 1. Data

In developing this report, we relied on industry data and representations provided by The Doctors Company and their representatives. These data and assumptions have been relied upon without independent validation by the actuaries. However, we did review the assumptions for reasonability. We assume no responsibility for the data and assumptions relied upon from others.

## 2. Uncertainty of Estimates and Projections

There is inherent uncertainty in estimates for unpaid loss and loss adjustment expenses due to many factors, such as changes to the legal, social, and economic environment. We have not anticipated any significant changes to these environments that might affect the cost and frequency of claims. Nor have we included any provision for significant future emergence of new types of claims that are not sufficiently represented in the historical database or not yet quantifiable. We believe the techniques applied and indicated results are reasonable based on the information and assumptions documented in this report. However, it should be recognized that future loss emergence will deviate, perhaps materially, from the estimated results. Unfavorable deviations can adversely impact results.

## CONTACT US

Our public relations team is here to assist you.

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