Malpractice
Loss Trends
2012
# U.S. Medical Malpractice Tort Costs

<table>
<thead>
<tr>
<th>Year</th>
<th>U.S. Medical Malpractice Tort Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>$29.8 billion</td>
</tr>
<tr>
<td>2009</td>
<td>$30.0 billion</td>
</tr>
<tr>
<td>2008</td>
<td>$29.8 billion</td>
</tr>
<tr>
<td>2007</td>
<td>$30.4 billion</td>
</tr>
<tr>
<td>2006</td>
<td>$30.1 billion</td>
</tr>
</tbody>
</table>

Source: Towers Watson 2011
Update on U.S. Tort Cost Trends
Medical Malpractice Industry Combined Ratio

## Selected Company Results 2011

Source: SNL.com Insurance Statutory Market Share Report

<table>
<thead>
<tr>
<th>Companies</th>
<th>Direct Premiums Written* * $thousands</th>
<th>Loss Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Industry Totals</td>
<td>$10,290,868</td>
<td>36%</td>
</tr>
<tr>
<td>The Doctors’ Company</td>
<td>$857,848</td>
<td>32%</td>
</tr>
<tr>
<td>Medical Protective</td>
<td>$846,134</td>
<td>30%</td>
</tr>
<tr>
<td>Medical Liability Mutual (NY)</td>
<td>$562,674</td>
<td>71%</td>
</tr>
<tr>
<td>ProAssurance</td>
<td>$516,265</td>
<td>3%</td>
</tr>
<tr>
<td>CNA</td>
<td>$516,265</td>
<td>31%</td>
</tr>
<tr>
<td>AIG</td>
<td>$429,093</td>
<td>27%</td>
</tr>
<tr>
<td>Physicians’ Reciprocal Ins (NY)</td>
<td>$383,091</td>
<td>54%</td>
</tr>
<tr>
<td>ProMutual Group</td>
<td>$367,798</td>
<td>36%</td>
</tr>
<tr>
<td>NORCAL</td>
<td>$293,497</td>
<td>43%</td>
</tr>
<tr>
<td>ISMIE (IL)</td>
<td>$284,359</td>
<td>20%</td>
</tr>
<tr>
<td>MAG Mutual (GA)</td>
<td>$245,218</td>
<td>24%</td>
</tr>
<tr>
<td>Hospital Insurance Company</td>
<td>$218,747</td>
<td>74%</td>
</tr>
<tr>
<td>MCIC Vermont, Inc (an RRG)</td>
<td>$171,730</td>
<td>65%</td>
</tr>
<tr>
<td>Allied World Assurance</td>
<td>$165,201</td>
<td>40%</td>
</tr>
</tbody>
</table>
SEVERITY
Sources of Medical Malpractice Data

• State by state filings
  – Positives
    • Some filings are very thorough
  – Negatives
    • Quality varies by size, state requirements and quality of filing
    • Little hospital data available as hospitals are written surplus lines

• ISO
  – Positives
  – Negatives
    • No PIAA companies included. No surplus writers included.

• Aon Hospital Professional Liability Benchmark Study
  – Positives
    • Very comprehensive data: 100 healthcare organizations, totalling over 1,500 facilities; 81,889 non-zero claims; representing $9.5B incurred losses, submitted in a consistent format since 1990
    • Probably the best hospital data available
  – Negatives
    • Skewed somewhat to higher severity, since most organizations are urban, teaching hospitals
Sources of Medical Malpractice Data - 2

• Jury Verdicts Research
  – Positives
    • Countrywide in scope; accurate data
    • Tends to be a leading indicator
  – Negatives
    • Jury verdicts represent only 1% of all claims
    • Skewed towards higher severity—not representative of most claims settlements

• National Practitioners Data Base
  – Positives
    • Most comprehensive physician data base available
  – Negatives
    • Physician data only; no hospital data
    • Only closed claims = 5 year lag
    • No expense costs included in data

• PIAA Data
  – Positives
    • Outstanding analysis of causes of loss by specialty
  – Negative
    • Fear of competitor’s use – limited utility
Median Medical Malpractice Jury Verdicts

Source: Jury Verdicts Research, 2010
LRP Publications
Median Medical Malpractice Jury Verdicts

Source: Jury Verdicts Research, 2010
LRP Publications
Mean Medical Malpractice Jury Verdicts

Source: Jury Verdicts Research, 2010
LRP Publications
Compensatory Award Means for Both Plaintiff and Defense Medical Malpractice Jury Verdicts

Source: Jury Verdicts Research, 2010
LRP Publications
National Practitioners Data Base
Nationwide Severity Analysis

Source: National Practitioner Data Bank Public Use File, September 30, 2011

Average Indemnity Payment  Adjusted for Medical CPI
National Practitioners Data Base
Northeast
Severity Analysis

Source: National Practitioner Data Bank Public Use File, September 30, 2011
National Practitioners Data Base
Midwest
Severity Analysis

Source: National Practitioner Data Bank Public Use File, September 30, 2011

Average Indemnity Payment
National Practitioners Data Base South Severity Analysis

Source: National Practitioner Data Bank Public Use File, September 30, 2011

Average Indemnity Payment
National Practitioners Data Base West Severity Analysis

Source: National Practitioner Data Bank Public Use File, September 30, 2011

Average Indemnity Payment
National Practitioners Data Base
South Carolina
Severity Analysis

Source: National Practitioner Data Bank Public Use File, September 30, 2011
National Practitioners Data Base
North Carolina
Severity Analysis

Source: National Practitioner Data Bank Public Use File, September 30, 2011
National Practitioners Data Base
Georgia
Severity Analysis

Source: National Practitioner Data Bank Public Use File, September 30, 2011
Aon HPL Benchmark Study
Hospital Severity
Aon Hospital Professional Liability and Physician Liability 2011
Benchmark Analysis
FREQUENCY
National Practitioners Data Base
Nationwide
Frequency Analysis
Source: National Practitioners Data Bank public use file, September 30, 2011
National Practitioners Data Base
Northeast
Frequency Analysis
Source: National Practitioners Data Bank public use file, September 30, 2011
National Practitioners Data Base
Midwest
Frequency Analysis
Source: National Practitioners Data Bank public use file, September 30, 2011
National Practitioners Data Base
South
Frequency Analysis
Source: National Practitioners Data Bank public use file, December 31, 2010
National Practitioners Data Base
West
Frequency Analysis
Source: National Practitioners Data Bank public use file, September 30, 2011
National Practitioners Data Base
South Carolina
Frequency Analysis

Source: National Practitioners Data Bank public use file, September 30, 2011
National Practitioners Data Base
North Carolina
Frequency Analysis
Source: National Practitioners Data Bank public use file, September 30, 2011
National Practitioners Data Base
Georgia
Frequency Analysis
Source: National Practitioners Data Bank public use file, September 30, 2011
Aon HPL Benchmark Study
Hospital Frequency
(per bed)
Aon Hospital Professional Liability and Physician Liability 2011
Benchmark Analysis
Punitive Damage Awards in Medical Malpractice

Punitive damage awards accompanied compensatory awards in:

<table>
<thead>
<tr>
<th>Year</th>
<th>Percent of Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>2%</td>
</tr>
<tr>
<td>2001</td>
<td>2%</td>
</tr>
<tr>
<td>2002</td>
<td>4%</td>
</tr>
<tr>
<td>2003</td>
<td>5%</td>
</tr>
<tr>
<td>2004</td>
<td>2%</td>
</tr>
<tr>
<td>2005</td>
<td>3%</td>
</tr>
<tr>
<td>2006</td>
<td>3%</td>
</tr>
<tr>
<td>2007</td>
<td>1%</td>
</tr>
</tbody>
</table>

FREQUENCY AND SEVERITY TREND ANALYSIS
Frequency and Severity

- Frequency = number of claims reported
- Severity = average cost per claim
- Frequency & severity trend factor
  - General Consensus: 3-5% for the first $1M layer, higher in some jurisdictions; higher for excess layers
Aon HPL Benchmark Study
Annual Trend Comparison
Aon Hospital Professional Liability and Physician Liability 2011 Benchmark Analysis
PHYSICIAN ISSUES
Hospital vs. Physician Loss Costs

Source: 2011 Update on U.S. Tort Cost Trends, Towers Watson
MEDICAL MALPRACTICE INSURANCE COMPANY RESULTS
Outcome of Malpractice Cases 1985-2010

Source: PIAA Data Sharing Project

- Dropped/Dismissed: 27%
- Settlements: 6%
- Defense Verdicts: 1%
- Plaintiff Verdicts: 64%
Medical Malpractice Premium Volume

- 2010: $8,068,987 net written premium
  - Source: 2011 A. M. Best Aggregates and Averages

- This doesn’t count:
  - Self insurance
  - Captives
  - Patient compensation funds
  - JUAs
  - Trusts
Accident Year vs. Calendar Year

- Accident Year = Results from all policies written during that year

- Calendar Year = Results from all policies written during that year plus any reserve changes made to prior years

- Virtually all published data is on a calendar year basis
Medical Malpractice Reserve Development

Source: Charles W. Mitchell, FCAS and Brad J. Parker, ACAS, Medical Liability Monitor, April, 2012
# Medical Professional Liability (Claims-Made) Reserve Redundancy (Deficiency)

Source: Aon Benfield Industry Reserve Study, 2011 ($M)

<table>
<thead>
<tr>
<th>Accident Year</th>
<th>Redundancy/(Deficiency)</th>
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<tbody>
<tr>
<td>Prior</td>
<td>287</td>
</tr>
<tr>
<td>2000</td>
<td>0</td>
</tr>
<tr>
<td>2001</td>
<td>(57)</td>
</tr>
<tr>
<td>2002</td>
<td>37</td>
</tr>
<tr>
<td>2003</td>
<td>109</td>
</tr>
<tr>
<td>2004</td>
<td>224</td>
</tr>
<tr>
<td>2005</td>
<td>372</td>
</tr>
<tr>
<td>2006</td>
<td>841</td>
</tr>
<tr>
<td>2007</td>
<td>1,098</td>
</tr>
<tr>
<td>2008</td>
<td>1,185</td>
</tr>
<tr>
<td>2009</td>
<td>1,435</td>
</tr>
<tr>
<td>Total</td>
<td>5,532</td>
</tr>
</tbody>
</table>
A Short Primer on Insurance Accounting

• For Claims-Made Coverage:
  – 5 years after the fact 95% of results known
  – 7 years after the fact 99% of results known

• For Occurrence Coverage:
  – 10 years after the fact 95% of results known
  – 12 years after the fact 99% of results known
Data Time Lag

• For claims-made coverage, we have reasonable confidence in data from 2005, and significant confidence in data from 2003 and earlier.

• Accident year results can only be regarded as an educated guess for the most recent years

• For occurrence coverage, we have significant confidence in data from 1998 and earlier.
Results Time Lag

• It is often five years after the fact before a trend (positive or adverse) is fully apparent to management

• It takes several further years before a change can be implemented
  – 60-180 days for filing approval
  – 60 days policyholder notification
  – 1 year to phase in rate increase
  – 1 further year before rate increase is completely earned
  – TOTAL: 2 years 4-10 months lag time
Loss Ratios for Medical Malpractice Industry

Source: 2011
Bests Aggregates & Averages – Property/Casualty
Loss Adjusting Expense Ratios for Medical Malpractice Industry

Source: 2011
Bests Aggregates & Averages – Property/Casualty
Injured Loss Ratios for Medical Malpractice Industry

Pure Loss + Allocated Loss Adjusting Expenses (ALAE) = Incurred Losses

Source: 2011 Bests Aggregates & Averages – Property/Casualty
## Loss Triangles

Source: Schedule P – Part 3F – Section 2 – Medical Malpractice Claims Made

<table>
<thead>
<tr>
<th>Year</th>
<th>1998</th>
<th>1999</th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
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<tbody>
<tr>
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<td>171,415</td>
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<td>XXX</td>
<td>XXX</td>
<td>XXX</td>
<td>XXX</td>
<td>XXX</td>
<td>194,361</td>
</tr>
<tr>
<td>1999</td>
<td>XXX</td>
<td>977,301</td>
<td>1,025,606</td>
<td>195,467</td>
<td>223,346</td>
<td>210,446</td>
<td>173,852</td>
<td>164,533</td>
<td>186,150</td>
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<td>XXX</td>
<td>1,072,764</td>
<td>1,324,627</td>
<td>1,324,627</td>
<td>210,446</td>
<td>175,860</td>
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<td>2001</td>
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<td>XXX</td>
<td>2,618,781</td>
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<td>2002</td>
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<td>XXX</td>
<td>XXX</td>
<td>2,467,248</td>
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<td>XXX</td>
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<td>XXX</td>
<td>XXX</td>
<td>1,094,298</td>
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<td>2,605,532</td>
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<td>XXX</td>
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<td>2004</td>
<td>XXX</td>
<td>XXX</td>
<td>XXX</td>
<td>XXX</td>
<td>1,139,025</td>
<td>1,671,533</td>
<td>2,310,170</td>
<td>XXX</td>
<td>XXX</td>
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<td>XXX</td>
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<td>XXX</td>
<td>XXX</td>
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<td>2006</td>
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<td>XXX</td>
<td>XXX</td>
<td>XXX</td>
<td>XXX</td>
<td>XXX</td>
<td>XXX</td>
<td>893,956</td>
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<tr>
<td>2007</td>
<td>XXX</td>
<td>XXX</td>
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<td>XXX</td>
<td>XXX</td>
<td>XXX</td>
<td>XXX</td>
<td>XXX</td>
<td>XXX</td>
<td>194,361</td>
</tr>
</tbody>
</table>
Claims Made Loss Ratios From First Report to Current

Source: Company Statutory filing, Conning Research & Consulting, Inc. analysis
Professional Liability at October 2001
Professional Liability at October 2002
Professional Liability at October 2003

[Graph showing professional liability over months of development for years 1996 to 2007.]
Professional Liability at October 2005
Professional Liability at October 2006
Professional Liability at October 2007
Expense Ratio
Source: 2011
Bests Aggregates & Averages – Property/Casualty

- Consists of:
  - Costs to run company
  - Commissions to agents & brokers
  - Premium taxes
Medical Malpractice Industry Combined Ratio

Source: Bests Aggregates & Averages, 2010 Property & Casualty edition
Malpractice Industry Premium and Losses 1976-2010

Medical Malpractice Accident-Year Results ($ in millions)

Source: Schedule P by Richard A. Lino, Oliver Wyman
AY results including IBNR
AY estimates reflect investment yield of .5% above US Treas Rate

Premiums
Latest AY Losses
Underwriting Cycle – Calendar Year vs. Accident Year

Industry Aggregate Medical Malpractice Combined Ratio

Source: AM Best Aggregates & Averages
Richard A. Lino, Oliver Wyman Actuarial Consulting, Inc.

AY reported results including IBNR reported as of December 31, 2008 (or 9 years after AY, if earlier)
## Incident Date to Trial Date

### Medium Number of Months


<table>
<thead>
<tr>
<th>Year of Trial</th>
<th>Months</th>
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<tbody>
<tr>
<td>1997</td>
<td>57</td>
</tr>
<tr>
<td>1998</td>
<td>48</td>
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<tr>
<td>1999</td>
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<td>48</td>
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<tr>
<td>2001</td>
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<td>2002</td>
<td>53</td>
</tr>
<tr>
<td>2003</td>
<td>52</td>
</tr>
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<td>2005</td>
<td>55</td>
</tr>
<tr>
<td>2006</td>
<td>60</td>
</tr>
<tr>
<td>2007</td>
<td>63</td>
</tr>
<tr>
<td>2008</td>
<td>60</td>
</tr>
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</table>
Occurrence to Settlement Lag
(in number of years)
Source: National Practitioners Data Bank public use file, September 30, 2011
## Filing Date to Trial Date

### Medium Number of Months


<table>
<thead>
<tr>
<th>Year of Trial</th>
<th>Months</th>
</tr>
</thead>
<tbody>
<tr>
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<td>33</td>
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<tr>
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<td>24</td>
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<tr>
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<td>2005</td>
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<tr>
<td>2006</td>
<td>34</td>
</tr>
<tr>
<td>2007</td>
<td>39</td>
</tr>
<tr>
<td>2008</td>
<td>35</td>
</tr>
</tbody>
</table>
• Med Mal companies hold on to each premium dollar for an average of 3+ years
Overall Operating Ratio

“The Bottom Line”

Source: 2011

Bests Aggregates & Averages – Property/Casualty
TORT REFORM
Elements of Tort Reform

- Caps on All Damages
  - $2M Cap in Virginia
  - Caps Contained in Patient Compensation Funds
- Caps on Non-Economic Damages
  - $250,000 or $350,000, often indexed to inflation
- Periodic Payments Awarded By Court (structured settlements)
- Elimination of Collateral Source Rule
Elements of Tort Reform - 2

• Alternative Dispute Resolution
  – Pre-Trial Screening Panels
  – Mediation
  – Mandated Settlement Conferences
  – Arbitration
• Shorter Statute of Limitations
• English (Loser’s Pays) Rule
National Practitioners Data Base
Frequency Analysis – Michigan

NOTE: Michigan enacted caps on non-economic damages in 1994

Source: National Practitioners Data Bank public use September 30, 2011
National Practitioners Data Base
Severity Analysis - Michigan
Source: National Practitioner Data Bank Public Use File, September 30, 2011
Texas Tort Reform
A Case Study

• Caps on Non-Economic Damages
  – $250,000 for all physicians & other healthcare providers
  – $250,000 for hospitals, nursing homes
  – $750,000 total cap for all defendants
    • Example: To hit $750,000, one or more physicians and two hospitals/nursing homes would have to be sued
Texas Tort Reform
continued

• Expert witness requirements
  – A “chapter 74” expert report is required within 120 days of filing suit.
  – Defense can challenge the sufficiency of the expert report, and the challenge is heard pre-trial.
  – 300+ challenges since 2003.
  – Texas Supreme Court recently gave a 30 day extension for plaintiffs to remediate an insufficient expert report.
Texas Tort Reform continued

- Periodic payments provision – including a reversion of unpaid amounts after death of plaintiff
- Overall damage cap in death cases – sliding scale based on CPI of approximately $1.6M
Texas Tort Reform continued

• Non-economic damages cap of $250,000 – BUT, most physicians carry only $200,000/$600,000 limits

• Expert challenge – only 300 cases to date

• Periodic payments – big deal

• Overall damage cap on death cases – not that many death cases
Texas Tort Reform, continued
Rate Changes Since Tort Reform

<table>
<thead>
<tr>
<th></th>
<th>TMLT</th>
<th>APIE</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004</td>
<td>-12%</td>
<td>+1%</td>
</tr>
<tr>
<td>2005</td>
<td>-5%</td>
<td>-9%</td>
</tr>
<tr>
<td>2006</td>
<td>-5%</td>
<td>-18%</td>
</tr>
<tr>
<td>2007</td>
<td>-7.5%</td>
<td>-14%</td>
</tr>
<tr>
<td>2008</td>
<td>-6.5%</td>
<td>-6%</td>
</tr>
<tr>
<td>2009</td>
<td>-4.7%</td>
<td>Unknown</td>
</tr>
<tr>
<td>Cumulative Total</td>
<td>-39%</td>
<td>-39%</td>
</tr>
</tbody>
</table>
National Practitioners Data Base
Frequency Analysis – Texas
NOTE: Texas enacted tort report in 2004
Source: National Practitioners Data Bank public use September 30, 2011
National Practitioners Data Base
Severity Analysis - Texas

Source: National Practitioner Data Bank Public Use File, September 30, 2011
Thoughts and Observations

- Caps on non economic damages would logically lower severity. They don’t. Instead, they appear to lower frequency.
- Frequency is down nationwide, and has dropped even in states that have not enacted caps on non economic damages (and is down in other casualty lines).
- There has to be some other driving force at work beyond tort reform.
Thoughts and Observations

From detailed discussions with both medical malpractice plaintiff and defense attorneys—

– Plaintiff attorneys are taking fewer cases; screening out more of the non-meritorious claims, perhaps due to their perception that…

– Juries are less likely to find for the plaintiffs, perhaps due to…

– The national publicity about the malpractice crisis and its impact on availability of healthcare
Average Loss per Physician in States With and Without Caps

Loss ($) per Physician

Source: Richard S. Biondi & Arthur Gurevitch Contingencies November/December 2003

[Graph showing the average loss per physician in states with and without caps over time.]

States without caps

States with caps

Year Closed
Malpractice Claims per Physician in States With & Without Caps

Claims per 100 Physicians

Source: Richard S. Biondi & Arthur Gurevitch *Contingencies* November/December 2003

States without caps

States with caps

Year Closed
Differential in Loss per Physician in States With & Without Caps
Capped States % of Uncapped States

Source: Richard S. Biondi & Arthur Gurevitch Contingencies November/December 2003
Malpractice Premium per Physician in States With & Without Caps

Premium ($) per Physician

Source: Richard S. Biondi & Arthur Gurevitch Contingencies November/December 2003
Tort Reform

• In 1975-77, and again in 1985-87, numerous states enacted medical malpractice tort reform.
• Five to seven years later (1980-82 and 1990-92), after court challenges to virtually every element of tort reform, approximately 50% was struck down by the states’ high courts.
• The same pattern of enacting tort reform occurred in 2002-2004. We should expect adverse rulings by state supreme courts in 2009-2010.
State by State Tort Reform Initiatives
Limits on Non-economic/Pain and Suffering Damage Awards


*See notes on next slide for additional details and comments
† Cap is limit of liability for Providers; remainder to PCF

Guy Carpenter
# Correlation Between Lines of Insurance

The correlations shown in **bold** are statistically different from zero at the 90% confidence level.

*Source: Aon Benfield Study, 2011*

<table>
<thead>
<tr>
<th></th>
<th>Commercial Auto</th>
<th>Commercial Multi Peril</th>
<th>Home-Owners</th>
<th>Medical Malpractice CM</th>
<th>Other Liability CM</th>
<th>Other Liability Occ</th>
<th>Personal Auto Liability</th>
<th>Products Liability Occ</th>
<th>Workers Comp</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commercial Auto</td>
<td><strong>53%</strong></td>
<td>8%</td>
<td><strong>73%</strong></td>
<td>44%</td>
<td>67%</td>
<td>28%</td>
<td><strong>72%</strong></td>
<td>72%</td>
<td>63%</td>
</tr>
<tr>
<td>Commercial Multi Peril</td>
<td><strong>53%</strong></td>
<td><strong>21%</strong></td>
<td><strong>56%</strong></td>
<td>41%</td>
<td>48%</td>
<td><strong>28%</strong></td>
<td><strong>40%</strong></td>
<td><strong>42%</strong></td>
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<tr>
<td>Homeowners</td>
<td>8%</td>
<td><strong>21%</strong></td>
<td>1%</td>
<td><strong>-2%</strong></td>
<td><strong>-1%</strong></td>
<td>8%</td>
<td>14%</td>
<td>-7%</td>
<td></td>
</tr>
<tr>
<td>Medical Malpractice CM</td>
<td><strong>73%</strong></td>
<td><strong>56%</strong></td>
<td>1%</td>
<td><strong>72%</strong></td>
<td><strong>78%</strong></td>
<td><strong>58%</strong></td>
<td><strong>76%</strong></td>
<td><strong>71%</strong></td>
<td></td>
</tr>
<tr>
<td>Other Liability CM</td>
<td>44%</td>
<td>41%</td>
<td><strong>-2%</strong></td>
<td><strong>72%</strong></td>
<td><strong>57%</strong></td>
<td><strong>42%</strong></td>
<td><strong>29%</strong></td>
<td><strong>62%</strong></td>
<td></td>
</tr>
<tr>
<td>Other Liability Occ</td>
<td>67%</td>
<td>48%</td>
<td><strong>-1%</strong></td>
<td><strong>78%</strong></td>
<td><strong>57%</strong></td>
<td><strong>33%</strong></td>
<td><strong>66%</strong></td>
<td><strong>63%</strong></td>
<td></td>
</tr>
<tr>
<td>Personal Auto Liability</td>
<td>28%</td>
<td>28%</td>
<td>8%</td>
<td><strong>58%</strong></td>
<td><strong>42%</strong></td>
<td><strong>33%</strong></td>
<td><strong>42%</strong></td>
<td><strong>33%</strong></td>
<td></td>
</tr>
<tr>
<td>Products Liability Occ</td>
<td>72%</td>
<td>40%</td>
<td>14%</td>
<td><strong>76%</strong></td>
<td><strong>29%</strong></td>
<td><strong>66%</strong></td>
<td><strong>42%</strong></td>
<td><strong>63%</strong></td>
<td></td>
</tr>
<tr>
<td>Workers Comp</td>
<td>63%</td>
<td>42%</td>
<td><strong>-7%</strong></td>
<td><strong>71%</strong></td>
<td><strong>62%</strong></td>
<td><strong>63%</strong></td>
<td><strong>33%</strong></td>
<td><strong>63%</strong></td>
<td></td>
</tr>
</tbody>
</table>
St. Paul – A Case Study
MEDICAL MALPRACTICE

Insurance premiums collected by St. Paul Cos. compared with insurance payouts

- **Premiums**
- **Payouts**

$1,400 million

<table>
<thead>
<tr>
<th>Year</th>
<th>Premiums</th>
<th>Payouts</th>
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<tbody>
<tr>
<td>1996</td>
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<td>600</td>
<td>800</td>
</tr>
<tr>
<td>2001</td>
<td>600</td>
<td>800</td>
</tr>
</tbody>
</table>

*Indemnity payments and legal defense costs

Source: St. Paul Cos.
St. Paul Medical Malpractice Results
Commercial Insurance Company Case Study
(or “Why St. Paul Had to Exit Medical Malpractice)

• Assume a combined ratio of 175%
• Company goal: 100-105% combined ratio
• Assume business written on an “admitted basis” (rates filed and approved)
  – Rule of thumb: rate increases at or above 25% unlikely to be approved
    ▪ rate hearings (adverse publicity)
    ▪ less than requested rate approved after months of delay
Recent drops in interest mean additional rate increases required
  – Example: 1% drop in investment income requires a 3.5% rate increase to stay even

Assume:
  – frequency and severity at 8%
  – investment income drop requires 3.5%
  – indicated rate increase to stay even: 12%
Commercial Insurance Company Case Study - continued

- Assume a 20% rate increase filed and approved
- Amount needed to break even: 12%
- Net gain: 8%

- If loss ratio currently at 175% combined, it will take 9 years of rate increases to get to 100%

- Do you think the shareholders are willing to accept 9 further years of losses?
Commercial Insurance Company Case Study - continued

St. Paul’s exit was actually due to three factors:

1. Loss ratios just discussed
2. MMI acquisition – 441% combined ratio
3. Losses on hospital excess, including blown annual aggregate stop losses
THE FUTURE
“Minsky Moment”

• Stability breed instability.
• The longer a system is stable, the more instability there is when the moment of instability happens.
• The crisis period is known as a “Minsky moment”
“Minsky Moment” in Investing

• When times are good = investors take on more risk
• The longer times stay good = the more risk investors take on.
• Eventually, they take too much risk.
• At some point, the cash generated by their assets is no longer sufficient to pay off the mountains of debt they took on to acquire the assets
• Losses on such speculative assets prompt lenders to call in their loans.
• This leads to sell offs of the assets = which leads to drops in values = which leads to more lenders calling loans = which leads to more sell offs...
  That is a “Minsky Moment”
• “The depth of the pools of liquidity is so much larger than it used to be that a disruptive event now needs to be much more disruptive than it used to be.

• At some point, the disruptive event will be so disruptive that instead of liquidity filling in, the liquidity will go the other way…

• When the music stops, in terms of liquidity, things will get complicated. But as long as the music is playing, you have got to get up and dance.”

--Chuck Prince, then CEO of Citigroup, 2007

now, former CEO of Citigroup
WHEN WILL THE MARKET TURN?
Factors to Turn the Market

In 2001, we had:
• 154.2% industry wide combined ratio
• Exiting the market:
  – St. Paul
  – Farmers Insurance Group
  – Employers’ Re
• In receivership:
  – PHICO
  – The Virginia Reciprocal
• Consensus perspective that:
  – combined ratios were well above 115%;
  – trend rate was 10% or higher
  – and Jay Fischman said “no one can make money in medical malpractice
THE FUTURE
Medical Malpractice Market - 2012

HOSPITALS

- Aggressive price wars. Rates dropping 5-10% for primary business. Large self-insured hospitals are seeing 20%+ premium reductions on their excess layers.

PHYSICIANS

- Price wars in some states. Rates dropping 10%+.
For a Market Turn, We Need:

• Major reinsurance tightening:
• More than one large insurer exiting market and some number of smaller companies/RRGs in receivership
• Industry wide consensus that combined ratios are seriously unprofitable (over 115%)
• Significant loss of capital/capacity restraints
How Long Will Soft Market Last? Scenario

Assume that in 2010:

- Average industry combined ratio of 70%
- Pain Threshold of 120%
- Average rate decrease of 10%
- Average frequency and severity trend of 5%

2011: 81% combined
2012: 93% combined
2013: 108% combined
2014: 125% combined
Another Prediction

“If the current cycle unfolds like the past one, insurers could continue to release reserves for another three or four years.

But by 2014, they may find themselves confronted with combined ratios in the range of 120% or higher, with a decreasing capacity to use prior-year reserve releases for negating potentially inadequate policy-year pricing.

This may be the point when hard market conditions pervade the market, and premium begins to show steep increases.”

Other Factors

• Recession – affect on claims?
• A financial crisis – affect on the bond market?
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