



Overview of Presentation

- Background
- Scope of Analysis
- Overview of Model
- Derivation of Model Assumptions
- Summary of Results
- Other Considerations



Background

Illinois Medical Professional Liability Statutes

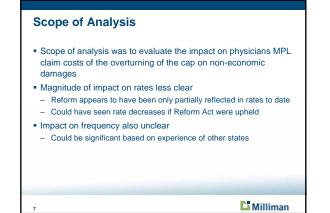
- Tort reform enacted in 2005 (Public Act 94-677, aka Reform Act)
- Five reform provisions:
- Limit on non-economic damages
 - Hospitals \$1,000,000 limit
 - Physicians \$500,000 limit
- Periodic payment provisions
- Revised standards for expert witnesses
- Public identification of physician signing "affidavit of merit"
- Encouragement for health care professionals to acknowledge medical errors

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Background Recent Developments

- Cap on non-economic damages was ruled unconstitutional by a Circuit Court Judge for Cook County, Illinois in late 2007 in the case of Abigaile Lebron, etc. vs. Gottlieb Memorial Hospital, et.al.
- Illinois Supreme Court ruled February 4, 2010, upholding the Circuit Court's decision







Overview of Model General Approach Understand components of Illinois PPL claim costs Loss ALAE CWI vs CWE claims Develop distributions around each of these components damages Simulate loss and ALAE costs under two scenarios With cap on damages Without cap on damages

Overview of Model Illinois Industry Data

ISMIE Rate Filing

- Loss severity (per CWI Claim)
- ALAE severity (per CWI Claim and per CWE Claim)
- Portion of claims CWI / CWE / CNP

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Overview of Model

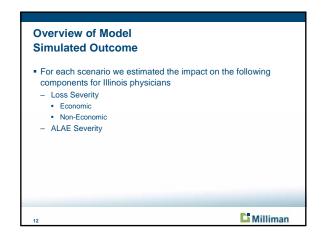
- **External Industry Data**
- States of Florida and Texas closed claim databases Shape of distributions for claim costs by category
 Economic
 Non-Economic
 Correlation of economic/non-economic loss

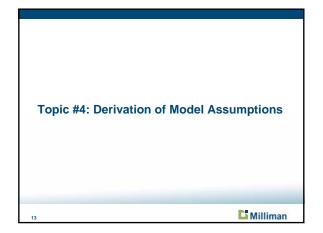
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- State of Texas closed claim database only
- Allocation of damages between economic/non-economic
- Portion of claims with loss that is
 - Economic
- Non-Economic
 Both

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Correlation between overall ALAE and loss





Derivation of Model Assumptions Number of Claims per Occurrence

- Using industry data, we assumed the following:
 Expected number of claims per occurrence of 1.30
- Distributional form is Zero-Truncated Poisson
- These assumptions imply the following probabilities for the number of claims per occurrence:
 - Probability of 1 claim / occurrence = 74.1%
 - Probability of 2 claims / occurrence = 22.2%
 - Probability of 3 claims / occurrence = 3.3%
 - Probability of 4+ claims / occurrence = 0.3%
 - Weighted average claims / occurrence = 1.30

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Derivation of Model Assumptions Claim Disposition

- Based on ISMIE Mutual Insurance Company's July 1, 2006 PPL rate filing, we assumed the following claim disposition ratios:
- CWI to total closed: 17%

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- CWE to total closed: 78%
- CNP to total closed: 5%
- For CWI claims we then decomposed by category of loss based on the Texas closed claim database

Derivation of Model Assur Probability of CWI Claims	· ·
Loss Type Economic Only Non-Economic Only Both Types	Selected Portion of Closed Claims by Loss Type 1.5% 20.5% 78.0%
Total Claims	100.0%
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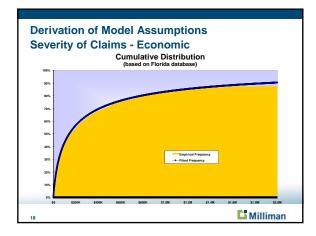


Derivation of Model Assumptions Claim Severity Distribution by Category of Loss

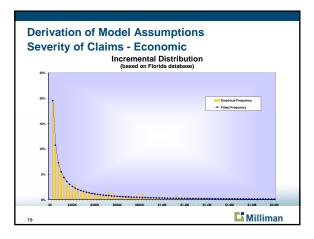
- Using information from the Florida and Texas closed claim databases, we derived claim severity distributions by category of loss
- Trend rates utilized as follows:
 - Future Medical 8.5%
 - Other Economic 3.5%Non-Economic 6.0%

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- Trend rates based on exponential curve fit to Florida severities
- Fit a distribution to data for each category of loss
- Measured correlation between claim severities for each category of loss

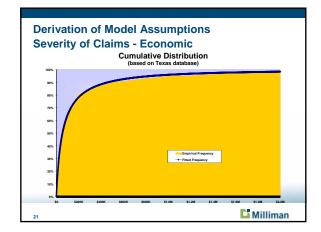




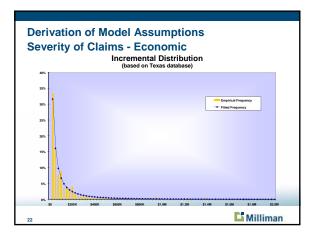




					omic				
		parison			and Fit a databas		stribut	ion	
	Empirical Cumulative		(based			.,			
	Distribution Of	Exponential				oss Under a Coe			
Threshold 1.000	Non-Zero Claims 0.48%	Distribution 0.13%	0.57%	0.61%	7.25	0.69%	7.75	8.00	8.25
2,000	0.48%	0.13%	0.57%	1.56%	1.63%	1 70%	0.72%	0.76%	1.913
2,000	2.00%	0.27%	1.48%	2.56%	1.63%	2.75%	2.85%	2.94%	1.919 3.049
3,000	2.00%	0.40%	2.46%	2.56%	2.66%	2.75%	2.85%	2.94%	4 139
5.000	2.00%	0.54%	4 39%	4.53%	4.67%	4.80%	4 93%	5.05%	+.131 5 199
7.500	7.08%	1.01%	6.68%	6.85%	7.01%	7.17%	7 32%	7 47%	7.649
10,000	8 36%	1 34%	8 80%	8,99%	9.17%	9.34%	9.51%	9.67%	9.851
12,500	12 26%	1.54%	10.76%	10.96%	11 15%	11 33%	11 50%	11.67%	11.879
15.000	13 33%	2.01%	12 58%	12 79%	12 98%	13 17%	13 34%	13.51%	13.721
20.000	16.64%	2.67%	15.88%	16.08%	16.28%	16.46%	16.64%	16.81%	17.033
25.000	19.44%	3.32%	18,79%	18,99%	19,18%	19.36%	19.53%	19,70%	19.913
35,000	24,69%	4.62%	23.76%	23.94%	24.11%	24.28%	24.43%	24.58%	24 79
45.000	28 21%	5.90%	27 90%	28.06%	28 21%	28.35%	28.48%	28.61%	28,801
55.000	31.25%	7.16%	31.44%	31.57%	31.70%	31.82%	31.93%	32.04%	32.22
65.000	34.46%	8.41%	34.53%	34.64%	34.74%	34.84%	34.93%	35.02%	35,189
75.000	36.71%	9.63%	37.26%	37.34%	37.42%	37.50%	37.58%	37.65%	37.799
100.000	42.06%	12 64%	42 93%	42.96%	43.00%	43.03%	43.06%	43.10%	43 219
125,000	46.51%	15 54%	47 43%	47 43%	47 42%	47.42%	47 42%	47 42%	47.50
150.000	49.41%	18.34%	51.14%	51,10%	51.07%	51.04%	51.01%	50.98%	51.03
175,000	52.14%	21.05%	54.27%	54.20%	54.14%	54.08%	54.03%	53.98%	54.02
200.000	54.04%	23.67%	56.96%	56.87%	56.79%	56,71%	56.64%	56.57%	56.58
250.000	59.46%	28.66%	61.38%	61.25%	61.13%	61.02%	60.92%	60.82%	60.80
350.000	66.02%	37.67%	67.76%	67.58%	67.42%	67.26%	67.11%	66.98%	66.92
450,000	69.96%	45.55%	72.21%	72.01%	71.82%	71.63%	71.46%	71.30%	71.22
550,000	73.79%	52.43%	75.54%	75.32%	75.11%	74.91%	74.73%	74.55%	74.45
650.000	76.21%	58.44%	78.14%	77.91%	77.69%	77.48%	77.29%	77.10%	76.99
750.000	78.63%	63.69%	80.23%	79,99%	79.77%	79.56%	79.36%	79.17%	79.05
1.000.000	82.49%	74.10%	84.05%	83.81%	83.59%	83.37%	83.17%	82.97%	82.84



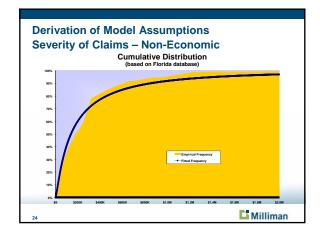




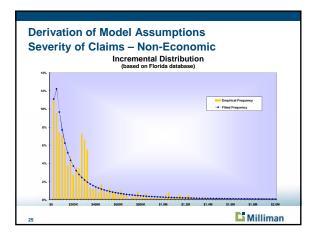


	, 01		Severity of Claims - Economic								
	Com	parison	of Emp	oirical	and Fit		tributi	on			
	Empirical		(based	on Texas	s database	B)					
	Cumulative Distribution Of	Exponential		Lognorma	al Distribution of L	Loss Under a Co	afficient of Variat	ion of			
Threshold	Non-Zero Claims	Distribution	3.00	3.25	3.50	3.75	4.00	4.25	4.50		
1,000	0.71%	0.44%	0.40%	0.51%	0.63%	0.75%	0.87%	0.99%	1.12%		
2,000	1.99%	0.88%	1.41%	1.68%	1.95%	2.21%	2.47%	2.71%	2.95%		
3,000	3.41%	1.32%	2.71%	3.11%	3.50%	3.87%	4.23%	4.56%	4.88%		
4,000	4.55%	1.75%	4.13%	4.64%	5.13%	5.58%	6.01%	6.41%	6.78%		
5,000	6.68%	2.19%	5.60%	6.20%	6.76%	7.28%	7.76%	8.21%	8.629		
7,500	9.38%	3.26%	9.31%	10.05%	10.72%	11.33%	11.89%	12.40%	12.879		
10,000	14.91%	4.33%	12.87%	13.67%	14.39%	15.04%	15.63%	16.17%	16.659		
12,500	16.76%	5.38%	16.22%	17.04%	17.78%	18.43%	19.02%	19.55%	20.049		
15,000	22.44%	6.42%	19.34%	20.16%	20.88%	21.52%	22.10%	22.62%			
20,000	27.70%	8.47%	24.96%	25.72%	26.38%	26.97%	27.49%	27.96%	28.389		
25,000 35.000	33.38% 39.77%	10.47%	29.85% 37.95%	30.52% 38.42%	31.11% 38.84%	31.63% 39.21%	32.08% 39.53%	32.49% 39.82%	32.869 40.079		
45,000	39.77%	14.34%	37.95%	38.42% 44.68%	38.84%	39.21%	39.53% 45.38%	39.82%	40.079		
45,000	45.74%	18.05%	44.38%	44.68%	44.94%	45.17%	45.38%	45.56%	45.719		
65.000	50.85%	21.60%	49.64%	49.78%	49.91%	54.06%	54.07%	54.08%	54.099		
75.000	53.13%	24.99%	57.74%	57.64%	54.05%	57.49%	57.43%	57.37%	54.009		
100.000	66 19%	26.24%	64.99%	64.68%	64.42%	64.19%	63 99%	63.81%	63.655		
100,000	66.19%	35.75%	64.99% 70.26%	69.82%	69.44%	69.11%	68.82%	63.81%	68.329		
150.000	73.15%	48.50%	74.28%	73.76%	73.30%	72.90%	72.55%	72.23%	71.949		
175.000	76.56%	53.89%	77.45%	76.86%	76.36%	75.91%	75.51%	75.16%	74.839		
200.000	80.54%	58.72%	80.00%	79.38%	78.84%	78.36%	77.94%	77.55%	77.205		
250,000	83 10%	66.91%	83.86%	83.21%	82.63%	82 12%	81.66%	81 25%	80.875		
350.000	86,65%	78 74%	88,70%	88.05%	87.47%	86.96%	85,49%	86.06%	85.675		
450,000	88 64%	86.34%	91 56%	90.96%	90.41%	89.92%	89.47%	89.06%	88.681		
480,000	90.48%	91 22%	93.43%	92.87%	92.37%	91 91 %	91 48%	91.09%	90.735		
650,000	91.62%	94.36%	94.72%	94.21%	93.75%	93.32%	92 93%	92 56%	92 229		
750.000	92.76%	96.38%	95.66%	95.20%	94.77%	94.38%	94.01%	93.66%	93.345		
1,000,000	95.03%	98.80%	97.14%	96.77%	96.42%	96.09%	95.78%	95.49%	95.225		
					0.24	0.30	0.43	0.59	0.78		

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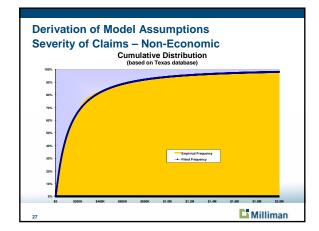




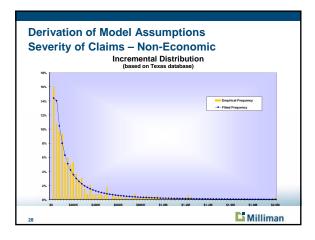


Severity of Claims – Non-Economic									
Comparison of Empirical and Fitted Distribution									
		Junioon		on Florid			oundur		
	Empirical		(Dasea	on i iona	a uataba	130)			
	Distribution Of	Exponential		Loonormai	Distribution of	Loss Under a Co	efficient of Variat	ion of	
Threshold	Non-Zero Claims	Distribution	2.00	2.25	2.50	2.75	3.00	3.25	3.50
2.000	0.61%	0.73%	0.06%	0.09%	0.13%	0.17%	0.22%	0.28%	0.34%
3.000	1.24%	1.09%	0.17%	0.24%	0.32%	0.41%	0.50%	0.60%	0.70%
4.000	1.63%	1.46%	0.34%	0.46%	0.58%	0.71%	0.85%	1.00%	1.14%
5.000	1.82%	1.82%	0.58%	0.73%	0.90%	1.08%	1.26%	1.44%	1.62%
7.500	3.06%	2,71%	1.37%	1.62%	1.89%	2.16%	2.43%	2.70%	2.96%
10.000	3.96%	3.60%	2.39%	2,71%	3.06%	3.40%	3.74%	4.07%	4.39%
12,500	6.32%	4.48%	3.56%	3.93%	4.32%	4.72%	5.11%	5.48%	5.84%
15,000	7.55%	5.36%	4.84%	5.23%	5.65%	6.08%	6.49%	6.90%	7.28%
20,000	9.26%	7.08%	7.59%	7.95%	8.37%	8.82%	9.26%	9.69%	10.10%
25,000	11.14%	8.77%	10.43%	10.71%	11.09%	11.51%	11.94%	12.37%	12.77%
35,000	16.61%	12.05%	16.05%	16.07%	16.29%	16.60%	16.95%	17.31%	17.67%
45.000	19.50%	15.22%	21.35%	21.06%	21.07%	21.22%	21.46%	21.73%	22.02%
55.000	22.77%	18,28%	26.23%	25.63%	25.41%	25.41%	25.52%	25.69%	25.89%
65,000	28.56%	21.22%	30.70%	29.79%	29.36%	29.19%	29.18%	29.25%	29.38%
75,000	28.05%	24.06%	34.76%	33.59%	32.95%	32.63%	32.50%	32.47%	32.50%
100,000	35.13%	30.72%	43.45%	41.71%	40.64%	39.98%	39.58%	39.33%	39.17%
125,000	40.76%	36.79%	50.44%	48.28%	46.88%	45.96%	45.33%	44.90%	44.59%
150,000	44.51%	42.33%	56.15%	53.69%	52.05%	50.92%	50.12%	49.54%	49.10%
175,000	49.29%	47.39%	60.88%	58.22%	56.39%	55.10%	54.16%	53.46%	52.92%
200,000	52.02%	52.00%	64.86%	62.05%	60.09%	58.68%	57.63%	58.84%	56.22%
250,000	59.02%	60.05%	71.14%	68.19%	66.06%	64.49%	63.29%	62.36%	61.61%
300,000	72.81%	66.74%	75.84%	72.87%	70.67%	69.00%	67.71%	66.69%	65.86%
350,000	79.68%	72.32%	79.46%	78.54%	74.32%	72.61%	71.27%	70.19%	69.31%
450,000	84.41%	80.82%	84.63%	81.89%	79.72%	78.01%	76.64%	75.51%	74.57%
550,000	88.15%	86.71%	88.08%	85.55%	83.51%	81.85%	80.49%	79.36%	78.40%
650,000	91.31%	90.79%	90.50%	88.20%	86.28%	84.70%	83.38%	82.27%	81.32%
750,000	92.27%	93.62%	92.27%	90.17%	88.39%	86.89%	85.62%	84.54%	83.61%
1,000,000	95.10%	97.45%	95.05%	93.39%	91.91%	90.62%	89.49%	88.51%	87.65%
Chi-Squared St	atistic	23.78	46.15	29.04	21.99	19.76	20.10	21.88	24.48





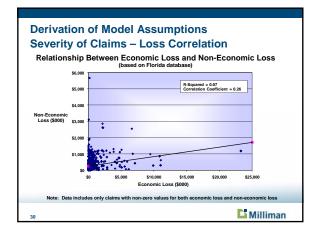




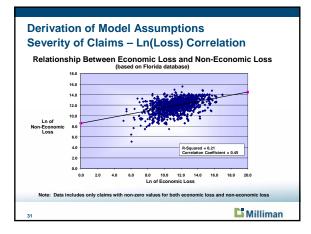


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	Cor	nparisor			and Fitt		ributior	ı	
	Empirical		(60000		aatababb)				
	Cumulative Distribution Of	Exponential				.oss Under a Co			
Threshold	Non-Zero Claims	Distribution	1.50	1.75	2 00	2.25	2.50	2.75	3.00
7 500	1.95%	2.46%	0.67%	1.75	1.68%	2.25	2.50	3.27%	3.00
10.000	4 35%	3.26%	1.36%	2.11%	2.89%	3.63%	4.33%	4.98%	5.59
12,500	5.96%	4.06%	2.25%	3.27%	4 25%	5.17%	6.00%	6 76%	7 44
15.000	8 48%	4.86%	3.32%	4.57%	5 73%	6.77%	7.70%	8.54%	9.29
20.000	11 68%	6.42%	5.81%	7 42%	8.83%	10.05%	11.11%	12.03%	12.84
25,000	16.04%	7.96%	8.61%	10.44%	11.99%	13 29%	14.41%	15 36%	16 19
35,000	20.50%	10.97%	14.55%	16.54%	18 13%	19.44%	20.52%	21.43%	22 21
45.000	24 63%	13.87%	20.50%	22 35%	23.82%	24.99%	25.96%	26.76%	27 45
45,000	28.05%	16.69%	26.50%	27 73%	28.98%	29.97%	30.78%	20.76%	32.02
65.000	31.84%	19.41%	31.38%	32.64%	33.64%	34.43%	35.07%	35.60%	36.05
75.000	35.54%	22.04%	36 19%	37 11%	37.84%	38.43%	38.91%	39.30%	39.64
100.000	45 93%	28.25%	46.48%	46 58%	45 70%	45.81%	46.92%	47 01%	47.08
125.000	51 20%	33.96%	54.66%	54.08%	53 71%	53.44%	53.24%	53.08%	52.95
150.000	57 16%	39.22%	61.22%	60 12%	59.36%	58 79%	58 35%	57 99%	57.69
175.000	62.08%	44.06%	66.53%	65.05%	63.99%	63.19%	62.56%	62.05%	61.62
200.000	67.35%	48 51%	70.89%	69 13%	67.85%	66.87%	66.10%	65.47%	64.94
250.000	73.88%	56 39%	77.50%	75 43%	73.87%	72.66%	71.69%	70.89%	70.22
350.000	81.33%	68 71%	85.67%	83.45%	81 72%	80 32%	79.18%	78.22%	77.41
450.000	84 31%	77.55%	90.27%	88 19%	85.49%	85.09%	83.92%	82 93%	82 07
550,000	87 29%	83.89%	93.08%	91 21%	89.63%	88 30%	87 16%	86 18%	85.32
650.000	88.89%	88.44%	94 90%	93.25%	91.81%	90.56%	89.48%	88 54%	87 71
750.000	90.49%	91,70%	96 14%	94.69%	93 39%	92 23%	91.22%	90.32%	89.52
1,000,000	93.93%	96.38%	97.89%	96.85%	95.84%	94.90%	94.05%	93.27%	92.57
hi-Squared S	tatistic	50.05	8.73	3.99	1.77	0.83	0.58	0.72	1.0

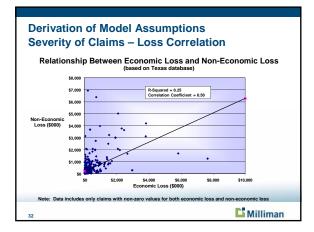




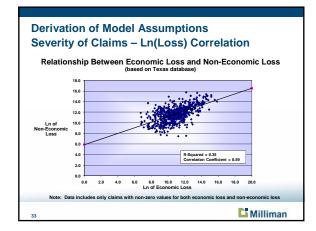












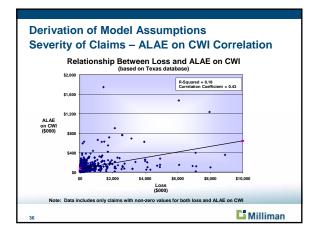


Rei	ationship Between E	CONOMIC L	oss and No	n-Econom	C LOSS
			Indicated Correla	tion Coefficient Spearman's	Selected Relationship Correlation
Database	Assumption	R Squared	Pearson's R	Rank Order	Coefficient
Florida	Linear Relationship	0.070	0.265	0.455	
	Log-Linear Relationship	0.207	0.455	0.455	Log-Linear
Texas	Linear Relationship	0.247	0.497	0.567	0.500
16743	Log-Linear Relationship	0.351	0.592	0.567	

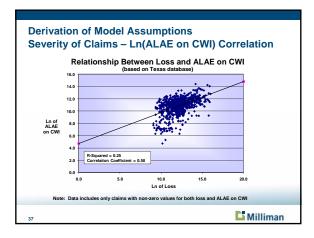


Derivation of Model Assumptions Severity of Claims – ALAE on CWI

- In modeling ALAE severities we differentiated between CWI and CWE claims
- Based on ISMIE's rate filing and a 4% per annum ALAE trend, we assumed the following:
- ALAE per CWI claim = \$90,890
- ALAE per CWE claim = \$50,656
- ALAE per CWE claim remains fixed throughout the model
- ALAE severity per CWI claim varies with the loss severity in a log-linear fashion with a slope of 0.50

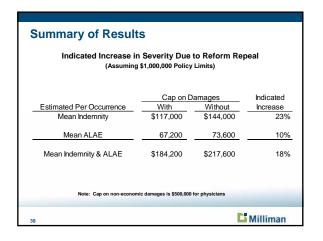
















- Large estimated impact due to Illinois MPL severities
- Among highest countrywide
- Impact on calendar year payments less clear
 - Mix of accident dates within calendar year
 - Delay in settlements
 - Delay in claim filings
- Impact on rates will likely be small
- Few insurers had reduced rates for tort reform
- May see some rate increases among insurers who had taken rate decreases
- Had Supreme Court stayed the reforms, we might have seen rate decreases

Milliman



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