

Medical Malpractice and Contract Disclosure:

The Effects of Mandatory Contract Disclosure Rules on Behavior in Health Care Markets

Kathy Zeiler

September 24, 2003

21 states mandate disclosure

Year Enacted	States
1996	AZ, VT, VA, WA
1997	NY, NC, ME, RI
1998	CT, KY, NJ
1999	GA, HI, IA, MN, PA, SD
2000	CA, IL, NH
2001	MA

Timing and Scope of Disclosure

- **New Hampshire:** in the evidence of coverage
- **Arizona:** prior to the execution of the contract
- **Minnesota:** during open enrollment, upon enrollment and annually
- **Hawaii and Illinois:** to enrollees upon request
- **Georgia and Pennsylvania:** to both enrollees and prospective enrollees upon request.

Content of Disclosure

- **Iowa:** methodologies used to compensate physicians
- **Hawaii:** generic participating provider contracts
- **Illinois:** the percentage of copayments, deductibles, and total premiums spent on health care related expenses
- **New York:** the type of methodology that is used to reimburse *particular types of providers* or reimburse for the provision of *particular types of services*

Legislative Intent and Functions

- **Hellinger (1998)**: provide information to enrollees (or prospective enrollees) to aid in informed choices
- **Miller and Horowitz (2000)**: “Disclosure...could satisfy the fiduciary duty owed by physicians, promote patient autonomy and preserve the integrity of the physician/patient relationship.”

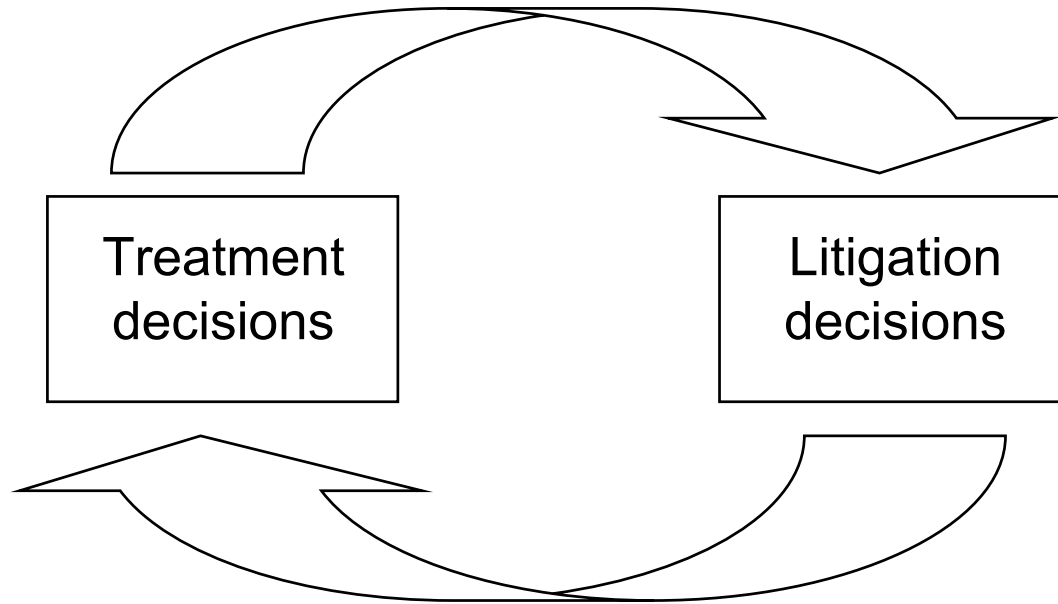
Theoretical Predictions

- Disclosure leads to **higher rates of compliant treatment** and **lower rates of medical malpractice claims** by injured patients
- **Ex ante expected damages** in states forcing contract disclosure will be (weakly) **lower** than ex ante expected damages in states not forcing disclosure

Remainder of the Talk

- Methodology
- Theoretical Results
- Caveats
- Empirical Results
- Conclusions

Methodology



Game Theory

Powerful tool to study strategic interactions and incentives

Basic Framework

Patient doesn't know for sure whether she received appropriate treatment

MCO sets constraints on physician

Physician decides treatment

Patient observes an outcome

Patient decides whether to sue

Court rules on liability and damages

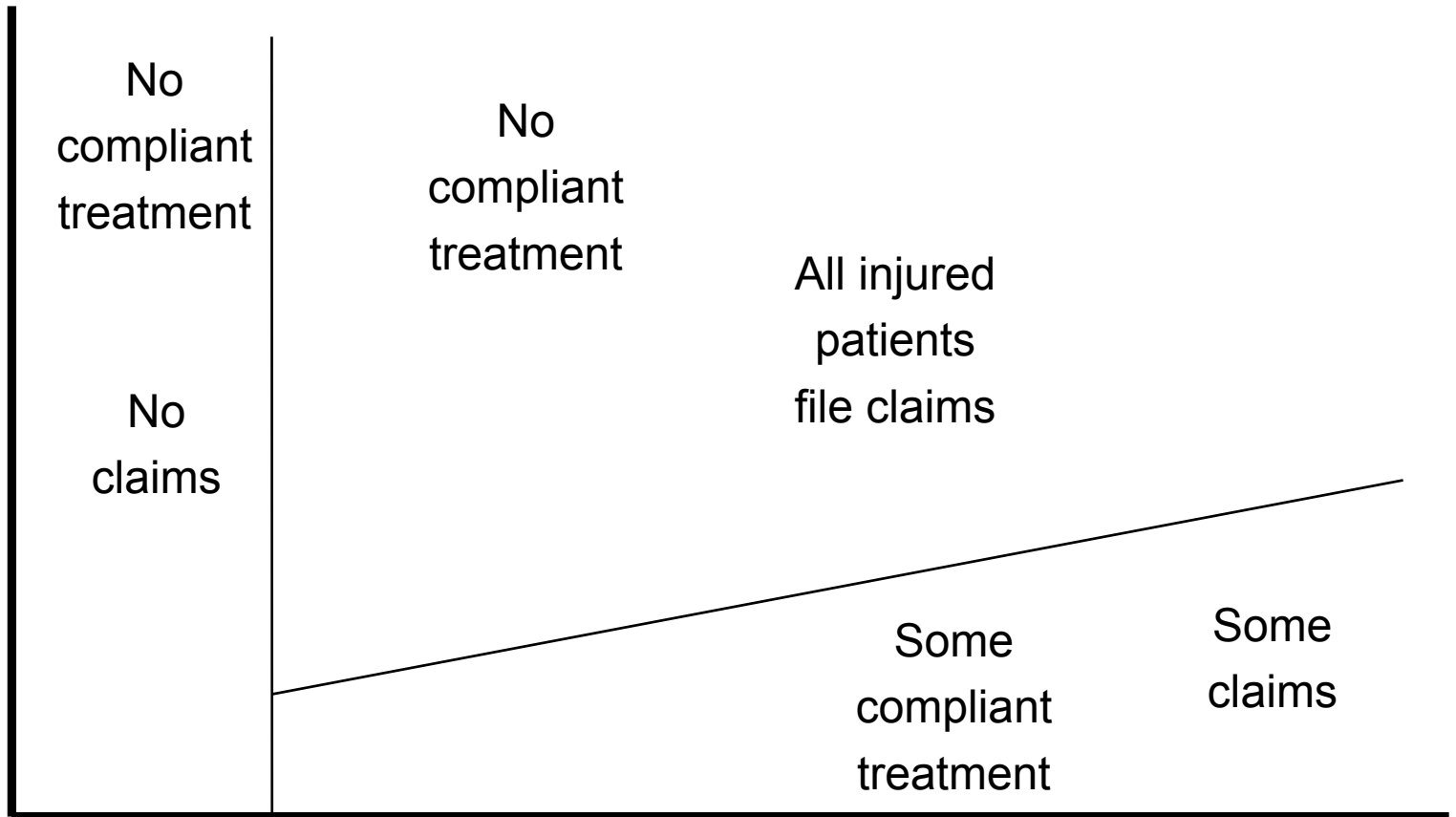


Remainder of the Talk

- Methodology
- Theoretical Results
- Caveats
- Empirical Results
- Conclusions

Unobservable Contracts

Treatment
Costs

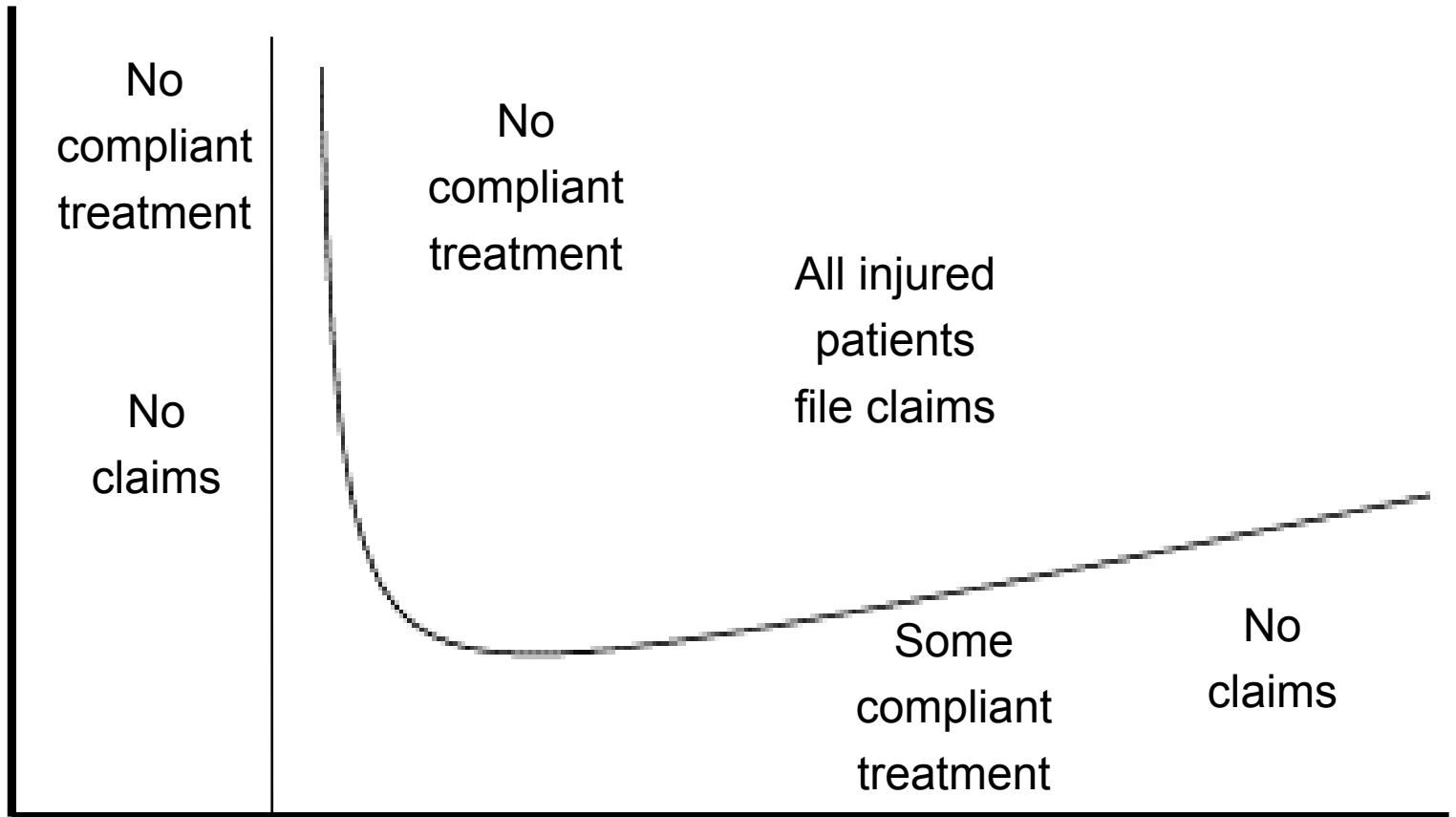


↑
Litigation
Costs

Expected
Damages

Observable Contracts

Treatment
Costs



No
compliant
treatment

No
compliant
treatment

All injured
patients
file claims

No
claims

Some
compliant
treatment

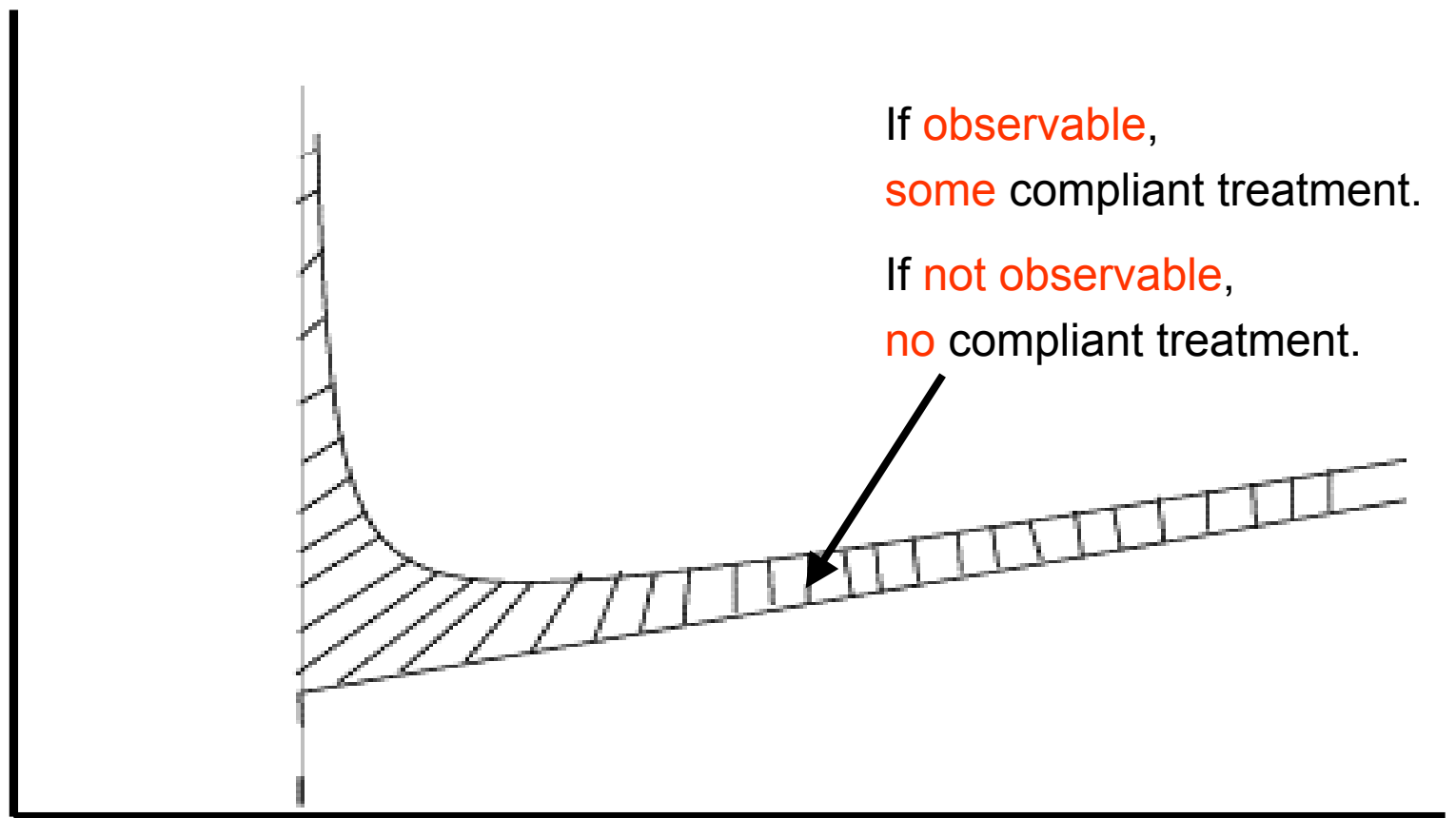
No
claims

↑
Litigation
Costs

Expected
Damages

Effect of Disclosure Rules on Compliant Treatment Rates

Treatment
Costs

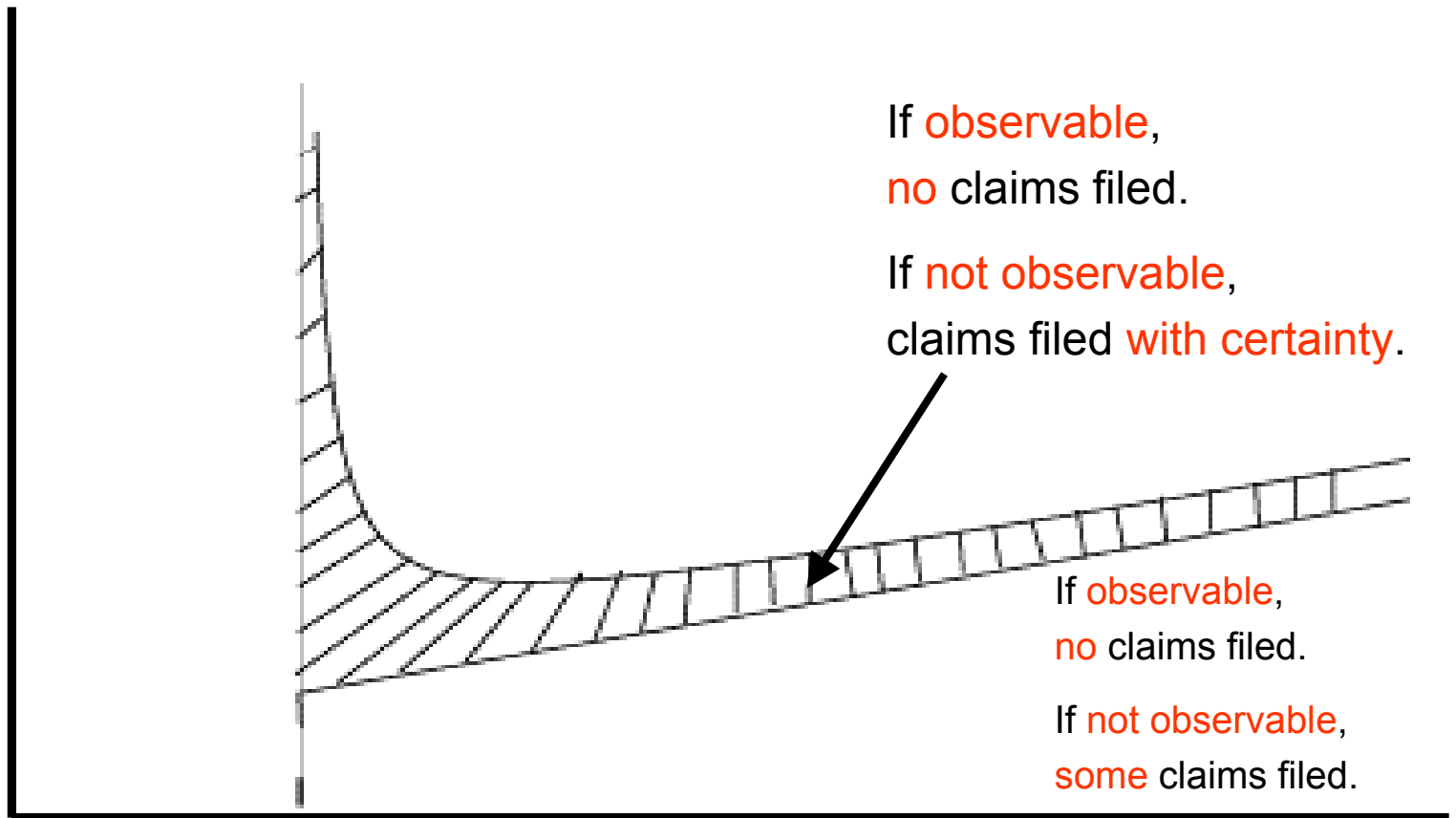


↑
Litigation
Costs

Expected
Damages

Effect of Disclosure Rules on Claim Rates

Treatment
Costs



↑
Litigation
Costs

Expected
Damages

Remainder of the Talk

- Methodology
- Theoretical Results
- Caveats
- Empirical Results
- Conclusions

Caveats

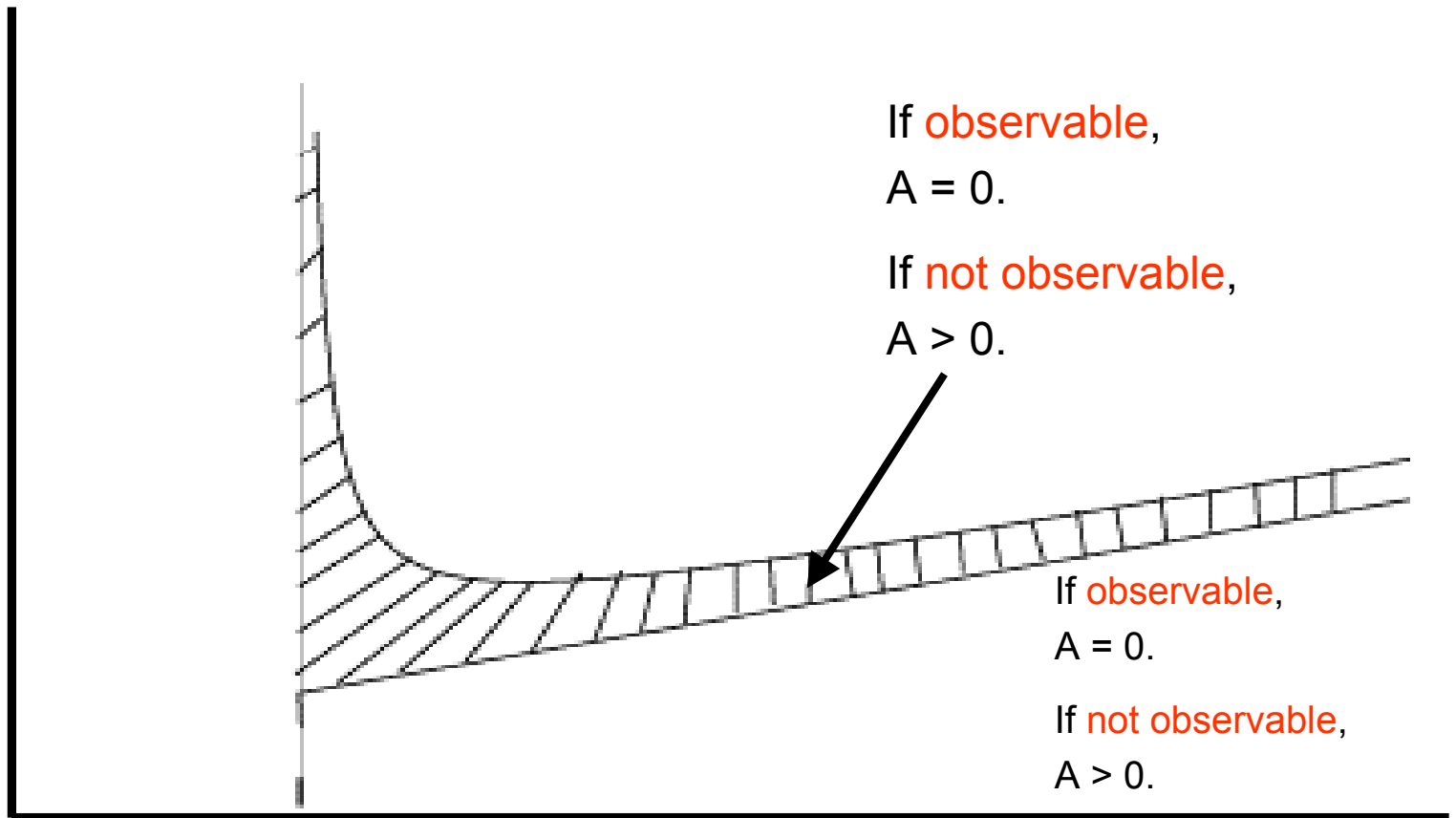
1. The analysis pits the MCO and physician against the patient.
2. The court is always correct.
3. Reputation effects are ignored.

Remainder of the Talk

- Methodology
- Theoretical Results
- Caveats
- Empirical Results
- Conclusions

Effect of Disclosure Rules on Ex Ante Expected Damages (“A”)

Treatment
Costs



↑
Litigation
Costs

Expected
Damages

Summary Statistics: Dependent Variables

	Premiums Earned	Losses Incurred
Range	1,294 to 18,918	-16,984 to 28,778
Mean	\$ 8,395	\$ 5,428
Median	\$ 7,843	\$ 4,995
Std Dev	\$ 3,093	\$ 3,987

Note: Weighted by number of non-federal physicians in patient care
All amounts reported in 1990 dollars

Source: NAIC

Trends in Insurance Premiums

	Mean	Median	Minimum	Maximum
1991	\$9,503	\$9,471	\$1,513	\$18,918
1992	\$9,314	\$9,610	\$1,567	\$17,708
1993	\$9,018	\$8,636	\$1,329	\$17,295
1994	\$9,462	\$9,089	\$2,429	\$15,904
1995	\$9,075	\$8,659	\$1,391	\$15,580
1996	\$8,489	\$7,938	\$1,294	\$15,194
1997	\$7,785	\$7,274	\$1,304	\$13,786
1998	\$7,941	\$7,868	\$1,524	\$13,284
1999	\$7,651	\$7,549	\$1,733	\$12,924
2000	\$7,360	\$7,116	\$1,840	\$13,519
2001	\$7,595	\$7,316	\$2,142	\$15,727

Summary Statistics: Independent Variables

	Disclosure Rules	Caps on Damages
# of states	21	37
% of observations	15%	68%

Source: State statutes

Log Premiums Regression Results, 1991–2001

Variable	Random-Effects Linear Model			
	No Autocorrelation		AR(1) Assumed	
	Coefficient	S.E.	Coefficient	S.E.
		(p value)		(p value)
Intercept	51.32***	5.513 (0.000)	9.12***	0.066 (0.000)
Disclosure Law	−0.115***	0.039 (0.003)	−0.082*	0.044 (0.064)
Damage Cap	−0.082**	0.042 (0.048)	−0.050	0.046 (0.277)
Interaction Term	0.129**	0.051 (0.011)	0.089	0.058 (0.124)
Year	−0.021***	0.003 (0.000)	−0.020***	0.004 (0.000)
R^2	0.05		0.04	
Wald χ^2	117.05***	(0.000)	40.35***	(0.000)
N	550		550	

S.E. = standard errors.

* Statistically significant at the 90% confidence level, two-tailed test

** Statistically significant at the 95% confidence level, two-tailed test

*** Statistically significant at the 99% confidence level, two-tailed test

Log Losses Incurred Regression Results, 1991–2001

Variable	Random-Effects Linear Model		Fixed-Effects Linear Model	
	No Autocorrelation		No Autocorrelation	
	Coefficient	S.E. (p value)	Coefficient	S.E. (p value)
Intercept	8.31***	0.124 (0.000)	8.32***	0.112 (0.000)
Disclosure Law	-0.078	0.133 (0.560)	-0.054	0.137 (0.695)
Damage Cap	-0.297**	0.122 (0.015)	-0.303**	0.153 (0.049)
Interaction Term	0.109	0.175 (0.532)	0.072	0.179 (0.686)
Year	0.048***	0.010 (0.000)	0.048***	0.010 (0.000)
R^2	0.05		0.05	
Wald χ^2	33.75***	(0.000)	7.91***	(0.000)
N	537		537	

S.E. = standard errors.

* Statistically significant at the 90% confidence level, two-tailed test

** Statistically significant at the 95% confidence level, two-tailed test

*** Statistically significant at the 99% confidence level, two-tailed test

Simple Averages are Consistent with Regression Results

Legal Rule	With Rule			Without Rule		
	#	Mean	Median	#	Mean	Median
Disclosure Law	80	\$7,487	\$7,128	470	\$8,640	\$8,034
Damage Cap	372	\$8,277	\$7,672	178	\$8,880	\$8,432

Log Premiums Regressed on Prior Year Legal Rules				
Variable	Random-Effects Linear Model			
	No Autocorrelation		AR(1) Assumed	
	Coefficient	S.E. (p value)	Coefficient	S.E. (p value)
Intercept	9.17***	0.064 (0.000)	9.14***	0.066 (0.000)
Disclosure Law _(t-1)	-0.097**	0.040 (0.015)	-0.069	0.047 (0.137)
Damage Cap _(t-1)	-0.095**	0.041 (0.021)	-0.076	0.047 (0.103)
Interaction Term _(t-1)	0.108*	0.055 (0.050)	0.073	0.062 (0.238)
Year	-0.023***	0.003 (0.000)	-0.020***	0.004 (0.000)
R^2	0.04		0.04	
Wald χ^2	109.18***	(0.000)	39.82***	(0.000)
N	500		500	

S.E. = standard errors.

* Statistically significant at the 90% confidence level, two-tailed test

** Statistically significant at the 95% confidence level, two-tailed test

*** Statistically significant at the 99% confidence level, two-tailed test

Remainder of the Talk

- Methodology
- Theoretical Results
- Caveats
- Empirical Results
- Conclusions

Conclusions

Disclosure rules directly affect levels of compliant treatment and medical malpractice litigation rates.

Disclosure rules provide a way for patients to “monitor” physician behavior.