Effect of Tort Reform on Medical Malpractice Litigation

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Overview

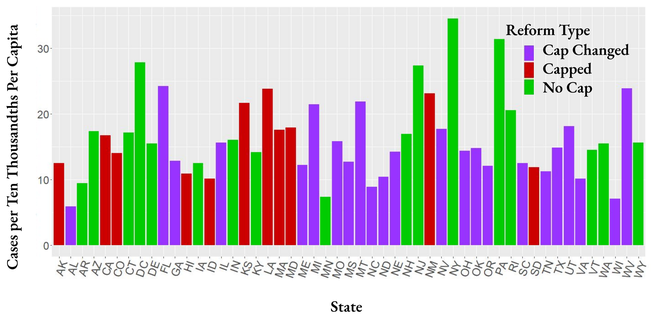
- Is tort reform efficient? Literature on the behavior of medical practitioners shows that time and money is saved, but there is little research on the effect of noneconomic damage caps on patient behavior—specifically, their decision-making process in choosing to pursue litigation.
- Many factors play into a patient's cost-benefit analysis of whether or not to pursue litigation, such as court fees, time spent, and final payout.
- Since noneconomic damage caps limit the payout plaintiffs can potentially receive, this paper seeks to quantify the effect of the caps on the frequency of litigation and changes in monetary payouts.

Data & Methodology

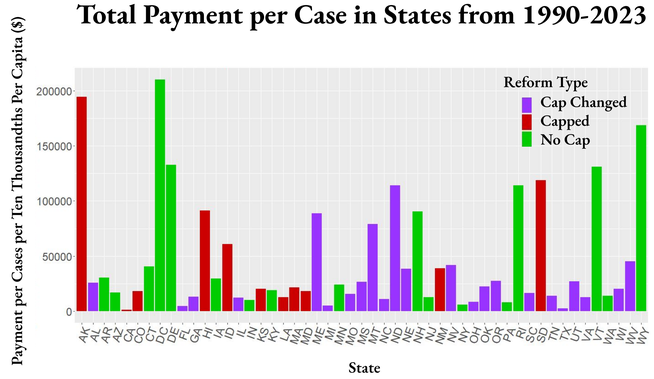
- Title 45 of the Code of Federal Regulation requires all incidents of medical malpractice payments to be filed with the National Practitioner Data Base (NPDB). It covers from 1990-2023 and is updated monthly.
- U.S Census data on state population from 1990-2023
- Compiled states medical malpractice cap laws from 1990-2023.
- Used a two-way fixed effect difference-in-difference (DID) to model both the state and case level data. Fixing for state and year allows to compare states in the same cap category with each other in the same year.

Data

Total Cases in States from 1990-2023



Total Payment per Case in States from 1990-2023



Results

a) $CasesPerCapita_{it} = \alpha + \lambda_i + \rho_t + \beta_1 Cap_{it} + \beta_2 Gender_{it} + \beta_3 Severity_{it} + \beta_4 Payer_{it} + \beta_5 Experience_{it} + \beta_6 Age_{it} + \epsilon_{it}$

b) $ln(Payment)_{it} = \alpha + \lambda_i + \rho_t + \beta_1 Cap_{it} + \beta_2 Gender_{it} + \beta_3 Severity_{it} + \beta_4 Payer_{it} + \beta_5 Experience_{it} + \beta_6 Age_{it} + \epsilon_{it}$

(a)

VARIABLES	(1) Cases	(2) Cases	(3) Cases
Cap	2.662	2.780	3.771
	(28.77)	(28.70)	(27.74)
Severe Ratio	14.15	6.336	40.16
	(144.6)	(140.5)	(269.8)
Insurance			-118.1
			(78.04)
Gender		-104.7	-101.9
		(63.92)	(65.59)
Experienced		-185.9**	-169.6*
		(83.91)	(89.50)
Child			-71.33
			(106.4)
Adult		-86.52*	-131.2**
		(47.44)	(64.72)
Elderly			-76.91
			(62.77)
Death			-45.33
			(250.0)
Emotional Harm			298.5*
			(161.3)
Surgery			-29.71
			(100.9)
Treatment			104.9
			(91.83)
Medication			51.70
			(98.15)
Brain Damage			-156.1
			(276.6)
Major Permanent Damage			38.77
			(244.9)
Significant Permanent Damage			57.56
			(252.4)
Constant	54.41	205.1***	276.8***
	(48.75)	(38.36)	(78.48)
Observations	1,734	1,734	1,734
R-squared	0.246	0.250	0.259
Number of state1	51	51	51
State FE	YES	YES	YES
Year FE	YES	YES	YES

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Note, for brevity's sake, the regression results and the models include only variables of interest; in reality, they include all the omitted categorical variables.

(b)

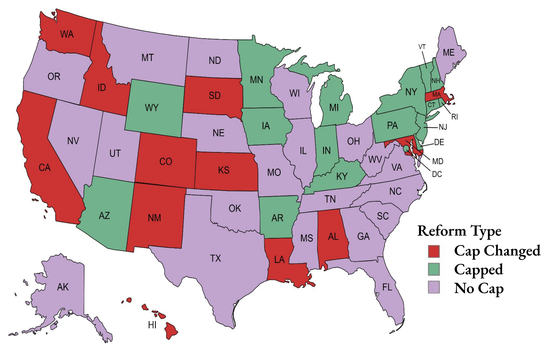
VARIABLES	(1) ln(Payment)	(2) ln(Payment)	(3) ln(Payment)	(4) ln(Payment)
Cap	-0.196	-0.00994	-0.00858	-0.00105
	(0.171)	(0.0814)	(0.0902)	(0.0883)
Gender			-0.0204*	-0.00258
			(0.0114)	(0.00690)
Experience			0.649***	0.469***
			(0.0339)	(0.0243)
Severe			1.385***	
			(0.0529)	
Guaranty				-0.213***
				(0.0361)
Organization (Self)				0.0539
				(0.0417)
State Fund				0.967***
				(0.111)
Equipment/Product				-1.101***
				(0.107)
Treatment				-0.764***
				(0.0381)
Medication				-0.622***
				(0.0300)
Surgery				-0.153***
				(0.0198)
Anesthesia				-0.220***
				(0.0568)
Emotional Harm				-1.432***
				(0.0626)
Insignificant Harm				-2.374***
				(0.0756)
Minor Temporary Damage				-1.713***
				(0.0456)
Major Temporary Damage				-0.681***
				(0.0357)
Minor Permanent Damage				-0.786***
				(0.0416)
Constant	11.46***	11.37***	10.35***	11.42***
	(0.0791)	(0.0396)	(0.0531)	(0.0447)
Observations	497,866	497,866	497,866	497,707
R-squared	0.003	0.113	0.200	0.293
State FE	NO	YES	YES	YES
Year FE	NO	YES	YES	YES

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Variable Definitions:

Gender: Gender of patient; female as default
Experienced: Experienced medical practitioner; defined as out of medical school for 10+ years
Severe: Case considered "severe"; defined as minor permanent injury to death
Guaranty, Organization, State Fund: Payer of damages; Insurance as base line
Equipment/Product, Treatment, Medication, Surgery, Anesthesia: Medical malpractice allegation type
Emotional Harm, Insignificant Harm, Minor Temporary Damage, Major Temporary Damage, Minor Permanent Damage, Brain Damage, Major Permanent Damage, Significant Permanent Damage: Severity/Degree of harm; Death as base line

States' Cap Status



Conclusion

- There is a statistically insignificant increase in the number of cases being litigated, and a statistically insignificant decrease in the monetary payout received by the plaintiffs.
- There are various different reasons for this, and the paper attempts to find possible theories.
- Theory 1: the patients are unaware of caps.
- Theory 2: there is literature supporting the narrative that large numbers of litigation incentivized state legislatures to implement caps, making this an issue of reverse causality.
- Theory 3: the number of patients accepting indemnity claims could be much higher than anticipated.

Acknowledgements

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