BMJ Open Characteristics of US hospitals using extraordinary collections actions against patients for unpaid medical bills: a cross-sectional study

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ABSTRACT

Objective This study aims to characterise and evaluate the largest 100 hospitals in the USA that have adopted aggressive collection tactics to pursue patients with unpaid medical bills. such as lawsuits, wage garnishments and liens.

Design Cross-sectional study.

Setting We examined state and county court record systems to measure the magnitude and prevalence of these practices at the largest 100 hospitals in the UA between 1 January 2018 and 31 July 2020.

Main outcomes measures The main outcome of this study was the number of lawsuits, wage garnishments and liens. A secondary outcome was the characterisation of a hospital's safety, charitability, size and financial practices. Results Between 1 January 2018 and 31 July 2020, 26 hospitals filed 38 965 court actions (lawsuits, wage garnishments and liens) against patients for unpaid medical debt. For 16 of 26 hospitals, the dollar amount pursued in the court claim was available for 100% of cases, totalling US\$71.8 million. The average aggregate amount sought by hospital lawsuits during the study period was US\$4.5 million. Three hospitals filed US\$56.2 million in amounts pursued in court, or 78.3% of the total amount pursued by all hospitals in the sample. In the remaining 74 hospitals, the study team did not identify extraordinary collection actions through the court system.

Conclusions Standardised medical debt collections best practices and metrics of medical debt collections quality are needed to increase public accountability for hospitals. particularly non-profit hospitals. There is a need to reevaluate Internal Revenue Service rules pertaining to nonprofit hospitals' tax-exempt status to ensure tax-exempt hospitals provide community benefits commensurate with the value of tax exemption.

INTRODUCTION

A recent trend of hospitals suing patients for unpaid medical bills has eroded the public's trust in the medical system. A 2020 report by the Consumer Financial Protection Bureau indicated that medical debt comprises 58% of debt collections and has caused hundreds of thousands of Americans to file

STRENGTHS AND LIMITATIONS OF THIS STUDY

- ⇒ A strength of this study is that it reviewed billing and collection practices at 100 large hospitals.
- ⇒ We developed a novel predatory billing grade to assess the magnitude for which a hospital filed debt collection lawsuits, wage garnishments and liens against patients for unpaid medical bills.
- ⇒ One limitation of this cross-sectional study is that hospitals are actively reforming their predatory debt collection processes on an ongoing basis.
- ⇒ Some hospitals may use third-party collections agencies that may be filing lawsuits in the name of the collections agency: however, it is our experience that lawsuits brought against patients are nearly universally filed in the name of the hospital.

for bankruptcy.² Compounding this problem with increasing healthcare costs and record high deductibles, 64% of patients have said they have delayed or avoided medical care out of fear for a bill. Predatory billing or extraordinary collection actions, as defined by the Internal Revenue Service (IRS), are actions taken by a hospital facility against an individual to obtain payment that require a legal or judicial process.³ The predatory practice of hospitals filing lawsuits against patients for unpaid medical bills have been highlighted through publications profiling the states of Virginia, Wisconsin, New Mexico New Mexico and Texas.⁸ The current study evaluates the national prevalence of this practice by analysing the billing and collection patterns of the largest 100 hospitals in the USA.

METHODS

Study design, setting and participants

The largest 100 hospitals were defined by hospital revenue in 2018 according to the



American Hospital Directory (AHD) were chosen to provide a national overview of the prevalence of medical debt lawsuits.⁹

We searched state and county court records online to identify cases between 01 January 2018 and 31 July 2020 in which a hospital sued a patient for an unpaid medical bill. For counties where an online search is not available, we contacted the court directly by phone or in-person to conduct the equivalent search. We filtered all court records to include cases in which the plaintiff was 1 of the 100 hospitals extracted from the AHD. Court records search terms included 'hospital', 'medical centre' and 'health centre'. We only included lawsuits against a patient from a hospital for rendered medical services, and excluded breach of contract lawsuits against other vendors or corporations. Court cases were categorised within the court system as lien, wage garnishment or other lawsuit. Liens and wage garnishments are court actions to recover medical debt and are all lawsuits. Cases with more than one filing per patient or with multiple categories but one unique case number were counted once. Two authors (FH, CMW) reviewed each court action document independently to ensure data accuracy. Liens were defined as a legal claim on assets that allows the holder to seize the property if the debts are not paid. Wage garnishments were defined as actions seeking a court order to withhold a portion of the debtor's wages to pay the medical debt. Other lawsuits were defined to include other legal actions to recover unpaid medical debt other than through liens or wage garnishment. The dollar amount pursued by the hospital in the court claim were extracted from court filings when available.

Variables

Using the AHD, we recorded a hospital's charge markup, ownership type (non-profit, for-profit and government-owned), gross revenue and size (bed number); using Leapfrog Group metrics, 10 their hospital safety grade; and using Lown Institute rating, 11 their Five-Star Charity Care rating, a star rating between 1 and 5. Leapfrog's safety grade is an independent and established hospital ratings organisation that publicly reports hospital safety data. This metric reflects hospitals' billing practices and is integral to the quality of rendered medical services.

The Lown Institute's Five-Star rating system is the most comprehensive dataset of hospitals' charity care practices. Charity care indicates a hospital's willingness to provide free or discounted care to patients who cannot afford care rather than take extraordinary collection actions against them. A hospital or health system in the top quintile (top 20%) in terms of generosity of charity care received a 5-star rating, and a hospital or system in the bottom quintile (bottom 20%) of hospitals, received a 1-star rating. Charge markup was calculated by taking the inverse of a hospital's total cost to charge ratio, as listed in the AHD. This grading criteria quantifies how much hospitals are charging over the cost of care. High charge markups can affect underinsured and uninsured patients' ability to afford care. ¹²

We developed a novel Predatory Debt Collection Grade to assess the extent for which a hospital filed lawsuits against patients for unpaid medical bills. The total number of lawsuits and the total dollar amount pursued in court were individually divided into quintiles and individually assigned to a grade A–F. Wage garnishments and liens were added together and divided into quintiles, which were then assigned a grade A–F. Hence, the hospital grading criteria in table 1 corresponds with their assigned Predatory Debt Collection Grade.

To provide a holistic review of a hospital's billing performance, we ranked the hospitals that sued patients according to their overall Billing Quality Score. This score was calculated using a hospital's 2020 Predatory Debt Collection Grade, charge markup and Lown Institute Charity Care 5 Star Rating. Each component comprised one-third of the Billing Quality Score, a number out of 100. A hospital's Predatory Debt Collection Grade and Lown Institute Charity Care 5 Star Rating were treated as quintiles, which served as the score for the respective component. For charge markup, hospitals were divided into percentiles according to their assigned value. Hospitals with lower charge markup values had a higher Billing Quality Score. Each score was added together and divided by three to provide the overall Billing Quality Score. Hospitals were reported based on their ranking in table 2 with a higher Overall Billing Quality Score ranking reflecting poorer performance. Variables not included

	Number of			
Letter grade	lawsuits per year	Number of wage garnishments/ property liens per year	Total lawsuit amount, US\$	Confirmed media reports/class action lawsuits
4	0	0	US\$0	0
3	1–10	1–50	US\$1-US\$50000	1-20 cases reported
0	11–100	51–500	US\$50 001-US\$450 000	21-100 cases reported
)	101–500	501–2000	US\$450 001-US\$200 000	101-500 cases reported
:	>501	>2000	>US\$2000001	>500 cases reported

Characteristics of hospitals that sund nationts for unnaid medical hills

Overall Billing Quality Score	Hospital			Charge	Predatory Debt Collection Grade			Lown Institute Charity Care	Leapfrog Hospital
ranking	name	State	Tax status	markup	2018	2019	2020	Rating	Safety Grade
26	1	NY	Government-owned	6.21	F	F	D	**	D
25	2	KS	Government-owned	5.78	F	F	F	***	Α
24	3	NY	Non-profit	8.30	F	F	D	***	В
23	4	NY	Non-profit	5.09	F	F	D	**	С
22	5	KY	Non-profit	5.09	D	D	D	**	Α
21	6	FL	Government-owned	6.61	D	D	D	***	В
20	7	NY	Non-profit	4.73	F	F	D	**	С
19	8	NC	Government-owned	4.74	D	В	Α	***	В
18	9	PA	Non-profit	8.77	В	С	В	***	В
17	10	WI	Non-profit	5.04	D	D	С	**	С
16	11	MN	Government-owned	2.95	D	D	D	*	Α
15	12	NY	Non-profit	5.46	В	Α	Α	*	Α
14	13	KY	Non-profit	3.94	F	F	F	***	С
13	14	VA	For-profit	12.97	D	D	С	****	А
12	15	WI	Non-profit	3.77	F	F	F	**	Α
11	16	VA	Non-profit	4.13	F	F	F	***	В
10	17	PA	Non-profit	4.30	Α	Α	В	**	А
9	18	ОН	Non-profit	4.18	D	D	С	***	D
8	19	NJ	Non-profit	5.61	Α	В	Α	***	Α
7	20	FL	Government-owned	5.49	Α	D	С	****	Α
6	21	LA	Non-profit	3.80	В	С	В	**	А
5	22	PA	Non-profit	4.64	С	В	В	***	С
4	23	ОН	Non-profit	4.20	С	D	Α	**	Α
3	24	NY	Non-profit	3.99	D	D	Α	**	С
2	25	IA	Government-owned	3.99	В	В	Α	***	D
1	26	VA	Government-owned	4.81	F	F	Α	****	С

Source: the American Hospital Directory, the Leapfrog Group, the Lown Institute. 11

FL, Florida; IA, Iowa; KS, Kansas; KY, Kentucky; LA, Louisiana; MN, Minnesota; NC, North Carolina; NJ, New Jersey; NY, New York; OH, Ohio; PA, Pennsylvania; VA, Virginia; WI, Wisconsin.

in the score ranking (Leapfrog Safety Grade, ownership type, geographic location and size) were deemed important to include in the table to further characterise hospitals' overall standing in relation to their calculated grade.

Outcomes

The primary outcome of this analysis was the occurrence of a court action against a patient for an unpaid medical bill. The secondary outcome was the characterisation of hospitals that sued patients compared with hospitals that did not. For all cases, we extracted the file date, name of the plaintiff and, when available, the principal amount for which a patient was sued.

Statistical analysis

Detailed cross-tabulations of hospitals' characteristics were performed. Pearson χ^2 test, paired t-test and Mann-Whitney U test were used to test the distribution differences for categorical variables, continuous variables and ordinal variables. The mean (SD) and median (IQR) of the yearly change in lawsuit characteristics from 2018 to 2020 were also addressed. Univariable and multivariable logistic regressions were conducted to identify the OR of hospitals suing patients. ORs and 95% CIs were reported for characteristics that showed statistical significance. The OR was statistically significant at α=0.05 level. Statistical analysis was performed in Stata (V.14.0).

Patient and public involvement

There was no patient or public involvement in this study.

RESULTS

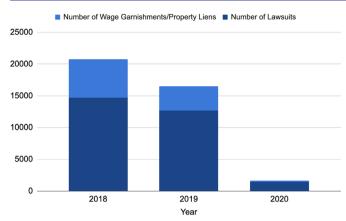
Between 1 January 2018 and 31 July 2020, 26 of the largest 100 hospitals in the USA filed 38 965 court actions (lawsuits, wage garnishments and liens) against patients for unpaid medical debt, 74 hospitals in the sample did not file any lawsuits against patients to recover unpaid debt. For 16 of 26 hospitals, the dollar amount pursued in the court claim was available for 100% of cases, totalling US\$71.8 million. The average aggregate amount sought by hospital lawsuits during the study period was US\$4.5 million. Three hospitals filed US\$56.2 million in amounts pursued in court, or 78.3% of the total amount pursued in court.

Among the hospitals that sued patients for unpaid medical debt, 65.4% (n=17) were non-profit hospitals, 30.8% (n=8) were government-owned hospitals and only 3.8% (n=1) were for-profit hospitals. The median (IQR)

charge markup and gross revenue for these 26 hospitals that sued patients were 4.78 (4.13, 5.61) and US\$6401 (5631, 8922) millions, respectively, with an average total patient revenue of US\$8.1 billion. The median (IQR) number of beds was 889 (693, 1220). The mean (SD) Lown Institute Charity Care rating was 2.8 (1.13). Of the hospitals that did not sue, 64.9% (n=48) were nonprofit hospitals, 14.9% (n=11) were for-profit and 20.3% (n=15) were government-owned hospitals. The charge markup and gross revenue for hospitals that did not sue patients were not statistically significantly different from those that sued with a median (IQR) of 5.31 (4.14, 6.95) and 6619 (5476, 8649) (p=0.27 and p=0.98), respectively. The median (IOR) number of beds was 805 (649, 1046). The mean (SD) Lown Institute Charity Care rating was 3.7 (1.2), which was significantly higher than the hospitals that sued patients (p=0.003) (table 3).

Figure 1 showed the yearly change of lawsuit characteristics for hospitals that sued patients. The median Predatory Debt Collection Grade in 2020 was a C, which

	Hospitals that did sue (N=26)	Hospitals that did not sue (N=74)
Type of hospital, N (%)		
Non-profit	17 (65.4)	48 (64.9)
For-profit	1 (3.8)	11 (14.9)
Government-owned	8 (30.8)	15 (20.3)
Charge markup		
Mean (SD) (range)	5.33 (2.04) (2.95, 12.97)	6.00 (2.60) (2.64, 12.94)
Median (IQR)	4.78 (4.13, 5.61)	5.31 (4.14, 6.95)
Gross revenue (in millions of dollars, 2018)		
Mean (SD) (range)	8101.06 (4373.89) (4943.12, 21841.09)	7799.64 (3353.17) (4890.96, 20880.95
Median (IQR)	6400.50 (5630.72, 8921.54)	6618.59 (5475.69, 8648.53)
Number of beds		
Mean (SD) (range)	1001 (454) (511, 2650)	901 (407) (237, 2826)
Median (IQR)	889 (693, 1220)	805 (649, 1046)
Lown Institute Charity Care 5 Star Rating		
Mean (SD) (range)	2.8 (1.13) (1, 5)	3.7 (1.23) (1, 5)
Median (IQR)	3 (2, 3)	4 (3, 5)
Leapfrog Quality Safety Score, N (%)		
A	11 (42.3)	31 (41.9)
В	5 (19.2)	16 (21.6)
С	7 (26.9)	18 (24.3)
D	3 (11.5)	2 (2.7)
Unknown	0	7 (9.5)
Amounts for lawsuits		
Mean (SD) (range)	4 486 528 (7 372 811) (13 127, 24 020 284)	
Median (IQR)	1 022 068 (302 124.1, 3 913 720)	



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Figure 1 Hospital court actions by type over time. Source: State and County Public Court Records.

increased one level compared with 2019 (median: D) and 2018 (median: D). The average number of court actions, number of lawsuits, number of wage garnishments, and yearly amount pursued in court decreased over time.

The ORs from univariable and multivariable logistic regressions showed that the Lown Institute Charity Care 5 Star Rating was the only characteristic that significantly differed between hospitals that sued and hospitals that did not sue patients. Hospitals with a higher Lown Institute Charity Care Ratings were less likely to sue (aOR: 0.51, 95% CI: 0.31 to 0.85) (online supplemental appendix table 1).

From 2018 to 2020, there was a 92.0% decrease in the number of court actions filed (table 4). In 2018, 26 hospitals filed 20794 court actions pursuing patients for unpaid medical bills. Specifically, hospitals filed 14671 lawsuits, and 6123 wage garnishments/liens. The following year, they filed 12687 lawsuits, 3823 wage garnishments/liens totalling 16510 court actions. In the first half of 2020, hospitals filed 1450 lawsuits, and 211 wage garnishments/

liens, totalling 1661 court actions. There was a 20.6% decrease in the number of court actions filed from 2018 to 2019 and an 89.9% decrease between 2019 and 2020.

Some hospitals demonstrated significant improvement in reducing court actions against patients across the time period. Of the five hospitals that most improved their Predatory Debt Collection Grade between 2018 and 2020, two earned F's at the beginning of the study period and three earned D's. At the end of the study period, two earned A's, two earned C's and one earned a D. One hospital decreased their dollar amount pursued in court by 93%, US\$422859 in 2018 to US\$28582 in 2020. Another hospital ceased their predatory billing practices altogether, filing no court actions in the first half of 2020 compared with 6391 lawsuits and 3085 wage garnishments in 2018 (online supplemental appendix table 2).

DISCUSSION

Our study found that 26 of the top 100 hospitals by gross revenue took legal action against patients to collect debt for unpaid medical bills. Hospitals filed 28808 lawsuits and 10157 wage garnishments/liens. Among hospitals for which amounts pursued in court were available, patients were sued for an average of US\$1842. When comparing these figures to existing studies, there is widespread variation. A 2017 study in IAMA showed that 36% of hospitals pursued patients in court for an average of US\$2783.15 per patient in the state of Virginia. From 2018 to 2020, 28 (7%) hospitals in Texas sued patients for unpaid medical debt. Consistent with the current literature, about 70% of US hospitals in our study did not have evidence of extraordinary collection actions. 4 8 Given that the vast majority of hospitals do not participate in these predatory debt collection practices, this would suggest that it is not

	2018	2019	2020
Billing Integrity Score			
Median	D	D	С
Number of court actions			
Mean (SD) (range)	799.8 (2028.1) (0.0–9476.0)	635.0 (1656.6) (0.0-8330.0)	63.9 (105.7) (0.0, 388.0)
Number of lawsuits			
Mean (SD) (range)	564.3 (1332.3) (0–6391)	488.0 (1248.9) (0-6348)	55.8 (102.8) (0–388)
Number of wage garnishments	/liens		
Mean (SD) (range)	227.2 (726.4) (0–3085)	135.4 (438.1) (0–1982)	0.8 (4.1) (0–21)
Number of liens			
Mean (SD) (range)	8.3 (40.4) (0, 206)	11.7 (58.8) (0, 300)	7.3 (37.3) (0, 190)
Yearly judgement amount			
Mean (SD) (range)	2 077 371.0 (3 508 594.0) (0.0–10 928 639.0)	1 991 016.0 (3 334 653.0) (0.0–11 161 331.0)	446 016.5 (886 924.4) (0.0–3 096 262.0)

standard practice and there are other less aggressive debt collection processes that may be adopted.

While collection practices are not uniform, there was an overall decrease in extraordinary collection practices nationally from 2018 to 2020. The mean number of yearly court actions decreased from 829.4 in 2018 to 143.8 in 2020. Similarly, the mean Predatory Debt Collection Grade increased from a D in 2018 and 2019 to a C in 2020. A 2021 study in *IAMA Network Open* showed that increased research and public health initiatives rooted in media exposure resulted in Virginia based hospitals changing their medical debt collection practices. ¹³ It is likely that the nationwide improvement seen in this study can be attributed to increased public awareness and media attention that shed light on extraordinary collection measures. However, the sustainability of this improvement is uncertain due to it being rooted in momentary awareness rather than regulatory and policy change.

Currently, a standardised medical billing practice standard does not exist. During the time period of this study, hospitals did not disclose real cash prices for services. Demanding payment using legal channels without a legal agreement on a price is a violation of contract law and a common reason why patients win in court when they present this argument. 14 A 2020 JAMA article recommends standard metrics that address service quality, transparency, surprise medical billing and predatory billing practices. 15 Broad adoption of these metrics, accompanied with transparent public reporting, would incentivise hospitals with high-billing quality and motivate improvement effort for hospitals with low billing quality. Moreover, fair billing practices ensure that vulnerable, uninsured and underinsured individuals are not discouraged to seek medical care on the basis of financial status.

We found that 65.4% of hospitals suing patients were non-profit designation. This debt collection practice might not be aligned with the mission and purpose of non-profit organisations. Originally, the IRS awarded tax exemptions to hospitals that operate 'to the extent of its financial ability for those not able to pay for the service rendered'. In 1969, the IRS adopted the 'community benefit standard',17 which included the 'promotion of health' as a charitable measure. In 2010, the Affordable Care Act required hospitals to provide a written financial assistance policy and discouraged 'extraordinary collection actions' on medical debt. 18 Our findings, coupled with the findings of a recent analysis that non-profit hospitals provide less charity care than for-profit and government hospitals, indicate that the current regulatory requirement and oversight on non-profit hospitals' provision of charity care and engagement in 'extraordinary debt collection' might be insufficient.¹⁹

Study limitations

This study has several limitations. First, our study was conducted on a national basis and as such, we used the website specific to the hospital's county or state. Since each state has varying laws on the accessibility of public

records, each state's reporting system of court records was designed differently and did not provide data on the same variables queried. For example, certain electronic filing systems offered complete court records, whereas others offered superficial information. Court records showed the dollar amount pursued in court but not the final judgement amount, which limited our ability to report on the amount recovered by hospitals. Second, hospitals may use aggressive practices that do not appear in court records, such as harassment and harming credit scores through outsourced debt collection agencies. These practices are outside the scope of this study yet important to consider and therefore require additional research to address. Third, some hospitals sell debt to outside organisations that may file a court action without using the name of the hospitals. While all court actions we are aware of in our years of work in this area use the name of the treating hospital, it's conceivable that a debt management company could file a court action. Finally, the study data only included court filings through July 2020, so year-to-year comparisons are difficult and we cannot disentangle the effects of the pandemic on hospital visits, finances and court operations.

CONCLUSION

Although there is evidence of improvement in the billing patterns of the largest 100 hospitals in the USA, a large proportion of non-profit hospitals continue to take legal action against patients to collect unpaid medical bills in the form of lawsuits, wage garnishments and liens. These debt collection measures reflect a lack of regulatory constraints and oversight in predatory billing practices against patients. Our results suggest a need to re-examine IRS rules related to non-profit hospitals' tax-exempt status as well as introduce clear standards for fairness in medical billing.

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SH, CD, JGP, IGD, EAS, DV, JAT, MAS, AK, GB and MM made critical revisions to the manuscript. MM is the quarantor. All authors reviewed and approved the final draft.

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REFERENCES

- 1 64% of Americans avoid or delay treatment due to cost of medical care: 5 survey insights. Available: https://www.beckershospitalr eview.com/finance/64-of-americans-avoid-treatment-due-to-cost-of-medical-care-5-survey-insights.html
- 2 Industry and markets. Market snapshot: third-party debt collections Tradeline reporting. Available: https://ascopost.com/news/march-

- 2022/half-of-patients-with-cancer-and-survivors-report-incurring-cancer-related-medical-debt/
- 3 IRS. Billing and Collections Section 501(r)(6). Available: https:// www.irs.gov/charities-non-profits/billing-and-collections-section-501r6
- 4 Bruhn WE, Rutkow L, Wang P, et al. Prevalence and characteristics of virginia hospitals suing patients and garnishing wages for unpaid medical bills. JAMA 2019;322:691–2.
- 5 Peek J. You've been served": wisconsin hospitals sue patients over debt — even during pandemic. Available: https://www.wpr.org/ youve-been-served-wisconsin-hospitals-sue-patients-over-debteven-during-pandemic
- 6 Cooper Z, Han J, Mahoney N. Hospital lawsuits over unpaid bills increased by 37 percent in wisconsin from 2001 to 2018. Health Aff 2021;40:1830–5.
- 7 Cohen E, Bonifield J. When some patients don't pay, this hospital sues. Available: https://www.cnn.com/2019/09/10/health/carlsbadnew-mexico-hospital-eprise/index.html
- 8 Hashim F. A report of Texas hospitals suing patients. Johns Hopkins University. Available: https://a2e0dcdc-3168-4345-9e39-788b0a5bb779.filesusr.com/ugd/29ca8c_095296028da54e778dbfb34987c3cc9c.pdf
- 9 American Hospital Directory. Information about hospitals from public and private data sources including MedPAR, OPPS, hospital cost reports, and other CMS files. Available: https://www.ahd.com/
- 10 Your hospital's safety grade. Available: https://lownhospitalsindex.org/
- 11 Lown Institute Hospital Index. Available: https://lownhospitalsindex.
- 12 Hamel L, Norton M, Pollitz K. The burden of medical debt: result from the Kaiser family Foundation/New York times medical bills survey. Available: https://www.kff.org/wp-content/uploads/2016/01/8806-the-burden-of-medical-debt-results-from-the-kaiser-family-foundation-new-york-times-medical-bills-survey.pdf
- 13 Paturzo JGR, Hashim F, Dun C, et al. Trends in hospital lawsuits filed against patients for unpaid bills following published research about this activity. JAMA Netw Open 2021;4:e2121926.
- 14 Allen M. Never pay the first bill: and other ways to fight the health care system and WIN. Penguin, 2021.
- 15 Mathews SC, Makary MA. Billing quality is medical quality. JAMA 2020;323:409–10.
- 16 Internal Revenue Service. The concept of charity. Available: https://www.irs.gov/pub/irs-tege/eotopicb80.pdf
- 17 Salins MJ, Rosenberg Č, Sullivan TJ. Evolution of the Healthcare Field. Available: https://www.irs.gov/pub/irs-tege/eotopich93.pdf
- 18 Himmelstein DU, Lawless RM, Thorne D, et al. Medical bankruptcy: still common despite the affordable care act. Am J Public Health 2019:109:431–3.
- 19 Bai G, Zare H, Eisenberg MD, et al. Analysis suggests government and nonprofit hospitals' charity care is not aligned with their favorable Tax treatment. *Health Aff* 2021;40:629–36.

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APPENDIX

Table 1. Odds ratios for hospitals suing patients.

	OR	(95%	C.I.)	Р	aOR	(95%	C.I.)	Р
Type of hospital								
Government	Ref				Ref			
For-profit	0.17	(0.02,	1.57)	0.12	0.34	(0.02,	7.49)	0.49
Non-profit	0.66	(0.24,	1.84)	0.43	0.79	(0.24,	2.58)	0.69
Average Markup	0.88	(0.72,	1.09)	0.24	0.18	(0.74,	1.47)	0.80
Gross Revenue	1.00	(1.00,	1.00)	0.71	1.00	(1.00,	1.00)	0.28
Bed number	1.00	(1.00,	1.00)	0.25	1.00	(1.00,	1.00)	0.19
Lown Institute Charity Care rating	0.56	(0.38,	0.84)	0.01	0.51	(0.30,	0.85)	0.01
Leapfrog hospital safety grade								
A	Ref				Ref			
В	0.88	(0.26,	2.97)	0.84	1.24	(0.31,	4.97)	0.77
С	1.10	(0.36,	3.33)	0.87	0.98	(0.29,	3.33)	0.98
			28.74				25.46	
D	4.23	(0.62,)	0.14	2.84	(0.32,)	0.25

Table 2. The top five hospitals that improved most based on their predatory debt collection grade.

8 Source: State and County Public Court Records 9

Hospital	Improvements
А	This hospital had 6,391 lawsuits and 3,085 wage garnishments in 2018. They had 0 lawsuits and 0 wage garnishments in 2020.
В	478 lawsuits in 2018 and 0 lawsuits in 2020.

С	Sued for \$10.9 million in 2018 and \$1.9 million in 2020.
1 1 1	405 lawsuits and 529 wage garnishments in 2018. They had 26 lawsuits and 21 wage garnishments in 2020.
E	Sued for \$422,859 in 2018 and \$28,582 in 2020.