

Limits on Medical-Debt Lawsuits in Maryland: Estimates of the Effect on Hospital Revenue

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Executive Summary

Every year, Maryland hospitals sue Maryland residents for \$20 to \$30 million in unpaid medical bills. This report projects the impact of a policy that would limit the ability of Maryland hospitals to file medical-debt lawsuits below various thresholds. To do so, we analyze a dataset of medical-debt lawsuits filed in Maryland on behalf of hospitals from 2009 through 2018.

The typical medical-debt lawsuit filed by hospitals in Maryland involves relatively small dollar amounts. Roughly half of these lawsuits are below \$1,000. Lawsuits primarily affect low-income residents: there are three times as many lawsuits per capita filed against residents in the lowest-income regions of Maryland as compared to the highest-income regions.

In our analysis of existing lawsuits, a threshold of \$1,000 would avoid 6,974 lawsuits per year, totaling about \$3.6 million sought by all Maryland hospitals. However, the impact on hospitals' revenue would not be that full dollar amount, since hospitals do not collect the full amount sought. We estimate that a \$1,000 threshold on lawsuits would lead to a total revenue loss per hospital of \$7,046 per year. A higher threshold of \$5,000 would prevent 12,357 lawsuits per year and about \$14 million in complaint amounts across all hospitals. Again, the actual consequences on hospitals' revenue of the \$5,000 threshold would be smaller: about \$27,000 per hospital per year.

A threshold on lawsuits might also change patients' behavior: some patients may stop paying bills if they know that the hospital will not be allowed to sue them. There are many reasons, however, that patients would still pay their hospital bills, even without the threat of a lawsuit. Hospitals could require prepayment for non-emergency care or take collection activities such as reporting non-payment to credit bureaus. Moreover, many people view deliberate non-payment as morally wrong. The last section of this report assesses the degree to which the estimates above might be affected by changes in patients' willingness to pay their bills. Our estimates are uncertain, in that it is difficult to estimate how the threat of lawsuits affects bill-paying behavior. At a low threshold of \$100, it is likely that most bills will still be paid, and we estimate a total impact on revenue of \$4,000 per hospital per year. At a higher threshold of \$5,000, there exists much more uncertainty. We examine two different scenarios. If 50 percent of patients respond to the policy by no longer paying bills below the threshold, then a \$5,000 threshold would lead to a revenue loss per hospital of about \$3 million per year. On the other hand, if only 5 percent of patients stop paying their bills, the impact would be only \$306,000 per hospital per year.

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Statement of Independence

This report was funded by the Maryland Consumer Rights Coalition (MCRC) through a grant from the Abell Foundation. Neither the MCRC nor the Abell Foundation played a role in its findings. The MCRC provided the authors with access to data, but did not restrict the analysis nor the authors' interpretation of the data. The conclusions of this report are those of the authors alone.

1. Introduction

This report analyzes the impact of a proposed policy that would limit the ability of hospitals to file medical-debt lawsuits below various thresholds. The goal of this report is to inform the debate over whether and how these lawsuits ought to be regulated. We analyze the distribution of medical-debt lawsuits and the consequences for Maryland hospitals not being able to sue patients for amounts below a certain threshold. We consider how patients and hospitals might change their behavior in response to such a policy.

Medical debt is an important issue throughout the United States. The total value of overdue medical debt is estimated to be approximately \$75 billion. More than one-in-five Americans with a credit record hold some medical debt. Much medical debt is caused by the uninsured, who struggle to pay for their care as self-pay patients. However, insured patients also account for a large portion of total medical debt – many do not pay for their portion of a provider’s bill.

Medical debt contributes to financial distress, and financial distress, in turn, has real consequences. Studies suggest that major financial shocks such as foreclosure and bankruptcy can have a large impact on Americans’ health and can even affect mortality rates.¹ Policies that change how hospitals handle unpaid bills can have a major impact on the lives of affected state residents.

One concern about debt collection is that too often consumers do not appear in court to defend themselves against a claim. Another concern is that often consumers are not properly served with a summons and complaint in these lawsuits.² Moreover, medical debt differs from other kinds of debt: consumers cannot predict their medical expenditures and those who do not pay their medical debt also often do not repay other loans.³

At the same time, medical debt plays an important role in the healthcare system. Medical debt results from unpaid medical bills. Without the ability to collect on medical debt, insurers would be unable to impose copayments and deductibles on their beneficiaries, and these are key components of cost control. Health economics research has shown that copayments can reduce waste in healthcare.

Many local authorities have considered regulating how medical debts may be collected. For instance, Idaho passed legislation in 2020 that limited attorney’s fees in medical-debt-collections lawsuits.⁴ In Maryland, the 2020 MD HB1081 act proposed a variety of regulations on medical debt, including establishing a threshold such that hospitals may not file a lawsuit to collect on unpaid hospital bills below that amount.

Maryland

Maryland is unique among states in that it relies on all-payer rate setting. An independent commission, the Health Services Cost Review Commission, sets rates for hospitals. Maryland has

¹ For instance, Currie and Tekin (2015) find that foreclosures increase hospital visits, and Dobbie and Song (2015) find that bankruptcy protection reduces mortality.

² See FTC (2009) Pg 57.

³ Rukavina 2013, CFPB 2014a, CFPB 2014b

⁴ See description of the Idaho Patient Act at idahopatientsact.org.

shifted from fee-for-service, variable cost-based reimbursement budgeting to a global budget revenue system that sets hospital revenue per capita.⁵

Maryland also differs from other states in how it regulates medical debt. In most states, healthcare providers can sell past-due medical debts to third-party collectors rather than engage in collections activity themselves. However, in the state of Maryland, hospitals cannot sell unpaid debt to collections agencies. Rather, hospitals must manage and oversee their debt collectors' activities. If they are unsuccessful in collecting their debt, hospitals can then sue their patients to collect on unpaid balances. If hospitals are successful in court, then can then garnish wages and property, up to certain limits. Approximately 19 percent of Maryland adults report having past due medical debt.⁶

2. Data on Maryland Hospital Medical-Debt Lawsuits

We study a dataset of medical-debt lawsuits filed in Maryland on behalf of Maryland hospitals. The dataset was constructed from scraped court records from the Maryland Judiciary Case Search system. The data was originally collected by researchers at National Nurses United working with the Maryland Volunteer Lawyers Service.⁷

The data consist of 145,746 cases filed between January 2, 2009 and December 27, 2018. Between 11,000 and 17,000 cases were filed every year between 2009 and 2018. For each case, we observe the date when it was filed, the hospital that filed the suit, and some additional information about the case.

We observe the “complaint amount:” the amount of money for which the hospital sued the patient. Unfortunately, we do not observe the actual revenue the hospital received from each case: judgements collected on minus administrative costs and attorneys' fees. Below, we use information on complaint amounts to estimate the revenue hospitals likely received from these cases.

Figure 1 plots the share of lawsuits in the data with complaint amounts at or below various thresholds. Roughly half of all complaint amounts are below \$943 and 90 percent are below \$3,700. Nearly all lawsuits (99 percent) involve complaint amounts below \$17,000. For a series of thresholds of interest, Table 1 reports the percent of cases with complaint amounts below that amount.

These exhibits demonstrate that the typical medical-debt lawsuit filed by hospitals in Maryland involves relatively small dollar amounts. The average total cost of an inpatient hospital visit in the

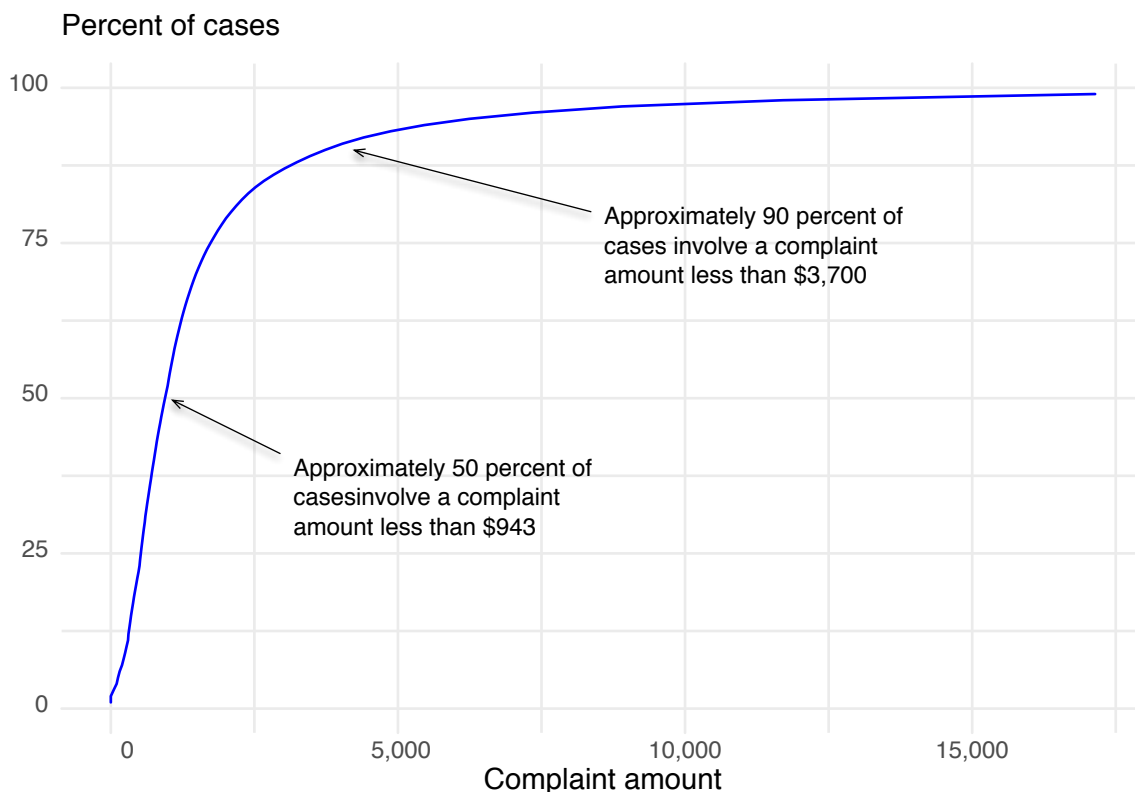
⁵ See Murray (2009) and Rajkumar et al. (2014) for academic reviews of the Maryland All-Payer approach. Beginning 2019, Maryland shifted to a Total Cost of Care (TCOC) model with a focus on system-wide health costs rather than hospital-specific health costs.

⁶ See the state-by-state analysis by Karpman and Caswell (2017).

⁷ National Nurses United (2020) describes the methodology behind their data construction as follows: “We identified all civil cases with hospital or hospital system names for the plaintiff, which were entered into the court records in thousands of variations. We standardized the hospital names using names drawn from the American Hospital Association Annual Survey. To narrow down our case data to only include medical debt lawsuits, we eliminated all case types other than contract cases and liens. We eliminated all lawsuits listing a business or organization as a defendant, and removed all cases with amounts more than \$1 million. We reviewed the docket information for hundreds of cases to ensure that the lawsuits were medical debt related. We also examined the court records available at various district courts of hundreds of additional cases to ensure they were related to medical debt.”

United States is on the order of \$13,000, and yet, 98 percent of the lawsuits in the data involve a complaint amount less than that dollar value.

Figure 1. Distribution of Medical-Debt Lawsuit Amounts in Maryland



Source: Authors' analysis of 2009–2018 medical-debt lawsuits.

Table 1. Percent of Medical-Debt Lawsuits Below Each Threshold

Medical-Debt Lawsuit Threshold Amount	Percent of cases with complaint amounts below the given threshold
\$100	3.9
\$250	9.1
\$500	23.1
\$1,000	52.6
\$2,000	78.9
\$3,000	86.9
\$4,000	90.9
\$5,000	93.3

Note: Authors' analysis of 2009–2018 medical-debt lawsuits.

Geographic Dispersion in Lawsuits

We next study the geographic distribution of medical-debt lawsuits in order to explore which Maryland households are most affected. We match each defendant's ZIP Code to the median household income in that ZIP Code, as measured by the 2006–2010 American Community Survey, conducted by the US Census Bureau. We then calculate the number of lawsuits that appear in the data per capita. We restrict the sample to Maryland residents and then divide ZIP Codes in Maryland into four categories based on the ZIP Code's median household income.

Table 2 suggests that lower-income ZIP Codes tend to have more medical-debt lawsuits per capita than higher-income ZIP Codes. That pattern leads to a disparity in where these lawsuits are filed. There are three times as many lawsuits per capita in the lowest-income ZIP Codes as compared to the highest-income ZIP Codes. That suggests that medical-debt lawsuits are primarily a challenge for low-income Maryland residents.

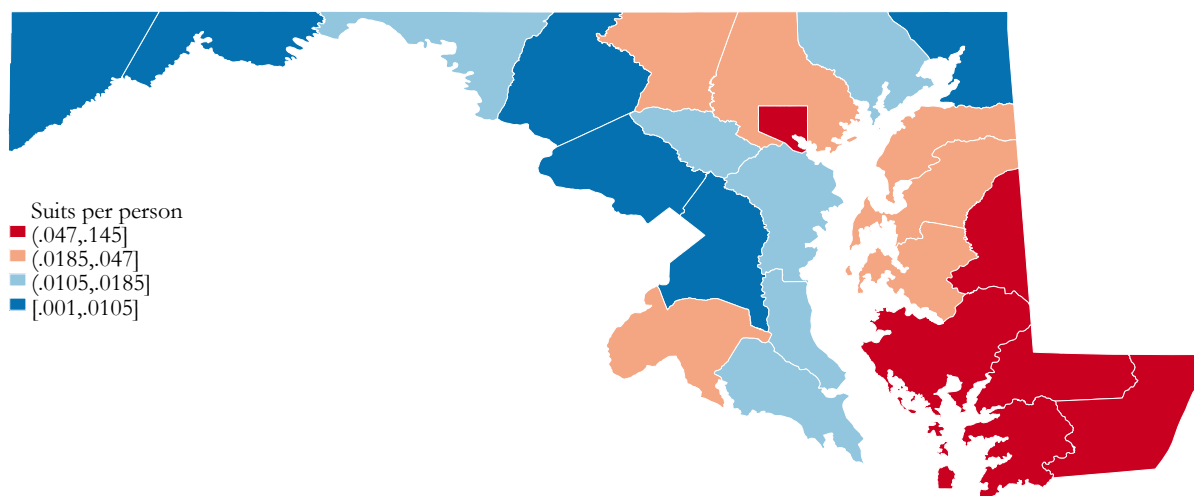
In order to better visualize where the targets of these lawsuits reside, Figure 2 presents a map of lawsuits per capita by county.

Table 2. Medical-Debt Lawsuits by Household Income

Median household income of ZIP Code	Total medical-debt lawsuits (2009–2018) per capita
Less than \$50,000	0.031
\$50,000 to \$70,000	0.028
\$70,000 to \$90,000	0.020
Greater than \$90,000	0.011

Note: Authors' analysis of 2009–2018 medical-debt lawsuits and 2006–2010 American Community Survey.

Figure 2. Medical-Debt Lawsuits per Capita by County



3. Static Analysis of Medical-Debt Lawsuit Thresholds

We analyze a policy that would prohibit hospitals from suing patients for amounts below a certain threshold. We begin with a simple analysis that we call a “static analysis.” For each possible threshold, we examine the actual lawsuits filed and estimate the annual revenue loss to hospitals if they were prevented from filing lawsuits with complaint amounts below particular thresholds.

This analysis is “static” because it holds patients’ and hospitals’ behavior fixed. It is possible that knowing there was a threshold amount required for hospitals to file a lawsuit would lead some patients to stop paying their hospital bills. If patients were to know that hospitals would not sue them for bills below \$1000, then they may not pay those bills at all. We consider that possibility below, in what we term a “dynamic analysis.” The static analysis that we employ here is similar to the concept of “static scoring” when estimating the impact of changes to tax law (Auerbach 2005). The static analysis is simpler and relies on fewer assumptions but misses some potential ways in which policy may change behavior.

Table 3 presents the results of our static analysis. We examine eight potential thresholds, ranging from \$100 to \$5,000, listed in the first column of the table. Given that the data covers multiple years, the table presents averages across years. So, for instance, the first row of Table 3 indicates that, on average, 523 medical-debt lawsuits are filed on behalf of hospitals in Maryland courts each year with complaint amounts less than \$100. As the threshold rises, more lawsuits fall under the threshold, with an average of 12,357 lawsuits filed per year with complaint amounts under \$5,000.

Table 3. Impact of Medical-Debt Thresholds, Static Analysis

Medical-Debt Lawsuit Threshold Amount	Numbers of Lawsuits with Amounts Below Threshold, Per Year	Total Complaint Amounts Sought in the Lawsuits	Total Estimated Revenue Loss per Hospital from Policy, Assuming 10% Value of Debt
\$100	523	\$ 12,072	\$ 23
\$250	1,202	\$ 131,187	\$ 252
\$500	3,066	\$ 832,090	\$ 1,600
\$1,000	6,974	\$ 3,663,975	\$ 7,046
\$2,000	10,457	\$ 8,475,246	\$16,299
\$3,000	11,512	\$11,030,949	\$21,213
\$4,000	12,043	\$12,869,204	\$24,748
\$5,000	12,357	\$14,273,129	\$27,448

Note: Authors’ analysis of 2009–2018 medical-debt lawsuits. Right-most column applies an estimated value of unpaid medical debt of 10 percent and divides the total complaint amount across the 52 hospitals identified by the HSCRC.

The third column of Table 3 adds up the total amount sought per year (the complaint amount) in lawsuits below each threshold. Thus, we see in the first row, that if hospitals had collected the full complaint amount in all the lawsuits they filed under \$100, they would have collected a sum total of \$12,072 across all hospitals. Of course, that total amount rises with the threshold. The bottom row

suggests that, when adding up all lawsuits under \$5,000, hospitals sought over \$14 million per year in associated complaint amounts.

It is important to remember that those numbers do not represent the money that hospitals actually received. Hospitals' actual net revenue from these lawsuits is certainly smaller than the dollar values listed in the third column of the table. Not all lawsuits are successful, and hospitals must pay administrative and legal fees in order to attempt collection.

Ideally, we would directly estimate hospitals' net revenue from these lawsuits. Such an approach would account for collection rates and collection costs, including attorneys' fees, process-server fees, and court fees. Unfortunately, we lack data on hospital collection rates, their contracts with attorneys, and their administrative costs.

Instead, we estimate the value of medical debt to hospitals, net of costs. While Maryland prohibits hospitals from selling their debt entirely to third-party collectors, many other states allow such a practice. The sale prices from those other states provide an estimate of the net value of medical debt to hospitals. Unfortunately, to our knowledge, no systematic, nationally representative dataset on medical-debt prices exists. In Appendix A, we discuss the evidence on the price of medical debt. Based on that analysis, we estimate that medical debt is sold to third-party collectors at less than 10 percent of the charges listed.

That number – 10 percent – suggests that unpaid medical bills offer hospitals 10 cents on the dollar in revenue. The final column in Table 3 takes the total complaint amount sought below each threshold, multiplies by a 10-percent market price of medical debt, and then divides by the number of affected hospitals.

The resulting numbers suggest that each hospital would face remarkably little foregone revenue from this policy. For instance, a floor of \$2,000 on lawsuits would eliminate \$8.4 million in complaint amounts brought to court, but would lead to losses of only about \$16,000 in actual net revenue foregone, per hospital per year.

Dynamic Analysis: Responses of Individual Payment to Policy

The static analysis above makes a key assumption: it holds patients' and hospitals' behavior fixed. Yet there are a variety of ways that both Maryland residents and Maryland hospitals may respond to a threshold on lawsuits.

We first consider how patients might respond to the policies described above. Many Maryland residents are currently paying bills that would be affected by such a policy. As a result of the policy, those Maryland residents might be less likely to pay their bills. Unfortunately, there exists little high-quality evidence as to how people react to such a policy. As a result, we can only provide sensitivity analyses, exploring how the estimates above might change under alternative scenarios. In particular, we explore the following scenarios: 50-percent non-payment of all hospital bills under the threshold, and 5-percent non-payment of all hospital bills under the threshold.

The most-extreme reaction of Maryland residents to the policy would be for them to simply not pay *any* hospital bills under the threshold. We view this as an unlikely extreme: many families pay bills regardless of the likelihood that they will face a lawsuit for non-payment. There are several reasons

why people might still pay bills under the threshold. First, there are still consequences of not paying. For instance, they might be excluded from receiving further non-emergency care at hospitals to which they owe debt. They also might be concerned about other collection activities hospitals might undertake, such as reporting unpaid bills to credit bureaus. As a result, patients still face costs of unpaid hospital bills even if a lawsuit cannot be brought against them. Second, for non-emergency care, hospitals can require payment at the time services are delivered, what is often called “point-of-service collection.” That, in turn, will lead some bills below the threshold to be paid.⁸ Third, there is evidence of pro-social compliance with debt obligations even apart from financial consequences—many people view deliberate non-payment as morally wrong.⁹

To estimate the impact these scenarios might have on hospitals, we need the distribution of actual bills sent to patients (allowed charge amounts minus any insurance coverage) below the various thresholds. We do not have access to that data for Maryland hospitals, so instead we estimate this distribution from the Medical Expenditure Panel Survey (MEPS).

We take the following approach (details are in Appendix B). For each potential threshold, we perform the following calculations: We calculate the sum of all out-of-pocket payments to hospitals in which the patient made a payment that was less than the given threshold. We then divide that sum by all hospital facility expenses that year. This calculation then provides an estimate of the fraction of hospital revenue resulting from patients that are based on bills below the threshold. We multiply that ratio by Maryland’s total hospital revenue from patients and payers. That calculation provides a dollar estimate of Maryland hospitals’ revenue that is driven by bills to patients below the given threshold. We then adjust that estimate by the patients’ bill-paying behavior in the scenarios described above: multiplying by 0.05 or 0.50

For a threshold of \$100, the most-extreme scenario—50-percent non-payment—suggests that total Maryland hospital revenue would be lower by about \$2.1 million per year, or about \$41,000 per hospital. If, by contrast, the \$100 threshold led to only 5-percent non-payment, we estimate total Maryland hospital revenue would be lowered by \$215,000, or about \$4,000 per hospital per year.

At higher thresholds, the cost of the policy would be larger. If 50 percent of bills under \$5,000 were not paid, we estimate that this would lead to a loss across all hospitals of about \$160 million in total, or about \$3 million per hospital. At that same, if only 5-percent of bills were not paid, the loss to all hospitals would total about \$16 million, or \$306,000 per hospital per year.

⁸ Andrews (2016) and Healthcare Financial Management Association (2019).

⁹ For instance, Guiso, Sapienza, and Zingales (2013) find that a majority of individuals say it is morally wrong to engage in strategic default of a mortgage, and Bursztyn et al. (2019) find that moral appeals increase credit card debt repayment.

Table 4. Dynamic Analysis: Total Revenue Loss Compared to Full Payment of All Bills

Medical-Debt Lawsuit Threshold Amount	50% Non-Payment Scenario		5% Non-Payment Scenario	
	Across All MD Hospitals	Average Per Hospital	Across All MD Hospitals	Average Per Hospital
\$100	\$2,145,000	\$41,000	\$215,000	\$4,000
\$250	\$7,527,000	\$145,000	\$753,000	\$14,000
\$500	\$21,496,000	\$413,000	\$2,150,000	\$41,000
\$1,000	\$39,407,000	\$758,000	\$3,941,000	\$76,000
\$2,000	\$84,596,000	\$1,627,000	\$8,460,000	\$163,000
\$3,000	\$113,790,000	\$2,188,000	\$11,379,000	\$219,000
\$4,000	\$141,680,000	\$2,725,000	\$14,168,000	\$272,000
\$5,000	\$159,378,000	\$3,065,000	\$15,938,000	\$306,000

Note: Authors' calculations from 2018 MEPS and 2019 Hospital Financial Condition Reports. Assumes 2019 Maryland hospital gross patient revenues are \$19,456,522,918 and a total of 52 hospitals. Values rounded to the nearest \$1,000.

Which of these scenarios—50 percent or 5 percent non-payment—is most realistic? These analyses are counterfactual analyses, meaning we have not observed the results and need to forecast them. The forecasts are, necessarily, uncertain.

At lower thresholds, we believe that a 5-percent non-payment model is realistic. Patients face consequences of non-payment: reduced access to healthcare, hassles from collection activities, and ethical barriers to non-payment. Hospitals can require pre-payment or point-of-service collections for non-emergency care. All of this suggests that, under a low threshold, most patients will continue to pay small bills, and that the 5-percent non-payment scenario is most relevant.

At higher thresholds, it is unclear which scenario is most realistic. Some bill payment is still likely, because hospitals could still require prepayment for non-emergency care. On the other hand, the value in accessing future healthcare at this hospital, avoiding collection activities, and ethical qualms may not be sufficient to lead most people to pay bills of \$5,000, particularly low-income patients.

A final caveat is that we do not know what fraction of bills below each threshold are currently being paid.¹⁰ Our results compare the revenue loss of each model to full payment of all bills below the threshold. The existing unpaid bills below each threshold will reduce the revenue loss to hospitals compared to the estimates in Table 4.

4. Dynamic Analysis: Discussion of other Margins of Change

A threshold on medical-debt lawsuits may lead to other behavioral responses, in addition to patients no longer paying their hospital bills. The policy might change patients' overall consumption of healthcare. It might increase the consumption of healthcare, as patients reduce their fear of the consequences of medical bills. The policy, however, might also *decrease* the consumption of

¹⁰ HSRC builds in an amount for uncompensated care into the hospital rates, totaling about 4%. However, we do not know how much of that uncompensated care results from bills under each threshold.

healthcare if hospitals were to require more point-of-service collections before providing non-emergency healthcare. That prepayment could even deter people from seeking care who would eventually pay their bills but may not be able to pay up front.¹¹

Hospitals might also respond to the policy by changing how they deliver and finance care. Hospitals might have some discretion in how they determine eligibility for financial assistance with the goal of reducing the amount of charity care they offer to make sure that bills exceed the threshold for collections. Hospitals could also change their collections practices: some hospitals may have bills over the threshold that they currently do not send for collection and may start to more aggressively collect on them. More speculatively, hospitals might deliver more services, so as to exceed the threshold and enable collections, or fewer services, rationing care due to lower financial resources.

The Health Services Cost Review Commission currently builds uncompensated care into statewide rates. The HSCRC builds uncompensated care into the hospital rates (about 4 percent). Total 2018 uncompensated-care write-offs were approximately \$658 million. Hospitals that experience a greater-than-average amount of uncompensated care can draw from an uncompensated-care pool.¹² The HSCRC might need to increase rates if the policy led to an increase in uncompensated care. Our static analysis, above, suggests that the policy would not lead to a large percentage change in uncompensated care, particularly at low thresholds. The dynamic analysis also suggests that Maryland would see only a small percentage change in uncompensated care at low thresholds, but allows for much more uncertainty at high thresholds.

Conclusions

A threshold on medical-debt lawsuits would reduce the burden that patients face from lawsuits with small dollar amounts, with potentially very large benefits from reduced emotional and financial stress. Such a policy would also reduce the burden on the court system that must adjudicate these cases.

The costs of a lawsuit threshold policy would come primarily in the form of reduced revenue to hospitals. Our analysis indicates that that loss in revenue is relatively small compared to hospital budgets. For a lawsuit threshold of \$1,000, the average hospital would lose about \$7,000 in net revenue per year from its existing lawsuits, but about 7,000 patients would no longer be sued.

More speculatively, the policy might affect whether patients repay their bills, but exactly how much so is uncertain. We examine a range of scenarios and find that the costs to the hospitals are modest for low threshold amounts, but more uncertain for higher threshold amounts.

¹¹ Ericson and Sydnor (2019) discuss how lack of liquidity affects the purchase of insurance and consumption of medical care, and Gross, Layton, and Prinz (2020) show that consumption of medical care is responsive to when low-income enrollees receive Social Security checks.

¹² For details, see the HSCRC's Uncompensated Care Report (HSCRC 2019).

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Appendix A: Estimated Market Value of Medical Debt

The resale value of medical debt can depend on a variety of factors, including how long the debt has been overdue. There is no single price for medical debt. However, our choice of a market value of 10 percent of complaint amounts for medical debt is informed by estimates for the value of debt from the following sources.

Table A1. Estimates of the Market Value of Medical Debt

Study	Estimate
Avery (2003), Table 11	About 11 percent of reported medical collection items have been paid off
FTC (2009), Page 4	Debt buyers (all types of debt) generally pay 5 percent or less of the amount owed on delinquent accounts they purchase.
CFPB (2014a), Figure 10	7.4 percent of medical collections are paid in full or settled for less than the full balance within an 18-month time horizon
Rolling Jubilee (2014)	Lists four medical debt purchases. Our analysis indicates they bought \$14,740,947 in debt for \$307,848. Suggests the resale value for this type of debt is approximately 2.1 percent.

An alternative approach would be to estimate the probability of successful judgements, the probability of collection conditional on a successful judgment, and the associated administrative and court costs. We lack the data to perform this detailed exercise, but do note that these costs can be substantial relative to the amounts sought.

Appendix B

We use the 2018 Medical Expenditure Panel Survey accessed via IPUMS (see Lynn et al. 2019) to estimate the total amount of facility expenses for hospitalization below each threshold paid by individuals. We also estimate the total amount of hospital facility expenses paid by all payers, which is an estimate of hospital revenue in this data. The data are aggregated to the person-year level, and so describes total hospital expenditures over the year.¹³ We weight our observations by the sampling weights in the data.

Specifically, for each threshold k , we estimate θ_k , which is the fraction of total hospital revenue in the MEPS that results from bills in amounts below the threshold k to individuals. We then take these estimated θ_k and multiply them by our estimate of total Maryland hospital revenue, taken from the HSCRC's (2020) hospital financial condition report.

Appendix Table B1 displays our estimated values of θ_k for each threshold. The first row, θ_{100} , indicates that that about 0.0221 percent of total hospital revenue comes from hospital bills to individuals in amounts under \$100. Multiplying this percent by our estimated total Maryland gross patient hospital revenue of about \$19 billion, times 50% of bills not paid, results in the number in the upper left cell of Table 4: a loss of about \$2.1 million to hospitals if half these bills were not paid.

Table B1. Estimates of total hospital revenue resulting from bills below each threshold

Medical-Debt Lawsuit Threshold	θ_k
\$100	2.21E-04
\$250	7.74E-04
\$500	2.21E-03
\$1000	4.05E-03
\$2000	8.70E-03
\$3000	1.17E-02
\$4000	1.46E-02
\$5000	1.64E-02

Notes: Authors' calculations from the 2018 MEPS accessed via IPUMS. Uses variables HPFEXSELF (Annual total of direct health care payments from self/family for facility expenses for hospitalizations) and HPFEXT (Annual total expenses for facility charges for hospitalizations)

¹³ We aggregate to the person-year level, because hospitals may combine multiple medical bills owed to them from the same patient. Doing so, however, does introduce some noise: the timeframe over which hospitals aggregate bills is not exactly the calendar year, and a patient who was hospitalized in more than one hospital system will have their bills combined in our analysis.