Is Vermont Unique? Exploring Hospital Community Benefit & Unreimbursed Medicaid Costs

Vermont Office of the Health Care Advocate

June 2025

VERMONT LEGAL AID
WORKING TOGETHER FOR JUSTICE

The Office of the Health Care Advocate advocates for all Vermonters through individual consumer assistance and systemic advocacy on health care issues. We work to increase access to high-quality, affordable health care for all Vermonters.

Introduction

In this paper, the Office of the Health Care Advocate (HCA) examines the community benefits Vermont hospitals provide compared to regional or national peer hospitals. Specifically, we focus on one type of community benefit, unreimbursed Medicaid costs, relative to other components of community benefit. Non-profit hospitals report both unreimbursed Medicaid costs and the other components of community benefit on the IRS Form 990 (IRS 990). In Vermont, hospitals tend to book a large amount of unreimbursed Medicaid costs and argue that these costs justify both their non-profit status and their need to charge patients with private insurance higher rates. This latter claim is essentially the "cost shift" argument – that a hospital must charge commercial payers more because of inadequate Medicaid reimbursement.

Our Vermont-specific empirical analysis adds to the large amount of research that disproves the "cost shift" both on theoretical and empirical grounds.[1] We show that Vermont hospitals book a large amount of unreimbursed Medicaid costs compared to peers. Additionally, we test certain relationships necessary for the "cost shift" theory to be true, a correlation between Medicaid reimbursement rate and unreimbursed Medicaid costs and a relationship between unreimbursed Medicaid costs and Medicaid payer mix.

In addition to examining the salience of the "cost shift" argument, our inquiry speaks to the larger normative question of what *should* constitute community benefit. Specifically, we examine whether the inclusion of unreimbursed Medicaid costs as a component of community benefit comports with what communities think are the benefits that a hospital should provide to justify its non-profit tax subsidy.

Lastly, we believe our inquiry of both the "cost shift" argument and what should constitute community benefit speaks to the experience of Vermonters as both things impact what Vermonters are charged and what is supported by their tax dollars. Examining these two things, then, is not solely an academic exercise but an opportunity for policymakers to incorporate Vermonters' beliefs as an important part of the public debate about and regulation of these issues. In this light, community benefit should be as fundamental an issue of hospital financial management as net patient revenue or operating margin, and it should be both better understood and closely watched by policymakers and regulators to ensure Vermonters are getting a fair return on their investment in hospitals.

---

[1] *E.g.*, Sherry Glead, *COVID-19 Overturned the Theory of Medical Cost Shifting by Hospitals*, JAMA Health Forum (2021), https://jamanetwork.com/journals/jama-health-forum/fullarticle/2781591; Colorado Dept. of Health Care Policy and Fin., *Colorado Hospital Cost Shift Analysis* (2020), https://hcpf.colorado.gov/sites/hcpf/files/Colorado%20Hospital%20Cost%20Shift%20Analysis%20Report-January%202020.pdf; Austin B. Frakt, *How Much Do Hospitals Cost Shift? A Review of the Evidence*, 89 Milbank Q. 90 (2011), https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3160596/; Office of the Health Care Advocate, *Fact or Fiction? Evaluating the Evidence on the Cost Shift* (2022), www.vtlegalaid.org/sites/vtlegalaid/files/publications/HCA-Policy-Paper-Cost-Shift-%28limited-accessibility%29.pdf.

Data Sources

The data we present is primarily from the IRS 990. The IRS 990 is filed by all non-profit hospitals and includes detailed information about the community benefits. We used the Research Triangle Institute's (RTI) Community Benefit Insight database (CBI) which contains data extracted from the IRS 990 of every hospital that submits that form to the Internal Revenue Service (IRS).[2] Additionally, we used two types of data not on the IRS 990 - a state's Medicaid physician reimbursement rate and a hospital's Medicaid payer mix.

The data on state Medicaid physician reimbursement rates is drawn from the Kaiser Family Foundation (KFF).[3] Hospital Medicaid payer-mix data are drawn from the publicly available Medicare Cost Reports (MCR). We used the MCR data processed and compiled by the National Academy for State Health Policy (NASHP) Hospital Cost tool. That data, as well as the KFF Medicaid physician reimbursement rates by state data, is publicly available.

Definitions

Non-profit, private hospitals report unreimbursed Medicaid costs on the IRS 990, Schedule H. Medicaid costs are an estimate of the cost of providing Medicaid services arrived at by multiplying a hospital's ratio of patient care costs to charges (cost-to-charge ratio) by the gross charges billed for Medicaid services provided.

We calculated the community benefit a hospital provides from hospital-reported data on the IRS 990. For our purposes and aligned with both the relevant research[4] and the IRS, the community benefit a hospital provides is the sum of the following net costs: financial assistance,[5] unreimbursed Medicaid costs (we calculated community benefit provided both including and excluding this data element),[6] other means-tested government programs,[7] other community benefits,[8] and community building activities.[9]

---

[2] The CBI data is propriety although it is based on the community benefit data hospitals submit to the federal government via IRS 990. More information about the CBI data is available at www.communitybenefitinsight.org. The HCA thanks RTI for their generous provision of the CBI data to us free-of-charge. The opinions expressed in this paper are solely those of the HCA and do necessarily reflect those of the RTI or the CBI team.
[3] Kaiser Family Foundation, Medicaid-to-Medicare Fee Index, https://www.kff.org/medicaid/state-indicator/medicaid-to-medicare-fee-index; Stephen Zuckerman, Lauri Skopec, and Joshua Aarons, *Medicaid Physician Fees Remained Substantially Below Fees Paid by Medicare in 2019*, 40 Health Affairs 343 (2021) (Study from which Kaiser Family Foundation Medicaid physician reimbursement rates by state are drawn).
[4] *E.g.*, Hossein Zare, Matthew D. Eisenberg, and Gerard Anderson, *Comparing the Value of Community Benefit and Tax-Exemption in Non-Profit Hospitals*, 57 Health Services Research 270 (2022).
[5] IRS Form 990, Return of Organization Exempt from Income Tax, Schedule H, Part I. Table 7, line a, column E (2024).
[6] IRS Form 990, Return of Organization Exempt from Income Tax, Schedule H, Part I, Table 7, line b, column E (2024).
[7] IRS Form 990, Return of Organization Exempt from Income Tax, Schedule H, Part I, Table 7, line c, column E (2024).
[8] IRS Form 990, Return of Organization Exempt from Income Tax, Schedule H, Part I, Table 7, line J, column E (2024).
[9] IRS Form 990, Return of Organization Exempt from Income Tax, Schedule H, Part II, line 10, column F (2024).

Peer Groups

We look at the community benefit provided by Vermont hospitals and the unreimbursed Medicaid costs of Vermont hospitals relative to peer hospitals. We divide Vermont hospitals into three "systems", the tertiary academic medical center - University of Vermont Medical Center (UVMMC), the Vermont Critical Access Hospital (CAH) system, and the Vermont Mid-Sized Hospital system.

UVMMC's peer group consists of 10 national academic medical centers that have similar revenue to UVMMC. The Vermont CAH system's peer group includes 28 non-Vermont CAHs located in the Northeast region that submit an IRS 990 for a single facility. The Vermont Mid-Sized Hospital system's peer group is composed of Northeast hospitals that are not in the UVMMC peer group or the Vermont CAH system's peer group region and that have similar revenue to Vermont mid-sized hospitals. The Vermont Mid-Sized Hospital system' s peer group consists of 99 non-Vermont hospitals. We detail the peer group construction methods that we used in the Appendix.

Results

We present data over the period from 2018 to 2021 by hospital system type. The most recent year of sufficiently complete and available IRS 990 data is 2021. We begin by presenting data on Vermont's only academic medical center, UVMMC, then Vermont's CAH system, and finally Vermont's Mid-Sized Hospital system.

In the graphs that we present below, we visualize the value of the Vermont hospital as a black line, while we show the peer group median as a dashed gray line. We show the peer group inter-quartile range (IQR) as a gray area. The IQR shows the spread of the data and represents the 25th to the 75th percentile of the peer group. One way to categorize an observation as an outlier, particularly if observations are not normally distributed, is if an observation is outside the IQR. We present visualizations for UVMMC and the same data but as tables for the two Vermont hospital systems.

Lastly, one Vermont mid-sized hospital, Brattleboro Memorial Hospital (BMH), in 2020 and 2021, reported community benefit results that deviated substantially from past reporting and from peer hospitals.[10] Due to this fact, which may or may not be a reporting error, BMH unduly influenced the Mid-Sized Hospital system's statistics. As such, in the tables and figures of the Vermont Mid-Sized Hospital system we present below, BMH is excluded.

[10] Brattleboro Memorial Hospital's net "Other Benefits" went from $1,445,050 in 2019 to $18,481,799 in 2020 to $20,323,229 in 2021. Expressed as a percentage, "Other Benefits" increased roughly 1,300% between 2019 and 2021. It is impossible to know with the data sources used in this study whether this increase reflects an actual change in community benefit or a reporting error.

Percentage of Community Benefit that is Unreimbursed Medicaid Costs

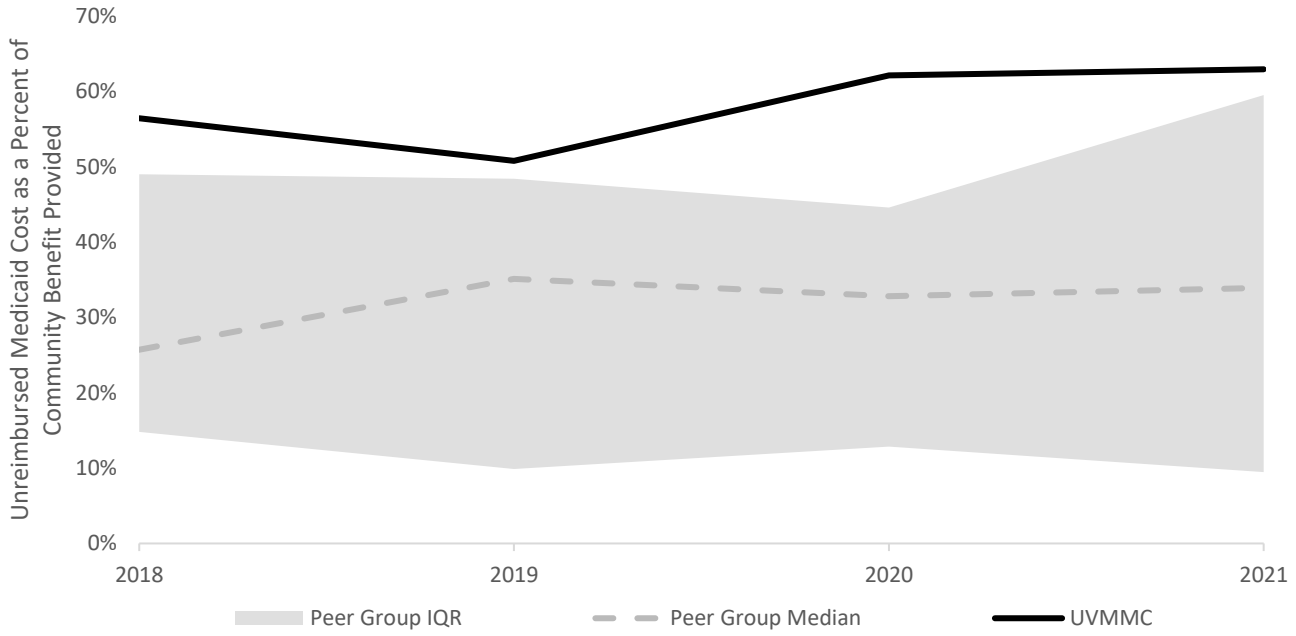
As we show in **Error! Reference source not found.**, unreimbursed Medicaid costs compose a substantial portion of the community benefit that Vermont hospitals provide. Indeed, unreimbursed Medicaid costs are the majority of community benefit that UVMMC and the two Vermont hospital systems provide.

Table 6. Unreimbursed Medicaid costs as a percentage of functional expenses of the VT CAH system and regional peers.Unreimbursed Medicaid costs as a Percentage of Community Benefit by VT hospital systems and peers.

Year	UVMMC (Peer Group Median)	VT CAH System Median (Peer Group Median)	VT Mid-Sized Hospital System Median (Peer Group Median)
2018	56% (26%)	79% (60%)	73% (55%)
2019	51% (35%)	85% (66%)	68% (55%)
2020	62% (33%)	87% (60%)	68% (56%)
2021	63% (34%)	84% (51%)	69% (55%)
2018-2021 Avg.	58% (32%)	84% (59%)	70% (55%)

UVMMC is an outlier regarding the amount of community benefit that is unreimbursed Medicaid costs compared its peer group for all four years as we show in **Figure 1**.

Figure 1. Unreimbursed Medicaid costs as a percentage of the community benefit provided by UVMMC and peer group.



As we show in **Table 2**, although the VT CAH system is within the IQR of peers in all four years examined, the system is consistently at the higher end of the IQR and above the peer group median unreimbursed Medicaid costs as a percentage of community benefit.

Table 2. Unreimbursed Medicaid costs as a percentage of the community benefit provided by the VT CAH system and regional peers.

Year	Peer Group IQR	Peer Group Median	VT CAH System Median
2018	28% - 86%	60%	79%
2019	39% - 89%	66%	85%
2020	35% - 92%	60%	87%
2021	35% - 87%	51%	84%

The Vermont Mid-Sized Hospital system also books a higher percentage of unreimbursed Medicaid costs as community benefit than its peers. As we show in **Table 3**, the VT Mid-Sized Hospital system displays a similar pattern to the VT CAH system. It is within the IQR of peer hospitals, but it is consistently above the peer group median and at the higher end of the peer group IQR.

Table 3. Unreimbursed Medicaid costs as a percentage of the community benefit provided by the VT Mid-Sized Hospital system and regional peers.

Year	Peer Group IQR	Peer Group Median	VT Mid-Sized Hospital System Median
2018	34% - 74%	55%	73%
2019	39% - 75%	55%	68%
2020	37% - 74%	56%	68%
2021	38% - 74%	54%	69%

There is, however, substantial intra-system variation among Vermont hospitals in the amount of unreimbursed Medicaid costs measured as a percentage of community benefit. This fact is evidenced by the range of values within Vermont CAH and Mid-Sized Hospital systems that we present in **Table 4.** Minimum and maximum unreimbursed Medicaid costs as percentage of community benefit for the VT CAH and VT Mid-Sized Hospital systems.

Table 4. Minimum and maximum unreimbursed Medicaid costs as percentage of community benefit for the VT CAH and VT Mid-Sized Hospital systems.

Year	VT CAH System Min.	VT CAH System Max	VT Mid-Size Hospital System Min.	VT Mid-Sized Hospital System Max
2018	47%	95%	55%	75%
2019	50%	95%	58%	89%
2020	27%	96%	53%	88%
2021	36%	92%	57%	92%

Unreimbursed Medicaid Costs as a Percentage of Functional Expenses

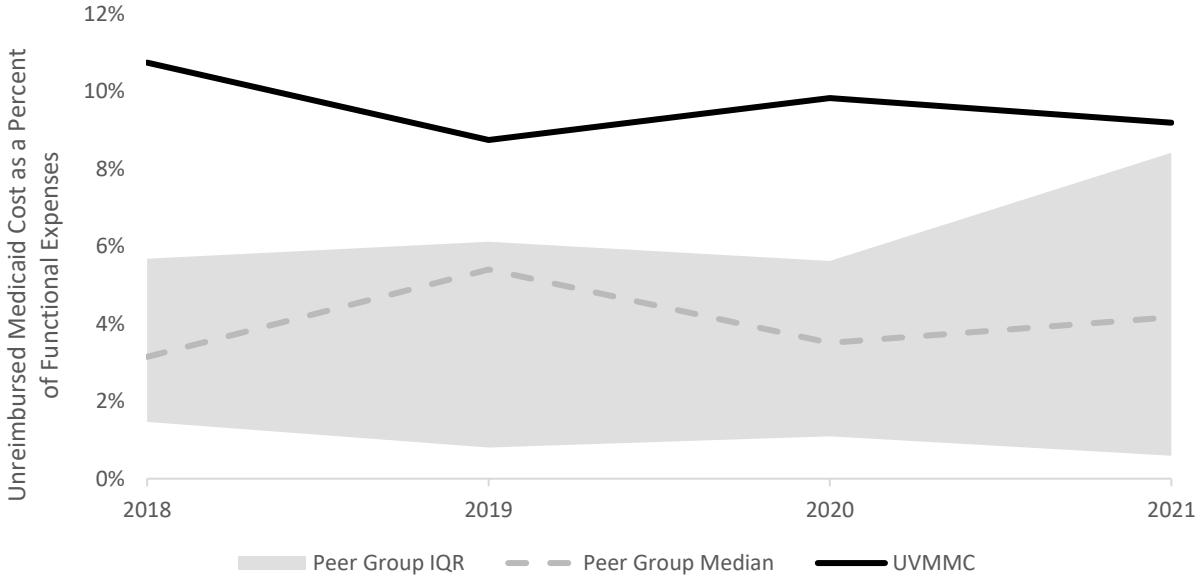
Another way to look at unreimbursed Medicaid costs is how much a hospital system books as a percentage of functional expenses. Unsurprising given the data presented earlier in this paper, for UVMMC and the two Vermont hospital systems a relatively large percentage of functional expenses is unreimbursed Medicaid costs compared to peers. In **Table 5,** we show the unreimbursed Medicaid costs of Vermont hospital systems and their peers as a percentage of functional expenses.

Table 5. Unreimbursed Medicaid costs as a percentage of functional expenses of Vermont hospital systems and their peer groups.

Year	UVMMC (Peer Group Median)	VT CAH System Median (Peer Group Median)	VT Mid-Sized Hospital System Median (Peer Group Median)
2018	10.7% (3.1%)	8.0% (4.1%)	3.7% (3.7%)
2019	8.7% (5.4%)	8.4% (4.1%)	4.6% (3.6%)
2020	9.8% (3.5%)	8.9% (4.5%)	4.7% (3.6%)
2021	9.2% (4.2%)	7.4% (5.9%)	4.9% (3.8%)
2018-21 Avg.	9.6% (4.1%)	8.2% (4.7%)	4.5% (3.7%)

As we show in **Figure 2**, UVMMC is an outlier in the amount of unreimbursed Medicaid costs as a percentage of functional expenses it books compared to its peers.

Figure 2. UVMMC unreimbursed Medicaid costs as a percentage of functional expenses.



The Vermont CAH system booked more unreimbursed Medicaid costs as a percentage of functional expenses than the peer group median in all four years examined. In two years, 2019 and 2020, the system was above the peer group IQR. In the other two years, 2018 and 2021, the Vermont CAH system booked an amount of unreimbursed Medicaid costs at the upper end of the IQR as we show in **Table 6**.

Table 6. Unreimbursed Medicaid costs as a percentage of functional expenses of the VT CAH system and regional peers.

Year	Peer Group IQR	Peer Group Median	VT CAH System Median
2018	2.2% - 8.3%	4.1%	8.0%
2019	3.1% - 7.0%	4.1%	8.4%
2020	2.8% - 8.5%	4.5%	8.9%
2021	2.5% - 8.0%	5.9%	7.4%

The Vermont Mid-Sized Hospital system booked more unreimbursed Medicaid costs as a percentage of functional expenses than its peer group's median in three of the four years examined as we show in **Table 7**. In all four years examined, the VT Mid-Sized Hospital system median was within the peer group IQR.

Table 7. Unreimbursed Medicaid costs as a percentage of functional expenses of the VT Mid-Sized Hospital system and regional peers.

Year	Peer Group IQR	Peer Group Median	VT Mid-Sized Hospital System Median
2018	1.7% - 5.8%	3.7%	3.7%
2019	1.8% - 6.3%	3.6%	4.6%
2020	1.8% - 7.4%	3.6%	4.7%
2021	1.8% - 7.0%	3.8%	4.9%

As with unreimbursed Medicaid costs as a percentage of community benefit, there is substantial variation in unreimbursed Medicaid costs as a percentage of functional expenses within the Vermont CAH and Mid-Sized Hospital systems. We document this intra-system variation in **Table 8**.

Table 8. Minimum and maximum unreimbursed Medicaid costs as percentage of functional expenses for the VT CAH and VT Mid-Sized Hospital systems.

Year	VT CAH System Min.	VT CAH System Max	VT Mid-Sized Hospital System Min.	VT Mid-Sized Hospital System Max
2018	4.3%	14.9%	3.3%	9.2%
2019	4.9%	16.8%	1.1%	6.7%
2020	2.9%	18.3%	1.5%	9.7%
2021	5.0%	12.2%	1.1%	8.3%

Unreimbursed Medicaid Costs, Medicaid Reimbursement Rate, and Payer Mix

Vermont hospitals frequently offer multiple reasons why they book large amounts unreimbursed Medicaid costs. One claimed reason is that Vermont Medicaid reimbursement rates are low. A second claimed reason is that they serve more patients with Medicaid than peer hospitals. We examine each of these possible reasons in turn.

With respect to the first claimed reason, we examined Medicaid physician reimbursement rates for all services by state. We found that the Vermont Medicaid physician reimbursement rate is higher than all of the states in which peer hospitals are located.[11] Also interesting is that we

[11] We use Medicaid physician reimbursement rates as a proxy of Medicaid inpatient and outpatient reimbursement rates. We are not aware of any publicly available data for Medicaid inpatient and outpatient reimbursement rates by state. Generally, Medicaid inpatient and outpatient reimbursement rates are higher than physician reimbursement rates. This relationship, however, is not necessarily true and there is no necessary correlation between inpatient and outpatient Medicaid reimbursement rates and physician Medicaid reimbursement rates.

find a negligible correlation between a state's Medicaid physician reimbursement rate and the amount of unreimbursed Medicaid costs that hospitals book.

In **Table 9**, we list the 2019 relative Medicaid physician reimbursement rate for Vermont and the states and federal districts in which UVMMC peer hospitals are located. Vermont has the highest relative Medicaid physician reimbursement rate of the states or districts examined. Vermont's Medicaid reimbursement rate is 6 percentage points higher than the area with the next highest rate, the District of Columbia, and 29 percentage points higher than the state with the lowest relative Medicaid physician reimbursement rate, New Hampshire.

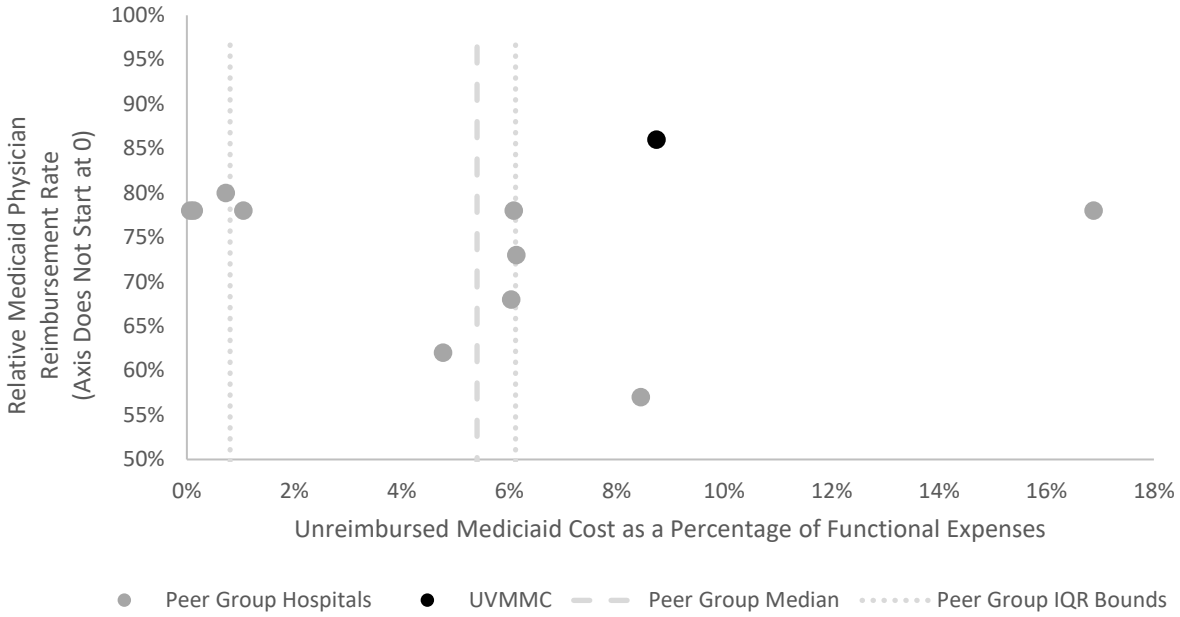
Table 9. 2019 Medicaid physician reimbursement rates relative to Medicare (all services) by state or federal district in which UVMMC and peer group hospitals are located. [12]

State	Relative Reimbursement Rate (All Services)
VT	0.86
DC	0.80
MA	0.78
NC	0.78
CA	0.73
PA	0.68
OH	0.62
NH	0.57

In **Figure 3**, we show a scatter plot of Medicaid physician reimbursement rate and unreimbursed Medicaid costs as a percentage of functional expenses by hospital in 2019. The y-axis is the relative Medicaid physician reimbursement rate. The x-axis is unreimbursed Medicaid costs as a percentage of functional expenses. The dashed line represents the peer-group median amount of unreimbursed Medicaid as a percentage of functional expenses (5.4%) and the dotted lines represent the bounds of the peer group IQR (0.8% - 6.1%). UVMMC is visualized as a black circle. UVMMC's peer hospitals are visualized as gray circles. Note that the y-axis does not start at 0 to maximize the observable variation and because none of the peer group states had a relative Medicaid physician reimbursement rate of less than 0.57 (NH).

[12] *Supra* note 2.

Figure 3. UVMMC and peer group relative Medicaid physician reimbursement rate and unreimbursed Medicaid costs as a percentage of functional expenses in 2019.



We observe a slightly negative/negligible relationship between the relative Medicaid physician reimbursement rate and the amount of unreimbursed Medicaid costs as a percentage of functional expenses (ρ=-0.112). This means that as the Medicaid physician reimbursement rates decrease, the amount of unreimbursed Medicaid costs as a percentage of functional expenses increases, and vice versa. If we remove the outlier on the far right of **Figure 3**. UVMMC and peer group relative Medicaid physician reimbursement rate and unreimbursed Medicaid costs as a percentage of functional expenses in 2019., the negative correlation is stronger, but it is still weak (ρ=-0.351). UVMMC is an exception to this relationship; it has a high relative Medicaid physician reimbursement rate and a large amount of unreimbursed Medicaid costs as a percentage of functional expenses.

The relative Medicaid physician reimbursement rate experienced by Vermont CAHs was also the highest of all states in which its peer group is located. It was 8 points higher than the state with the next highest rate, Massachusetts, and 29 points higher than the state with the lowest physician reimbursement rate, New Hampshire. There is a slightly positive/negligible correlation between 2019 unreimbursed Medicaid as a percentage of total expenses and the 2019 relative Medicaid physician reimbursement rate (ρ=0.26).

Like UVMMC and CAHs, Vermont's mid-sized hospitals have high Medicaid physician reimbursement rates compared to peers. There is a near zero correlation between mid-sized hospitals' relative Medicaid physician reimbursement rate and their unreimbursed Medicaid costs as a percentage of functional expenses (ρ=– 0.072). We excluded the one outlier

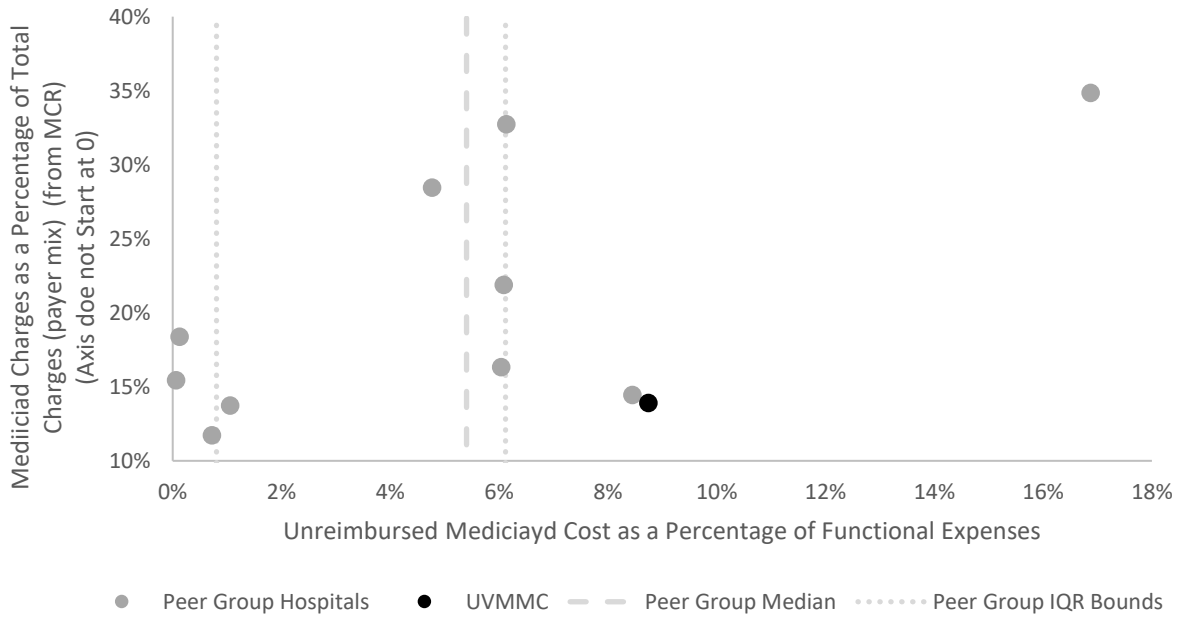
hospital that appeared to drive the observed negative correlation. Although the sign of the correlation flipped, the correlation remains near zero (ρ=0.018).

The second justification that is sometimes advanced by Vermont hospitals to explain the large amounts of unreimbursed Medicaid costs that they book is that Vermont hospitals have a higher proportion of patients with Medicaid than peers. The amount of revenue obtained from Medicaid does not appear to be correlated with the amount of unreimbursed Medicaid costs a hospital books.

In

Figure 4, we show UVMMC's and its peer group's Medicaid charges as a percentage of gross revenue (payer mix). Medicaid gross charges as a percentage of total gross charges (payer mix) is on the y-axis and unreimbursed Medicaid costs as a percentage of total expenses is the x-axis.

Figure 4. UVMMC and peer group Medicaid charges as a percentage of gross charges and unreimbursed Medicaid costs as a percentage of functional expenses in 2019.



We find a moderate correlation (ρ=0.57) between Medicaid charges as a percentage of gross charges (payer mix) and unreimbursed Medicaid costs as a percentage of total expenses for UVMMC and its peers. If we remove the outlier in the far right of the figure, the correlation is roughly halved (ρ=0.23), which is a weak correlation. It also bears noting that UVMMC has a relatively low amount of Medicaid charges as a percentage of gross charges but a relatively

high amount of unreimbursed Medicaid costs as a percentage of total expenses compared to peers.

Regarding CAHs, the correlation between the percentage of charges attributable to Medicaid and unreimbursed Medicaid costs as a percentage of functional expenses was minor (ρ=0.33).[13] Its peer group's median percentage of gross charges attributable to Medicaid was 16%. The median percentage of gross charges attributable to Medicaid for Vermont CAHs was 13%. Three Vermont CAHs stood out because they reported more unreimbursed Medicaid costs relative to peers yet had fewer gross charges attributable to Medicaid than peers. In other words, these three hospitals have a "better" payer mix than the peer group median yet book more unreimbursed Medicaid costs than their peers.

Like with CAHs, we found a weak correlation between Medicaid payer mix and unreimbursed Medicaid costs as a percentage of functional expenses amongst Vermont mid-sized hospitals and peers. Our finding holds true including and excluding the BMH outlier (outlier included ρ=0.376, outlier excluded ρ=0.171).

Discussion

The purpose of this investigation is simple – understanding the role unreimbursed Medicaid costs play in Vermont. Our inquiry aims to answer three questions about the role of unreimbursed Medicaid costs in Vermont. First, does the relatively large amount of unreimbursed Medicaid costs that Vermont hospitals book accord with our collective understanding of what community benefit is? Second, does examining the amount of unreimbursed Medicaid costs UVMMC and Vermont hospital systems book tell us anything about the salience of the argument that the large amount of unreimbursed Medicaid costs are due to inadequate public payer reimbursement, essentially the "cost shift" theory. Lastly, what are some of the policy implications of the results of this study. We will address each of these three questions in turn.

Whether or not unreimbursed Medicaid costs conform with our understanding of community benefit is a normative question. Salient arguments can be made for and against the inclusion of unreimbursed Medicaid costs in the community benefit a hospital provides. We think there is a value to both including and not including unreimbursed Medicaid costs as community benefit. Each reader and policy maker may have a different perspective on the issue and that possible difference of opinion cannot solely be resolved by data analysis. However, the data about the percentage of community benefit that is unreimbursed Medicaid costs in the Vermont hospital systems relative to peers should inform one's opinion. Specifically, we believe proponents of counting unreimbursed Medicaid costs as community benefit must confront the fact that Vermont hospitals book a large amount of unreimbursed Medicaid costs, and this large amount

[13] Springfield Hospital was excluded from the peer group as there was no data in the NASHP-compiled MCR dataset in 2019 for the entity.

does not appear to be explained by low Medicaid reimbursement rates or Medicaid payer mix. While opinions may validly differ, we believe most would agree that extremely high levels of unreimbursed Medicaid costs as a percentage of community benefit absent some compelling reason(s) are troubling.

58% percent of the community benefit that Vermont's academic medical center, UVMMC, provided was unreimbursed Medicaid costs.[14] Its peer group booked an average median value of 32% over the period examined.[15] 84% of the community benefit the Vermont CAH system booked was unreimbursed Medicaid costs compared to the 59% of its peer group.[16] For the Vermont Mid-Sized Hospital system, 70% of community benefit was unreimbursed Medicaid costs compared to 55% for its peer group.[17]

Vermont hospitals also booked an amount of unreimbursed Medicaid costs as a percentage of functional expenses well above the relevant peer group. UVMMC booked 9.6% while its peer group booked 4.1%.[18] The difference between the Vermont CAH system and its peer group was slightly less—8.2% and 4.7%, respectively.[19] And there was a relatively small difference between the VT Mid-Size Hospital system, 4.5%, and its peer group, 3.7%.[20]

The above observations naturally lead us to ask, "Why do Vermont hospitals book more unreimbursed Medicaid costs than peers?" Many Vermont hospitals argue that they book such large amounts of unreimbursed Medicaid costs because of Vermont's supposedly low Medicaid reimbursement rates and or because Vermont hospitals provide more services to patients with Medicaid – essentially the "cost shift" argument. We find no evidence that these justifications are true. At least one of these justifications must be true if the "cost shift" is indeed a factor in Vermont.

Vermont had the highest Medicaid physician reimbursement rate of any state in which peer hospitals were located. Further, we observed a weak to negligible correlation in the data examined between the Medicaid physician reimbursement rate and the amount of unreimbursed Medicaid costs hospitals book.

Vermont hospitals also assert that the high amount of unreimbursed Medicaid costs is because Vermont hospitals provide more services to patients with Medicaid than peers. The evidence does not support this justification. UVMMC and the two Vermont hospital systems derived less gross revenue from serving Medicaid patients than the relevant peer groups. And, as with the

[14] This is the average value of the percent of community benefit that is unreimbursed Medicaid costs over the period examined.
[15] These values are the average of the median values over the period examined.
[16] *Id*.
[17] *Id*.
[18] For UVMMC's peer group, the value is the average of the median values over the period examined.
[19] *Supra* note 14.
[20] *Id*.

Medicaid reimbursement rate, we found only a weak correlation between payer mix and the amount of unreimbursed Medicaid costs that hospitals book.

If either of the justifications offered for why Vermont hospitals book large amounts of unreimbursed Medicaid costs were true, we would expect unreimbursed Medicaid costs to be negatively correlated with Medicaid physician reimbursement rates and or positively correlated with the amount of gross revenue derived from serving Medicaid patients. We did not find either of these correlations to exist at a significant level.

Our findings leave open multiple explanations of "why" Vermont hospitals report more unreimbursed Medicaid than peer hospitals—whether it be organizational efficiencies that peer hospitals have, accounting vagaries, etc. Our findings do, however, narrow the set of possible explanations. The large amount of unreimbursed Medicaid costs that Vermont hospitals book is not due to lower Medicaid physician reimbursement rates or "worse" payer mix relative to peers. Since neither of these explanations remains, it seems highly unlikely that "cost shifting" is occurring in Vermont.

What our findings should mean for policy makers, is clear: interventions aimed at addressing the "cost shift" will not be impactful since there is weak evidence it exists either nationally or in Vermont. This is not to say that, for instance, raising reimbursement rates will not make a hospital's bottom line stronger or commercial rates lower. It may or may not. Increased funds might be used, for instance, to provide better and cheaper patient care or the money might increase upper-level management salaries. Our analysis does not suggest that one outcome is more likely than the other. We simply do not know why Vermont hospitals book so many unreimbursed Medicaid costs. In fact, we do not even know if the unreimbursed Medicaid costs are "paper" costs or real costs.

This study also suggests to policy makers a rather basic question—why do Vermont hospitals book such a large amount of unreimbursed Medicaid? Once that "why" is determined, policy makers will be able to track monies that are infused into the hospital system for reform to make sure they are not simply absorbed by the budget line item of unreimbursed Medicaid costs.

Limitations

Our analysis is descriptive and cannot speak to the causal mechanisms that impact the amount of unreimbursed Medicaid costs a hospital books. It seems unlikely that a causal relationship exists between Medicaid physician reimbursement rates and payer mix and unreimbursed Medicaid costs when there is little, if any, two-way correlation between these variables. However, it would be ideal to examine the relationship between these variables in a statistical model so that we could examine all the variables together, introduce possibly confounding variables, and account for variable interactions. However, severe issues exist when attempting to statistically model at sub-national and rural geographic scales as there are frequently too few observations to fit a stable statistical model.

Another limitation is that substantial variation by hospital exists within the Mid-Sized Hospital and CAH systems. Overall, we conclude that the Vermont hospital system tends to book more unreimbursed Medicaid costs than peer hospitals. We note,however, that this conclusion is not necessarily applicable to the individual hospitals which compose the hospital system.

Third, the IRS 990 data presents certain challenges. On one hand, it provides the best data on community benefit and substantial academic literature exists on its proper use. On the other hand, the IRS 990 has limited data elements to normalize community benefit components by other than functional expenses, gross revenue, and total community benefit. For instance, it contains no data on case mix or the intensity of services a hospital provides. Such measures can be drawn from the MCR although combining the IRS 990 data with data from other sources presents difficulties, for instance, related to differences in definitions and reporting timing.

Lastly, some caution should be exercised when interpreting the meaning of any analyses that use relative Medicaid physician reimbursement rates as a proxy for Medicaid inpatient and outpatient rates. It stands to reason that relative Medicaid physician reimbursement rates correlate with Medicaid inpatient and outpatient rates although this is not a necessary correlation. However, we are unaware of any public data that is available about Medicaid reimbursement rates by state other than the physician reimbursement rate data we use.[21] Further, the physician reimbursement rate data we use is the most current available for the period examined, 2018-2021.[22]

Conclusion

We found that Vermont hospital systems book more unreimbursed Medicaid costs than peers. Despite often heard arguments, this practice is not due to Vermont hospital systems being reimbursed less for Medicaid patients than peers or serving more Medicaid patients than peers. This conclusion naturally leads to the question “why” Vermont hospital systems book more unreimbursed Medicaid costs than peers. Unfortunately, that is not a question our descriptive analysis can answer although it is a question we believe must be answered.

We also hope this empirical look will deepen the discussion about the existence of the “cost shift” in Vermont in addition to shifting the burden to present evidence of the “cost shift” onto proponents of the theory. A shift to arguments based on empirics would ultimately benefit all parties and mark a needed movement towards a more data-driven policy. Such an approach would benefit both regulated entities and, most importantly, Vermonters. It would also open the door to alternate explanations of the cause of hospital financial issues other than public payer

[21] This statement is true if one limits their search to data that covers the time periods examined, 2018-2021.
[22] While this paper was in final edits, 2024 Medicaid physician reimbursement rates by state were released. However, no complete 2024 IRS 990 was available at the time we prepared this paper.

reimbursement rates and allow regulators to align policy interventions with the true causes of the challenges our hospital system faces.

Appendix

We use three separate peer groups in this study. One peer group is for Vermont's sole academic medical center, UVMMC. The second peer group is for Vermont's 8 CAHs—Grace Cottage Hospital (GCH), Gifford Medical Center (GMC), Mount Ascutney Hospital and Health Center (MAHHC), Northeastern Vermont Regional Hospital (NVRH), North Country Hospital (NCH), Copley Hospital (CH), Porter Hospital (PH), and Springfield Hospital (SH). The third peer group is for Vermont's mid-sized hospitals: Central Vermont Medical Center (CVMC), Rutland Regional Medical Center (RRMC), Brattleboro Memorial Hospital (BMH), Southwestern Vermont Medical Center (SVMC), and Northwestern Medical Center (NMC). We detail the construction method of each for each of these three peer groups below.

UVMMC Peer Group

To measure UVMMMC against roughly similar academic medical centers we created and applied decision and exclusion rules. First, as no standard definition of an academic medical center exists, we used a list of national academic medical centers listed on a publicly accessible online source.[23] We joined this list of academic medical centers to the IRS 990 data to be able to apply the various exclusion criteria to arrive at the peer group for UVMMC from the set of national non-profit academic medical centers (only non-profit academic medical centers submit a 990 Schedule H and are thus in the IRS 990 data). Of the total number of academic medical centers listed on the online site (67), 48 were in the IRS 990 dataset. We found the subset of these 48 hospitals that had expenses, gross revenue, free care amount at cost, and unreimbursed Medicaid costs, recorded in all 4 years of the IRS 990 data (2018 through 2021). This resulted in a set of 47 hospitals. We next applied an exclusion criterion to these 47 hospitals to only look at hospitals that had roughly similar revenue to UVMMC, namely, had a maximum revenue in the 4 years examined less than or equal to $2,500,000,000 and more than or equal to $1,000,000,000. This resulted in a set of 10 hospitals (not including UVMMC). We considered these 10 hospitals as UVMMC's peer group. In **Table 10**, we present the individual hospitals that comprise UVMMC's peer group.

[23] This list was extracted on December 11, 2023.

Table 10. UVMMC and UVMMC's peer group

Name	State
Loma Linda University Med. Center	CA
Georgetown University Hosp.	DC
Beth Israel Deaconess Med. Center	MA
Boston Med. Center	MA
Tufts Med. Center	MA
Pitt County Mem. Hosp.	NC
North Carolina Baptist Hosp.	NC
Mary Hitchcock Mem. Hosp.	NH
University of Cincinnati Med. Center	OH
Thomas Jefferson University Hosp.	PA
University of Vermont Med. Center	VT

CAH System Peer Group

We applied four criteria to the IRS 990 data to generate the CAH peer group – a geographic region criterion, a hospital type criterion, a data completeness criterion, and a criterion that the IRS 990 covered only one entity (i.e. not multiple hospitals).

First, we selected hospitals that filed IRS 990 located in the Northeast Census region. The Northeast Census region consists of the following states: Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont, New Jersey, New York, and Pennsylvania. Our application of this criterion resulted in 480 hospitals. Second, we selected hospitals from the set of Northeast hospitals that were Critical Access Hospitals according to the Health Resources and Services Administration (HRSA). The application of this criterion resulted in 71 hospitals (including VT CAHs). Third, we selected from this set of 71 hospitals those hospitals that had revenue, expenses, free care at cost, unreimbursed Medicaid costs and total community benefit (CBI field) in all four years examined (2018 through 2021). Application of the data completeness criterion resulted in a set of 46 hospitals. The last criterion we applied was that the IRS 990 record, in any year considered, only covered one facility (i.e., not multiple hospitals). When we applied this criterion, we got a set of 43 hospitals. Most hospitals excluded were part of the Maine Health group which submitted a combined IRS 990 data for all hospitals in the network. Lastly, we added CH and SH into the set of 43 hospitals. Both these hospitals failed the data completeness criterion as they lacked data for 2021. However, we had access to 2021 data for these hospitals via hospital budget submissions and we manually extracted the needed data from the 2021 IRS data submitted to the Green Mountain Care Board and added these two hospitals to the set of 43 hospitals resulting in a set of 45 hospitals.

From that set of 45, we applied two criteria using the MCR data and rule for when the same entity had multiple MCR records in given year to arrive at the final set of CAH peer hospitals.

These two criteria were a geographic and temporal completeness criterion. In the instance that a hospital submitted multiple MCR records in a given year, consistent with how NASHP resolved multiple submissions in the same year, we selected the MCR submission for a given year that covered the longest time (i.e., the most months in a year). The application of these two criteria and the multiple record resolution rule resulted in a set of 35 hospitals. Lastly, we only selected records that were in the MCR set of 35 hospitals and the IRS 990 set of 43 hospitals. This resulted in a set of 35 hospitals. This set with the slight exception that data for SH was added in for the various analyses that only looked at IRS 990 data (we had SH 2021 IRS 990 submission but not 2021 MCR data for the hospital) resulting in a set of 36 for all of the IRS 990 analyses but a set of 35 for analyses drawing from the IRS 990 and the MCR (29 non-Vermont CAHs). In **Table 11**, we present the set of hospitals that compose the CAH system's peer group and Vermont CAHs.

Table 11. VT CAHs and CAH system's peer group.

Name	State	Name	State
Athol Memorial Hosp.	MA	River Hosp.	NY
Bridgton Hosp.	ME	Schuyler Hosp.	NY
Calais Cmty. Hosp.	ME	Barnes-Kasson County Hosp.	PA
Houlton Reg. Hosp.	ME	Brookville Hosp.	PA
Millinocket Reg. Hosp.	ME	Bucktail Med. Center	PA
Mount Desert Island Hosp.	ME	Charles Cole Mem. Hosp.	PA
Rumford Hosp.	ME	Corry Mem. Hosp.	PA
Huggins Hosp.	NH	Jersey Shore Hosp.	PA
Littleton Reg. Healthcare	NH	Troy Community Hosp.	PA
New London Hosp.	NH	Tyrone Hosp.	PA
Valley Reg. Hosp.	NH	Copley Hosp.	VT
Weeks Med. Ctr.	NH	Gifford Med. Center	VT
Cuba Mem. Hosp.	NY	Grace Cottage Hosp.	VT
Delaware Valley Hosp.	NY	Mt. Ascutney Hosp. & Health Ctr.	VT
Elizabethtown Cmty. Hosp.	NY	North Country Hosp. & Health Ctr.	VT
Ellenville Reg. Hosp.	NY	Northeastern Vt. Reg. Hosp.	VT
Little Falls Hosp.	NY	Porter Hosp.	VT
O'Connor Hosp.	NY	Springfield Hosp.[24]	VT

[24] Springfield Hospital is included in analyses that rely on IRS 990 data. The hospital, however, is excluded from analyses that use MCR data as it had missing data in some years analyzed.

Mid-Sized Hospital System Peer Group

We applied four criteria to generate the mid-size hospital peer group: a geographic criterion, a hospital type criterion, a data completeness criterion, and a revenue criterion. First, we selected all hospitals in the Northeast Census region that submitted an IRS 990 resulting in a set of 480 hospitals. Second, from these 480 hospitals, we identified hospitals that were neither in the UVMMC peer group nor the CAH system peer groups. This resulted in a set of 438 hospitals. Third, from the set of 438 we selected only those hospitals which had IRS 990 with recorded expenses, revenues, financial assistance cost, and unreimbursed Medicaid costs in each of the four years examined resulting in a set of 337 hospitals. Lastly, from this set of 337 hospitals we selected hospitals that had revenues of more than $10,000,000 and less than or equal to $35,000,000. This selection resulted in a set of 104 hospitals (99 non-Vermont mid-sized hospitals). In **Table 12**, we present the set of hospitals that compose the mid-size hospital peer group and the Vermont mid-sized hospitals.

Table 12. VT Mid-Sized Hospitals and Mid-Sized Hospital system's peer group.

Name	State	Name	State
Day Kimball Hosp.	CT	Montefiore New Rochelle Hosp.	NY
Charlotte Hungerford Hosp.	CT	Mount St Mary's Hosp.	NY
Windham Community Mem. Hosp.	CT	Canton-Potsdam Hosp.	NY
Bristol Hosp.	CT	St Johns Riverside Hosp.	NY
The Griffin Hosp.	CT	Claxton Hepburn Med. Ctr.	NY
St Joseph Hosp.	ME	Oswego Hosp.	NY
Mercy Hosp.	ME	Benedictine Hosp.	NY
The Aroostook Med. Ctr	ME	UPMC Chautauqua At Wca	NY
York Hosp.	ME	St Elizabeth Med. Ctr.	NY
St Mary's Regional Med. Ctr	ME	Mercy Med. Ctr.	NY
Maine Coast Mem. Hosp.	ME	St Lukes Cornwall Hosp.	NY
Sturdy Mem. Hosp.	MA	Clifton Springs Hosp. & Clinic	NY
Lawrence Gen. Hosp.	MA	New York Presbyterian Hudson Valley	NY
Baystate Franklin Med. Ctr	MA	Putnam Hosp. Center	NY
Holyoke Med. Center	MA	Nathan Littauer Hosp. & Nursing H.	NY
Anna Jaques Hosp.	MA	Corning Hosp.	NY
Beth Israel Deaconess - Plymouth	MA	Cayuga Med. Ctr. at Ithaca	NY
Lawrence Mem. Hosp.	MA	Plainview Hosp.	NY
Beth Israel Deaconess Hosp.- Needham	MA	Episcopal Health Services	NY
New England Baptist Hosp.	MA	St Catherine Of Siena Med. Ctr.	NY
Milford Regional Med. Ctr.	MA	Blythedale Childrens Hosp.	NY
Henry Heywood Mem. Hosp.	MA	Holy Spirit Hosp.	PA
Bidmc-Milton Hosp. Inc	MA	Lansdale Hosp.	PA
Concord Hosp. - Laconia	NH	Evangelical Community Hosp.	PA
St Joseph Hosp.	NH	Lehigh Valley Hosp. - Schuylkill	PA
Cheshire Med. Ctr,	NH	Quakertown Community Hosp.	PA

Exeter Hosp. Inc,	NH	Uniontown Hosp.	PA
Mem. Hosp.	NH	The Washington Hosp.	PA
Monadnock Community Hosp.	NH	Geisinger Lewistown Hosp.	PA
Hunterdon Med. Ctr.	NJ	Grand View Hosp.	PA
Cape Regional Med. Ctr.	NJ	The Good Samaritan Hosp.	PA
Trinitas Hosp.	NJ	St Joseph Med. Ctr.	PA
Deborah Heart And Lung Ctr.	NJ	Meadville Med. Ctr.	PA
Shore Mem. Hosp.	NJ	Wayne Mem. Hosp.	PA
St Lukes Warren Hosp.	NJ	Waynesboro Hosp.	PA
Centrastate Med. Ctr.	NJ	Armstrong County Mem.	PA
Ny Community Hosp. Of Brooklyn	NY	Butler Mem. Hosp.	PA
St Mary's Healthcare	NY	Miners Mem. Med. Ctr.	PA
Northern Dutchess Hosp.	NY	Lehigh Valley Hosp.-Hazleton	PA
Geneva General Hosp.	NY	Pocono Med. Ctr.	PA
Niagara Falls Mem. Med. Ctr.	NY	Nazareth Hosp.-Philadelphia	PA
Fredrick Ferris Thompson Hosp.	NY	Riddle Hosp.	PA
Adirondack Med. Ctr.	NY	Ephrata Community Hosp.	PA
New York Eye and Ear Infirmary	NY	Wellspan Surgery and Rehab Hosp.	PA
Kenmore Mercy Hosp.	NY	St Lukes Hosp. - Monroe Campus	PA
Montefiore Nyack Hosp.	NY	Newport Hosp.	RI
Peconic Bay Med. Ctr.	NY	South County Hosp.	RI
Oneida Health	NY	Central Vermont Hosp.	VT
Long Island Community Hosp.	NY	Rutland Regional Med. Ctr.	VT
Samaritan Med. Ctr.	NY	Brattleboro Mem. Hosp.	VT
Guthrie Cortland Med. Ctr.	NY	Southwestern Vermont Med. Ctr.	VT
Glen Cove Hosp.	NY	Northwestern Med. Ctr.	VT

Office of the Health Care Advocate
Vermont Legal Aid, Inc.
264 North Winooski Avenue
Burlington, Vermont 05401
HCAPolicyTeam@vtlegalaid.org

https://vtlawhelp.org/health