

Vermont State Auditor  
Douglas R. Hoffer



*The Growing Cost of Healthcare in  
Vermont:*

**It's Time to Reel It In**

On January 12, 2021, the SAO reissued this report to correct errors in Figure 2 on page 2. The percentages for some comparative measures were revised, but the percentage for health care expenditures was correct and remains unchanged.

## **Mission Statement**

The mission of the Vermont State Auditor's Office is to hold government accountable. This means ensuring taxpayer funds are used effectively and efficiently, and that we foster the prevention of waste, fraud, and abuse.

## **Non-Audit Inquiry**

This is a non-audit report. A non-audit report is a tool used to inform citizens and management of issues that may need attention. It is not an audit and is not conducted under generally accepted government auditing standards. A non-audit report has a substantially smaller scope of work than an audit. Therefore, its conclusions are more limited, and it does not contain recommendations. Instead, the report includes information and possible risk-mitigation strategies relevant to the entity that is the object of the inquiry.

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**DOUGLAS R. HOFFER**  
**STATE AUDITOR**



**STATE OF VERMONT**  
**OFFICE OF THE STATE AUDITOR**

Dear Colleagues,

As our State and country grapple with a severe economic and public health crisis, access to high-quality and affordable health care continues to be critical to the well-being of Vermont's communities. Before the world knew the term "COVID-19," my office spotlighted issues surrounding the lack of health care price transparency in Vermont [in 2014](#) and again [in 2016](#). More recently, we audited [Vermont's All-Payer Accountable Care Organization Model](#), and we've conducted [performance audits](#) of other health care matters over the past eight years. This time around, we examined the heightened cost and financial burden of health care for Vermonters.

This report is a compilation of recent analyses and contextualizes the dramatic increase in Vermont's health care spending over the past two decades. The data in this report make clear that current health care cost and expenditure trends were economically unsustainable before this pandemic and are even more unsustainable today.

This problem appears to stem in part from convoluted systems and powerful institutions – not from the people who provide direct health care services. I, along with thousands of Vermonters, am extremely thankful for our front-line professionals who have gone to extraordinary lengths to provide care during this pandemic. When comparing median wages for common health care occupations (see Appendix B), Vermont wages are regularly lower than other New England states. Health care wages, therefore, do not explain why Vermont had the second highest per-capita health care expenditures in New England in 2018.

This report shows how the growth in Vermont's health care spending outpaced that of the US and New England. It demonstrates how health care spending and costs have increased in relation to other basic needs, common services, incomes, and taxes. While this report provides a high-level overview of health care affordability and increased spending, more data and analysis is needed to isolate the exact variables driving Vermont's growing cost of health care. The report provides an overview of known cost drivers related to hospitals – namely hospital market consolidation and increased health care prices – and there is much more work to do on this and related issues.

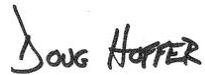
Just this month, yet another peer-reviewed report in a leading health care journal spotlighted issues for health care affordability and quality that relate to the consolidation of U.S. providers, like we've seen in Vermont. The researchers – many of whom are affiliated with Dartmouth College – found that while provider consolidation contributes to rising health care costs across the U.S., there is little evidence that it has yielded better quality of care. The authors wrote:

*The evidence is clear that consolidation often leads to decreased competition and higher prices, one of the major reasons that US health care costs exceed those elsewhere ... The evidence from earlier studies that financial integration between hospitals and physician groups improves process measures of quality is at best mixed, with only one study finding evidence of*

*improvement on several measures of process quality. We examined a broader range of measures and found no pattern to suggest that financial integration for physician practices was associated with better quality ... **Given the paucity of evidence of benefit, federal and state efforts to address provider consolidation and monopoly pricing deserve continued attention** (emphasis added).<sup>1</sup>*

The Green Mountain Care Board is charged in part with controlling the growing cost of health care in Vermont. But, in the Board's response to the draft report (Appendices C and D), there isn't a clear acknowledgment of the issues and risks that provider consolidation poses for health care affordability in this state. The upward pressure that provider consolidation puts on health care costs in Vermont is ripe for further review and consideration by the Board. Since the affordability of health care affects all Vermont lives and concerns billions of public dollars, my office plans to continue examining this and related issues.

Respectfully,

Handwritten signature of Doug Hopper in black ink.

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<sup>1</sup> Fisher, E. "[Financial Integration's Impact on Care Delivery and Payment Reforms: A Survey of Hospitals and Physician Practices](#)," *Health Affairs* 39, no. 8 (August 2020): 1302-1311.

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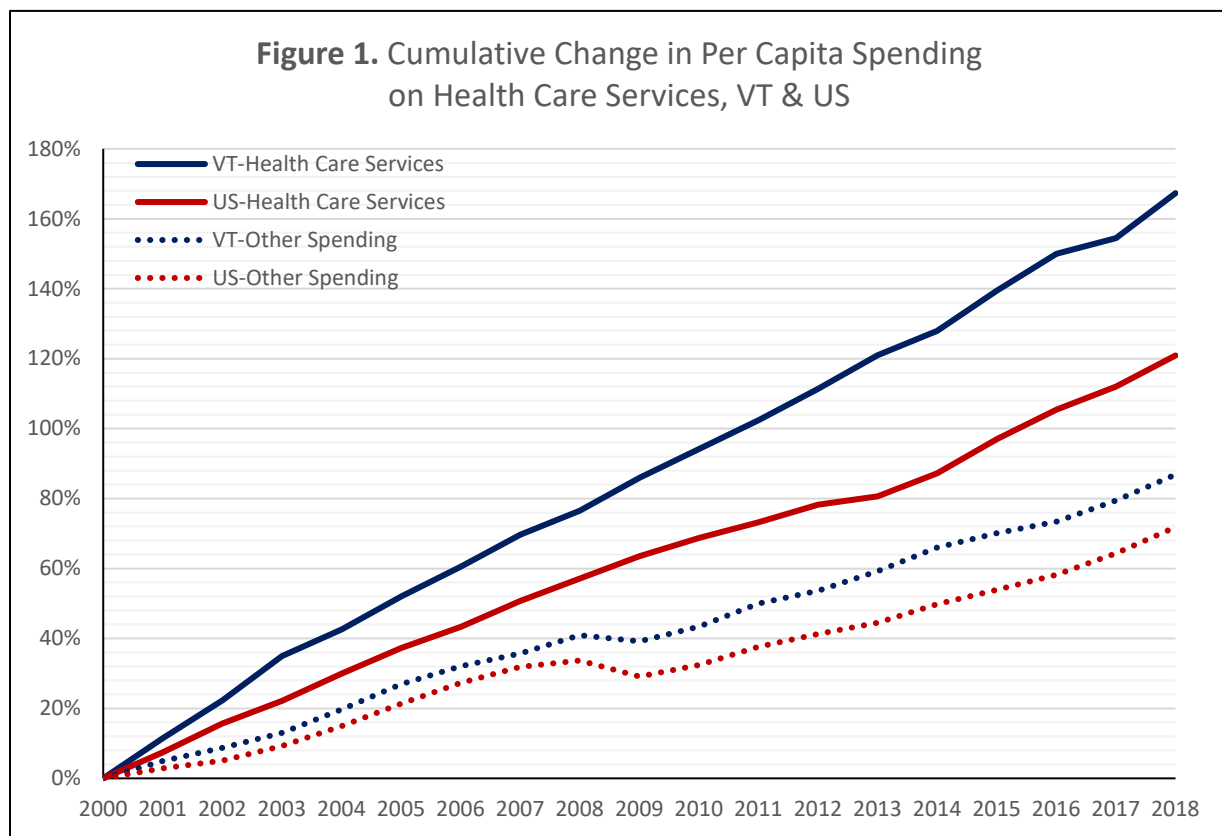
## Introduction

This report quantifies and contextualizes the increasing cost and financial burden of health care for Vermonters. In addition, we examine the consolidation of Vermont's providers. This report does not attribute Vermont's increased spending on health care to any one cause. The report is limited in scope and does not consider the quality of health care or other elements of the State's convoluted and opaque health care finance system. The report is meant to inform decisionmakers about past trends as they seek to provide Vermonters with more accessible and affordable health care.

## Vermont's Increased Health Care Spending

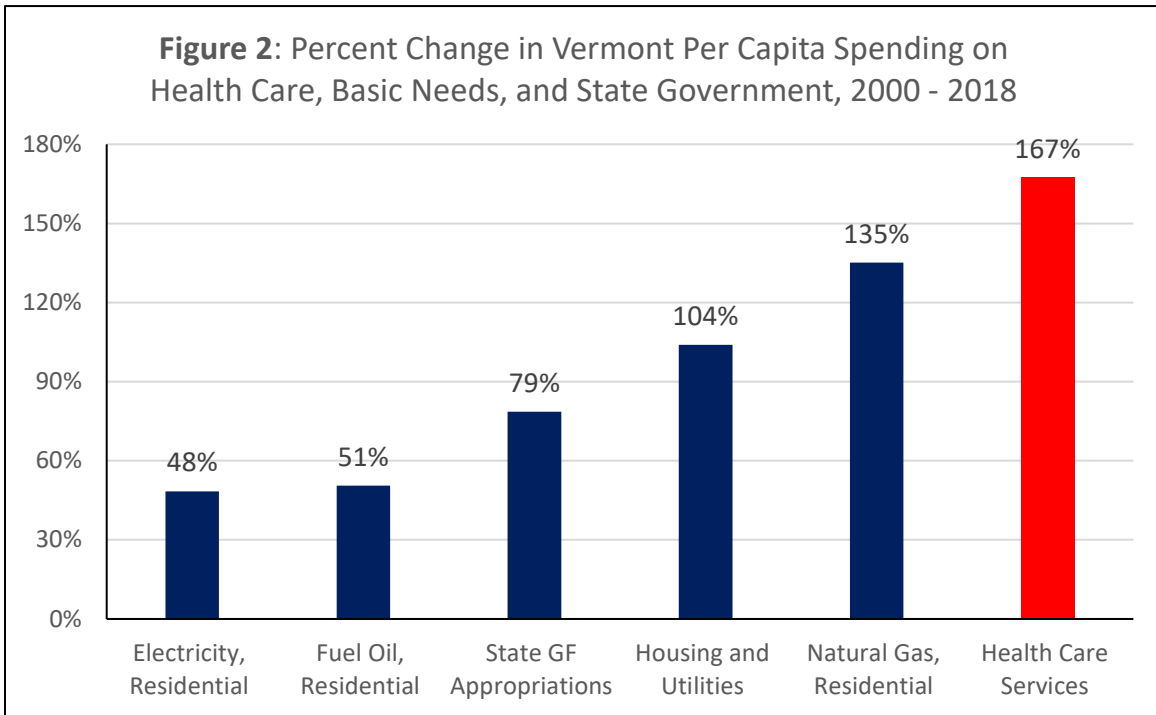
Spending on health care services in Vermont was 167% higher<sup>1</sup> in 2018 than in 2000.<sup>2</sup> That is more than twice the increase for all other goods and services over this period (Figure 1).<sup>3</sup>

**If health care spending had increased at the same rate as the U.S. average, we would have spent roughly \$1 billion less in 2018.<sup>4</sup> Those savings would have more than covered Vermonters' state personal income taxes in 2018,<sup>5</sup> and the savings would have equaled \$1,576 per person.<sup>6</sup>**



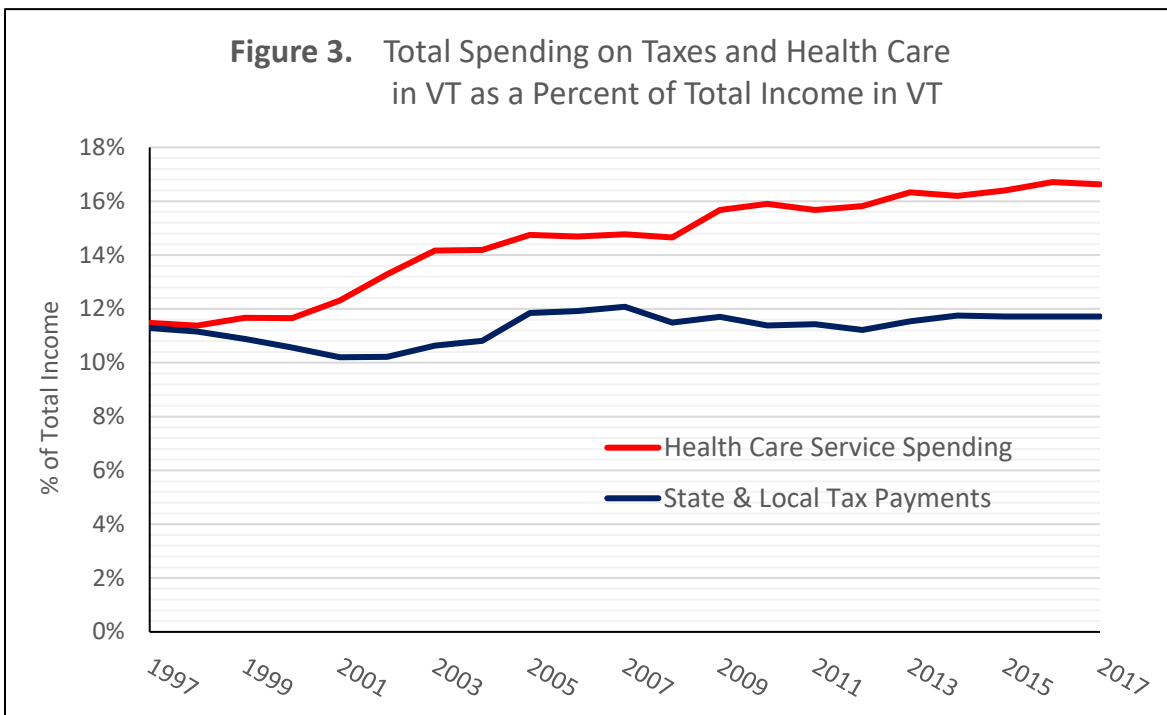
Source. Bureau of Economic Analysis (BEA). "Per capita personal consumption expenditures by state ([SAEXP2](#))."

From 2000 to 2018, Vermont's per-person spending on health care rose quicker than rents, utility bills, and State General Fund appropriations. Even when excluding expenditures for drugs, Vermonters spent 16.7 cents of every dollar on health care services in 2018, compared to 13.2 cents for U.S. residents at large.<sup>7</sup> If Vermonters had spent the same share of their income on health care services as the average U.S. resident, they would have had more to spend on housing, groceries, childcare, and other basic needs.



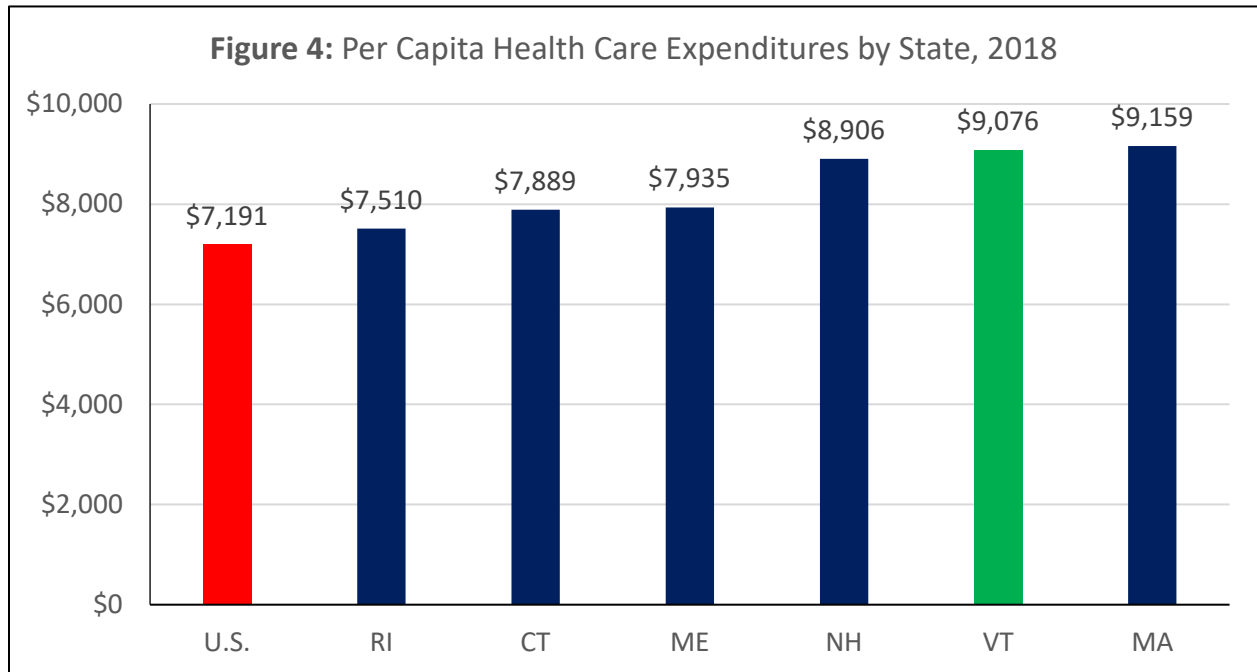
Sources: Endnote 8.

Spending on health care services consumed an increasing share of Vermonters' incomes from 2000 to 2017. In contrast, the share of personal income spent on all state and local taxes remained almost unchanged. It's notable that state and local tax revenues were used for public employees' health care and other health care initiatives, and that the increasing cost of health care in Vermont equates to less government dollars available for public services, infrastructure, and needs.<sup>9</sup>



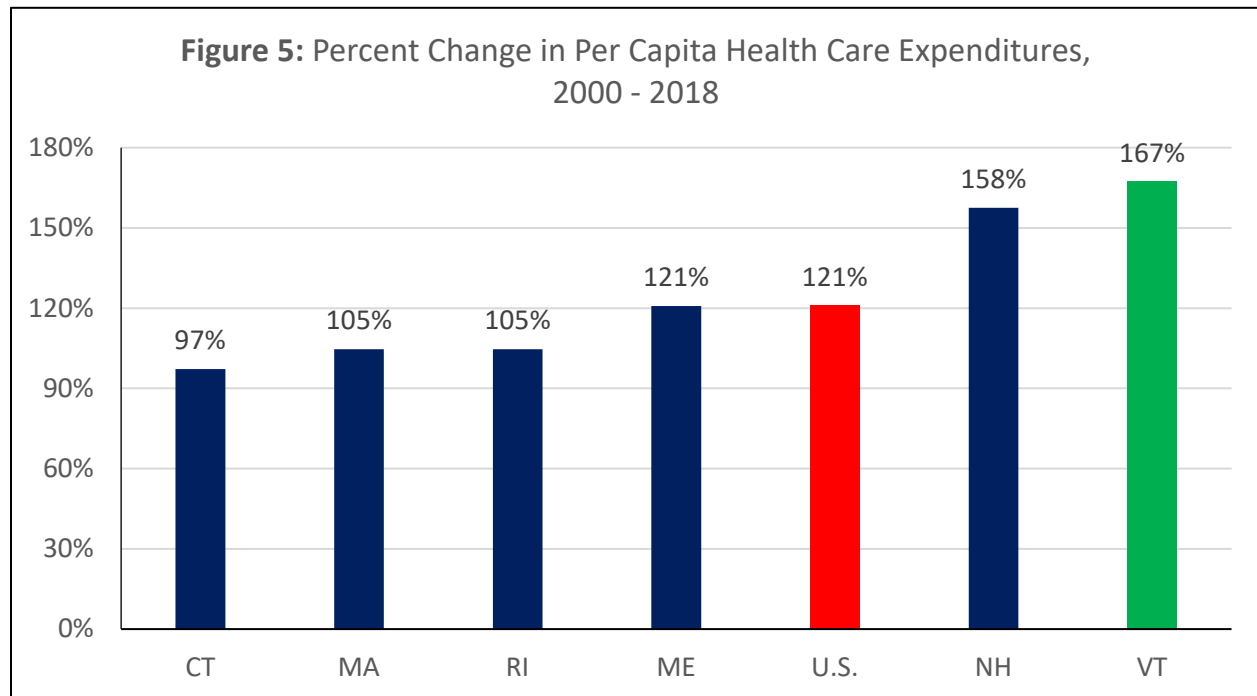
Sources: Endnote 10.

By 2018, per-person spending for health care services was greater in Vermont than the U.S. average and all but one of our neighboring states.



Source: BEA. [SAEXP2](#)

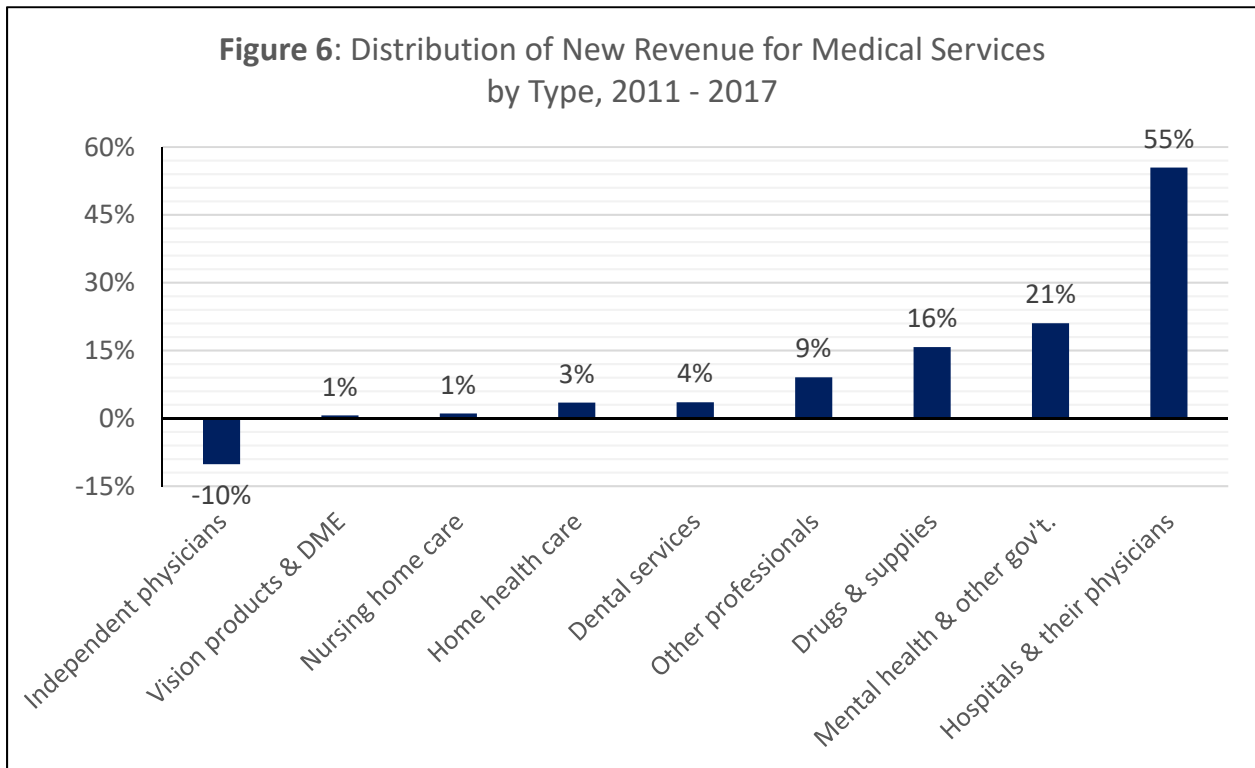
This comes after nearly two decades of growth above the U.S. average and that of all other New England states (see below).



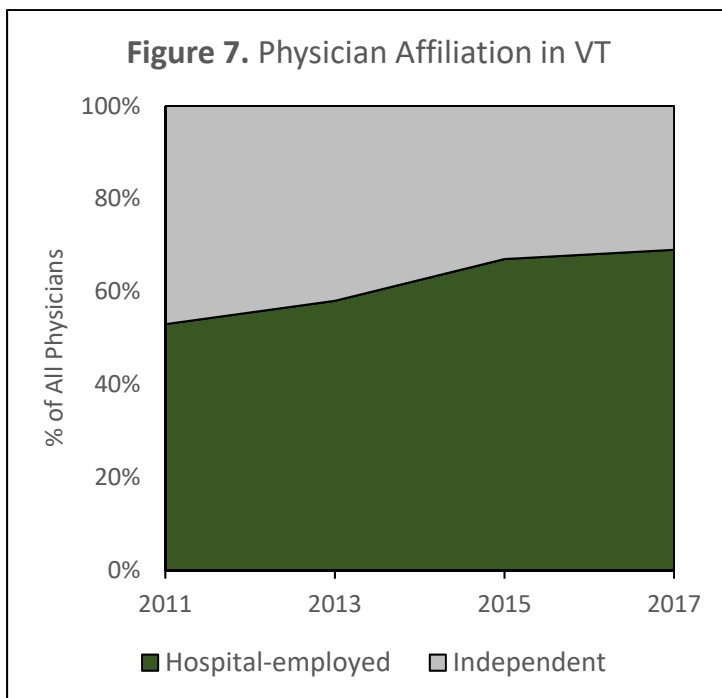
Source: BEA. [SAEXP2](#)



From 2011 to 2017, most new spending on medical services went to hospitals and their physician practices. Their annual earnings over this period grew by \$671 million.<sup>11 12</sup> For every new dollar spent on health care, \$0.55 went to hospitals and their physicians.<sup>13 14</sup>



Source: VHCEA reports [here](#).  
DME = Durable Medical Equipment



Source: Endnote 18.

The data suggests that Hospitals gained some of their new revenue by acquiring independent physician practices. The percent of physicians working for hospitals grew from 53% in 2011 to 69% in 2017.<sup>15</sup> This coincided with a significant decline in revenues for independent physicians, as shown in Figure 6.

The trend appears to be continuing. According to the Vermont Physician Survey, **82% of full-time physicians in 2018 were employed by hospitals.**<sup>16</sup> Health care services are now concentrated in the hands of fewer providers who hold greater sway over the amounts Vermonters pay for health care.<sup>17</sup>

## The Economics of Health Care Market Concentration

Like Vermont, other U.S. communities have seen their health care services concentrate in the hands of fewer providers. Ninety percent of all U.S. metropolitan statistical areas had highly concentrated hospital markets in 2016.<sup>19</sup> The trend stems in part from the acquisition of independent physicians by hospitals and health care networks.<sup>20 21</sup>

Provider concentration creates opportunities to generate benefits for a health system. Hospitals and large health networks can lower their costs by treating more patients (economies of scale) and offering more services (economies of scope).<sup>22</sup> Mergers and acquisitions are efficient means to these ends.<sup>23 24</sup> Evidence suggests that “acquired” hospitals have at least 4% lower costs per patient-adjusted discharge than otherwise similar hospitals after four years.<sup>25</sup>

But **dominant firms** — those that have significantly more market share than their next largest rival<sup>26</sup> — can **exploit their market power** to charge higher prices, earn more revenue, and capture economic surplus that would pass on to consumers in a more competitive marketplace.<sup>27</sup> Prices in one-hospital markets (monopolies) are 12% higher than similar hospitals in markets with four or more rival hospitals (competitive markets), according to 2007-2011 private insurance claims data spanning 88 million patients and over \$125 billion in annual health care expenditures.<sup>28</sup>

Hospitals acquire independent physicians, in part, because there are advantages to managing providers at all stages of care, also known as **vertical integration**. Hospitals and their advocates argue that vertical integration can lower costs and improve patient care.<sup>29</sup> However, health care researchers also point to higher prices and lackluster impact on patient outcomes. For example:

1. Physician prices across numerous states increased an average of 14% after their practices were acquired by hospitals.<sup>30</sup> Increases varied by specialty. For example, primary care physician prices rose 15% while cardiologist prices rose 34%. **What specifically is driving these price increases?**
  - a. **Facility fees from hospital-owned physician groups explain 45% of rising prices.**<sup>31</sup> Hospitals across the U.S. can charge facility fees for “services provided by any healthcare [*sic*] provider it employs and at any facility it owns, even if the patient never sets foot in the hospitals.”<sup>32</sup> Vermont’s commercial insurers pay facility fees directly to hospitals when reimbursing outpatient practices owned by hospitals.<sup>33 34</sup>
  - b. **Hospitals’ market power** explains some of the rise in physician prices in this study. Prices rose 35% more quickly in single-hospital markets than competitive markets.<sup>35</sup>
2. Commercially insured patients in markets with high vertical integration spent \$75 more per year on average for outpatient care, even after adjusting for patient, plan, and market characteristics.<sup>36</sup> **This increase came from higher prices rather than higher utilization.**
3. Increased vertical integration does not typically result in better care and is associated with patient dissatisfaction, according to Medicare Hospital Compare data from 4,438 hospitals between 2009 and 2015.<sup>37</sup>

A review of these trends concludes that “vertical integration poses a threat to the affordability of health services and merits special attention from policymakers and antitrust authorities.”<sup>38</sup>

## Regulating Hospitals in Vermont

The Vermont Legislature created the Green Mountain Care Board (GMCB) in [Act 48 of 2011](#) to: 1) improve the health of Vermonters, 2) **reduce per capita growth in health service expenditures**, 3) enhance patient and health care professional experiences, 4) recruit and retain high-quality professionals, and 5) achieve administrative simplification in health care financing and delivery.<sup>39</sup> The Board is responsible for the duties set forth in [18 V.S.A. § 9375](#), which include: hospital budget review, insurance rate review, other cost-containment measures, and health care reform activities more generally.

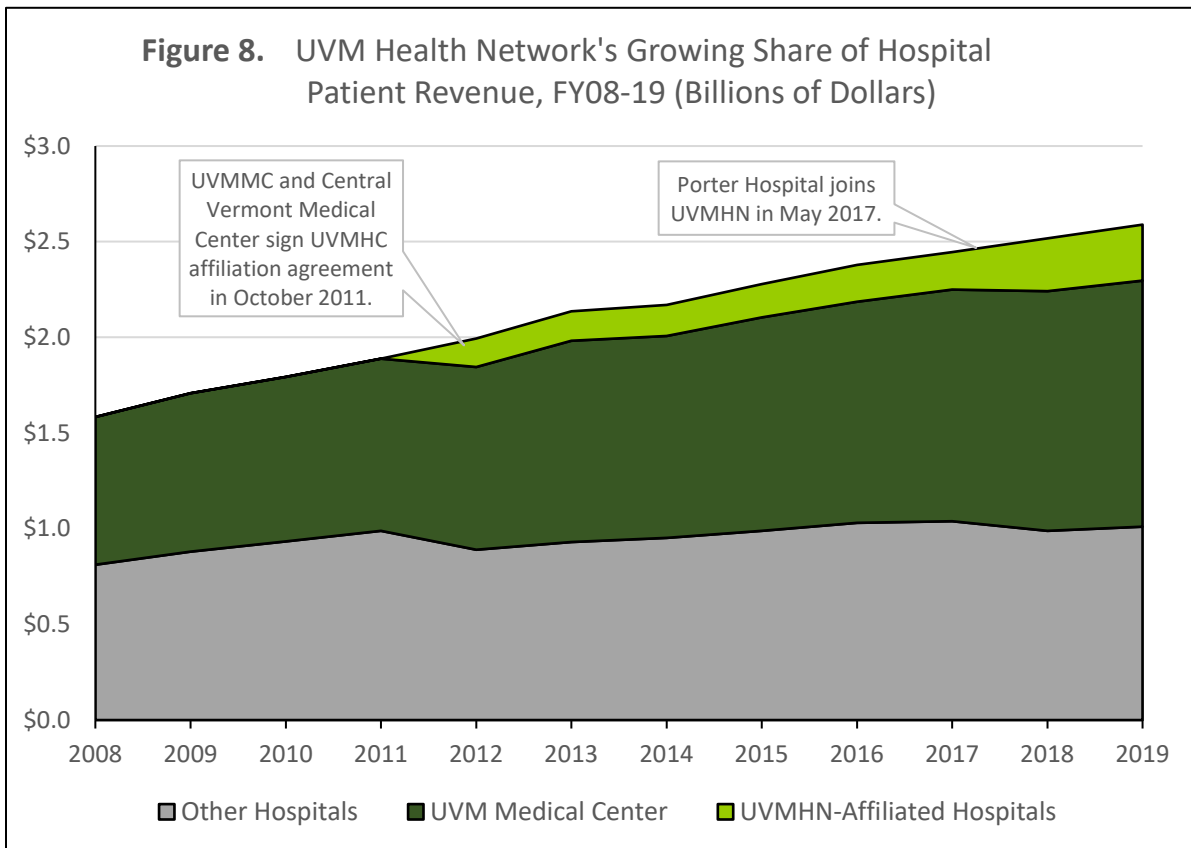
The Board's hospital budget review requires Vermont's 14 community hospitals to submit their budgets for the coming fiscal year to the GMCB with the following information:

1. Financial data, such as revenues, costs, assets, liabilities, and charges;
2. The scope and volume of services provided by the hospital;
3. Newly proposed services and programs;
4. Data on large capital assets, like buildings; and
5. Any other data the Board requests for that year.<sup>40</sup>

The GMCB adopted Rule 3.000 to guide hospital budget review.<sup>41 42</sup> Each year, the Board publishes guidance for hospitals to prepare their budgets and report their performance.<sup>43 44</sup> This guidance includes the indicators that the GMCB will consider and benchmarks to evaluate performance. Hospitals submit data according to the guidance and present their cases to the GMCB in a weeks-long review process.<sup>45</sup> The GMCB concludes by issuing budget orders that dictate the growth of budgets and charges.

Although Rule 3.000 does not address acquisitions, the Legislature directed the GMCB to “maintain a policy for reviewing new physician practice acquisitions and transfers as part of the Board's hospital budget review”<sup>46</sup> ([Act 143 2016](#)). In January 2017, the GMCB adopted guidelines for budget review that require hospitals to file financial projections of every acquisition.<sup>47 48</sup>

The payments made for patient care (net patient revenue and fixed prospective payments, or patient revenue) have continued to concentrate in the hands of hospitals best positioned to leverage their market power to increase prices. The UVM Medical Center accounted for 51% of all new patient revenue at Vermont hospitals between fiscal years (FY) 2008 and 2019.<sup>49 50</sup> The UVM Health Network (UVMHN)—UVM Medical Center's parent firm—acquired Central Vermont Medical Center and Porter Hospital during this period (Figure 8 on the next page) as well as other hospitals in upstate New York.



Source: Endnote 51.

Lastly, Vermont hospitals are turning to ancillary revenue streams. **“Other operating revenue”** are revenue streams such as specialty drug sales, food and parking revenue, and other categories (See Appendix A). This classification of hospital revenue grew by 83% between FY14 and FY19<sup>52</sup> and accounted for 8%, or \$227 million, of hospitals’ total operating revenue in FY19.<sup>53</sup> Pharmaceutical sales accounted for most of this growth.<sup>54</sup>

**The GMCB has not regulated other operating revenue to date.** Although a \$52 million increase in these ancillary sources from FY18 to FY19 caught the attention of the GMCB,<sup>55</sup> there is no indication at this time that the Board will modify its budget guidance or reporting requirements to limit the impact of other operating revenue on health care spending.

## Appendix A: Glossary of Terms

For this report, the SAO drew definitions from the GMCB's FY20 [Uniform Reporting Manual](#) and the [Vermont Health Care Expenditure Analysis \(VHCEA\) Manual](#).

### Definitions

**Providers** are those who provide health care services. In this report, the providers of interest are *hospitals and their physicians* and *independent physicians*. **Practices** refer to individual facilities, which may be part of a larger provider, such as an outpatient clinic owned by a hospital.

**Payers** are those who pay for health care. In this report, the payers of interest are Medicare, Medicaid, and commercial insurers. This report does not discuss out-of-pocket payments or the bad debt and free care associated with the inability to pay (already deducted in NPR/FPP), though these amounts factor into health care spending estimates.

**Revenue** refers to the money that a provider receives. It includes operating and non-operating revenue.

**Operating revenue** is all revenue received for a hospital's primary business activities.

- 1) **Gross patient revenue** equals most patient-related services billed to a payer.
  - a. **Net patient revenue (NPR)** equals gross patient revenue from fee-for-service payments less deductions, which include bad debt, free care, disproportionate share payments, and others.
  - b. **Fixed prospective payments (FPP)** are fixed payments from an accountable care organization (ACO) that cover the cost of medical care provided to lives attributed to the ACO, less deductions for participation and value-based incentives.
  - c. **NPR/FPP** equals the sum of these two sources of revenue. In this report, NPR/FPP and "net revenue" or "net patient revenue" are used interchangeably, as FPP did not factor into budgets until the establishment of ACOs in Vermont.
2. **Other operating revenue** includes the 340B Medicaid Drug Rebate Program, specialty drug sales (e.g., for cancer treatment), food and parking revenue, and other categories.

**Non-operating revenue** includes income from donations, transfers from related organizations, investments, fundraising, gain or loss from the sale of investments, transfers from restricted to unrestricted funds, and other revenues. It does not feature in this report, but accounts for all revenue not included in other revenue categories.

### Sources of Health Care Spending Measurements

While comparable, there are differences between the Board's methodology for measuring health care spending and those of the Centers for Medicare and Medicaid Services<sup>1</sup> as well as the US Bureau of Economic Analysis (BEA).<sup>2</sup> The table on the following page provides a high-level overview of how we used certain BEA and GMCB metrics in this report.

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<sup>1</sup> GMCB. "[Vermont Health Care Expenditure Analysis Manual](#)," (January 2017), 19-21.

<sup>2</sup> Kornfield, R. "[A Reconciliation of Health Care Expenditures in the National Health Expenditures Accounts and in Gross Domestic Product](#)," *BEA Working Paper Series*, WP2020-8 (June 2020).

<b>Measures of Health Care Spending</b>			
<b>Measurement &amp; Source</b>	<b>Definition</b>	<b>Data</b>	<b>SAO Use</b>
<b>Personal Expenditures on HC Services</b>  (Bureau of Economic Analysis)	VT resident spending for HC at hospitals, physician offices, paramedical services, nursing homes, etc.	Receipts from government programs and HC firms, benchmarked and estimated over time.	Comparing state to state HC spending & VT HC spending to other VT spending
<b>VHCEA Provider Revenue Estimates</b>  (Green Mountain Care Board)	The amounts VT firms and institutions received for HC provided to in-state & out-of-state residents.	Hospital, physician, nursing home & mental health data reported to the State. For other categories, national data is calibrated to VT.	Examining changes within VT's health care industry.

## Appendix B: New England Wages of Health Care Workers

The below table compares the median hourly wages of health care workers by New England state in 2019. The far-right column shows the number of individuals employed in Vermont for each occupation. We drew from occupations that had high levels of employment. Due to data limitations, this table does not include median wages for physicians.

2019 Median Hourly Wages							
State \ Occupation	CT	NH	MA	ME	RI	VT	
						Wage	Employment
RN	\$39.24	\$34.95	\$42.09	\$33.14	\$39.97	<b>\$32.39</b>	<b>7,020</b>
LPN	\$27.52	\$26.11	\$28.03	\$22.58	\$28.51	<b>\$23.73</b>	<b>1,130</b>
EMT	\$21.60	\$17.44	\$19.05	\$16.62	\$18.03	<b>\$16.86</b>	<b>900</b>
Home Health Aides	\$12.77	\$12.87	\$15.01	\$12.66	\$13.84	<b>\$14.39</b>	<b>7,230</b>
Nursing Assistants	\$16.28	\$15.79	\$16.25	\$14.59	\$15.29	<b>\$14.79</b>	<b>2,940</b>
Medical Assistants	\$18.58	\$17.90	\$19.60	\$17.42	\$17.62	<b>\$17.22</b>	<b>1,110</b>

Source: U.S. Bureau of Labor Statistics [May 2019 State Occupational Employment and Wage Estimates](#)

## Appendix C: SAO Response to GMCB Comments

The SAO submitted a draft version of this report to the GMCB for comment. In response to those comments (included in Appendix D), the SAO removed certain sections of the report, added some language, and offers some observations.

### **Vermont Health Care Price Variation**

The SAO investigated prices for procedures and price fluctuations over time using VHCURES — the State’s all-payer claims database, which includes most health insurance claims filed for Vermonters.<sup>3</sup> Preliminary findings from that analysis of common procedures showed a wide variation in prices and price changes over a 10-year period.

Price variation in Vermont has been documented by state agencies, academic institutions, and the Vermont Association of Hospitals and Health Systems.<sup>4</sup> Lesser documented are the specific factors that drive health care price variation in Vermont, whether this variation can be leveraged to better control patient costs, the relationship between prices and providers’ costs, and why prices for certain procedures by certain providers increase at higher rates than others.

The GMCB’s Chair stated in his response that the Board was working on a price variation study that will take between 18 and 24 months to complete (See Appendix D). By the time this work is complete, it will have been nearly 10 years since the Board began exploring price variation, and we hope that this work will provide insights concerning the outstanding issues mentioned above.

### **Removing Price Variation Analysis**

Most of the concerns and issues raised by the Board’s Chair (see Appendix D) focused on the section of the draft report that contained the aforementioned analyses using VHCURES. The SAO makes no determinations or judgments about the Chair’s assertions concerning this section. But we did remove that section of the report for the following reasons:

1. Many of those analyses pointed to price variation trends that are well-known and documented by Vermont’s health care policy and reform community. The one new insight gleaned from a preliminary analysis was the variation not just in prices but in price changes over time. Although the Chair raised concerns about certain components of that analysis, the Board could still pursue a similar analysis to understand why prices for common procedures increase quicker at some facilities than others, and how those that increase at a lesser rate might provide helpful insights for better controlling health care costs.
2. The employee who performed the analyses in this section of the report left the SAO before this report was complete. Since the former employee now works for the Board, and since the former employee was the only active user of VHCURES data at the SAO, the SAO could not independently address the concerns raised by the Chair about this section of the report in a timely manner.

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<sup>3</sup> GMCB. “[VCURES Overview: A Guide for Data Users.](#)” The GMCB is the steward of VHCURES and its data. All analyses, conclusions, and recommendations drawn from the data are solely those of the SAO and are not necessarily those of the GMCB.

<sup>4</sup> Blueprint for Health. “[Price Variation Reports.](#)”



3. The position typically responsible for these analyses has been vacant since mid-April due to the State's hiring freeze. Since the report contained other useful analyses, we did not want to further delay the issuance of the report.

### **Provider Charges vs Prices Paid**

The SAO also removed a small sidebar in the report that pertained to provider charges because we did not want to delay this report further.<sup>5</sup>

The price charged by a provider for a health care service, and the price paid by an insurer/insured patient are not the same. Although the Board regulates the weighted average change in charges as part of its hospital budget review, it also has the authority to regulate the actual prices that insurers and Vermonters pay hospitals for certain procedures.<sup>6</sup> In the future, the SAO plans to examine the extent to which the Board has used its authority to control the growing cost of health care.

### **Hospital Market Consolidation and Prices**

This report aimed to communicate information not typically provided to Vermonters. It was not intended to be exhaustive, and we have added language to further clarify this.

In addition to the growing cost of health care in Vermont, the report focused on the affordability of health care for Vermonters, which is notably missing from the Board's annual Vermont Health Care Expenditure Analysis. We then looked at a known driver of increased health care spending – hospital market consolidation – and the extent to which Vermont's market has concentrated. The analyses in this report did not isolate the exact impact of hospital consolidation on health care prices in Vermont, and we do not purport to do so.

But, the absence of such an analysis does not negate the well-researched and documented negative impact that concentrated markets (across a broad range of industries) can have on consumers in the absence of competition and/or effective regulation. It is why antitrust law exists.

The Board noted some impacts of hospital market consolidation in an early 2017 report, stating:

*Market consolidation can lead to greater efficiencies and more care integration, but also to higher prices through increased bargaining power and reimbursement policies that permit hospital-affiliated practices to charge higher fees for services than non-hospital practices. Provider-based billing allows hospitals and hospital-affiliated practices to charge a separate facility fee in addition to the fee for the physician's professional services; freestanding clinics and independently-owned physician offices cannot charge a facility fee.*<sup>7</sup>

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<sup>5</sup> As shown in Appendix D, the Board asserted that "regulating the change in charge, for the most part, impacts inpatient and outpatient hospital services..." The SAO did not want to further delay this report to validate this assertion because it is not central to the report.

<sup>6</sup> [18 VSA §9375](#)

<sup>7</sup> GMCB. "[The Advisability and Feasibility of Expanding to Commercial Health Insurers the Prohibition on Any Increased Reimbursement Rates or Provider-Based Billing for Health Care Providers Newly Transferred to or Acquired by a Hospital.](#)"

## Appendix D: GMCB Management Comments

The following is a reprint of management's response to a draft of this report.



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*Kevin Mullin, Chair*  
*Jessica Holmes, Ph.D.*  
*Robin Lunge, J.D., MHCD*  
*Tom Pelham*  
*Maureen Usifer*  
*Susan J. Barrett, J.D., Executive Director*

### **DELIVERED ELECTRONICALLY**

May 5, 2020

Doug Hoffer, State Auditor  
Office of the Vermont State Auditor  
132 State St, Montpelier, VT 05633

RE: Health Care Spending Report

Dear Auditor Hoffer,

Thank you for sending us a copy of the health care spending report draft dated April 14, 2020. As the stewards of the data in the Vermont Health Care Uniform Reporting and Evaluation System ("VHCURES"), Board staff typically conduct a limited pre-publication review of reports produced using VHCURES data to ensure that the reports meet the requirements of the Board's data use agreement (DUA) and address the research purposes identified in the DUA application. In this case, due to your unique role and the fact that this report is a non-audit inquiry, and in furtherance of our shared goals of transparency and accuracy, our staff have done a slightly more in-depth review to identify errors in the analysis. As you noted in the report, the analyses, conclusions and recommendations in the report are yours and do not reflect those of the Green Mountain Care Board.<sup>1</sup>

#### *Compliance with the Data Use Agreement*

Board staff typically review reports to ensure that the information to be publicly disclosed:

- is based on use of the data for the purpose expressly specified in the data use agreement application.
- does not include any direct findings, listings, or other information from the data that could be used to identify enrollees, members, beneficiaries, patients, employer groups, purchaser groups, or abortion services providers.
- displays aggregated values based on observations or elements and censors any cell in a data table with a count of 10 or fewer along with another cell in the same row and another cell in the same column to prevent the identification of the cell with a count of 10 or fewer in a table.

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<sup>1</sup> Report page 8



- does not include any direct findings, listings, or information derived from Medicare data, if such findings, listings, or information can, by themselves or in combination with other data, be used to deduce a physician's total Medicare reimbursements.
- will not include any information that could be used to determine or ascertain information about insurers or providers that would be deemed proprietary, such as the amount paid by identified insurers or to identified providers for individual procedure codes.
- acknowledge the Green Mountain Care Board as the steward of the data and the Vermont Health Care Uniform Reporting and Evaluation System as the source of the data in any public reports, publications, presentations, or other materials generated from the data set.
- prominently states that the analyses, conclusions, and recommendations drawn from the data are solely those of the Authorized User or the Principal Investigator and are not necessarily those of the GMCB.

As noted in our March 11<sup>th</sup> email, with the inclusion of the statement comports with the final bullet above, the report meets these criteria.

*Technical Edits and Analytical Issues*

We identified the following technical and analytical issues in the report. Without addressing these issues, the conclusions in the report are not accurate. Please note that our staff did not attempt to reproduce your analysis and, accordingly, there could be additional issues that were not immediately identified.

On page 6, the text reads: "The GMCB regulates the weighted average **change in charges** per hospital in budget review. This practice has no direct impact on the prices that Vermonters and insurers actually pay for health care. It simply sets a ceiling for provider-payer negotiations (definitions in Appendix B)."

- This is inaccurate. Several commercial payers negotiate payments for inpatient and outpatient hospital services as a percentage of charges. It would be accurate to state that regulating change in charge, for the most part, impacts inpatient and outpatient hospital services and would not impact professional fees that are negotiated and paid on a fee schedule.
- The Board's Act 143, Sec. 4 (2016) [provider based billing report](#) includes descriptions of current billing and reimbursement methods of Vermont payers.

On page 11, the text reads: "**We aggregated medical claims from all insurers.** We took this approach because the average price paid per procedure equals the average net patient revenue received per procedure, allowing us to infer net patient revenue trends in different parts of the state. As such, the analysis does not control for price variations caused by HSA-level changes to insurer mix."

- This is inaccurate because net patient revenues are sensitive to patients' ability to pay (e.g. bad debt and free care) and services provided that are not captured in the data available in VHCURES (e.g. most self-insured claims data). The data missing from VHCURES may be unevenly distributed across providers.
- It is not clear what, if any, consideration or adjustment was considered for patients insured by multiple payers.



On page 14, there is a typo in endnote #52 (“VCURES” should be “VHCURES”).

Generally, the procedure-level analysis does not appear to contemplate the critical difference in how facility and professional claims are paid and therefore does not appear to be an accurate measurement of procedure-level price.<sup>2</sup>

#### *General Issues*

Two substantial changes occurred in the data available in VHCURES between 2008 and 2018. First, with the enactment of the Affordable Care Act, there was a shift in how Vermonters were insured, including a migration from Medicaid expansion programs such as the Vermont Health Access Plan (VHAP) and Catamount Health, to the Vermont Health Connect commercial market. Both VHAP and Catamount Health had lower reimbursements than what is paid through Vermont Health Connect, which shifts the payer mix as well as the actual reimbursement received for the same people. In addition, the state no longer receives data on approximately half of the self-funded commercial market after the *Gobeille v Liberty Mutual* United States Supreme Court decision in 2016. This data loss should be adjusted for in your analysis. Without adjustments to account for these two issues, it is inaccurate to attribute the observed changes to price alone and, more specifically, to negotiated prices due to market factors.

In addition, when comparing per capita spending across states, there are factors other than negotiated price which could account for variation in spending. These could include issues which impact utilization, such as services covered (e.g. naturopathic services are not typically covered in other states); the uninsured rate; population demographics; and differences in reimbursement methodologies. In order to accurately compare per capita spending, an understanding of these confounding factors is necessary.

Lastly, overall, we are concerned that the analysis is not sufficiently refined to tease out the impact of consolidation over time separately from other factors. Vermont, like most rural areas, is characterized by limited competition in its hospital system, with 7 of 14 hospitals achieving critical access status for Medicare, and with health service areas dictated by geography. Critical access hospital status is granted to small hospitals in rural areas, because it is determined by Medicare that access is needed in that area. Critical access hospitals are also reimbursed by Medicare based on the cost of running the hospital, which certainly impacts prices.

While we appreciate your interest in teasing out these important issues and share concerns about the cost of health care in Vermont, your readers may make inferences from the report which are not analytically sound given the current analysis. You may be interested in a prior [report on price variation](#) commissioned by the Board in 2014. Lastly, the Board is conducting a study on price variation, which we estimate will take 18 months to 2 years to complete in order to ensure that we have validated the data and done a sufficiently nuanced analysis to draw conclusions.

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<sup>2</sup> [Act 143, Sec. 4 \(2016\) Report](#) includes information about this issue as well.



We would be happy to share this report with you upon completion.

Sincerely,



Kevin Mullin, Chair  
Green Mountain Care Board

cc:

Andrew Stein, Deputy State Auditor, Office of the Vermont State Auditor  
Susan Barrett, Executive Director, GMCB  
Michael Barber, General Counsel, GMCB



## Endnotes

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- <sup>1</sup> U.S. Department of Commerce, [Bureau of Economic Analysis](#) (BEA): Health Care - “Spending on outpatient services and hospital and nursing home services. Outpatient services consist of physician services, dental services, and paramedical services.” It excludes drugs, which are part of “Other nondurable goods” in the same dataset.
- <sup>2</sup> BEA. “Per capita personal consumption expenditures by state ([SAEXP2](#)),” October 3, 2019.
- <sup>3</sup> Ibid.
- <sup>4</sup> Start with Vermont’s total spending on health care services in 2018: per capita health care spending (\$9,076; BEA) \* VT population (626,299, Census) = \$5.684 billion. Then calculate what Vermont’s spending would have been if our 2000 figure grew at the U.S. rate: VT 2000 per capita health care spending (\$3,395) times the U.S. rate of growth (120%) = \$7,500 \* VT population = \$4.697 billion. Subtract the latter from the former = \$987 million.
- <sup>5</sup> Vermont Tax Department. [2018 Personal Income Tax](#).
- <sup>6</sup> Divide the savings calculated above (Endnote 4) by Vermont’s 2018 population (626,299).
- <sup>7</sup> BEA. Divide US and VT per capita health care spending ([\\$7,191](#) and [\\$9,076](#) respectively) by US and VT per capita income ([\\$54,526](#) and [\\$54,342](#) respectively).
- <sup>8</sup> Sources: The U.S. Energy Information Administration (residential energy spending), the U.S. Bureau of Economic Analysis (health care spending, income), and the Vermont Joint Fiscal Office’s “Fiscal Facts” reports (budget-adjusted appropriations).
- <sup>9</sup> This sentence was added after the GMCB’s review of the draft report. The SAO wanted to illuminate the connection between health care spending and public (state and local government and school) budgets.
- <sup>10</sup> BEA for Health care (SAEXP1) and personal income (SAINC1). Census for state and local taxes. Tax data is only available through 2017. Census state & local tax data was not available for 2001 and 2003 so we averaged values from adjacent years.
- <sup>11</sup> Hospitals include 14 community hospitals cited later in this report, the Vermont Psychiatric Care Hospital, the Brattleboro Retreat, and the VA Hospital in White River Junction. All Vermont Health Care Expenditure Analysis reports [here](#).
- <sup>12</sup> The [VHCEA](#) Provider Analysis reports the net revenues earned by all Vermont providers. It includes all patients in Vermont, including out-of-state residents. Spending equals net revenue as reported by all facilities; it does not isolate administrative costs for insurers like in the Resident analysis. Hospital-employed physicians are classified as Hospitals, as their revenues are reported in hospital budgets.
- <sup>13</sup> 2011-2017 change in hospital revenue / 2011-2017 change in health care revenue excluding drugs, supplies, and state-managed mental health programs.
- <sup>14</sup> The [VHCEA](#) Provider Analysis reports the net revenues earned by all Vermont providers. It includes all patients in Vermont, including out-of-state residents. Spending equals net revenue as reported by all facilities; it does not isolate administrative costs for insurers like in the Resident analysis. Hospital-employed physicians are classified as Hospitals, as their revenues are reported in hospital budgets.
- <sup>15</sup> GMCB. “[Payment Differential and Provider Reimbursement Report](#).” Oct. 1, 2017: 6.
- <sup>16</sup> Perry, Lori. “[2018 Vermont Health Care Expenditure Analysis](#).” July 8, 2020, 34.
- <sup>17</sup> GMCB. “[Payment Differential and Provider Reimbursement Report](#).” Oct. 1, 2017: 6.
- <sup>18</sup> Ibid.
- <sup>19</sup> Fulton, B. “[Health Care Market Concentration Trends in the United States: Evidence and Policy Responses](#).” *Health Affairs* 36, no. 9 (September 2017): 1530–38.
- <sup>20</sup> Ibid.
- <sup>21</sup> Neprash, Chernew, Hicks, Gibson & McWilliams. “[Association of Financial Integration Between Physicians and Hospitals with Commercial Health Care Prices](#).” *JAMA Internal Medicine* 175, no. 12 (Dec. 1, 2015): 1932–39.
- <sup>22</sup> Preyra, Colin, and George Pink. “[Scale and Scope Efficiencies through Hospital Consolidations](#).” *Journal of Health Economics* 25, no. 6 (November 1, 2006): 1049–68.
- <sup>23</sup> Walia, Bhavneet, and Christopher John Boudreaux. “[Hospital Mergers, Acquisitions and Regulatory Policy Implications: Price, Cost, Access and Market Power Effects](#).” *Managerial Finance* 45, no. 10/11 (January 1, 2019): 1354–62.
- <sup>24</sup> Harrison, Teresa D. “[Do Mergers Really Reduce Costs? Evidence from Hospitals](#).” *Economic Inquiry* 49, no. 4 (2011): 1054–69.

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- <sup>25</sup> Schmitt, Matt. [“Do Hospital Mergers Reduce Costs?”](#) *Journal of Health Economics* 52 (March 1, 2017): 74–94.
- <sup>26</sup> OECD, Glossary of Statistical Terms. [“Dominant Firm.”](#)
- <sup>27</sup> Tirole, Jean. *The Theory of Industrial Organization*. 1st edition. Cambridge, Mass: The MIT Press, 1988.
- <sup>28</sup> Cooper, Craig, Gaynor & Van Reenen. [“The Price Ain’t Right? Hospital Prices and Health Spending on the Privately Insured.”](#) *The Quarterly Journal of Economics* 134, no. 1 (February 1, 2019): 51–107.
- <sup>29</sup> American Hospital Association. [“The Value of Provider Integration,”](#) 2014.
- <sup>30</sup> Capps, Cory, David Dranove, and Christopher Ody. [“The Effect of Hospital Acquisitions of Physician Practices on Prices and Spending.”](#) *Journal of Health Economics* 59 (May 1, 2018): 139–52.
- <sup>31</sup> Ibid.
- <sup>32</sup> Rosato, Donna. [“The Surprise Hospital Fee You May Get Just for Seeing a Doctor.”](#) *Consumer Reports*. Accessed February 19, 2020.
- <sup>33</sup> See: [Transcript](#) of GMCB hearing titled “Vermont Health Connect Rate Review Hearing (Blue Cross Blue Shield of Vermont),” July 23, 2018, 158.
- <sup>34</sup> See: [Transcript](#) of GMCB hearing titled “MVP Health Care 2019 Vermont Health Connect Rate Filing,” July 24, 2018, 116.
- <sup>35</sup> Capps, Cory, David Dranove, and Christopher Ody. [“The Effect of Hospital Acquisitions of Physician Practices on Prices and Spending.”](#) *Journal of Health Economics* 59 (May 1, 2018): 139–52.
- <sup>36</sup> Neprash, Chernew, Hicks, Gibson & McWilliams. [“Association of Financial Integration Between Physicians and Hospitals with Commercial Health Care Prices.”](#) *JAMA Internal Medicine* 175, no. 12 (Dec. 1, 2015): 1932–39.
- <sup>37</sup> Short, Marah Noel, and Vivian Ho. [“Weighing the Effects of Vertical Integration Versus Market Concentration on Hospital Quality.”](#) *Medical Care Research and Review*, February 9, 2019, 1077558719828938.
- <sup>38</sup> Post, Brady, Tom Buchmueller, and Andrew M. Ryan. [“Vertical Integration of Hospitals and Physicians: Economic Theory and Empirical Evidence on Spending and Quality.”](#) *Medical Care Research and Review*, August 29, 2017, 399.
- <sup>39</sup> See: [18 V.S.A. § 9372.](#)
- <sup>40</sup> See: [18 V.S.A. § 9454.](#)
- <sup>41</sup> See: [GMCB Rule 3.000.](#)
- <sup>42</sup> See: [18 V.S.A. § 9380.](#)
- <sup>43</sup> GMCB. [“FY20 Hospital Budget Guidance and Reporting Requirements,”](#) March 2019.
- <sup>44</sup> GMCB. [“Uniform Reporting Manual for Budget Submissions,”](#) June 2019.
- <sup>45</sup> See: [GMCB Rule 3.306\(b\).](#)
- <sup>46</sup> See: [Act 143 of 2016.](#)
- <sup>47</sup> GMCB. [“Hospital Budget Policy and Guidance: Physician Transfer and Acquisitions.”](#)
- <sup>48</sup> See: [Schedule A: Notice of Provider Practice Transfer/Acquisition.](#)
- <sup>49</sup> File titled “NPR Growth Data for Budget-Actuals and Graphs” attached to Email from Michael Barber to Geoffrey Battista, October 29, 2019.
- <sup>50</sup> GMCB. [“FY19 Year-End Actual Results.”](#)
- <sup>51</sup> Sources: File titled “NPR Growth Data for Budget-Actuals and Graphs” attached to Email from Michael Barber to Geoffrey Battista, October 29, 2019 and GMCB’s [“FY19 Year-End Actual Results.”](#) This figure excludes UVM Health Network physicians who are not employed by a hospital. Hospital fiscal years run from October 1 to September 30.
- <sup>52</sup> GMCB. [“FY19 Year-End Actual Results.”](#)
- <sup>53</sup> Ibid.
- <sup>54</sup> Ibid.
- <sup>55</sup> From notes by Geoffrey Battista who attended GMCB’s meetings on March 11 and 18, 2020. Audio links are available [here](#).