

Costs of Vermont's Health Care System Comparison of Baseline and Reformed System

Initial Draft
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Prepared by

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Executive Summary

This initial draft estimate was requested in Sec. 14 of H.202¹ as passed by the House. As the bill has not yet passed the Senate and been signed into law, the Legislative Joint Fiscal Office and the Department of Banking, Insurance, Securities and Health Care Administration (BISHCA) chose to treat the language as a letter of request for analysis. Given the four-week timeline, this report should be considered preliminary work.

Overall, even with more pessimistic assumptions than Dr. Hsiao used, we found that potential savings from a reformed system would exceed the costs of coverage and investments that he recommended. This would be true even if the savings attributable to medical malpractice reforms do not occur, provider administrative savings are reduced by one-half, and the full savings from reforms are realized somewhat more slowly than Dr. Hsiao projected.

This analysis:

- Updates Dr. Hsiao's original baseline estimates using more recent data from BISHCA's 2009 Expenditure Analysis that were based in part on new data from VHCURES. The data update resulted in a 5-6% reduction in both health care system costs and potential savings, as savings are calculated as a percentage of total baseline costs. These changes do not affect Dr. Hsiao's findings in any meaningful way.
- Updates Dr. Hsiao's original estimates to account for differences between his components of cost savings and those that are included in H.202, specifically to exclude savings attributable to medical malpractice reform. This change reduces savings by about 8%. If subsequent legislative actions reform the malpractice system, savings could be obtained.
- Applies a "sensitivity analysis" to the savings calculations. In lieu of a detailed reevaluation of Dr. Hsiao's work, we performed an analysis of the extent to which calculated savings changed if a key variable changed. We limited our focus to two major variables: the level of administrative savings which will be achieved by providers and the rate with which savings will be achieved. These were selected because of their relative importance and because they were the subject of the majority of questions from stakeholders.

¹ Sec.14. COST ESTIMATES

(a) No later than April 21, 2011, the legislative joint fiscal office and the department of banking, insurance, securities, and health care administration shall provide to the house committee on health care and the senate committee on health and welfare an initial, draft estimate of the costs of Vermont's current health care system compared to the costs of a reformed health care system upon implementation of Green Mountain Care and the additional provisions of this act. To the extent possible, the estimates shall be based on the department of banking, insurance, securities, and health care administration's expenditure report and additional data available in the multi-payer database established in 18 V.S.A. § 9410.

Comparing the results of the sensitivity analysis to the savings estimates in Dr. Hsiao's report, we found that:

- i. While we do not believe that the administrative savings predicted in Dr. Hsiao's report are excessive, even if the estimated provider administrative savings were reduced by one-half of what Dr. Hsiao projected, the total savings on an ongoing basis would be about 15% below the amount that Dr. Hsiao's report assumed.
- ii. When the timing of achieving the savings was slowed down with a more conservative assumption, combined with the 50% reduction in provider administrative savings and no savings from malpractice reform, the total savings over the first four year were still above the amount that Dr. Hsiao proposed to spend on coverage expansions, benefit expansions, and provider investments in the first four years – in other words, using our most conservative assumptions, the estimated savings would still be sufficient to cover the costs of expanded coverage and additional system investments recommended by Dr. Hsiao.

The analysis confirms that development of a reformed system and identification of the costs and opportunities for savings will need to be a continuous activity over the next few years. It is a necessary part of the process to constantly evaluate cost projections, update the projections as key variables materialize, update timelines so that they are congruent with state and federal government policies, and identify and target savings as they are realized. In order to maximize the probability of successful implementation of reform, Executive and Legislative policy makers will need to do the following:

- i. Identify savings opportunities.
- ii. Develop mechanisms to capture those savings. This work will be impacted by a combination of policy choices made, technical decisions, and the capacity to implement these choices.
- iii. Manage the balance between captured savings and new spending once savings are achieved. The system management structure will need to identify how savings can best be reinvested to expand coverage for Vermonters, build reserves or make other investments to ensure adequate provider capacity, health information technology, or administrative structures.

In summary, even when using the conservative assumptions noted above, we found that the savings from a reformed system continue to exceed the cost of expanded coverage and other investments recommended by Dr. Hsiao

Introduction

Sec. 14 of H.202 as passed by the Vermont house calls for development of an “initial draft estimate of the costs of Vermont’s current health care system compared to the costs of a reformed health care system upon implementation of Green Mountain Care and the additional provisions of this act,” due to the legislature on April 21, 2011 (about 4 weeks after this section was added).

Given the time and resource constraints under which this work must be performed, rather than developing estimates from scratch, we chose to begin our estimation process with the figures in “Act 128 – Health System Reform Design,” the report prepared by Professor Hsiao and his team. While there are many different estimates in that report, we chose to focus on the most important estimates and those which have received the most comment.

When differences between the Hsiao report and H.202 are clear, this report reflects the intent of H.202. In any cases where the assumptions or intent of H.202 are not specifically indicated, this analysis follows the Hsiao report.

When we discuss costs, it is essential to understand two different views. The first is total system costs. The second is costs to a particular program or level of government– in this case, the proposed Green Mountain Care. Different factors will have different impacts, depending on which view is being used, and policy decisions may affect total spending, spending by Green Mountain Care, or both.

Of the numerous factors that influence total health care spending, a small number have the greatest impact. These include:

- Number of people with coverage
- Benefits
- Reimbursement rates
- Organization and delivery of care
- Administrative processes

Efforts to reform the health care system can produce changes in all of these factors. The analytical challenge is to estimate the impact of each change individually and further to estimate how the changes will interact.

In addition to these, there are additional factors which, while not affecting total spending, can have a strong influence on allocation of costs. For example, a choice about what to cover and not cover under Green Mountain Care will affect the state’s costs, but have a minimal impact on overall system spending.

While the reforms proposed in both the report and H.202 would impact all health care spending, in both cases the state is assuming liability for a subset of that spending. Both Medicare and the Workers’ Compensation system are assumed to continue. Following the Hsiao report, we assumed that certain benefits, such as long-term care, would be excluded from Green Mountain Care. There is some uncertainty about whether federal employees would be included in Green Mountain Care. If supplemental benefits are permitted, this would affect system spending, but not state liability.

This distinction is especially important because of the way savings are allocated. The report assumes that Green Mountain Care would be the beneficiary of all administrative savings, but that savings that are attributable to reductions in utilization would be retained by individual payers. For example, we follow the assumption in the Hsiao report that the savings that result from reduced utilization by Medicare patients as a result of the Blueprint or ACO development would accrue to that program, and not reduce state spending. However, there is a possibility that under a waiver granted by the federal government, the state could share in those savings.

Comparisons with figures in the Hsiao report should be made with caution for two reasons. First, figures in that report are presented in 2010 dollars. This means that they are adjusted for medical inflation. Figures in this analysis, including those derived from the Hsiao report, are not adjusted. This has no effect on savings relative to costs. For example, while a 10% savings will produce a different dollar figure in 2010 dollars than in unadjusted dollars, it is still a 10% savings.

Second, both the Hsiao report and this analysis present figures for both the system as a whole and the state program (Green Mountain Care). It is important to know which figures are being compared.

Estimates of Savings

The Hsiao report identifies and creates estimates for four major sources of savings. These are:

- Administrative savings
- Reduction of utilization as a result of changes in the organization of care
- Reduction of utilization as a result of improved identification of fraud and abuse
- Reduction of utilization as a result of medical malpractice reform

Under the proposals in the report, the benefits of changes in administrative processes accrue to both providers and payers. It is important to note that for providers, these benefits include both reductions in the cost of the claims process and improvements in productivity as a result of caregivers spending less time on administrative tasks.

Several different initiatives are focused on changing how care is organized and provided. In Vermont, the two most significant of these are the Blueprint for Health and the payment reform pilot projects.

While many believe that fraud and abuse occur less often in Vermont than national statistics would indicate, this is still an area deserving of investigation.

Table 1 below shows the detailed sources and levels of savings that were estimated in the Hsiao report. Several things are important to understand about these estimates. First, estimates were developed as percentages of total health spending, not as dollar amounts. This means that changes in baseline amounts will affect the dollar value but not the relative size of savings.

Second, Professor Hsiao and his team developed these estimates in several steps. The first was to create a “fully-implemented” estimate – how much could be saved after any necessary phase-in

period. The second was to estimate how long that phase-in period would be and to allocate savings across that time.

Finally, as mentioned above, those savings that would accrue to the state program were separated from the savings that would accrue to other payers.

Savings were separated into two broad categories – administrative and volume. Administrative savings are those savings that result primarily from simplification of the claims payment process. On the payer side of the administrative process, savings come from elimination of some functions, such as underwriting and coordination of benefits, and increased efficiencies of scale in other functions, such as provider relations and claims payment.

Volume savings are savings that result from the use of less care or more efficient forms of care. For example, reduction of the use of hospital care as a result of better primary care is a volume reduction.

Table 1 – Sources of Savings in Dr. Hsiao’s Report

		<u>Percent of Total Health Spending</u>
Administrative	Payer	3.0%
	Provider	5.3%
	Subtotal	8.3%
Volume	Organization	9.0%
	Payment Reform Blueprint	1.0%
	Fraud and Abuse	5.0%
	Malpractice Reform	2.0%
	Subtotal	17.0%
Total		25.3%

In developing these estimates, Professor Hsiao relied on published data, combined with his experience in designing health care systems. To produce conservative estimates, in cases where there was a range of published estimates, the figures he selected were either at or below the midpoint of range.

The report explicitly discusses the issues in applying national estimates to Vermont, and recommends additional study because of the nature of Vermont’s health system, especially in the area of provider administrative savings. We concur with Dr. Hsiao’s recommendations.

Data Sources

The analyses in this report rely on two major data sources – the Hsiao report and BISHCA’s “Expenditure Analysis” and projections. The Hsiao report itself relied heavily on VHCURES, the state’s multi-payer claims database. This report used that data indirectly through its use by BISHCA.

Methodology – Specific Changes

We made two immediate changes to the figures in the report. The first change was the result of the release of a new “Expenditure Analysis” by the Department of Banking, Insurance, Securities and Health Care Administration (BISHCA). The new report updated spending estimates and forecasts for 2008 through 2013. The second change was to eliminate any savings attributed to medical malpractice reform. While H.202 includes a study of this issue, it does not include specific changes.

Vermont is fortunate to have the annual Expenditure Analysis (EA), prepared by BISHCA. This report provides a robust set of estimates of current health care spending by type of care and source of payment. In addition, BISHCA prepares an annual three- year projection of future costs based on that year’s Expenditure Analysis. In developing its baseline (no reform) spending projections, Professor Hsiao and his team relied on the 2008 Expenditure Analysis (released in March 2010) and the “Three Year Forecast of Vermont Health Expenditures, 2009-2012” (released in January 2010). The team developed projections for 2013-2024, based on BISHCA figures.

In February of 2011, BISHCA released its “Three Year Forecast of Vermont Health Expenditures, 2010-2013,” and in March of 2011, it released the 2009 “Expenditure Analysis.” The 2009 EA revised BISHCA’s 2008 spending estimates, based in part on findings from VHCURES, reducing them by about 5 percent in that year, increasing to 6 percent in the out years. The latest three-year forecast incorporates this change. One of the first things we examined was the effect of the revision of baseline spending.

Methodology – Areas Where Hsiao Assumptions Were Followed

Two additional policy areas are addressed in H.202, but this report follows the same assumptions as those that guided the Hsiao report. These areas are:

- Benefits
- Provider Reimbursement

The development of a benefit package is a complex process. Benefits are described in two ways – scope of benefits and actuarial value (or actuarial ratio). Scope of benefits identifies what types of services are or are not covered, such as hospital care, prescription drugs, nursing home care, or dental care. Actuarial value describes, within those covered benefits, what proportion of total costs are paid by the insurer for the typical beneficiary. For example, if a benefit package has an actuarial value of 85%, the insurer will pay 85% of all costs for covered benefits and the beneficiary will be responsible for the remaining 15%, through some combination of deductibles, coinsurance, and co-payments.

Based on VHCURES data, Professor Hsiao estimated that the average Vermonter with private insurance has coverage with an actuarial value of 87%. H.202 specifies this value for Green

Mountain Care, but also discusses Catamount Health as a standard for setting scope of benefits. In this report, we made no adjustments to the 87% figure and made no specific assumptions about changes in scope of benefits.

Changing the actuarial value of a benefit package has two distinct effects. The first is simply to shift costs between the insurer and the beneficiary. At the same level of utilization, there is no effect on total spending.

The second effect is the impact on utilization. As the actuarial value decreases (and costs to the beneficiary increase), there is a reduction in utilization (and thus in total spending). Estimation of this effect is complex. In this report we maintain the 87% actuarial value and do not make any adjustments for scope of benefits.

A substantial portion of H.202 addresses provider reimbursement and payment reform. While the bill creates substantial expectations, it does not establish any target amounts or levels. The Hsiao report assumed that in the first year of reform, total provider net revenue within each category of provider would not differ from the baseline but that individual providers might see a change. In the absence of any specific direction in H.202, we made the same assumption and did not make any adjustments for changes in provider net revenue.

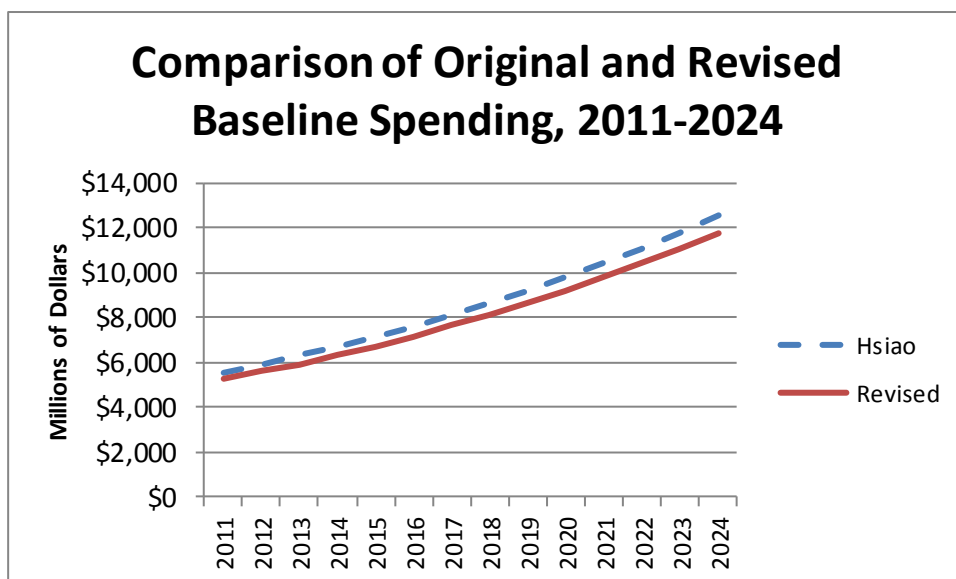
After making the adjustments described above, we explored the savings estimates that are central to the Hsiao report. Given the complexity of developing an independent set of savings estimates and the short time frame for presenting initial estimates, we elected to perform a sensitivity analysis on the report's savings estimates. In this type of analysis, the parameters of interest (ultimate level of savings, rate at which those savings are achieved) are varied, and the financial impact of different scenarios is explored. For example, a sensitivity analysis could examine the financial consequences if actual savings were 75 percent or 125 percent of those used by Professor Hsiao in developing his recommendations. In addition to exploring overall changes, we attempted to model some specific scenarios by varying individual contributions to overall savings. For example, the report specifically addressed some differences between administrative cost estimates in the professional literature and estimates developed by Fletcher Allen Health Care. We explored the consequences of replacing the figures that the report used with the FAHC numbers.

Analyses

Rebasing to revised EA numbers

Subsequent to the release of the Hsiao report, BISHCA released revised Expenditure Analysis figures, including 2008. The effect of these revisions is to reduce baseline spending by slightly less than 6 percent from the report figures for the period 2015 to 2024. For example, in the Hsiao report, 2015 total Vermont health care spending was estimated at \$7.11 billion (in current dollars). Use of the revised BISHCA figures reduces that estimate to \$6.71 billion.

Note that the chart below is in current dollars. The Hsiao report used 2010 dollars.



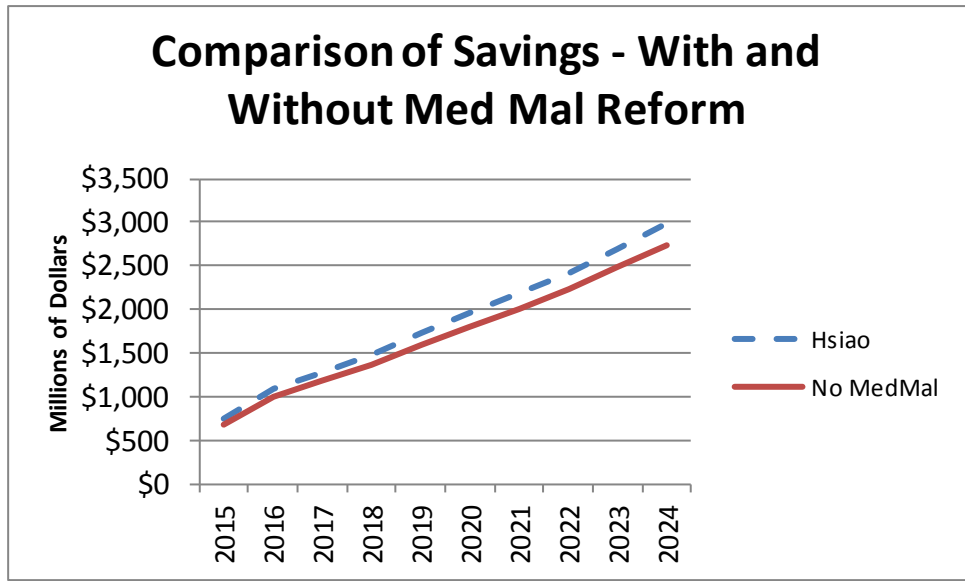
In order to develop the savings figures in the report, savings were estimated as a percent of total health care spending, and those percentages were applied to the baseline. Revising the baseline will reduce all savings figures proportionately. For example, in the Hsiao report, system-wide savings in 2015 were estimated at \$786 million. Revising the underlying spending estimate reduces estimated savings to \$742 million. In both cases, savings are 11 percent of spending.

Whether the cost of covering the uninsured, improving the benefits for the underinsured, and adding new benefits will also decrease proportionately will require additional study.

Removing any medical malpractice reform savings

In its current form H.202 does not reform medical malpractice. As the table above indicates, the Hsiao report estimated that 2 percent of the ultimate 25.3 percent savings would come from this reform. The chart below compares Professor Hsiao’s estimated annual savings (rebased to the new BISHCA figures) with our estimate, removing any savings from medical malpractice reform. Note that these figures are in current dollars, while those in the Hsiao report are in 2010 dollars.

In all subsequent tables, the effect of removing these savings will be included in our estimates.



More Blueprint savings

In the report, savings of 1% of total health care spending were attributed to the activities of the Blueprint for Health. In the 2010 Blueprint Annual Report, savings are evaluated for 2 pilot sites, Burlington and St. Johnsbury. In Burlington, per member per month (PMPM) spending increased very slightly (0.3%) from 2008 to 2009. This is well below the 7.6% statewide growth estimated by BISHCA, meaning that the Blueprint reduced the growth trend by over 7%. Results in St. Johnsbury were even more dramatic. PMPM declined by almost 11.6% from 2008 to 2009, translating into a reduction in trend of about 19%.

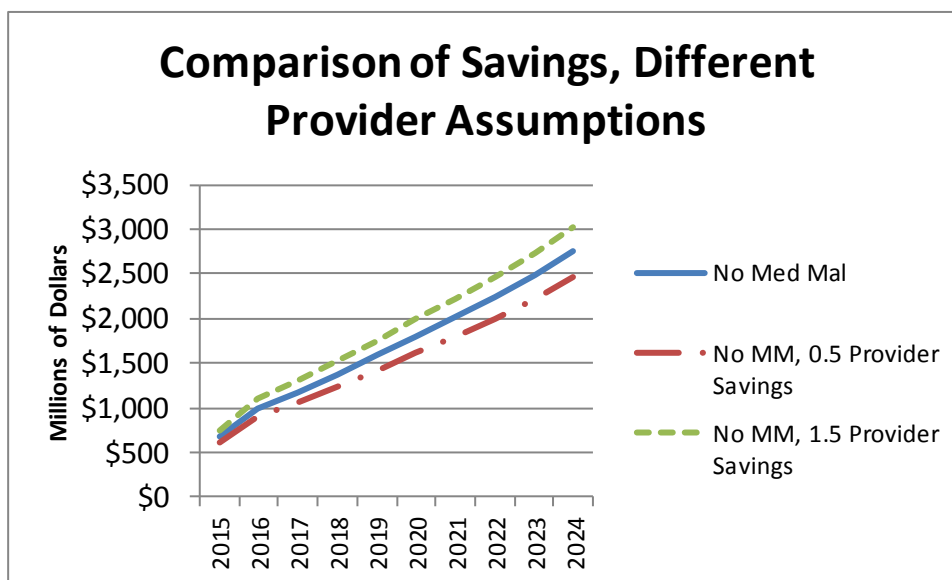
It is difficult to generalize these results to the state as a whole, and even more difficult to project them into the future. However, if Blueprint savings are 3%, rather than 1%, this would offset the loss of savings attributable to elimination of medical malpractice reform.

Different provider savings scenarios

One area of potential savings with high uncertainty is provider administrative savings. There are numerous challenges in creating estimates in this area, including the diversity of provider organizations (from solo practitioners and small community hospitals to Fletcher Allen), the definition and estimation of current administrative costs, the proportion of those costs that would truly be eliminated (as opposed to reallocated to other activities) under different reform scenarios, and how to estimate productivity increases that would result from providers being able to spend more time in clinical activities.

Estimates in the literature have a substantial range. The Hsiao team reports that they have received several comments in this area. Some of those comments suggested that savings from this source have been overstated, while others argued that true savings were higher than the estimates used in the report. In recognition of this uncertainty, the Hsiao report suggested additional Vermont-specific study in this area.

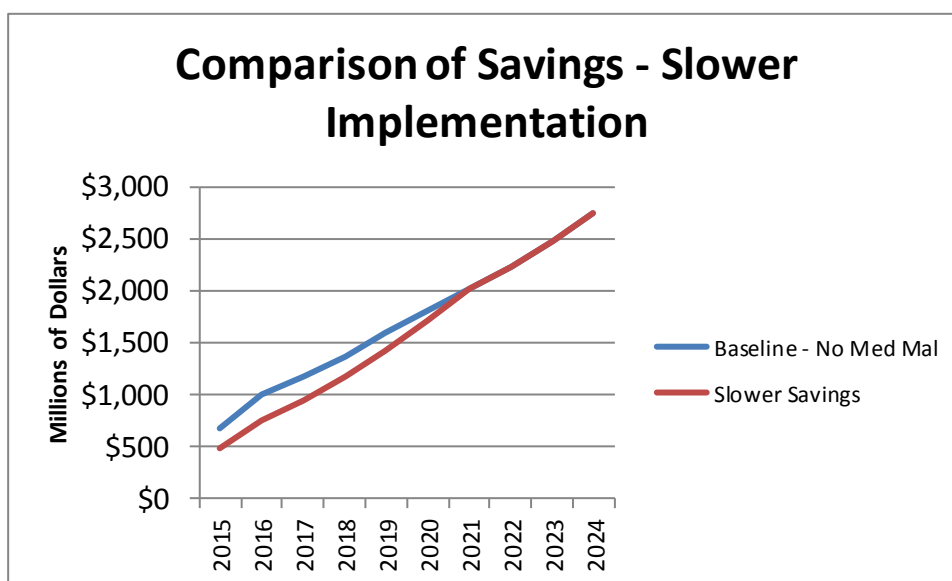
The chart below compares the total savings in the report to two scenarios – provider administrative savings 50% lower than estimated and provider administrative savings 50% higher. The 50% figure was chosen simply as a midpoint between the estimated savings in the Hsiao report and no savings at all. Figures provided by Fletcher Allen suggested savings somewhat lower than one-half, but because we did not have time to review their analyses fully and because of concerns that FAHC is not representative of all providers in Vermont because of its size, organizational structure, and role in medical education, we did not use their estimates for this sensitivity analysis.



Delayed savings

Another area of uncertainty is how quickly the savings would accrue. This is among the hardest parameters to estimate and, at least in the first years of implementation, the one most likely to drive the financial results of reform effort. Challenges include the lack of empirical information (unlike provider administrative savings, there is no literature on the speed with which a wholesale transition in the structure of a health care system can occur) and questions of what a slower change actually means. For example, if initial savings are delayed, should we assume that they will be “caught up” in future years, or that savings will be reduced for the foreseeable future?

The chart below compares baseline savings to what would be saved if ultimate levels were achieved, but progress is slower. This analysis assumes 70% of projected savings in the first year, 75% in the second, and so on, finally achieving the same pattern of savings in the 7th year.

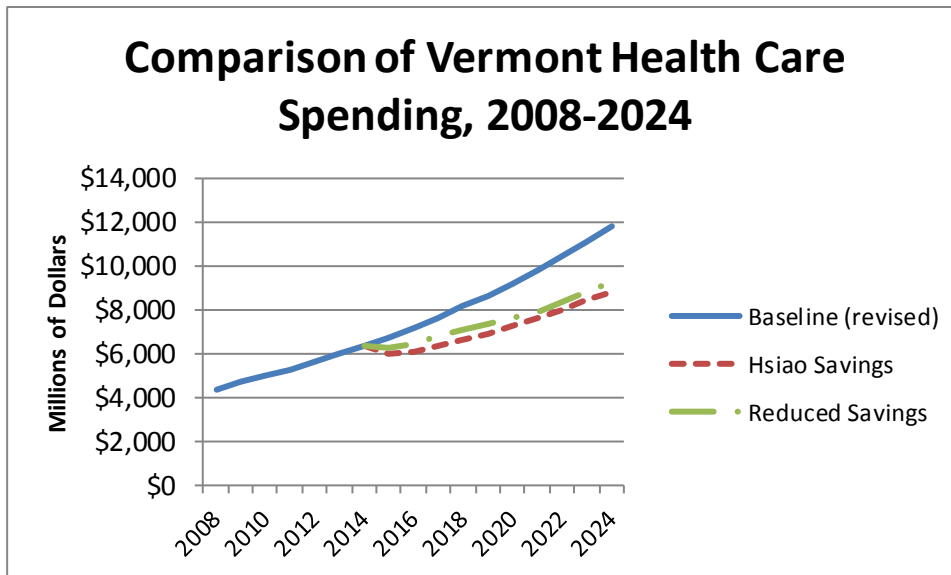


Summary

The table below shows the changes in savings under the different scenarios described above, in millions of dollars.

	Hsiao Original	Hsiao, new Baseline	No Med Mal Savings	No MM, 0.5 Provider	No MM, 1.5 Provider	Delayed Savings
2015	\$786	\$742	\$683	\$633	\$730	\$478
2016	\$1,149	\$1,086	\$999	\$926	\$1,069	\$749
2017	\$1,354	\$1,278	\$1,176	\$1,090	\$1,259	\$941
2018	\$1,580	\$1,491	\$1,372	\$1,272	\$1,468	\$1,166
2019	\$1,830	\$1,723	\$1,585	\$1,469	\$1,696	\$1,426
2020	\$2,081	\$1,958	\$1,802	\$1,670	\$1,928	\$1,712
2021	\$2,319	\$2,183	\$2,008	\$1,861	\$2,149	\$2,008
2022	\$2,578	\$2,427	\$2,233	\$2,070	\$2,389	\$2,233
2023	\$2,861	\$2,693	\$2,477	\$2,296	\$2,651	\$2,477
2024	\$3,167	\$2,981	\$2,743	\$2,543	\$2,935	\$2,743

The graph below compares baseline savings (after adjustment for the new BISHCA data), savings as estimated in the Hsiao report, and savings under the most conservative estimates in this report (no medical malpractice savings, 50% provider administrative savings, and delayed development of savings).



Conclusion

There is uncertainty in any effort to predict the future. That is especially true when the future is the consequence of a policy change as major as health care reform. In preparing this report, we had two goals – first, to update the figures in the Hsiao report to reflect more recent data and the policy decisions in H.202; and second, to identify and evaluate major areas of uncertainty.

Updating figures was a fairly straightforward exercise. In our evaluation of areas of uncertainty, we chose not to offer alternative figures (given the constraints of both time and expertise), but instead, we chose to explore the consequences of error. We did this using a series of “what-if” analyses – what if savings were less than expected? What if savings were more? From the table above, it is apparent that, especially in the early years, the most critical factor is the speed with which reforms produce savings. While provider administrative savings are important, rebasing the estimates to the new BISHCA numbers, eliminating medical malpractice reforms completely, and reducing provider administrative savings by one-half only reduce total system savings by about 20%. The combination of those reductions and the slower implementation modeled above reduce savings to about 60% of those estimated in the report.

One way to evaluate the impact of changes in savings is a comparison to proposed spending. In his report, Professor Hsiao included estimates of funding necessary to cover the uninsured, improve benefits for those with inadequate coverage, expand coverage for all Vermonters to include vision and dental care, and invest in primary care and local hospitals. Over the first four years of reform (2015-2019), those costs were about one-half of his estimated savings. Thus, even if savings are 40 percent lower than originally estimated, they should be sufficient to fund the initiatives that Dr. Hsiao recommended. The state also has flexibility in when it implements some of the initiatives. For example, if the legislature chose to defer or not include dental and vision benefits, (inclusion is recommended in the Hsiao report) savings would be increased.

However, as in any estimation process, there is still substantial uncertainty. As the report recommends, additional work should be done on the provider administrative cost estimates. Additionally, a system needs to be in place to monitor the level of savings actually achieved to guide the implementation of programs to achieve the goals of H.202.

Identification of the costs and opportunities for savings will need to be a continuous activity over the next few years. It is a necessary part of the process to constantly evaluate cost projections, update the projections as key variables materialize, update timelines so that they are congruent with state and federal government policies, and identify and target savings as they are realized.

In order to maximize the probability of successful implementation of reform, Executive and Legislative policy makers will need to:

- Identify savings opportunities.
- Develop mechanisms to capture those savings. This ability will be impacted by a combination of policy choices made, technical decisions, and the capacity to implement these choices.
- Manage the balance between captured savings and new spending once savings are achieved. The system management structure will need to identify how savings can best be reinvested in creating the new structure to add coverage for Vermonters, build reserves, or to cover the uninsured.