

# Costs of Vermont’s Health Care System - Comparison of Baseline and Reformed System – Addendum

Last Update: November 14, 2011

This addendum has been prepared in response to questions about and requests for additional analyses that followed the release of our report “Costs of Vermont’s Health Care System - Comparison of Baseline and Reformed System.” It is intended to clarify or expand on selected topics in the original report. This addendum will be updated periodically.

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## Overview

The range of estimates in this report represents our best judgment of the expected savings that will be achieved within the report's time period of 2014-2020.

Total savings in 2020 are expected to be in the range (low-high) of \$553-\$1,834 million. There are different ways to estimate the allocation between base and trend savings, but the totals are consistent with the report as issued. For 2014-2020, about 60% of savings are attributable to base reductions and about 40% are attributable to trend reductions. In future years, trend reductions will be a larger proportion of the savings.

## Estimate Ranges

This report presents all estimates as ranges. These ranges are intended to reflect uncertainty that arises for two reasons – differences among the information sources on which we relied and the breadth of policy decisions that remain to be made. It is important to understand that the ranges represent the authors' judgment of the expected savings that will be achieved within the report's time period. However, in any individual category, it is possible that savings could be either above or below the expected range.

The report identifies various factors that can dampen the achievable savings, including fixed costs, capture mechanisms, behavioral responses, and the investments needed to achieve savings. Ranges reflect our estimates of the impact of these factors (see page 27 of the report).

For example, in the report's section related to "fraud," applying FBI estimates to Vermont would indicate between \$150 and \$500 million per year in fraudulent expenses (see page 35 of the report). This is based on the FBI's estimate that fraud accounts for 3% to 10% of all health care spending. Our high end of the range is based on assumptions that fraud accounts for 5% of health care spending in Vermont and that one-half of that fraudulent spending could be prevented. Our low end is based on fraud accounting for 3% of all health care spending and a 30% prevention rate.

As the report cited (page 38), a Rand study in Massachusetts indicated savings from payment reform alone in that state could vary from 1.4% to 14.3% of total health care spending from 2010 through 2020. Our estimates for "Clinical Reforms"<sup>1</sup> for the period 2014-2020 range from 1.1% to 4.2%. Over 10 years, a level of savings similar to that projected by Rand would be possible in Vermont, as well.

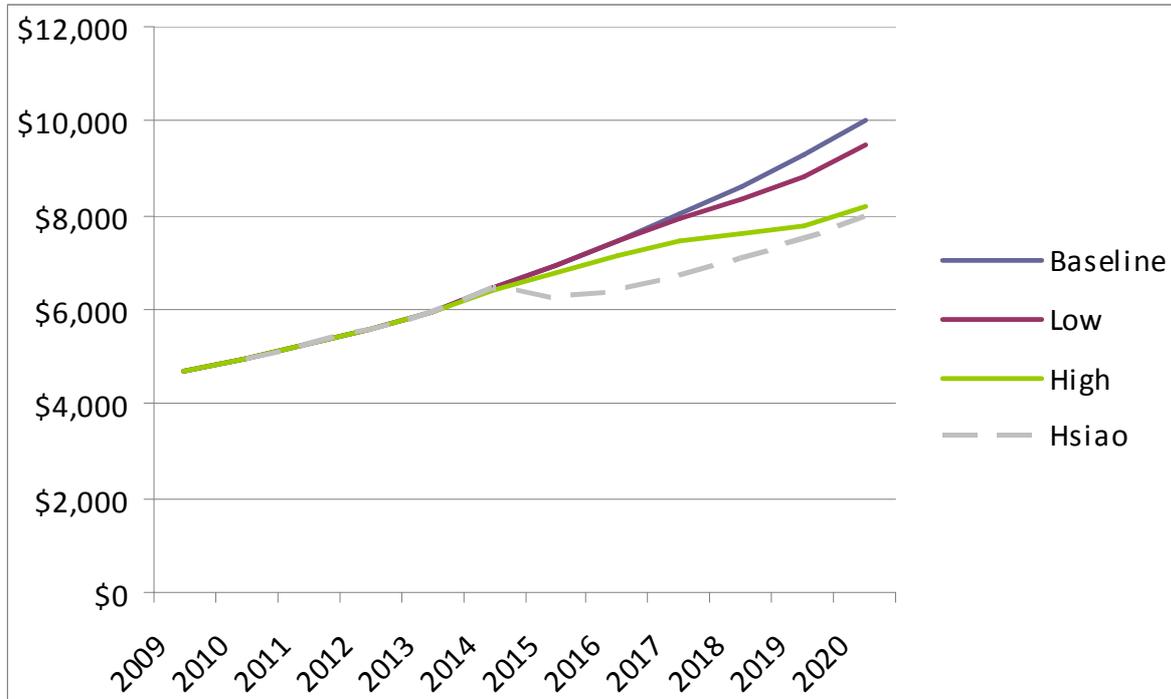
Specifically regarding the Blueprint, we did not do a separate estimate of savings attributable to that program but rather incorporated it as part of the "Clinical Reform" category. Others have tried to estimate the impact of the Blueprint and similar initiatives in other states, and the results vary widely. Dr. Hsiao's estimate of Blueprint-related savings based on similar projects was 1% of spending, but actual savings could be more or less. More detailed discussion of the Blueprint is forthcoming in a future additional addendum.

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<sup>1</sup> Including payment reform, reforms to the care process such as the Blueprint for Health, changes in benefits, and improved population health.

The graph below compares our baseline spending estimate, our low and high savings estimates, and the savings identified in the Hsiao report, adjusted to our baseline.

**Graph A: Baseline Spending and Estimated Savings (\$million)**



## Explanation of the Savings Tables

There have been a number of questions about how to read the individual savings tables. To help explain this, see Table 1 below. Each of the figures in the table is the NEW savings to be expected from that source in that year. For example, using the high range, we estimate that \$32 million could be saved in 2014, an additional \$37 million in 2015, an additional \$43 million in 2016, and so on. Adding up these figures will give you a ballpark estimate of total savings in that area, but will actually underestimate savings over time because these figures do not include the current year savings attributable to prior years' reductions in the base. In other words, the \$32 million reduction in 2014 will also contribute to savings in all future years because it reduces the base upon which growth is estimated. This is true for all subsequent years.

**Table 1: Consensus Savings Estimates Attributable to Reduction in Fraud (\$millions)**  
*Year-Specific Savings*

Change in	2014	2015	2016	2017	2018
Base (low)	(\$12)	(\$13)	(\$15)	(\$17)	(\$20)
Base (high)	(\$32)	(\$37)	(\$43)	(\$48)	(\$55)

Table 2 shows the cumulative effect. The 2015 high estimate (\$72 million) is a combination of the \$32 million saved in 2014, an additional \$37 million in 2015, and \$3 million attributable to the ongoing effect of the 2014 reduction.

**Table 2: Consensus Savings Estimates Attributable to Reduction in Fraud (\$million)**  
*Cumulative savings*

	2014	2015	2016	2017	2018	2019	2020	2014 - 2020 Total
Base (low)	(\$12)	(\$26)	(\$43)	(\$64)	(\$88)	(\$95)	(\$103)	(\$430)
Base (high)	(\$32)	(\$72)	(\$120)	(\$177)	(\$245)	(\$264)	(\$285)	(\$1,194)

## Presentation of Savings Estimates

After the release of “Costs of Vermont’s Health Care System - Comparison of Baseline and Reformed System,” we received several questions on the allocation of savings among sources. In particular, there were questions about the relationship between the \$1.8 billion in total savings and the \$1.8 billion listed under “Clinical Reform” savings in 2020. Because of presentation choices, the original report attributed all 2020 savings to base reductions. In fact, even in 2020, savings are a combination of clinical reforms and other factors.

## An Alternate Presentation of Savings Estimates

The key elements of the Report’s high end savings projections for 2020 are:

- Total Savings: \$1.834 billion
- Clinical Reform Savings: \$871 million
- Other savings: \$1,030 million from administrative efficiencies and fraud reduction
- \$67 million in investment needed to achieve those savings  
(See Table 3 below)

As is described in the report, there are two different types of savings – base and trend. Although both types reduce spending, they operate differently. Base savings are “one-time” reductions in spending. Although they may occur for several years, they do not affect the underlying rate of spending growth. In the report, administration and fraud are treated as base savings. Trend savings are reductions in the actual rate of growth. Clinical reforms of all types are treated as trend savings in the report. In creating the savings tables, we had to choose between two options:

- year-specific: showing the NEW savings in that year attributable to that source
- cumulative: showing both the new savings in that year and the impact of savings from that source in prior years

The year-specific approach was used in the report for base savings because it most accurately shows how much each area would add to savings each year. The savings in each year, from both clinical reforms (trend) and the historical effects of base reductions, were attributed to clinical reforms. This creates confusion. For example, suppose you were making annual \$100 deposits to a savings account which had an initial balance of \$1,000. In the initial report, we would have attributed \$100 of the yearly growth in the account to the deposit and all other growth to interest. However, after the first year, some of that interest would have been earned on prior years’ interest and deposits, so how should we divide the sources of growth in the account between deposits and interest?

Both options have advantages and disadvantages.

- “year specific” allows us to accurately state savings for each individual year.
- “cumulative” shows cumulated savings, but may overestimate savings as there is some interaction between savings over time.

In the report, we allocated base reductions to the year in which they will occur, but we allocated all additional impacts to our trend category of “Clinical Reforms.” This approach was not the best way to distinguish the contribution of base reductions from trend reductions.

### Alternative Description Table:

Table 3 below was created by first calculating the savings attributable only to reductions in the base, using baseline trends, and then calculating the effect of trend reduction, with no base savings. While this presentation cannot be used to examine savings in a specific year, it more accurately reflects the cumulative effects of each type of savings. As can be seen, from 2014-2020, about 60% of savings are attributable to base reductions and about 40% are attributable to trend reductions. In future years, trend reductions will be a larger proportion of the savings.

**Table 3: Summary of Report Findings Estimates (\$million)**  
*Cumulative savings*

	2014	2015	2016	2017	2018	2019	2020	Total
<b>Baseline</b>	\$6,471	\$6,939	\$7,469	\$8,015	\$8,601	\$9,278	\$10,029	\$56,803
<b>Trend Savings (Clinical Reform)</b>								
Low	\$0	(\$5)	(\$19)	(\$47)	(\$90)	(\$150)	(\$230)	(\$540)
High	\$0	(\$19)	(\$76)	(\$184)	(\$351)	(\$579)	(\$871)	(\$2,081)
<b>Base Savings (Administration &amp; Fraud)</b>								
Low	(\$12)	(\$61)	(\$120)	(\$204)	(\$328)	(\$488)	(\$526)	(\$1,739)
High	(\$32)	(\$138)	(\$268)	(\$439)	(\$680)	(\$964)	(\$1,030)	(\$3,550)
<b>Investments Required</b>								
Low	\$15	\$46	\$110	\$148	\$173	\$187	\$202	\$881
High	\$5	\$15	\$37	\$49	\$58	\$62	\$67	\$294
<b>NET IMPACT<sup>1</sup></b>								
Low	\$3	(\$19)	(\$30)	(\$103)	(\$244)	(\$451)	(\$553)	(\$1,398)
High	(\$27)	(\$143)	(\$307)	(\$573)	(\$973)	(\$1,480)	(\$1,834)	(\$5,338)

<sup>1</sup> Net impact includes an adjustment for the interaction of trend savings and base savings. When each type is calculated separately, total savings are slightly overstated because the reduced trend operates on a higher baseline (base savings have not been taken). In order to eliminate the overstatement of savings, we reduced base and trend savings proportionally.

## Technical Explanation

In the report, savings were calculated by first estimating a revised spending amount and then comparing that amount to the baseline estimate. This revised spending amount is calculated as follows:

$$(\text{prior year spending} * (1 + \text{revised trend})) - \text{base savings}$$

For example, if spending in the prior year was \$1,000,000, baseline trend was 7%, projected trend reduction was 1%, and baseline savings were \$50,000, the calculation would be:

$$(\$1,000,000 * (1 + 6\%)) - \$50,000 = \$1,010,000.$$

The presentation challenge occurs in trying to portray most accurately the impact of a base savings in one year on future year spending. If there is no expected base reduction in the next year, and trend is expected to remain at 6%, estimated spending would be \$1,070,600. The question is “how much of the savings in the second year is attributable to the trend reduction and how much is attributable to the base reduction in the prior year?”

Table 4 below shows this issue. The base reduction in year two actually produces savings in year three, independent of any change in trend (shown in the first part of Table 4). In the report, we showed the specific amounts of base savings in each year, but did not include the prior year effects.

**Table 4: Illustration of Calculation to Allocate Savings Between Base and Trend**

### Baseline and \$50,000 Base Reduction only in Year 2

Year	Baseline (7% trend)	Revised	Savings from Base
1	\$1,000,000	\$1,000,000	
2	\$1,070,000	\$1,020,000	(\$50,000)
3	\$1,144,900	\$1,091,400	(\$53,500)

### Baseline and Trend Reduction Only (6%)

Year	Baseline (7% trend)	Revised	Savings from Trend
1	\$1,000,000	\$1,000,000	
2	\$1,070,000	\$1,060,000	(\$10,000)
3	\$1,144,900	\$1,123,600	(\$21,300)

### Combined

Year	Baseline (7% trend)	Revised	Savings from Both
1	\$1,000,000	\$1,000,000	
2	\$1,070,000	\$1,010,000	(\$60,000)
3	\$1,144,900	\$1,070,600	(\$74,300)