

STATE OF VERMONT
DEPARTMENT OF BANKING, INSURANCE,
SECURITIES & HEALTH CARE ADMINISTRATION



LEGISLATIVE REPORT

DIVISION OF HEALTH CARE ADMINISTRATION

**TECHNICAL DOCUMENTATION
to the
VERMONT THREE-YEAR HEALTH CARE FORECAST:
2009 – 2012**

March 2010

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This technical document was prepared as an addendum to the *2008 Vermont Health Care Expenditure Analysis & Three-Year Forecast*, which meets the requirement under 18 V.S.A. § 9406(b)(1-4) that directs the Division of Health Care Administration (DHCA) of the Department of Banking, Insurance, Securities and Health Care Administration (BISHCA) to annually report the forecast of health care expenditures in Vermont for the next three years.

This report would not have been possible without the support of many individuals in government, private insurance, and the health care provider industry. BISHCA would like to thank all participants for their assistance in its preparation. If you have any questions about this report, please contact BISHCA at 802-828-2900 and ask for Michael Davis.

**Technical Documentation
to the
Vermont Three-Year Health Care
Forecast: 2009 - 2012**

A. Background

The Division of Health Care Administration (DHCA) of the Department of Banking, Insurance, Securities and Health Care Administration (BISHCA) has been forecasting health care expenditures since the mid-1990s. In 1997, the Vermont General Assembly passed Act 54 (18 V.S.A. § 9406), which included a provision that required BISHCA to annually prepare a ten-year forecast of health care expenditures made on behalf of Vermont residents. In 2002, the General Assembly passed Act 121, which changed the forecast requirement from ten years to three years and required that the forecast be used in the evaluation of health insurance rate and trend filings made to BISHCA and be made available in connection with the hospital budget review process. Act 53, passed by the General Assembly in 2003, included the requirement that the forecast be made available in connection with the Certificate of Need process and the development of the *Health Resource Allocation Plan*. (See Appendix A for a copy of 18 V.S.A. § 9406.)

Prior to 2001, the forecasts were prepared with the support of actuaries, although BISHCA has not included any actuarial review or data in the past few years. A comparison of actual data to a previous forecast is included in the *2008 Vermont Health Care Expenditure Analysis & Three-Year Forecast* report. Comments from providers and payers have been helpful and are encouraged to help improve the model in the future.

B. Methodology & Model

Methodology

The forecast model uses actual data from the annual *Vermont Health Care Expenditure Analysis* report produced by BISHCA every year. The current forecast is based on actual and estimated data through 2008. The methodology also relies heavily on the provider growth trends¹ from the Centers for Medicare and Medicaid Services (CMS) National Health Expenditure (NHE) model (see Appendix E). Future expenditure increases are then projected for each health care provider using the BISHCA-defined provider categories in the *Expenditure Analysis*. However, there is one exception; Vermont Medicaid total growth reflects data and input from State Medicaid budget projections and the Vermont Agency of Human Services (AHS).

The projections for the Global Commitment for Health (Medicaid) are included in the resident model. The projections are based on data available at the time of publication. However, we have learned that new changes to the State budget might affect this projection. Aside from that, the

¹ http://www.cms.hhs.gov/NationalHealthExpendData/03_NationalHealthAccountsProjected.asp

forecast model assumes no significant changes in enrollment or significant program policy changes in Medicare or Medicaid.

Other adjustments are made to the projections when BISHCA is able to obtain data specific to Vermont. For example, because BISHCA has more current Vermont community hospital data, these data are included in the model. Also, recent trends for Brattleboro Retreat (a private psychiatric hospital), home health care, and nursing homes are included in the projections. Detail is shown in Appendix B.

Once provider expenditures have been projected, the source of funds by payer is allocated for each provider. The distribution of the source of funds is allocated based upon the distribution from the last year of available actual Vermont data, currently 2008 data. BISHCA does not attempt to anticipate Medicare payment policy, Medicaid payment and program policies, or changes in the uninsured rate. Rather, the model assumes that the payers will have roughly the same share of health care costs over the next few years. The aging of the population and other factors do have an effect on who will pay the bill, but that is captured in the CMS macroeconomic and demographic growth assumptions applied to the providers. (See Appendix E.)

The preparation of a forecasting model requires a number of decisions as to how to measure and present the data as well as the need for subjective judgment about external policies that might be occurring in health care. The following lists the significant assumptions used in building the model.

1. The forecast is primarily based upon provider projections prepared by CMS.
2. The aging of the population is built into the CMS provider expenditure projections.
3. Utilization and intensity changes vary by provider type. Such changes in the model are a function of the techniques used by CMS as it models growth by various providers. (See Appendix E)
4. No significant program policy changes have been included in the Medicaid projections. However, in the Resident model, Medicaid total growth reflects data from State Medicaid budget projections and input from AHS, which may include some effects of such program changes.
5. No significant program policy changes have been included in the Medicare projections.
6. No significant enrollment change across payers is estimated.

Model – Two Distinct Forecasts

The model forecasts health costs from two perspectives. It measures expenditure increases from the Vermont *Provider* perspective (services to Vermonters and out-of-state residents receiving care at Vermont facilities) and also measures increases from the *Resident* perspective (Vermont

residents receiving care in-state and out-of-state – also called the Payer model). These two perspectives represent two unique populations.

For the Provider model, provider service expenditures are projected forward, and then allocated by payer based on the most recent distributions (in the Provider model) that have been reported through 2008. For the Resident model, provider service expenditures are also projected forward, and are allocated by payer based on 2008 Resident distributions. The one exception is that in the Resident model, Medicaid is projected independently based on their budgeted growth rates. (See Appendix D.)

There are reasons for the differences in the total rate of growth between BISHCA's forecast and the CMS projections. First, the relative share of each of Vermont's providers and services is different than the national distribution. Second, as noted previously, BISHCA has access to more current Vermont community hospital data, projected Medicaid data, and other Vermont provider trend data. Third, the CMS projections include some provider categories that BISHCA does not include.

A graphical depiction of the methods and models used to build the forecast is included in Appendix D. It shows the base expenditures for both the Provider and Resident models and how growth factors and allocations are applied to arrive at the projections.

2008 Methodology Changes

For 2008 data upon which the projections are based, there were some methodology changes based on more accurate information. The change with the largest impact on spending was in the calculation for out-of-pocket (OOP) expenditures for 2008. BISHCA recently received data on OOP spending from the Vermont Household Health Insurance Survey, and the data indicated higher OOP expenditures than were calculated previously. The result is a higher estimate for 2008 resident expenditures by close to \$70 million, primarily for OOP spending for physician and dental services, with a reduction in OOP drug spending. The effects of this methodology change are reflected in the forecast.

C. Use of the Three-Year Forecast

The *Three-Year Forecast*, the *Expenditure Analysis* and the *Unified Health Care Budget* are distinct products used by BISHCA in administering its statutory obligations. The following outlines the purposes currently planned for the *Three-Year Forecast* and how they interrelate with different BISHCA tasks.

1. Expenditure Analysis

The *Vermont Health Care Expenditure Analysis* is an annual publication that provides a description of the dollars that were spent for health care on behalf of Vermonters. The analysis is broken out to show how dollars were spent from both a Payer and Provider perspective. The *Expenditure Analysis* enables BISHCA to examine the system on a number of levels. Some examples of its use as an analytical tool include identifying the fastest growing sectors and shifts in Vermont's health system, and demonstrating the relative contributions of private health insurance and government programs such as

Medicaid and Medicare. The *Expenditure Analysis* helps in understanding cause and effect within the system and facilitates more effective and meaningful debate for public policy development.

The *Expenditure Analysis* also serves as the base from which projections of future health care expenditures are developed. It provides the definitional guideline for recording health care expenditures and provides trend data, which, along with the forecast, supports ongoing analysis of health care expenditures.

2. Unified Health Care Budget²

BISHCA is required by law to establish a *Unified Health Care Budget* (UHCB) each year. The Budget is intended to serve as the basic guideline within which Vermont can control health care costs, direct resources, and ensure that Vermonters have access to high-quality services. **Development of the *Unified Health Care Budget* is based upon the annual *Expenditure Analysis* along with the formal hospital budget reviews.**

A draft UHCB and *Three-Year Forecast* is presented through a public comment process, which takes place concurrently with the hospital budget review process. Interested parties, provider bargaining groups, and hospitals are asked to provide input. The final UHCB is then established once the Commissioner of BISHCA approves the hospital budgets. The final UHCB for each year is comprised of the total amount of money approved for hospital budgets through the hospital budget review process, together with the expenditure forecasts for other sectors of the health care system.

The development of the UHCB, including discussions with health care plans regarding forecasted costs, should help improve the process and projections of future health care expenditures. Understanding trends and changes in costs from the perspective of the payers should improve forecast accuracy.

The *Three-Year Forecast* includes a certain dependence on growth trends experienced at the national level that may not be similar to what occurs in Vermont. BISHCA recognizes that the forecast needs more current Vermont-specific data to replace the dependence on national data in order to reflect trends that are unique to the state. Our strong reporting system for the Vermont community hospitals allows BISHCA to modify the report to be more Vermont-specific, but other Vermont-specific data would improve the model.

3. Uses with Insurance Rate Filings

Vermont law provides that insurance rates shall not be unjust, unfair, inequitable, excessive, inadequate, unfairly discriminatory, or otherwise contrary to the law.³ BISHCA analyzes utilization and cost trends as well as the historical financial performance of each insurance product when it reviews proposed insurance premiums. A key issue in establishing a future rate is making a projection of future trends based upon current cost and utilization data. Traditionally, this prediction relies heavily on historical patterns.

² See 18 V.S.A. § 9406(a)

³ See e.g., 8 V.S.A. §§ 4062, 4513, 4584 and 5104.

National factors can also play a large role in this prediction, especially for businesses that write insurance outside of Vermont.

The Department and its contracted actuaries consult the data contained in the forecast when reviewing health insurance rate filings. This data also aids BISHCA and its actuaries when analyzing the relationship between hospital rate increases and increases in insurance premiums.

The Cost Shift Task Force Report⁴ discusses some current limitations in analyzing the reporting from hospitals and insurance companies. This report was filed in December 2006 with The Commission on Health Care Reform and was updated in March 2008 and February 2009. The Task Force acknowledged that the reporting taxonomies used to support insurance and budget regulatory systems are not currently compatible. It was expressed that additional work will need to be completed to better understand how to make regulatory and reporting requirements more consistent. As part of BISHCA's continuing review of insurance data, an analysis of health insurance administrative costs was completed in December 2009.⁵

4. Act 53

The passage of Act 53 in 2003 required BISHCA to prepare a four-year capital budget and a health resource allocation plan. The *Three-Year Forecast* served as a contextual framework in developing the *Health Resource Allocation Plan (HRAP)*, which was adopted by the Governor in August 2005. It also informed the update to the HRAP, which was adopted by the Commissioner of BISHCA in July 2009. The forecast can also be used in the Certificate of Need (CON) process that BISHCA administers. BISHCA continues to review how these projects should be coordinated as part of the overall health care planning envisioned in Act 53.

D. Forecast Increases Versus Rate/Price Increases

Increases in the forecast are measures of change in *total spending* from one year to the next. *Total spending* is comprised of prices for services, number of events, and the product mix. The forecast does not reflect increases in *prices or rates* that a company or individual will experience. It is necessary to understand this concept when examining health care spending.

This can be illustrated by an analysis of insurance premiums. Total spending for health insurance premiums (commercial and self-insured) by Vermonters has averaged an annual increase of 8 percent for the period 2005 through 2008. This, however, was not the annual increase in premiums of 15 percent to 20 percent the consumer may have experienced in different insurance markets. The increase in insurance rates goes beyond the increase in the underlying economic costs.

⁴ See "2006 Cost Shift Task Force Report" under Cost Shift Report on the Hospital & Financial Health Care Reports page of BISHCA's web site, <http://www.bishca.state.vt.us/health-care/hospitals-health-care-practitioners/hospital-financial-health-care-reports>

⁵ See "Health Plan Administrative Cost Report" under "Legislative Reports" on the Research Data & Reports page of BISHCA's web site, <http://www.bishca.state.vt.us/health-care/research-data-reports/research-data-reports>

In addition to the cost of health care services, rates are driven by a variety of different factors. These include the insurance market, the type of plan, cost shifting, scope of coverage, and enrollment effects. One factor is change to a benefit design in a particular health insurance plan. For example, plans with lower deductibles and co-payments often see higher increases in premium rates. In addition, plans with a more expansive scope of coverage generally have higher premiums. Cost shifting is another factor that is less obvious to the consumer, but exists because lower payments by Medicare and Medicaid result in cost increases to private premium plans. Decreased enrollment in a particular plan can also lead to increases in premiums. These factors and many more have an impact on the rising cost of health insurance premiums. The difficulty in adequately measuring these factors was also discussed in the Cost Shift Task Force Report.⁶

Accordingly, it is important to understand that many different factors beyond total spending have an impact on insurance premium rate increases. The reader should be aware of these factors when analyzing insurance premium increases.

E. Limitations

All forecast models have limitations that are a function of a variety of assumptions and techniques that are used to project costs. Some of the limitations are outlined below.

- Unavailability of Vermont-specific data: Where possible, Vermont specific data is used to project costs. National data from CMS is the primary source for the forecast model, although BISHCA has more current and budgeted data from the Vermont community hospitals and Medicaid. Any analysis of projected expenditures should acknowledge that national data might not be typical of Vermont.
- Refinements of definitions: Definitions are sometimes refined for the various health care provider categories. As these categories are adjusted for reporting and classification purposes, year-to-year growth trends could be altered. Changes in definitions can affect trends that are in the model.
- Projections of sources of funds: Since enrollment data is difficult to predict, BISHCA does not attempt to project changes in it. Instead, the projections of the sources of funds are heavily dependent upon the distribution of actual expenditures reported in the most recent year.

F. Next Steps

BISHCA will continue to work with providers, payers, and other interested parties to refine the three-year forecast process and determine the most appropriate use of the data as it relates to BISHCA's regulatory responsibilities. Comments from payers and providers are encouraged to help refine the forecast model and further understand the relationship between actual and projected

⁶ See BISHCA's web site, <http://www.bishca.state.vt.us/health-care/hospitals-health-care-practitioners/hospital-financial-health-care-reports>

data. And BISHCA is working to make the forecast more meaningful and more sensitive to Vermont's experience.

Plans for improvement include refining the *Expenditure Analysis* and developing the forecast model with easier software design to update and analyze the information. BISHCA is also examining how the forecast and the HRAP can inform each other. It is believed that these efforts, along with an improved understanding of insurance plan data, will help maximize the use of the *Three-Year Forecast*. BISHCA believes that it is critical to provide a useful product for the stakeholders in the system that can help identify needed resources in future budget years.

APPENDICES

- A. Vermont Statute 18 V.S.A. § 9406
- B. Category Definitions and Data Sources
- C. Data Tables
- D. Three-Year Forecast Model
- E. National Model, Methods, and Projections

Appendix A

Vermont Statute

Title 18: Health

Chapter 221: Health Care Administration

18 V.S.A. § 9406. Expenditure analysis; unified health care budget

(a) Annually, the commissioner shall develop a unified health care budget and develop an expenditure analysis to promote the policies set forth in section 9401 of this title.

(1) The budget shall:

(A) Serve as a guideline within which health care costs are controlled, resources directed, and quality and access assured.

(B) Identify the total amount of money that has been and is projected to be expended annually for all health care services provided by health care facilities and providers in Vermont, and for all health care services provided to residents of this state.

(C) Identify any inconsistencies with the state health plan and the health resource allocation plan.

(D) Analyze health care costs and the impact of the budget on those who receive, provide, and pay for health care services.

(2) The commissioner shall enter into discussions with health care facilities and with health care provider bargaining groups created under section 9409 of this title concerning matters related to the unified health care budget.

(b)(1) Annually the division shall prepare a three-year projection of health care expenditures made on behalf of Vermont residents, based on the format of the health care budget and expenditure analysis adopted by the commissioner under this section, projecting expenditures in broad sectors such as hospital, physician, home health, or pharmacy. The projection shall include estimates for:

(A) expenditures for the health plans of any hospital and medical service corporation, health maintenance organizations, Medicaid program, or other health plan regulated by this state which covers more than five percent of the state population; and

(B) expenditures for Medicare, all self-insured employers, and all other health insurance.

(2) Each health plan payer identified under subdivision (1)(A) of this subsection may comment on the division's proposed projections, including comments concerning whether the plan agrees with the proposed projection, alternative projections developed by the plan, and a description of what mechanisms, if any, the plan has identified to reduce its health care expenditures. Comments may also include a comparison of the plan's actual expenditures with the applicable

Appendix A

projections for the prior year, and an evaluation of the efficacy of any cost containment efforts the plan has made.

(3) The division's projections prepared under this subsection shall be used as a tool in the evaluation of health insurance rate and trend filings with the department and shall be made available in connection with the hospital budget review process under subchapter 7 of this chapter, the certificate of need process under subchapter 5 of this chapter, and the development of the health resource allocation plan.

(4) The division shall prepare a report of the final projections made under this subsection, and file the report with the general assembly on or before January 15 of each year. (Added 1991, No. 160 (Adj. Sess.), § 1, eff. May 11, 1992; amended 1995, No. 180 (Adj. Sess.), §§ 12, 38(a); 1997, No. 54, § 13, eff. June 26, 1997; 2001, No. 121 (Adj. Sess.), §§ 1, 2, eff. June 5, 2002; 2003, No. 53, §§ 6, 26; 2003, No. 122 (Adj. Sess.), § 294m.)

TECHNICAL DOCUMENTATION TO THE VERMONT THREE-YEAR
HEALTH CARE FORECAST: 2008-2011

Appendix B

Category Definitions and Data Sources: RESIDENT (Payer) Matrix

| Expenditure Categories | Definition | Data Sources for Payer Matrix | Allocation to Provider Services |
|--------------------------|---|---|---|
| <u>Out-of-Pocket</u> | Includes expenditures made directly by consumers to purchase health care services and supplies: includes deductibles and coinsurance. Excludes payments for insurance premiums that are included in the insurance expenditure category. | Average of NHE per capita data and data from Market Decisions (from the 2008 VT Household Health Insurance Survey). | Allocation based on NHE distributions, line item data from Market Decisions, and other Resident expenditures. |
| <u>Insurance</u> | | | |
| - Private | Includes expenditures made by BCBSVT, MVP, CIGNA and other private commercial payers that sell benefit plans regulated by BISHCA. Includes comprehensive major medical insurance, Medicare supplement insurance, long-term care, and dental insurance. Excludes accident only and disability insurance. | BCBSVT, CIGNA, and MVP reported 2008 data by provider service category. Other private commercial insurance expenditures were calculated from the 2008 Annual Statement Supplement filed with BISHCA. | Allocation as reported by BCBSVT, CIGNA, and MVP. Other private allocation based on BCBSVT and MVP distribution. |
| - Self-Insured | Includes expenditures by companies that assume financial risk and directly pay for health services for their employees. These plans are exempt from state regulation under ERISA. | The estimate of self-insured lives is a residual based on subtracting data for lives enrolled in fully insured plans, Medicare, Medicaid and the uninsured from the total population. Total lives were multiplied by the Vermont State Employees Medical and Dental Plans' premium rates. | Allocation based on BCBSVT and MVP distribution. |
| - Workers' Compensation | Includes the medical component of workers' compensation claims. Some of these claims are self-insured and some are private insurance. | Calculated with data from A.M. Best, the National Council on Compensation Ins., and the National Academy of Social Ins. | Allocation based on 2008 workers' compensation medical payments in Oregon. |
| <u>Medicare</u> | Includes expenditures made by the federal government on behalf of beneficiaries of the national Medicare program, including the elderly and disabled. | 2007 claims data for Medicare beneficiaries who are VT residents regardless of location of covered services received, and inflated by a 3-year average increase, with adjustments for drugs and admin. | Allocation from 2007 claims data for VT beneficiaries. |
| <u>Medicaid</u> | Includes health expenditures for beneficiaries of VT's medical assistance program, a federal-state health insurance program for certain low-income and medically needy people and aged, blind, and disabled residents. The program provides medical and prescription drug coverage. | 2008 Medicaid expenditure claims data prepared by AHS. Global Commitment, Long-Term Care, SCHIP, and MCO Investments are included in the data. | Allocation based on claims data and input from AHS. |
| <u>Other Federal</u> | Includes federal expenditures to operate the V.A. Hospital, grants administered by the VT Dept. of Health for health care services not covered through the Medicare or Medicaid program, and expenditures on federally qualified health centers. | 2008 data from the V.A. Hospital, AHS, and the Bi-State Primary Care Association. | Allocation based on input from AHS. |
| <u>State & Local</u> | Includes public health activities and payments made by the state government for health care services that are not covered through the Medicare or Medicaid program. | 2008 data from AHS, the VT State Hospital, the V.A. Hospital, and DHCA. | Allocation based on input from AHS. |

| | | | |
|---------------|---|-------|---|
| Acronyms: AHS | Agency of Human Services | DME | Durable medical equipment |
| BCBSVT | Blue Cross Blue Shield of Vermont | ERISA | Employment Retirement Income Security Act of 1974 |
| BISHCA | Department of Banking, Insurance, Securities and Health Care Administration | NHE | National Health Expenditures model |
| CIGNA | Connecticut General Life Ins Co of Amer. | V.A. | Veterans' Administration |
| DHCA | Division of Health Care Administration | VPQHC | Vermont Program for Quality in Health Care |
| | | SCHIP | State Children's Health Insurance Program |

TECHNICAL DOCUMENTATION TO THE VERMONT THREE-YEAR
HEALTH CARE FORECAST: 2008-2011

Appendix B

Category Definitions and Data Sources: PROVIDER Matrix

| Expenditure Categories | Definition | Data Sources for Provider Matrix | Allocation to Payers of Services | Forecast Method |
|---|---|---|--|---|
| <u>Hospitals</u> | Includes net revenues from all inpatient and outpatient acute care services and paid physician salaries and expenses at VT community hospitals, Brattleboro Retreat, VT State Hospital, and V.A. Hospital. | 2008 data from all VT non-profit community hospitals, VT State Hospital, V.A. Hospital, and Brattleboro Retreat. | Government expenditures allocated as reported by hospitals. Private expenditures allocated based on resident matrix. | NHE hospital % projection increases except for Community Hospital 2009 projected and 2010 budget from BISHCA hospital budget process, and Brattleboro Retreat 3-year moving average with NHE %. |
| <u>Physician Services</u> | Includes revenue for all physicians (including osteopathic physicians), rural health clinics, federally qualified health centers, nurse practitioners, and physician assistants. Salaries and expenses paid for Vermont hospital-owned physician practices are excluded (see Hospitals). | 2002 U.S. Economic Census, inflated to 2008 with NHE data. | Allocation based on resident matrix. Represents total net practice revenue, not physician net income. | NHE physician % projections. |
| <u>Dental Services</u> | Includes revenue for dental and oral surgery services. | 2002 U.S. Economic Census, inflated to 2008 with NHE data. | Allocation based on resident matrix. | NHE dental % projections. |
| <u>Other Professional Services</u> | Includes all revenue for services provided by licensed health care professionals who are not physicians or dentists and who directly bill for their services. Includes: chiropractic services, physical therapy services, podiatrist services, psychological services, and all other expenditures for services provided by health professionals that are not specifically identified. | Chiropractic, physical therapy, psychological, podiatrist, and other professional services data from 2002 U.S. Economic Census, inflated to 2008 with NHE data. | Allocation based on resident matrix. | NHE other professional % projections. |
| <u>Home Health Care</u> | Includes revenue from all services provided by home health agencies. | 2008 data from the VT Assembly of Home Health Agencies (non-profit agencies), Professional Nurses Service (PNS), and Associates in Physical & Occupational Therapy. | Expenditures allocated based on resident matrix except government expenditures reported by VT Assembly of Home Health Agencies and PNS. | Average of 3-year moving average and NHE home health % projections. |
| <u>Drugs and Supplies</u> | Includes all revenue for prescription drugs and non-durable supplies that are purchased by prescription. Non-prescription drugs are included. | 2008 Verispan, L.L.C. data (Henry J. Kaiser Family Foundation, State Health Facts Online) averaged with 2008 NHE drugs growth rate. Estimate for supplies added. | Allocation based on resident matrix. | Weighted average of NHE prescription drugs and non-durable medical supplies % projections. |
| <u>Vision Products & DME</u> | Includes all revenue for products that aid sight and for all services provided by optometrists and opticians. Also includes expenditures for durable medical equipment purchased from independent vendors. | 2002 U.S. Economic Census, inflated to 2008 with NHE data. | Allocation based on resident matrix. | Weighted average of NHE other professional and durable medical equipment % projections. |
| <u>Nursing Home Care</u> | Includes all revenues received by nursing homes, including intermediate care facilities and skilled nursing facilities. | Expenditure data reported to AHS Division of Rate Setting for 2008. Estimates added for non-Medicaid homes. | Government expenditures allocated as reported by nursing homes to AHS. Private expenditures distributed based on resident matrix. | Average of 3-year moving average and NHE nursing home % projections. |
| <u>Other / Unclassified Health Services</u> | Includes all services not specified elsewhere, including college health fees, office-based business health spending, and some public school health spending. | University of Vermont, Vermont Department of Education, others. | Expenditures are classified primarily as out-of-pocket and state & local. | NHE other personal health care % projections. |
| <u>Government Health Activities</u> | Includes all expenditures for health activities through AHS, public mental health funding, case management services, and VT Department of Corrections health-related spending. State and Federal grants and DHCA expenditures are also included. | AHS and DHCA. | Allocated as reported by AHS. AHS does not include employee or operating costs, only grant programs. DHCA includes employee and operating costs and contract with VPQHC. | Resident Medicaid annual increases projected separately based on AHS/OVHA projections, and applied to this category. |

TECHNICAL DOCUMENTATION TO THE VERMONT THREE-YEAR
HEALTH CARE FORECAST: 2008-2011
Appendix C – Data Tables

2005-2012 Vermont Resident Health Care Expenditures

(\$ in thousands)

| PAYERS | 2005 | 2006 | 2007 | 2008 | Projected | | | |
|------------------------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| | | | | | 2009 | 2010 | 2011 | 2012 |
| Out-of-Pocket | \$493,722 | \$493,986 | \$579,321 | \$595,542 | \$622,681 | \$649,345 | \$681,830 | \$717,207 |
| Private Insurance | \$1,511,694 | \$1,633,371 | \$1,785,531 | \$1,904,491 | \$2,020,473 | \$2,127,840 | \$2,249,596 | \$2,378,504 |
| Medicare | \$590,902 | \$730,539 | \$795,103 | \$863,428 | \$917,025 | \$968,649 | \$1,025,813 | \$1,087,546 |
| Medicaid | \$914,567 | \$950,774 | \$963,730 | \$1,060,444 | \$1,180,748 | \$1,261,368 | \$1,375,980 | \$1,501,005 |
| Other Government | \$123,018 | \$173,952 | \$169,878 | \$182,319 | \$195,170 | \$206,452 | \$220,664 | \$236,500 |
| TOTAL RESIDENT EXPENDITURES | \$3,633,904 | \$3,982,622 | \$4,293,563 | \$4,606,224 | \$4,936,097 | \$5,213,654 | \$5,553,883 | \$5,920,762 |
| Annual Percent Change | 7.5% | 9.6% | 7.8% | 7.3% | 7.2% | 5.6% | 6.5% | 6.6% |

| PROVIDERS | 2005 | 2006 | 2007 | 2008 | Projected | | | |
|------------------------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| | | | | | 2009 | 2010 | 2011 | 2012 |
| Hospitals | \$1,192,802 | \$1,351,601 | \$1,449,847 | \$1,638,453 | \$1,752,718 | \$1,867,527 | \$1,990,427 | \$2,123,403 |
| Physician Services | \$575,958 | \$601,545 | \$658,585 | \$696,608 | \$743,129 | \$769,085 | \$806,868 | \$849,103 |
| Dental Services | \$125,880 | \$124,531 | \$198,349 | \$212,396 | \$218,271 | \$228,121 | \$238,870 | \$250,384 |
| Other Professional Services | \$139,133 | \$157,762 | \$152,756 | \$157,926 | \$169,069 | \$176,555 | \$187,245 | \$198,455 |
| Home Health Care | \$125,705 | \$87,949 | \$95,349 | \$106,764 | \$114,040 | \$120,396 | \$128,238 | \$137,426 |
| Drugs & Supplies | \$523,401 | \$561,870 | \$538,992 | \$567,297 | \$591,689 | \$618,919 | \$657,110 | \$698,669 |
| Vision Products & DME | \$66,063 | \$70,102 | \$89,392 | \$90,749 | \$99,375 | \$102,746 | \$107,105 | \$112,406 |
| Nursing Home Care | \$207,723 | \$216,337 | \$240,599 | \$255,725 | \$275,778 | \$292,417 | \$313,457 | \$335,816 |
| Other/Unclassified Health Services | \$64,337 | \$37,364 | \$34,399 | \$34,746 | \$37,660 | \$41,252 | \$45,345 | \$49,927 |
| Admin/Net Cost of Health Insurance | \$299,025 | \$320,484 | \$386,601 | \$348,290 | \$380,685 | \$405,147 | \$433,985 | \$461,314 |
| Government Health Care Activities | \$313,876 | \$453,075 | \$448,693 | \$497,270 | \$553,684 | \$591,489 | \$645,233 | \$703,861 |
| TOTAL RESIDENT EXPENDITURES | \$3,633,904 | \$3,982,622 | \$4,293,563 | \$4,606,224 | \$4,936,097 | \$5,213,654 | \$5,553,883 | \$5,920,762 |
| Annual Percent Change | 7.5% | 9.6% | 7.8% | 7.3% | 7.2% | 5.6% | 6.5% | 6.6% |

TECHNICAL DOCUMENTATION TO THE VERMONT THREE-YEAR
HEALTH CARE FORECAST: 2008-2011
Appendix C – Data Tables

2005-2012 Vermont Provider Health Care Expenditures

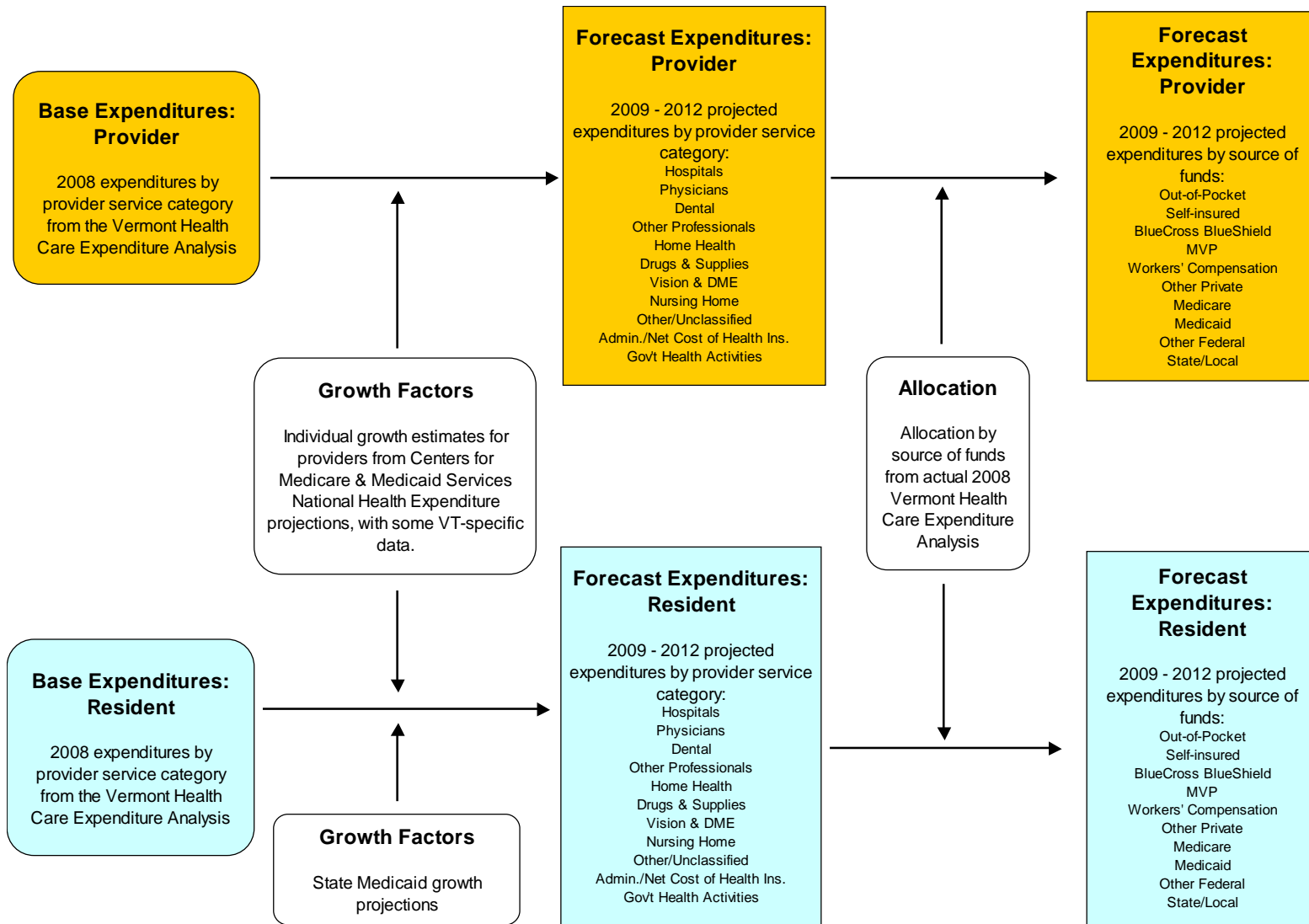
(\$ in thousands)

| PAYERS | 2005 | 2006 | 2007 | 2008 | Projected | | | |
|------------------------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| | | | | | 2009 | 2010 | 2011 | 2012 |
| Out-of-Pocket | \$513,514 | \$538,686 | \$565,056 | \$579,620 | \$605,584 | \$632,312 | \$664,764 | \$700,141 |
| Private Insurance | \$1,327,132 | \$1,470,286 | \$1,595,586 | \$1,750,785 | \$1,853,131 | \$1,951,402 | \$2,062,455 | \$2,182,930 |
| Medicare | \$636,288 | \$735,045 | \$843,950 | \$865,350 | \$918,173 | \$969,739 | \$1,026,359 | \$1,087,947 |
| Medicaid | \$863,150 | \$922,722 | \$921,084 | \$987,938 | \$1,068,839 | \$1,132,984 | \$1,215,486 | \$1,305,049 |
| Other Government | \$161,240 | \$215,498 | \$216,539 | \$234,999 | \$250,797 | \$264,942 | \$282,499 | \$302,098 |
| TOTAL PROVIDER EXPENDITURES | \$3,501,323 | \$3,882,238 | \$4,142,214 | \$4,418,692 | \$4,696,524 | \$4,951,379 | \$5,251,563 | \$5,578,164 |
| Annual Percent Change | 6.6% | 10.9% | 6.7% | 6.7% | 6.3% | 5.4% | 6.1% | 6.2% |

| PROVIDERS | 2005 | 2006 | 2007 | 2008 | Projected | | | |
|------------------------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| | | | | | 2009 | 2010 | 2011 | 2012 |
| Hospitals | \$1,459,843 | \$1,607,094 | \$1,748,089 | \$1,872,379 | \$1,998,155 | \$2,127,723 | \$2,260,881 | \$2,404,904 |
| Physician Services | \$505,970 | \$521,826 | \$571,072 | \$586,728 | \$620,675 | \$639,012 | \$665,938 | \$696,298 |
| Dental Services | \$203,427 | \$214,537 | \$226,151 | \$237,685 | \$242,438 | \$252,863 | \$263,736 | \$275,341 |
| Other Professional Services | \$160,419 | \$166,814 | \$175,786 | \$185,630 | \$193,798 | \$201,550 | \$212,635 | \$224,117 |
| Home Health Care | \$93,398 | \$96,280 | \$97,632 | \$100,440 | \$105,741 | \$111,180 | \$117,424 | \$125,024 |
| Drugs & Supplies | \$460,196 | \$504,254 | \$543,165 | \$584,238 | \$606,903 | \$632,824 | \$669,062 | \$708,471 |
| Vision Products & DME | \$68,166 | \$72,904 | \$73,179 | \$78,615 | \$84,760 | \$87,375 | \$90,688 | \$94,810 |
| Nursing Home Care | \$210,370 | \$218,373 | \$228,356 | \$244,732 | \$256,947 | \$270,665 | \$285,597 | \$300,852 |
| Other/Unclassified Health Services | \$25,658 | \$27,080 | \$30,092 | \$30,976 | \$33,423 | \$36,698 | \$40,368 | \$44,486 |
| Admin/Net Cost of Health Insurance | n.a. | n.a. | n.a. | n.a. | \$0 | \$0 | \$0 | \$0 |
| Government Health Care Activities | \$313,876 | \$453,075 | \$448,693 | \$497,270 | \$553,684 | \$591,489 | \$645,233 | \$703,861 |
| TOTAL PROVIDER EXPENDITURES | \$3,501,323 | \$3,882,238 | \$4,142,214 | \$4,418,692 | \$4,696,524 | \$4,951,379 | \$5,251,563 | \$5,578,164 |
| Annual Percent Change | 6.6% | 10.9% | 6.7% | 6.7% | 6.3% | 5.4% | 6.1% | 6.2% |

TECHNICAL DOCUMENTATION TO THE VERMONT THREE-YEAR
HEALTH CARE FORECAST: 2008-2011
Appendix D

**Vermont Health Expenditures
Three-Year Forecast Model**



Appendix E

National Health Expenditures Model, Methods, and Projections

The following was taken directly from the CMS website. See footnote for source and for further detail.

Projections of National Health Expenditures: Methodology and Model Specification¹

The Office of the Actuary (OACT) in the Centers for Medicare & Medicaid Services (CMS) annually produces short-term (11 years) projections of health care spending for categories within the National Health Expenditure Accounts (NHEA). When these projections are released, detailed tables appear on our website and a paper is published in Health Affairs. ¹ The NHEA track health spending by source of funds (for example, private, Medicare, Medicaid) and by type of service (hospital, physician, pharmaceuticals, etc.).

To produce projections for total National Health Expenditures (NHE), OACT combines projections for Medicare and Medicaid spending (based on actuarial techniques) with projections for private health spending (based on a multi-equation structural econometric model, hereafter referred to as the NHE Projection Model). The NHE Projection Model attempts to capture the causal relationships between major macroeconomic variables and private health spending, as well as interactions among major causal variables within the health sector. The macroeconomic and demographic outlook from the 2009 Trustees Report and the projections of Medicare and Medicaid spending produced by OACT are exogenous inputs into the model.

Projections are inherently subject to uncertainty. The models are estimated based on historical trends and relationships in health spending; any structural break in these relationships is generally unpredictable. These projections also rely on assumptions about macroeconomic conditions and health sector parameters and their relationship to health care spending, with the degree of uncertainty increasing along with the projection horizon. Therefore, we qualify our projections subject to these uncertainties and how they might affect our results.

¹ <http://www.cms.hhs.gov/NationalHealthExpendData/downloads/projections-methodology.pdf>

See also Sisko, A. et al., "Health Spending Projections through 2018: Recession Effects Add Uncertainty To The Outlook", Health Affairs, March/April 2009; 28(2): w346-w357 (published online 24 February 2009).