State of Vermont

Health Resource Allocation Plan

July 1, 2009

State of Vermont
Department of Banking, Insurance,
Securities & Health Care Administration

VERMONT

State of Vermont

Health Resource Allocation Plan

July 2009

State of Vermont
Department of Banking, Insurance,
Securities and Health Care Administration
89 Main Street
Montpelier, VT 05620-3101
www.bishca.state.vt.us

Consumer Assistance Only:
Insurance: 1-800-964-1784
Health Care Admin.: 1-800-631-7788
Securities: 1-877-550-3907

July 1, 2009

Dear Vermonters:

Pursuant to Title 18, Chapter 221, of the Vermont Statutes Annotated, I adopt this 2009 Health Resource Allocation Plan (HRAP). This document builds on lessons learned and feedback received from stakeholders following the first HRAP adopted on August 3, 2005. For the last four years, the 2005 HRAP has guided policymakers and influenced Vermont's health care investment priorities through the certificate of need process. Much important work has been done. Currently at the national level, a great deal of discussion centers around health care reform and in these discussions Vermont is recognized as a leader in innovative, collaborative approaches to addressing health care challenges.

The 2009 HRAP is intended to advance the valuable work accomplished with the first HRAP and build on our successes. The 2009 HRAP supports Vermont's most important health policy goals, including: enhancing chronic care management; promoting wellness; focusing on cost-effective health services; and integrating mental health and substance abuse services with other health services. We still have much work to do. The document draws together a diversity of recommendations and implementation options to inform and fuel further discussion. There is no presumption that all the options within the document should be or can be jointly acted upon. We hope that this will serve as a valuable resource in furthering our efforts to provide accessible, affordable, high quality health care to all Vermonters.

Sincerely,

Paulette J. Thabault, Commissioner
Department of Banking, Insurance,
Securities and Health Care Administration

Statement of Principles

- All residents shall have access to quality health services at costs that are affordable. To achieve this policy, the state shall oversee the quality of health care services provided in Vermont and cost containment.

- Vermont should maintain and improve the quality of health care services offered to Vermonters.

- Vermont should promote planning, market and other mechanisms that contain or reduce increases in the cost of delivering health care services to Vermonters so that such expenses do not consume a disproportionate share of Vermonters' incomes or the moneys available for other services required to insured health, safety and welfare.

- Vermont should encourage regional and local participation in decisions about health care delivery, financing and provider supply.

- Vermont should promote market, planning or other mechanisms that will achieve rational allocation of health care resources in Vermont.

- Vermont should facilitate universal access to preventive and medically necessary health care.

- All new health care projects in Vermont should be offered or developed in a manner which avoids unnecessary duplication and contains or reduces increases in the cost of delivering service, while at the same time maintaining and improving the quality of and access to health care services and promoting rational allocation of health care resources.

- The need, cost, type, level, quality and feasibility of providing any new health care project shall be subject to review and assessment prior to any offering or development.

Table of Contents

Chapter One – General Overview

Chapter Two – Ambulatory Care Services

Chapter Three – Hospital Services

Chapter Four –Mental Health and Substance Abuse Service

Chapter Five – Long-Term Care Services

List of Tables

Chapter One – General Overview

Chapter Two – Ambulatory Care Services

Chapter Three – Hospital Services

Chapter Four – Mental Health and Substance Abuse Services

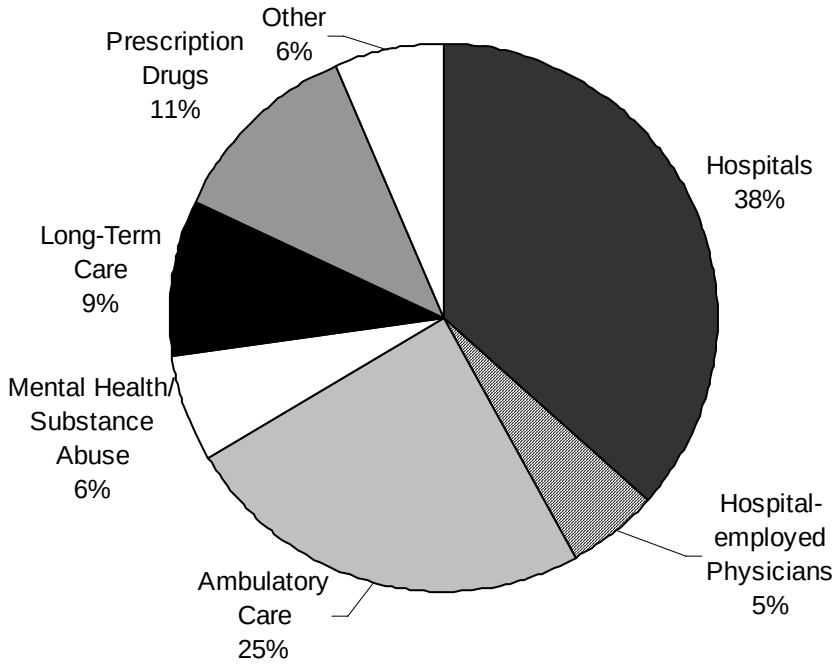
Chapter Five – Long-Term Care Services

(This page intentionally left blank.)

CHAPTER ONE

General Overview

Distribution of $4.2 Billion in 2007 Vermont Provider Health Care Expenditures[1]



INTRODUCTION

I. WHAT IS THE HRAP?

In 2003, as part of a broad health care reform effort, the Legislature mandated the Health Resource Allocation Plan. This section describes the legislative mandate and the Department of Banking, Insurance, Securities and Health Care Administration's (BISHCA) defined purpose of the HRAP.

[1] See the *2007 Vermont Health Care Expenditure Analysis & Three-Year Forecast* for details. Expenditures are for health care provided by Vermont providers to both in-state and out-of-state residents. Mental Health & Substance Abuse (MH/SA) includes only Government Health Activities Medicaid MH/SA spending for presentation purposes. Other MH/SA spending is captured in the other categories. The "Other" category includes retail sales of durable and non-durable medical products, revenues for optometrists and opticians, miscellaneous Medicaid health care spending, and costs for health care services not specified elsewhere.

A. Legislative Mandate

18 V.S.A. § 9405 requires that the HRAP include a statement of principles reflecting specified legislative policies, an inventory of specified health care resources and recommendations for appropriate supply and distribution of those resources.

The legislatively mandated principles are included at the beginning of this document. These principles capture a three-pronged approach to health care in Vermont: quality, cost effectiveness, and universal access. Often, these goals are hard, if not impossible, to achieve together. However, by keeping all three goals in mind through an emphasis on the Institute for Healthcare Improvement Triple Aim (discussed below in Section III D), it is hoped that the health care system will continue to evolve in a manner that brings Vermont closer to its legislatively stated goals.

As noted, the HRAP legislation requires an inventory of specified services: hospital, nursing home, and other inpatient services; home health and mental health services; treatment and prevention services for alcohol and other drug abuse; emergency care; ambulatory care services, including primary care resources, federally qualified health centers, and free clinics; major medical equipment; and health screening and early intervention services.[2] The 2009 HRAP contains an inventory of these services as well as other categories which are appropriate in light of the State's overarching policy goals.

Finally, the enacting legislation requires that the HRAP contain recommendations for the appropriate supply and distribution of health care services, as well as options for implementing such recommendations.[3] These recommendations are to take a variety of sources into account including: the 2005 State Health Plan drafted by the Vermont Department of Health; the needs of the Vermont population and the migration patterns of Vermonters and those from out-of-state for the delivery of health care services; the costs and cost impact of the provision of services; hospital budgets; and the BISHCA's four year hospital expenditure reports. BISHCA considered all of these sources, as well as received input from a variety of stakeholders in the creation of the 2009 HRAP. Implementation options included in this document are ideas for future discussion; we recognize that not all of the implementation options contained herein can (or should) be undertaken. It is our hope, however, by making some specific suggestions that the dialogue will advance Vermont's health care allocation priorities and goals.

B. Purpose of the HRAP

In preparing the 2009 HRAP, BISHCA surveyed stakeholders regarding the purpose of the HRAP. It became apparent that there were different views of how the HRAP could be used, as well as its primary purpose. For this reason, BISHCA developed a policy statement that defines the use of this document.

[2] 18 V.S.A. § 9405(b)(1)(B).
[3] 18 V.S.A. § 9405(b)(1)(C).

The 2009 HRAP shall:

- Contain current inventory information for those services mandated by statute and other services which are deemed important;
- Be user friendly – comprehensive, but specific and organized;
- Introduce new science, technology, standards and benchmarks to support regulatory functions;
- Introduce new ideas and policy considerations for feedback and further discussion, while recognizing that the healthcare system is complex and dynamic and that not all challenges can be addressed through a single document;
- Be a resource document for state policymakers and for those involved in the certificate of need process; and
- Provide source material for the public, health care providers and others interested in Vermont's health care system.

The HRAP does not tackle the issue of financing health care delivery. How we can and should finance our health care system – through private health insurance, publicly funded programs and out of pocket – is a complex issue and beyond the scope of this document. However, we understand that health care delivery does not happen irrespective of financing and we consistently have attempted to focus on the reality that availability of resources is a key factor in any health care resource allocation decision making. Much important work is being done in Vermont around the issue of financing our health care.[4] Additionally, as this HRAP goes to press, it is believed that the federal government may be poised to take significant action addressing health care access and financing.[5]

II. INVENTORY OVERVIEW

The Vermont Health Care Provider Services Inventory below provides an overall context to health care services and spending in Vermont. The services and spending shown in the table are for services provided to both Vermont residents and non-residents receiving health care in the state. Total Vermont health care provider spending totaled

[4] *See* E.K. Wicks, "Merging the Individual, Small-Group, and Association Markets in Vermont," Report to the Vermont Commission on Health Care Reform (January 2009), at http://www.leg.state.vt.us/CommissiononHealthCareReform/VT%20Merger%20Final%20Report%201-09.pdf (accessed June 2, 2009); Vermont Commission on Health Care Reform, "Introduction to Public Financing in Health Care," (December 2008), at http://www.leg.state.vt.us/CommissiononHealthCareReform/Introduction_to_Public_Financin.pdf (accessed June 2, 2009); N. Rockler and T. Kavet, "Health Care Financing Analysis – Executive Summary and Technical Appendices," Report to Vermont Commission on Health Care Reform (March 5, 2007), at http://www.leg.state.vt.us/CommissiononHealthCareReform/Memo-Health%20Care%20Financing%20Review%20-%20Final%20Draft%20031307.pdf (accessed June 2, 2009); S. Besio, "Vermont Health Care Reform: Five-Year Implementation Plan," (December 1, 2006).

[5] *See, e.g.* Editorial, "The Year for Health Care," *The San Francisco Chronicle*, May 17, 2009, at http://www.sfgate.com/cgi-bin/article.cgi?f=/c/a/2009/05/16/ED4G16HTP5.DTL (accessed May 18, 2009).

$4.2 billion in 2007, with Vermont's fourteen community hospitals accounting for $1.6 billion (38%) of the total.

Table 1.1: Vermont Health Care Provider Services Inventory

Provider Services	HRAP Chapters	2007 Expenditures (in millions)	Facilities / Establishments	Utilization 1	Utilization 2	Comments
Community Hospitals - Inpatient	Hospital Mental Health	$592.1	14 not-for-profit hospitals	1029 acute inpatient beds	48,275 inpatient admissions	Some hospitals have nursing homes beds, Rehab beds, and/or nursery beds.
Community Hospitals - Outpatient & ER	Hospital Ambulatory Care Mental Health	$986.0	Same as above	2.6 million outpatient visits	277,409 ER visits 75,602 OR procedures 6.2 million lab tests	Other outpatient services encompass many different services, including MRI procedures, CT scans, and diagnostic radiology procedures.
Hospital-Employed Physicians	Hospital Ambulatory Care	$216.7 (included in hospitals)	8 of 14 community hospitals employ physicians	1.2 million physician office visits		Employed physicians now include those besides ER physicians and anesthesiologists.
Veterans Administration Medical Center	Hospital Ambulatory Care Mental Health	$117.4	1 hospital 4 outpatient clinics (1 in NH)	60 inpatient beds	2421 inpatient admissions	
Vermont State Hospital	Hospital Mental Health	$19.6	1 hospital (Waterbury)	54 inpatient psychiatric beds	335 inpatient admissions	
Brattleboro Retreat	Hospital Mental Health	$33.0	1 hospital (Brattleboro)	149 beds of which 45 are adult psychiatric beds	2105 inpatient admissions	
Physician	Ambulatory Care Mental Health	$571.9	8 Federally-Qualified Health Centers and FQHC "look-alikes" 14 Rural Health Clinics 11 free care clinics			Besides the facilities listed to the left, physicians also operate out of individual practices.
Nursing Home	Long-Term Care	$227.0	42 nursing homes	3,340 beds	92% occupancy rate	
Home Health	Long-Term Care	$97.6	12 Medicare-certified home health agencies			
Drugs	No chapter	$479.8		7.9 million prescriptions filled		Includes drugs purchased by prescription at retail pharmacies. Does not include mail order prescriptions.
Dental	Ambulatory Care	$227.2	303 "establishments" 355 dentists			"Establishments" are Vermont 2002 employer and 2006 nonemployer firms from the U.S. Economic Census.
Other Professional	Ambulatory Care	$174.8				Includes chiropractors, physical therapists, psychologists, podiatrists, and other health care professionals not specifically identified.
Major Medical Equipment (MME)	Hospital	Costs included in hospital spending above	Various equipment at the 14 community hospitals and the VA hospital	See MME section in Chapter 3 for equipment counts	42,913 MRI procedures 130,883 CT scans (community hospitals only)	Some equipment is fixed and some is mobile.
Emergency Medical Services (EMS)	Hospital Ambulatory Care	Some costs are included in hospital ER spending	14 hospital emergency departments 89 ambulance svcs. 92 first responder svcs.	>75,000 EMS responses		Helicopter air ambulance services are available to Vermonters through Dartmouth-Hitchcock Medical Center in New Hampshire.
Mental Health & Substance Abuse	Mental Health & Substance Abuse	Costs included within the other categories	5 "designated" hospitals 10 community mental health centers	182 psychiatric beds 20 substance abuse crisis beds	4745 mental health or substance abuse hospitalizations	Much of this spending is under Government Health Activities.
Government Health Activities	Mental Health Long-Term Care Ambulatory Care Other	$478.9				Includes expenditures for primarily mental health and other direct care programs administered by the Vermont Agency of Human Services. See the 2007 Vermont Health Care Expenditure Analysis for more detail.
Vision, DME, supplies, other, unclassified	No chapter	$170.7				Includes retail sales of durable and non-durable medical products, revenues for optometrists and opticians, and costs for health care services not specified elsewhere, such as college and public school health services.
TOTAL		$4,176.0				

Also see the *2007 Vermont Health Care Expenditure Analysis & Three-Year Forecast* or contact BISHCA for details.

More reliable data is available for certain health services, such as data relating to community hospitals. Others, such as dental services, have no direct reporting obligations, so BISHCA estimates spending based on available data. It is important to note that many provider services are referenced in more than one chapter because they can be examined in different ways. For example, mental health services and spending are included in some form in all the chapters due to the broad nature of how and where mental health care is delivered.

BISHCA continues to refine its data collection and reporting of provider services. The annual *Vermont Health Care Expenditure Analysis & Three-Year Forecast* is an example of this ongoing effort to understand Vermont's health care system, primarily from the financial perspective. By examining existing and historical health care provider resources and utilization, this HRAP attempts to further our understanding of Vermont's health care services to help guide future resource allocation and planning.

III. OVERARCHING POLICY ISSUES

A. Vermont State Health Plan

By statute, the Vermont State Health Plan is a guiding document in the preparation of this HRAP. The Vermont State Health Plan was produced by the Vermont Department of Health in 2005. Thus, some of the issues highlighted in that document are not as relevant today or the policy focus has shifted. However, much remains relevant. The State Health Plan defines five key policy areas: prevention as a priority, access to care, quality of care, accountability and transparency, and integrated health information system.[6] These policy areas remain as key guiding principles in this 2009 HRAP.

A recurring theme throughout Vermont's health care reform efforts is the tension between allowing the free market to encourage efficiencies and eliminate waste in the health care delivery system and, on the other hand, the belief that health care is not like other industries and that a more regulatory, central planning approach is appropriate. The State Health Plan suggests that Vermont is too small to sustain a health care system based solely on free market principles.[7] The ideological debate between market forces and government oversight is not likely to be resolved. In this document, we acknowledge that health care is not like other markets in the sense that certain services must be

[6] Vermont Department of Health, "Vermont State Health Plan 2005," (2005), at pages 4-5.
[7] Vermont Department of Health, "Vermont State Health Plan 2005," (2005), at page 27. "With the exception of more urban locations, effective competition does not exist in much of the state. * * * In general, however, the Vermont population is probably too small and too rural to sustain a competitive market among larger health institutions."

purchased without an opportunity for choice (such as emergency services) and that, realistically, the average consumer often lacks adequate information to make many of the most important decisions. This can be true even if the information is readily available. The average person will not always be sufficiently equipped to appreciate and understand the myriad of important nuances in much of the medical science underlying the decision making process.

That said, we believe there is a very important place to encourage and harness the positive aspects of free market forces in health care. We believe that these forces can be utilized to promote the goals of the state, specifically having a high quality, cost efficient health care delivery system. The obstacle we struggle with today is that many market forces under which health care providers operate motivate behavior that is not aligned with overarching health care policy goals. Policymakers, both in this state and nationally, must examine ways in which the creative forces of market innovation can be harnessed to encourage a healthier population within the context of a more sustainable system cost structure.

B. Maximizing the Utilization of Effective Health Care

For many years, Jack Wennberg, Elliot Fisher, and their colleagues at the Dartmouth Institute for Health Policy and Clinical Practice[8] (TDI) have documented the variation in health care spending across geographic regions.[9] Consistently, high spending regions have not been shown to lead to better health outcomes.[10] In 2009, the Vermont Legislature and the Governor instructed BISHCA to examine statewide health care utilization variation with the goal of identifying inappropriate variations and recommending potential strategies to reduce overall health care cost increases by minimizing over-utilization and identifying under-utilization.[11]

Wennberg, et al. have divided health services into three general categories. They are effective care, preference sensitive care and supply sensitive care. Effective care refers to care which has been shown through randomized trials to result in better health outcomes.[12] Preference sensitive care refers to elective procedures which have both benefits and risks and where patient preference should determine the final choice for treatment.[13] Finally, supply sensitive care is discretionary care that is provided more

[8] TDI was formerly the Center for Evaluative Clinical Sciences.
[9] *See, e.g.*, J.E. Wennberg, "Practice Variations and Health Care Reform: Connecting the Dots," *Health Affairs* (2008): 140-144 (published online October 7, 2004), and sources cited therein.
[10] *See, e.g.*, M.B. Landrum, et al., "Is Spending More Always Wasteful? The Appropriateness of Care and Outcomes Among Colorectal Cancer Patients," *Health Affairs* 27, no.1 (2008): 159-168. Landrum, et al. found that, in relation to colorectal cancer, high spending regions tended to more consistently provide effective care, but this tendency was outweighed by the greater likelihood of delivery of discretionary or non-recommended care, sometimes leading to adverse outcomes for patients.
[11] An Act Relating to Containing Health Care Costs, Act No. 49 (2009 Session).
[12] E.Fisher, et al., "Health Care Spending, Quality and Outcomes," *Dartmouth Atlas Project Topic Brief* (February 27, 2009), at http://www.dartmouthatlas.org/atlases/Spending_Brief_022709.pdf (accessed May 18, 2009) , at page 2. *See, also* the 2005 HRAP at page xxxiv, discussing "appropriate care."
[13] "Health Care Spending, Quality and Outcomes," at page 2.

frequently when a population has a higher per capita supply of a specific medical resource.[14] For example, research shows that availability of more hospital beds in a certain area is directly correlated to more hospital bed usage, even when other care may be more appropriate.[15] Thus, it appears the existence of more health care delivery system capacity leads to the delivery of more services. Furthermore, research shows that the increase in services does not lead to improved health outcomes.[16] This research is vitally important to health resource allocation decision making, particularly in the area of supply sensitive care.

Consistent with this research, there is a growing concern that Americans (and Vermonters) use too many health care services without a corresponding health benefit. In her book, *Overtreated*, Shannon Brownlee details how our health care system contains numerous systemic flaws which permit and encourage the over-utilization of high cost, high technology services.[17] Brownlee asserts that not only does this over-utilization lead to ever increasing health care costs, but it also is bad for our health. Brownlee points to various common services, such as diagnostic imaging, invasive heart treatments and the use of new expensive pharmaceuticals[18] where evidence indicates the costs are not justified by the outcomes. Brownlee argues that our current system has inadequate controls and oversight to limit the over-utilization of unnecessary and sometimes harmful health care services.

Brownlee highlights a key shortcoming in the health care delivery system, specifically the lack of consistently utilized evidence based medicine. Much discussion about health care reform focuses on the struggle of implementing evidence based medical practice in the U.S.[19] This is not just an issue of physicians and other health care providers failing to utilize evidence, but often is a function of the information not being readily available or the analysis having never been undertaken.

As this HRAP goes to press, the federal American Recovery and Reinvestment Act (ARRA) has recently been signed into law. Included among the many projects funded, the ARRA provided $1.1 billion for comparative effectiveness research (CER). This includes $300 million for the Agency of Healthcare Research and Quality, $400 million for the National Institutes of Health, and $400 million for the U.S. Secretary of

---

[14] "Health Care Spending, Quality and Outcomes," at page 2.
[15] D.C. Goodman, et al., "Hospital and Physician Capacity Update," *Dartmouth Atlas of Health Care* (March 30, 2009), at page 10. Of some interest, this report shows Vermont's hospital bed capacity as measured against its population on the lower end compared to other regions. However, Vermont's hospital based nurses and acute care hospital employee numbers are either in the top or second top tier. Vermont is also in the highest or second highest category for increases in such staffing from 1996 to 2006.
[16] J.E. Wennberg, "Inpatient Care Intensity and Patients' Ratings of their Hospital Experiences," *Health Affairs* 28, no. 1 (2009): 103-112.
[17] Shannon Brownlee, *Overtreated: Why Too Much Medicine is Making Us Sicker and Poorer*, (New York: Bloomsbury, USA, 2007).
[18] For a similar analysis of the U.S. pharmaceutical development and delivery system, see John Abramson, MD, *Overdosed America*, (New York: Harper Collins Publishing, Inc., 2004).
[19] K. Chalkidou, at al., "Evidence-Based Decision Making: When Should We Wait for More Information?" *Health Affairs* 27, no. 6 (2008): 1642-1653.

Health and Human Services to support CER. The ARRA also created a 15-member Federal Coordinating Council for Comparative Effectiveness Research,[20] which was directed to submit a report to President Obama on June 20, 2009, outlining current comparative effectiveness activities and containing priorities and recommendations for how CER funds should best be utilized.[21]

Regardless of what one might think about Brownlee's analysis of our current health care system, evidence supports the finding that we are, as a nation, not getting as much for our health care dollars as other industrialized nations. America spends more on health care than any other industrialized nation and yet scores worse in most health care outcomes.[22] We support the federal government's attempts to coordinate and facilitate the development of comparative effectiveness research. Health care providers need greater and more reliable access to unbiased science relating to what works and what does not work. This research should inform and guide Vermont's health resource allocation planning and prioritization.

It is important to note that Vermont differs from the nation as a whole in some important ways. For starters, Vermont is consistently ranked as the healthiest or among the healthiest states in the country.[23] Secondly, our health care costs have historically been lower when compared with the rest of New England, although New England health care costs tend to be higher than the U.S. average. Medicare spending per Vermont enrollee is relatively low compared to most other states.[24] Of some interest, however, is that Vermont's health care costs have been increasing faster than the national average.[25] Finally, Vermont is a small state with a very rural population. When it comes to health resource allocation, our size provides us with some advantages and some unique challenges.

---

[20] The purpose of the Council is "foster optimum coordination of comparative effectiveness and related health services research conducted or supported by relevant Federal departments and agencies, with the goal of reducing duplicative efforts and encouraging coordinated and complementary use of resources." Section 804(b) of the ARRA (2009).

[21] *See* the U.S. Health and Human Services website at http://www.reuters.com/article/healthNews/idUSTRE4B276H20081204, (accessed May 18, 2009).

[22] G.F. Anderson and B.K. Frogner, "Health Care Spending in OECD Countries: Obtaining Value," *Health Affairs* 27, no. 6 (2008): 1718-1727.

[23] *See, e.g.*, the 2009 rankings of the American Public Health Association and the Partnership for Prevention, at http://www.reuters.com/article/healthNews/idUSTRE4B276H20081204 (accessed May 18, 2009).

[24] E. Fisher, et al., "Health Care Spending, Quality and Outcomes: More Isn't Always Better," *Dartmouth Atlas Project Topic Brief* (February 27, 2009), at http://www.dartmouthatlas.org/atlases/Spending_Brief_022709.pdf (accessed June 5, 2009).

[25] Vermont Department of Banking, Insurance, Securities, and Health Care Administration, "2007 Vermont Health Care Expenditure Analysis & Three Year Forecast," (February 2009), at page 12. *See also* A.B. Martin, et al., "Health Spending By State of Residence, 1991-2004," *Health Affairs* 26, no. 6 (2007): w651-w663 (published online September 18, 2007). This report shows Vermont as experiencing the highest rate of growth in the nation from 1998-2004 at 9.4%. Note that BISHCA data analysis may differ.

Thus, as we look forward and examine our health care utilization and expenditure patterns, we must remember that Vermont is unique and may face a somewhat different set of challenges and opportunities than the nation as a whole.

C. Payment Reform

There is a great deal of pressure on health care providers to deliver more cost effective, higher quality care. Yet, the result of achieving high quality, less invasive care may be a loss in revenue. For example, in Minnesota, the St. Mary's/Duluth Clinic instituted a program that reduced hospital readmissions for patients with congestive heart failure to 3 to 4% (the state average is 20-25% and the national average is 40-50%). The low rate of readmissions improved patient health and satisfaction by delivering outpatient services including treatment planning, disease and medication management services, telescales and telephonic oversight, education for patients and relatives and support groups. Overall costs for patient care were reduced by half. Yet, the program caused a major loss of revenue for the health system due to uncompensated services and the decreased volume.[26] Payment reform must address the current incentives to expand capacity and increase overall volume of services.[27]

Until meaningful payment reform is implemented, comprehensive health care reform will struggle.[28] Health care providers are most often compensated by volume under current fee for service payment systems.[29] The "fee-for-service (FFS) payment system gives doctors powerful financial incentives to do more (and more costly) procedures, which may not be in the patients' best interests, financially or clinically."[30] Others argue that current reimbursement systems reward a fragmented system of tests and high cost procedures and fail to adequately reward coordinated, lower cost and more effective health services.[31] Additionally, many of the reform efforts related to data

---

[26] Robert Wood Johnson Foundation, "Charting a Course: Preparing for the Future, Learning from the Past," *State of the States* (January 2009), at page 59. *See also* Shannon Brownlee, *Overtreated: Why Too Much Medicine is Making Us Sicker and Poorer*, (New York: Bloomsbury, USA, 2007), at page 86, detailing how a program at Duke University aimed at improving heart failure patients health status caused the hospital to lose money.

[27] E. Fisher, et al., "Health Care Spending, Quality, and Outcomes," *Dartmouth Atlas Project Topic Brief* (February 27, 2009), at page 4. "To slow the growth of health care spending, payment reform must foster global accountability for the quality and overall costs of care for patients."

[28] *See, e.g.,* MedPac, "Improving Incentives in the Medicare Program," (June 2009), at http://www.medpac.gov/documents/Jun09_EntireReport.pdf (accessed June 17, 2009). Although *see* C.N. Kahn, "Payment Reform Alone will not Transform Health Care Delivery," *Health Affairs* 28, no. 2 (2009): w216-w218 (published online January 27, 2009). Kahn notes that past payment reform efforts have largely failed because they lacked corresponding clinical organizational and cultural changes.

[29] Healthcare Cost and Utilization Project, "Medicare Hospital Stays: Comparisons between the Fee-for-Service Plan and Alternative Plans, 2006," *Statistical Brief* No. 66 (January 2009), at http://www.hcup-us.ahrq.gov/reports/statbriefs/sb66.pdf (accessed March 9, 2009). This report indicates mixed results comparing intensity of utilization across fee for service and capitated (typically Medicare Advantage plans) Medicare plans.

[30] A.C. Enthoven and L.A. Tollen, "Competition in Health Care: It Takes Systems to Pursue Quality and Efficiency," *Health Affairs* 24 (2005): w420-w433 (published online September 7, 2005), at page w422.

[31] *See, e.g.*, D. Cortese and J.O. Korsmo, "Health Care Reform: Why We Cannot Afford to Fail," *Health Affairs* 28, no. 2 (2009): w173-176 (published online January 16, 2009).

reporting, coordinated care and quality improvement potentially involve more work for health care providers without compensation. These issues must be addressed. Payment reform should not increase overall systems costs,[32] but rather should align payment with the value of services provided.

Health care payment systems are incredibly complex. For example, take the concept of "diagnostic related groups" (DRGs), a payment system initially implemented by Medicare which compensates providers based on primary diagnosis and major procedures. This system, originally implemented in 1983, was intended to encourage hospitals to maximize efficiency and has been successful in doing so in certain situations.[33] However, there are currently at least a half a dozen different DRG algorithms, with major differences among them, used by different payers.[34] Reforming these complex systems is not easy and will involve an enormous amount of high quality resources. However, it can be done and it is necessary for successful change. Payment reform, both in our commercial and publicly funded markets, should be one of Vermont's highest health care reform priorities.

As noted, Vermont faces specific challenges related to the relatively small size of its health care delivery system.[35] Some have argued that only large integrated health care delivery systems, such as Kaiser Permanente or Geisinger Health System, can effectively control costs and integrate care appropriately and efficiently across all providers.[36] Payment reforms will need to take the unique nature of Vermont's health care delivery system into account.

D. Institute for Healthcare Improvement Triple Aim

The enacting legislation requires that the HRAP contain a statement of principles.[37] The legislatively declared principles are included at the beginning of this document. These principles evidence a three prong approach to health care in Vermont: quality, cost effectiveness and universal access. In the 2005, the HRAP identified the Institute of Medicine's Aims: that health care be safe, effective, patient-centered, timely, efficient and equitable.[38] However, since 2005, the shortage of available resources for health care services in Vermont (and nationally) has become more urgent. Further, in the certificate of need process, the IOM Aims sometimes fail to provide an adequate framework for evaluating new health care projects. As such, we concluded that the

[32] *See, e.g.,* J.P. Newhouse and the Insurance Experiment Group, *Free for All? Lessons from the RAND Health Insurance Experiment* (Cambridge, Mass: Harvard University Press, 1994), finding that prepaid group practices had 25-30 percent lower per capita costs than in fee-for-service practices.
[33] K. Quinn, "New Directions in Medicaid Payment for Hospital Care," *Health Affairs* 27, no. 1 (2008): 269-280, at n. 7, citing R.F. Coulam and G.I. Gaumer, "Medicare's Prospective Payment System: A Critical Appraisal," *HealthCare Financing Review Annual Supplement* 12 (1991): 45-77.
[34] K. Quinn, "New Directions in Medicaid Payment for Hospital Care."
[35] Vermont Department of Health, "Vermont Rural Health and Primary Care Plan," (January 2009), at pages 9 –12, noting that many standards of care are based on urban, large scale studies and models.
[36] "Competition in Health Care: It Takes Systems to Pursue Quality and Efficiency," (2005).
[37] 18 V.S.A. § 9405(b)(1)(A).
[38] 2005 HRAP at page xxxi.

Institute of Healthcare Improvement (IHI) "Triple Aim" constituted a more appropriate framework with which to analyze certificate of need applications and health resource allocation in general.

The three IHI Triple Aims are: improving the individual experience of care, improving the health of populations, and reducing the per capita costs of care for populations.[39] Often, these goals are difficult to achieve together and pursuing one goal can impact the success of the other goals. However, by keeping all three goals in mind, health care resource decisions can seek to maximize each goal in balance with the others.

An important aspect of the IHI Triple Aim is the emphasis on population health, as opposed to individual health. Although it is vitally important that individuals have access to the highest quality health care, it also important that Vermont, and America, begin investing in health care resources in a manner which maximizes the overall return on that investment. As we discuss the health care resources in Vermont, this HRAP seeks to expand on the IHI Triple Aim in assessing the current allocation of resources and suggesting future allocation.

However, it important to note that the ideal implementation of the Triple Aim likely requires a more coherent system than Vermont's current system. For example, effective accomplishment of the Triple Aim requires an "integrator" – an entity that accepts responsibility for all three components of the Triple Aim for a specified population.[40] Examples of possible integrators could include an insurer with a sense of needs of the community it serves, a large primary care group practice that establishes appropriate partnerships with payers, or a hospital offering services through its physician owned organization.[41]

It is possible ACOs could prove to be a successful integrator. Vermont does not currently have an obvious "integrator" for any specified population. Examples of successful integrators exist in the United States[42] and as Vermont moves forward, the concept of an integrator could be an idea worth examining to facilitate the implementation of health resource goals. The Vermont Commission on Health Care Reform, along with BISHCA, is currently examining the accountable care organization model as a potential means of enhancing the overall dynamics of our health care delivery system.[43]

---

[39] D.M. Berwick et al., "The Triple Aim: Care, Health and Cost," *Health Affairs* 27, no. 3 (2008): 759-769, at 760.
[40] "The Triple Aim: Care, Health and Cost," (2008) at page 763.
[41] Institute for Healthcare Improvement, "Best Health Care Results for Populations: The 'Triple Aim,'" *Technical Brief* (June 28, 2007), at page 4.
[42] For example, CareOregon (a Medicaid managed care plan uses the Oregon Health Plan as the integrator). *See* Institute for Health Improvement, "Pursuing the Triple Aim: CareOregon," (November 2008), at http://www.ihi.org/NR/rdonlyres/2643EDBF-032F-470C-8D9C-AB0B598B491F/0/IHITripleAimCareOregonCaseStudyDec08.pdf (accessed June 4, 2009).
[43] An Act Relating to Health Care Reform, Act No. 203 § 2 (2007 Adj. Sess.) (directing the Commission on Health Care Reform to study the accountable care organization); An Act Relating to Containing Health

This HRAP seeks to incorporate principles of the Triple Aim through the recommendations and certificate of need standards contained herein. As the Vermont health care system evolves, it is hoped that these three goals are key factors included in resource allocation and health care system development.

IV. HRAP Changes and Limitations

A. Health Information Technology

Health information technology (HIT) is a key component of any health care reform or resource allocation decision. The Commonwealth Fund Commission on a High Performance Health System estimates that the investment of 1% of health insurance premiums in health information technology could save the country $88 billion over ten years of the projected national health expenditures totaling $4.4 trillion.[44] The American Recovery and Reinvestment Act was signed into law by President Obama on February 19, 2009 and contains $19.2 billion in spending on health information technology.[45] In order to have a higher functioning, more integrated care delivery system, health care providers must have greater and more streamlined access to data that can only be provided through the expansion of integrated health information technology.

The 2005 HRAP contained an entire chapter on health information technology. We did not include a separate chapter on HIT in the 2009 HRAP. We made this decision for several reasons, most notably because the Vermont Health Information Technology Leaders (VITL) have done much work in this area and it was felt that the HRAP would simply be duplicative. However, it is important to recognize that virtually all health care reform measures, including those focused on quality improvement and those focused on cost containment, have a vital HIT component. Vermont's Health Information Technology Plan[46] recognizes this and is a good resource for those interested in focusing more specifically on HIT.

B. Workforce Needs

The original HRAP contained a stand-alone chapter on the health care provider workforce. This HRAP does not. This does not mean that the workforce pressures faced by certain segments of the health care provider community have abated. In fact, in certain areas, shortages have become more acute since 2005. The health care delivery workforce is the backbone of the entire system and without these dedicated individuals,

---

Care Costs, Act No. 49 § 6 (2009) (directing the Commission on Health Care Reform to seek the development of an application in an ACO pilot program).

[44] Robert Wood Johnson Foundation, "Charting a Course: Preparing for the Future, Learning from the Past," *State of the States* (January 2009), at page 59.

[45] American Health Information Management Association, "Health Care Reform and Health IT Stimulus: ARRA and HITECH," at http://www.ahima.org/arra/ (accessed June 4, 2009).

[46] Available at http://www.vitl.net/interior.php/pid/7 (accessed June 4, 2009).

there is no health care delivery. As such, this HRAP discusses this issue throughout the document, integrating workforce issues into discussions about specific types of services and how specific shortages may impact health care quality and access.

One of our primary recommendations is that Vermont centralizes its healthcare workforce planning. As discussed in Chapter 2, there are numerous state efforts to identify and address various workforce shortages. However, it is not clear that Vermont's efforts are sufficiently coordinated, nor that as a state we are assessing and planning for our future needs. Government funding for medical education has a direct impact on health care workforce, yet there is no systematic and centralized way to identify and fill the State's needs on a population based level. A more cohesive approach to the health care delivery workforce is an imperative component of any successful health care services allocation plan.

C. Data Limitations and Opportunities

Vermont has a variety of health data resources with which to measure and evaluate the supply, distribution, and cost of health care services in Vermont. The Vermont Uniform Hospital Discharge Data Set (VUHDDS) has evolved over the last three decades to include resident and non-residents records from Vermont hospitals for inpatient, emergency department, and outpatient discharges. Through interstate agreements, Vermont receives hospital discharge records for Vermont residents who received hospital services in New Hampshire, New York and Massachusetts (the three states that account for the bulk of the out-migration for hospital care). Typically, these hospital discharge records capture the most costly and complex health services. The strength of the hospital discharge data is that it includes detailed information on patient demographics and diagnoses and procedure coding. The hospital data also includes persons who are uninsured, in addition to insured patients, so it captures the entire universe of hospital utilization for Vermont residents. However, this rich dataset is limited to hospital provided care.

In 2008, through the legislatively mandated Vermont Healthcare Claims and Utilization Reporting and Evaluation System (VHCURES), BISHCA began collecting eligibility and claims data from commercial insurers in a standard format from licensed carriers, third party administrators, and pharmacy benefit managers. Although presently confined to the privately insured population, VHCURES collects and analyzes information on all reimbursed health care services, including office visits and prescription drugs that has not previously been available.

We anticipates adding eligibility and claims data for the Medicaid and Medicare populations to VHCURES in the near future, pending the approval of the Agency of Human Services for Medicaid and the federal Centers for Medicare and Medicaid Services. At that point, only care delivered to the uninsured will be absent from the database. For this population, the state can estimate hospital-based utilization based on

VUHDDS[47]. In addition to VHCURES supporting special studies of utilization, patterns of care, cost, and quality for the insured population, BISHCA will be regularly publishing a series of standard reports on utilization and paid claims costs for the insured. Incorporating principles of population based analysis. This expansion of our data capability should greatly enhance our ability to understand Vermont's health care system and inform future policy decisions.

V. CERTIFICATE OF NEED

For the most part, by design, the HRAP is an advisory document. BISHCA has little regulatory authority over many of the recommendations and implementationoptions contained herein. However, in one significant area, the HRAP has the power of law.[48] Vermont law requires that all new health care projects, as that term is defined by statute, obtain from BISHCA a certificate of need (CON) prior to implementation. As noted in the Statement of Principles, the certificate of need program is intended to ensure that health care projects avoid unnecessary duplication, contain or reduce the increases in the cost of health care delivery, while at the same time maintaining and promoting quality of health care services.[49] To that end, all new health care projects which fall within certain jurisdictional parameters are subject to review and assessment by BISHCA and the Public Oversight Commission.

An entity seeking to offer or develop a new health care project must show that such project is consistent with the current HRAP. The 2005 HRAP contained numerous CON Standards.[50] Some of these were general in nature and some were very specific. It was felt by some stakeholders that these Standards required too much duplicative information that ultimately made it difficult for those preparing applications to focus on the most important aspects of a certain project. Generally, it was felt that service specific guidance in the HRAP would serve a more useful purpose. Thus, throughout this HRAP BISHCA has adopted numerous service specific CON Standards which are denoted by a specific symbol (◆). In this section, we have included some general standards which may apply across health care service types. As with the previous HRAP, not all standards will apply to all applications.

[47] Several states have proposed or enacted legislation requiring providers to submit "pseudo" claims for the uninsured to enable monitoring of non-hospital-based ambulatory care and prescription drug use.
[48] Note also that hospital budgets must be consistent with the HRAP. 18 V.S.A. § 9456(c). Hospital budgets may be adjusted upon a showing of need and consistent with this HRAP and current BISHCA rules. 18 V.S.A. § 9456(g).
[49] For a discussion of the various regulatory approaches to the certificate of need program in Vermont, see the 2005 HRAP at pages 44-45.
[50] 2005 HRAP at pages 333-345.

The general CON standards are provided below:

- **CON STANDARD 1.1:** Applicants shall include published BISHCA quality measures for services related to a specific application, for the applicant and other hospitals that report on that quality measure. The applicant shall demonstrate how the project will improve or assist in the improvement of the relevant quality measures, if the applicant's score is not above the national or the Vermont average.

- **CON STANDARD 1.2:** Applicants seeking to expand or introduce a specific health care services shall show that such services have been shown to improve health. To the extent such services have been the subject of comparative effectiveness research, an applicant shall show that the results of this research support the proposed project.

- **CON STANDARD 1.3:** To the extent neighboring health care facilities provide the services proposed by a new health care project, an applicant shall demonstrate that a collaborative approach to delivering the service has been taken or is not feasible or appropriate.

- **CON STANDARD 1.4:** If an application proposes services for which a higher volume of such service is positively correlated to better quality, the applicant shall show that it will be able to maintain appropriate volume for the service and that the addition of the service at the facility will not erode volume at any other Vermont facility in such a way that quality at that facility could be compromised.

- **CON STANDARD 1.5:** If an applicant seeks to expand services in a region, or at a facility, which data shows has a statistically significant inappropriate health care service utilization variation, the applicant shall explain how the applicant's proposed project will improve the variation.

- **CON STANDARD 1.6:** Applicants seeking to develop a new health care project shall explain how the applicant will collect and monitor data relating to health care quality and outcomes related to the proposed new health care project. To the extent practicable, such data collection and monitoring shall be aligned with related data collection and monitoring efforts, whether within the applicant's organization, other organizations or the government.

- **CON STANDARD 1.7:** Applicants seeking to develop a new health care project shall explain how such project is consistent with evidence-based practice. Such explanation may include a description of how practitioners will be made aware of evidence based practice guidelines and how such guidelines will be incorporated into ongoing decision making. (2005 State Health Plan, page 48.)

◆ **CON STANDARD 1.8**: Applicants seeking to develop a new health care project shall demonstrate, as appropriate, that the applicant has a comprehensive evidence-based system for controlling infectious disease.

◆ **CON STANDARD 1.9:** Applicants proposing construction projects shall show that costs and methods of the proposed construction are necessary and reasonable. Applicants shall show that the project is cost-effective and that reasonable energy conservation measures have been taken.

◆ **CON STANDARD 1.10:** Applicants proposing new health care projects requiring construction shall show such projects are energy efficient. As appropriate, applicants shall show that Efficiency Vermont, or an organization with similar expertise, has been consulted on the proposal.

◆ **CON STANDARD 1.11:** Applicants proposing new health care projects requiring new construction shall demonstrate that new construction is the more appropriate alternative when compared to renovation.

◆ **CON STANDARD 1.12:** New construction health care projects shall comply with the Guidelines for Construction and Equipment of Hospital and Medical Facilities as issued by the American Institute of Architects (AIA).

VI. NEXT STEPS

Health care delivery and resource allocation are enormous and complex tasks facing this country and Vermont. Vermont has been extremely active in its health care reform efforts and is nationally recognized as a leader in this area. Sometimes our efforts may feel disjointed and overwhelming. However, many of our efforts are aligned and we have achieved and continue to achieve impressive successes. However, continuing to maintain an overall focus on the Triple Aim in each and every new health care project and health care reform initiative will ensure consistency and coherence of vision. We must:

- **Improve the health of Vermont's population;**
- **Enhance the patient experience, through improved quality and access; and**
- **Reduce the per capita cost of care.**

The HRAP is intended to be a document to be used to allocate resources across the Vermont health care system. It is premised on establishing the inventory of services, examining access and utilization of those services, and then determining how best to re-deploy those resources in the most effective and efficient manner. However, there are a number of challenges associated with this task. These include the difficulty in measuring certain aspects of the inventory, establishing a sustainable level of resource growth,

finding definitive guidance on appropriate levels of specific services, defining a process for prioritization when extremely difficult choices may be necessary, and developing mechanisms to make resource allocation priorities a reality when faced with a fragmented health care system.

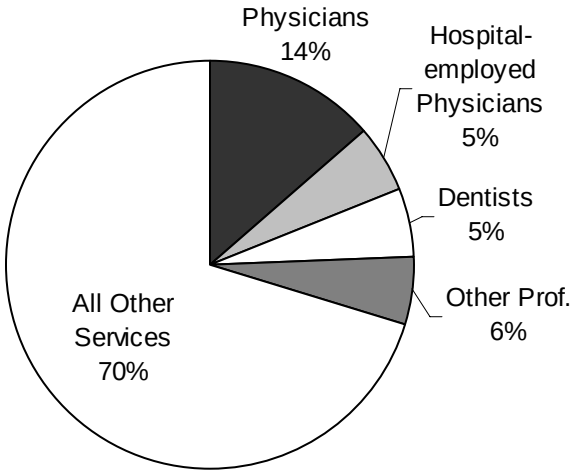
In putting together this HRAP, we began to develop some ideas about how to enhance the concept of a health care resource allocation plan. It is our intention to develop some legislative proposals to refine any future HRAP. For example, obtaining the inventory numbers for this document is currently resource intensive. It is possible we might suggest a more formalized description of the data elements that will form the baseline inventory data for the HRAP and develop streamlined ways to update that inventory on a more real-time basis. We also recognize the awkward nature of BISHCA, with its limited regulatory scope of jurisdiction, suggesting that a variety of other entities undertake labor intensive and difficult work. Although we believe that a document such as the HRAP must have one "owner," it is possible we will propose formalizing collaborative approaches to developing implementation options and resource priorities.

This document provides a broad inventory of Vermont health care resources, identifies policy questions that need further exploration, suggests various options for addressing outstanding issues where consensus may be difficult to achieve and guides future new health care project planning and development. We know there is much more work to be done and that this HRAP still falls short of our ideals, but we believe that this document, coupled with other health care reform efforts, both in Vermont and nationally, may move health care services towards a cohesive health care system that is effective, equitable, high quality and cost effective.

CHAPTER TWO

Ambulatory Care Services

Distribution of $1.2 Billion in 2007 Vermont Ambulatory Care Expenditures[1]



INTRODUCTION

Ambulatory care services are provided on an outpatient basis rather than by admission to a hospital or other health care facility. Ambulatory services may be a part of a hospital or may be provided at freestanding facilities and settings such as clinics. Ambulatory care in the broadest definition encompasses the full range of health services including prevention and screening, emergency and urgent care, ambulatory surgery, management of chronic conditions and disabilities, rehabilitation and end-of-life care. See Chapter Three for information about the more acute hospital-based ambulatory care services such as outpatient surgery and emergency care. See Chapter Four for additional detail concerning ambulatory care resources for mental health and substance abuse.

This chapter focuses on primary care resources including the primary care workforce, providers such as federally qualified health centers (FQHC) and free clinics

[1] Expenditure data is from the *2007 Vermont Health Care Expenditure Analysis & Three-Year Forecast.* Ambulatory care expenditures are for health care provided by Vermont ambulatory care providers to both in-state and out-of-state residents. Hospital-employed physicians (physician practices owned by the community hospitals) can be considered as hospital spending and ambulatory care spending. Other Professional services include chiropractors, physical therapists, podiatrists, and psychological, diagnosis and procedure, and other professional services.

for vulnerable populations, and other resources that support ambulatory services for health promotion, disease prevention, health maintenance, patient education, diagnosis and treatment of acute and chronic illnesses. Primary care is provided by physicians and other health professionals such as nurse practitioners, physician assistants and others trained for and skilled in comprehensive first contact and continuing care for persons with any undiagnosed sign, symptom, or health concern not limited by problem origin, organ system, or diagnosis.[2]

In 2007, $772 million dollars, or 18.5% of total health care dollars spent on Vermont residents, were for physician (14.7% of total dollars spent) and other professional services (3.8%).[3] Ambulatory medical care also includes dental services, which accounted for $125.2 million (3.0%).[4] Ambulatory medical care that occurs in private physician offices and in freestanding clinics, including urgent care centers, public health clinics, family planning clinics, mental health centers, community health centers, and faculty practice plans, is the largest and most widely used segment of the America health system accounting for over 900 million visits per year and 25% of national health care spending.[5]

Over 80% of health care expenditures in Vermont are spent on the rising proportion of the population with chronic conditions such as diabetes, hypertension, cardiovascular disease, arthritis, respiratory conditions, mental illness and substance abuse. These conditions can be prevented or managed in a more timely and effective manner to reduce complications and the economic costs of medical care and lost productivity, as well as the human costs associated with disability and diminished quality of life.[6] Cost-effective prevention and management of chronic conditions requires an ambulatory care system with adequate and well-distributed resources for planned, continuous primary care with linkage to referral networks of specialty and community resources rather than discontinuous episodic care.

Vermont's most important initiative in this area is the Blueprint for Health, a visionary program created under the leadership of the Governor, the Legislature and the bipartisan Commission on Health Care Reform.[7] The Blueprint aims to improve healthcare and prevention for Vermont's most prevalent conditions through a variety of integrated initiatives, including helping primary care providers operate their practices in

---

[2] Definitions for primary care can be found at http://www.aafp.org/online/en/home/policy/policies/p/primarycare.html#Parsys0002, (accessed May 7, 2009).
[3] Vermont Department of Banking, Insurance, Securities and Health Care Administration, "2007 Vermont Health Care Expenditure Analysis & Three Year Forecast," (February 2009) at http://www.bishca.state.vt.us/HcaDiv/Data_Reports/expenditure_analysis/2007ExpendAnalysis.pdf (accessed June 22, 2009).
[4] "2007 Vermont Health Care Expenditure Analysis and Three Year Forecast," (February 2009).
[5] U.S. Department of Health and Human Services, Division of Health Care Statistics, "National Ambulatory Medicare Care Survey: 2006 Summary," *National Health Statistics Reports*, no. 3 (August 6, 2008), at http://www.cdc.gov/nchs/data/nhsr/nhsr003.pdf (accessed January 28, 2009), at page 2.
[6] Vermont Department of Health, "Blueprint for Health Annual Report," (January 2007).
[7] Vermont Department of Health, "Blueprint for Health 2008 Annual Report," (January 2009), at page 3.

patient centered medical homes, expanding the use of health care information technology, and supporting financial reform that aligns fiscal incentives with healthcare goals.[8]

I. INVENTORY AND UTILIZATION

Although ambulatory care requires use of medical and information technology for diagnostics, treatment and care management, the workforce is the cornerstone of ambulatory care resources. The core ambulatory care workforce for care management includes physicians, as well as the growing presence of non-physician mid-level clinicians including physician assistants, advanced registered nurse practitioners and certified nurse midwives.[9]

In 2006, the most recent year for which data is available, 1,730 physicians provided patient care in Vermont, including 1,680 medical doctors and 50 doctors of osteopathy for a total of 1,240 full time equivalents (FTEs), an increase of 165 active physicians and 90 FTEs since 2002.[10] In 2006, 163 physician assistants (PAs)[11] or 132.8 FTEs practiced in Vermont, reflecting an increase of 33 PAs or 23.7 FTEs since 2002.

According to the Vermont Board of Nursing, out of 360 Advance Practice Registered Nurses (APRN) licensed in Vermont in 2007, 14 were not employed as APRNs and 59 were employed as APRNs outside of Vermont, leaving a total of 287 APRNs employed in Vermont. [12] In 2002, the Vermont Department of Health reported a total of 354 APRNs licensed in Vermont, with 303 employed in Vermont and the remaining 51 not confirmed as being employed in Vermont.[13]

A. Primary Care Resources

1. Primary Care Physicians

Nationally in 2006, 58.3% of ambulatory care visits were made to primary care specialists, 22.0% to medical specialists, and the remaining 19.7% to surgical specialists.[14] Recommendations for appropriate primary care physician (PCP) supply

[8] "Blueprint for Health 2008 Annual Report," (January 2009), at page 3.
[9] "Blueprint for Health Annual Report," (January 2007); D.C. Goodman, "Improving Accountability for the Public Investment in Health Profession Education: It's Time to Try Health Workforce Planning," *Journal of the American Medical Association* 300, no. 10 (2008): 1205-1207.
[10] Vermont Department of Health, "2006 Physician Survey Statistical Report," (November 2007), at http://healthvermont.gov/research/documents/phys06bk.PDF (accessed January 28, 2009).
[11] *See* the 2005 HRAP at pages lix and 103 for a description of physician assistant practice and the regulatory framework in which such practitioners operate.
[12] Office of Nursing Workforce, Research, Planning and Development at the University of Vermont, "2007 VT. Supply and Demand of APRNs," PowerPoint presentation (March 20, 2008). Currently, data on APRNs is collected, but not formally reported.
[13] Vermont Department of Health, "Advanced Practice Registered Nurses, 2002 Survey Statistical Report," (February 2004), at http://healthvermont.gov/pubs/apn/APRN02BK.PDF (accessed June 17, 2009).
[14] U.S. Department of Health and Human Services, Division of Health Care Statistics, "National Ambulatory Medicare Care Survey: 2006 Summary," *National Health Statistics Reports*, no. 3 (August 6,

range from 1,500 to 3,000 persons per PCP. However, consideration must also be given to the concept of "underservice" through measures of access (proportion of the population enrolled in Medicaid or uninsured, geography and transportation) and need (age, health status, risk factors).[15]

Primary care physicians (PCP) include practitioners in family medicine, internal medicine, obstetrics and gynecology, and pediatrics.[16] In 2006, out of a total of 1,240 Full Time Equivalents (FTEs) physicians, 504 FTEs (640 physicians), or 41%, were categorized as primary care. This translated to 80.7 FTEs per 100,000 persons, reflecting a 10.8 increase in FTEs since 2002.[17] At a rate of 1.21 PCP FTEs per 1,500 persons, this exceeded the ideal standard of 1 FTE per 1,500 population, or 67 FTEs per 100,000. The Dartmouth Atlas identifies Vermont as a state with more clinically active primary care physicians than many other states.[18]

However, while the overall rate increased slightly between 2002 and 2006, rates remain below ideal in many areas of the state, most notably in the primary care Health Profession Shortage Areas (HPSAs) of Brighton, Castleton, Chelsea/Corinth, Enosburg and Waitsfield. (See Map: Primary Care Health Care Professional Shortage Areas below). In contrast, other areas of the state have PCP FTE rates that significantly exceed the ideal rate of 67 per 100,000, specifically Windsor (134.9) and Bennington (122.2). (See Map: 2006 Primary Care Physicians by Rational Service Areas: FTEs per 100,000).[19] Similarly, the Dartmouth Atlas web-based data tools show a range of primary care physicians per 100,000 population.[20]

2008), at http://www.cdc.gov/nchs/data/nhsr/nhsr003.pdf (accessed January 28, 2009). Note that Vermont-specific health professional encounter data will be available for privately insured Vermonters in 2009, and for Medicaid and Medicare enrollees by 2010, in the Vermont Healthcare Claims Uniform Reporting System.

[15] RCHN Community Health Foundation, "Designation of Medically Underserved and Health Professional Shortage Areas: Analysis of the Public Comments on the Withdrawn Proposed Regulation," *Issue Brief* No. 5 (September 3, 2008), at http://www.gwumc.edu/sphhs/departments/healthpolicy/chsrp/downloads/RCHN_brief5_9-3-2008.pdf (accessed January 28, 2009); New England Rural Health Round Table, "Rural Data for Action: A Comparative Analysis of Health Data for the New England Region," (2008), at http://www.newenglandruralhealth.org/policy/report.htm (accessed January 28, 2009).

[16] Vermont Department of Health, "2006 Physician Survey Statistical Report," (November 2007), http://healthvermont.gov/research/documents/phys06bk.PDF (accessed January 28, 2009), at page 87.

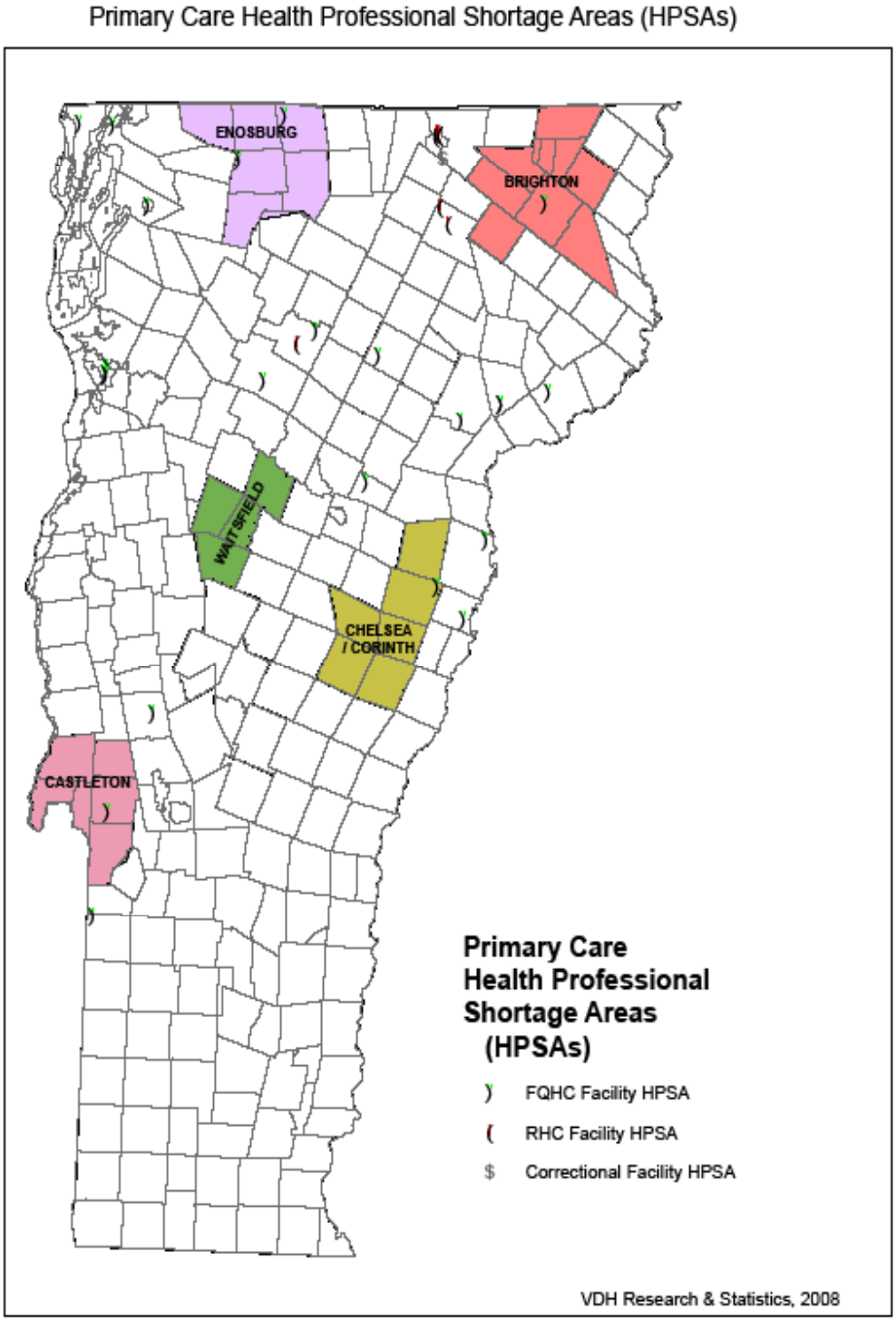
[17] "2006 Physician Survey Statistical Report," (November 2007).

[18] D.C. Goodman, et al., "Hospital and Physician Capacity Update," *Dartmouth Atlas Project Brief Report*, at Map 7, page 12. This map shows Vermont as one of the top twelve states based on the ratio of primary care physicians to 100,000 population. Top tiered states have ratios from 1.3 to 1.63.

[19] Rational service areas are defined by the Vermont Department of Health and are "groups of towns whose residents typically receive primary care services within each area." Vermont Department of Health, "2006 Physician Survey Statistical Report," (November 2007), at page 81.

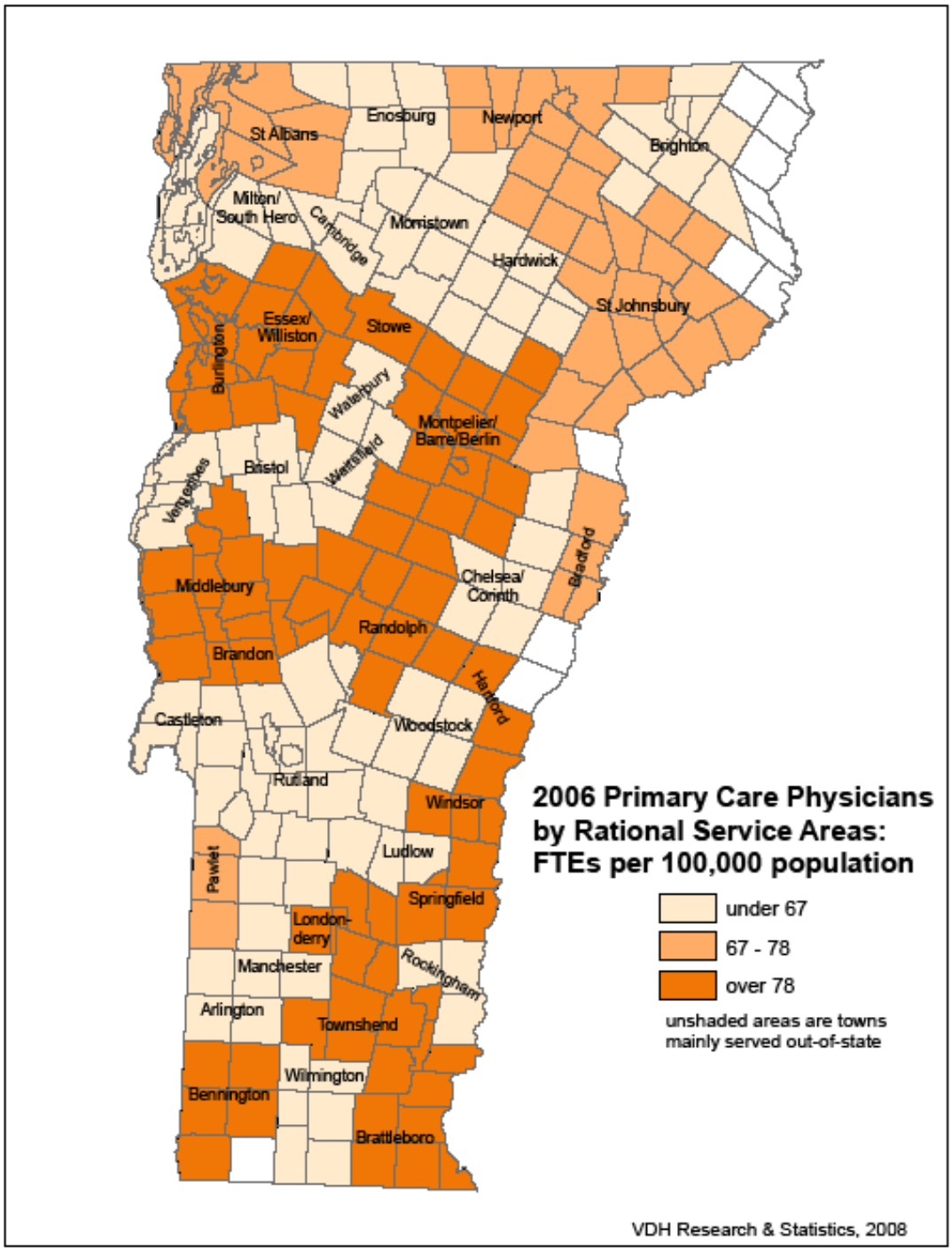
[20] The Dartmouth Atlas data tools can be found at: http://www.dartmouthatlas.org/data_tools.shtm (accessed June 11, 2009). For a variety of reasons, physician numbers are not identical to the numbers published by the Vermont Department of Health.

Map 2.1 Primary Care Health Professional shortage Areas



Map 2.2 Primary Care Physician Ratios

Primary Care Physician to Population Ratios by Rational Service Areas



Between 2002 and 2006, the percent of PCPs accepting new patients remained stable at 82% statewide. However, for the same period, the percent of PCPs accepting Medicare patients dropped from 78% to 71% and those accepting new Medicaid patients dropped from 75% to 68%.[21] This indicates a possible shortage of supply for these important populations. In 2008, the Office of Vermont Health Access published maps assessing by county how many providers were accepting new Green Mountain Care patients (these include Medicaid, Vermont Health Access Plan and Catamount Health beneficiaries). These maps indicate that less than 61% of providers were accepting Green Mountain Care beneficiaries in Orleans, Essex, Washington and Bennington counties, but that those counties have a relatively high percentage of primary care providers that are enrolled in these programs, indicating a shortage of capacity.[22]

◆ **CON STANDARD 2.1:** Applicants seeking to develop new health care projects in an area identified as having a shortage of primary care capacity shall explain how the proposed project will expand, promote or enhance primary care capacity in such area.

2. Mid-Level Primary Care Practitioners

In 2007 for advance practice registered nurses (APRN) practicing in primary care,[23] there were 231 APRNs, or 143.5 FTEs compared to 150.9 FTEs in 2002, for a decrease of 7.4 FTEs. During this same period, the rate per 100,000 population decreased from 24.5 to 22.3 FTEs.[24]

In 2006, the year for which the most current data is available, for physician assistants (PA) practicing in primary care, there were 62.6 FTEs compared to 54.4 FTEs in 2002 for an increase of 8.2 FTEs. The rate per 100,000 persons increased from 8.82 to 10.04. Almost 80% of the primary care PA FTEs practiced in family medicine.[25] Overall, there was an increase of 11.6 primary care FTEs when considering the combined change in FTES for physicians (+10.8), PAs (+8.2) and APRNs (-7.4) since 2002.[26]

---

[21] Vermont Department of Health, "2006 Physician Survey Statistical Report," (November 2007), Table 25, page 39; Vermont Department of Health, "2002 Physician Survey Statistical Report," (March 2005), Table 21, page 37.

[22] Office of Vermont Health Access Mapping and Network Analysis, on the web at http://ovha.vermont.gov/budget-legislative/1microsoft_word_-_state_of_vermont_pcpnew.pdf (accessed June 11, 2009). For example, in Orleans County, 98% of all primary care providers were enrolled in Green Mountain Care in 2007, yet only 60% of the enrolled providers were accepting new Green Mountain Care patients.

[23] Primary care APRN practice includes adult, family, gerontology, midwifery, obstetrics/gynecology, and pediatrics.

[24] Office of Nursing Workforce, Research, Planning and Development at the University of Vermont, "2007 VT. Supply and Demand of APRNs," PowerPoint presentation (March 20, 2008).

[25] Vermont Department of Health, "2006 Physician Assistants Survey Statistical Report," (May 2008).

[26] Vermont Department of Health, "2006 Physician Survey Statistical Report," (November 2007); Vermont Department of Health, "2006 Physician Assistants Survey Statistical Report," (May 2008); "2007 VT. Supply and Demand of APRNs," (2008).

3. Complementary and Alternative Medicine Providers

The number of licensed naturopaths in Vermont has been increasing. In 2005, the Vermont Secretary of State Office of Professional Regulation reported 103 licensed naturopaths. In 2007, this number was 130. However, of these, only 26 of these are reported as residents.[27] Licensed chiropractor numbers are virtually unchanged, with 238 reported in fiscal year 2005 and 239 reported in 2007 (169 residents).[28] The number of licensed midwives appears to be relatively stable, with numbers increasing from 17 to 21 from fiscal year 2005 to fiscal year 2007. However, again, only a portion of these (12) are reported as residents.[29]

B. Specialty Care Resources

1. Specialty Care Physicians

Nationally, physicians reporting that they practice as specialists comprise roughly 63% of practitioners.[30] Specialty care physicians include practitioners in anesthesiology, emergency medicine, internal medicine, neurology, ophthalmology, psychiatry, surgery, urology, and other specialties. In 2006 in Vermont, out of a total of 1,240 FTEs for physicians, 736 FTEs (1,090 physicians) or 59% of FTEs were categorized as specialty care and this percentage has not changed since 2004. Within specialty care, almost 40% of the FTEs were concentrated in internal medicine (139 FTEs) and psychiatry (126 FTEs).[31]

As noted above, data compiled for the Dartmouth Atlas shows Vermont as having more primary care physicians per 100,000 population than most states. However, Dartmouth Atlas data shows Vermont as being in the mid-range when compared to the nation for specialists per 100,000 of the population.[32]

---

[27] Vermont Secretary of State Office of Professional Regulation, "Twenty-Sixth Annual Report on Professional Licensing," (November 2007), at http://vtprofessionals.org/about/annual_reports/26th_Annual_Report_2007.pdf (accessed June 15, 2009) at page 29.

[28] "Twenty-Sixth Annual Report on Professional Licensing," (November 2007), at page 29. Note, however, that 259 licensed chiropractors were reported in FY 2006.

[29] "Twenty-Sixth Annual Report on Professional Licensing," (November 2007), at page 29.

[30] F. Mullan, "Workforce Issues in Health Care Reform: Assessing the Present and Preparing for the Future," Testimony to the U.S. Senate Finance Committee (March 12, 2009). 37% reported primary care specialties; in contrast, 51% of Canadian physicians are currently family physicians or general practitioners.

[31] Vermont Department of Health, "2006 Physician Survey Statistical Report," (November 2007). Internal medicine is a category of physicians in both primary and specialty care. While some general internists work in primary care practices, others work in specialty practices focusing on patients with specific diseases such as cardiac, respiratory, or metabolic conditions.

[32] D.C. Goodman, et al., "Hospital and Physician Capacity Update," *Dartmouth Atlas Project Brief Report*, at http://www.dartmouthatlas.org/atlases/Capacity_Report_2009.pdf (accessed June 11, 2009), at page 13. The Dartmouth map shows that the eastern part of the state has more specialists per 100,000 population than the western part of the state.

Out of all the specialty physician categories, psychiatry had the lowest rates of availability, defined as accepting new patients and participating in Medicaid and Medicare. As measured by practice availability, psychiatric practices had an acceptance rate of 91% for new patients compared to specialty care average of 97%. Regarding Medicaid, psychiatry had a participation rate of 84%, compared to a general specialty care average participation rate of 92%. The psychiatry acceptance rate for new Medicaid patients was 75% compared to a specialty care average of 89%. Related to Medicare, psychiatry had a participation rate of 82% (versus a specialty care average of 93%) and acceptance rate for new Medicare patients of 74% (specialty care average of 91%).[33] From the perspective of availability by FTEs, psychiatry had the lowest rates of availability in all three categories including accepting new patients (92%), accepting new Medicaid patients (76%), and accepting new Medicare patients (76%).[34]

2. Mid-Level Specialty Care Workforce

In the 2007 Hospital Nursing Study, conducted by the Office of Nursing Workforce Research, Planning and Development at the University of Vermont found that in the aggregate Vermont's hospital workforce has experienced a decline in vacancy rates since 2003. However, this report cautions that certain specialties which require advance degrees (e.g., nurse anesthetist, clinical nurse specialist) show higher rates of vacancy.[35]

C. Dental Care Resources

Between 2003 and 2007, the count of active dentists in Vermont declined by 12 from 367 to 355. Primary care dentists saw a decline of 12 in general practice, although pediatric dentists increased by one. There was slight decrease in the count of specialist dentists with a decline from 74 to 73, with virtually no change in the distribution across the specialty categories including oral surgery, endodontics, orthodontics, periodontics, prosthodontics and other specialties.[36]

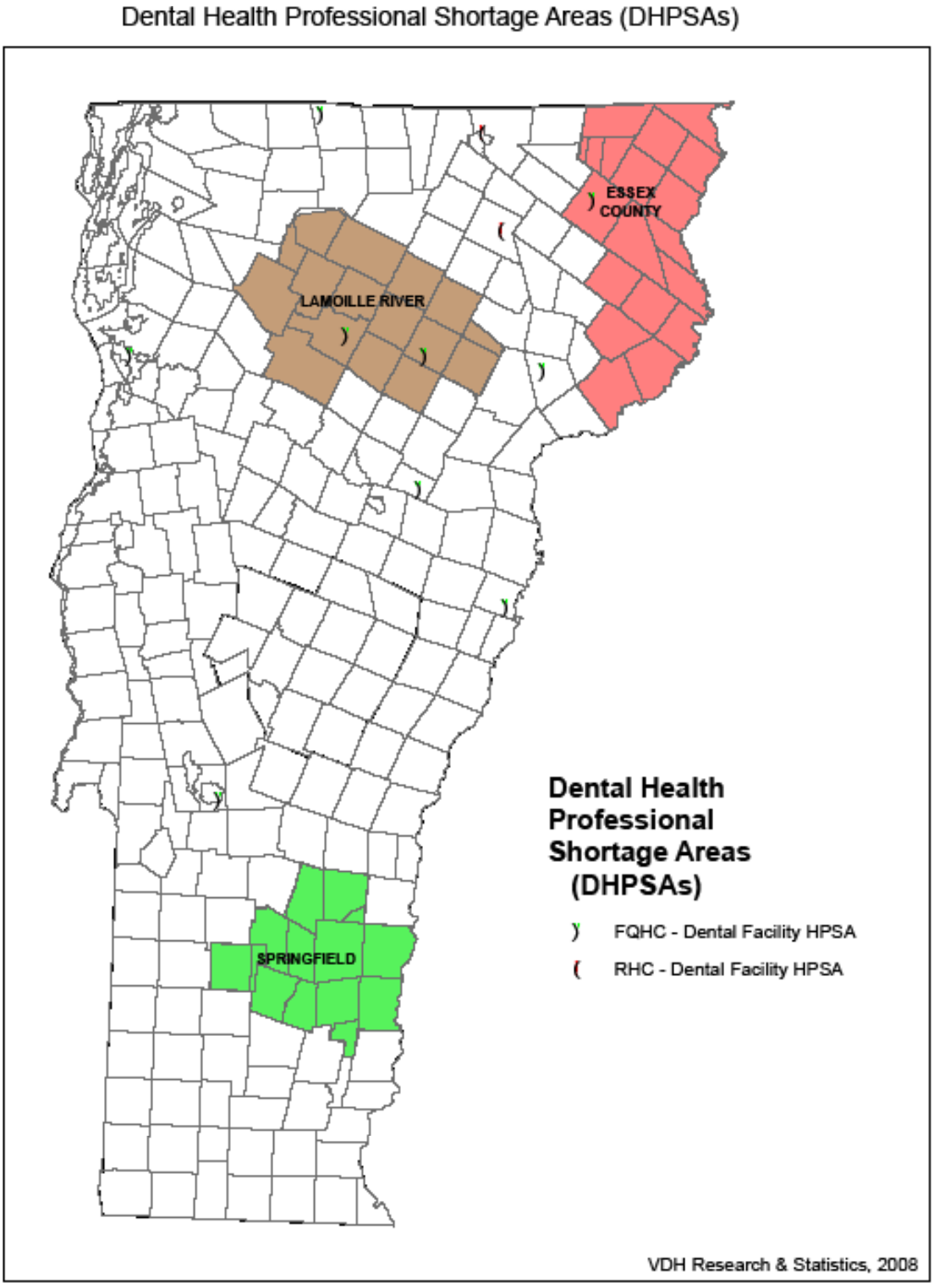
Dental full time equivalencies of all active dentists decreased from 280.8 to 269.8 between 2003 and 2007. Primary care dentist FTEs decrease from 226.7 to 221.6, while the specialty care dentists FTEs decreased from 54.1 to 48.2.[37] Total dentist FTE per 100,000 residents also decreased between 2003 and 2007 from 45.4 to 43.4.[38]

---

[33] "2006 Physician Survey Statistical Report," (November 2007), at page 39, Table 25.
[34] "2006 Physician Survey Statistical Report," (November 2007), at page 40, Table 26.
[35] Office of Nursing Workforce Research, Planning and Development at the University of Vermont, "Hospital Nursing Study 2007: Vermont Health Workforce Assessment Survey," (2007), at http://www.choosenursingvermont.org/pdf/hospital07.pdf (accessed May 7, 2009).
[36] Vermont Department of Health, "2007 Dentist Survey Statistical Report," (October 2008), at page 4.
[37] Vermont Department of Health, "2003 Dentist Survey Statistical Report," (June 2004), Table 28; "2007 Dentist Survey Statistical Report," (October 2008), at Tables 7 and Table 47. However, note that primary care dentists have increased since 2005 (increasing by 5.6 FTEs).
[38] BISHCA calculations based on "2003 Dentist Survey Statistical Report," (June 2004) and "2007 Dentist Survey Statistical Report," (October 2008).

In 2008, according to the criteria set by the Vermont Department of Health and the federal government, there are three Dental Health Professional Shortage Areas in Vermont including Essex County, Lamoille River and Springfield. Gifford was included on this list in 2004, but has since been removed (See map Dental Health Professional Shortage Areas).

Map 2.3 Dental Health Professional Shortage Areas



D. Federally Qualified Health Centers, Rural Health Centers and Free Care Clinics

1. System Overview

The following table shows the location of federally qualified health centers (FQHCs), rural health clinics (RHCs) and free care clinics in Vermont. These health care service providers are discussed below.

Table 2.1: Vermont FQHCs, RHCs, and Free Care Clinics[39]

County	Federally Qualified Health Centers & Satellites	FQHC Look Alike	Clinics for the Uninsured	Planned Parenthood of Northern New England
Addison			Open Door Clinic, Middlebury Open Door Clinic, Vergennes	Middlebury
Bennington				Bennington
Caledonia	Northern Counties Health Care, Inc. Danville Health Center Hardwick Health Center Northern Counties Dental Center, Hardwick Caledonia Internal Medicine, St. Johnsbury St. Johnsbury Family Health Center			St. Johnsbury
Chittenden	Community Health Center of Burlington Safe Harbor Clinic, Burlington Pearl Street Clinic, Burlington		Health Access Program at FAHC	Burlington Williston
Essex	Northern Counties Health Care, Inc. Concord Health Center Island Pond Health and Dental Center			
Franklin	Northern Tier Center for Health Enosburg Health Center Richford Dental Clinic Richford Health Center Swanton Health Center			St. Albans
Grand Isle	Northern Tier Center for Health Alburg Health Center			
Lamoille		Community Health Services of Lamoille Valley Behavioral Medicine, Morrisville Morrisville Family Health Care Women's Center, Morrisville Stowe Family Practice		Hyde Park
Orange	Little Rivers Health Care Bradford Health Services Valley Health Center, East Corinth Wells River Clinic		Health Breaks and Health Connections at Gifford Medical Center, Randolph	Randolph
Orleans				Newport
Rutland	Community Health Centers of the Rutland Region Castleton Family Health Center Brandon Internal Medicine Mettowee Valley Health Center, West Pawlet		Park Street HealthShares, Rutland	Rutland
Washington	The Health Center, Plainfield		People's Health & Wellness Clinic, Barre	Barre Montpelier Waterbury
Windham			Putney Walk-in Clinic	Brattleboro
Windsor	Springfield Medical Care Systems		Valley Health Connections, Springfield Good Neighbor Health Clinic, White River Junction GNHC - Red Logan Dental Clinic, White River Junction Windsor Community Health Clinic	South Royalton Springfield

[39] Bi-State Primary Care Association web site at http://www.bistatepca.org/vthc_listing.htm (accessed June 10, 2009); Vermont Coalition of Clinics for the Uninsured web site at http://www.vccu.net/ (accessed June 10, 2009).

2. Federally Qualified Health Centers

As illustrated in the above table, Vermont has 8 FQHCs or FQHC look alikes.[40] FQHCs are not-for-profit practices that have a mission to provide primary care regardless of patients' ability to pay. FQHCs must be located in medically underserved areas or serve a high need community with few or no primary care resources. They must coordinate primary care with social services, dental services, pharmacy and mental health services. FQHCs must also provide services to all residents within their service area regardless of ability to pay and must conduct continuous quality improvement activities and needs assessments.[41] FQHCs have a mandated Board that is composed of at least 51% consumer/patient Directors who reflect the demographic and socio-economic mix of the FQHC patient population. FQHCs are supported by patient fees and private insurance, Medicaid, Medicare, federal grants and private philanthropy.[42]

National data indicates that Vermont FQHCs do not meet national goals for FQHC staffing to patient levels. The National Association of Community Health Centers (NACHC) uses a 1:1500 patient to primary care physician benchmark and a 1:958 patient to provider staff benchmark. 2006 Uniform Data System data indicates that patient to physician ratios in Vermont FQHCs are 1:1867 and for clinical staff the ratio is 1:991.[43] Nationally, the NACHC predicts the need for many more primary care physicians and other clinical staff as FQHCs expand to provide more services.

3. Rural Health Clinics

The Rural Health Clinics (RHC) program is intended to increase primary care services for Medicaid and Medicare patients in rural communities. RHCs must be located in a shortage area that has been designated by the federal Health Resources and Services Administration. RHCs can be public, private, or non-profit. RHCs are required to use a team approach of physicians and midlevel practitioners such as nurse practitioners, physician assistants, and certified nurse midwives to provide services. The clinic must be staffed at least 50% of the time with a midlevel practitioner. RHCs receive special Medicare and Medicaid reimbursement rates. Medicare visits are reimbursed

[40] FQHC look-alike status is granted by the federal government when a health center does not receive FQHC grant funding, but nonetheless operates and provides services similar to an FQHC. FQHC look-alikes must demonstrate the same commitment to serve all populations residing in underserved communities and to satisfy other administrative, management, governance and service related requirements applicable to an FQHC. See http://bphc.hrsa.gov/policy/pin0321.htm (accessed May 7, 2009).
[41] National Association of Community Health Centers, *Access Transformed* (Washington, DC: Robert Graham Center, 2008).
[42] Bi-State Primary Care Association, "Access Across America: Advancing a Medical Home Model (August 2008), at http://www.bistatepca.org/Publications/ACCESS/Access-Across-VT-081016.pdf (accessed February 16, 2009).
[43] *Access Transformed* (2008), at page 11, Table 3. This table indicates that some states have better ratios (New Hampshire's patient to physician ratio is 1:1488) and some states have worse ratios (Kansas has a patient to physician ratio of 1:3274).

based on allowable costs and Medicaid visits are reimbursed under the cost-based method or an alternative Prospective Payment System.

RHCs can be provider-based or independent. Provider-based RHCs are considered an integral part of a hospital, nursing home or home health agency that is already a Medicare certified provider. In Vermont, several hospitals support RHCs including Grace Cottage Hospital, Northeastern Vermont Regional Hospital, and North County Medical Center. The provider associated with the RHC handles its reimbursement. RHCs that are provider based to a hospital with less than 50 beds are exempt from a per-visit reimbursement cap. Independent RHCs are generally stand-alone clinics.

As of June 2009, there were 14 RHCs in Vermont located in 9 counties including Bennington, Caledonia, Franklin, Grand Isle, Lamoille, Orleans, Windham and Windsor. In 2004, there were 20 RHCs in Vermont, including the Health Center of Plainfield and two provider-based RHCs affiliated with Springfield Medical Care Systems which have since converted to federally qualified health center sites. Also, since 2004, Grace Cottage has consolidated its two RHCs into a single RHC and Mad River Health Center, located in Waitsfield, has stopped operating as an RHC (although it is still in operation).[44] Thus, the decline in RHC numbers does not necessarily indicate a decrease in capacity so much as organizational changes.

4. Free Care Clinics

In Vermont, there are eleven free care clinic programs throughout the state that belong to the Vermont Coalition of Clinics for the Uninsured (VCCU).[45] In addition, the Brattleboro Walk-In Clinic is a free-care clinic, but it is not a member of the VCCU. Formed in 1995, VCCU is a group of free primary health care clinics and one dental clinic dedicated to providing health care to the uninsured and underinsured. VCCU members are private nonprofit corporations which provide free health care to the uninsured or underinsured who are income eligible. VCCU members also collect aggregate data (a requirement of membership) on a core set of demographic and medical visit data.[46] The free care clinic programs are made up referral programs and freestanding clinics.

The four-referral programs screen patients for eligibility in assistance programs (such as Catamount Health and Ladies First) and refer patients to partnering health care organizations.[47] These referral programs can greatly increase health care access for

[44] Data provided by Bi-State Primary Care Association. Kate Simmons, Acting Manager, e-mail of May 20, 2009.
[45] Vermont Coalition of Clinics for the Uninsured, "The Vermont Coalition of Clinics for the Uninsured 2008 Annual Report," (2009), at page 4. The Bennington Free Clinic opened January 20, 2009.
[46] "The Vermont Coalition of Clinics for the Uninsured 2008 Annual Report," (2009), at pages 8-9.
[47] "The Vermont Coalition of Clinics for the Uninsured 2008 Annual Report," (2009), at page 10. The four-referral programs are Health Care Assistance Program at Fletcher Allen Health Care, Health Connections at Gifford Medical Center, Windsor Community Health Center at Mt. Ascutney Hospital, and Valley Health Connections.

target populations by assisting such populations with applying for and receiving benefits or directing patients to other programs intended to ease the financial burdens associated with their care, such as free medication programs.

The freestanding clinics[48] screen patients for eligibility in benefit programs, but also provide direct care to patients. Services range from therapeutic care of acute and immediate problems, such as ear infections, to preventive services such as immunizations. Clinic hours are held at designated times in donated or reduced cost office space and are staffed by volunteer physicians, nurses, physical therapists and other health care professionals.[49] The clinics can be vitally important to those who do not qualify for other benefit programs, but are in need of immediate medical care.

VCCU clinics also engage in relationships with specialty service providers, such as imaging services, which may be available to patients on a free or sliding scale basis. Perhaps, most importantly, the VCCU clinics provide case management services for patients. Case managers in each clinic are responsible for reviewing patient charts, coordinating care services, and ensuring referrals for other clinical services.[50] It is important to note that the goal of VCCU is to reduce the number of visits to the free clinics and integrate patients into a permanent medical home as soon as possible.[51]

In 2007, 65% of VCCU patients said that if not for VCCU services, they would have delayed care because they could not afford standard medical services. In 2008, almost half (2,806 or 45%) of patients were employed full-time, part-time, or seasonally. As compared to 2007, more patients reported being unemployed.[52] Freestanding clinics are seeing more young adults, with 30% of the patients in the 18-29 age group.[53] Overall, in 2008, the VCCU clinics reported a 20% patient increase.[54]

II. DISCUSSION

Assessing the adequacy of physician supply is not a simple issue. There are numerous studies indicating an immediate and dramatic need for more physicians. However, there are also those who note that our physician numbers are not lower than those of other industrialized nations and who advocate that the number of physicians is adequate.[55] Generally, however, there is a growing awareness that the types of physicians and the location of these physicians are not suited to our health care needs.

---

[48] Freestanding clinics are located in Putney, White River Junction, Middlebury/Vergennes, Rutland, Barre and Bennington.
[49] "The Vermont Coalition of Clinics for the Uninsured 2008 Annual Report," (2009), at page 13.
[50] "The Vermont Coalition of Clinics for the Uninsured 2008 Annual Report," (2009), at page 14.
[51] "The Vermont Coalition of Clinics for the Uninsured 2008 Annual Report," (2009), at page 16.
[52] "The Vermont Coalition of Clinics for the Uninsured 2008 Annual Report," (2009), at page 20-21.
[53] "The Vermont Coalition of Clinics for the Uninsured 2008 Annual Report," (2009), at page 22.
[54] "The Vermont Coalition of Clinics for the Uninsured 2008 Annual Report," (2009), at page 26.
[55] See F. Mullan, "Workforce Issues in Health Care Reform: Assessing the Present and Preparing for the Future," Testimony to the U.S. Senate Finance Committee (March 12, 2009). Mullan notes that America

A combination of federal and state designations are used to identify underserved areas and populations, including medically underserved areas (MUAs), medically underserved population (MUPs), Governor Certified Shortage Areas, and health professional shortage areas (HPSAs). Designations are based on combinations of measures, such as population demographics and health status, supply of primary care physicians, and access to care for vulnerable populations. Inventory analysis may not be the only factor Vermont policymakers should examine in health care resource allocation. As discussed below, larger issues of system redesign may also be as important as inventory trends.

A. Primary Care Resources

1. Undersupply of Primary Care Providers

Studies of regional variation in medical care demonstrate that physicians in regions with greater capacity provide more services, but without better health outcomes.[56] However, studies show that strong systems of primary care are associated with better health outcomes and lower costs.[57]

Although there is a general consensus that Vermont and the nation suffer from inadequate primary care capacity, how to measure that capacity, or lack thereof, is an area of much disagreement. In 2008, the U.S. Health Resources and Services Administration (HRSA) proposed and then withdrew proposed regulations to modify and combine the Health Professional Shortage Area and Medically Underserved Area/Population designation processes. Concern arose that the HRSA's proposed use of a 1:3000 provider-to-population designation standard as a minimum criterion, even when adjusted for need and access barriers, would effectively eliminate the statutory concept of medical under-service and the HRSA ultimately withdrew its proposal.[58] Using a ratio of 1:2000, as of September 30, 2008, the federal government had identified 6,033 national

---

has 272 physicians per 100,000 population, which is less than the Organization for Economic Cooperation and Development average of 320. France has 340 physicians per 100,000 and Canada has 210.

[56] J.E. Wennberg et al., *The Care of Patients with Severe Chronic Illness: An Online Report on the Medicare Program: The Dartmouth Atlas of Health Care* 2006 (Hanover, N.H.: Trustees of Dartmouth College, 2006), at http://www.rwjf.org/pr/product.jsp?id=15026 (accessed May 7, 2009).

[57] J.M. Colwill et al., "Will Generalist Physician Supply Meet Demands of an Increasing and Aging Population," *Health Affairs* 27, no. 3 (2008): w232 – w241 (published online April 29, 2008), citing B. Starfield, et al., "Contribution of Primary Care to Health Care Systems and Health," *Millbank Quarterly* 83, no. 3 (2005): 457-502; K. Baicker and A. Chandra, "Medicare Spending, the Physician Workforce, and Beneficiaries' Quality of Care," *Health Affairs* 23 (2004): w184-w197 (published online April 7, 2004); American College of Physicians, "How Is A Shortage of Primary Care Physicians Affecting the Quality and Cost of Medical Care," (2008), at http://www.acponline.org/advocacy/where_we_stand/policy/primary_shortage.pdf (accessed June 22, 2009).

[58] RCHN Community Health Foundation, "Designation of Medically Underserved and Health Professional Shortage Areas: Analysis of the Public Comments on the Withdrawn Proposed Regulation," *Issue Brief* No. 5 (September 3, 2008).

primary care health care provider shortage areas with 64 million people living in them. It would take 16,336 practitioners to meet their need for primary care providers.[59]

In 2008, using federal standards, five areas in Vermont were identified by the Vermont Department of Health as Primary Care Health Professional Shortage Areas including Brighton in the Northeast Kingdom, Enosburg, Waitsfield, Chelsea and Castleton.[60] Even taking into account variations in designation for identifying areas or underservice, the northeastern region of the state remains under-served from multiple perspectives, including population characteristics and health professional shortages for primary care physicians, mental health professionals and dental health professionals.[61]

Ultimately, however, access to primary care will be impossible without an adequate supply of primary care providers, including physicians, nurses, mental health and substance abuse clinicians, pharmacists and other professionals.[62] A variety of sources have predicted dramatic shortages, particularly of nurses, in the upcoming years.[63] However, Auerbach, et al. note that patterns leading to choosing a career in nursing may be shifting and that individuals appear be choosing nursing careers later in life; this trend is not sufficient to prevent a nursing shortage, but may mitigate the severity of a nursing shortage.[64]

In addition to a current potential undersupply of adequate primary care capacity in certain areas, the primary care workforce is also aging. As the burden of chronic disease increases, ambulatory care resources are threatened as physicians and other healthcare professionals retire from active practice. Between 2004 and 2006, while there was a 67% increase in the number of Vermont physicians aged 55 and older, there was only a 7% increase in the number under the age of 55. During this time period, the number of physicians over the age of 55 increased by 93 from 452 to 548.[65] However, regarding nurses, Auerbach, et al. further suggests that current nurses may choose to practice nursing longer.[66] As such, the authors suggest policymakers examine ways in which

---

[59] U.S. Department of Health and Human Services web site at http://bhpr.hrsa.gov/shortage/ (accessed February 16, 2008).
[60] *See* Map 2.1, Primary Care Health Professional Shortage Areas above.
[61] *See* Maps 2.1 and 2.2, Primary Care Health Professional Shortage Areas and Primary Care Physician to Population Ratios by Rational Service Areas. *See also* Office of Vermont Health Access Mapping and Network Analysis at http://ovha.vermont.gov/budget-legislative/mapping-and-network-analysis (accessed June 11, 2009). This site maps supply and utilization of primary care physician, mental health providers, dentists and other providers.
[62] *See* National Association of Community Health Centers, *Access Transformed* (Washington DC: Robert Graham Center, 2008).
[63] For a discussion of efforts to address the nursing shortage, see D.A. Davis, et al., "Strategically Addressing the Nursing Shortage: A Closer Look at the Nurse Funders Collaborative," *Health Affairs* 27, no. 3 (2008): 876-881. Of some interest, the authors found that nurse education grants received the most funding, whereas "supply/demand" studies – predicting future needs and identifying strategies to address shortages – received the least.
[64] D.I. Auerbach, et al., "Better Late than Never: Workforce Supply Implications of Later Entry Into Nursing," *Health Affairs* 26, no. 1 (2007): 178-185.
[65] Vermont Department of Health, "2006 Physician Survey Statistical Report," (2008).
[66] "Better Late than Never: Workforce Supply Implications of Later Entry Into Nursing," at page 184.

older nurses could be encouraged to remain in the profession longer, such as through improving an ergonomic work environment.

2. Expanding Primary Care Capacity

As noted, there is general consensus that greater primary care capacity could improve overall health and decrease the cost of health care in Vermont and, as such, primary care capacity should be expanded. Suggested approaches to increasing primary care capacity include the enhancement of medical education for primary care practitioners, targeted loan repayment programs,[67] focusing on primary care provider quality of life issues, enhancing the supply and use of mid-level practitioners to supplement system capacity and, perhaps most daunting but most effective, instituting meaningful payment reform.[68]

Vermont hospitals have numerous approaches to enhancing primary care capacity within their service areas. Hospitals employ creative and aggressive recruitment programs, provide loan repayment options, absorb primary care practices into the hospital system to ensure viability, coordinate with FQHCs, provide urgent care or walk in clinics, coordinate scheduling among community practices, encourage and support health information technology, maintain hospitalist programs, and partner with medical schools. North Country Hospital is in the process of constructing a medical office building with an innovative floor plan intended to improve practice patterns, providing it a more attractive option for primary care recruits. Northeastern Vermont Regional Hospital has established a working group of Board Chairs and hospital and FQHC CEOs to focus on primary care recruitment, retention and training to the area. This group has considered and intends to implement numerous innovative ideas including closer and more systematic ties to medical training programs, hosting continuing medical education programs in underserved areas to enhance appreciation of those geographic regions, and examining creative and comprehensive ways to address pressures on primary care physicians associated with on call obligations.

Likewise, the University of Vermont College of Medicine and AHEC have numerous initiatives in place to expand primary care capacity. The University of Vermont has consistently been ranked among the top ten medical schools for primary care education by U.S. News and World Report.[69] FAHC residency programs support

[67] The University of Vermont's Area Health Education Centers Program has several programs which seek to increase the availability of education to providers. See http://www.med.uvm.edu/AHEC/TB8+BL+I.asp?SiteAreaID=94 (accessed June 9, 2009) for a summary of loan repayment programs available.

[68] *See* A.H. Goroll, "Workforce Issues in Health Care Reform," Testimony to the U.S. Senate Committee on Finance (March 12, 2009), advocating for Medicare payment reform which will allow doctors more time with patients and a more satisfying clinical practice. *But see* J.M. Colwill et al, "Will Generalist Physician Supply Meet Demands of an Increasing and Aging Population," *Health Affairs* 27, no. 3 (2008): w232 – w241 published online April 29, 2008), predicting that shortage will be greater and these proposals will likely fall short of sufficiently increasing supply.

[69] See the University of Vermont web site at http://www.uvm.edu/~uvmpr/?Page=News&storyID=14176&SM=newssub.html (accessed June 23, 2009).

post-graduate medical training in all of the primary care fields; as of June 2009, these programs had a total of 93 physicians in training.[70]

One suggestion to increase primary care capacity is to train more physicians to meet specified population needs.[71] The Council on Graduate Medical Education (COGME)[72] recommends that states create health care commissions to determine workforce needs that would hold graduate medical education providers accountable for public health goals.[73] Echoing this sentiment, David C. Goodman advocates for the establishment of a permanent federal health workforce commission to identify population needs and identify health care workforce needs accordingly.[74] Goodman suggests five general principles to guide the creation of such a commission: 1) the public interest in the workforce must be articulated; 2) membership of the commission should be broad and represent diverse interests; 3) the commission should address policy while considering all health clinicians (not just physicians); 4) the commission needs a full time staff that is not beholden to any one particular interest or industry group; and 5) the regulatory framework should protect reform from the self-interests of stakeholders. Similarly, Fitzhugh Mullan of The George Washington University advocates for a system that grants graduate medical education funding to hospitals based on community or regional health care needs.[75]

However, Goodman cautions that simply training more doctors, in and of itself, may not address physician shortages. Doctors tend to settle in areas where physician supply is already high. "For every physician that settles in a low supply region, four settle in a region with already high per capita supply."[76] As noted above, primary care

[70] Data supplied by Fletcher Allen Health Care. Meg O'Donnel, Director of Government Relations and Assistant General Counsel, e-mail of June 18, 2009.
[71] It is important to note that residency programs, more than medical school, tend to dictate what type of medicine an individual will practice and where. As such, medical education planning must focus on residency programs as much as on medical school. F. Mullan, "Workforce Issues in Health Care Reform: Assessing the Present and Preparing for the Future," Testimony to the U.S. Senate Finance Committee (March 12, 2009).
[72] The Council on Graduate Medical Education was authorized by Congress in 1986 to provide an ongoing assessment of physician workforce trends, training issues, and financing policies.
[73] Council on Graduate Medical Education, "Nineteenth Report: Enhancing Flexibility in Graduate Medical Education," (2007), at ftp://ftp.hrsa.gov/cogme/19thCOGME.pdf (accessed February 16, 2009). In support of this proposition, COGME notes that physicians are more likely to practice in states in which they have lived or trained, allowing states to impact health care resources available within their states through medical education planning.
[74] D.C. Goodman, "Improving Accountability for the Public Investment in Health Profession Education: It's Time to Try Health Workforce Planning," *The Journal of the American Medical Association* 300, no. 10 (2008): 1205-1207. Goodman also points out that COGME analysis, while important, is limited by its physician only focus.
[75] F. Mullan, "Workforce Issues in Health Care Reform: Assessing the Present and Preparing for the Future," Testimony to the U.S. Senate Finance Committee (March 12, 2009). About the current system, Mullan states: "Effectively, we are addressing the health care needs of the country with a physician staffing pattern based on hospital needs. This is a core problem for workforce reform" Mullan also advocates for a national workforce planning body and suggests that hospitals could collaborate on regional needs to leverage existing resources.
[76] D.C. Goodman, "Linking Workforce Policy to Health Care Reform," Testimony to the U.S. Senate Committee on Finance (March 12, 2009).

doctors are unevenly distributed throughout Vermont, with some areas (such as Chittenden County) having what appears to be an ample supply and other areas (the northeast portion of the state) having a shortage. As such, workforce and primary care capacity enhancement efforts must proactively seek to enhance capacity in areas where capacity is low.

COGME also advocates for a more flexible, interdisciplinary approach to graduate medical education that promotes more coordinated care.[77] "New approaches to clinical education must emphasize healthcare systems, health of populations, patient/family centered care, continuous care, prevention, and wellness as well as the use of point-of-service, evidence-based clinical information in settings where patients have access to a medical home to promote understanding and coordinating of the complex interactions between various levels of care."[78]

Increased reliance on non-physician providers has been explored as a way to increase primary care capacity. Specifically, some advocate that greater reliance on non-physician providers in the management of chronic conditions is imperative.[79] In 2007, the Vermont Legislature commissioned a study to determine whether alleviating the mandated written collaboration agreement that advanced practice nurses[80] must have with physicians would improve primary care and chronic care management capacity. Although the Taskforce concluded eliminating this requirement would increase capacity, the Vermont Legislature has not, as of this writing, eliminated this requirement.[81] The National Association of Community Health Centers suggests that states examine state restrictions on scope of practice limitations when assessing primary care capacity.[82]

Increased efficiency within the care delivery system could also reduce workforce needs. For example, CareOregon, applying the Institute of Healthcare Improvement Triple Aim principles was able to reduce the number of health care professionals required

[77] Council on Graduate Medical Education, "Nineteenth Report: Enhancing Flexibility in Graduate Medical Education," (2007), at page 4. "Assigning residents to service-specific inpatient care roles leaves little room for the development of innovative GME programs featuring inter-disciplinary care, across all settings of care including the physician's office, hospital outpatient and inpatient services, nursing home, home, and community-based care."
[78] "Nineteenth Report: Enhancing Flexibility in Graduate Medical Education," (2007), at page 10.
[79] "In several health systems, patients with diabetes attending nurse-led planned visits achieve better disease control than patients receiving physician only care." T. Bodenheimer, et al., "Confronting the Growing Burden of Chronic Disease: Can the U.S. Health Care Workforce Do the Job?" *Health Affairs* 28, no. 1: 64-74, at pages 68-69. The authors also cite to studies showing decreases in ED visits, hospital visits and spending for Medicare patients with multiple chronic conditions when such patients work with nurse case managers.
[80] For a discussion of advanced practice nurses and how they are regulated and practice see the 2005 HRAP at pages liii and 103.
[81] Vermont Department of Health, "Taskforce on Advanced Practice Registered Nurses (APRNs) as Primary Care Providers (Act 71) Final Report," (January 15, 2008). Note the Taskforce included three representatives of the Vermont Medical Society all of which objected to the elimination of the requirement and which included a competing minority report objecting to disputing to the Taskforce recommendations.
[82] National Association of Community Health Centers, *Access Transformed* (Washington, DC: Robert Graham Center, 2008), at page 17.

to perform patient assessment for high risk from six to two. Overall cost per member was reduced, in two years, from $319 per week to $6.25.[83]

Vermont policymakers should explore ways to increase primary care capacity through the use of nurses and other mid-level practitioners. But note that nationally 42% of patient visits to nurse practitioners and physician assistants are in specialist offices, not primary care.[84] Thus, simply expanding the number of these clinicians may not be the only required step to achieve the policy objective of increasing primary care capacity.

It should be noted that various initiatives over the years have attempted to increase primary care capacity, but have not been successful. Studies have been done to determine why primary care is less appealing to medical students, although generally it is believed that the compensation discrepancy between primary care and specialty care is the primary factor.[85] Nonetheless, resources are not infinite and payers cannot simply provide more compensation to primary care providers without making adjustments to other areas of the delivery system to compensate for these increases in costs. For this reason, policymakers should also examine other ways in which a career in primary care can be more attractive. Some of the concepts discussed below in the context of system redesign may help make primary care in Vermont a more appealing career choice. Quality of life and practice burden issues should be identified and addressed in a systematic fashion. Such steps may alleviate some of the challenges associated with diminished primary care system capacity.

3. Aging Population and Increased Chronic Illness

Vermont, like many other parts of the country, faces numerous demographic challenges which will impact our health care services needs. Most notably, our population is aging and more Vermonters are suffering from chronic illnesses. Although Vermont's population growth was negligible between 2000 and 2007, the population aged. Population aged 45-64 (representing 29.4% of the current population) grew 3.0%. Conversely, during the same time period, Vermonters aged 20 and younger (representing 24.6% of the state's population) decreased by 1.8%.[86] As the Vermont population steadily ages in place, the need for ambulatory care providers for effective management of chronic conditions will continue to increase.

---

[83] Institute of Healthcare Improvement, "Pursuing the Triple Aim: CareOregon," (November 2008), at http://www.ihi.org/NR/rdonlyres/2643EDBF-032F-470C-8D9C-AB0B598B491F/0/IHITripleAimCareOregonCaseStudyDec08.pdf (accessed June 5, 2009), at page 4.

[84] T. Bodenheimer, et al., "Confronting the Growing Burden of Chronic Disease: Can the U.S. Health Care Workforce Do the Job?," *Health Affairs* 28, no. 1: 64-74, at page 70.

[85] *But see* K.E. Hauer, et al., "Factors Associated with Medical Students' Career Choices Regarding Internal Medicine," *Journal of the American Medical Association* 300, no. 10 (2008): 1154-1164, noting that student loan debt did not appear to be positively or negatively correlated to choosing general internal medicine as a career; paperwork and lifestyle were common factors cited.

[86] Vermont Department of Health, "2007 Vermont Population Estimates," (2009), at http://healthvermont.gov/research/2007pop/2007pop.aspx (accessed June 18, 2009).

Like Vermont, nationally more Americans struggle with chronic conditions and the number of Americans with multiple conditions is growing. In 2005, sixty-three million people had chronic illnesses and that number is predicted to reach eighty-one million by 2020. The majority of our health care dollars are spent on chronic illnesses and that proportion is growing.[87]

Not surprisingly, a great deal of effort has been put toward managing chronic illnesses, with the hope of decreasing the prevalence of such conditions and mitigating the financial costs and quality of life burdens such conditions create. However, research shows that improving outcomes is difficult and decreasing costs even more elusive. Many of the Medicare demonstration projects, intended to either improve quality, decrease spending, or both, have not been shown to achieve stated goals.[88]

J. Sochlaski, et al., studied the effectiveness of ten different chronic care management programs aimed at congestive heart failure (CHF) patients. This analysis indicated that patients enrolled in a multi-disciplinary program relying on in-person communication had significantly better results than those programs relying on one CHF expert and telephonic communication.[89] Further, more successful programs utilized programs based in health care providers' offices, and not unaffiliated third parties.

As chronic care management efforts move forward in Vermont and nationally, it is imperative to take note of the increasingly strong evidence linking mental health and substance abuse problems with chronic physical health care problems.[90] Failure to adequately address mental health or substance abuse problems will significantly limit the effectiveness of other health chronic care interventions. It is also important to recognize that not all chronic care interventions should be clinical and performed in a health care setting. For example, workplace programs addressing obesity or other common health challenges have been widely accepted as appropriate and may be more cost effective than having physicians and other clinicians bear the primary burden for such efforts.[91]

The Blueprint for Health is the key strategy for reforming health care in Vermont to reduce the health and economic impact of the most common chronic conditions and focus on their prevention. Consistent with the IHI Triple Aim discussed in Chapter One,

---

[87] "Confronting the Growing Burden of Chronic Disease: Can the U.S. Health Care Workforce Do the Job?" (2009). Bodeheimer, et al. state that 78% of total health care spending goes to the burden of chronic illness.

[88] D.M. Bott, et al., "Disease Management for Chronically Ill Beneficiaries in Traditional Medicare," *Health Affairs* 28, no. 1 (2009): 86-98. *But see* S.M. Foote, "Next Steps: How Can Medicare Accelerate the Pace of Improving Chronic Care?" *Health Affairs* 28, no. 1 (2009): 99-102 (recommending concrete steps, such as increased data transparency, which Medicare can take to improve the science underlying chronic care management).

[89] J. Sochalski, et al., "What Works in Chronic Care Management: The Case of Heart Failure," *Health Affairs* 28, no. 1 (2009): 57-92.

[90] Institute of Medicine, "Improving the Quality of Health Care for Mental Health and Substance-Abuse Conditions: Quality of Chasm Series (Free Executive Summary)," (2006), at http://www.nap.edu/openbook.php?isbn=0309100445 (accessed May 7, 2009), at page 11.

[91] *See* J.R. Gabel, et al., "Obesity and the Workplace: Current Programs and Attitudes Among Employers and Employees," *Health Affairs* 28, no. 1 (2009): 45-56.

the Blueprint is expected to be successful both clinically and financially.[92] The Blueprint helps primary care providers operate their practices as patient-centered medical homes, offer well-coordinated care supported by local multidisciplinary teams and community resources, and expand the use of health information technology. The Blueprint also supports financial reform that aligns fiscal incentives with health goals.

As of early 2009, St. Johnsbury, Burlington and Bennington were competitively selected to participate in the Blueprint Integrated Pilot Program (BPIPP).[93] The BPIPP builds on the medical home concept. BPIPP is a multi-faceted approach designed to test the efficacy and sustainability of reforms intended to result in effective health care and prevention for the general population.[94] The BPIPP has five core elements: 1) financial reform; 2) community care teams; 3) community activation and prevention; 4) enhanced and coordinated health information technology; and 5) multidimensional evaluation.[95]

As noted in Chapter One, payment reform is considered by some to be a necessary component of any successful health care reform intended to reduce cost growth.[96] The BPIPP has a key payment reform component. Participating providers receive an additional incentive payment based on their success in meeting National Committee on Quality Assurance (NCQA) Patient Centered Medical Home standards.[97] To support providers in these efforts, in the BPIPP communities, insurers and Medicaid have agreed to provide a per patient per month payment for specified NCQA PCMH scores.[98] As NCQA PCMH scores improve, the per patient per month payment increases. As Vermont examines strategies for healthcare reform, careful tracking of the BPIPP payment reform efforts should be an important component of informed decision making.

The incentive payments being provided in the BPIPP seek to address some of the financial anomalies that can prevent the adoption of effective chronic care management at the provider level. Under the Chronic Care Model,[99] provider practices must be

[92] Vermont Department of Health, "Blueprint for Health 2008 Annual Report," (January 2009), at page 27. "Sustainability and expansion of the Blueprint guided reform depends on the financial impact as well as the clinical impact."
[93] Please note that as this HRAP goes to press, it appears that Bennington will not participate and a different third site will be chosen.
[94] "Blueprint for Health 2008 Annual Report," (January 2009), at page 4.
[95] "Blueprint for Health 2008 Annual Report," (January 2009), at pages 5-6.
[96] *See, e.g.*, J.J. Mongan, et al., "Options for Slowing Growth of Health Care Costs," *New England Journal of Medicine* 358, no. 14 (2008): 1509-1514 (noting that payment reform, along with health information technology, comparative effectiveness research and chronic care management, has the highest potential for reducing the increase in health care costs).
[97] "Blueprint for Health 2008 Annual Report," (January 2009), at pages 7 -12. These standards are objectively measurable criteria in nine areas: access and communication, patient tracking and registration functions, care management, patient self management support, electronic prescribing, test tracking, referral tracking, performance reporting and improvement, and advanced electronic communications.
[98] At the time of writing, Medicare is not participating in this payment reform effort.
[99] The Chronic Care Model was developed by Ed Wagner, MD, MPH, Director of the MacColl Institute for Healthcare Innovation, Group Health Cooperative of Puget Sound, and colleagues of the Improving Chronic Illness Care program with support from The Robert Wood Johnson Foundation. The CCM focuses on creating a high quality chronic care management system based on six core principles.

redesigned in order to effectively manage chronic conditions. In the first year, by some estimates, practice redesign can require an investment of an additional $6 to $22 per patient to develop the technical and human resources required.[100] However, savings from the chronic care model accrue more quickly to insurers or other payers, rather than to the ambulatory care health care providers who made the initial investment. Incentive payments can also begin to address issues which arise from a system which financially rewards providers for providing more care as opposed to wellness.

Another initiative which will bear close study as Vermont examines ways in which to enhance its health care delivery system is the Blueprint's use of community care teams. Under the BPIPP, these teams are funded, in part, by health insurers. It is hoped that if these teams ultimately prove to be clinically and financially effective, insurers will be able to shift current funding for fragmented disease management programs with limited proven efficacy to support CCTs on an on-going basis.[101] The CCTs are local teams that work closely with providers to coordinate individual patient care, support population health management, and plan ongoing quality improvement. Presently, the CCTs are employed by hospitals, reflecting the current reality that Vermont's healthcare system is largely organized around hospital service areas.[102]

Based on the body of literature evaluating recent efforts to implement improved chronic care management through patient-centered medical home models, the Blueprint had adopted the best practices to ensure sustained improvements in the process and outcomes of care. The Blueprint is being designed and implemented so that care improvements and health care savings, or lack thereof, can be objectively measured and compared against other populations. Vermont should continue to support these efforts as the forefront of our health care reform efforts.

◆ **CON STANDARD 2.2:** Applicants seeking to introduce new ambulatory care services, including hospital ambulatory care center or physician office based services, shall show how such services are consistent with Vermont's focus on health promotion. Services to prevent the onset of disease and to minimize the effects of disease shall be given the highest priority.

4. System Redesign

Beyond expanding the number of primary care providers, much important discussion centers around the way in which primary care, preventive care, chronic care management and enhanced wellness promotion can be redesigned to fundamentally change the manner in we currently deliver health care.[103] Presently, Vermont, and the

[100] K. Coleman, et al., "Evidence on the Chronic Care Model in the New Millennium," *Health Affairs* 28, no. 1 (2009): 75-85, at page 81.
[101] Vermont Department of Health, "Blueprint for Health 2008 Annual Report," (January 2009), at page 13. Anecdotally, CCTs have been enormously popular with both patients and physician practices.
[102] "Blueprint for Health 2008 Annual Report," (January 2009), at page 13.
[103] *See, e.g.*, D.C. Goodman and K. Grumbach, "Does Having More Physicians Lead to Better Health System Performance?" *Journal of the American Medical Association* 229, no. 3 (2008): 335-337, at page

nation's, health care delivery system tends to be sickness based, delivering care as illnesses arise. Further, such care is delivered in a fragmented, disconnected and inefficient system. An integrated disease prevention and wellness promotion strategy to health may be more effective, leading to higher quality population health and more cost effective health services.[104] As Vermont makes health resource allocation decisions, examining the ways in which we can improve current health care delivery models will be an important factor in any successful strategy.[105]

Some current conversations in Vermont concerning system reform and redesign center around two interrelated concepts: the medical home and accountable care organizations (ACOs). Both of these concepts attempt to enhance the fragmented nature of the way in which care in delivered. It is generally understood that the failure of our health care delivery system to offer care in an integrated fashion, both in Vermont and nationally, reduces quality and increases overall system costs.[106] Evidence indicates that despite a widespread awareness of the need for further care integration, care is becoming more, not less, fragmented.[107] The concept of health resource allocation inherently assumes the existence of a health care system, yet the nation's health care "system" (as well as Vermont's) is too fragmented and lacks "systemness".

The concept of the patient-centered medical home has been endorsed as a potential system design reform that can improve quality and enhance the cost effectiveness of health care delivery.[108] The PCMH model has received increased attention after the release of the Joint Principles of the Patient-Centered Medical Home model by several medical professional societies.[109] A patient centered medical home has seven essential components: 1) a personal physician for each person; 2) physician-

---

337. "Although some analyses indicate that simply a greater supply of primary care physicians across regions is associated with better outcomes, the organization of care may be just as important."

[104] R.J. Baron and C.K. Cassel, "21st-Century Primary Care: New Physician Roles Need New Payment Models," *Journal of the American Medical Association* 299, no. 13 (2008): 1595-1597, at page 1597. "Increasing coordination of care in primary care is one strategy to reduce unnecessary and redundant services and help address the steep increase in the cost of medical care."

[105] As succinctly stated: "If one [assumes] that the health care system will be highly coordinated with the well organized use of physician services, such as in prepaid managed care plans like Kaiser Permanente, the case can be made that we might well have a surplus of physicians. If one assumes the continuation of a minimally organized, specialty dominated, predominantly fee-for-service system that is an extrapolation of today's circumstances, one can make the case for a perpetually escalating need for physicians." F. Mullan, "Workforce Issues in Health Care Reform: Assessing the Present and Preparing for the Future," Testimony to the U.S. Senate Finance Committee (March 12, 2009).

[106] *See* Institute of Medicine, *Crossing the Quality Chasm: A New Health System for the Twenty-first Century* (Washington: National Academies Press, 2001).

[107] G. Sharma, et al., "Continuity of Outpatient and Inpatient Care by Primary Care Physicians for Hospitalized Older Adults," *Journal of the American Medical Association* 301, no. 16 (2009): 1671-1680.

[108] See, American Academy of Family Physicians, "Joint Principles of a Patient-Centered Medical Home Released by Organizations Representing More than 300,000 Physicians," (March 5, 2007), at http://www.aafp.org/online/en/home/media/releases/2007/20070305pressrelease0.html (accessed May 7, 2009).

[109] M.S. Barr, "The Need to Test the Patient-Centered Medical Home," *Journal of the American Medical Association*," 300, no. 7 (2008): 834-835. These professional groups were the American Academy of Family Physicians, the American College of Physicians, American Academy of Pediatrics, and the American Osteopathic Association. Other professional groups have since endorsed these principles as well.

directed medical practice – leading a team of people who collectively take responsibility for the patient's well being; 3) whole-person orientation (includes acute, chronic, preventive and end of life care); 4) coordinated/integrated care across all elements of the health care system and patient community; 5) quality and safety focusing on evidence-based decision support, health information technology, performance feedback for providers, patient education, and patient feedback integration in decision making; 6) improved access to care; and 7) payment which appropriately recognizes the value of PCMH.[110]

The medical-home is an integral part of the Blueprint. Nationally, the medical home concept, however, is still in development. Some express concern that it is not adequately defined, is not appropriate for smaller practices, has not been show to save money, and may, to the extent reliant on significant expansion of health information technology initiatives, may be prohibitively expensive to implement.[111] Nonetheless, the PCMH appears to offer opportunities for transformative innovation.[112] The work of the Blueprint should inform these national discussions.

As envisioned by Elliot Fisher at the Dartmouth Institute for Health Policy and Clinical Practice and expanded upon by others, an accountable care organization (ACO) is a formally affiliated group of health care practitioners that care for a defined population.[113] The ACO would be required to report on quality and performance measures as a single entity and the entity would share the burden and the rewards of improvements in care for the identified population. Similarly, Fisher suggests various strategies to measure ACO system costs and reward providers for improving efficiencies in care and lowering overall costs. This is intended to get at one of the greatest obstacles to payment reform under the current fee-for-service system: reducing health care costs results in financial losses for those entities responsible for investing the resources required to reduce costs.

One important aspect of Fisher's ACO concept, particularly for Vermont, is that Fisher believes an ACO model can be implemented without the need for a current large integrated multispeciality group. Fisher's empirical analysis of current practice patterns indicates that health care providers are already operating in coherent local structures which could be transformed into formal ACOs without undue practice changes or

[110] D.R. Rittenhouse et al., "Measuring the Medical Home Infrastructure In Large Medical Groups," *Health Affairs* 27, no. 5 (2008): 1246-1258.
[111] See, e.g., J.E. Sidorov, "The Patient-Centered Medical Home for Chronic Illness: Is it Ready for Prime Time?" *Health Affairs* 27, no. 5 (2008): 1231-1234.
[112] R.A. Berenson et al., "A House Is Not A Home: Keeping Patients At The Center of Practice Redesign," *Health Affairs* 27, no. 5 (2008): 1219-1230.
[113] E. Fisher, et al., "Fostering Accountable Health Care: Moving Forward in Medicare," *Health Affairs* 28, no. 2 (2009), w219-w231 (published online January 27, 2009).

burdens.[114] Fisher and others believe that the ACO concept not only offers an opportunity to improve care, but also to reduce overall systems costs. [115]

In response to this research, in the 2009 Session, the Governor and Vermont State Legislature passed a bill authorizing the Commission on Health Care Reform to convene a work group to support the development of at least one ACO pilot project by July 1, 2010.[116]

5. Increased Public Health Focus

Consistent with the Blueprint, there is a growing consensus that health care delivery and resource allocation should have a greater public health focus. CareOregon, a Medicaid managed care program which instituted the Triple Aim, found that focusing on the health of the population for which it was responsible helped it identify ways in which it could both improve health and decrease costs. "As a payer, we get capitated dollars from the state. Our job is to take care of the population. The healthier our population, the more successful our business model will be. So improved health outcomes becomes a business strategy, which is very much in line with the Triple Aim."[117]

The Blueprint Integrated Pilot Program contains multiple strategies to address population health. Ultimately, the Blueprint intends to conduct community assessments in an attempt to measure population characteristics and risk factors in order to develop coordinated and targeted health promotion strategies for that specific population. As with other Blueprint initiatives, these efforts are being developed with data supporting structures which will allow evaluation of the effectiveness of these efforts on improving overall population health.[118]

Some have suggested that at the provider level, there needs to be a greater public health focus. Shortell and Swartzberg assert that physicians should consider their patients "within the larger social, economic and cultural context."[119] Such an increased focus on public health should include greater integration with other entities that serve

[114] E. Fisher et al., "Creating Accountable Care Organizations: The Extended Hospital Medical Staff," 26, no. 1 (2007): w44-57 (published online December 5, 2006).
[115] *See* S.M. Shortell and L.P. Casalino, "Health Care Reform Requires Accountable Care Systems," *Journal of the American Medical Association* 300, no. 1 (2008): 95-97 (advocating for accountable care systems and describing five potential implementation models for different existing practice patterns and organizations).
[116] An Act Relating to Containing Health Care Costs, Act No. 49 §6 (2009 Session).
[117] *See*, *e.g.*, Institute for Healthcare Improvement, "Pursuing the Triple Aim: CareOregon," (November 2008), *http://www.ihi.org/NR/rdonlyres/2643EDBF-032F-470C-8D9C-AB0B598B491F/0/IHITripleAimCareOregonCaseStudyDec08.pdf* (accessed June 4, 2009), at page 2.
[118] Vermont Department of Health, "Blueprint for Health 2008 Annual Report," (January 2009), at pages 16-21.
[119] S.M. Shortell and J. Swartzberg, "The Physician as Public Health Professional in the 21st Century," *Journal of the American Medical Association* 300, no. 24 (2008): 2916-2918, at page 2916.

public health needs, such as schools and community-based health organizations.[120] Additionally, the authors encourage physicians to advocate for social and political change that enhances overall health, such as banning advertisements for unhealthy food aimed at children. Finally, the authors urge medical education should be reformed as it currently contains very little public health emphasis, minimizing the chances that physicians will pursue such a focus in their careers.[121]

B. Specialty Care Resources

1. Significant Inventory Trends

The 2005 HRAP, drawing from the Report of the Healthcare Workforce Partnership, recommended improving the "recruitment, retention and distribution of specialty care physicians, including general surgeons, urologists, neurologist, hospitalists, dermatologists and gastroenterologists."[122] The Vermont Department of Health does not collect data on all of these specialties, but to the extent they do, the supply of FTEs appears to be virtually unchanged.[123]

Studies have shown that the ratio of primary care providers to specialty care providers directly impacts the intensity of utilization in a given location.[124] Further, higher intensity areas do not necessarily have better health outcomes, but are more expensive.[125] In Vermont, based on 2006 data, the primary care physician to total physician ratio is .41, but this number varies by service area. These ratios may bear further inquiry.

---

[120] "The Physician as Public Health Professional in the 21st Century," (2008). The authors point to Ontario Canada's "Family Health Networks" which are interdisciplinary teams of family practitioners, social workers, nurses, psychologists, nutritionists and others who work as public health officials.

[121] Note, however, that the UVM College of Medicine includes public health in its core curriculum. Data supplied by Fletcher Allen Health Care. Med O'Donnell, Director of Government Relations and Assistant General Counsel, e-mail of June 18, 2009.

[122] 2005 HRAP Implementation Option 7.4, at page 139.

[123] Vermont Department of Health, "2006 Physician Survey Statistical Report," (November 2007), at page 23 and 27, Tables 11 and 17; Vermont Department of Health, "2002 Physician Survey Statistical Report," (March 2005), at pages 22 and 19, Tables 11 and 13. VDH reports on gastroenterologists, neurologists, general surgeons, dermatologists and urologists.

[124] S. Kravet, et al., "Health Care Utilization and the Proportion of Primary Care Physicians," *The American Journal of Medicine* 121, no. 2 (2008): 142-148.

[125] *See, e.g.*, R. Phillips, et al., "Usual Source of Care: An Important Source of Variation in Health Care Spending," *Health Affairs* 28, no. 2 (2009): 567-577. Phillips et al., using Medical Expenditure Panel data, showed that those who identified a subspecialist as their usual source of care had significantly higher health care spending than other usual sources of care. Of some interest, those adults that specified a general internist as their usual source of care had higher costs; adults who identified a facility as the usual source of care had lower costs.

Table 2.2: Distribution of Primary Care to Specialty Care Physician FTEs by Hospital Service Area, 2006[126]

Hospital Service Area	Total Physician FTEs	% of Total Physician FTEs	% of Total Population	Primary Care FTEs	Specialty Care FTEs	Ratio of Primary Care FTEs to Total FTEs	% of Primary Care FTEs	% of Specialty Care FTEs	% of Population Over 65
Barre	108.8	8.8%	10.7%	50.1	58.7	0.46	9.9%	8.0%	13.7%
Bennington	89.2	7.2%	6.5%	36.6	52.6	0.41	7.3%	7.1%	17.7%
Brattleboro	72.6	5.9%	5.1%	31.1	41.5	0.43	6.2%	5.6%	14.1%
Burlington	494.2	39.9%	27.5%	154.8	339.4	0.31	30.7%	46.1%	10.4%
Middlebury	49.4	4.0%	4.6%	30.2	19.2	0.61	6.0%	2.6%	12.3%
Morrisville	37.3	3.0%	4.3%	18.4	18.8	0.49	3.7%	2.6%	13.6%
Newport	38.2	3.1%	4.6%	19.5	18.7	0.51	3.9%	2.5%	15.8%
Randolph	29.0	2.3%	2.3%	12.5	16.5	0.43	2.5%	2.2%	14.8%
Rutland	108.3	8.7%	10.3%	40.8	67.4	0.38	8.1%	9.2%	16.0%
Springfield	47.6	3.8%	4.6%	26.9	20.7	0.57	5.3%	2.8%	17.7%
St. Albans	60.6	4.9%	7.2%	31.0	29.5	0.51	6.2%	4.0%	11.9%
St. Johnsbury	38.1	3.1%	4.5%	19.6	18.5	0.51	3.9%	2.5%	15.0%
White River Jct.	66.5	5.4%	7.9%	32.2	34.4	0.48	6.4%	4.7%	15.1%
Totals	**1,239.6**	**100.0%**	**100.0%**	**503.6**	**736.0**	**0.41**	**100.0%**	**100.0%**	**13.6%**

2. Variations in Practice and Improving Health Care Value

As Vermont examines its specialty care supply, it must not ignore the considerable body of research indicating a weak link between patient outcomes and physicians per capita. Medicare beneficiaries residing in areas with high physician supply do not report better access to physicians or higher satisfaction with care. Measures of technical quality do not show better results in regions with more physicians or at academic medical centers characterized by particularly high physician labor input.[127] This is not to say that physician supply is unimportant, simply that is but one important factor in many in assessing the needs of the state. It would be, perhaps, more prudent to examine Vermont's health care outcomes and determine in which areas the state's health profile indicates a lack of adequate services. This may, or may not, indicate a need for additional specialty care resources or it may point to the need for system redesign around the delivery of that type of care.

[126] "2006 Physician Survey Statistical Report," (November 2007). Population estimates by hospital service area provided by Vermont Department of Health.
[127] D.C. Goodman and K. Grumbach, "Does Having More Physicians Lead to Better Health System Performance?" *Journal of the American Medical Association* 299, no. 3 (2008): 335-337, and articles cited therein.

In order to prevent overuse and reward quality, both with primary care and specialty care providers, health plans have instituted pay for performance programs which aim to reward health care providers for meeting certain specified quality measures, in addition to traditional fee for service reimbursement where a provider is paid for each procedure, without regard to efficacy or necessity. Pay for performance programs have had mixed results and have been met with some resistance from the health care provider community.[128] Some programs have been more successful than others. Nonetheless, if it is Vermont's goal to have better care with less unnecessary (and costly) care, new reimbursement strategies are likely a part of this effort. Additionally, more sophisticated data analysis of physician practice patterns may be able to identify more accurately where cost savings and quality improvement opportunities lie.[129]

3. Improving Patient Participation in Treatment Decisions

Under current standard medical treatment patterns, physicians typically determine the type of treatment a patient receives for a specific condition. Research indicates that patients do not perceive that physicians are seeking their opinion in treatment decisions, nor that key facts about treatment recommendations have been explained.[130] However, when two treatment options have the same clinical outcome, some advocate that patient preferences should be more formally integrated into the treatment decision-making process.[131] Further, research indicates that when patients are given relevant information and a meaningful choice of treatment options, they tend to choose the less intensive, less expensive treatment.[132] Shared decision making (SDM) involves a number of interrelated strategies, including patient centered primary care, actively engaging the patient in treatment decisions, providing information about alternatives, and facilitating the incorporation of the patient's preferences and values into the treatment plan. SDM typically incorporates "decision aids" which are tools (electronic or otherwise) designed

[128] *See, e.g.*, C.L. Damberg, et al., "Taking Stock of Pay-for-Performance: A Candid Assessment from the Front Lines," *Health Affairs* 26, no. 2 (2009): 517-525. Although results were mixed, of 25 physician practices surveyed regarding a specific P4P program, 23 reported the program as being important or very important. Interestingly, 15 practices commented that public reporting of results, although not necessarily useful for consumers, created a positive competitive incentive among physician organizations.
[129] R.A. Greene, et al., "Beyond the Efficiency Index: Finding a Better Way to Reduce Overuse and Increase Efficiency in Physician Care," *Health Affairs* 27, no. 4 (2008): w250-w259 (published online May 20, 2008). Greene et al. detail shortcomings with the efficiency index often used as part of pay for performance programs and propose a methodology where specific cost drivers are identified by analyzing physician usage variations and then specifically targeting those for cost savings.
[130] M.J. Barry, "Shared Decision-Making for Preference Sensitive Screening Decisions," PowerPoint presentation to Vermont House Health Care Committee (April 15, 2009).
[131] M. Krahn and G. Naglie, "The Next Step in Guideline Development: Incorporating Patient Preferences," *Journal of American Medical Association* 300, no. 4 (2008): 436-438, advocating for formal integration of patient preferences into clinical guidelines, particularly when treatment is preference sensitive.
[132] *See, e.g.* Karen Merrikin, "Shared Decisionmaking: The Washington Experience," PowerPoint presentation to Vermont House Health Care Committee (April 15, 2009) Merrikin testified that GroupHealth in Seattle focuses on SDM because it is that "oft sought 'sweet spot': better for patient satisfaction and quality . . . and very likely to reduce our costs as well." *But see* D.M. Berwick, "What 'Patient-Centered' Should Mean: Confessions of An Extremist," *Health Affairs* 28, no. 4 (2009): w555-2565 (published online May 19, 2009). Dr. Berwick advocates that patient preference should dictate treatment decisions, even if such preference results in overuse.

to provide people with relevant unbiased information on treatment options and assist the patient in making an informed, values based decision. Shared decision making is identified in the State Health Plan as a key component of the future of Vermont health care.[133]

It should be noted that some feel strongly that SDM practices cannot be incorporated meaningfully into health care delivery without malpractice protection for the provider who treats a patient who chooses, with full knowledge of the potential risks, less aggressive treatment options.

C. Dental Care Resources

1. Significant Inventory Trends

The federal government has identified 4,048 Dental HPSAs with 48 million people living in them. It would take 9,432 practitioners to meet their need for dental providers (a population to practitioner ratio of 3,000:1).[134] As noted above, Vermont Department of Health survey numbers indicate that the number of dentists in Vermont has been declining since 2002. Further, it does not appear that Vermont, when compared to the nation, has a high per capita dentist ratio. In 2000, national data indicated that Vermont had half the national average dentists per 100,000 of population. National data indicated that the number of Vermont dentists had declined 34% since 1991, as compared to a 16% increase nationwide.[135] However, of some interest, the same data showed that Vermont had the highest number of dental hygienists and dental assistants per capita.

2. Needs and Policy Issues

Dental health is a priority in Vermont.[136] Not only do healthy teeth and gums lead to a higher quality of life, dental disease has been linked to inflammation and diseases associated with chronic inflammation, such as heart disease and diabetes.[137] Although questions remain, efforts are underway to more formally recognize the relationship between the mouth and gums and other diseases.[138] As Vermont has made a priority of preventing and effectively treating chronic disease, the importance of dental health in that effort must be acknowledged. Supporting this priority, the University of

---

[133] Vermont Department of Health, "Vermont State Health Plan 2005," (2005), at page 20.
[134] U.S. Health Resources and Services Administration web site at http://bhpr.hrsa.gov/shortage/index.htm (accessed June 17, 2009).
[135] U.S. Health Resources and Services Administration, "State Health Workforce Profiles, Highlights, Vermont," (2004), at http://bhpr.hrsa.gov/healthworkforce/reports/statesummaries/vermont.htm (accessed May 11, 2009). HRSA data showed Vermont had 33.3 dentists per 100,000 population in 2000, compared with the national rate of 63.3.
[136] Vermont Department of Health, "Vermont Oral Health Plan 2005," at http://healthvermont.gov/pubs/dental/oral_healthplan.pdf (accessed June 10, 2009).
[137] Centers for Disease Control and Prevention, "Links Between Oral and General Health," at http://www.cdc.gov/OralHealth/publications/factsheets/sgr2000_fs4.htm (accessed May 19, 2009).
[138] American Academy of Periodontology, ""Health Gums and a Healthy Heart: The Perio-Cardio Connection," at http://www.perio.org/printthispage-bin/printthispage (accessed June 10, 2009), announcing new clinical recommendations addressing the interrelated nature of these conditions.

Vermont College of Medicine Area Health Education Centers has targeted resources towards raising awareness of dentistry as a career option.[139]

D. FQHCs, Rural Health Clinics and Free Care Clinics

1. FQHCs Inventory Trends

A combination of legislative appropriations and grassroots community-based activity has supported the continued expansion of the network of federally qualified health centers (FQHCs) in Vermont including satellite sites and FQHC look-alike providers. In 2005, the Vermont Legislature appropriated funds to support the initial capitalization of FQHC look-alikes and set a goal that each county without an FQHC would have a look-alike.[140] In 2006 and 2007, a federal grant program called New Access Points (NAP) expanded funding opportunities for the purpose of supporting new access points addressing comprehensive primary care services.[141] The NAP grants support comprehensive primary care and preventive services including mental health, substance abuse and oral health services.

Since 2005, when there were five FQHCs, the Health Center in Plainfield became the sixth federally funded FQHC and Community Health Services of the Lamoille Valley was funded as Vermont's seventh FQHC.[142] In March 2009, Springfield Medical Care Systems received grant funding from the federal American Recovery and Reinvestment Act which will allow the entity to convert the Springfield Hospital network of primary care medical practices to a network of FQHCs. This is believed to be the first FQHC ever established by an entity that also operates a critical access hospital under the same corporate umbrella.[143] It is hoped that this unique structure will allow the medical system enhanced opportunities for efficiencies and coordination of care.

Nonetheless, three Vermont counties currently lack a health center or health center satellite including Addison, Bennington, and Orleans. Community groups, the Primary Care Office at the Vermont Department of Health, and the Bi-State Primary Care Association are working on several initiatives including locating a new satellite site of the Chittenden FQHC in Addison County, and working with the hospital, free clinics and a community group to establish and FQHC in Bennington County.[144] These efforts will

---

[139] University of Vermont College of Medicine, "Creating Awareness for Health Care Careers," *Primarily Vermont* (Winter 2009), at page 5. See also http://www.vthealthcareers.org/ (accessed June 10, 2009).
[140] The Big Bill, 2006 Fiscal Year Appropriations Act, Act No. 71§ 277(f) (2005 Session).
[141] U. S. Department of Health and Human Services, "Health Centers: America's Primary Care Safety Net. Reflections on Success, 2002-2007," (June 2008), at page 21, ftp://ftp.hrsa.gov/bphc/HRSA_HealthCenterProgramReport.pdf (accessed February 16, 2009).
[142] Health Resources and Services Administration press release at http://newsroom.hrsa.gov/releases/2008/newaccesspoint.htm (accessed February 16, 2009).
[143] New England Rural Health Round Table, News and Events, "Vermont's Springfield Medicare System Sets National Precedent," (March 6, 2009), at http://bphc.hrsa.gov/policy/pin0321.htm (accessed May 7, 2009).
[144] Bi-State Primary Care Association, "Access Across Vermont Plan: Advancing a Medical Home Model," (2008), at http://www.bistatepca.org/Publications/ACCESS/Access-Across-VT-081016.pdf (accessed February 16, 2009).

require federal funding from the NAP program and could serve a total of 20,000 additional underserved Vermonters by 2010, including migrant workers and other vulnerable populations.

2. Benefits of FQHCs

Research indicates that FQHCs provide less expensive and higher quality care to the low income, minority and uninsured populations they serve.[145] The National Association of Community Health Centers reported that FQHCs lower the cost of care for chronic conditions and minimize the onset of complications through early screening, detection and treatment and that individuals receiving the majority of their health care at FQHCs have 41% lower health care costs than those patients who rely on other provider types, saving between $9.9 and $17.6 billion a year nationally.[146]

3. Enhancing Mental Health Care

The integration of physical health care and mental health care is a priority in Vermont as it increases the effectiveness of both and can improve overall health and life quality. Vermont's FQHCs are developing programs to support the integration of mental health and primary care, including partnerships between FQHCs and neighboring community mental health centers and Department of Health district offices. FQHCs are also supporting a pediatric telepsychiatry fellowship program to provide services to isolated rural communities in partnership with the University of Vermont College of Medicine.

4. Provider Support for General Health Care Reform

Currently there are several initiatives underway at Vermont FQHCs that reflect the broader goals of health care reform. In regard to the Blueprint for Health medical home pilots, the FQHCs have volunteered to be become a "virtual Blueprint pilot community" with an emphasis on care coordination, enhanced chronic care management, and innovative reimbursement reforms.[147] In step with the state's health information technology efforts, four of Vermont's FQHCs have implemented electronic medical records (EMR) and one FQHC is deploying diagnostics to evaluate EMR performance and improve clinical, operational, and administrative uses.

III. RECOMMENDATIONS

As required by statute, we have included recommendations and implementation options. It is important to recognize that our implementation options are intended as

[145] National Association of Community Health Centers, *Access Transformed*, (Washington DC: Robert Graham Center, 2008), at page 4.
[146] *Access Transformed*, at page 4.
[147] Bi-State Primary Care Association, "Access Across Vermont Plan: Advancing a Medical Home Model," (2008).

possibilities. We recognize that not all of these options could be accomplished, that some of these options may conflict, and that resources may be unavailable to accomplish them. We offer these implementation options as ideas for further discussion only.

RECOMMENDATION 2.1. Policymakers should examine ways to improve Vermont's primary care capacity to support wellness, prevention of disease and effective ambulatory management of chronic conditions.

Implementation Option 2.1.1: The Blueprint, VPQHC and/or other interested stakeholders could continue to study the impact of the community care team model on efficiency, cost-effectiveness, and provider satisfaction in local primary care systems and practices.

Implementation Option 2.1.2: BISHCA could work with public and private payers to identify ways in which payment methodologies could be changed to encourage more efficient and effective primary care that is measurable. This work should include early identification and effective interventions for high-risk populations and individuals. This work should build on and be aligned and coordinated with the work of the Blueprint, OVHA's Chronic Care Initiative and the accountable care organization pilot project.

Implementation Option 2.1.3: The Legislature and private and public payers, including the federal Medicare program, could provide support for the continuation and possible expansion of the Blueprint medical home pilots as warranted by measurable evidence of success.

Implementation Option 2.1.4: Payers could examine reimbursement and evaluation models to support effective integration between clinical pharmacists and primary care practices to assist physicians with prescribing decisions and decrease avoidable complications of polypharmacy.

Implementation Option 2.1.5: The UVM College of Medicine or the Legislature, in collaboration with AHS, AHEC, Bi-State Primary Care Association, DMH, DAIL, VDH, VAHHS, the UVM College or Nursing and Health Sciences, Department of Labor, Department of Education, OVHA, home health agencies, and others, could create an official entity for health care workforce planning to objectively measure, assess, and prioritize healthcare workforce needs, including non-physicians, for the state as a whole, taking into account demographic trends, population health, opportunities for improved higher education, economic development, and efficient and effective distribution of workforce resources to support meeting population health needs and goals.

Implementation Option 2.1.6: VDH could collaborate with other organizations and agencies, such as licensing boards, the Office of Professional Regulation and OVHA's geomapping for its managed care organization, to expand its provider database to include more health care providers (including a more precise range

of specialists, more midlevel providers, and alternative medicine health care professionals) and collect data more regularly to support the monitoring of supply and distribution of key workforce areas such as primary care. (2005 HRAP at page 228.)

RECOMMENDATION 2.2. Policymakers should recognize and support the role of public health in contributing to improved health status and wellness of Vermonters through the application of science to population-based work.

Implementation Option 2.2.1: VDH, DMH, BISHCA, OVHA and/or a combination thereof could systematically examine Vermont's health status across a variety of metrics and determine whether such status, where improvement is warranted, could be enhanced by more targeted access to certain health services and types of providers.

Implementation Option 2.2.2: BISHCA, DMH, VPQHC, VDH, OVHA, other interested stakeholders, and/or some combination thereof, could examine how to evaluate health care utilization and practice patterns in relation to health status indicators, social indicators, and outcome measures using the VHCURES and other health claims and utilization datasets. To the extent that care is not leading to improved health outcomes, stakeholders should examine ways to improve value received for health care dollars spent. Such work should build off of work done by BISHCA pursuant to utilization analysis mandated by An Act Relating to Containing Health Care Costs, Act 49 (2009 Session) and work done by the Blueprint.

Implementation Option 2.2.3: OVHA, DMH and VDH could work together to establish formalized ways to align public health goals with Medicaid/VHAP benefits design.

Implementation Option 2.2.4: The UVM College of Medicine, the UVM College of Nursing and Health Sciences and other state higher education programs for nursing and allied health sciences could examine ways to more fully integrate public health education into physician and other clinician training.

Implementation Option 2.2.5: BISHCA, DMH, VDH, UVM and other health organizations should continue efforts to collaborate to leverage and pool available health and population data resources to develop analytical models for a comprehensive evaluation of health risk and status, access to care, utilization, cost and health outcomes at sub-state levels to inform efforts to improve public and private health and delivery systems.

Implementation Option 2.2.6: VDH, the Department of Agriculture, DAIL, and/or other interested stakeholders could continue to facilitate the expansion of locally produced fresh whole foods in hospitals, nursing homes, home delivered meals,

other health care facilities, nutritional support programs and local school systems.

Implementation Option 2.2.7: VDH and DMH could examine ways to formally integrate the evidence based recommendations of the CDC Community Preventive Services Guide into existing health promotion programs across a variety of platforms, including public and private initiatives aimed at improving population health. (2005 State Health Plan page 40.)

Implementation Option 2.2.8: VDH, DMH, VCHIP, the Vermont Department of Education and other stakeholders could continue to build on work to expand and improve school-based health programs that include health education and counseling addressing the six preventable risk behaviors that are often established in early childhood as identified by the Centers for Disease Control (tobacco use, unhealthy eating, inadequate physical activity, alcohol and other drug use, unsafe sexual behaviors, and behaviors that result in violence and unintentional injuries). (2005 HRAP at page xiv; 2005 Vermont State Health Plan.)

Implementation Option 2.2.9: VDH, BISHCA, VPQHC, and/or the Vermont State Dental Society could measure the percentage of Vermonters with a dental medical home and recommend measures which could be taken to increase those percentages for children, adults, and the elderly.

RECOMMENDATION 2.3. Policymakers should determine ways to leverage mid-level primary care providers to improve primary care capacity, enhance population health, and maximize individual care quality.

Implementation Option 2.3.1: The Vermont Legislature could examine ways in which education, at all levels, could be used to encourage individuals to stay in Vermont and practice medicine in underserved areas.

Implementation Option 2.3.2: AHEC, DMH, Department of Labor, Vermont State Colleges, Department of Education, VAHHS, VMS and/or other interested stakeholders could continue to develop ways to reach out to Vermont middle school and high school students, as well as recent high school graduates and adults contemplating a second career, to encourage careers in nursing and other primary care mid-level positions.

Implementation Option 2.3.3: The Vermont Legislature could implement the recommendations of the Taskforce on Advance Practice Registered Nurses as Primary Care Providers Final Report. (2008 Legislative Report.)

Implementation Option 2.3.4: VDH, DMH, UVM, AHEC, Bi-State Primary Care Association, and other stakeholders with an interest in the mid-level practitioner workforce could collaborate to identify needs for and to support development of

mid-level specialty certification programs relevant to the delivery of primary care targeting medically underserved areas and populations including but not limited to mental health, substance abuse, and gerontology.

RECOMMENDATION 2.4. Policymakers should facilitate meaningful access to disease prevention and health promotion strategies that have been proven effective.

Implementation Option 2.4.1: The Vermont Legislature could examine ways in which additional incentives could be used to encourage workplace and other community based wellness and health promotion programs, with a focus on public health goals, such as obesity prevention, substance abuse prevention, and programs that foster mental health and other chronic disease prevention.

Implementation Option 2.4.2: VDH and DMH could continue working to assist communities and towns to incorporate wellness and health promotion strategies into infrastructure planning and investment.

Implementation Option 2.4.3: Legislators and the Commission on Health Care Reform could examine ways to formally integrate shared decision making tools into Vermont health care provider practices. Such examination should build off the demonstration project proposal authorized in the 2009 legislative session and should address necessary malpractice protections which may need to be a part of any meaningful shared decision making program.

RECOMMENDATION 2.5. Vermont's health care delivery system should move toward more integrated multidisciplinary approaches, enhancing the connections between health care providers and community resources, such as schools and community groups.

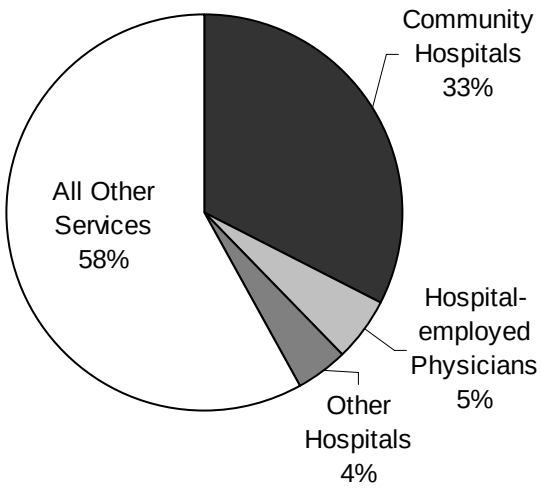
Implementation Option 2.5.1: VAHHS, VMS, VPQHC, the Vermont Council for Developmental and Mental Health Services, and/or other interested stakeholders could determine ways to increase provider engagement in concepts such as accountable care organizations, OVHA's Chronic Care Initiative and the Blueprint that seek to improve care integration and quality, while reducing unnecessary utilization.

Implementation Option 2.5.2: VAHHS, VMS and the Vermont Council for Developmental and Mental Health Services could work with their members to determine ways in which health care providers perceive barriers to integration, including barriers to integration with community and school health based initiatives. Based on these perceptions, VAHHS and VMS could work to eliminate such barriers.

CHAPTER THREE

Hospital Services

Distribution of $1.7 Billion in 2007 Vermont Hospital Expenditures[1]



INTRODUCTION

Vermont's community hospitals provide a comprehensive array of health care services. Besides traditional inpatient acute care services, Vermont's hospitals provide diagnostic, outpatient, emergency, trauma, surgical, prevention and long-term care services to each region of Vermont. Owing to changed health care reimbursement methodologies and a range of technological advances, nationally hospitals saw a significant shift from inpatient to outpatient care starting in the 1980s. Similarly, Vermont has experienced a downward trend in inpatient utilization, and an evaluation of inpatient bed occupancy suggests sufficient capacity in the inpatient system at this time. In addition to analyzing traditional inpatient acute care services, this chapter includes inventories and analyses of Vermont's outpatient capacity, emergency services, and major medical equipment (both diagnostic and treatment related).

[1] Expenditure data is from the *2007 Vermont Health Care Expenditure Analysis & Three-Year Forecast*. Hospital expenditures are for health care provided by Vermont hospitals to both in-state and out-of-state residents. Hospital-employed physicians (physician practices owned by the community hospitals) can be considered as hospital spending and ambulatory care spending. Other Hospitals include the Veterans Administration Medical Center, Brattleboro Retreat, and the Vermont State Hospital.

I. INVENTORY AND UTILIZATION

A. Hospital Types and Location

1. General System Overview

Vermont has fourteen community hospitals that provide a range of services, from basic community level medical care to treatment of serious, complex, medical illnesses. Outside of our borders, but very much an integral part of Vermont's hospital system, is Dartmouth-Hitchcock Medical Center in Lebanon, New Hampshire. In addition to Vermont's general community hospitals, hospital services in Vermont are also provided at the Vermont State Hospital, the Brattleboro Retreat and the Veteran's Administration Medical Center (VAMC). The Vermont State Hospital and the Brattleboro Retreat, dedicated psychiatric hospitals, are discussed in depth in Chapter Four. The VAMC, a 60 bed acute care facility located in White River Junction, is responsible for delivery of health care to eligible veterans in Vermont and four neighboring counties in New Hampshire. The VAMC has 50 acute care medical/surgical beds, ten psychiatric beds and four outpatient clinics and provides a full range of primary, secondary, and specialty care.[2]

Currently, all of Vermont's fourteen community hospitals are not-for-profit. There are certain highly specialized services that are not available at any of Vermont's hospitals.[3] All the community hospitals provide services for Medicare and Medicaid patients and all have a comprehensive free care policy.[4] By federal law, these hospitals must provide treatment for all patients regardless of ability to pay.

Although by necessity (due to data and regulatory limitations), this HRAP focuses on Vermont's in-state hospitals, it is important to recognize the vital role the out-of-state hospitals play in our hospital health care delivery system. As noted, Dartmouth-Hitchcock Medical Center (DHMC) in Lebanon, New Hampshire, which accounted in 2006 for approximately 14% of all Vermont resident discharges and 24% of all charges, is an integral part of the hospital system.[5] Over 40% of discharges from DHMC are Vermont residents.[6] Like Fletcher Allen Health Care (FAHC) in Burlington, Vermont, DHMC is a teaching hospital offering specialized health care services. Due to its location just over the border from Vermont, it is an important resource for Vermonters requiring advanced care not available at smaller community hospitals, particularly for Vermont residents in the eastern part of the state. DHMC complements FAHC in offering specialized services for Vermonters within reasonable travel times.

---

[2] For more information, see the VAMC website at http://www.whiteriver.va.gov/about/index.asp (accessed January 21, 2009).
[3] For example, no Vermont hospitals provide major burn care, certain organ transplants and specialty pediatric care (such as open heart surgery). Typically, hospitals in the Boston metropolitan area provide such services.
[4] Free care policies are available at each hospital and are included on each hospitals' web site.
[5] Department of Banking, Insurance, Securities and Health Care Administration, "2006 Vermont Hospital Migration Report," (March 2008), at http://www.bishca.state.vt.us/HcaDiv/Data_Reports/HospitalMigrationReport/2006VTHospMigrationReport.pdf (accessed June 23, 2009).
[6] Data from DHMC website, at http://www.dhmc.org/webpage.cfm?site_id=2&org_id=566&morg_id=0&sec_id=39&gsec_id=40&item_id=40 (accessed April 28, 2009).

Although all of Vermont's fourteen community hospitals are not-for-profit hospitals, they vary in size and function. The community hospitals generally fall into three different categories. These categories are discussed below in subsections 2-4.

- *Tertiary/Academic Medical Center*
  - Fletcher Allen Health Care in Burlington.

Vermont's only tertiary hospital is also an academic medical center. It has annual net revenues in excess of $800 million and annual acute admissions exceed 20,000.

- *Secondary/Regional*
  - Central Vermont Medical Center in Berlin;
  - Rutland Regional Medical Center in Rutland; and
  - Southwestern Vermont Medical Center in Bennington.

Vermont's secondary/regional hospitals have annual net revenues in excess of $100 million and annual acute admissions in excess of 3,400 but less than 7,000.

- *Primary/Local*
  - Brattleboro Memorial Hospital in Brattleboro;
  - Copley Hospital in Morrisville;
  - Gifford Medical Center in Randolph;
  - Grace Cottage Hospital in Townshend;
  - Mount Ascutney Hospital and Health Systems in Windsor;
  - North Country Hospital in Newport;
  - Northeastern Vermont Regional Hospital in St. Johnsbury;
  - Northwestern Medical Center in St. Albans;
  - Porter Hospital in Middlebury; and
  - Springfield Hospital in Springfield.

Vermont's primary hospitals have annual net revenues of less than $100 million and annual acute admissions less than 3,400.

Key utilization metrics for each of these hospitals are listed below in Table 3.1.

Table 3.1: Vermont Community Hospitals[7]

Fiscal Year 2008	Acute Staffed Beds*	Acute Daily Census	Acute Occupancy Rate	Total Acute Inpatient Admissions
Brattleboro Memorial Hospital	47	20.1	42.7%	1,942
Central Vermont Medical Center	82	41.3	50.4%	3,436
Copley Hospital	25	11.1	44.3%	1,287
Fletcher Allen Health Care	430	294.8	68.6%	20,169
Gifford Medical Center	19	10.2	53.5%	1,228
Grace Cottage Hospital	19	1.6	8.3%	191
Mt. Ascutney Hospital & Health Systems	23	4.3	18.9%	466
North Country Hospital	25	12.9	51.8%	1,487
Northeastern Vermont Regional Hospital	25	12.8	51.2%	1,621
Northwestern Medical Center	70	16.6	23.8%	1,912
Porter Medical Center	25	12.8	51.0%	1,441
Rutland Regional Medical Center	124	78.4	63.2%	6,210
Southwestern Vermont Medical Center	80	47.4	59.3%	4,568
Springfield Hospital	35	26.4	75.6%	2,317
Total Vermont Community Hospitals	**1,029**	**590.7**	**57.4%**	**48,275**
Brattleboro Retreat**	45			2,105
Vermont State Hospital	54			335
Veterans Administration Medical Center	60			2,491
Total Vermont Hospitals	**1,188**			**53,206**

* Acute beds include swing beds for presentation purposes and are included in the occupancy rate calculation.
** Licensed beds. For presentation purposes, only adult psychiatric beds are included under acute beds for Brattleboro Retreat.

Hospital services are often categorized into three levels: primary care, secondary care, and tertiary care.[8] *Primary care* refers to basic or general health care traditionally provided by doctors trained in family practice, pediatrics or internal medicine. Some definitions of primary care also include gynecology. *Secondary care* refers to specialist care provided by a physician acting as a consultant at the request of a primary care physician. *Tertiary care* refers to specialized consultative care, usually on

[7] 2008 Hospital Budget Filings made to the Department of Banking, Insurance, Securities and Health Care Administration. Data related to the Brattleboro Retreat and the Vermont State Hospital obtained from 2009 filings with BISHCA, made pursuant to 18 V.S.A. § 9405(b).
[8] *See* John Hopkins Medicine web site, http://www.hopkinsmedicine.org/patients/insurance_footnotes.html, (accessed January 21, 2009).

referral from either primary or secondary care personnel, by specialists working in a center that has the personnel and facilities for special investigation and treatment of highly complex cases.

BISHCA analyzed Vermonters' access to these services by measuring how far residents live from each category of hospital services, based upon travel distance increments of 15, 30, 45, and 60 miles. Table 3.2 summarizes Vermont residents' travel access to the various levels of service. Over 90% of all residents are within 60 miles of tertiary care services, over 95% are within 45 miles of secondary care services, and 100% are within 30 miles of primary care services. This suggests adequate access to these hospital service categories.

Table 3.2: Percent of Vermont Population Covered by Selected Types of Care[9]

	% Vt. Population Within Distance from Hospital			
Hospital Service	**15 miles**	**30 miles**	**45 miles**	**60 miles**
Estimated Travel Time	**1/2 hour**	**1 hour**	**1.5 hours**	**2 hours**
Tertiary (statewide)	---	---	>75%	>90%
Secondary (regional)	---	>90%	>95%	---
Primary (local)	>90%	100%	---	---

In the above table, tertiary includes FAHC, DHMC and Albany Medical Center in New York. Secondary includes the tertiary hospitals and Central Vermont Medical Center, Rutland Regional Medical Center, Southwestern Vermont Medical Center and the VA Medical Center. Primary includes the tertiary and secondary hospitals and Brattleboro Memorial Hospital, Copley Hospital, Gifford Medical Center, Grace Cottage Hospital, Mt. Ascutney Hospital & Health System, North Country Hospital, Northeastern Vermont Regional Hospital, Northwestern Vermont Medical Center, Porter Medical Center, Springfield Hospital and Littleton Regional Hospital in New Hampshire.

Some hospital services, such as open-heart surgery, are high-cost and specialized and thus appropriate access standards allow for longer travel times. Alternatively, services that are required across community populations, such as emergency services, are expected to be available within a relatively short travel time. However, there are no generally accepted access standards for hospital services in the United States. Other countries, such as Canada, define appropriate access standards as part of their health planning processes. To the extent that Vermont is committed to health care system planning, the collaborative development of appropriate hospital service access standards would be a valuable exercise.

The following table reflects the specific types of services that are provided at each of the fourteen community hospitals, as well as the Veterans Administration Medical Center, the Vermont State Hospital, Brattleboro Retreat, and Dartmouth-Hitchcock Medical Center.

[9] Vermont Program for Quality in Health Care analysis. For general analysis purposes, travel time is estimated at two minutes per mile.

Table 3.3: Hospital Services[10]

	Statewide			Regional												Community-Wide										Major Medical Equipment									
Hospital	Cardiology Services - Open Heart Surgery	Level I Trauma Treatment	Organ Transplant	Renal Dialysis (Hospital based)*	Cardiac intensive care	HIV-AIDS Services	Neurological Services	Cardiology Services - Cardiac Catheterization	Oncology Services	Sleep Center	Inpatient Psychiatric Services Ded. Unit*	Outpatient Mental Health/Substance Abuse*	Psychiatric Partial Hospitalization Program	Inpatient Rehabilitation Dedicated Unit**	Urgent Care Center	Health Screenings	Emergency Services	Orthopedic Services	Outpatient Surgery	General Medical Surgical Care	Pediatric Medical Surgical Care	Laboratory Services*	Obstetrics/Birthing	Physical rehab outpatient services	Intensive Care	CT Scanner*	Ultrasound	Magnetic Resonance Imagine (MRI)*	Extracorporeal Shock Wave Lithotripter (ESWL)	Single Photon Emission Computerized Tomography (SPECT)	Positron Emission Tomography (PET)*	Angiographic (Radiographic/Fluoroscopic System)*	Linear Accelerator*	Robotic Surgery System (da Vinci Robot)*
Brattleboro Memorial Hospital					◆		◆	◆	◆							◆	◆	◆	◆	◆		◆	◆	◆	◆	◆	◆	◆	◆	◆				
Central Vermont Medical Center				◆						◆	◆					◆	◆	◆	◆	◆		◆	◆	◆	◆	◆	◆	◆	◆	◆	◆		◆	
Copley Hospital							◆		◆							◆	◆	◆	◆	◆		◆	◆	◆	◆	◆	◆	◆						
Fletcher Allen Health Care	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆
Gifford Medical Center							◆		◆							◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆						
Grace Cottage Hospital																◆	◆		◆	◆	◆	◆		◆		◆								
Mt. Ascutney Hospital						◆			◆					◆		◆	◆	◆	◆	◆		◆		◆	◆	◆	◆	◆						
North Country Hospital				◆			◆		◆	◆						◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆						
Northeastern Vermont Regional Hospital				◆	◆		◆									◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆				◆		
Northwestern Medical Center				◆	◆				◆				◆		◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆						
Porter Medical Center																◆	◆	◆	◆	◆		◆	◆	◆	◆	◆	◆	◆						
Rutland Regional Medical Center				◆		◆	◆	◆	◆	◆	◆			◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	
Southwestern Vermont Medical Center				◆	◆	◆			◆	◆			◆		◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆		◆	◆		◆	
Springfield Hospital						◆					◆	◆	◆		◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆						
Brattleboro Retreat											◆	◆	◆			◆						◆												
Vermont State Hospital											◆					◆																		
VA Medical Center						◆	◆	◆	◆		◆	◆	◆		◆	◆	◆	◆	◆	◆		◆		◆		◆	◆	◆				◆			
Dartmouth-Hitchcock Medical Center (NH)	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆		◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆
Service Total	**2**	**2**	**2**	**8**	**6**	**7**	**9**	**5**	**11**	**6**	**8**	**5**	**7**	**3**	**7**	**18**	**16**	**15**	**16**	**16**	**10**	**17**	**13**	**16**	**14**	**16**	**15**	**15**	**5**	**6**	**5**	**4**	**6**	**2**

[10] Most of this information was self-reported by hospitals in the 2006 American Hospital Association (AHA) Annual Survey. Services with an asterisk are 2009 data and were directly reported to BISHCA by the hospitals.

2. Tertiary/Academic Medical Center

Vermont has one tertiary hospital; Fletcher Allen Health Care,[11] Vermont's largest hospital.[12] As noted above, the term *tertiary care* generally refers to specialized consultative care, usually on referral from either primary or secondary care personnel, by specialists working in a center that has the personnel and facilities for special investigation and treatment of highly complex cases.[13] FAHC's revenue constitutes about 50% of the Vermont community hospital system.

FAHC is one of 246 hospitals in the country that are considered a Major Teaching Hospital.[14] Therefore, for purposes of review and comparison, BISHCA uses benchmark and other available information from that peer group. Generally, BISHCA does not compare FAHC to other Vermont hospitals. FAHC provides a complete array of primary, secondary, and tertiary services.

3. Secondary/Regional

The next three largest community hospitals in Vermont are Central Vermont Medical Center (CVMC), Rutland Regional Medical Center (RRMC), and Southwestern Vermont Medical Center (SVMC). These hospitals provide a range of primary and secondary services, with overall volumes of services much larger than the smaller community hospitals. Although these hospitals are similar in size, it is important to note that each hospital has unique features.

4. Primary/Local

The services provided by the primary/local hospitals is quite comparable among these hospitals and includes both secondary and primary services. Of the ten community hospitals with net revenues under $100 million, eight of the hospitals are currently designated as Critical Access Hospitals. Northwestern Medical Center and Brattleboro Memorial Hospital are not designated as such. The federal Balanced Budget Act of 1997 created the designation of "critical access hospital" (CAH). Medicare pays CAHs based on each hospital's reported costs; each CAH receives 101 percent of its costs for outpatient, inpatient, laboratory and therapy services, as well as post-acute care in the hospital's swing beds.[15] The CAH designation is intended to improve the financial performance of these hospitals and thereby reduce hospital closures in rural areas.[16]

---

[11] For more information about FAHC, see http://www.fahc.org/AboutFAHC/index.html (accessed January 21, 2009).
[12] FAHC also provides quaternary care services, including, for example Level 3 neonatal intensive care.
[13] *See* John Hopkins Medicine web site, http://www.hopkinsmedicine.org/patients/insurance_footnotes.html (accessed January 21, 2009).
[14] Thomson Reuters, "The Comparative Performance of U.S. Hospitals: 2008 Sourcebook," (Ann Arbor, Michigan: Thomson Reuters, 2008), at page 13.
[15] MedPac, "Critical Access Hospital Payment Systems," (October 2007), available at http://www.medpac.gov/publications/other_reports/Sept06_MedPAC_Payment_Basics_CAH.pdf (accessed January 21, 2009).
[16] Rural Assistance Center, "CAH Frequently Asked Questions," (October 24, 2008), at http://www.raconline.org/info_guides/hospitals/cahfaq.php#whatis (accessed January 21, 2009).

Before a hospital can be eligible for CAH designation, the state must develop a rural health plan. In Vermont, the Vermont Department of Health manages the rural health plan and the CAH program. CAHs are described as limited service hospitals and are allowed to operate no more than 25 acute care inpatient beds. CAHs must also maintain an annual average length of stay of 96 hours or less. CAHs must provide 24-hour emergency services that include medical staff on-site, or on-call and available on-site within 30 minutes.[17] As noted above, eight Vermont hospitals have achieved CAH status.

B. Inpatient Hospital Capacity

Generally a person is considered an inpatient if she or he is admitted to the hospital with the expectation of remaining at least overnight and occupying a bed. All acute care is provided on the basis of physicians' orders.[18] As noted above, nationally inpatient usage has declined while outpatient utilization has been increasing. Vermont has experienced these national trends and has seen a decline in inpatient utilization[19] and an increase in outpatient utilization. In response to this trend, hospitals have adjusted business models and services offered in order to remain competitive.

Table 3.4 illustrates the current distribution of inpatient beds for all Vermont hospitals.[20] All counties except Essex and Grand Isle have a hospital. For consistency, hospital bed classifications in Table 3.4 are based on Medicare reporting requirements. While beds are classified by type, there are instances where a medical/surgical bed could serve as a bed for a patient in need of pediatric services and vice versa. Other bed types, such as rehabilitation and psychiatric, are dedicated bed units supported by specific equipment with unique staff needs**.** Currently, for purposes of evaluating available capacity, all acute care beds are counted, regardless of bed type.[21]

[17] *See* "CAH Frequently Asked Questions," (October 24, 2008).
[18] *See* A. Gawande, "The Cost Conundrum," *The New Yorker* (June 1, 2009), at page 40. "Health-care costs ultimately arise from the accumulation of individual decisions doctors make about which services and treatments to write an order for. The most expensive piece of medical equipment, the saying goes, is a doctor's pen. And, as a rule, hospital executives don't own the pen caps. Doctors do."
[19] In 2007, Vermont was 39th highest in the nation for inpatient days per 1,000 population with 542 days. The District of Columbia had the most inpatient days (1,545) and Utah had the lowest with 380 days. Vermont data in 1999 indicated 665 inpatient days per 1,000. Kaiser Family Foundation, "Inpatient Days per 1,000 Population, 1999-2007," at http://www.statehealthfactsonline.org/comparetable.jsp?typ=1&ind=402&cat=8&sub=95&sortc=9&o=a (accessed June 15, 2009).
[20] Data from Department of Banking, Insurance, Securities and Health Care Administration, *Hospital budget submissions, FY actual 2008*.
[21] Psychiatric beds are discussed in Chapter 4.

Table 3.4: Community Hospital Inpatient Beds[22]

	Acute Staffed Beds by Service						Other Staffed Beds				
Fiscal Year 2008	Medical/ Surgical*	Pediatric	OB/GYN	Intensive Care Unit	Psychiatric	TOTAL	Rehab	Nursery	Skilled Nursing/ Extended Care	TOTAL	Grand Total
Brattleboro Memorial Hospital	34	0	8	5	0	**47**	0	10	0	**10**	**57**
Central Vermont Medical Center	34	0	20	14	14	**82**	0	12	153	**165**	**247**
Copley Hospital	14	0	4	7	0	**25**	0	6	0	**6**	**31**
Fletcher Allen Health Care	273	34	43	52***	28	**430**	32	38	0	**70**	**500**
Gifford Medical Center	19	0	0	0	0	**19**	0	10	30	**40**	**59**
Grace Cottage Hospital	19	0	0	0	0	**19**	0	0	0	**0**	**19**
Mt. Ascutney Hospital & Health Systems	21	0	0	2	0	**23**	10	0	30	**40**	**63**
North Country Hospital	19	1	2	3	0	**25**	0	2	0	**2**	**27**
Northeastern Vermont Regional Hospital	16	2	5	2	0	**25**	0	4	0	**4**	**29**
Northwestern Medical Center	46	0	18	6	0	**70**	0	10	0	**10**	**80**
Porter Medical Center	19	0	4	2	0	**25**	0	4	0	**4**	**29**
Rutland Regional Medical Center	82	0	11	12	19	**124**	12	11	0	**23**	**147**
Southwestern Vermont Medical Center	53	0	15	12	0	**80**	0	6	0	**6**	**86**
Springfield Hospital	14	0	6	5	10	**35**	0	8	0	**8**	**43**
Total Vermont Community Hospital Beds	**661**	**37**	**136**	**122**	**73**	**1,029**	**54**	**121**	**213**	**388**	**1,417**
Brattleboro Retreat**					45	**45**					**149**
Vermont State Hospital					54	**54**					**54**
Veterans Administration Medical Center	43			7	10	**60**					**60**
Total Vermont Hospital Beds	**704**	**37**	**136**	**129**	**182**	**1,188**	**54**	**121**	**213**	**388**	**1,680**

* Medical/Surgical beds include swing beds for presentation purposes. Some hospitals do not break out Medical/Surgical beds into "Pediatric" or "OB/GYN" beds.
** Licensed beds. For presentation purposes, only adult psychiatric beds are included under acute beds for Brattleboro Retreat. Other beds include child, adolescent, and residential beds, but detail is not presently available.
*** Fletcher Allen ICU beds include 20 neonatal ICU beds.

Bed capacity can be measured by the number of acute care beds, available to the population in Vermont. 2007 data indicates that Vermont has 2.2 acute hospital beds per 1,000 population (Table 3.5). This is lower than the United States average of 2.7 beds per 1,000 and the same as New Hampshire. Beds per 1,000 have been trending downward in the U.S.; the

[22] Data from Department of Banking, Insurance, Securities and Health Care Administration, *Hospital budget submissions, 2008 Actual*. BISHCA staff research provided bed numbers from hospitals not required to report for hospital budgets.

national average was 3.0 beds per 1,000 in 1999 and 2.8 in 2003. Likewise, Vermont beds per 1,000 have been decreasing; in 1999 Vermont had 2.8 beds per 1,000.[23]

Table 3.5: 2007 Hospital Beds per 1,000 Population[24]

State	Beds per 1,000 Population
United States	2.7
Vermont	2.2
New Hampshire	2.2
Maine	2.7
Massachusetts	2.6
Connecticut	2.1
Rhode Island	2.3
Iowa	3.5
Wyoming	4.0

When measuring inpatient capacity, it is important to distinguish between licensed beds and staffed beds. Typically, licensed beds are a measure of the ultimate capacity that a hospital can legally staff, while staffed beds are the number of beds a hospital is currently budgeted to fund to meet current utilization levels. The beds per thousand figures typically count only staffed beds.[25]

◆ **CON STANDARD 3.1:** Highly complex specialized services, such as kidney transplants, major trauma treatment (massive head and/or chest trauma), neonatal intensive care and open-heart surgery, are considered appropriate at tertiary hospitals only.

◆ **CON STANDARD 3.2:** Applicants proposing any major bed construction, facility upgrades or additions shall consider availability and access to both instate and out-of-state service capacity and provide an analysis of 10 year population and utilization trends. Population-based science and analyses shall be used to support need.

◆ **CON STANDARD 3.3:** Applicants seeking to add inpatient capacity shall demonstrate that such capacity is needed by the service area population and that services are not available at neighboring hospitals.

◆ **CON STANDARD 3.4:** Applicants subject to budget review shall demonstrate that a proposed project has been included in hospital budget submissions or explain why inclusion was not feasible.

[23] Kaiser Family Foundation, "Beds per 1,000 population," at http://www.statehealthfactsonline.org/comparetable.jsp?ind=396&cat=8 (accessed June 15, 2009).
[24] "Beds per 1,000 population."
[25] American Hospital Association web site at http://www.ahasurvey.org/taker/2007_Walkthrough.pdf (accessed February 20, 2009).

C. Hospital-Based Outpatient Services

Vermont hospitals provide a wide range of preventive, diagnostic, therapeutic, rehabilitative, surgical, and emergency services to patients in outpatient or ambulatory care settings. Outpatient services can include MRI exams, CT scans, ultrasound tests, speech and physical therapy, ER visits, radiology diagnostic tests, blood tests, and surgical procedures. Many of these services are available at all hospitals, although there are exceptions, such as cardiac catheterizations or renal dialysis, that are only available at certain facilities due to the specialized equipment or staff support required.

1. Outpatient Services Utilization

Hospital outpatient services have expanded significantly over the last several years as changed health care reimbursement methodologies and a range of technological advances have influenced the shift from inpatient to outpatient care. For example, many surgeries that once required an inpatient stay are now delivered in the outpatient setting.[26] Various eye surgeries and gallbladder surgery are examples of such changes.

According to the Kaiser Family Foundation, in 2007Vermont had 4,465 hospital outpatient visits per 1,000 population, while the United States average was 2,000. Since 2003, Vermont outpatient visits have increased at an average 5.7% per year versus 0.8% in the U.S.[27] Some of these outpatient increases are offset by decreases in inpatient utilization, and Vermont saw a decline in inpatient days of an average of 0.5% per year during this time period. However, the U.S. saw a 1.2% average annual decline.[28] It is unclear why there are such differences with the nation and whether they are significant. A number of factors may be contributing to the differences, including Vermont's increase in hospital-employed physicians, reporting differences, and differences in calculation methodologies and estimates.

2. Access to Outpatient Services

As noted previously, BISHCA measured Vermonters' access to hospital services by 15, 30, 45, and 60-mile distance increments. Table 3.2 from the inpatient section summarizes the degree to which a percent of the Vermont population has reasonable travel time access to most outpatient services. In some instances, outpatient access has improved as hospitals have established clinics and supported physicians in surrounding towns for the convenience of patients.

---

[26] However, for a discussion of data limitations applicable to outpatient surgery data, see the 2005 HRAP at page 31. It is hoped these limitations will be eliminated or greatly reduced with the newly created VHCURES database.
[27] Kaiser Family Foundation, "Outpatient Days per 1,000 Population, 1999-2007," at http://www.statehealthfactsonline.org/profileind.jsp?ind=404&cat=8&rgn=47 (accessed June 12, 2009). Compare to Nevada (the lowest), with 1,035 outpatient visits per 1,000. Kaiser has ranked Vermont as the highest in the nation since 2003. However, as noted, a number of factors could explain the differences.
[28] Kaiser Family Foundation, "Inpatient Days per 1,000 Population, 1999-2007," at http://www.statehealthfactsonline.org/profileind.jsp?ind=402&cat=8&rgn=47 (accessed June 12, 2009).

For certain outpatient services, such as cardiac catheterization and renal dialysis, current access is much more limited. These services require tertiary support and, as such, can be much more expensive to provide. Therefore, a 30-minute access standard may not be appropriate, but no formal standards for outpatient care have been established. The development of access standards would be an appropriate goal for Vermont to the extent it furthers an improved health care system.

In 2007, BISHCA granted a Certificate of Need to the first ambulatory surgical center (ASC) in Vermont. The Vermont Eye Center began performing procedures in 2008, although the volume of procedures reported to date is low. For the period of November 2008 through May 10, 2009, the Vermont Eye Center reported a total of 244 procedures.[29] Procedure numbers appear to be trending upwards. The impact on neighboring hospitals remains to be seen. However, in other states ASCs have increasingly become a part of the outpatient care delivery system. It is possible that Vermont will see an increase in these facilities.

D. Emergency Medical Services

Emergency medical services (EMS) are an integrated system of personnel, equipment, communication and services that provide pre-hospital, in-hospital and inter-hospital medical treatment to individuals who have suffered illness or injury in order to prevent loss of life, the aggravation of the illness or injury, or to alleviate suffering. This can include both basic and advanced emergency medical treatment.

1. Emergency Medical System Overview

The emergency medical services system links hospitals with ambulance services and first responder services. The essential components of a successful EMS system are trained individuals working in organizations, good communication systems, and specialized transport vehicles. In addition, the EMS system incorporates components such as public education, prevention, system access, and rehabilitation. The Vermont Office of EMS and Injury Prevention, part of the Vermont Department of Health, is responsible for EMS regulation and system development.

In 2008, Vermont's EMS system experienced over 75,000 responses for emergency medical care or transportation.[30] All of Vermont's fourteen community hospitals operate emergency departments and in 2008, there were 89 ground ambulance services, 92 first responder services, and one air ambulance licensed in Vermont.[31] This is about the same as reported in the 2005 Vermont State Health Plan, which indicated 90 ground ambulance services, 92 first responder services, and one air ambulance.[32]

[29] Vermont Eye Center, CON Docket No. 05-058 H, Implementation Report submitted to BISHCA, dated May 7, 2009.
[30] Data from the Vermont Department of Health. Donna Jacobs, e-mail of June 15, 2009.
[31] Data from the Vermont Department of Health. Donna Jacobs, e-mail of June 15, 2009.
[32] Vermont Department of Health, "Vermont State Health Plan 2005," at pages 60-61 (2005).

An average response time for an ambulance or first responder to arrive at the scene from first receiving a call is about nine minutes.[33] Response times will vary across settings and can vary due to many factors including geography, population distribution, and appropriate available EMS resources.

2. Hospital Emergency Departments

The Vermont State Health Plan states that all acute care hospitals in Vermont operate around-the-clock emergency departments; however, while every hospital can handle the majority of cases, only a few can handle complex cardiac, trauma, pediatric, neonate, or other complex problems. When a patient's needs exceed the capabilities of the closest hospital, an inter-facility transfer must be arranged. Emergency patients who require specialty care are typically transferred to Fletcher Allen Health Care, Dartmouth-Hitchcock Medical Center, and Albany Medical Center, all of which have been designated Level I Trauma Centers by the American College of Surgeons.[34]

The following table shows emergency department visits at Vermont community hospitals and emergency department visits by Vermont residents at Vermont and border state hospitals.

[33] Data from the Vermont Department of Health. Donna Jacobs, e-mail of June 15, 2009. Some of the data used in the calculation of response times may measure the time it takes for an ambulance to arrive at the scene, rather than when a first responder first arrives at the scene and begins on-site treatment. Thus, the average time to some level of emergency care may be lower than indicated.

[34] Vermont Department of Health, "Vermont State Health Plan 2005," at page 61 (2005).

Table 3.6: Emergency Department Visits by Hospital[35]

Calendar Year 2006	All Emergency Department Visits*	Vermont Resident ED Visits**
Brattleboro Memorial Hospital	11,956	8,820
Central Vermont Medical Center	27,745	26,478
Copley Hospital	11,760	11,389
Fletcher Allen Health Care	52,920	48,982
Gifford Medical Center	6,541	6,202
Grace Cottage Hospital	2,167	1,830
Mt. Ascutney Hospital & Health Systems	5,693	4,501
North Country Hospital	11,452	10,728
Northeastern Vermont Regional Hospital	10,341	9,792
Northwestern Medical Center	24,701	24,037
Porter Medical Center	13,313	11,819
Rutland Regional Medical Center	34,416	30,726
Southwestern Vermont Medical Center	20,856	15,224
Springfield Hospital	14,734	12,137
Total Vermont Community Hospitals	**248,595**	**222,665**
Dartmouth-Hitchcock Medical Center (NH)		11,370
Other New Hampshire Hospitals		12,567
Massachusetts Hospitals		2,285
New York Hospitals		1,330
Total Vermont Resident ED Visits**		**250,217**
Total Vermont Resident ED Visits per 1,000 Population***		**401**

* Includes Vermonters and non-Vermonters.
** Includes only Vermont resident ED visits.
*** Includes only Vermont resident ED visits at VT, NH, MA, and NY hospitals.

[35] Vermont Department of Health, "Emergency Department Utilization Report," (2006), at Tables E3, E10. Data excludes newborns and is not age-adjusted. Also note that Massachusetts and New Hampshire hospitals define department visits differently than New York and Vermont, thus data is not directly comparable.

In 2006, injury and poisoning diagnoses[36] accounted for 31.7% (78,772 visits) of all emergency department visits at Vermont hospitals.[37] These included bone fractures, joint trauma, sprains, open wounds, burns, and poisonings. Diseases of the respiratory system[38] (e.g., pneumonia, influenza, asthma, bronchitis) accounted for 11.6% (28,868 visits) of all emergency department visits at Vermont hospitals.[39] Of total emergency department visits at Vermont hospitals, 9.1% are admitted as inpatients.[40]

Comparing Vermont to other states and the nation, the table below shows total emergency room visits per 1,000 population for 2007.

[36] Based on the "Injury and Poisoning" Clinical Classification Software High Level Diagnosis Group No. 16.
[37] Vermont Department of Health, "2006 Emergency Department Hospital Utilization Report," (July 2008), at page 12. Data includes visits by patients not admitted and discharges originating in the emergency department.
[38] Based on the "Diseases of the Respiratory System" Clinical Classification Software High Level Diagnosis Group No. 8.
[39] "2006 Emergency Department Hospital Utilization Report," (July 2008), at page 12. Data includes visits by patients not admitted and discharges originating in the emergency department.
[40] "2006 Emergency Department Hospital Utilization Report," (July 2008), at page 13.

Table 3.7: 2007 Hospital Emergency Room Visits per 1,000 Population[41]

State	ER Visits per 1,000 Population
Iowa	390
United States	401
Connecticut	417
Vermont	**418**
Wyoming	435
Rhode Island	459
New Hampshire	471
Massachusetts	494
Maine	545

Although Vermont exceeds the national average in the above table, Vermont has fewer emergency department visits per 1,000 population than most other New England states. By hospital service area regions, emergency department visits per 1,000 population (age adjusted) shows some variation. The reasons for this variation are currently unknown and should not be presumed to indicate over or under utilization. This variation may bear further inquiry.

Table 3.8: Emergency Department Utilization by Hospital Service Area[42]

Hospital Service Areas (HSAs)	Emergency Department Visits	Age-Adjusted Visits per 1,000 Population
Burlington	43,955	257.2
Brattleboro	9,546	307.3
Randolph	5,314	361.1
Middlebury	10,346	361.6
Bennington	14,746	371.6
St. Johnsbury	10,838	385.0
Barre	25,774	386.5
Morrisville	11,055	409.5
Newport	12,194	419.7
White River Jct.	20,735	428.0
Rutland	28,593	450.7
St. Albans	21,358	476.0
Springfield	13,330	478.7
Total	**227,784**	**365.1**

[41] Kaiser Family Foundation, "Hospital Emergency Room Visits per 1,000 Population, 1999-2007," at http://www.statehealthfactsonline.org/comparetable.jsp?ind=400&cat=8, (accessed June 15, 2009). Table sorted lowest to highest.

[42] Table sorted by Age-Adjusted Visits per 1,000 Population, lowest to highest. Vermont Department of Health, "2006 Emergency Department Utilization Report," (July 2008), at page 46. These counts do not match Table 3.6 because it includes Vermont residents only and visits resulting in an admission are not included.

3. Emergency Medical Services Workforce

The number of Vermont physician full time equivalents (FTEs) specializing in emergency medicine increased over 20% from 2002 to 2006 to 73 FTEs.

About 63% of the ambulance and first responder service levels are at the Intermediate level. The remaining 37% of providers are Basic level (14%) and Paramedic level (22%).[43] These levels are determined by the personnel and agencies licensed at each level, which are based on patient intervention protocols and training certifications. The Basic level is the first certification needed to become an Emergency Medical Technician (EMT-B). With further training and testing, the next level is the Intermediate level (EMT-I), and then the Paramedic level (EMT-P).[44]

The 2005 State Health Plan notes that the Vermont EMS workforce has remained at about 3,000 persons over several years.[45] Updated data was not available as this HRAP was going to press.

E. Hospital Major Medical Equipment (MME)

Major medical equipment is a piece of equipment or a single system of components with related functions used for the provision of medical and other health services. Generally, this equipment is the most expensive medical equipment in a facility, often exceeding $1 million in purchase costs. Major medical equipment includes, among other devices, radiotherapy systems (linear accelerators), scanning systems (PET, MRI, and CT devices), surgical robots, and radiographic/fluoroscopic systems.

Currently, Vermont law requires a health care facility, including doctor's offices, proposing to purchase a single piece of diagnostic or therapeutic equipment which costs $1,000,000 or more to obtain a certificate of need from BISHCA prior to purchase.[46] Equipment purchases below that threshold, unless they constitute new services that exceed $500,000 to operate, are not subject to certificate of need review.[47]

CON STANDARD 3.5: Magnetic resonance imaging (MRI) capacity shall not be increased until current capacity is in excess of valid state, regional and/or national benchmarks for medically necessary exams per year and sufficient additional need is demonstrated based on such benchmarks. An applicant proposing a project involving MRI shall provide information on current use, document the effectiveness of the internal program utilized by the applicant to

[43] Data from the Vermont Department of Health. Donna Jacobs, e-mail of June 15, 2009.
[44] Data from the Vermont Department of Health. Dan Manz, Director, e-mail of May 14, 2009. Also, see the Vermont Department of Health's EMS Certification web page at http://healthvermont.gov/hc/ems/ems_cert.aspx, (accessed June 11, 2009).
[45] Vermont Department of Health, "Vermont State Health Plan," (2005) at page 62.
[46] 18 V.S.A. § 9434. Physician owned offices are generally exempt from certificate of need requirements.
[47] *See* 18 V.S.A. § 9434. Operating expenses must exceed jurisdictional thresholds within the first two full years of operation in order to trigger review.

prevent overuse, and verify that the applicant does not have financial incentives in place to encourage MRI utilization.

◆ **CON STANDARD 3.6:** Computed tomographic (CT) scanning capacity shall not be increased until current capacity is in excess of valid state, regional and/or national benchmarks for medically necessary exams per year and sufficient additional need is demonstrated based on such benchmarks. An applicant proposing a project involving CT shall provide information on current use, document the effectiveness of the internal program utilized by the applicant to prevent overuse, and verify that the applicant does not have financial incentives in place to encourage CT utilization.

◆ **CON STANDARD 3.7:** Applicants proposing to replace diagnostic or therapeutic equipment shall demonstrate that existing equipment is fully depreciated, or the cost of the early replacement, including the cost of the remaining depreciation on existing equipment, is less costly than keeping the existing equipment.

1. System Overview

Vermont has six linear accelerators, four PET/CT scanners, seventeen MRI machines, twenty-two CT scanners, five catheterization labs, five other interventional radiology suites, and one da Vinci robotic surgery system.[48] These numbers are higher when Dartmouth-Hitchcock Medical Center in Lebanon, New Hampshire is included.

Some of the equipment is considered "mobile" (vs. "fixed"), meaning that it is not permanently part of a facility and can be moved to different locations to serve different areas. For example, some MRIs and PET scanners are mobile and are used only a certain number of days per week. When utilization reaches a point where a machine is being used more consistently throughout the week, a health care facility may determine it is less expensive to invest in the purchase of a fixed piece of equipment, rather than continue to pay the costs of access to a mobile facility not owned by the hospital.

2. Hospital Equipment Distribution

Major medical equipment is distributed throughout the State at the various hospitals, and in some cases in doctors' offices and other clinical settings. Generally, the more complex and expensive equipment is first found at the larger hospitals such as Fletcher Allen Health Care. As the equipment technology and clinical use of the equipment matures, smaller hospitals begin to adopt the technology given appropriate utilization and acquisition costs.

The following table shows the distribution of major medical equipment among Vermont hospitals and some border state hospitals. The numbers represent the major medical equipment for each hospital and are shown as either fixed or mobile equipment.

[48] For a short description of some of these types of equipment, readers are directed to the 2005 HRAP, pages 65-66.

Table 3.9: Distribution of Major Medical Devices in Vermont Hospitals[49]

	Linear Accelerator	Positron Emission Tomography/CT Scanner (PET/CT)		Magnetic Resonance Imaging (MRI)		CT Scanner	Angiography Equipment		Robotic Surgery System
		Fixed	Mobile	Fixed	Mobile		Cardiac (Cath Lab)	Other Interventional Radiology	(da Vinci Robot)
Brattleboro Memorial Hospital					1	1			
Central Vermont Medical Center	1		1		1	2			
Copley Hospital					1	1			
Fletcher Allen Health Care	2*	1		4		6**	4	3	1
Gifford Medical Center					1	1			
Grace Cottage Hospital						1			
Mt. Ascutney Hospital & Health Center					1	1			
North Country Hospital					1	1			
Northeastern Vermont Regional Hospital	1				1	1			
Northwestern Medical Center					1	1			
Porter Medical Center					1	1			
Rutland Regional Medical Center	1		1	1		1	1	1	
Southwestern Vermont Medical Center	1		1		1	2			
Springfield Hospital					1	1			
Brattleboro Retreat									
Vermont State Hospital									
VA Medical Center					1	1		1	
Dartmouth-Hitchcock Medical Center (NH)	4	1		4	2	4	4	4	1
Champlain Valley Phys Hosp Med Ctr (NY)	1		1	1		3	2	1	1
Littleton Regional Hospital (NH)					1	1			
Albany Medical Center (NY)	2	1		4		6	3	10	1

* Fletcher Allen has received a Certificate of Need for a third linear accelerator to be installed in 2010.
** Fletcher Allen has 4 diagnostic CT scanners, 1 hybrid CT/SPECT (nuclear medicine) scanner, and 1 CT simulator for radiation oncology.

[49] Data obtained from hospitals by BISHCA staff or from the Technical Services Program at the University of Vermont.

3. Hospital Equipment Utilization

There are limited detailed utilization and waiting time data from the hospitals on these pieces of equipment. Data submitted through the Vermont hospital budget process show that about 131,000 CT scans and about 43,000 MRI procedures were completed in 2008, an average annual increase from 2004 of 7.9% for CT scans and 7.1% for MRI procedures. The table below shows historical growth rates for MRI and CT equipment utilization.

Table 3.10: Hospital Equipment Utilization Data[50]

	Magnetic Resonance Imaging Procedures					Computed Tomography (CT) Scans				
				Average Annual Increase					Average Annual Increase	
Vermont Community Hospitals	**2000**	**2004**	**2008**	**2000-2004**	**2004-2008**	**2000**	**2004**	**2008**	**2000-2004**	**2004-2008**
Brattleboro Memorial Hospital	1,222	1,817	1,996	10.4%	2.4%	3,034	3,507	7,577	3.7%	21.2%
Central Vermont Medical Center	1,644	2,740	3,153	13.6%	3.6%	6,743	10,027	10,289	10.4%	0.6%
Copley Hospital	634	814	1,225	6.4%	10.8%	2,089	2,812	3,592	7.7%	6.3%
Fletcher Allen Health Care	9,308	12,846	17,859	8.4%	8.6%	22,921	35,731	46,655	11.7%	6.9%
Gifford Medical Center	0	485	1,178		24.8%	1,377	1,412	2,277		
Grace Cottage Hospital	0	0	0			0	0	560		
Mt. Ascutney Hospital & Health Systems	0	0	484			0	1,157	1,893		13.1%
North Country Hospital	481	1,068	1,530	22.1%	9.4%	1,667	2,285	5,034	8.2%	21.8%
Northeastern Vermont Regional Hospital	182	477	846		15.4%	4,834	5,470	5,964	3.1%	2.2%
Northwestern Medical Center	909	1,603	1,945		5.0%	3,780	4,686	8,815	5.5%	17.1%
Porter Medical Center	848	1,106	1,328	6.9%	4.7%	2,264	2,765	3,170	5.1%	3.5%
Rutland Regional Medical Center	3,252	5,250	6,051	12.7%	3.6%	5,988	11,898	13,889	18.7%	3.9%
Southwestern Vermont Medical Center	1,746	3,244	4,201	16.8%	6.7%	6,227	10,972	15,546	15.2%	9.1%
Springfield Hospital	694	1,133	1,117	13.0%	-0.4%	2,706	3,664	5,622	7.9%	11.3%
Vermont Total	**20,920**	**32,583**	**42,913**	**11.7%**	**7.1%**	**63,630**	**96,386**	**130,883**	**10.9%**	**7.9%**

Nationally, CT scans continue to increase; the average annual rate of increase was approximately 8% from 2003 to 2007. Over half of the CT machines installed in 2007 were multi-slice CTs with 64 or more slices.[51] The average replacement lifecycle is about seven years.

[50] Vermont Department of Banking, Insurance, Securities and Health Care Administration, *Actual 2008 Hospital Budget Submissions*.

[51] The more slices a CT scanner has, the more quickly it can image the body and the more detailed the image. Some procedures that are not possible on lower slice CT scanners are possible on CT scanners that have more slices.

There appears to be a slowdown in the growth of budgeting for replacement units, as CT sites seem to be focusing on efficient utilization over machine replacement.[52]

Nationally, MRI procedures have increased at an average annual rate of approximately 3% from 2003 to 2007, significantly less than the average annual growth from 1999 to 2003 of about 15%. Some of this slowdown in growth is due to the replacement lifecycle of MRIs getting longer, pre-certification requirements from insurers, and the relative maturity of the market. Spine and brain procedures were the two highest volume categories in 2007, accounting for 26% and 25% of the procedures performed.[53]

Note that comparing Vermont data to national data may not be appropriate given differences in data sources and reporting constructs.

II. DISCUSSION

A. Hospital Types and Location

1. Significant Inventory Trends

Since the 2005 HRAP, there have been no hospital openings or closings and the overall system remains relatively static. The Vermont State Hospital has undergone, and continues as of the writing of this HRAP, to undergo, changes. The inventory trends and issues associated with the Vermont State Hospital are discussed in Chapter Four.

In 2007, BISHCA issued a Certificate of Need to Vermont's first ambulatory surgical center – The Vermont Eye Center. The impact of this facility on the Vermont hospital system remains to be seen. There is the potential that under the current regulatory framework, more ambulatory surgical centers could be developed. Some research suggests that physician-owned ambulatory surgical centers can place greater stress on hospitals by referring more Medicaid patients to hospitals and retaining better paying privately insured patients.[54] This particular issue has yet to play out in Vermont but may not as ASCs are subject to certificate of need conditions which could prohibit this practice.

2. System Size and Design

Some have expressed the opinion that fourteen hospitals may be too many hospitals for a state the size of Vermont. Others feel that the current system provides an appropriate network of services, with different hospitals providing certain levels of services.[55] However, there remains

[52] IMV, *"Latest IMV CT Census Shows Slow-down in the Purchase of CT Technology,"* (March 20, 2008), at http://www.imvinfo.com/user/documents/content_documents/def_dis/2008_03_21_11_25_43_706.pdf (accessed January 13, 2009).
[53] IMV, "*Latest IMV Market Report Shows MRI Procedure Growth Slowing to 3% per Year,"* (June 5, 2008).
[54] J.R. Gabel et al., "Where Do I Send Thee? Does Physician-Ownership Affect Referral Patterns to Ambulatory Surgical Centers," *Health Affairs* 27, no. 3 (2008): w165-w174 (published online March 18, 2008).
[55] *See, e.g.*, Vermont Department of Health, "Rural Health and Primary Care Plan," (January 2009), at page 20, emphasizing the importance of local availability for vulnerable populations.

continual pressure on each Vermont hospital to remain financially viable on its own.[56] In the search for a health care "system," it has been suggested by some that while the fourteen hospitals should remain in their bricks and mortar configuration, there should be more coordination of the roles each hospital plays within the Vermont health care system. That said, others point out the risks of having one health care entity and the inherent dangers in a lack of competition.[57] Further, there does not appear to be clear evidence of economies of scale in hospitals after a certain minimum size has been established.[58]

Presently, hospitals must provide numerous services that are not financially viable (such as emergency services). For this reason, hospitals must also provide services that are profitable (such as orthopedics and cardiology) to offset the impact of providing unprofitable services. Due to the financial pressures on each individual hospital, Vermont runs the risk of providing duplicative or unnecessary services in order to subsidize the necessary, but unprofitable, services. The CAH reimbursement system has alleviated some of these pressures, but only eight of Vermont's hospitals are able to take advantage of this designation. It may be time for policymakers to explore whether hospitals (and other health care providers) can more formally collaborate and work together as an integrated healthcare system.[59]

3. Hospital Price and Quality Reporting

In 2003, the Vermont Legislature passed Act 53, "An Act Relating to Hospital and Health Care System Accountability, Capital Spending, and Annual Budgets." Act 53 requires Vermont hospitals to publish annual hospital community reports containing information about quality, hospital infection rates and prevention measures, patient safety, nurse staffing levels, financial health, costs for services, and other hospital characteristics. Act 53 also requires the reporting of some hospital charges for certain procedures. [60]

The law also mandates BISHCA publish some of this information in a comparative format on its website.[61] BISHCA's website currently allows for comparison among hospitals and contains hospital quality measures pertaining to heart attack care, heart failure care, pneumonia care, surgical complication prevention, infection prevention, nurse staffing and

---

[56] In 2007, Rhode Island Governor Donald Carcieri commissioned a task force to study just these issues in Rhode Island. See Community Hospital Task Force, "Report of the Community Hospital Task Force," (July 27, 2007). The Task Force recommended payment reform and encouraging hospital collaboration (including mergers).

[57] *See, e.g.*, J. Carreyrou, "Nonprofit Hospitals Flex Pricing Power – In Roanoke, Va., Carilion's Fees Exceed Those of Competitors; the $4,727 Colonoscopy," *The Wall Street Journal* (August 28, 2008).

[58] Thomson Reuters, "The Comparative Performance of U.S. Hospitals: 2008 Sourcebook," (Ann Arbor, Michigan: Thomson Reuters, 2008), at pages 10-11. The authors identify several aspects about larger hospitals which undercut lower costs, such as providing care to the most complex patients and needing to maintain various high cost diagnostic and therapeutic equipment.

[59] *See, e.g,* R.A. Paulus et al., "Continuous Innovation in Health Care: Implications of the Geisigner Experience," *Health Affairs* 27, no.5 (2008): 1235-1245, discussing the system innovations of a large integrated health care system in northeastern Pennsylvania.

[60] Gross charges for certain procedures are also available on BISHCA's website. See http://www.bishca.state.vt.us/HcaDiv/HRAP_Act53/HRC_BISHCAcomparison_2008/pricing_financial_2008.htm (accessed January 28, 2009). However, gross charges may bear little relationship to actual charges paid by various payers.

[61] BISHCA presently publishes this information, along with historical information. See http://www.bishca.state.vt.us/HcaDiv/HRAP_Act53/HRC_BISHCAcomparison_2008/index_BISHCA_HRC_compar_menu_2008.htm (accessed January 28, 2009).

mortality rates for certain procedures. As policymakers push to encourage market mechanisms within the health care system as a means of encouraging efficiency and cost control, consumer information such as the quality information currently available will be vital. Without sufficient information, consumers of medical services cannot make informed choices. [62]

Beyond consumers, some suggest that price and quality data should be used to support health resource allocation decisions by rewarding cost effective high quality hospitals and by either forcing more expensive and lower quality hospitals to improve, or forcing them to shut down. Boat, et al., argue that more sophisticated and robust quality research could lead to the systematic identification of "waste" (such as preventable infections) in the health care system and ultimately improve value received for health care dollars spent.[63]

B. Inpatient Hospital Services

As discussed in Chapter One, John Wennberg, MD is an acknowledged leader and founder of the study of hospital utilization variation in populations. His work began in Vermont in the 1960s and he continues these efforts today. He established The Dartmouth Institute for Health Policy and Clinical Practice (formerly the Center for the Evaluative Clinical Sciences) at Dartmouth College in 1989.[64] Early in his career, Wennberg found that the rate at which Vermonters were hospitalized varied depending on where they lived. Wennberg and his colleagues studied variations in medical care use and distribution during the 1990s and subsequently published *The Dartmouth Atlas.* Its findings "…seem to indicate that region and the supply of medical resources is a much more important predictor of probability of treatment than either sex or race. They also suggest there may be extensive underuse of effective care in the Medicare population."[65] Analysis of his findings indicated that different physicians care differently for similar people with the same illness.

Building on and supplementing this research, for many years, Vermont hospitals have provided records of hospital discharges. Currently, this data is collected from the hospitals by the Vermont Association of Hospitals and Health Systems under a contract administered by BISHCA. BISHCA also has a memorandum of understanding with the Vermont Department of Health (VDH). VDH collects and processes the Vermont hospital information, as well as Vermont resident discharge information from hospitals in New Hampshire, Massachusetts and New York. This data is available for research purposes subject to certain regulatory restrictions.

This dataset is called the Vermont Uniform Hospital Discharge Data Set (VUHDDS). The VUHDDS is used in BISHCA's and VDH annual analyses for the Vermont hospital utilization reports in a publication called *Hospital Utilization Report* (formerly, these reports were referred to *The Vermont Hospital Monograph Series*). The *Hospital Utilization Report*

---

[62] Note, however, that the concept that such quality measures are of the most benefit to patients, as opposed to medical professionals and policymakers, is not without some controversy. *See, e.g.,* M.B. Rothberg, et al., "Choosing the Best Hospital: The Limitations of Public Quality Reporting," *Health Affairs* 27, no. 6 (2008): 1680-1687.

[63] T. Boat, et al., "From Waste to Value in Health Care," *Journal of the American Medical Association* 299, no. 5 (2008): 568-571. Boat advocates for the creation of "maps" of opportunities where waste could be identified for elimination through quality measurements.

[64] For more about The Dartmouth Institute, see http://tdi.dartmouth.edu/about/ (accessed June 23, 2009).

[65] Dr. John Wennberg, presentation at the American Healthcare Symposium, 2004.

presents data in two ways: by hospital and by hospital service area (HSA). The hospital-based analyses compare data by hospital and include all patients who received services from each hospital, regardless of their states of residency. The HSA analyses compare data for all Vermont residents who were provided inpatient services in any Vermont, New Hampshire, New York, or Massachusetts hospital. [66]

1. Inpatient Utilization

The *Hospital Utilization Report* calculates and presents hospital inpatient and outpatient utilization for both Vermont hospitals and Vermont hospital service areas**.** The Vermont data shown in Table 3.11 indicate that variation exists across Vermont, though assessing its significance requires more in-depth study.

Table 3.11: Statewide Utilization Rate per 1,000 Population[67]

		Age-Adjusted Days per 1,000 Population			Age-Adjusted Discharges per 1,000 Population		
Hospital Service Areas (HSAs)	**HSA Population**	**2002**	**2006**	**Average Annual Change**	**2002**	**2006**	**Average Annual Change**
Morrisville	26,845	380	347	-2.2%	82	75	-2.4%
Barre	67,090	389	367	-1.4%	79	75	-1.0%
Burlington	169,401	440	374	-4.0%	80	76	-1.4%
Middlebury	28,497	447	349	-6.0%	88	80	-2.5%
White River Jct.	49,517	369	349	-1.4%	81	81	0.0%
Brattleboro	31,832	422	381	-2.5%	82	81	-0.5%
St. Albans	45,393	466	362	-6.1%	93	81	-3.4%
Newport	28,989	412	348	-4.1%	95	82	-3.7%
St. Johnsbury	27,870	368	348	-1.4%	85	84	-0.3%
Randolph	14,704	398	407	0.6%	88	88	-0.1%
Rutland	64,466	496	519	1.1%	101	104	0.7%
Bennington	40,604	471	440	-1.7%	103	107	0.9%
Springfield	28,700	436	468	1.8%	99	107	1.9%
Statewide Totals	**623,908**	**426**	**390**	**-2.2%**	**87**	**84**	**-0.8%**

These data show that the utilization rate per 1,000 for the entire state has been modestly declining for the period 2002 through 2006, whether measured in days or admissions. This "leveling off" comes after a period in the 1990s where utilization rates were over 900 days per 1,000 and 130 admissions per 1,000. These trends are comparable with similar trends found

[66] *See also* 2005 HRAP, at pages 87-88, for a discussion of some of the data elements used in the VUHDDS database.

[67] Vermont Department of Health, "2006 Inpatient Hospital Utilization Report," (June 2008), at page 69. Table sorted by 2006 Age-Adjusted Discharges per 1,000 Population, lowest to highest.

across the United States during that period and reflect changing reimbursement approaches and technology.

The *Hospital Utilization Report* breaks down the use rates by examining them by major diagnostic category or the aggregation of diagnosis-related groups into 25 groups that define major body systems.[68] Variation from the norm is then measured to determine whether it is "statistically significant."

Variation in hospital inpatient utilization rates, whether high or low, does not in and of itself suggest a problem or that the level of care is inappropriate. Further analyses are required to understand the variation. Currently, the Vermont Program for Quality in Health Care (VPQHC) use data presented in the *Hospital Utilization Report* as part of its study of efficiency and resource consumption. The VPQHC analysis is published yearly in *The Vermont Health Care Quality Report*. In this report, VPQHC identifies variation that is "statistically significant" by HSA and also examines potential contributing factors, such as the prevalence of diabetes.[69] These findings are shared with physicians and hospitals across Vermont. In 2008, the factor studied by VPQHC as potentially impacting hospital discharge rates was the self-reported health status of hospital service area populations; VPQHC found there is "a statistically significant ($p<0.035$) positive relationship between the proportion of population reporting fair or poor health and the use of inpatient hospital care."[70]

As this HRAP goes to press, the Legislature recently passed An Act Relating to Containing Health Care Costs.[71] The Act requires BISHCA to analyze variations in the use of health care services (by both hospitals and physicians) and identify treatments or procedures for which the utilization rate varies significantly across geographic regions within the state, where utilization is increasing faster across regions, and to determine the reasons for such variation. The Act also instructs BISHCA to report to the Legislature regarding the reasons for variations and to recommend ways to contain health care costs by reducing variation, including promoting the use of equally lower cost treatment alternatives.

◆ **CON STANDARD 3.8:** Open-heart surgery will be provided only at Fletcher Allen Health Care.

◆ **CON STANDARD 3.9:** Cardiac catheterization services will be provided in accordance with the recommendations found in the August 1998 Report of the Cardiac Catheterization Work Group to the Division of Health Care Administration prepared by the Vermont Program for Quality in Health Care.

[68] Vermont Department of Health, "2006 Inpatient Hospital Utilization Report," (June 2008).
[69] The 2008 report is available at http://www.vpqhc.org/2008QR/HealthcareUtilization.htm (accessed January 26, 2009). VPQHC reports are typically published in June. The 2008 Quality Report concluded the correlation between hospital discharge rates and diagnosed diabetics was "weak."
[70] Vermont Program for Quality in Health Care, "The Vermont Health Care Quality Report 2008 – Health Care Utilization in Vermont by Hospital Service Area and Various Population Characteristics," (2008), at http://www.vpqhc.org/2008QR/HealthcareUtilization.htm (accessed January 26, 2009), at page 1.
[71] An Act Relating to Containing Health Care Costs, Act No. No. 49 (2009 Session).

2. Inpatient Bed Capacity

The Dartmouth Institute for Health Policy & Clinical Practice (TDI) recently analyzed bed supply in Vermont as part of large study concerning health care utilization and variation across geographic regions.[72] TDI has consistently found that greater capacity has more to do with variation in costs than populations with unmet needs or illness severity.[73] The study by TDI shows that Vermont has relatively lower bed supply than other regions in the nation.

For example, access to out-of-state hospitals can impact the number of available hospital beds. The beds per 1,000 population measure indicating that Vermont has fewer beds per 1,000 than the national average, fails to consider Vermonters' access to hospitals on its borders. In addition to Vermont hospitals, residents also receive a significant amount of care at New Hampshire, New York, and Massachusetts hospitals. In 2006, 10,777 discharges represented care provided in these neighboring states, comprising 20.7% of all Vermont-resident inpatient discharges in that year. Of the 9,000 discharges related to New Hampshire hospitals, 80% were at Dartmouth-Hitchcock Medical Center and the Mary Hitchcock Psychiatric Unit. Another 1,838 residents were discharged from hospitals in Massachusetts (1,029 discharges) and New York (748 discharges).[74] Given the scope of this out-of-state utilization, bed capacity analysis must also consider availability of beds along the borders. However, note that out-of-state residents use Vermont hospitals and this also impacts capacity analysis.

Table 3.12: 2006 Vermont Resident Inpatient Discharges[75]

State	Discharges	% Discharges
Vermont	41,314	79.3%
New Hampshire	9,000	17.3%
Massachusetts	1,029	2.0%
New York	748	1.4%
Total	52,091	100.0%

[72] D.C. Goodman, et al., "Hospital and Physician Capacity Update," *Dartmouth Atlas Project Brief Report* (March 30, 2009), at http://www.dartmouthatlas.org/atlases/Capacity_Report_2009.pdf (accessed June 11, 2009).
[73] *See, e.g.*, J.E. Wennberg, et al., "Improving Quality and Curbing Health Care Spending: Opportunities for the Congress and the Obama Administration," *A Dartmouth Atlas White Paper* (2008), at page 1. "For such supply-sensitive services, decisions surrounding medical necessity are strongly influenced by capacity, rather than medical necessity or severity of illness." See also, D.C. Goodman, et al., "Hospital and Physician Capacity Update," *Dartmouth Atlas Project Brief Report*, at http://www.dartmouthatlas.org/atlases/Capacity_Report_2009.pdf (accessed June 11, 2009) at page 10.
[74] Vermont Department of Banking, Insurance, Securities and Health Care Administration, "2006 Vermont Hospital Migration Report: Inpatient Discharges," (March 2008) at http://www.bishca.state.vt.us/HcaDiv/Data_Reports/HospitalMigrationReport/2006VTHospMigrationReport.pdf (accessed January 26, 2009).
[75] Vermont Department of Banking, Insurance, Securities and Health Care Administration, "2006 Hospital Migration Report: Inpatient Discharges," (March 2008), Table 2 at page 12. Discharges exclude newborns.

In addition, an analysis of hospital charges and DRG weights indicates that on average, Vermont residents are using more complex and expensive services at out-of-state hospitals than at Vermont hospitals.[76] Some of the possible reasons for this different relative use of services may include in the severity of illness, type of services provided, and payer mix. For example, the concentration of complex services in the use of out-of-state hospitals by Vermont residents (such as the Dartmouth-Hitchcock Medical Center and the Albany Medical Center) may be higher than the concentration of complex services in Vermont hospitals. Likewise, the lower average charge for Vermont residents' use of Vermont hospitals may be more reflective of a wider menu of services including more routine hospitalizations.

3. Private Beds

Across the country, more hospitals are constructing or renovating semi-private rooms to private beds.[77] Patients are seeking privacy and hospitals may need to isolate patients in order to prevent infection.[78] Some suggest this has implications for cost and worry this may move the medical system to a two-tiered system of care.[79] In Vermont, more hospitals and health care facilities have been seeking certificates of need for projects with private beds.

Those supporting single-occupancy rooms cite improvements in patient care, a reduction in the risk of cross infection, and greater flexibility in operation.[80] Even with higher initial unit costs (construction, furniture, maintenance, housekeeping, nursing, etc.), single occupancy rooms can be as profitable as multi-bed rooms because of the higher occupancy rates.[81] Medication errors are reduced in single occupancy rooms in comparison to multi-occupancy rooms, resulting in reduced costs.[82] Further, advocates point to research which demonstrates that patients' length of stay in private rooms is shorter, which can reduce overall care costs.[83]

The American Institute of Architects' (AIA) *Guidelines for Design and Construction of Health Care Facilities* contains a recognized building standard across the United States for new or renovated health care facility construction. Authorities in 42 states (including Vermont), the Joint Commission and several federal agencies use the Guidelines as a reference, code, or

---

[76] Vermont Department of Banking, Insurance, Securities and Health Care Administration, "2007 Vermont Health Care Expenditure Analysis & Three Year Forecast," (February 2009), at page 28.
[77] *See*, C.A. Campbell, "Health Outcomes Driving New Hospital Design," *The New York Times*, (May 19, 2009).
[78] L. Kowalczyk, "Hospitals Scramble to Meet Demand for Private Rooms," *The Boston Globe*, (September 9, 2003).
[79] "Hospitals Scramble to Meet Demand for Private Rooms," (September 9, 2003).
[80] M.E. Detsky and E. Etchells, "Single-Patient Rooms for Safe Patient-Centered Hospitals," *Journal of the American Medical Association* 300, no. 8 (2008): 954-956.
[81] D. Erickson, "Major Changes to the 2006 edition of the Guidelines for the Design and Construction of Hospitals and Health Care Facilities," *American Society for Healthcare Engineering*, (January-February 2005): 20-26, at www.ashe.org/ashe/codes/aia/pdfs/aia2005majorchanges.pdf (accessed January 26, 2009).
[82] Premier, Inc., "Guidelines for Design and Construction of Hospital and Health Care Facilities: 2006 Edition, Issue: Single versus multiple bedroom occupancy," at http://www.premierinc.com/safety/topics/construction/downloads/aia-cher-private-room.doc (accessed May 20, 2009), at page 3. Note, however, this research relates to "universal rooms" or "acuity adaptable rooms" (which are private rooms) and research is limited. Premiere Health Care Alliance describes itself as a the largest health care alliance in the United States, dedicated to improving the quality of health care in hospitals.
[83] "Guidelines for Design and Construction of Hospital and Health Care Facilities: 2006 Edition, Issue: Single versus multiple bed room occupancy."

standard when reviewing construction designs and plans and completed health care facilities.[84] In general, facility projects subject to certificate of need review in Vermont must comply with applicable AIA guidelines. The latest edition of the AIA Guidelines was released in 2006. These guidelines identify single beds as the new minimum standard for medical/surgical and postpartum nursing units in general hospitals for new construction.

Conversely, others point out if hospitals are to have single use rooms, such facilities will need larger buildings and capital costs will increase. Some estimate that construction costs may be approximately 14% more for single-occupancy rooms than multiple-occupancy rooms.[85]

The potential increase in cost, both initial and on going, have caused some authorities to question the AIA standards or limit their application in certain contexts. For example, Nevada specifically excludes the requirement from projects otherwise required to follow the AIA Guidelines.[86] In Iowa, the Iowa Hospital Association wants to abolish the private room standard, although state authorities include the new AIA Guidelines in the rules governing hospital renovation and construction projects.[87]

The 2005 HRAP incorporated the AIA Guidelines and required that all projects subject to certificate of need review be in compliance with AIA Guidelines. In the context of private rooms, it is unclear that the research supports the increased costs associated with this type of expansion. For this reason, this HRAP carves out an exception to the AIA Guidelines.

◆ **CON STANDARD 3.10:** Applicants seeking to renovate or develop hospital space shall not be required to add single occupancy rooms. If an applicant wants to add single occupancy rooms, the applicant shall show that the initial increased costs will be offset by operational or clinical efficiencies and improvements or that the benefits of such expansion justify the increased costs to the Vermont healthcare system.

4. Hospitalist Programs

A hospitalist is a physician who assumes the responsibility for managing care of hospitalized patients. Hospitalist activities may include patient care, teaching, research, and leadership related to hospital care. Hospital medicine is a specialty organized around a site of care (the hospital), rather than an organ, a disease or a patient's age.

---

[84] See the AIA website, www.aia.org/aah_gd_hospcons (accessed January 26, 2009).
[85] BTY Group, "Preliminary Comparative Cost Study: One-Bed Room vs. Two-Bed Room Cost Comparison," (July 29, 2003), at http://www.premierinc.com/quality-safety/tools-services/safety/topics/construction/downloads/09-appendix-e-bty-cost-study.pdf (accessed January 26, 2009). BTY Group is a Canadian cost management and project management consultant, see: www.bty.com/index.htm (accessed January 26, 2009). The cost model developed used high-rise hospitals in the Pacific Northwest and Canada; the authors note the results may need to be adjusted with location factors.
[86] Nevada Department of Health and Human Services, Health Division Bureau of Licensing and Certification, Technical Bulletin #BLC-07-12-01 (December 20, 2007), at http://health.nv.gov/HCQC/TechBullAIAGuidelines.pdf (accessed May 20, 2009).
[87] Associated Press, "State wants hospital patients to have private rooms," *Times-Republican*, (May 3, 2008), at http://www.timesrepublican.com/page/content.detail/id/505741.html?nav=5002 (accessed June 16, 2009).

The hospitalist specialty emerged in response to a variety of factors, including economic pressures brought on by changes in Medicare reimbursement. As hospitals attempted to reduce the length of stay and costs of care, traditional use of primary care physicians became less cost effective.[88] The financial crunch was accentuated by what hospitals viewed as inefficient care routines of primary care physicians. Many of them came to the hospital on an episodic basis to visit one or two patients and missed important test results and care inquiries. Time spent at the hospital proved less productive and was an economic loss for the physicians. This fact of practice and the clear need for more efficient hospital care further motivated hospitals to adopt this new field of hospital medicine.[89]

Hospitalist programs were initially introduced to address Medicare billing changes. However, as hospitalist programs became more widespread, data collected suggested that the presence of hospitalists could improve the quality of care.[90] Due to a variety of economic and quality improvement factors, hospitalist programs have rapidly expanded; nationally, the number of hospitalists has nearly doubled from 2003 to 2005.[91]

As this new delivery model expands, some are concerned that the speciality has grown too rapidly, with inadeaquate training, inflated salaries and substandard working environments.[92] The existence of hospitalists may be putting additional pressure on the primary care physician workforce.[93] However, others assert that hospitalists are a vital part of a primary health care system because they provide enhanced quality of life for primary care providers whom are already stretched thin, without the added burden of hospital duties.[94]

Perhaps most importantly, there are potential problems with the discontinuity of knowledge and care as patients move between their primary care physician and the hospitalist, potentially reducing the quality of patient care.[95] As noted throughout this HRAP, care coordination is a hallmark of high quality, efficient and cost effective health care.

---

[88] C. White, "Journal Discussion: The Hospital Medicine Movment," *American Medical Association Journal on Ethics* 10, no. 12 (2008): 801-804, at http://virtualmentor.ama-assn.org/2008/12/jdsc1-0812.html (accessed January 26, 2009) at page 801.
[89] "Journal Discussion: The Hospital Medicine Movment," (2008).
[90] "Journal Discussion: The Hospital Medicine Movment," (2008).
[91] H.H. Pham et al., "Hospitalists and Care Transitions: The Divorce of Inpatient and Outpatient Care," *Health Affairs* 27, no. 5 (2008): 1315-1327, at page1317.
[92] The Phoenix Group, "Rebuilding the Future of the Private Practice of Hospital Medicine" (2007), at http://www.phoenixgroupwhitepaper.com/docs/the-phoenix-group-white-paper.pdf (accessed January 26, 2009).
[93] "Hospitalists and Care Transitions: The Divorce of Inpatient and Outpatient Care," (2008), at page1323, *citing* S.A. Schroeder and R. Schapiro, "The Hospitalist: New Boon for Internal Medicine or Retreat from Primary Care?" *Annals of Internal Medicine* 130, no. 4, Part 2 (1999): 382-387.
[94] Vermont Medical Society, Public Oversight Commission hearing, testimony of Paul Harrington (April 1, 2009), Tr. 39:3-11.
[95] "The Hospitalist Medicine Movement," (2008).

Table 3.13: Hospitalist Programs – January 2009[96]

	# Hospitalist FTEs		# Hospitalist FTEs next 12 months	
January 2009	**MDs**	**Other**	**MDs**	**Other**
Brattleboro Memorial Hospital	2		2	
Central Vermont Medical Center	3		6	1 RNP
Copley Hospital			1	
Fletcher Allen Health Care	14		17	
Gifford Medical Center	1	2 PAs	2	2 PAs
Grace Cottage Hospital				
Mt. Ascutney Hospital & Health Systems	3		4	
North Country Hospital				
Northeastern Vermont Regional Hospital	1		2	
Northwestern Medical Center	3		3	
Porter Medical Center				
Rutland Regional Medical Center	9		9	
Southwestern Vermont Medical Center	11		11	
Springfield Hospital	3	1 DO, 2 PAs	N/A	
Vermont Total	**49**	**5**	**56**	**3**

As is evident from the above chart, Vermont's hospitals plan on increasing the use of hospitalists. Although Vermont likely cannot attempt to limit the increased use of hospitalists, stakeholders must be aware of risks posed by this trend. Pham, et al, recommend that communities that value care coordination should employ a variety of strategies to address these concerns, including encouraging hospitals to lead in coordinating with outpatient providers, actively promoting outpatient and inpatient integration through professional events and services, employing nonphysicians that are employed in both settings to bridge the gap between these two settings, and promoting "virtual integration" through changes in reimbursement.[97] All of these recommendations should be considered as Vermont relies more on the hospitalist model.

CON STANDARD 3.11: Applicants seeking approval for projects that will implicate the use of additional hospitalists shall demonstrate how the project plan will facilitate care integration between hospitalists and a patient's other health care providers, particularly primary care providers.

[96] BISHCA staff research. Data provided by hospitals. MD refers to Medical Doctors, DO refers to Doctors of Osteopathy, PA refers to Physician Assistants, and RNP refers to Registered Nurse Practitioners.
[97] H.H. Pham et al., "Hospitalists and Care Transitions: The Divorce of Inpatient and Outpatient Care," *Health Affairs* 27, no. 5 (2008): 1315-1327, at page 1326.

5. Hospitals Increasing Employment of Physicians

Some Vermont physician practices are employed by Vermont community hospitals. From 1998 to 2008, Vermont hospital-employed physicians have accounted for between 13.7% and 17% of total community hospital net revenues, and were 14.2% in 2008.

These hospital/physician relationships can be complex, but generally the hospital subsidizes the costs of the physician practices in some way. As one physician in private practice said: "Physicians don't always want to align [with a hospital], but from a business point of view, we have to do it."[98] Furthermore, "physicians who choose to be employed by hospitals are typically attempting to gain more regular work hours and less frequent call responsibility, and to seek shelter from an increasingly complex and unstable market."[99]

Many hospitals subsidize the net losses in the hospital-employed physician practices. "To lessen the potential drain on the hospital, hospital compensation plans for physicians today are more likely to be based on physician productivity."[100] This may have unintended consequences in increasing utilization as physicians then have a financial incentive to do so.

On the other side, hospitals are motivated in part to hire physicians to fill staff shortages (both for call coverage and because of the difficulty in finding particular physicians), reduce competition, expand into new markets, increase negotiating leverage with health plans, and gain cooperation in quality improvement efforts.[101]

The impact of the increase in hospital employment of physicians remains to be seen. On the one hand, it may offer opportunities for more care coordination and hospital/physician aligned services, allowing for more efficiencies.[102] On the other hand, it may lead to consolidation and less innovation and competition. Policymakers should continue to monitor this trend and its effects.

6. End of Life and Palliative Care

There is an increasing awareness that the health care delivery system and health care providers are not providing the highest quality end of life care.[103] There are concerns that physicians and other providers are not adequately trained for end of life care and, more importantly, providers lack consistent understanding of when the time has come to cease seeking aggressive treatments and focus clinical efforts to ease the pain and suffering associated with

---

[98] L.P. Casalino, et al., "Hospital-Physician Relations: Two Tracks And The Decline Of The Voluntary Medical Staff Model," *Health Affairs* 27, no. 5 (2008): 1305-1314, at page 1309.
[99] Vermont Department of Health, "Vermont State Health Plan 2005," (2005), at pages 64-65; "Hospital-Physician Relations: Two Tracks And The Decline Of The Voluntary Medical Staff Model," (2008), at page1309.
[100] J.G. Larson, "Defense vs. Offense: Hospital Employment of Physicians," *HealthLeaders Media*, (May 2, 2008).
[101] "Hospital-Physician Relations: Two Tracks And The Decline Of The Voluntary Medical Staff Model," (2008), at pages 1308-1309.
[102] *See* J. Goldsmith, "Hospitals and Physicians: Not a Pretty Picture," *Health Affairs* 26, no. 1 (2007): w72-75 (published on line December 5, 2006). Goldsmith argues that physicians and hospitals with competing financial incentives have lost sight of the fact that patients should be the first priority.
[103] For an excellent discussion of dying from the perspective of a physician, readers are encouraged to read Pauline W. Chen, "Final Exam: A Surgeon's Reflections on Mortality," (New York City, New York: Random House, 2007).

dying.[104] Studies show that more Americans, and more Vermonters, die in hospitals than want to do so.[105]

Not only does this have devastating emotional impacts, but also end of life care is more expensive in the hospital. Hospice, which aims to provide a more positive end of life experience,[106] is much less expensive than inpatient hospital services.[107] Thus, as we struggle to determine ways in which to fund the health care system, and as health care costs continue to grow faster than inflation, in the area of end of life care, we may be buying services which aren't desired and which do not enhance the patient experience. There appears to be a tremendous opportunity for both better quality, and less expensive, care in this area.[108] However, national standards, Vermont's health care system performs very well in this area, particularly when compared to other states. In 2008, the National Palliative Care Research Center gave Vermont an "A" grade in palliative care.[109] All of Vermont's community hospitals have a palliative care program.

In 2009, the Vermont Legislature and the Governor passed An Act Relating to Palliative Care. This law makes a variety of changes aimed at improving the health care delivery system in Vermont as it pertains to end of life and palliative care. The bill adopts a Patient Bill of Rights relating to palliative care and pain management and explicitly provides that a patient with a terminal illness has a right to know all options available and "to be able to request any, all or none of these options * * *."[110] Palliative care was explicitly incorporated into Vermont's Blueprint for Health, and treatment of pain was added to the statutorily defined scope of various health care licenses, including physicians and naturopaths. Additionally, the Vermont Department of Health was instructed to begin collecting data relating to where Vermonters are dying. These are valuable efforts and offer the opportunity to both increase the quality of care and decrease overall utilization of unwanted services. These efforts should continue to be supported.

◆ **CON STANDARD 3.12:** Any applicant seeking to expand services for potentially terminally ill patients shall explain what efforts the applicant has taken or will undertake which support high quality, patient centered palliative and end of life care. Such efforts should include training and collaboration with other health care and hospice providers to facilitate high quality, patient centered end of life care.

---

[104] Stephen P. Kiernan, "Last Rights," (New York: St. Martin's Griffin, 2006).
[105] Legislative Council, "Report of the Palliative Care, End-of-Life Care, and Pain Management Study Committee," (January 2009), at page 3. A study funded by Cabot Creamery found that 80% of Vermonters surveyed would choose to die at home, yet only 28% die at home and 67% die in hospitals or nursing homes.
[106] "Last Rights," (2006), at page 33. "The hospice ethos is that death occurs in an instant, and until that instant the patient is fully alive and fully deserving of respectful care."
[107] Legislative Council, "Report of the Palliative Care, End-of-Life Care, and Pain Management Study Committee," (January 2009), at 6.
[108] But note that Vermont's rural nature may make coordinated end of life and palliative care more challenging. *See* General Accounting Office, "End of Life Care: Key Components Provided by Programs in Four States," Report 08-66 (December 2007), at page 16.
[109] National Palliative Care Research Center, "America's Care of Serious Illness: A State-by-State Report Card on Access to Palliative Care in Our Nation's Hospitals," (2008), at http://www.capc.org/reportcard/state-by-state-report-card.pdf (accessed May 26, 2009). The only other two states to receive an "A" were Montana and New Hampshire.
[110] An Act Relating to Palliative Care, Act No. 25 § 3 (2009 Session), codified at 18 V.S.A. § 1871.

C. Outpatient Hospital Capacity

1. Significant Inventory Trends

As noted previously, by one measure, Vermont's outpatient utilization continues to be the highest in the nation and is growing. Since 2000, hospital outpatient service revenues have increased from 57% of total gross revenues to 70% of gross revenues in 2009 (budgeted), while inpatient revenues decreased from 40% to 28% of total gross revenues.[111] Besides being explained in part by the decrease in inpatient utilization, this trend of outpatient growth may also be partially explained by an increase in hospital-employed physicians, whose services are now counted as part of the hospital's business. Nonetheless, to the extent this growth is not being offset by decreases in inpatient use, and represents increased utilization exceeding national averages, stakeholders would be well served to determine what is contributing to these rates.

In addition to outpatient procedures at hospitals, since the 2005 HRAP, Vermont has seen the opening of its first "ambulatory surgical center" (ASC), a for-profit enterprise in South Burlington, Vermont called The Vermont Eye Center. The Vermont Eye Center provides certain eye procedures on an outpatient basis.

The impact of the introduction of competing for-profit ASCs into the Vermont health system has been the subject much debate and will likely to continue to be so for some time to come. Nationally, there has been a proliferation of specialty hospitals[112] and ASCs.[113] This proliferation has not been evenly distributed and, particularly with specialty hospitals, has occurred more often in states with no or limited certificate of need laws.[114] Currently, Vermont has no specialty hospitals.

There are several concerns surrounding the proliferation of ASCs and specialty hospitals. Because these facilities tend to be physician-owned, concerns have arisen about the possibility that unnecessary care is being recommended due to financial, rather than clinical, concerns.[115] Further, some worry that due to the decreased regulatory oversight of ASCs, these facilities will deliver less quality care.

Hospitals are concerned that ASCs will choose less complex and more profitable patients. Hospitals are also concerned that although the hospital must treat all patients regardless of ability to pay, ASCs will choose to treat only those patients with private insurance, leaving less profitable patients to the hospital. These two factors are sometimes referred to as "cherry

---

[111] Department of Banking, Insurance, Securities and Health Care Administration, *Hospital budget submissions, FY 2009*.

[112] Specialty hospitals are defined by federal regulation as those hospitals that primarily or exclusively engaged in the treatment of one of the following: cardiac care, orthopedic conditions, or surgical procedures. See the Medicare Modernization Act, § 507(a).

[113] L.P. Casalino, et al., "Focused Factories? Physician-Owned Specialty Facilities," *Health Affairs* 22, no. 6 (2003): 56-67, at page 59.

[114] "Focused Factories? Physician-Owned Specialty Facilities," (2003), at page 60.

[115] S.Guterman, "Specialty Hospitals: A Problem or a Symptom," *Health Affairs* 25, no. 1 (2006): 95-105, at pages 96-97; "Focused Factories? Physician-Owned Specialty Facilities," (2003), at page 61. Casalino, et al. note that numerous studies suggest that physicians who are in a position to profit from referrals tend to make more referrals.

picking." Because hospitals are required to provide unprofitable services (such as emergency care), they rely on profitable services such as cardiac care to cross-subsidize those necessary, but not profitable, services. Hospitals are concerned that if the specialized facilities can provide only the services which are profitable, cross-subsidization will be eroded and community hospitals will struggle to provide necessary services.[116]

Proponents of ASCs and other specialty facilities argue, however, that these entities can provide better quality care by focusing on a limited set of services and having a higher volume of those services. Further, proponents argue that by providing a limited range of specific services, facilities can gain efficiencies and provide lower cost care.[117]

The evidence, however, is mixed. It does appear that patient satisfaction is generally higher with specialty care facilities.[118] Some evidence suggests that when financial results are adjusted for case mix, specialty hospitals do not provide more cost efficient care.[119] Studies regarding quality provide mixed results. Greenwald, et al. found better rates of mortality for specialty hospitals, but mixed results concerning readmission rates.[120] Choudhry, et al. summarizes research showing that when results are adjusted for patient severity and volume, there was no significant difference in mortality rates.[121] Finally, there is very little data regarding the impact of the proliferation of specialty facilities on the hospital system. Some research found that while utilization at the community hospital was decreased, this did not have a corresponding negative financial impact.[122]

The viability of a hospital system that delivers necessary, although perhaps not profitable, services is of paramount importance. However, it is not clear that the proliferation of ASCs or even specialty hospitals significantly threatens the viability of this system. Nonetheless, in 2009, the Vermont Legislature passed amendments to the certificate of need laws, which require that all ASCs go through the certificate of need review process. Further, the certificate of need laws were amended in 2008 to explicitly require an examination of the impact a proposed project will have on the health care system as a whole. These legislative changes should allow Vermont to ensure that any addition or expansion of such facilities will benefit the overall system. Similarly, the federal government, through CMS, has been in an on-going process to refine its reimbursement formula to eliminate unfair reimbursement advantages to specialty facilities.[123]

---

[116] *See* S. Choudhry, et al., "Specialty Versus Community Hospitals: What Role for the Law?" *Health Affairs* (2005): w361-w372 (published on-line August 9, 2005), at page w363.
[117] "Specialty Versus Community Hospitals: What Role for the Law?"(2005), at page w5-364 (summarizing arguments in favor of specialty hospitals from the American Surgical Hospital Association).
[118] L. Greenwald, et al., "Specialty Versus Community Hospitals: Referrals, Quality, and Community Benefits," *Health Affairs* 25, no. 1 (2006): 106-118, at page 115.
[119] S. Guterman, "Specialty Hospitals: A Problem or a Symptom?" *Health Affairs* 25, no.1 (2006): 95-105, at page 99.
[120] "Specialty Versus Community Hospitals: Referrals, Quality, and Community Benefits," (2006), at pages 113-114.
[121] *See* "Specialty Versus Community Hospitals: What Role for the Law?" (2005), at page w369. The study cited examined percutaneous coronary interventions and coronary artery bypass surgery.
[122] "Specialty Hospitals: A Problem or a Symptom?" (2006), at page 100.
[123] Center for Medicaid and Medicare Services, Press Release, "New Steps to Encourage Efficiency and Quality for Medicare Hospital Outpatient Services in 2008," at http://www.cms.hhs.gov/apps/media/press/release.asp?Counter=2586&intNumPerPage=10&checkDate=&checkKe

- **CON STANDARD 3.13:** An applicant proposing to establish an ambulatory surgical center shall demonstrate that the procedures performed at the facility will be limited to those procedures that are not anticipated to require an overnight stay and that can be performed safely in an ASC.

- **CON STANDARD 3.14:** An applicant proposing to establish an ambulatory surgical center shall show that the ASC is located within the appropriate travel time to one or more licensed general hospitals where there are three or more operating rooms.

- **CON STANDARD 3.15:** An applicant proposing to establish an ambulatory surgical center shall demonstrate that the facility will provide services for post-operative complications and inquiries by ASC patients on a 24-hour basis.

- **CON STANDARD 3.16:** An applicant proposing to establish an ambulatory surgical center shall demonstrate how the applicant will provide access to all residents of each community within the identified service area without regard to an individuals' payer type, insurance status or ability to pay for necessary services.

- **CON STANDARD 3.17:** An applicant proposing to establish an ambulatory surgical center shall demonstrate the applicant will: secure and maintain Medicare certification, where appropriate; develop and maintain a transfer agreement with at least one nearby hospital, as well as a transport agreement with an emergency medical service for the ASC's emergency transport requirements; ensure that all staff are well qualified and that the clinical personnel are eligible for – or have privileges for – similar surgical procedures at a local hospital; institute a quality review system; cooperate with all public and private review organizations; and demonstrate that the ASC will institute best practices protocol.

2. Needs and Policy Issues

Generally speaking, outpatient care is less expensive to provide (and to obtain) than inpatient care. For this reason, there are those that believe a shift to outpatient care should have a positive impact on health care spending. However, despite the increased emphasis on outpatient care, Vermont's health care costs continue to rise. Further, as noted, by one measure, Vermont appears to have high (compared to the nation) outpatient utilization rates. It is not clear what is driving these utilization rates.

Seven service categories account for 70% of the total outpatient revenues billed by Vermont's community hospitals: emergency room visits, operating room procedures, laboratory tests, MRI procedures, CT scans, diagnostic radiology procedures and drugs sold. Table 3.14 provides the outpatient units of service for six out of the seven major categories. There are no units of service available for the "drugs sold" category.[124]

---

y=&srchType=1&numDays=0&srchOpt=0&srchData=&keywordType=All&chkNewsType=1%2C+2%2C+3%2C+4%2C+5&intPage=&showAll=1&pYear=1&year=2007&desc=false&cboOrder=date (accessed May 21, 2009).

[124] Department of Banking, Insurance, Securities, and Health Care Administration, *Hospital Budget Submissions*, Actual (2008).

Table 3.14: Outpatient Units of Service for Community Hospital Major Service Categories[125]

				Average Annual Increase	
Outpatient Services	**2000**	**2004**	**2008**	**2000-2004**	**2004-2008**
Emergency Room Visits	233,797	243,826	277,409	1.1%	3.3%
Operating Room Procedures	66,895	72,511	75,602	2.0%	1.0%
Laboratory Tests	4,151,422	5,200,518	6,188,124	5.8%	4.4%
MRI Procedures	20,920	32,583	42,913	11.7%	7.1%
CT Scans	63,630	96,386	130,883	10.9%	7.9%
Diagnostic Radiology Procedures	391,308	435,726	476,139	2.7%	2.2%

Various other services comprise the remaining 30% of outpatient revenues billed by Vermont's community hospitals. Some of these are specialty services that require back-up support, for example cardiac catheterizations, and are only available at Fletcher Allen Health Care and Rutland Regional Medical Center. Renal dialysis must be supported by a tertiary care center and therefore is only available currently at sites affiliated with FAHC or Dartmouth-Hitchcock Medical Center.

Further complicating the outpatient utilization analysis is the rapid evolution of medical procedures. Technological advances have led to many prior inpatient care surgeries now being provided on an outpatient basis. This shift has led to complications in defining surgery. As outpatient data collection matures, definitions will need to be revised to measure changes in the health care system.

Outpatient use rates within the state could be evaluated for variation across hospital services areas. However, because Vermont lacks sufficient access to outpatient data from border states, it can be challenging to meaningfully analyze differences in utilization rates. [126] In some hospital service areas, outpatient services could be fairly measured without those data because outpatient care is provided primarily within Vermont. However, this is not the case in the Vermont hospital service area that is in close proximity to Dartmouth-Hitchcock Medical Center and perhaps similarly in southwestern Vermont, where many New York patients might be served by Southwestern Vermont Medical Center by virtue of its proximity to numerous New York towns.

As noted in Chapter One, as of the writing of this HRAP, BISHCA is implementing the legislatively mandated Vermont Health Care Claims Uniform Reporting and Evaluation System (VHCURES). BISHCA expects to use the VHCURES database to evaluate outpatient utilization and examine usage measures. BISHCA has established contract services to prepare

[125] *Hospital Budget Submissions*, Actual (2008).
[126] Even when the data is technically available, it is not always provided by other states in a format that allows easy comparison or analysis.

reports that will provide paid claims information based on specified populations, geographic and health care service areas for the commercial payers. This research may help identify the types of services that make up the outpatient utilization increases (as well as the outpatient utilization decreases).

D. Emergency Medical Services

1. Significant Inventory Trends

As noted, the Vermont EMS system has remained fairly stable since 2005 with about the same number of ambulance and first responder services and about the same number of call responses for emergency transport or care. However, Vermont has seen an increase in emergency room physicians from 2002 to 2006 and increases in hospital emergency department use over time.

2. Coordinated Access to Emergency Rooms for Vermonters

Approximately 93 % of Vermont's population has access to an emergency department within 30 minutes (assuming two minutes per mile travel time). This includes all acute care community hospitals, the Veteran's Administration hospital, and Dartmouth-Hitchcock Medical Center. This recognizes only driving time and does not include time at the scene of an emergency or other factors.

In 2005, the *Journal of The American Medical Association* reported an access study that included other factors such as time from an emergency call to dispatch of services and average time spent at the scene of an emergency. The study reported that 30% of the Vermont population had access to Level I or Level II trauma centers within 45 minutes, and two-thirds of the population had access within 60 minutes.[127] These travel times include travel either by ambulance or helicopter and include trauma care resources of neighboring states. Nationally, 69 percent and 84 percent of the U.S. population had access to Level I or Level II trauma centers within 45 and 60 minutes respectively. In this analysis, in the Northeast, Vermont had the lowest percentage of its population having access within the time parameters measured, followed by Maine and then New Hampshire. Vermont also was the lowest in the Northeast when Level III trauma centers were included, with 31 percent and 76 percent of the Vermont population within 45 and 60 minutes respectively of a Level I, II, or III trauma center.[128]

Vermont is one of fifteen states that do not currently have an organized system of trauma care and there is minimal data available to assess whether or not Vermont is meeting the needs of patients having serious injury.[129] Some hospitals may lack proper equipment or trained staff appropriate to serving these patients, or some inter-facility transportation of patients may be made more efficient by an integrated trauma system. To the extent that services are being provided at higher-level trauma centers than necessary, this would increase overall system costs.

[127] C.C. Branas, et al., "Access to Trauma Centers in the United States," *Journal of the American Medical Association* 293, no. 21 (2005): 2626-2633, at page 2630.
[128] C.C. Branas, et al., "Access to Trauma Centers in the United States," *Journal of the American Medical Association* 293, no. 21 (2005): 2623-2633.
[129] *See* Vermont Department of Health, "Vermont State Health Plan," (2005), at page 62.

The State Health Plan states: "Implementation of a trauma registry would provide the data needed to determine how well Vermonters are currently served and the nature of changes needed to improve care either statewide or in specific areas."[130]

3. Data Collection

The Vermont Department of Health has detailed operational and clinical protocols that provide a common framework for the provision of pre-hospital emergency medical treatment. Although other states may base their protocols on a similar foundation, comparisons to Vermont are difficult due to the lack of comparative data.

The National Highway Traffic Safety Administration (NHTSA), National EMS Research Agenda recommends: "There should be standardized data collection methods at local, regional, state, and national levels. These data must be devoid of information that allows individual patient identification. All EMS provider agencies should adopt the Uniform Prehospital Data Elements for data collection."[131] The recommendation includes: "State-lead EMS agencies should require all EMS organizations in their jurisdictions to collect and submit to the state the Uniform Prehospital Data Elements at a minimum, and states should report that information to a national EMS data repository."[132]

The Vermont State Health Plan states: "The Vermont EMS system has historically placed a high value on the ability of communities to operate independent ambulance services that meet local preferences for cost, clinical capability, response times and other attributes within a statewide framework of minimum quality standards."[133] As such, some data on comparative measures are not currently collected in a systematic way. These data are important in order to assess the capacity of the system to meet the needs of Vermonters. In addition, collecting certain EMS data within Vermont can be difficult because some people with emergencies go directly to a hospital or physician, thereby bypassing the EMS system (other than a possible interface in the hospital emergency department). BISHCA's establishment of the VHCURES database may allow enhanced analysis of emergency-related services.

4. Emergency Medical Service Resource Costs

No EMS provider delivering 9-1-1 services in Vermont has been able to recover its full operating costs solely from patient revenues. Providers get remaining funding from volunteer labor, grants, fund-raising activities, in-kind contributions, and local taxes. Rural locations in particular might have lower patient volumes, which place additional pressures on additional funding sources. Due to these financial stresses, rural EMS providers, whose communities might benefit most from an increase in personnel and equipment, have to watch costs carefully and balance investments in workforce, training, and technology.[134]

[130] Vermont Department of Health, "Vermont State Health Plan," (2005), at page 63.
[131] National Highway Traffic Safety Administration, Department of Transportation, "National EMS Research Agenda," (December 31, 2001), at http://www.nhtsa.gov/people/injury/ems/ems-agenda/EMSResearchAgenda.pdf (accessed May 27, 2009), Recommendation 7, at pages 9-10.
[132] "National EMS Research Agenda," (December 31, 2001).
[133] Vermont Department of Health, "Vermont State Health Plan," (2005), at page 61.
[134] Vermont Department of Health, "Vermont State Health Plan," (2005), at page 61.

Creating additional pressures, uninsured patients sometimes use emergency departments as their primary source of health care for non-emergency situations, bypassing other primary care services, a practice that ties up valuable resources that could be better utilized for real emergency cases. Vermont's focus on enhanced primary care should help alleviate these inefficiencies, but decreased patient volume will not necessarily decrease revenue pressures on these services.

CON STANDARD 3.18: Applicants seeking to enhance or expand emergency room capacity shall explain what measures are also being taken to address primary care infrastructure limitations that may be increasing pressure on emergency departments.

E. Major Medical Equipment (MME)

1. Significant Inventory Trends

Vermont continues to see an increase in MME capacity. Since the 2005 HRAP, Vermont has seen the installation (or proposed installation) of two linear accelerators, three MRI machines, six CT scanners,[135] and one fixed PET/CT.

Data filed with BISHCA in the hospital budget process indicate that MRI procedures have increased, on average per year, by 7.1% from 2004 to 2008 (after a 11.7% average annual increase from 2000 to 2004) and that CT scans have increased by 7.9% from 2004 to 2008 (following a 10.9% increase from 2000-2004). The hospital discharge data set did not start collecting this information until 2007.[136] VHCURES data relating to imaging services should start to become available shortly after this HRAP goes to press. However, at this time we do not have Vermont data associated with diagnostic imaging spending in the commercial insurance market. Nonetheless, based on currently available data, it appears that Vermont is experiencing increases in imaging utilization similar to the rest of the country.

2. Concerns about Rapidly Increasing Utilization

Nationally, Medicare spending for imaging services under the physician fee schedule nearly doubled between 2000 and 2006.[137] Private health insurers report spending an increased portion of health insurance premiums on imaging services.[138] Further, concerns have arisen that

[135] Besides the six additional CT scanners since the 2005 HRAP, some hospitals have upgraded their existing CT scanners to a higher "slice" technology, which produces more detailed images than a lower slice CT scanner. Higher slice CT scanners are able to perform more types of procedures.
[136] Expanded outpatient data collection, which includes imaging, began on a voluntary basis in 2006 and became mandatory starting in 2007.
[137] MedPac, "Health Care Spending and the Medicare Program," (June 2008), at page 112. MRI, echocardiography, CT, and nuclear medicine have grown faster than other imaging services. General Accounting Office, "Medicare Part B Imaging Services: Rapid Spending Growth and Shift to Physician's Offices Indicate Need for CMS to Consider Additional Management Practices," *Report* 08-452 (June 2008). This report notes that from 2000 to 2006, Medicare payments for physician office imaging more than doubled to about $14 billion.
[138] America's Health Insurance Plans, "Ensuring Quality through Appropriate Use of Diagnostic Imaging," (July 2008), at http://www.ahip.org/content/default.aspx?docid+24057 (accessed September 23, 2008), at page 3. AHIP reports that health insurance plan imaging costs have been increasing annually by 18-20%, faster than prescription drug costs.

some of this imaging is duplicative or not clinically indicated.[139] Studies have shown that imaging utilization can increase due to deficiencies in quality requiring follow up scans, lack of information regarding imaging effectiveness in some clinical situations, consumer demand for services regardless of need, fear of malpractice, and growing physician ownership interest in equipment.[140] Others argue that CMS pricing of imaging services is inaccurate and may lead to over utilization.[141] Consistent with research relating to other health services, studies have shown that increased availability of some technology, particularly diagnostic imaging, is associated with increased utilization and spending on those technologies.[142]

In attempt to control the costs of these tests, payers and CMS have instituted a variety of utilization controls, such as prior authorization,[143] performance measures, and price caps.[144] It appears that CMS may be requiring greater evidence of clinical benefits in its coverage decisions.[145] As questions about effectiveness arise, health insurers are increasingly using "radiology benefit managers" (RBMs) to ensure that there is a clear benefit in using advanced scanning equipment. These managers provide assessment tools and guidelines to physicians, based on scientific evidence and medical group recommendations, to help guide appropriate use of the technology. It is estimated that 90 million Americans are covered under RBMs.[146]

National research on PET scanners shows that over 1.1 million clinical PET patient studies were performed in 2005. Many of these were on PET/CT combination scanners, which provide both functional and anatomical visualization, thereby enhancing clinical diagnoses. In 2005, approximately 55% of all PET machines were PET/CT, but over 90% of newly installed units were PET/CT. Oncology applications accounted for 93% of the PET and PET/CT scans.[147]

In a 2003 study conducted in western New York State, of the seven sites that offer PET scans, all emergency scans were done within one day and all routine scans were done within seven days waiting time. In addition, none of the machines were scheduled on the weekends. "Nationally in 2002, 12% of sites provided routine service in less than one day, another 20%

---

[139] *See, e,g,,* J. Appleby, "The Case of CT Angiography: How Americans View And Embrace New Technology," *Health Affairs* 27, no. 6 (2008): 1515 – 1521. Appleby chronicles how Medicare's attempt to limit coverage for certain imaging (because there was no clear clinical benefit) was successfully resisted.
[140] "Ensuring Quality through Appropriate Use of Diagnostic Imaging," (July 2008), at page 5.
[141] A. Winter and N. Ray, "Paying Accurately for Imaging Services in Medicare," *Health Affairs* 27, no. 6 (2008): 1479-1490.
[142] L. Baker, et al., "The Relationship Between Technology Availability And Health Care Spending," *Health Affairs* 22 (2003): w537-w351, (published online November 5, 2003), at page w546.
[143] General Accounting Office, "Medicare Part B Imaging Services: Rapid Spending Growth and Shift to Physician's Offices Indicate Need for CMS to Consider Additional Management Practices," *Report* 08-452 (June 2008), recommending that CMS institute prior authorization procedures similar to those of private plans.
[144] But see General Accounting Office, "Medicare: Trends in Fees, Utilization, and Expenditures for Imaging Services Before and After the Deficit Reduction Act of 2005," *Report* 08-1102R (September 26, 2008). This report found that after instituting price caps, although costs decreased, imaging utilization in physician offices increased four times faster than imaging services not subject to the cap.
[145] S.S. Dhruva, et al., "CMS's Landmark Decision on CT Colonoscopy – Examining the Relevant Data," *New England Journal of Medicine* (published online May 27, 2009).
[146] A.W. Mathews, "Insurers Hire Radiology Police to Vet Scanning," *The Wall Street Journal*, November 6, 2008.
[147] IMV, "Latest IMV PET Census shows Double-Digit Growth in PET Patient Studies," (August 23, 2006), at "http://www.imvinfo.com/user/documents/content_documents/def_dis/2007_06_29_15_32_51_706.pdf (accessed February 18, 2009).

within one to two days; 42% of sites reported a five- to seven-day wait for routine service."[148] Nationally, there were approximately 170 PET scans per 100,000 population in 2002.[149] The western New York study concluded that the area is "demanding/using about the right number of PET scans, but doing so on many more units than needed. If scanners were efficiently used, there would be 'need' region-wide for about two scanners instead of the present 5.2 full-time equivalent PET units operating (6.2 units early next year)."[150]

There is conflicting information about the benefits of some imaging utilization. For example, CT angiograms may give a clearer view of what is happening within a patient's heart, but they may be prescribed in many cases where the benefit is not worth the additional costs or radiation risks of the scan. Although the scans can sometimes find a dangerous blockage, the relatively infrequent times that one is found may not justify their routine use.[151] As the director of the cardiac catheterization laboratory at the Mayo Clinic in Rochester, Minnesota said, the CT angiogram is "a great technology searching for a great application."[152] In addition, there is evidence that some doctors have a financial conflict of interest in ordering and performing CT scans.[153]

National Imaging Associates (NIA), an RBM, states that in their experience, "…about one third of advanced imaging tests are either inappropriate or do not contribute to the physician's diagnosis or ultimate health outcomes. They could possibly be performed more efficiently and economically with traditional technology." NIA also states, "…advanced radiology accounts for 15% of the total volume of imaging encounters, but it represents half of a health plan's overall radiology costs per patient per month and nearly three-quarters of its annual increase in total radiology costs."[154] Smith-Bindman, et al., note that even if there is research to support the clinical efficacy of imaging, the dramatic increases in costs cannot be sustained.[155]

Given the recent development in MRI, CT, and PET scanning technology and increases in national usage, careful analysis of the supply of such equipment is warranted. The apparent oversupply of PET devices in western New York State indicates that Vermont should be cautious in its acquisition of this technology in order to avoid a similar situation. Population-based analysis is a tool that could be useful in discussing major medical equipment distribution and access. Vermont is currently working on developing a better understanding of this science and its applications. Further, it will be important to focus efforts on determining which imaging services provide value for the health care dollar and which services are of limited or no value.

---

[148] Niagara Health Quality Coalition, "PET Scanning in Western New York 2003," at http://www.myhealthfinder.com/hcac/PETreport03.pdf (accessed January 13, 2009), at page 4.
[149] "PET Scanning in Western New York 2003," at page 6.
[150] "PET Scanning in Western New York 2003," at page 9.
[151] J. Appleby, "The Case of CT Angiography: How Americans View And Embrace New Technology," *Health Affairs* 26, no. 6 (2008): 1515-1521, at page 1516.
[152] A. Berenson and R. Abelson, "Weighing the Costs of a CT Scan's Look Inside the Heart," *The New York Times*, June 29, 2008.
[153] "The Case of CT Angiography: How Americans View And Embrace New Technology," (2008).
[154] National Imaging Associates, "America's Imaging Problem," at http://www.radmd.com/imaging_problem/imaging_problem.htm (accessed February 18, 2009).
[155] R. Smith-Bindman et al., "Rising Use of Diagnostic Medical Imaging in a Large Integrated Health Care System," *Health Affairs* 27, no. 6 (2008): 1491-1502, at page 1499.

◆ **CON STANDARD 3.19:** An applicant seeking to purchase a piece of diagnostic or therapeutic equipment shall include an analysis of whether other health care system costs may be reduced through more effective interventions through the use of the equipment. As appropriate, hospitals shall provide scientific evidence supporting the migration of such equipment and technology outside of tertiary care facilities.

◆ **CON STANDARD 3.20:** Applications to purchase diagnostic or therapeutic equipment, or to expand facilities to accommodate major medical equipment purchases, shall address the appropriateness of such distribution as compared to population, the availability of appropriately trained personnel, an evaluation of patient need versus convenience, urgent versus non-urgent use, and appropriate protocol to reduce the risk of repetitive testing (both within the facility purchasing the equipment and within the health care system).

3. The Challenges of New Technology

Rapid technology changes in the medical field mean that what was state-of-the-art a few years ago may have become commonplace and much less expensive today. In addition, examinations and procedures have evolved to better use current technologies and may even necessitate use based on "best practice" medicine. Physicians may be familiar with many major medical devices by virtue of having used them while training in medical school and teaching hospitals. However, some are concerned that new technologies are adopted without sufficient evidence supporting the efficacy of such technology.[156] Coye et al. claim that hospitals lack sufficient access to reliable information concerning new technology, face considerable competitive pressures and are often unable to fend off physician entreaties for new technology.[157] Equipment pricing information for such equipment is not always readily available, leading some to believe the marketplace can create inefficiencies and limit competition, thus increasing overall systems costs.[158] Others point out that many systems assessing the introduction of new technologies often lack sufficient emphasis on cost effectiveness.[159]

Available health services are constantly evolving and new technology will continue to offer both opportunities and challenges for our health care system. Ultimately, much of what drives the adoption of new technology is related to the payment associated with such services – from commercial insurers, Medicaid, and Medicare.[160] Ideally, a national impartial organization could provide non-biased assessments of technology, providing objective scientifically supported information about clinical efficacy and a meaningful analysis of cost. Some organizations have begun this work. The Blue Cross Blue Shield Association formed the Technology Evaluation

---

[156] *See, e.g.,* B. Leff and T.E. Finucane, "Gizmo Idolatry," *Journal of American Medical Association* 299, no. 15 (2008): 1830-1832.
[157] M.J. Coye and J. Kell, "How Hospitals Confront New Technology," *Health Affairs* 25, no. 1 (2006): 163-173. Coye founded the Health Technology Center (HealthTech), a not-for-profit research organization aimed at advancing the use of beneficial technologies for healthier people and communities.
[158] J.C. Robinson, "Value-Based Purchasing for Medical Devices," *Health Affairs* 27, no. 6 (2008): 1523 – 1531; J.C. Lerner et al., "The Consequences of Secret Prices: The Politics of Physician Preference Items," *Health Affairs* 27, no. 6 (2008): 1560-1565.
[159] K. Chalkidou, et al., "Evidence-Based Decision Making: When Should We Wait for More Information," *Health Affairs* 27, no. 6 (2008): 1642-1653.
[160] "How Hospitals Confront New Technology," (2006).

Center, which seeks to develop evidence-based assessments of technology.[161] In the meantime, Vermont should continue to support efforts within the state to support these analyses and communicate such information to health care providers.

- **CON STANDARD 3.21**: Major new technology should be first introduced in Vermont at a Vermont tertiary hospital.

- **CON STANDARD 3.22:** For applications involving the purchase of diagnostic or therapeutic equipment, applicants shall establish, through the submission of evidence in the form of peer-reviewed or similar articles, the clinical efficacy of the diagnoses or procedures to be performed.

- **CON STANDARD 3.23:** In addition to proving need, applicants seeking to add or expand diagnostic or therapeutic equipment shall show that the equipment reduces costs and/or improves quality.

- **CON STANDARD 3.24:** An applicant shall disclose potential financial conflicts of interest between hospitals and physicians and an equipment purchase.

- **CON STANDARD 3.25:** Any application for a linear accelerator unit shall demonstrate that the accelerator will perform an adequate number of treatments per year, by the second year of operation, based on analyses of state, regional, and national benchmarks, to achieve sufficient utilization and ensure the additional unit is needed and will perform safely, effectively, and efficiently. The minimum number of treatments is 6,000 treatments per year, but this number may be modified based on current science.

- **CON STANDARD 3.26:** Any application for radiation therapy service established outside of a tertiary center shall have formal linkages established for on-going utilization review and quality assessment in collaboration with a tertiary center.

- **CON STANDARD 3.27:** Applications for kidney-dialysis of non-acute patients shall not be granted absent a showing that such service shall be provided through an academic medical center or the applicant will be able to provide comparable quality and continuity of care, either directly or through a formal relationship with a tertiary medical center.

[161] TEC assessments are a comprehensive evaluation of the clinical effectiveness and appropriateness of a given medical procedure, device or drug. See http://www.bcbs.com/blueresources/tec/what-is-tec.html (accessed May 27, 2009).

III. RECOMMENDATIONS

As required by statute, we have included recommendations and implementation options. It is important to recognize that our implementation options are intended as possibilities. We recognize that not all of these options could be accomplished, that some of these options may conflict, and that resources may be unavailable to accomplish them. We offer these implementation options as ideas for further discussion only.

RECOMMENDATION 3.1. Policymakers and health care providers should understand Vermont's overall health care cost and outpatient utilization trends.

Implementation Option 3.1.1: BISHCA could prepare an analysis of Vermont's inpatient and outpatient utilization rates and report this information in its annual expenditure analysis.

Implementation Option 3.1.2: BISHCA could analyze Vermont's health care expenditures over time and examine why Vermont's expenditures are rising faster than the national average, compare costs to state and regional peers, and identify options and consequences for reducing cost increases.

Implementation Option 3.1.3: BISHCA could identify those areas with high variation and commence quality improvement collaboration groups with VPQHC, VAHHS, VMS, health care providers, commercial and public payers, and others to recommend actions to address the variation. This work should build off of the study mandated by Act 49 (2009 Session).

Implementation Option 3.1.4: BISHCA could analyze datasets, including VHCURES, to assess outpatient utilization data and compare to national benchmarks to determine whether such utilization appears to indicate inappropriate utilization.

RECOMMENDATION 3.2. Policymakers should examine the policy considerations that should be addressed given the current regulatory and organizational structures of health care providers.

Implementation Option 3.2.1: BISHCA, in consultation with VDH, the VDH Office of Rural Health and Primary Care, DMH, OVHA, VAHHS, VMS, VPQHC and/or other interested stakeholder could work to establish appropriate hospital service access standards. These standards could then be incorporated into the certificate of need process and other appropriate regulatory processes.

Implementation Option 3.2.2: BISHCA could evaluate the pros and cons of the Vermont hospitals operating as an integrated system rather than as individual regulated entities. Considerations to be addressed should include cost and quality implications, access to services, local circumstances and anti-trust issues. Such analysis should also address the potential impact of eliminating competition on quality, efficiency and innovation.

Implementation Option 3.2.3: UVM, VPQHC and/or VAHHS could build models to determine the potential financial impact on Vermont's existing hospitals and overall health care costs if there were an increase in ambulatory surgical centers or specialty hospitals.

Implementation Option 3.2.4: BISHCA, with VAHHS, could examine ways in which current regulatory frameworks may or may not support other health care allocation and delivery goals.

Implementation Option 3.2.5: BISHCA, DMH and VDH, in collaboration with other agencies and health care organizations, could identify and adopt common hospital service area definitions to facilitate data collection and improved analysis that recognizes migration into and out of Vermont for services. The effort should include recommendations for a schedule of updates depending on the dynamic nature of the services.

RECOMMENDATION 3.3. Policymakers should continue to implement regulatory and programmatic strategies to enhance further integration between and among hospitals and their communities.

Implementation Option 3.3.1: VDH,DAIL, DMH, VAHHS, VPQHC, Vermont Council for Developmental and Mental Health Services, the UVM Office of Continuing Medical Education, licensing boards, the Palliative Care Taskforce, VMS, and other stakeholders and/or a combination thereof could continue to identify specific ways in which patients and their families can more thoroughly take advantage of end of life choices for care, through standardization of information regarding choices, health care provider education, coordination with community health care facilities and hospice providers, public variability reporting, shared decision making, and other measures deemed to allow patients the most informed and dignified end of life care possible.

Implementation Option 3.3.2: BISHCA and OVHA, in consultation with VDH, VPQHC, and the Palliative Care Task Force, could continue to work with payers to examine ways in which public and private insurance coverage benefit design for hospice, pain management and palliative care could be refined to support high quality, patient centered end of life care.

Implementation Option 3.3.3: VPQHC or other entity could report on a comprehensive inventory and analysis of reporting requirements applicable to hospitals and other health care providers and identify redundancies and potential efficiencies through such strategies such as standardizing data element definitions and consolidating data collection.

Implementation Option 3.3.4: VAHHS, VMS and VDH could work together to create a trauma registry to monitor the quality and timeliness of trauma care; determine if a formally organized trauma care registry is needed in the state; and, if so, guide

development and implementation of that system. (2005 State Health Plan page 60; 2005 HRAP at page 62.)

Implementation Option 3.3.5: VDH, DMH and other interested stakeholders could establish an efficient and cost effective program for providing standardized training to first responders to address psychiatric and substance abuse emergencies. Such training should be developed with a data component so that effectiveness can be measured and assessed.

RECOMMENDATION 3.4. Policymakers should examine methods, such as comparative effectiveness research, to analyze new medical technology and services and assess the impact such technology may have on Vermont's health care quality and costs.

Implementation Option 3.4.1: *The Legislature could establish a policy body beyond the exiting certificate of need review process, to comprehensively examine new health care technologies to establish their efficacy and subsequent distribution.*

Implementation Option 3.4.2: BISHCA, DMH and VDH, working with the UVM College of Medicine, could identify sources of objective information about the effectiveness of new technology and services and determine how to most effectively communicate the availability and reliability of these resources to providers and payers. VDH and BISHCA could consider regulatory or other mechanisms to encourage adherence to using most effective technology and services and not using that which is ineffective, including using the certificate of need, hospital budget and public reporting programs.

Implementation Option 3.4.3: BISHCA, DMH, OVHA and payers could consider ways to utilize payment methodologies to encourage the use of the most effective technology and services and discourage the use of that which has not been shown to be effective.

RECOMMENDATION 3.5. Policymakers should embrace population-based analysis as a means of assessing health care needs and planning future health care services capacity.

Implementation Option 3.5.1: BISHCA and VAHHS could continue work on quality measures reporting, with a focus on both enhancing the usefulness of such information for consumers and in encouraging overall quality improvement by hospital systems.

Implementation Option 3.5.2: The UVM College of Medicine could continue its efforts to translate clinical research into private and public health through its translational center, with some focus on how such work could be utilized in Vermont's health care delivery and allocation systems.

Implementation Option 3.5.3: VDH could continue using population-based analysis to more fully inform decisions about investments in public health.

Implementation Option 3.5.4: BISHCA could continue using population-based and variation analysis by directly and clearly incorporating such analysis into certificate of need decisions.

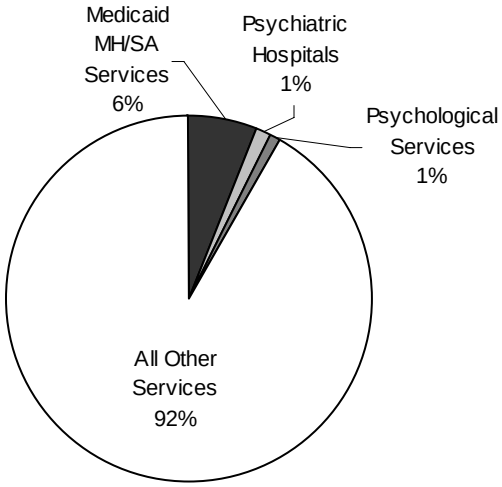
Implementation Option 3.5.5: OVHA could continue using population-based analysis and variation analysis to inform its benefit package design.

Implementation Option 3.5.6: BISHCA, VDH, DMH, VMS, OVHA, VAHHS and VPQHC could work with hospitals that have higher than the state average of ambulatory sensitive admissions and determine what resources, including non-hospital based community programs, could reduce the number of such admissions. (2005 HRAP at page 123.)

CHAPTER FOUR

Mental Health and Substance Abuse Services

Distribution of $352 Million in 2007 Vermont Mental Health & Substance Abuse Expenditures[1]



It is important to note that these expenditures do not include spending on mental health and substance abuse services that may be provided in settings such as primary care, outpatient psychiatric offices, or spending for pharmaceuticals

INTRODUCTION

Mental health and substance abuse services comprise approximately 8% of total health care expenditures in Vermont, not including pharmacy costs and services provided by general practitioners. The following facts highlight the need in Vermont for these services:

- Mental health and substance abuse disorders are among the most common chronic illnesses in the country.

- A well-known national study found that the U.S. prevalence rate of all mental disorders for people ages 18 to 54 was 29.4% based on face-to-face household

[1] Expenditure data is from the *2007 Vermont Health Care Expenditure Analysis & Three-Year Forecast.* Mental Health & Substance Abuse (MH/SA) expenditures include direct care Medicaid MH/SA services (part of Government Health Activities in the *Expenditure Analysis*), Vermont psychiatric hospitals (the Vermont State Hospital and Brattleboro Retreat), and psychological services.

interviews conducted between 1990 and 1992, and 30.5% based on interviews conducted between 2001 and 2003 (not a statistically significant increase).

- From 2001 to 2003, the prevalence rate was 6.3% for serious disorders, 13.5% for moderate disorders, and 10.8% for mild disorders.

- A significant change was seen in the rate of treatment for people with a mental disorder, from 20.3% in 1990-1992, to 32.9% in 2001-2003. Still, most people with a mental disorder did not receive treatment. [2]

Vermont's statistics are equally compelling:

- Suicide is the eighth leading cause of death in Vermont. It is the third leading cause of death for Vermonters aged 10 to 14, and the second leading cause of death for Vermonters aged 15 to 34.[3]

- In a given year an estimated 12-13% of adults, nearly 60,000 Vermonters, have a moderately serious mental disorder.[4]

- Approximately 16,000 children and adolescents in Vermont are believed to experience serious emotional disturbances.[5]

- Approximately 50,000 Vermonters are in need of substance abuse treatment services.[6]

The State's approach to regulating its mental health and substance abuse system has been in transition since the 2005 HRAP, with what is now the Department of Mental Health (DMH) undergoing several reorganizations. Currently, DMH is a Department within the Agency of Human Services,[7] with its own Commissioner, and is responsible for regulating much of Vermont's mental health system. The Division of Alcohol and Drug Abuse Programs (ADAP) at the Vermont Department of Health is responsible for funding and administering the state's publicly supported alcohol and drug abuse

[2] R. Kessler, et al., "Prevalence and Treatment of Mental Disorders, 1990 to 2003," *New England Journal of Medicine* 352, no. 24 (June 16, 2005): 2515-2523.
[3] Vermont Department of Health, "The Vermont Suicide Prevention Platform," (September 2005), at http://healthvermont.gov/mh/docs/cafu/2005/VTSuicidePrevnPlan0905.pdf (accessed January 15, 2009), at page 4.
[4] Vermont Department of Health, "2007 Legislative Update: Mental Health – The Futures Project," (2007), at http://healthvermont.gov/admin/legislature/documents/MentalHealthFutures2007.pdf (accessed January 15, 2009), at page 1.
[5] Vermont Agency of Human Services, "Follow-up Study on the Financial Sustainability of the Vermont Designated Agency Provider System for Mental Health, Developmental Disability and Substance Abuse Services," (September 2007), at page 41.
[6] Vermont Department of Health, "Vermont 2007 Substance Abuse Treatment: Report to the Legislature on Act 65," (January 15, 2008), at page 10.
[7] The Agency of Human Services also includes the Vermont Department of Health, the Department of Disabilities, Aging and Independent Living, the Department of Corrections, the Department for Children and Families, and the Office of Vermont Health Access.

treatment system. The Vermont Department of Health (VDH) licenses and regulates mental health and substance abuse physicians (such as psychiatrists). The Secretary of State's Office of Professional Regulation licenses and regulates non-physician mental health practitioners, and ADAP licenses and regulates non-physician substance abuse practitioners.

Although DMH is no longer a division of VDH, DMH and VDH operate under a memorandum of understanding, allowing them to share infrastructure and leadership skills and reflecting both agencies' continued commitment to the integration and coordination of mental health and other health care services.

I. INVENTORY AND UTILIZATION

This HRAP provides a high level inventory and policy discussion concerning mental health and substance abuse services in Vermont. However, the Vermont Department of Mental Health has much richer data resources than those provided here and interested readers are strongly encouraged to review these sources for more in-depth and more up to date information.[8] Another rich source of data regarding mental health and substance abuse services, utilization and quality is the Vermont Mental Health Performance Indicator Project (PIP) at the Vermont Department of Health. PIP supports data-based decision making within and across statewide public sector systems of mental health and substance abuse services. PIP produces numerous detailed reports. Stakeholders and policymakers should be certain to review PIP data reports in any decision making process concerning the prioritization of Vermont's mental health and substance abuse services system.[9] The Department of Health's Division of Alcohol and Drug Abuse Programs (ADAP) website also includes valuable information on substance abuse treatment and prevention resources.[10]

A. Mental Health and Substance Abuse Inpatient/Hospital/Residential Services

1. Adult Mental Health Inpatient Care

Eight hospitals provide the bulk of the adult inpatient psychiatric care to Vermont residents: the Vermont State Hospital, five designated hospitals, and two other hospitals – the Veterans Administration Hospital in White River Junction and Dartmouth-Hitchcock Medical Center in Lebanon, NH – that are not subject to state regulation.

The Vermont State Hospital (VSH) is a freestanding psychiatric hospital that provides a critical safety net for some of Vermont's most acute psychiatric patients. Traditionally, VSH, located in Waterbury, has provided care for individuals with higher

[8] See http://healthvermont.gov/mh/index.aspx (accessed February 11, 2009) and http://healthvermont.gov/mh/docs/res-eval/annual-stats.aspx (accessed February 12, 2009).
[9] See http://healthvermont.gov/mh/docs/pips/pip-reports.aspx (accessed February 11, 2009).
[10] See http://healthvermont.gov/adap/adap.aspx (accessed June 10, 2009).

acuity, greater risk for dangerous behavior, longer term stays and those who require involuntary medication.[11] Most of the patients served at VSH have been admitted involuntarily on an emergency or judicial basis. VSH takes patients which designated hospitals are unable to admit because of their more limited capacity for the highest acuity patients. VSH also provides services to inmates within the Vermont Department of Corrections (DOC) system who are in need of inpatient treatment. Data from September 1, 2006 through August 31, 2007 indicated that inpatient services at VSH for incarcerated people constituted 0.7 beds for the year. The need for VSH beds for incarcerated people is thought to be greater.[12]

In 2003, VSH lost its certification from the Centers for Medicare and Medicaid Services (CMS), thereby disqualifying it for federal funding. VSH regained CMS certification in November of 2004 and lost it again in February of 2005. As of the writing of this HRAP, despite receiving accreditation from The Joint Commission, CMS has denied re-certification of VSH.[13] Compounding the financial challenges, in 2002 CMS ended all waivers that previously permitted freestanding "institutes for mental disease," such as VSH, to receive federal funds for patients between the ages of 22 and 65. Despite these challenges, VSH is seen as an essential component of the mental health system because of the current lack of equivalent acute-care capacity at other hospitals in the state, coupled with the state's obligation to provide treatment to patients in its care and custody.

Efforts have been underway for several years to plan for the replacement of VSH. A key component of Vermont's planning for its public mental health system is the Agency of Human Service's "Futures Plan." The Futures Plan seeks to create a plan for VSH within the context of long-range planning for a comprehensive continuum of care for mental health services. The original Futures Plan was finalized on February 4, 2005. Many additional revisions and enhancements of this plan have taken place over the years and more will continue after the finalization of this HRAP. Stakeholders and researchers are encouraged to consult the DMH web site for the Futures Plan and subsequent revisions.[14]

As noted above, Vermont has five "designated" hospitals. Designated hospitals have been designated by the Commissioner of DMH to provide treatment to individuals involuntarily committed to DMH's care and custody.[15] In addition to these hospitals and VSH, the Veterans Administration Hospital provides care, but only to veterans. Dartmouth-Hitchcock Medical Center also provides significant adult inpatient services to Vermont residents. Table 4.1 shows the number of licensed adult beds, the average daily

[11] Vermont Agency of Human Services, "Vermont State Hospital Futures Plan," (February 4, 2005), at page 9.
[12] Vermont Department of Mental Health, "VSH Futures Project: Corrections Inpatient Work Group Report," (December 7, 2007), at pages 3 and 4.
[13] However, CMS has accepted a plan of correction and it is possible that within six months, VSH will again be certified.
[14] See http://healthvermont.gov/mh/futures/futureshome.aspx (accessed February 11, 2009).
[15] Vermont Agency of Human Services, "Vermont State Hospital Futures Plan," (February 4, 2005), at page 12, n. 26.

census for Vermont residents, and the average length of stay for Vermont residents for these eight hospitals.

Table 4.1: Hospital Type, Location, Beds, Average Daily Census and Average Length of Stay[16]

Hospital	Town or city	Facility type	# of Adult Psychiatric Beds	2006 Average Daily Census[17]	2006 Average Length of Stay
Central Vermont Medical Center	Berlin	Designated	14	10.5	7.0
Fletcher Allen Health Care	Burlington	Designated	28	21.8	9.0
Rutland Regional Medical Center	Rutland	Designated	19	10.2	7.0
Springfield Hospital	Bellows Falls	Designated	10	8.3	8.0
Brattleboro Retreat	Brattleboro	Designated	45[18]	35.0	10.0
Vermont State Hospital	Waterbury	Freestanding	54	54.0	70.0
Dartmouth-Hitchcock Medical Center	Hanover, NH	Other	21[19]	7.7	7.0
Veterans Administration Hospital	White River Junction	Other	10 (Veterans only)	4.0	8.0

2. Children's Inpatient and Residential Services

Inpatient services specifically dedicated for children and adolescents are provided at one in-state facility, Brattleboro Retreat. Brattleboro Retreat has 34 inpatient beds for children and adolescents.[20] The 2006 average daily census at Brattleboro Retreat for Vermont children and adolescents was 12.[21] Two border state facilities also provide

[16] Vermont Department of Health, Vermont Mental Health Performance Indicator Project, "Inpatient Behavioral Health Care Services Provided to Vermont Residents During 1990-2006," (2008), at http://healthvermont.gov/mh/docs/res-eval/documents/2006inpatientdata.pdf (accessed January 15, 2009).
[17] Data provided by the Vermont Department of Health. Brennan Martin, e-mail of June 10, 2009. Figures for Brattleboro Retreat, the Vermont State Hospital and the VA Hospital are from the Vermont Department of Health, "Inpatient Behavioral Health Care Services Provided to Vermont Residents During 1990-2006," (2008), Table 1-4. Figures are for Vermont residents.
[18] Data provided by Brattleboro Retreat. Peter Albert, Director of PrimariLink and External Affairs, Brattleboro Retreat, e-mail of September 29, 2008.
[19] Data provided by Dartmouth Hitchcock Medical Center. Annette Moore, Public Affairs and Marketing, e-mail of June 17, 2009.
[20] Data provided by Brattleboro Retreat. Peter Albert, Director of PrimariLink and External Affairs, Brattleboro Retreat, e-mail of September 29, 2008.
[21] "Inpatient Behavioral Health Care Services Provided to Vermont Residents During 1990-2006," (2008), Table 4-4. Children are defined as those under 18. This data is presented by county of residence and

inpatient treatment for Vermont children and adolescents: Cheshire Medical Center in Keene, New Hampshire and Champlain Valley Physicians Hospital in Plattsburgh, New York.

3. Substance Abuse Inpatient and Residential Care

There are several types of substance abuse inpatient care, including inpatient substance abuse facilities, acute detoxification, and non-acute residential detoxification.

Inpatient substance abuse facilities are defined as facilities that provide 24-hour nursing care. Facilities providing inpatient substance abuse services include Valley Vista in Bradford (serving women and adolescents), the Brattleboro Retreat in Brattleboro and the VA Hospital in White River Junction (serving veterans).

Acute detoxification with medical complications requires inpatient or residential treatment at a facility with an intensive care unit. Vermont's general hospitals, Brattleboro Retreat, the VA Hospital and Dartmouth-Hitchcock Medical Center can provide these services. Rutland Regional Medical Center and Brattleboro Retreat have specific programs for substance abuse detoxification.

Non-acute residential detoxification can be provided when patients do not have a history of seizures or do not experience delirium tremens or other acute withdrawal symptoms. Services may be provided in residential facilities with or without 24 hour nursing services. State-approved programs include Valley Vista in Bradford (for women or adolescents), Maple Leaf Farm in Underhill, Serenity House in Rutland, Act One/Bridge in Burlington, Conifer Park in Scotia, NY and Phoenix House in Dublin, NH.

4. Mental Health Crisis and Diversion Beds

The primary function of diversion beds is to provide a highly supportive and medically monitored short-term residential alternative to hospitalization that will meet the needs of consumers in crisis or transition.[22] The services at these facilities might include triage and observation care, crisis stabilization care, hospital alternative care, and hospital step-down care. There are 23 adult beds currently available, with plans to expand to 26. There are also 9 mental health crisis beds for children.[23]

---

indicates Rutland, Windham and Windsor County have the highest child and adolescent inpatient admission rates (not adjusted for population).

[22] Department of Mental Health, "Legislative Briefing - July 2008, Vermont State Hospital Futures Project," (July 2008), at page 2.

[23] For a discussion of services specifically tailored to meet the needs of those with co-occurring substance abuse and mental health disorders, see Department of Mental Health, "Funds Expended & Required to Treat Eligible Children, Adolescents, and CRT Beneficiaries with Co-Occurring Substance Abuse & Mental Health Disorders," (January 15, 2008).

Mental health crisis beds, for adults and children, are distributed as follows:

Table 4.2: Statewide Distribution of Crisis Stabilization and Triage Beds for Adults[24]

Facility	HSA	# of Adult Beds
Assist (Howard Center)	Burlington	5
Battelle House (United Counseling Service)	Bennington	6
Home Intervention (Washington County Mental Health)	Barre	4
Alternatives (Health Care and Rehabilitation Services)	Springfield	4
Crisis Stabilization Inpatient Diversion Program (CSID) (Rutland Mental Health Services)	Rutland	2 (implementation in process)
C.A.R.E. Bed Program	St. Johnsbury	2
Bayview Program (NCSS)	St. Albans	2

Table 4.3: Statewide Distribution of Crisis Stabilization and Triage Beds for Children[25]

Facility	HSA	# of Child Beds
Howard Center	Burlington	2
Home Intervention (Washington County Mental Health)	Barre	1
Northeastern Family Institute	Multiple locations	6

The Southern State Correctional facility in Springfield has a 10-bed psychiatric stabilization unit offering three to five day stays for incarcerated people in crisis, as well as a 24-bed unit providing more intensive mental health support for inmates.[26]

5. Substance Abuse Crisis Beds

Individuals with substance abuse challenges often first encounter law enforcement with mixed results. A limited number of crisis beds are available for people who present with public inebriation, as an alternative to incarceration. The distribution of those beds is shown in Table 4.4:

[24] Data provided by Vermont Department of Mental Health. Michelle Lavallee, Acute Care Chief, e-mail of October 2, 2008.
[25] Data provided by Vermont Department of Mental Health. Michelle Lavallee, Acute Care Chief, e-mail of October 2, 2008.
[26] Vermont Department of Mental Health, "VSH Futures Project: Corrections Inpatient Work Group Report," (December 7, 2007), at page 5.

Table 4.4: Statewide Distribution of Crisis Beds for Public Inebriates[27]

Facility	HSA	# of Beds
Champlain Drug and Alcohol Services	Burlington	9
United Counseling Service	Bennington	1
Northeast Kingdom Mental Health	St. Johnsbury	1
Grace House	Rutland	4 or 5*
Northwest Hospital/Champlain Drug and Alcohol Services	St. Albans	4

*Number depends on gender mix.

6. Emergency Services

Emergency services are available 24 hours a day, seven days a week to people who are in crisis. All of the general hospitals and the VA Hospital provide emergency services; however, hospital administrators in most areas have reported to DMH that they do not have arrangements for on-call psychiatry consultation in their emergency rooms.[28] In addition, all ten of the community mental health centers (also known as "designated agencies") provide emergency services to Vermont residents. These services include court-ordered, acute and involuntary mental health assessments (often in hospital emergency rooms), telephone support, and mobile crisis teams that provide evaluation and referral in some areas of the state.

B. Mental Health and Substance Abuse Outpatient Services

Vermont's outpatient mental health and substance abuse services are provided through a broad array of health care providers, both public and private. Assessing the current supply and distribution of outpatient services poses challenges due to the multi-faceted nature of mental health and substance abuse care (as evidenced by the wide variety of provider types and service types). The existence of distinct public and private systems of care for mental health and substance abuse disorders adds to this complexity.

[27] Vermont Agency of Human Services, Department of Mental Health, "Public Inebriate Report," (January 15, 2008), at http://healthvermont.gov/admin/legislature/documents/PublicInebriate_LegislativeRpt_011508.pdf (accessed January 15, 2009), at page 11.
[28] Data provided by Vermont Department of Mental Health. Beth Tanzman, Deputy Commissioner, e-mail of March 17, 2009.

The foundations of the state's outpatient services are:

- Community mental health centers;
- Federally qualified health centers (FQHC);
- Rural health clinics;
- Free health clinics;
- Private outpatient mental health and substance abuse providers;
- Primary care providers;
- Intensive outpatient and partial hospitalization programs; and
- Mental health providers within the Corrections system.

Additional services specific to substance abuse treatment include:

- Outpatient detoxification programs;
- Methadone clinics; and
- Buprenorphine hubs and physicians prescribing buprenorphine.

This section inventories some of these outpatient mental health and substance abuse services.

1. Community Mental Health Centers

Vermont has ten community mental health centers dispersed throughout the state. These centers are also known as "Designated Agencies" because they are designated by the Commissioner of Mental Health to provide services to populations that the state is statutorily mandated to serve. Community mental health centers offer several core mandated services, including community rehabilitation and treatment programs[29] for severely mentally ill adults, emergency and crisis services, and services for people of all ages with developmental disabilities. Community mental health centers also provide services specifically for children and adolescents, including services for family support (respite, skills training, peer advocacy, peer support); outreach (service planning and coordination, community supports, intensive family-based services, supportive employment); and clinical interventions and treatment (assessment, therapy, medication services, substance abuse counseling). [30]

In addition to services for individuals with severe emotional disturbances, community mental health centers also provide outpatient services for adults and children with less severe disorders, although these services are not mandated by Vermont law. Some community mental health centers provide substance abuse treatment services.

[29] These programs are often referred to as CRT programs.
[30] Vermont Agency of Human Services, "Pathways: A Resource Guide Connecting Families with Services and Supports for Children and Adolescents Who Experience a Serious Emotional Disturbance," (July 2002).

Table 4.5 lists the community mental health centers and shows the services that they each provide.

Table 4.5: Community Mental Health Centers (i.e. Designated Agencies)[31]

Agency	Primary Counties Served	Adult MH CRT and Outpatient	Children's Mental Health	Emergency Services	Substance Abuse Programs	Developmental Services
Counseling Service of Addison County	Addison	X	X	X	X	X
Northwestern Counseling and Support Services	Franklin Grand Isle	X	X	X		X
Howard Center	Chittenden	X	X	X	X	X
Lamoille County Mental Health	Lamoille	X	X	X		X
Health Care & Rehabilitation Services of Southeastern VT	Windsor Windham	X	X	X	X	X
Northeast Kingdom Human Services	Caledonia Essex Orleans	X	X	X	X	X
Clara Martin Center	Addison Orange Windsor	X	X	X	X	
Rutland Mental Health Services	Rutland	X	X	X	X	X
Upper Valley Services	Orange					X
United Counseling Services	Bennington	X	X	X	X	X
Washington County Mental Health	Washingon	X	X	X		X

2. Federally Qualified Health Centers, Rural Health Clinics, and Free Health Clinics

As described in Chapter Two, Vermont has eight federally qualified health centers (FQHCs) or FQHC "look-alikes," 14 rural health clinics and 12 free health clinics. Together, these health centers include more than 40 separate locations, some of which are in the most rural parts of the state. They offer varying resources for mental health and substance abuse services, ranging from co-location of mental health providers to primary care physicians with experience in treating mental health and substance abuse disorders.

[31] Vermont Agency of Human Services, "Follow-Up Study on the Financial Sustainability of the Vermont Designated Agency Provider System for Mental Health, Developmental Disability and Substance Abuse Services," (2007), Exhibit 1, at page 8.

3. Private Outpatient Mental Health and Substance Abuse Providers

Outpatient treatment providers include psychiatrists, psychologists (masters and doctoral levels), licensed clinical social workers, licensed mental health counselors, psychiatric nurse practitioners, licensed alcohol and drug counselors, advanced practice registered nurses, and other mental health and substance abuse professionals.

Table 4.6 shows the 1996-2006 numbers of psychiatrists by individuals and by full time equivalents (FTEs), the Vermont population for those years, and the percentage increase in each data element from 1996 to 2006.

Table 4.6: Vermont Psychiatrists, 1996-2006, Number and FTEs[32]

	1996	1998	2000	2002	2004	2006	% Change 1996-2006
Total Active Psychiatrists	152	142	154	146	160	169	11.0%
Total Psychiatrist FTEs	104.1	110.6	117.5	115.7	118.8	126.2	21.0%
Vermont population	597,194	600,269	608,827	615,611	621,394	623,908	4.5%

A greater proportion (27%) of Vermont psychiatrists are at least 60 years old, as compared to all Vermont physicians in that age range (16%).[33] Thus, comparing FTEs may not tell the entire story regarding Vermont's future healthcare needs.

Table 4.7 shows the breakdown of psychiatrists in 2006 by sub-specialty. For those sub-specialties that relate to patient age, it is worth noting that in 2006 there were 0.104 child and adolescent psychiatrist FTEs per 1000 people ages 0 to 18 years, and 0.025 geriatric psychiatrist FTEs per 1000 people ages 65 and older. That contrasts with 0.192 FTE psychiatrists (including child and adolescent psychiatrists and geriatric psychiatrists) per 1000 people for the entire Vermont population. The University of Vermont has a Geriatric Psychiatry Clinic affiliated with its Memory Center; the clinic provides assessment and treatment for geriatric patients, as well as a teaching clinic for psychiatry residents and other medical students.[34] The number of addiction physicians may have increased in the past three years. In 2009, Vermont was able to start a state chapter of the American Society of Addiction Medicine (ASAM), consisting of 10 addiction physicians.[35]

---

[32] Vermont Department of Health, "2006 Physician Survey Report," (November 2007), at http://healthvermont.gov/research/documents/phys06bk.PDF (accessed May 6, 2009). Population numbers come from the Vermont Department of Health web-site, at http://healthvermont.gov/research/2006pop/documents/TABLE106.PDF (accessed May 6, 2009).
[33] "2006 Physician Survey Report," (November 2007), at Table 2.
[34] Fletcher Allen Web Site at http://www.fahc.org/Psychiatry/services.html (accessed June 16, 2009).
[35] Calculated using 2006 population statistics from the Vermont Department of Health website at http://healthvermont.gov/research/2006pop/2006pop.aspx (accessed June 19, 2009).

Table 4.7: Vermont Psychiatrist FTEs, 2004, 2005 and 2006, Detailed Specialty List[36]

Psychiatric Specialty	2002	2004	2006
Addiction Medicine	1.0	2.0	1.6
Addiction Psychiatry	2.6	2.5	1.4
Child/Adolescent Psychiatry	14.5	12.8	15.9
Forensic Psychiatry	2.6	1.7	1.8
Geriatric Psychiatry	1.7	1.7	2.1
Psychiatry	92.4	95.9	102.0
Psychiatry and Neurology	0.0	0.0	0.2
Psychoanalysis	1.0	2.2	1.3

Table 4.8 shows the number of licensees by profession for outpatient therapists, from fiscal year 2006 through fiscal year 2008.

Table 4.8: Licensees by Profession[37]

	Resident FY 2008	Non-Resident FY 2008	Total FY 2008	Total FY 2007	Total FY 2006
Marriage and Family Therapists	33	7	40	36	30
Mental Health Counselor, clinical	494	54	548	505	506
Psychoanalysts	15	64	79	76	109
Psychologist - Master	193	11	204	209	205
Psychologist - Doctorate	283	74	357	365	341
Psychotherapists	539	24	563	359	342
Clinical Social Workers	695	113	808	799	744

[36] Vermont Department of Health, "2002 Physician Survey Report," (March 2005), at Table 17; Vermont Department of Health, "2004 Physician Survey Report," (March 2006), at Table 14; and Vermont Department of Health, "2006 Physician Survey Report," (November 2007), at Table 17. All survey reports are available at http://healthvermont.gov/pubs/Publications.aspx#provider (accessed May 6, 2009).
[37] Vermont Secretary of State, Office of Professional Regulation, "Twenty-Sixth Annual Report on Professional Licensing," (2007), at http://vtprofessionals.org/downloads/26annualreportall.pdf (accessed January 16, 2009), at pages 28-29.

In addition to the above specialties, there were 360 Licensed Alcohol and Drug Counselors in Vermont as of April 20, 2009.[38] Advanced practice registered nurses, including psychiatric nurse practitioners, also provide important mental health and substance abuse treatment. It is estimated that there are 283 APRNs practicing in Vermont, and that about one percent of them practice in mental health settings. However, there could be others with mental health and/or substance abuse expertise that practice in other settings.[39] Of 132.8 full time equivalent physician assistants estimated to be practicing in Vermont in 2006 (163 individuals), one FTE was reported to have a specialty in psychiatry.[40]

4. Primary Care Providers

In Vermont (as in other states), primary care physicians often provide screening, medication management and treatment for mental health and substance abuse disorders. Evidence shows that primary care physicians write the majority of prescriptions for psychotropic medications in the U.S.; data from 1996-2001 showed that primary care physicians wrote about 80% of all anti-anxiety prescriptions, about 65% of anti-depressant prescriptions, and about 20% of anti-psychotic prescriptions.[41] There is increasing emphasis on the value of fully integrating mental health, substance abuse and primary care services, and in some cases, in augmenting that integration with co-location of mental health and substance abuse providers and primary care providers. As discussed in Chapter Two, Vermont, like other states, struggles to retain sufficient primary care capacity.

5. Intensive Outpatient and Partial Hospitalization Programs

Intensive outpatient programs are defined as programs providing from nine to 19 hours per week of outpatient therapy. Substance abuse intensive outpatient programs are shown in Table 4.9.

[38] Data provided by Division of Alcohol and Drug Abuse Programs. Peter Lee, Chief of Treatment Services, e-mail of May 5, 2009.
[39] Office of Nursing Workforce, Research, Planning, and Development, "2007 VT. Supply and Demand of APRNs," PowerPoint presentation (March 20, 2008).
[40] Vermont Department of Health, "2006 Physician Assistants Survey Statistical Report," (May 2008).
[41] J.A. Lieberman, "The Use of Antipsychotics in Primary Care," *Primary Care Companion to the Journal of Clinical Psychiatry* 5, no. 3 (2003 Supplement).

Table 4.9: Substance Abuse Intensive Outpatient Programs[42]

County	Town or City	Program Name
Caledonia	St. Johnsbury	Tri-County Substance Abuse Services
Chittenden	South Burlington Burlington Essex Junction	Center Point Day One Howard Center Crossroads (Matrix Health Systems)
Franklin	St. Albans	Howard Center
Orleans	Newport	Northeast Kingdom Human Services
Orange	Randolph	Clara Martin Center
Rutland	Rutland	Rutland Mental Health/Evergreen Services
Washington	Berlin	Central Vermont Substance Abuse Services
Windham	Brattleboro	Health Care and Rehabilitation Services (HCRS) Brattleboro Retreat Starting Now
Windsor	Wilder	Quitting Time VA Hospital
Windsor	Springfield	HCRS
Other	Glens Falls, NY Liverpool, NY	Conifer Park Conifer Park

A list of mental health intensive outpatient programs, derived from a review of organization websites and input from the Acute Care Manager at DMH and managed care organization staff, is shown in Table 4.10.

Table 4.10: Mental Health Intensive Outpatient Programs

County	Town or City	Program Name
Chittenden	Essex Junction	Crossroads
Chittenden	Burlington	Seneca Center
Windham	Brattleboro	Brattleboro Retreat
Windham	Bellow Falls	Windham Center
Windham/Windsor		Health Care and Rehabilitation Services (HCRS)

Partial hospitalization programs are defined as programs providing more than 19 hours of outpatient therapy per week. Substance abuse partial hospitalization programs are shown in Table 4.11.

[42] Data provided by Division of Alcohol and Drug Abuse Programs. Peter Lee, Chief of Treatment Service, e-mail of June 1, 2009.

Table 4.11: Substance Abuse Partial Hospitalization Programs[43]

County	Town or City	Program Name
Chittenden	Essex Junction	Crossroads (Matrix Health Systems)
Rutland	Rutland	Rutland Mental Health Services
Windham	Bellows Falls Brattleboro	Windham Center Brattleboro Retreat

A list of mental health partial hospitalization programs, derived from a review of organization websites and input from the Acute Care Manager at DMH and managed care organization staff, is shown in Table 4.12.

Table 4.12: Mental Health Partial Hospitalization Programs

County	Town or City	Program Name
Chittenden	Essex Junction	Crossroads
Chittenden	Burlington	Seneca Center
Rutland	Rutland	Rutland Mental Health Services
Windham	Brattleboro	Brattleboro Retreat
Windham	Bellow Falls	Windham Center

6. Mental Health Providers Within the Corrections System

The Department of Corrections (DOC) contracts with MHM Services, Inc., a national company, to provide outpatient-level mental health services to people who are incarcerated within the DOC system. The company has about 13 FTE social workers and approximately 3.5 FTE physicians or psychiatric nurse practitioners providing screening, medication management and crisis intervention in Vermont. Based on data from October of 2007, approximately 37% of incarcerated people in Vermont receive psychotropic medications.[44]

7. Outpatient Detoxification Programs

For consumers who do not have a history of seizures and who should not experience delirium tremens, outpatient detoxification services are available at various locations throughout the state. There are no reliable data on the extent of outpatient detoxification services delivered by individual providers. Qualified primary care physicians, psychiatrists and addictionologists can provide these services.

[43] Data provided by Division of Alcohol and Drug Abuse Programs. Peter Lee, Chief of Treatment Services, e-mail of June 1, 2009.
[44] Vermont Department of Mental Health, "VSH Futures Project: Corrections Inpatient Work Group Report," (December 7, 2007), at pages 5 and 6.

8. Methadone Clinics and Buprenorphine Treatment

Methadone and buprenorphine are pharmacological treatments for opiate addiction. There are five methadone clinics in the state: the Chittenden Center in Burlington (operated by the Howard Center); a clinic in the Barre/Berlin area (operated by BAART, an organization that provides medication assisted treatment and substance abuse services in multiple states); mobile programs in St. Johnsbury and Newport (also operated by BAART); and a clinic in Brattleboro (operated by Habit OPCO). There are several clinics in bordering states: in West Lebanon, NH; Swanzey, NH; Hudson, NH; Manchester, NH; Greenfield, MA; Chicopee, MA; Springfield, MA and Westfield, MA. Currently there is one buprenorphine clinic (or "hub") in the State, located in Barre/Berlin operated by Central Vermont Substance Abuse Services.

The Vermont Division of Alcohol and Drug Abuse Programs reports that as of February of 2009, there were 172 physicians in Vermont who have been granted a waiver from the Center for Substance Abuse Treatment to prescribe buprenorphine for Vermont residents. Approximately 28 of those physicians have requested an extra waiver to treat more than 20 and up to 100 patients; most physicians are seeing fewer than 20 patients, and some are not writing prescriptions even though they have the waiver.[45] In 2008, Vermont had 800% more physicians waivered than any other state in the country.[46] Table 4.13 shows Vermont physicians by county, as of February of 2009:

Table 4.13: Physicians Granted CSAT Exemption to Prescribe Buprenorphine[47]

County	# of Physicians
Addison	1
Bennington	9
Caledonia	11
Chittenden	42
Essex	2
Franklin	7
Lamoille	6
Orange	5
Orleans	4
Rutland	14
Washington	33
Windham	23
Windsor	15

[45] Data provided by the Division of Alcohol and Drug Abuse Programs. Todd Mandell, MD, e-mail of June 3, 2009.
[46] Vermont Department of Health, "Substance Abuse Treatment Study Report 2008," (2008), at page 4.
[47] Data provided by the Division of Alcohol and Drug Abuse Programs. Todd Mandell, MD, e-mail of June 3, 2009.

C. Community-Based Mental Health and Substance Abuse Services

Community-based services supplement inpatient and outpatient services, frequently have a prevention focus, and often provide needed social service supports to people with mental health and substance abuse disorders and their families. There are a variety of public and private community- and home-based prevention and support services in Vermont. This section is intended to serve as a broad overview of some of these services.

Community- and home-based mental health and substance abuse services include:

- Suicide prevention services
- Home health and hospice services
- Services for people with traumatic brain injuries
- Employee and student assistance programs
- Peer and family support
- Drop-in recovery centers
- Services for children and adolescents
- Substance abuse outreach and prevention programs
- Transitional and halfway housing

1. Suicide Prevention Services

Suicide is the eighth leading case of death in Vermont (it is the 11th leading case of death in the U.S.), and based on 2002 statistics it was the third leading cause of death for 10 to 14 year olds and the second leading cause of death for 15 to 34 year olds in Vermont. Suicide is not just a concern for the young; suicide rates are highest in Vermont for those who are aged 65 or older.[48]

Suicide prevention as outlined in "The Vermont Suicide Prevention Platform" (2005) is a broad set of activities that includes increasing public awareness, reducing stigma, improving coping and problem-solving skills, improving mental health screening, developing school-based intervention programs, conducting suicide intervention training, increasing follow-up care, improving access to care, coordinating care, and developing better and more timely data collection processes. Many of the services described throughout this chapter are intended to contribute to improved mental health and suicide prevention.

The Vermont Youth Suicide Prevention Project, a partnership between the Department of Mental Health and the Center for Health and Learning in Brattleboro, has received a three-year federal grant totaling $1.5 million from the Substance Abuse and

[48] Vermont Department of Health and the Vermont Coalition for Suicide Prevention, "The Vermont Suicide Prevention Platform," (September 2005), at page 4.

Mental Health Services Administration to implement youth suicide prevention interventions such as those recommended in the Suicide Prevention Platform. The grant's purpose is to create a culture in Vermont in which youth and adults are empowered with knowledge, attitudes, skills and resources to effectively prevent and respond to suicidal behavior by youth. The grant will support the formation of the Vermont Youth Suicide Prevention Coalition (VYSPC), which will work to create broad-based support for youth suicide prevention planning and programs in Vermont. VYSPC will be composed of representatives from public health, suicide prevention advocacy groups, youth leadership, Vermont 2-1-1, and private mental health services. The main work of the group will be to promote the message that youth suicide is preventable.[49] One intervention is the "Lifelines Program for Suicide Prevention: Creating Communities of Hope." Vermont middle and high schools can send teams to a two-day training that will support the implementation of suicide prevention curriculum in schools. The training is scheduled for three locations in Vermont during autumn 2009.[50]

2. Home Health and Hospice Services

The Vermont Department of Disabilities, Aging and Independent Living (DAIL) designates home health agencies for each area in Vermont. There are 13 home health agencies in Vermont. All but one of these agencies are not-for-profit, and (DAIL) must serve all eligible persons. Vermont's home health agencies provide some or all of the following services in home or community settings: psychiatric nursing, social work, bereavement services, and services for people with traumatic brain injuries (TBI).

3. Services for People With Traumatic Brain Injuries

In addition to home health agency services for those suffering from the effects of traumatic brain injury, there are numerous other service providers. DAIL runs the Traumatic Brain Injury Program, with an emphasis on moving Vermonters from an institutional setting to a community based setting. A less restrictive setting improves quality of life and is less cost intensive.[51]

4. Employee and Student Assistance Programs

Employee and student assistance programs (EAP and SAP) seek to help people with mental health and substance abuse disorders in the settings where they spend much of their time: work and school. EAP and SAP counselors and teams identify and screen people with mental health and substance abuse disorders, provide interventions, and refer students and employees who need additional services to ambulatory care providers. Education, improved community awareness and referrals are all key components of EAP and SAP programs. In 2009, 110 Vermont schools (out of 397 public and private schools

[49] Data provided by Vermont Department of Mental Health. Evan Smith, Director of Quality Management, e-mail of June 11, 2009.
[50] Vermont Department of Mental Health, "Bi-Weekly Update," (May 20, 2009).
[51] For additional information about DAIL's program and a list of programs currently available see http://www.ddas.vermont.gov/ddas-programs/tbi/programs-tbi-default-page (accessed February 6, 2009).

in the state) have a substance abuse counselor at the school at least two days per week (84% of high schools, 45% of middle schools and 3% of elementary schools).[52] There are also a number of private companies and designated agencies in Vermont that offer Employee Assistance Programs.

5. Peer and Family Support

There are peer support programs in Vermont for people seeking assistance in their recovery. People experiencing mental illness or substance abuse disorders can obtain assistance from:

- Vermont Psychiatric Survivors, an independent peer-managed organization that offers local self-help groups, a toll-free telephone "warmline," outreach workers, a quarterly newspaper called Counterpoint, and the Recovery Education Project.[53]

- The Vermont Association for Mental Health, an independent organization that provides education, advocacy, and Camp Daybreak (a residential camp for children with serious mental health disorders). VAMH also sponsors Friends of Recovery, a statewide coalition of people in recovery from substance use disorders.[54]

- The Vermont Chapter of the National Alliance for the Mentally Ill (NAMI-VT), an independent organization that offers the Family-to-Family education program, provider education programs, support groups and advocacy.[55]

- Peer-support programs, such as Alcoholics Anonymous, Narcotics Anonymous, Alanon, and Alateen, which are held throughout the state to help people impacted by substance abuse disorders. There are also several "Wits End" support groups in Vermont for parents of children with substance abuse disorders.

No discussion of peer support in Vermont would be complete without a description of the Vermont Recovery Education Project, a highly respected program developed by Vermont resident Mary Ellen Copeland and others, and implemented statewide with the assistance of Vermont Psychiatric Survivors and the predecessor agency of the Department of Mental Health. The program seeks to teach people experiencing mental illness and their supporters "how to reduce or eliminate psychiatric symptoms safely, simply, and effectively on a daily basis, and how to get well and stay well." The program also assists peers in becoming Recovery Educators. The mechanisms for achieving these objectives include recovery education cycles, recovery education events and training of recovery educators, using an established curriculum.

---

[52] Association of Student Assistance Professionals of Vermont web site, at http://home.comcast.net/~asapvt/saplist.htm (accessed June 17, 2009).
[53] See Vermont Psychiatric Survivors, Inc., at http://www.ourkingdom.com/our_region/health/vermont_psychiatric_survivors_inc/index.php?id=1 (accessed June 17, 2009).

Hundreds of peers, family members and providers have participated in the program since the mid-1990s. This program has attained national and international recognition.[56]

6. Drop-in Recovery Centers

Another Way in Montpelier is a peer-run drop-in program for people with mental health disorders. The Committee on Temporary Shelter in Burlington and Morningside in Brattleboro also offer drop in services for people facing homelessness, mental health issues and substance abuse disorders. There are several drop-in recovery centers for people with substance abuse disorders (often called "Turning Point Clubs"), including centers in Barre, Bennington, Brattleboro, Burlington, Middlebury, Rutland, St. Johnsbury, Springfield, and White River Junction.[57]

7. Substance Abuse Outreach and Prevention Programs

Throughout the state, substance abuse outreach and prevention programs seek to help Vermonters, including adolescents and children, address the problems associated with substance abuse. The Vermont Department of Health's Division of Alcohol and Drug Abuse Program (ADAP) web site is a good starting point for individuals seeking these services and for those interested in learning more about the services available from a state health policy perspective.[58]

Substance abuse outreach and prevention programs use strategies that include public information, education, substance-free social and recreational opportunities, early intervention, community-based processes and environmental approaches. The Prevention Unit of ADAP has several initiatives in place, including:

- Ten regional Substance Abuse Prevention Consultants working with communities to increase local efforts and capacity;

- Substance Abuse Prevention Coalitions (39 coalitions throughout the state, including New Directions Coalitions) that focus on prevention and support for youth and families;

- The Stop Teen Alcohol Risk Team (START) program, with a presence in all fourteen counties in Vermont, working to improve law enforcement responses to underage drinking in Vermont communities, in coordination with prevention initiatives;

---

[54] See Vermont Association for Mental Health, at http://www.vamh.org/ (accessed June 8, 2009).
[55] See National Association on Mental Illness, Vermont at http://www.nami.org/MSTemplate.cfm?Site=NAMI_Vermont (accessed June 8, 2009).
[56] See http://mentalhealthrecovery.com/wrap_research_findings_vermont.php (accessed June 8, 2009).
[57] See the Vermont Department of Health, Vermont Recovery Network, at http://www.vtrecoverynetwork.org/ (accessed June 8, 2009).
[58] See http://healthvermont.gov/adap/adap.aspx (accessed February 11, 2009). ADAP's mission is to help Vermonters prevent and eliminate the problems caused by alcohol and other drug abuse.

- Strategic Prevention Framework grants to local communities to reduce underage drinking, high risk drinking among people under age 25, and marijuana use among people under age 25; and

- Project Rocking Horse, which consists of educational support groups for low income pregnant or parenting women at risk for substance abuse or experiencing the effects of a partner's substance abuse.[59]

Project CRASH[60] - a program for drinking drivers who have had their drivers' licenses suspended - is another example of a successful community-based prevention program in Vermont. The State has seen a consistent decrease in DUI deaths, from 37.33 on average in the years 1995-1997, to 29.00 on average in the years 2003-2005.[61] Project CRASH participants give the program high marks.[62] CRASH programs are located throughout the state and the program continues to expand to meet the needs of Vermonters.[63]

Vermont has also focused a significant amount of effort in the area of tobacco cessation. Tobacco is the leading cause of preventable death in Vermont, and each year smoking related illnesses costs the state at least $233 million dollars, $72 million of which are Medicaid expenses.[64] Vermont has adopted the Tobacco Control program, which partners the Department of Health, the Department of Education, the Department of Liquor Control, the Vermont Tobacco and Evaluation Review Board, health care providers, local community organizations and businesses to coordinate tobacco cessation efforts across the state.[65] Overall, compared to national usage, Vermont has a lower prevalence of tobacco use.[66] However, some populations are not decreasing at the same rate. For example, Vermonters with a lower socio-economic status, mothers under 20 and those with mental health and co-occurring substance abuse disorders continue to pose challenges for Vermont's tobacco cessation efforts.[67]

The Department of Mental Health has identified smoking cessation in adults with severe mental illness as a focus of tobacco cessation efforts. Adults with severe mental

[59] Vermont Department of Health, Division of Alcohol and Drug Abuse Programs, "Preventing Alcohol and Other Drug Use and Abuse in Vermont," (March 2008).
[60] CRASH stands for Countermeasures Related to Alcohol and Safety on Highways.
[61] Vermont Agency of Human Services, "Substance Abuse Treatment," (January 15, 2008) at page 5.
[62] Vermont Department of Health, "CRASH School Evaluation Results," (2006), at http://healthvermont.gov/adap/treatment/documents/vermontreport2006.pdf, (accessed February 10, 2009).
[63] For more information about Project CRASH, including location of currently available programs and access information, see the Vermont Department of Health website at: http://healthvermont.gov/adap/treatment/crash.aspx (accessed February 10, 2009).
[64] Vermont Department of Health, "Tobacco Control Program Key Facts," (September 2008), http://healthvermont.gov/prevent/tobacco/documents/TCPKeyDataSept2008.pdf (accessed February 10, 2009).
[65] Vermont Department of Health, et al., "Vermont 2008 & 2009 Tobacco Control Work Plan," (October 2008), http://healthvermont.gov/prevent/tobacco/documents/VT09StrategicPlanTobacco.pdf (accessed February 10, 2009).
[66] Vermont Department of Health, "Substance Abuse Treatment Study Report," (2008), at page 14.
[67] "Tobacco Control Program Key Facts," (September 2008).

illness have a much shorter life expectancy for a variety of reasons, including higher rates of smoking than the general population. Several community mental health centers have demonstrated effective programs for smoking cessation among CRT clients and other agencies are seeking to follow suit. These efforts could ultimately improve the quality of life and health for this population.[68]

8. Services for Children & Adolescents

Children and adolescents in at-risk situations offer the state an opportunity to provide supports which can prevent more serious and devastating mental health and substance abuse problems in the future. Vermont has significantly increased its financial commitment to providing mental health services to this population.[69] The variety of services available through the community mental health centers has also increased over time.

Risk factors leading to childhood mental health challenges can be lessened or prevented through prenatal and perinatal medical care, childhood immunizations, home visiting and other forms of parenting support and training, high quality early care and education, and school success. Vermont's community mental health centers provide an array of services for a variety of acuity levels and needs.[70] Success Beyond Six is a program run statewide by the community mental health centers through local schools. Community mental health centers provided 47% of their youth services through this program.[71] The State's 15 Parent Child Centers provide home visiting as part of a variety of supports and services for families.[72] These Centers also serve as a liaison for families to other support services.

For the unique challenges faced by adolescents that can be addressed at the community level, privately run programs seek to assist this population. In addition to SAP Programs noted above, there are boys and girls clubs and teen centers throughout the state.

---

[68] Vermont Department of Mental Health, "Restoration of the Department of Mental Health," (January 15, 2008), at page 8.

[69] Vermont Department of Mental Health, "The Statewide System of Care Plan for Child, Adolescent, and Family Mental Health in Vermont, Plan for Fiscal Years 2009 – 2011," (January 2009), at page 16. The total budget for children's mental health has increased 73% from fiscal year 1994 to fiscal year 2008 (increasing from $19,526,725 to $51,957,570). Note that the FY 2010 budget included decreases in funding across numerous government programs, including programs at DMH.

[70] "The Statewide System of Care Plan for Child, Adolescent, and Family Mental Health in Vermont, Plan for Fiscal Years 2009 – 2011," (January 2009), at pages 18 - 21.

[71] "The Statewide System of Care Plan for Child, Adolescent, and Family Mental Health in Vermont, Plan for Fiscal Years 2009 – 2011," (January 2009), at page 26. As a result of a legislative study, this program is being refined through the adoption by the Department of Education and DMH of minimum standards.

[72] There is one less Parent Child Center than there was in 2005. The Agency of Human Services maintains a list of these centers at http://humanservices.vermont.gov/community-partners/cp-parent-child (accessed February 12, 2009).

9. Transitional and Halfway Housing

Mental health residential recovery is a key component of the Vermont State Hospital Futures Project. Residential recovery programs are designed to meet the needs of individuals with longer-term care needs with slower response to treatment and multiple disabling conditions.[73] This level of care is similar to physical rehabilitation, where consumers can consolidate their inpatient gains, develop new skills, and regain lost capacity. With individually focused rehabilitation programming in non-institutional settings, this population is believed to be capable of making significant gains towards recovery.[74] There is currently one facility of this type in Vermont: Second Spring in Williamstown, which is licensed for 14 beds for adults. Second Spring is operated by a consortium of three designated agencies: Washington County Mental Health, the Clara Martin Center, and the Howard Center. A second program at the Brattleboro Retreat, planning to have a six-bed capacity, is currently under development. The program is a partnership between Brattleboro Retreat and the designated agency in that area, Health Care and Rehabilitation Services.[75] There is at least one privately-run residential facility for adults in Vermont, Spruce Mountain Inn in Plainfield, which provides both mental health and substance abuse services.[76]

Brattleboro Retreat has 40 residential care beds for children and adolescents. Intensive residential treatment for children is also provided at the Baird Center for Children and Families (a division of the Howard Center) and Northeastern Family Institute. These facilities offer short-term placements of 30 to 60 days, long-term residential placements of 9 to 18 months, and group home placements of 9 to 12 months. Intensive residential treatment is characterized by around-the-clock staffing, medical and psychiatric back-up, in-house crisis back up, and an array of psychological assessment and treatment services.[77]

In addition to mental health residential recovery facilities, there are various other transitional and halfway housing programs providing supportive housing arrangements for people with mental health and substance abuse disorders. For mental health, supportive housing includes community rehabilitation and treatment group home beds, subsidized beds with supportive services, and rental assistance. In addition, there are two Safe Haven programs in Vermont for homeless people with mental illness, partially funded by the U.S. Department of Housing and Urban Development. These programs are in Randolph (unique nationally because it is run by peers and professionals with a strong recovery component) and Burlington (run by The Howard Center).[78]

---

[73] Vermont Agency of Human Services, "The Vermont Mental Health Futures Plan," (April 25, 2006), at page 3.
[74] Vermont Agency of Human Services, "The Vermont Mental Health Futures Plan," (April 25, 2006), at page 3.
[75] Vermont Agency of Human Services, Department of Mental Health, "Legislative Briefing - July 2008, Vermont State Hospital Futures Project," (July 2008), at page 2.
[76] See http://sprucemountaininn.com (accessed June 15, 2009).
[77] "Pathways: A Resource Guide Connecting Families with Services and Supports for Children and Adolescents who Experience a Serious Emotional Disturbance," (2002), at page 45.
[78] "Vermont State Hospital Futures Plan," (February 4, 2005), at page 22.

In the context of substance abuse, transitional housing is defined as short-term safe and sober housing that provides support when an individual is making the transition from intensive treatment to independent living. It often involves case management to address housing, employment and other needs. Halfway housing is the lowest level of residential treatment; it is usually for people who need long-term support to prevent relapse or to address life skills issues. Most halfway house programs last for three months to one year, and include life skills training in the house and substance abuse treatment from an outpatient agency. Many transitional housing and halfway house programs receive funding from ADAP or the Department of Corrections (DOC). The following table shows programs across the state:

Table 4.14: Substance Abuse Transitional Housing and Halfway Houses[79]

Facility	Type	Town	Notes
Act 1/Bridge	Crisis	Burlington	Intended as transition into treatment
Aerie House	Transitional	St. Johnsbury	2 women's and 4 DOC beds
COTS	Transitional	Burlington	Offers case management and treatment
Covered Bridge	Transitional	St. Johnsbury	3 male and 4 DOC beds; faith-based program
Dodge House	Transitional	Rutland	Veterans
Dismas House	Transitional	Rutland	
Grace House	Halfway House	Rutland	Part of Serenity House program; men and women
Jackie's House	Transitional	St. Johnsbury	3 women's and 2 DOC beds; faith-based program
Morningside	Transitional	Brattleboro	6 individual beds (men or women); 2 beds for women with children
Northern Lights	Halfway House	Burlington	Women's DOC beds
Oxford Houses	Transitional	Burlington and Barre	Men in Barre and 3 Burlington locations, women in Burlington
Return House	Transitional	Barre	Young Men's DOC beds
RISE I	Halfway House	Brattleboro	
RISE II	Halfway House	Bellows Falls	
Spectrum Youth Services	Transitional	Burlington	
Springfield Supported Housing	Transitional	Springfield	6 units individual housing, 6 units parent/child housing, men and women, no age limit for children
Tapestry	Halfway House	Brattleboro	DOC beds, considered halfway housing due to intensity and type of service
Willow Grove	Transitional	Wilder	7 individual women's beds, 2 beds for women with small children, 3 to 6 month stays permitted

[79] Data provided by Division of Alcohol and Drug Abuse Programs. Michael Tipton, Recovery Services Program Coordinator, e-mail of June 11, 2009.

II. DISCUSSION

A. Mental Health and Substance Abuse Inpatient Services

1. Significant Utilization and Inventory Trends

Recent national data indicates that approximately 3.4% of 2006 hospital discharges involved people admitted with a primary diagnosis of a mental disorder, and another 17.9% involved people who had a secondary diagnosis of a mental disorder.[80] A similar analysis of 2007 Vermont hospital discharge data was conducted by BISHCA. That analysis showed that 4.4% of 2007 hospital discharges involved people with a primary diagnosis of a mental disorder.

In general, inpatient utilization rates are trending downward. Vermont's end-of-year census per 100,000 population at Vermont State Hospital declined steadily and dramatically from 37 in 1987 to 9 in 2007.[81] Patient days also trended downward between 1990 – 2006 for most hospital types, as shown in Table 4.15. The exceptions are the Brattleboro Retreat and Other (non-New Hampshire) Out-of-State Hospitals.

Table 4.15: Patient Days by Hospital Type

	1990	1992	1994	1996	1998	2000	2002	2004	2006
VT Community Hospitals	22,835	22,287	20,962	20,034	18,114	19,075	20,246	19,338	19,064
Brattleboro Retreat	7,165	5,538	7,589	12,373	10,635	11,308	9,708	9,938	12,626
Vermont State Hospital	41,265	35,130	27,778	23,452	19,961	17,963	20,394	18,866	19,705
Vermont VA Hospital	3,442	5,389	3,792	3,086	1,484	1,543	1,752	1,548	1,515
New Hampshire Hospitals	7,106	7,068	8,482	4,968	2,821	2,722	3,294	3,766	3,359
Other Out-of-State	502	1,857	2,552	1,006	1,533	985	1,696	1,063	860
Total	82,315	77,269	71,155	64,919	54,548	53,596	57,090	54,519	57,129

Another indicator of utilization is the percentage of people receiving inpatient care during a given year. BISHCA collects annual HEDIS® data[82] on mental health and substance abuse inpatient treatment for the members of the state's four largest managed care organizations (MCOs). The four MCOs are Blue Cross Blue Shield of Vermont (BCBSVT), CIGNA HealthCare (CIGNA), MVP Health Care (MVP) and The Vermont Health Plan (TVHP). As shown in Table 4.16, the percentage of patients covered by the

[80] Healthcare Cost and Utilization Project, "Hospital stays Related to Mental Health 2006," *Statistical Brief* No. 62 (October 2008) at http://www.hcup-us.ahrq.gov/reports/statbriefs/sb62.jsp (accessed June 19, 2008).
[81] Vermont Department of Health, Vermont Mental Health Performance Indicators Project (PIP), "Convergence in State Hospital Utilization Rates in the Northeast," (June 27, 2008).
[82] HEDIS® data refers to the Healthcare Effectiveness Data and Information Set, developed by the National Committee for Quality Assurance to measure use of services, effectiveness of care, access and satisfaction among managed care members.

MCOs that received inpatient mental health treatment in 2007 ranged from 0.18% to 0.28%. The national managed care average was 0.22% and the New England regional managed care average was 0.26%. Inpatient substance abuse treatment rates ranged from 0.11% to 0.26%, with the national managed care average at 0.26% and the regional average at 0.29%. It is difficult to evaluate these rates; for example, it may be preferable to have less inpatient care if the lower rates are reflective of good preventive, ambulatory and community-based care.

Table 4.16: Percent of Managed Care Patients Receiving Inpatient Mental Health/Substance Abuse Services – 2007[83]

	BCBSVT	CIGNA	MVP	TVHP	National	NE Regional
% Insureds Receiving Inpatient Mental Health Services	0.22%	0.19%	0.28%	0.18%	0.22%	0.26%
% Insureds Receiving Inpatient Substance Abuse Services	0.11%	0.18%	0.26%	0.15%	0.26%	0.29%

The inventory of adult inpatient mental health beds in Vermont appears to have declined by 13 beds since the 2005 HRAP. The primary driver of this decline was that Springfield Hospital achieved critical access hospital certification, which lowered the number of inpatient psychiatric beds at that facility from 19 in 2005 to 10 in 2008.[84] The development of 14 residential recovery beds at Second Spring in Williamstown (with an additional 6-bed facility planned for the Brattleboro Retreat), as well as the addition of several crisis beds, may serve as an alternative to inpatient treatment for some individuals with mental health disorders.

Data filed with BISHCA by the State's largest managed care plans indicates that in 2007, based on a 60-minute travel time standard, there was a lack of access to inpatient chemical dependency services in Essex, Orleans, Orange and Caledonia Counties.[85]

2. Vermont State Hospital

The Vermont State Hospital serves a unique and particularly vulnerable population. The Futures Plan, discussed above, seeks to create a comprehensive plan for the delivery of services provided by VSH within the context of a long term plan for a

[83] Data submitted to BISHCA pursuant to Division of Health Care Administration Rule 10, Quality Assurance Standards and Consumer Protections for Managed Care Plans and pursuant to 8 V.S.A. § 4089b.
[84] Federal regulations pertaining to critical access hospital status, a means of achieving more favorable Medicare reimbursement, require that hospitals limit the number of beds. Chapter 3 includes a discussion of critical access hospital designation.
[85] Vermont Department of Banking, Insurance, Securities and Health Care Administration, "2009 Insurer Mental Health and Substance Abuse Report Card," (January 15, 2009), at http://www.bishca.state.vt.us/Health/Data_Reports/legislative_reports/Act129_2009.pdf (accessed February 23, 2009) pages 11 and 12. National and regional averages from the National Committee for Quality Assurance Quality Compass (2008).

comprehensive continuum of mental health care.[86] The core of the plan is to reconfigure the existing 54-bed inpatient capacity at VSH "into a new system of inpatient, rehabilitation, and residential services for adults."[87] By increasing other capacity, the goal is to support recovery for Vermonters with mental illness in the least restrictive and most integrated settings that promote recovery.[88] An analysis of inpatient capacity needs for people incarcerated within Vermont's corrections system indicated that two to four beds are needed at VSH for inmates with acute mental health conditions requiring inpatient treatment.[89]

As of the writing of this HRAP, the planning process for exactly what level of acute inpatient beds, secure residential beds, residential recovery beds and other community based support programs remains the subject of much discussion. The Vermont Department of Mental Health posts regular updates on the Futures plan and current planning on its website.[90]

◆ **CON STANDARD 4.1:** Applicants for inpatient mental health service related certificates of need shall include specific information about how the proposal relates to the VSH Futures Project (or subsequent plan). Applicants shall not receive a certificate of need without showing how the proposal is consistent with the most current planning objectives identified by the Vermont Department of Mental Health.

◆ **CON STANDARD 4.2:** Applicants seeking to add mental health services capacity shall submit a letter from the Vermont Department of Mental Health indicating its support of, or opposition to, the proposal, and the reasons therefore, unless DMH is the applicant.

3. Psychiatric Support for Emergency Departments

The Northeast Kingdom, Franklin County and Grand Isle County have been identified by the U.S. Department of Health and Human Services as underserved by psychiatrists.[91] In 2007, the Department of Mental Health met with hospital CEOs and Emergency Department Directors across Vermont. DMH found that nearly all hospitals reported feeling overwhelmed by the increasing numbers of persons with mental health and/or substance abuse disorders seeking assistance at emergency rooms. In many of these cases, particularly after hours or on weekends, access to psychiatry consultations

[86] Vermont Department of Mental Health, "Legislative Briefing – July 2008, Vermont State Hospital Futures Project," (2008), at page 2.
[87] "Legislative Briefing – July 2008, Vermont State Hospital Futures Project," (2008), at page 2.
[88] "Legislative Briefing – July 2008, Vermont State Hospital Futures Project," (2008), at page 2.
[89] Vermont Department of Mental Health, "VSH Futures Project: Corrections Inpatient Work Group Report," (December 7, 2007), at pages 3 and 4.
[90] See http://healthvermont.gov/mh/futures/futureshome.aspx (accessed February 2, 2009).
[91] Vermont Department of Mental Health, "Restoration of the Department of Mental Health, Report to the Legislature on Act 15 2007 (ADJ) Session," (January 15, 2008) at page 12.

are limited or non-existent.[92] DMH and other collaborative partners are currently examining how the use of telemedicine could be used to address this issue.[93]

CON STANDARD 4.3: Applicants seeking to expand emergency departments shall address how they plan to provide access to on-call emergency psychiatry consultations and how the expansion will enhance current or emerging mental health and substance abuse needs in the applicant's service area.

B. Mental Health and Substance Abuse Outpatient Services

1. Significant Inventory Trends

In general, the inventory for outpatient mental health and substance abuse treatment and services has remained relatively stable since 2005. However, there are two notable exceptions: The number of psychiatrists – whether measured as the number of practicing psychiatrists, FTEs, or FTEs per 100,000 population – has increased by at least 11%, without a corresponding increase in the state's population.[94] Substance abuse treatment capacity for opiate addiction has also increased significantly, as evidenced by an increase in the number of physicians granted CSAT waivers to prescribe buprenorphine from 78 in 2004 to 172 in 2009, and an increase in mobile and stationary methadone clinic capacity within the state (in 2002 there were no methadone treatment slots in the state; by late 2007 there were 475).[95]

Anecdotally, there appears to be a consensus among providers and clients that Vermont suffers from a shortage of psychiatrists. The numbers of psychiatrist FTEs shows a general increase since 1996, with geographic distribution essentially stable from 2004 to 2006 and sub-specialists generally consistent. However, the number of psychiatrists taking new patients has been more volatile and shows declines in key areas, particularly Medicaid. This may indicate a shortage of psychiatrists for this population or other factors, but bears further inquiry.

[92] "Restoration of the Department of Mental Health, Report to the Legislature on Act 15 2007 (ADJ) Session," (January 15, 2008) at page 12. As noted below, the number of psychiatrists in Vermont has increased by 10% between 2000 and 2006.
[93] "Restoration of the Department of Mental Health, Report to the Legislature on Act 15 2007 (ADJ) Session," (January 15, 2008), at page 8.
[94] See Table 4.6 in this chapter.
95 Vermont Department of Health, "Substance Abuse Treatment Report to the Legislature on Act 65," (January 15, 2008).

Table 4.17: Percent of Vermont Psychiatrists Accepting New Patients[96]

	2002	2004	2006
Accepting New Patients	97%	92%	91%
Participate in Medicaid	97%	78%	84%
Accepting New Medicaid Patients	85%	65%	75%
Participate in Medicare	97%	78%	82%
Accepting New Medicare Patients	88%	69%	74%

2. Adult Mental Health Prevalence and Capacity

The Vermont Department of Health estimates that nearly 60,000 Vermonters (or 12% to 13% of the adult population), have moderately serious mental disorders.[97] Vermont's adult suicide death rates continue to exceed the national average. In 2004, the year for which the most recent data is available, death rates were 14 per 100,000, compared to 12 per 100,000 nationally. This is well above Vermont's 2010 goal of reducing the rate to 4.8 deaths per 100,000.[98]

Advocates express concern that there is a gap between mental illness and substance abuse disorder prevalence rates and treatment rates. The Agency of Human Services, based on data collected in Washington State, predicts that 6,800 Vermont adults have severe and persistent mental illness.[99] CRT enrollment at the state's community mental health centers averaged over 3,000 from 2002 to 2006.[100] AHS estimates that approximately 8,500 Vermont adults per year are in need of adult outpatient services; caseloads have ranged between 6,631 and 7,345 at the community mental health

[96] Vermont Department of Health, "2002 Physician Survey Report," (March 2005), at Table 20; Vermont Department of Health, "2004 Physician Survey Report," (March 2006), at Table 25; and Vermont Department of Health, "2006 Physician Survey Report," (November 2007), at Table 25. All survey reports are available at http://healthvermont.gov/pubs/Publications.aspx#provider (accessed May 6, 2009).
[97] Vermont Department of Health, "2007 Legislative Update: Mental Health – The Futures Project," (2007), at page 1.
[98] Vermont Department of Health, "The Health Status of Vermonters," (2008), at http://healthvermont.gov/pubs/documents/HealthStatusRpt2008.pdf (accessed February 2, 2009). According to the same report, suicide attempts by Vermont youths in grades 9-12 is the same as the national average (2%), but less than the 2010 goal of 1%.
[99] Vermont Agency of Human Services, "Follow-up Study on the Financial Sustainability of the Vermont Designated Agency Provider System for Mental Health, Developmental Disability and Substance Abuse Services," (September 2007), at page 30.
[100] "Follow-up Study on the Financial Sustainability of the Vermont Designated Agency Provider System for Mental Health, Developmental Disability and Substance Abuse Services," (September 2007), at page 30. This study does note, however, that those surveyed did not express great concerns about unmet CRT needs.

centers.[101] However, it is difficult to draw conclusions about this data because some adults with severe and persistent mental illness receive services from private providers.

Each year, the largest managed care organizations (MCOs) in Vermont provide BISHCA with data on outpatient mental health and substance abuse treatment for their members.[102] The data is collected according to specifications from the Healthcare Effectiveness Data and Information Set (HEDIS®), developed by the National Committee for Quality Assurance (NCQA). While this information only includes those insured by commercial MCOs, it does provide insight on the extent of services.

In 2007, as shown in Table 4.18 below, the percent of members receiving outpatient mental health treatment that was covered by their MCO ranged from 7.78% to 9.18%, depending on the MCO. The national average was 5.67% and the Northeast regional average was 9.22%.[103] The percentages for each Vermont MCO and for national and regional averages represented slight increases from calendar year 2003. Assuming that the MCO membership is somewhat reflective of the state population as a whole, and knowing that moderately serious mental disorders are present in 12-13% of the adult population, this data reflects the possibility that there is a gap between need and treatment rates.

Table 4.18: Percent of Managed Care Patients Receiving Outpatient MH Services

	BCBSVT	CIGNA	MVP	TVHP	National	NE Regional
% Insureds Receiving Outpatient Mental Health Service - 2003	8.33%	5.71%	8.37%	7.65%	5.29%	7.65%
% Insureds Receiving Outpatient Mental Health Service - 2007	8.42%	8.35%	9.18%	7.78%	5.67%	9.22%

As noted by the Institute of Medicine, challenges facing people needing mental health and substance abuse care are distinctive in several important ways from those challenges facing people needing other types of health care. These challenges include

[101] "Follow-up Study on the Financial Sustainability of the Vermont Designated Agency Provider System for Mental Health, Developmental Disability and Substance Abuse Services," (September 2007), at page 37, Table 2-18. Adult Outpatient services are less intense than CRT services. Case load numbers have been decreasing from 2002 to 2006.

[102] This data is collected as part of the filing requirements for BISHCA's Quality Assurance Standards and Consumer Protections for Managed Care Plans, Division of Health Care Administration, Rule 10.000, http://www.bishca.state.vt.us/HcaDiv/RegsBulls/hcaregs/HCARule10.pdf (accessed February 2, 2009). Please note as of the writing of this HRAP, BISHCA is in the process of revising Rule 10. See Health Care Administration Division Rule H-2009-03.

[103] Vermont Department of Banking, Insurance, Securities and Health Care Administration, "2009 Insurer Mental Health and Substance Abuse Report Card," (January 15, 2009), page 9, http://www.bishca.state.vt.us/Health/Data_Reports/legislative_reports/Act129_2009.pdf (accessed February 23, 2009). National and regional averages from National and regional averages from the National Committee for Quality Assurance Quality Compass (2008).

"the great stigma attached to [mental health and substance abuse] diagnoses, more frequent coercion of patients into treatment, especially for substance-use problems and conditions; a less developed infrastructure for measuring and improving the quality of care; the need for a greater number of linkages among the multiple clinicians, organizations, and systems providing care to patients with [mental health and substance abuse] conditions; less widespread use of information technology; a more educationally diverse workforce; and a differently structured marketplace for the purchase of" such care.[104]

Unmet need in the mental health system may result in increased in costs in other areas.[105] For example, in 2007, the average cost to the State to provide CRT services was approximately $11,000 per individual annually, while the daily cost per inpatient is about $1,000 and the annual cost per prison inmate is about $40,000.[106] Furthermore, lack of access to outpatient mental health services may result in higher utilization of emergency departments or under-treatment which could eventually lead to the need for higher acuity, and more expensive, services. Providing sufficient access to less expensive services may ultimately decrease overall costs if access can prevent the need for more expensive services in the long run.

3. Adolescent and Child Mental Health Prevalence and Outpatient Treatment Capacity

The Department of Mental Health estimates that as many as 6,000 to 16,000 children go untreated in a given year, although without access to private insurance treatment information, it is impossible to specify.[107]

The number of children seeking mental health services from the designated agencies continues to rise and the complexity of cases has increased. In light of these increasing challenges in a time of decreasing resources to serve this population, DMH has identified an increasing public health focus as a necessary priority. A public health model focuses on the entire population, promotes prevention and wellness based on

[104] National Academy of Sciences, *Improving the Quality of Health Care for Mental and Substance Use Conditions: Quality Chasm Series* (Washington National Academies Press, 2006), Executive Summary at page 11.
[105] *Improving the Quality of Health Care for Mental and Substance Use Conditions: Quality Chasm Series* (2006), Executive Summary at page 7, noting that the failure to provide effective care has consequences on the work place, educational institutions, the justice system, and the economy as a whole. *See also* "Nearly 1 in 5 War Veterans Experience Depression, PTSD," *Behavioral Health Trends* (May 2008), at page 7, discussing a RAND report noting that the societal costs of veteran mental health challenges, including suicide, greatly outweigh the cost of treatment.
[106] Vermont Agency of Human Services, "Follow-up Study on the Financial Sustainability of the Vermont Designated Agency Provider System for Mental Health, Developmental Disability and Substance Abuse Services," (September 2007), at page 34.
[107] Department of Mental Health, "The Statewide System of Care Plan for Child, Adolescent, and Family Mental Health in Vermont, Plan for Fiscal Years 2009 – 2011," (January 2009). In 2007, Vermont's public mental health programs served 10,110 children, adolescents and young adults.

accurate data and solid research, and utilizes education, the legal system and the maximum coordination of available social services to improve population health.[108]

There have been widespread reports of the lack of mental health and substance abuse services for children and adolescents, particularly psychiatry services. "Finding comprehensive and timely mental health care for Vermont children and their families represents a major challenge for primary care clinicians across the State," wrote David C. Rettew, MD, Director of the Pediatric Psychiatry Clinic for the UVM College of Medicine in a recent newsletter. "Epidemiological studies have shown that nearly one in five children meet diagnostic criteria for a psychiatric disorder, yet resources especially regarding child psychiatrists are very scarce. The shortage is not unique to Vermont, although this fact offers little comfort for struggling families and their primary care clinician."[109]

In the same article, Rettew outlines five Vermont initiatives to improve mental health care for children:

- The Pediatric Psychiatry Clinic at Fletcher Allen Health Care in Burlington. Third year psychiatry residents provide assessment consultations to primary care clinics, and some follow-up treatment for certain conditions.
- Child psychiatry fellowships. The fellowships provide support and training for child psychiatrists, with the goal of encouraging them to remain in Vermont.
- Tele-child Psychiatry. This pilot program provides child psychiatry evaluations for clients of three designated agencies.
- Child Psychiatry Consultative Rounds. In conjunction with the Vermont Child Health Improvement Program, child psychiatrists discuss case presentations and field questions at primary care offices.
- Child Psychiatry for Primary Care Clinicians conference. This conference is offered each spring.

The Vermont Department of Mental Health's Child, Adolescent and Family Unit (CAFU) has an important initiative focused on improving mental health care for children experiencing complex psychological trauma, called the "ARC Project." The project offers a year-long training and consultation on the Attachment, Self-Regulation and Competencies (ARC) framework for the treatment of complex psychological trauma in children and families. Each of the Children's Programs at Vermont's ten community mental health centers has three to five clinical staff members participate in the ARC Project. The overall goal is for implementation of the ARC framework to increase community mental health center providers' clinical skills to assess, treat, and achieve positive outcomes for children who have experienced trauma and their families.

The ARC Project launched with several day-long trainings in September 2008. Beginning in October 2008, forty-five community mental health center staff members

[108] "The Statewide System of Care Plan for Child, Adolescent, and Family Mental Health in Vermont, Plan for Fiscal Years 2009 – 2011," (January 2009), at pages 32-33.
[109] D.C. Rettew, "Child Mental Health Care in Vermont," *Primarily Vermont* (Winter 2009).

plus DMH staff have participated in monthly phone consultations with DMH's consultant. The consultations have included discussion of the ARC framework, implementation ideas including standardized trauma assessment instruments and screening tools and application of the model to a case example presented by one of the designated agencies each month.[110]

Vermont has convened a Workgroup on Psychotropic Medications for Children and Adolescents, partly in response to concerns voiced by advocacy groups about the extent of medication use in children. The Workgroup has met several times and is in the process of developing recommendations on monitoring trends in medication prescriptions for children and adolescents, and providing best practice information on medication use to prescribers and families.

4. Substance Abuse Prevalence and Outpatient Treatment Capacity

As with other mental health treatment services, funding adequate substance abuse resources may save money through decreased (state funded) incarcerations[111] and societal loss in productivity. The Office of Applied Studies at the Substance Abuse and Mental Health Services Administration estimates that more than 15,000 Vermonters need substance abuse treatment, but do not get it.[112] Although not all of this population seeks treatment, there does appear to be a gap between treatment provided and number of people who want treatment. In 2007, the Agency of Human Services reported that community mental health representatives identified a large gap between need and availability of substance abuse treatment services for youth and young adults between 18-24.[113] The Vermont Department of Health reports that methadone treatment slots have increased from 0 in 2002 to 475 in late 2007, although all clinics still report waiting lists.[114]

BISHCA also collects data from managed care organizations for substance abuse treatment, as summarized in Table 4.19. In 2007, HEDIS® rates for outpatient substance abuse treatment ranged from 1.08% to 1.43%, compared to a national average of 0.77% and a regional average of 1.05%.[115] This was a substantial increase from 2003

[110] Data provided by Department of Mental Health. Evan Smith, Director of Quality Management, e-mail of June 11, 2009.
[111] Vermont Agency of Human Services, "Follow-up Study on the Financial Sustainability of the Vermont Designated Agency Provider System for Mental Health, Developmental Disability and Substance Abuse Services," (September 2007), at page 55.
[112] "Follow-up Study on the Financial Sustainability of the Vermont Designated Agency Provider System for Mental Health, Developmental Disability and Substance Abuse Services," (September 2007), at page 52, with data from 2002-2006. Actual data released by SAMHSA can be found at http://www.oas.samhsa.gov/2k5state/ageTabs.htm#Tab21 (accessed February 5, 2009).
[113] "Follow-up Study on the Financial Sustainability of the Vermont Designated Agency Provider System for Mental Health, Developmental Disability and Substance Abuse Services," (September 2007), at page 52.
[114] Vermont Department of Health, "Substance Abuse Treatment Study Reports," (2008), at page 4.
[115] Vermont Department of Banking, Insurance, Securities and Health Care Administration, "2009 Insurer Mental Health and Substance Abuse Report Card," (January 15, 2009), at http://www.bishca.state.vt.us/Health/Data_Reports/legislative_reports/Act129_2009.pdf (accessed

– for two MCOs, the rates nearly doubled, and for another MCO the rate nearly tripled. The national and regional rates more than doubled during that same time period. However, assuming that the MCO membership was reflective of the broader population, and given that Vermont's rate of dependence on or abuse of illicit drugs or alcohol was nearly 10% for ages 12 and older in 2007, it appears that there might still be a gap between service needed and services provided.[116]

Table 4.19: Percent of Managed Care Patients Receiving Outpatient SA Services[117]

	BCBSVT	Cigna	MVP	TVHP	National	NE Regional
% Insureds Receiving Outpatient Substance Abuse Service - 2003	0.56%	0.58%	0.85%	0.51%	0.32%	0.39%
% Insureds Receiving Outpatient Substance Abuse Service - 2007	1.08%	1.09%	1.43%	1.41%	0.77%	1.05%

In 2008, the Department of Health released the "Public Inebriate Report." This report was the result of a legislatively mandated comprehensive study of Vermont's current policy and practices regarding public inebriates. The study concluded: "the inebriate program does not work effectively except in selected areas where staffed shelters exist." [118] This report discusses that Vermont's approach to inebriates, although instituted in 1978 with a desire for increasing access to treatment, has essentially criminalized inebriation, without providing a coordinated approach to treatment or addressing the related medical or mental health issues which may be present.[119] This report makes numerous recommendations, including providing more training and developing a standardized protocol for managing this population.[120]

The Office of Vermont Health Access (OVHA) and ADAP are collaborating on an initiative that increases reimbursement to physicians who provide opiate dependent Medicare patients with Buprenorphine services, using a capitated payment system. The initiative recognizes the challenge of caring for these patients, and is intended to increase access to Buprenorphine services. OVHA is also enrolling the Medicaid patients of these physicians into case management services, and has assigned case managers to four

---

February 23, 2009), at page 10. National and regional averages from the National Committee for Quality Assurance Quality Compass (2008).

[116] U.S. Substance Abuse and Mental Health Services Administration, Office of Applied Studies, "State Estimates of Substance Use and Mental Health from the 2006-2007 National Surveys on Drug Use and Health (Vermont)," at http://www.oas.samhsa.gov/2k7State/Vermont.htm (accessed June 18, 2009).

[117] "2009 Insurer Mental Health and Substance Abuse Report Card," (January 15, 2009), at page 10. National and regional averages from the National Committee for Quality Assurance Quality Compass (2008).

[118] Vermont Department of Health, "Public Inebriate Report," (2008), at page 4.

[119] "Public Inebriate Report," (2008), at pages 7-8.

[120] "Public Inebriate Report," (2008), at pages 6-7.

practice sites. As of March 2009, 30 providers were enrolled in the capitated payment program, with 397 patients receiving treatment.[121]

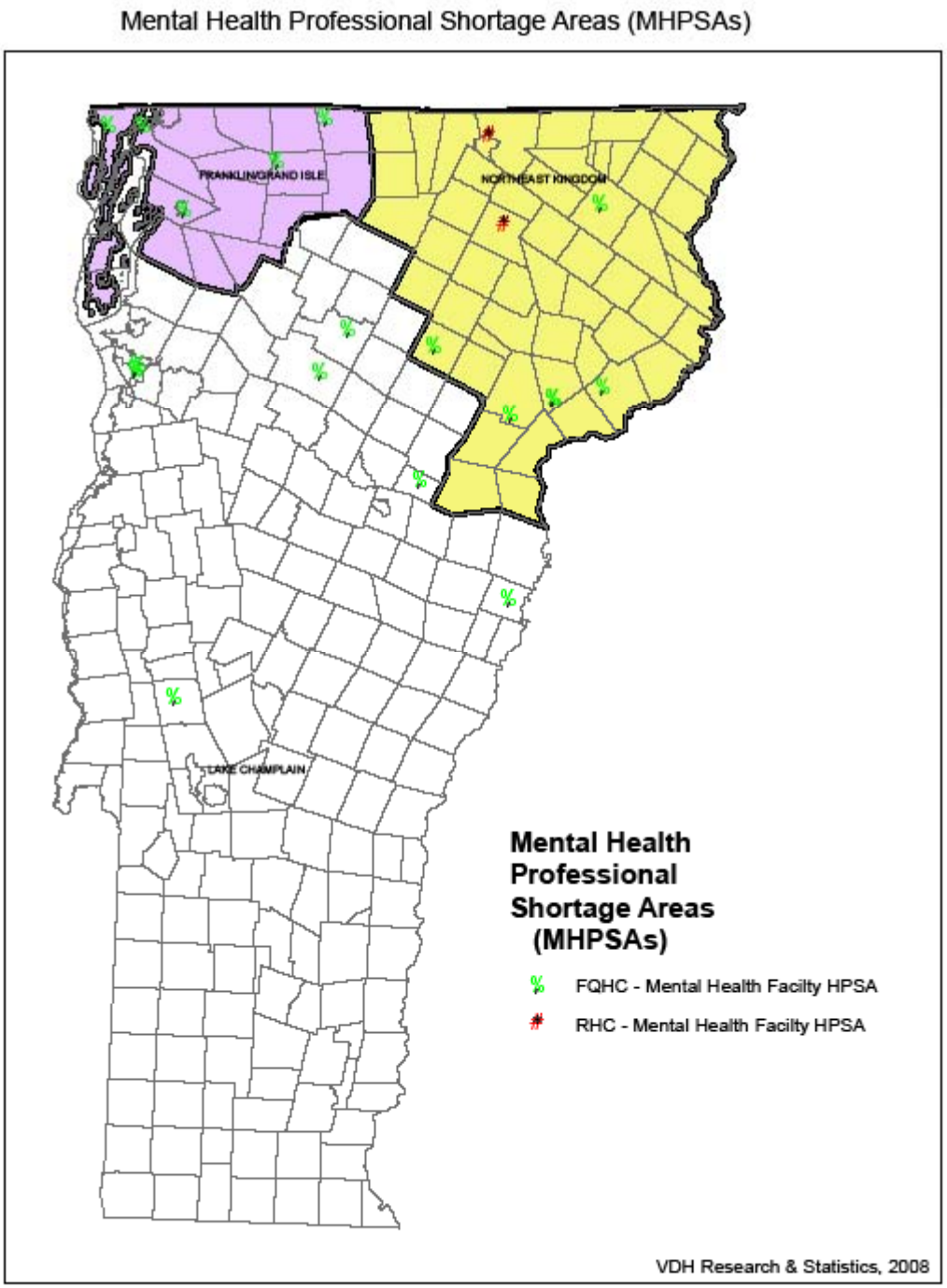
CON STANDARD 4.4: Applications involving substance abuse treatment services shall include an explanation of how such proposed project is consistent with the Department of Health's recommendations concerning effective substance abuse treatment or explain why such consistency should not be required.

5. Access to Psychiatrists and Other Specified Clinicians

One challenge in determining need for outpatient providers is that there is very little or no information about providers' work hours, capacity to accept additional patients, and expertise in treating special populations (children, adolescents or elders, for example). The Vermont Department of Health created Map 4.1, which identifies mental health professional shortage areas in Caledonia, Essex, Franklin, Grand Isle, and Orleans Counties. Core mental health professionals are defined as Psychiatrists, Clinical Psychologists, Clinical Social Workers, Psychiatric Nurse Specialists, and Marriage and Family Therapists.

[121] Vermont Agency of Human Services, "Global Commitment to Health, Quarterly Report for the Period January 1, 2009 to March 31, 2009," (May 19, 2009), at pages 5-6.

Map 4.1: Mental Health Professional Shortage Areas



Additional information on geographic access to particular provider types is found in data collected annually from managed care organizations under BISHCA's Rule 10. These data reflect MCO[122] member access to providers within the MCO's network. To the extent that MCOs contract with all available providers in certain areas, the data might be reflective of shortages. The most recent Rule 10 data, submitted in July 2008, indicated that members in Essex and Caledonia county lack geographic access to psychiatrists.[123] BISHCA data also shows that there is a lack of access to psychologists in Orleans County, to masters-level social workers and other masters level providers in Essex County, and to a community mental health center or clinic in Orleans County.[124] Essex County appears to have an insufficient number of chemical dependency day providers.[125]

However, compared to older national data, Vermont has more resources than most states. According to the U.S. Health Resources and Services Administration (HRSA): "There were 153 psychiatrists, 260 psychologists, and 1,280 social workers in Vermont in 2000. This was equal to 25.9 psychiatrists, 42.6 psychologists, and 209.9 social workers per 100,000 population. Vermont ranked third among states in psychiatrists per capita, fourteenth among states in psychologists per capita, and twelfth among states in social workers per capita."[126] However, the HRSA data is from 2000; the number of Vermont psychiatrists increased by 10% between 2000 and 2006 and the number of psychiatrist FTEs increased by 7% during the same time period (see Table 4.6 in this Chapter).

6. Integration of Care in Outpatient Settings

Persons with serious mental illness die at a much higher rate than the general population – on average 25 years sooner.[127] These untimely deaths are often related to preventable conditions, such as obesity and hypertension. Persons early in the course of a mental illness, when such illness tends to be most treatable, typically present to their primary care physicians. Due to a lack of integrated care, these illnesses can go undetected and untreated, greatly exacerbating the initial problem.[128] Further, the burden of mental illness can reduce a person's energy and stamina to pursue healthy life styles. In 2006, the Institute of Medicine and National Academy of Sciences published "Quality Chasm Series: Improving the Quality of Health Care for Mental Health and Substance-

[122] MCO refers to "managed care organization" – a type of health insurer regulated by BISHCA.
[123] This lack of access is premised on the requirement in Health Care Administration Division Rule 10.000 which requires psychiatric services within 30 minutes.
[124] These shortages are based on failure to satisfy the thirty minute access standard imposed by Rule 10 for these services.
[125] Rule 10 defines adequate access to chemical dependency day providers as within 30 minutes.
[126] U.S. Department of Health and Human Services, "State Health Workforce Profiles Highlights – Vermont," (2004), at ftp://ftp.hrsa.gov/bhpr/workforce/summaries/Vermont03.pdf (accessed February 4, 2009).
[127] Vermont Department of Mental Health, "Restoration of the Department of Mental Health, Report to the Legislature on Act 15 2007 (ADJ) Session," (January 15, 2008), at page 8.
[128] "Restoration of the Department of Mental Health, Report to the Legislature on Act 15 2007 (ADJ) Session," (January 15, 2008), at page 9.

Use Conditions." This publication acknowledges the unique nature of mental health and substance abuse conditions, while promoting quality and evidence-based improvements. A focus of the IOM publication is the improved integration of mental health care with other health care.[129] The IOM identifies its first overarching recommendation as: "Health care for general, mental, and substance abuse problems and illness must be delivered with an understanding of the inherent interactions between the mind/brain and the rest of the body."[130]

The Department of Mental Health has made enhanced integration of care a significant priority. Part of these efforts include working with the Office of Vermont Health Access (OVHA) to more fully coordinate the mental and other health care of persons on Medicaid and Medicare.[131]

The Department of Mental Health is also pursuing public private partnerships to increase the coordination of mental health and other health care. A collaborative effort between DMH, the Vermont Department of Health, the Vermont Child Health Improvement Project and the University of Vermont, and Otter Creek Associates is increasing psychologist and child psychiatrist consultation with pediatric practices. Early results of this effort have been positive and the effort is being expanded.[132]

The Vermont Integrated Services Initiative (VISI), funded by the federal Substance Abuse and Mental Health Services Administration (SAMHSA), seeks to achieve two broad goals: 1) to restructure the Division of Alcohol and Drug Abuse Program (ADAP) and mental health administrative and funding practices at the state level to support integrated treatment for people with co-occurring mental health and substance abuse disorders; and 2) to provide training and technical assistance to a wide group of providers to increase capacity to effectively treat clients with co-occurring disorders.[133] As part of this effort, the Agency of Human Services has prepared an online course designed to give participants a deeper understanding of co-occurring mental health and substance use conditions including understanding the barriers to prevention and treatment.[134]

---

[129] National Academy of Sciences, *Improving the Quality of Health Care for Mental and Substance Use Conditions: Quality Chasm Series* (Washington DC: National Academies Press, 2006).
[130] *Improving the Quality of Health Care for Mental and Substance Use Conditions: Quality Chasm Series* (2006), Executive Summary at page 12.
[131] Vermont Department of Mental Health, "Restoration of the Department of Mental Health, Report to the Legislature on Act 15 2007 (ADJ) Session," (January 15, 2008), at page 9.
[132] "Restoration of the Department of Mental Health, Report to the Legislature on Act 15 2007 (ADJ) Session," (January 15, 2008), at page 10.
[133] "Restoration of the Department of Mental Health, Report to the Legislature on Act 15 2007 (ADJ) Session," (January 15, 2008), at page 12.
[134] See https://www.ahsnet.ahs.state.vt.us/learningcenter/courses/coms/mainmenu.cfm (accessed February 12, 2009).

Another Vermont Agency of Human Services initiative that supports the integration of services for co-occurring mental health and substance abuse disorders is the Co-Occurring State Infrastructure Grant (COSIG). The grant, which was awarded in 2006 and will end in 2010, is also funded by SAMHSA. It has expanded the roll-out of co-occurring initiatives in Vermont to include substance abuse residential providers, primary care providers, mental health and drug court programs, mental health and substance abuse adolescent and adult outpatient providers, and providers in a federally funded program for homeless mentally ill adults.[135]

The Vermont Blueprint for Health (the state's chronic care initiative) has the creation of Medical Homes as a primary focus, and has encouraged and funded the development of multi-disciplinary community care teams (which include mental health team members) to support pilot practices in the St. Johnsbury and Burlington areas. Some of these pilot practices include co-location or ready access to mental health and substance abuse practitioners. Although at the time of this writing, formal evaluation based on collected data is not yet available, anecdotal information from patients and providers has been very positive. Having a mental health professional on-site truly allows patients to have a medical home and increases the likelihood that individuals will receive appropriate mental health or substance abuse treatment in a timely fashion.

◆ **CON STANDARD 4.5:** To the extent possible, an applicant seeking to implement a new health care project shall ensure that such project supports further integration of mental health, substance abuse and other health care.

◆ **CON STANDARD 4.6:** Applicants for mental health care, substance abuse treatment or primary care related certificates of need should demonstrate how integration of mental health, substance abuse and primary care will occur, including whether co-location of services is proposed.

7. Further Coordination of Community Mental Health System

Vermont's mental health system, based on Designated Agencies (i.e. community mental health centers) and Specialized Services Agencies, is a national leader in providing community based mental health and substance abuse services to vulnerable children and adults. In 2007, the Agency of Human Services examined ways in which this system could be reformed to become more financially sustainable. Numerous important recommendations are included in this report.[136] For purposes of the HRAP, funding reforms and data collection reforms appear to be the most promising ways in which to potentially increase services through efficiencies without necessarily increasing overall costs.

---

[135] Data provided by the Vermont Department of Mental Health. Evan Smith, Director of Quality Management, e-mail of June 11, 2009.

[136] Vermont Agency of Human Services, "Follow-up Study on the Financial Sustainability of the Vermont Designated Agency Provider System for Mental Health, Developmental Disability and Substance Abuse Services," (September 2007).

The report notes that current funding for the community mental health centers requires that funds are funneled through specific programs (such as CRT, Adult Outpatient, etc.). However, due to the functional realities of treating consumers, a more effective and efficient approach would be to replace this with an individual/family-centered model which encourages interdepartmental cooperation with greater operational flexibility to meet existing needs. The report further notes that data collection and compliance monitoring could be more effective if coordinated across specific programs. This would free up staff time to allow for more direct patient care and should not result in a decrease in data available for monitoring purposes, but in fact could make the data more coordinated and thus more useful.[137]

8. Mental Health in Older Vermonters

As the Vermont population ages, mental health services for older adults has become more of a priority. Older Vermonters not only experience more chronic illnesses than the general population, they are more vulnerable to the stresses and conditions that may lead to mental health issues such as depression, delirium, dementia and substance abuse.[138] Suicide rates are highest in Vermont in the 65 and older age group.[139] Mental health issues can also interfere with treatment of other illnesses. The Department of Mental Health is actively working to improve the mental health of older Vermonters. As part of this effort, DMH and the Department of Disabilities, Aging and Independent Living have jointly administered the Eldercare Clinician Program which offers outreach and mental health services to older Vermonters. ECP program funds flow through five Vermont Area Agencies on Aging which contract with the community mental health centers to provide screening, assessment and treatment to Vermonters 60 years and older.[140]

A related issue is the need to support caregivers of older Vermonters who have dementia. As part of a grant proposal to SAMHSA, DMH outlined the unique issues facing this population (referred to as dementia caregivers). Some assert that dementia caregiving is the most stressful type of caregiving. Furthermore, often such individuals are themselves older and thus more susceptible to stress and stress related health problems. However, evidence suggests that individuals with dementia are far more likely to be able to stay in their homes, rather than in an institutional setting. This is better for the individual and less expensive. Providing adequate support for those

[137] State of Vermont Agency of Human Services, "Follow-up Study on the Financial Sustainability of the Vermont Designated Agency Provider System for Mental Health, Developmental Disability and Substance Abuse Services," (September 2007), at pages 74-83.
[138] Vermont Department of Mental Health, "Restoration of the Department of Mental Health, Report to the Legislature on Act 15 2007 (ADJ) Session," (January 15, 2008), at page 14.
[139] Vermont Department of Health, "The Vermont Suicide Prevention Platform," (September 2005).
[140] "Restoration of the Department of Mental Health, Report to the Legislature on Act 15 2007 (ADJ) Session," (January 15, 2008), at page 14.

individuals who have undertaken such an important commitment should be a priority for Vermont.[141]

CON STANDARD 4.7: Applicants seeking to establish, expand or otherwise modify services available to elderly Vermonters shall establish how those services will support the mental health and well-being of this population, including addressing how the applicant supports or otherwise integrates with mental health services currently available.

C. Community-Based Mental Health and Substance Abuse Services

1. Significant Inventory Trends

The most significant inventory trend in community-based mental health services has been the development of residential recovery bed capacity, such as that at Second Spring in Williamstown. This new level of care provides another option for people experiencing mental illness, one that could reduce reliance on more intensive forms of treatment, such as inpatient care. In terms of substance abuse services, the Strategic Prevention Framework prioritization and grants have focused resources on the triple threats of underage drinking, at-risk drinking in people under 25, and marijuana use in people under 25.

One notable increase in inventory since 2005 is that there are now ten Turning Point Clubs proving drop-in recovery services for people with substance abuse disorders; there were only six in 2005. Another is that there are several new transitional and halfway housing programs for people with substance abuse disorders transitioning into independent living. Otherwise, it appears that the inventory of community-based services for both mental health and substance abuse has remained fairly stable.

The DMH and VDH have identified depression as their next public health focus. A major theme of this effort is the continued focus on integrating care through such efforts as augmenting mental health workers in pediatrician's offices and increasing access to child psychiatrists through telemedicine or other means. In addition, these efforts have identified maternal depression as a focus "due to the pervasiveness of the condition, the profound impact on child mental health and the efficiency of having major impact on improving child mental health by treating a debilitating condition for the mother."[142]

In 2006, the Vermont Legislature mandated that comprehensive health education offered by Vermont schools include "an understanding of depression and the signs of

[141] Vermont Department of Mental Health, "Older Adults Targeted Capacity Expansion (TCE) Grant Program Proposal," (March 27, 2008). Note that DAIL provides services aimed at this population through its Dementia Respite and AOA National Family Caregiver Support programs.
[142] Vermont Department of Mental Health, "Restoration of the Department of Mental Health," (January 15, 2008), at page 7.

suicide risk in a family member or fellow student" and required that such education include information about appropriate responses and available resources.[143]

2. Adolescent and Child Community Based Services Capacity

There is an increased focus in Vermont on coordinating all health care projects relating to schools. VDH, DMH and DOE meet quarterly to update and coordinate all health projects and initiatives related to schools. These initiatives include tobacco prevention, mental health services, and substance abuse prevention initiatives.[144] Additionally, various organizations are working in a coordinated fashion on the attention deficit and hyperactivity disorders project.[145] DMH has also identified Positive Behavioral Supports (PBS) as a priority initiative. PBS is an educational evidence-based practice to improving social and academic competence of all students. This initiative has been implemented in a small number of schools, but interest in the program is growing.[146]

In addition to youths under 18, DMH has identified "transition-aged youth" (18-21) as individuals in need of special attention. These individuals, particularly those with severe emotional disturbance, face tremendous challenges as they move from childhood to becoming independent adults. It is imperative that this population have adequate support and resources to become productively engaged and incarceration free.[147] A variety of public and private programs are available for these individuals, but DMH cautions that the state must recognize the need of addressing this population during the difficult period of transition to limit the potentially devastating impacts of a unsuccessful transition. Measures of success will include increasing the percentage of students who graduate from high school, are employed in the community or enrolled in higher education after high school, have suitable housing and have caring positive relationships with other adults.[148]

The Department of Mental Health's Child, Adolescent and Family Unit has initiated programs to improve community-based services for children and adolescents:

- Transition Grants: The goal of this 6-year project is for Vermont's transition-aged youth (16 through 21, with their families) with severe emotional disturbance to have adequate preparation and the necessary supports to be productively engaged in the community and free from incarceration. For this population, the necessary supports include access to health care (including treatment for mental health and co-occurring substance abuse challenges), post-secondary education,

[143] *See* 16 V.S.A. § 131.
[144] "Restoration of the Department of Mental Health," (January 15, 2008), at page 4.
[145] "Restoration of the Department of Mental Health," (January 15, 2008), at page 4.
[146] Vermont Department of Mental Health, "The Statewide System of Care Plan for Child, Adolescent, and Family Mental Health in Vermont, Plan for Fiscal Years 2009 – 2011," (January 2009) at page 35.
[147] "The Statewide System of Care Plan for Child, Adolescent, and Family Mental Health in Vermont, Plan for Fiscal Years 2009 – 2011," (January 2009) at page 35.
[148] "The Statewide System of Care Plan for Child, Adolescent, and Family Mental Health in Vermont, Plan for Fiscal Years 2009 – 2011," (January 2009) at page 40.

employment, housing, and caring relationships with adults who nurture positive youth development.

- Agency of Human Services and Department of Education initiatives for Success Beyond Six: The goals are to create administrative and training standards for Success Beyond Six as it changes from its origins as a funding stream to a statewide program. There are two initiatives:

  - Minimum standards for the Behavior Intervention Program were developed and finalized in March 2009 by the community mental health centers, DOE and DMH. The next steps include each community mental health center completing a self-assessment and developing plans for implementation in any area not meeting the standards. DMH will work with each community mental health center to address any standard requiring an implementation plan and to develop a mechanism to submit reporting at the end of each school year.

  - Work is nearing completion on the adoption of contract guidelines for Behavior Interventionist services between community mental health centers and local education agencies. A concern of the participants had been the variability around the state in contracts; this was matched by a desire to assure quality and comparability for Vermont's students.[149]

III. RECOMMENDATIONS

As required by statute, we have included recommendations and implementation options. It is important to recognize that our implementation options are intended as possibilities. We recognize that not all of these options could be accomplished, that some of these options may conflict, and that resources may be unavailable to accomplish them. We offer these implementation options as ideas for further discussion only.

RECOMMENDATION 4.1. Policymakers should ensure that Vermont continues to focus its mental health and substance abuse resources at the outpatient, residential recovery and community levels.

Implementation Option 4.1.1: As plans for replacement of the Vermont State Hospital facility and functions move forward, stakeholders could consider ways to leverage expenditures in the community health system to potentially decrease the need for more intensive services.

Implementation Option 4.1.2: DMH, DCF and other AHS Departments could continue working with representatives of DOE and local school systems, day care providers and primary care providers to establish the most efficient way to reach

[149] Data provided by Department of Mental Health. Evan Smith, Director of Quality Management, e-mail of June 11, 2009.

children who are at risk of mental health and substance abuse challenges, focusing on cost effective strategies which reduce future need and improve quality of life.

Implementation Option 4.1.3: DMH could continue to evaluate costs and outcomes of residential recovery and other programs and replicate successful strategies.

Implementation Option 4.1.4: AHS could continue to implement the recommendations included in the 2007 Follow-up Study on the Financial Sustainability of the Vermont Designated Agency Provider System for Mental Health, Developmental Disability and Substance Abuse Services, including streamlining data collection and billing requirements for community mental health services.

Implementation Option 4.1.5: DMH, VDH, DCF and other stakeholders could implement initiatives to promote family-based mental health and substance abuse care.

Implementation Option 4.1.6: DMH, the community mental health centers, mental health and substance abuse providers, and/or other interested stakeholders could continue to develop additional community based suicide prevention programs based on the National Strategy for Suicide Prevention and The Vermont Suicide Prevention Platform. (2005 HRAP at page 216.)

RECOMMENDATION 4.2. Policymakers should review and study barriers to effective emergency care in emergency rooms settings, for elders, and for children and adolescents, as well as barriers to all levels of care for people who are incarcerated.

Implementation Option 4.2.1: DMH could study whether there are systemic changes which could improve access to mental health and substance abuse care, such as encouraging hospitals and other facilities to work together to recruit providers in geographic areas or specialties with shortages, developing provider retention strategies, providing resources to allow primary care practices to address mental health issues more extensively within their scope of practice, and facilitating telemedicine consultations.

Implementation Option 4.2.2: DMH, OVHA and BISHCA, in consultation with FAHC and other providers, the UVM College of Medicine and payers, could study ways in which telemedicine could be used for treatment and consulting in order to leverage resources and facilitate access.

Implementation Option 4.2.3: DMH, VDH, BISHCA, VPQHC, VMS, and/or other interested stakeholders could survey psychiatrists and hospitals to identify the greatest barriers to emergency care coverage, in particular where no inpatient

psychiatric care is available, and make recommendations to eliminate those barriers.

Implementation Option 4.2.4: The Department of Corrections could continue to implement the recommendations of the "Department of Corrections Comprehensive Mental Health Services Plan" (January 15, 2005), in order to improve access to mental health and substance abuse services for people who are incarcerated.

Implementation Option 4.2.5: VDH, DMH, VAHHS and other stakeholders could study ways to strengthen basic competencies of physicians and other medical personnel delivering services in hospital emergency departments to assess and treat mental health and substance abuse conditions.

Implementation Option 4.2.6: VDH, DMH, BISHCA, OVHA and VAHHS could work together to develop triage, treatment, and referral standards for Vermonters seeking hospital emergency room services for mental health and substance abuse disorders.

RECOMMENDATION 4.3. Policymakers must continue to emphasize the vital importance of integrating mental health and substance abuse services with other health services.

Implementation Option 4.3.1: VMS, VAHHS, VDH and DMH could further explore barriers to integration and ways in which further integration could be facilitated. This should include integration of new inpatient beds, such as replacements to inpatient services currently provided at the Vermont State Hospital, with general hospital services.

Implementation Option 4.3.2: Stakeholders could evaluate the costs and outcomes of integration strategies implemented by the community care team pilots funded by payers and the Blueprint. If the pilots prove successful, the integration strategies could be replicated.

Implementation Option 4.3.3: The Blueprint could continue to ensure as patient registries are created that such registries are available and expandable to mental health and substance abuse providers.

Implementation Option 4.3.4: DMH, mental health and substance abuse providers, and patient advocates could collaborate to develop and implement tools to assist individuals and families in informed decision making that explain choices about programs and providers, so that individuals and families may fully participate in planning and evaluating treatment and support services in light of their own preferences. (2005 State Health Plan at page 91.)

Implementation Option 4.3.5: VDH, VMS, VAHHS, ADAP, OVHA, DMH and/or other interested stakeholders could continue to identify ways in which primary care practitioners can have ready access to evidence based education and resources about how to address mental health and substance abuse issues. Such education should include a comprehensive description of resources available, as well as screening, prevention, brief intervention and other patient support tools.

Implementation Option 4.3.6: DMH, in consultation with other stakeholders, could continue to work to implement key recommendations of the Vermont State Hospitals Futures Plan, namely providing psychiatric inpatient services in settings integrated with general medical centers.

RECOMMENDATION 4.4. Policymakers should determine ways to improve care delivery models, funding models and administration at community mental health centers and other care settings.

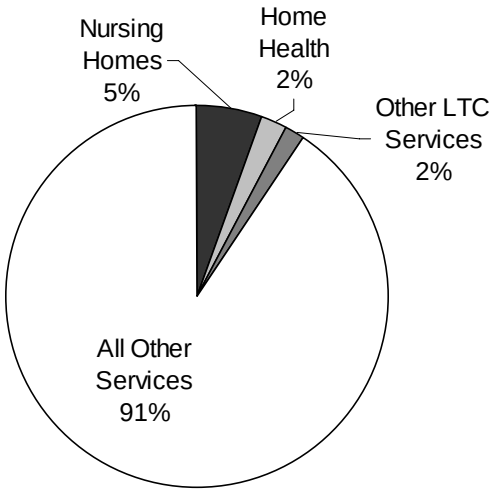
Implementation Option 4.4.1: DMH, VDH, providers, patient advocates and other interested stakeholders could continue to explore ways to collaboratively institute more evidence based care practices, as discussed in the 2009 Draft Report on Clinical Services Service Design. (See also the 2005 State Health Plan at page 98.)

Implementation Option 4.4.2: BISHCA could evaluate barriers to private insurer coverage of outpatient consultations between psychiatrists and primary care physicians (without a face to face meeting), telemedicine, and inpatient psychiatrist nurse practitioner consultations for medical/surgical patients; other payment reform mechanisms and regulatory tools that could facilitate increased reliance on outpatient, residential recovery, and community levels of care; and other innovative efforts intended to increase access to mental health and substance abuse treatment; and the impacts of such barriers on overall costs to the health care system.

CHAPTER FIVE

Long-term Care Services

Distribution of $391 Million in 2007 Vermont Long-Term Care Expenditures[1]



INTRODUCTION

The Vermont Department of Disabilities, Aging and Independent Living (DAIL) is the state agency primarily responsible for regulation and administration of long-term care services for older persons and persons of all ages with disabilities.[2] DAIL's mission is to make Vermont the best state in which to grow old or to live with a disability – with dignity, respect and independence. DAIL produces an annual report that details current programs, strategic initiatives and provides a detailed inventory of the services available for the populations it serves. This report can be viewed at www.dail.vermont.gov and copies can be obtained by calling (802) 241-2401. The inventory below provides an overview of types of services offered in Vermont to older persons and adults with

[1] Expenditure data is from the *2007 Vermont Health Care Expenditure Analysis & Three-Year Forecast.* Long-term care (LTC) expenditures are for health care provided by Vermont LTC providers to both in-state and out-of-state residents. Other LTC services include home and community-based care, personal care, assistive community care, and residential care services.

[2] Note that the majority of state funding for home care comes through the Office of Vermont Health Access, the Department of Children and Families, and the Vermont Department of Health. For a more detailed discussion of the broad continuum of services that make up the long-term care health system, please see the 2005 HRAP at pages 186-189.

physical disabilities. However, it should be noted that nearly 80% of all long-term care services are provided by unpaid caregivers, typically family members, neighbors and friends.[3]

Annually, DAIL produces a publication titled *Shaping the Future of Long-term care and Independent Living*. This report provides great detail about Vermont's long-term care system for older persons and adults with physical disabilities, identifying both the need for and use of long-term care services. *Shaping the Future of Long-term Care and Independent Living* contains in depth information and analysis about Vermont demographics now and in the future. In addition to providing a summary of how the long-term care system continues to evolve, *Shaping the Future of Long-term care and Independent Living* provides a vision for Vermont's long-term care system, resource allocation and areas for further enhancement. *Shaping the Future of Long-term care and Independent Living 2007-2017* can be viewed on the DAIL website or by contacting DAIL at the phone number noted above.

The HRAP seeks to summarize key elements of DAIL's publications and identify those areas that are of the highest priority within the parameters of those health care resources identified in the HRAP legislative mandate.[4] Readers are encouraged to review DAIL's reports for more in-depth discussion and analysis relating to Vermont's long-term care system.

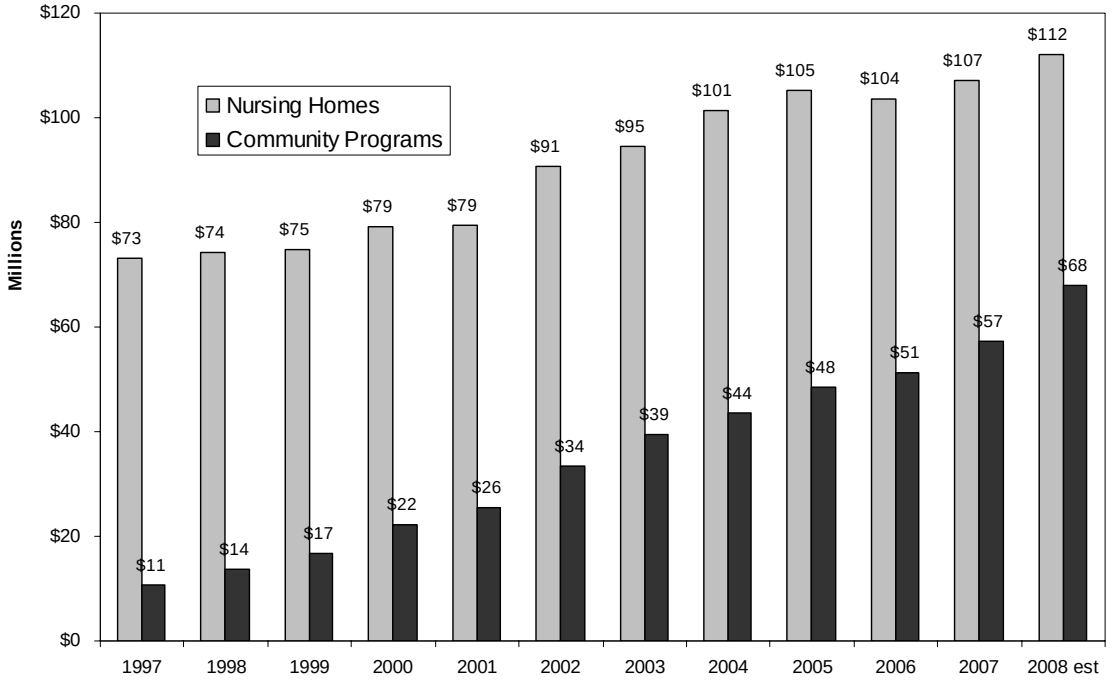
Long-term care services in Vermont are paid for with Medicaid, private health insurance, long-term care insurance, private funds and state general fund monies. In 2007 (the year for which most recent system wide data is available), $91,320,000 was spent on home care services (2.2% of total health care expenditures) and $224,568,000 was spent on nursing home care (5.4% of the total).[5] Much of this care is publicly funded. In 2007, private insurance paid for 3.6% of the home health care received by Vermonters and 2.3% of the nursing home care received by Vermont residents.[6]

In FY 2008, Vermont spent a total of $195,144,931 on long-term care services for older persons and adults with physical disabilities. Fifty-eight (58%) of these public expenditures were spent for care in nursing homes, while 42% paid for home and community based services. Table 5.1 below illustrates the Medicaid expenditures for nursing home care relative to community-based programs. In fiscal year 2009, DAIL estimates that a similar proportion of public expenditures for long-term care services will go to nursing homes and community based services.[7]

---

[3] Visiting Nurses Association of Chittenden and Grand Isle Counties, Public Oversight Commission hearing, written testimony of J. Churchill Hindes (April 1, 2009).
[4] 18 V.S.A. § 9405.
[5] Vermont Department of Banking, Insurance, Securities and Health Care Administration, "2007 Vermont Health Care Expenditure Analysis & Three Year Forecast," (February 2009), at page 38.
[6] "2007 Vermont Health Care Expenditure Analysis & Three Year Forecast," (February 2009), at page 38.
[7] Vermont Department of Disabilities, Aging and Independent Living data, December 2008.

Table 5.1: Comparison of Public Expenditures for Nursing Homes and Home & Community-Based Programs (in millions), FY 1996 - FY 2008 (estimate)[8]



Federal law requires that states obtain a "waiver" to use federal Medicaid dollars to provide long-term care services in settings other than nursing homes. Vermont has been a leader in shifting long-term care services from institutional care to home and community based care. In 2005, Vermont implemented the Choices for Care program, a "Medicaid 1115 demonstration" waiver. Choices for Care offers an entitlement to Vermonters seeking either nursing home care or home and community based services by combining the appropriations for all long-term care services into one unified budget.[9] With more individuals electing to obtain care at home, which on average is less costly than nursing home care, Vermont has been able to serve more individuals.

According to 2007 U.S. Census Data (the most current available), the Vermont population was ranked 12th oldest in the nation with 13.6% of Vermont's population 65 years or older.[10] By 2010, 14.3% of Vermont's population is projected to be aged 65 or older, ranking 11th in the nation. In 2030, one in four Vermonters is projected to be age

[8] Vermont Department of Disabilities, Aging and Independent Living data, December 2008.
[9] Choices for Care also provides care through Adult Day Care programs.
[10] U.S. Department of Health and Human Services, "A Profile of Older Americans: 2008," (2008), at http://www.aoa.gov/AoARoot/Aging_Statistics/Profile/2008/docs/2008profile.doc (accessed June 25, 2009).

65 or older making Vermont the 8th oldest state in the country.[11] These demographic trends must be considered in Vermont's health resource planning.

CON STANDARD 5.1: Applicants seeking a certificate of need relating to long-term care services shall demonstrate how they support the Vermont State Health Plan goal of ensuring that Vermonters who need long-term care services will receive the services that reflect their personal values and preferences in the least restrictive environment possible.

I. INVENTORY

A. Nursing Homes

Nursing facilities provide 24-hour nursing and personal care, supervision, and rehabilitative care. Federal Medicare only pays for short term nursing facility stays. Most nursing facility care is paid for by Medicaid or directly by individuals (also called "private pay"). Medicaid funding is limited to those individuals who qualify based on their clinical status and income and asset criteria. Long-term care insurance can be purchased to help fund the cost of a nursing home.[12]

BISHCA has been working with the Legislature to pass a law allowing for the implementation of a long-term care partnership program. The partnership program, authorized by federal law, would allow individuals to access Medicaid funds for nursing home (and other long-term care) services after exhausting private insurance benefits; eligibility continues to be limited by income and assets, but after exhaustion of private insurance benefits, certain assets are disregarded in determining Medicaid eligibility. In 2007-2008, the average cost to the nursing home resident that pays privately for a semi-private room in Vermont was approximately $80,000. As of July 2008, Medicaid paid, an average, $66,000 per resident.[13]

Vermont's original goal was to serve a minimum of 40 Medicaid home and community based clients for every 60 Medicaid-funded nursing home residents in each county ("60/40"). DAIL has been so successful in these efforts that it has adjusted these goals to serve 50% of Medicaid long-term care clients in home and community based settings ("50/50"). Already, six of the twelve counties (Addison, Caledonia, Chittenden, Franklin, Lamoille, and Orange) have achieved this target.[14]

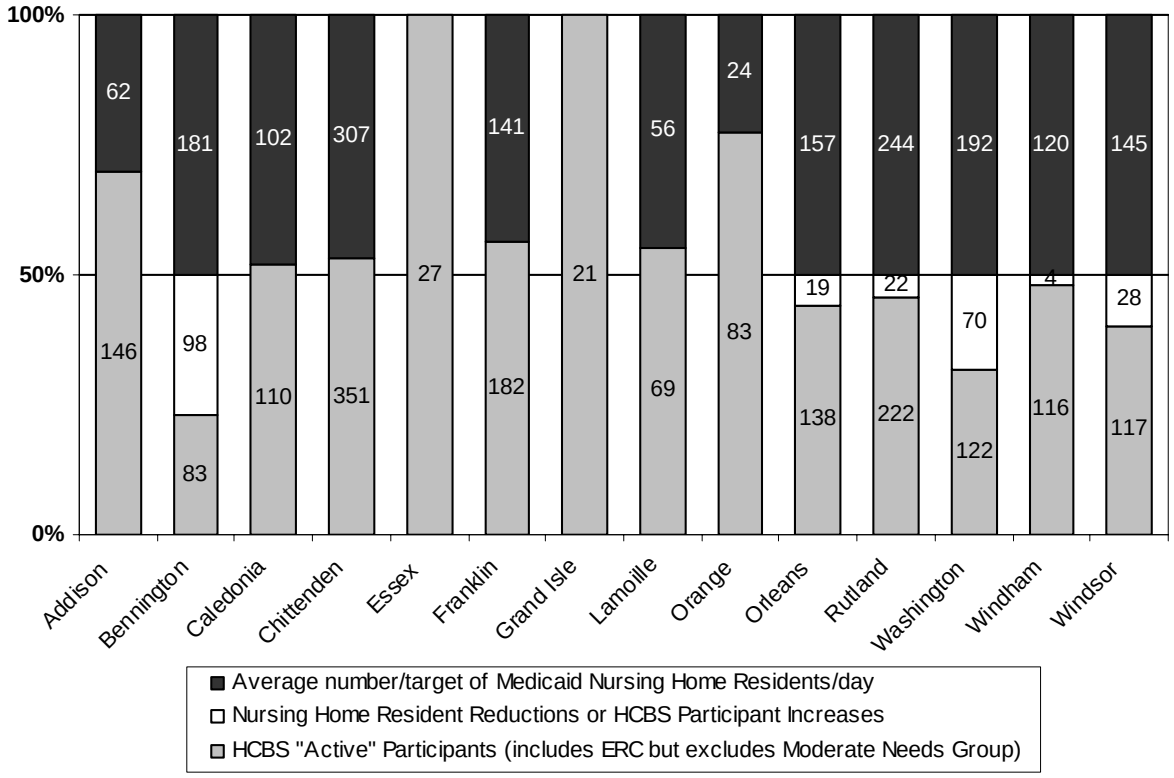
---

[11] Vermont Department of Disabilities, Aging and Independent Living, "Legislative Study of the Direct Care Workforce in Vermont," (March 2008), at page 12, *citing* U.S. Census Bureau, Population Projections, 2005.
[12] Vermont Department of Banking, Insurance, Securities and Health Care Administration, "Shopping for Long-Term Care Insurance In Vermont," (April 2005), at page 2.
[13] Division of Rate Setting, Vermont Agency of Human Services, July 2008 Rate Model, (simple average).
[14] Vermont Department of Disabilities, Aging and Independent Living data, October 2008. Note two counties (Essex and Grand Isle) are not included in this calculation because they have no nursing homes.

Table 5.2 below illustrates the shifting of resources from nursing facility care to home and based services.

Table 5.2: Vermont Choices for Care: Nursing Home Residents and Home & Community-Based Participants by County - January 2009[15]

Changes (White) Needed to Achieve At Least 50% HCBS



In December 2008, Vermont had a total of 42 nursing homes, with 3,340 beds.[16] Two of these facilities (Arbors and Mertens) accept private pay residents only and one (Wake Robin) accepts private pay and Medicare residents. In FY 2008, Vermont nursing home facilities served an average of 3,029 residents.[17] Although nursing homes contribute significantly to the state's long-term care system, only 3.3% of Vermonters age 65 or older reside in nursing homes.[18] Individuals 85 years and older have shown a precipitous drop in their use of nursing homes over the last fourteen years. DAIL

[15] Vermont Department of Disabilities, Aging and Independent Living web site, at http://dail.vermont.gov/dail-publications/publications-monthly-reports/cfc_50-50 (accessed June 12, 2009).
[16] Vermont Department of Disabilities, Aging and Independent Living data, December 2008.
[17] Vermont Department of Disabilities, Aging and Independent Living, draft "Shaping the Future of Long-term care and Independent Living 2008-2018," (not yet published).
[18] Vermont Department of Disabilities, Aging and Independent Living, "Shaping the Future of Long-term care and Independent Living 2007-2017," (June 2008) at page 14

concludes this is most likely the result of increased use of home and community based services, declining disability and poverty rates, and greater housing options.[19] Extensive information about nursing home utilization at the state and county level can be found in *Shaping the Future of Long-term care and Independent Living 2007-2017*.[20]

Table 5.3 lists all Vermont nursing homes by county and licensed beds.

[19] "Shaping the Future of Long-term care and Independent Living 2007-2017," (June 2008) at page ii.
[20] "Shaping the Future of Long-term care and Independent Living 2007-2017," (June 2008) at pages 14-19.

Table 5.3 - Vermont Nursing Home Beds and Occupancy Rates by County – December 2008[1]

	# Licensed Beds		% Occupancy			# Licensed Beds
County	**2004**	**2008**	**2004**	**2008**	**Nursing Home**	**2008**
Addison	105	105	96%	100%	Helen Porter	105
Bennington	545	538	93%	91%	Bennington	100
					Crescent Manor	90
					Prospect	21
					Veterans Home	177
					Centers For Living & Rehab	150
Caledonia	170	170	97%	83%	Pine Knoll	60
					St. Johnsbury	110
Chittenden	593	569	89%*	95%*	Birchwood Terrace	160
					Burlington	126
					Green Mountain	73
					Starr Farm	150
					Wake Robin	48
					Arbors	12
Franklin	214	214	96%	89%	Franklin County Rehab	64
					Redstone Villa	30
					St. Albans H&R	120
Lamoille	130	72	98%	96%	The Manor	72
Orange	20	30	100%	100%	Gifford	30
Orleans	272	262	93%	92%	Bel-Aire	44
					Derby Green	23
					Greensboro	30
					Maple Lane	71
					Newport	50
					Union House	44
Rutland	418	418	96%	91%	Eden Park-Rutland	125
					Mountain View	166
					Rutland H&R	127
Washington	459	440	88%	92%	Berlin	141
					Mayo	50
					Rowan Court	96
					Woodridge	153
Windham	213	213	97%	99%	Eden Park-Brattleboro	80
					McGirr	30
					Thompson House	43
					Vernon Green	60
Windsor	336	309	94%**	84%**	Brookside-WRJ	67
					Cedar Hill	39
					Gill Odd Fellows	56
					Mt. Ascutney	31
					Springfield	102
					Mertens	14
Totals	**3,475**	**3,340**	**93%*** **	**92%*** **	**42 Nursing Homes**	**3,340**

* The occupancy rates in Chittenden County do not include Wake Robin or Arbors nursing homes.
** The occupancy rates in Windsor County do not include Mertens House.
*** The total occupancy rates do not include Wake Robin, Arbors, or Mertens.

Although Vermont's population is aging, over the past ten years Vermont has seen a continuous decrease in the total number of nursing home days utilized. Despite this trend, Medicaid expenditures have increased by $39 million since FY 1999.[21] DAIL identifies increases in the daily payment rate as a significant contributing factor in this increase in expenditures.

In keeping with Vermont's continual focus toward home and community based care, DAIL has identified counties that are over-bedded by projecting Vermont's nursing home bed capacity over the period 2007 to 2017. If Vermont were to have the same number of licensed nursing home beds per disabled population in 2017 as it had in 2007, Bennington, Orleans and Washington Counties would need to reduce their nursing home bed capacity by 144, 24 and 29 beds respectively.[22]

◆ **CON STANDARD 5.2:** Nursing homes or similar entities seeking to replace or increase beds shall show the beds are needed. Such showing of need shall be confirmed by the Department of Disabilities, Aging and Independent Living.

◆ **CON STANDARD 5.3:** Nursing homes or similar entities seeking a certificate of need shall provide a written recommendation from the Department of Disabilities, Aging and Independent Living supporting the new health care project proposal.

◆ **CON STANDARD 5.4:** Nursing homes or similar entities seeking a certificate of need shall demonstrate the applicant is sufficiently capitalized and insured to protect residents against substandard care and to provide for sufficient protection in the event of legal liability of the facility or the facility's operators.

B. Residential And Community Based Services

As noted above, DAIL provides a detailed inventory of available services for elders and adults with physical disabilities. Readers should consult those materials for more information.

[21] "Shaping the Future of Long-term care and Independent Living 2007-2017," (June 2008) at page 16. Vermont spent $74.7 million in Medicaid dollars on nursing homes in FY 1999 and $113.5 million in FY 2008. DAIL estimates FY 2009 expenditures to be approximately $118.4 million.

[22] Vermont Department of Disabilities, Aging and Independent Living data, December 2008. Includes Veterans Home (177 beds), Wake Robin (48 beds) and Non-Medicaid/ Non-Medicare facilities Arbors (12 beds), Mertens (14 beds). Disabled population: Lewin Estimates 2007, defined as "needing assistance with 2 or more activities of daily living. Data not adjusted for beds used by out-of-state residents.

1. Home Health Agencies

Twelve Medicare Certified Home Health Agencies provide care to individuals in their homes. Medicaid, Medicare, private health insurance, long-term care insurance, the State general fund, and private funds are used to pay for these services.

Home health agencies are home care businesses designated to provide part-time or intermittent skilled nursing services and at least one of the following therapeutic services in a patient's home: occupational, speech and physical therapies, medical social services, or home health aide services. A home health agency may also provide or arrange for other non-nursing therapeutic services, including the services of nutritionists, dieticians, psychologists, and licensed mental health counselors. Most home care services are acute care services, providing care to a patient just out of the hospital.[23] Home care also includes prevention and wellness services, chronic care services, palliative care, hospice,[24] service to children with high technology needs, and other services twenty four hours a day.[25]

In July 2007, DAIL implemented a designation process that establishes minimum program standards for home health agencies. These agencies are obligated to provide or arrange for medically necessary home health and hospice services. Currently the state does not systematically collect data regarding perceived shortages or excess capacity of home health services throughout the state.

◆ **CON STANDARD 5.5:** Home health agencies shall provide services to all Vermont residents requiring medically necessary care.

◆ **CON STANDARD 5.6:** Home health agencies shall have the financial depth and technical skill to serve all patients in their designated area requiring medically necessary services regardless of payment source or ability to pay.

◆ **CON STANDARD 5.7:** Applicants shall provide a written recommendation from the Department of Disabilities, Aging, and Independent Living regarding proposed plans to develop, expand or reduce home health agency services. Recommendations from DAIL will be presumed to be the best available evidence.

---

[23] 15% of hospital discharges from critical access hospitals and secondary hospitals are to home health and 30% of discharges from tertiary hospitals are to home health. Vermont Program for Quality in Health Care, "The Vermont Health Care Quality Report 2008," (2008), at http://www.vpqhc.org/2008QR/index.htm (accessed June 15, 2009).

[24] Please note that home care hospice services and end of life issues are discussed in Chapter 3.

[25] Vermont Assembly of Home Health Agencies, Inc., Public Oversight Commission hearing, written testimony of Peter Cobb (April 1, 2009); Visiting Nurses Association of Chittenden and Grand Isle Counties, Public Oversight Commission hearing, written testimony of J. Churchill Hindes (April 1, 2009).

◆ **CON STANDARD 5.8:** Applicants seeking to develop or provide home health care services shall provide BISHCA with data documenting the need for additional capacity to meet the need for home health services and that the addition of such capacity is necessary and reasonable.

◆ **CON STANDARD 5.9:** Applicants seeking to develop or provide home health care services shall demonstrate the financial impact of the proposed project on the home health care system are reasonable and consistent with the State's goal of providing universal access to home health care services.

◆ **CON STANDARD 5.10:** For applicants seeking to add home health care services, the impact of proposed new services on continued access to the existing continuum of services within each service area shall be addressed in the application. Adverse impact on the continued accessibility of the full continuum of services shall be avoided.

◆ **CON STANDARD 5.11:** Any applicant seeking to expand services for terminally ill patients shall explain what efforts the applicant has taken or will undertake which support high quality, patient centered palliative and end of life care, including training and collaboration with other health care and hospice providers to facilitate high quality, patient centered end of life care.

2. Other Residential Based Services

As noted, through the Choices for Care program, Vermonters receive state and federally funded services for a variety of supports and through a variety of settings and programs. Support includes hands-on assistance with eating, bathing, toileting, dressing and transferring; assistance with meal preparation, household chores, and medication management. Settings include home based supports and enhanced residential care. The Flexible Choices option allows individuals to convert their Choices for Care plans into a monetary allocation for the direct purchase of care, allowing individuals maximum flexibility in making choices.

DAIL has also created the Program for All Inclusive Care for the Elderly (PACE), an innovative health care delivery system that provides all acute, primary, and long-term care services in one integrated program, delivered through PACE-VT. Other services and settings available to older Vermonters and adults with physical disabilities include the attendant services program, adult day services, residential care, and assisted living residences.

II. DISCUSSION

DAIL's identified core principles are:

- Person-centered: *the individual will be at the core of all plans and services*;
- Respect: *individuals, families, and staff are treated with respect*;
- Independence: *the individuals personal and economic independence will be promoted*;
- Choice: *individuals will direct their own lives*;
- Living well: *the individual's services and supports will promote health and well being*;
- Contributing to the community: *individuals are able to work, volunteer, and participate in local communities*;
- Flexibility: *individual needs will guide our actions*;
- Effective and efficient: *individual needs will be met in a timely and cost effective way*; and
- Collaboration: *individuals will benefit from DAIL's partnership with families, communities, providers, and other federal, state, and local organizations*.

Resources for nursing home facilities, home and community based care, and other care services should be developed and delivered consistent with these core principles.

A. Nursing Homes

1. Significant Inventory Trends

Since 2004 the number of nursing homes changed from 43 to 42 with the closing of the Morrisville Center Nursing Home on January 30, 2007. However, the total number of beds has decreased from 3475 in December 2004 to 3340 in December 2008.

2. Nursing Home Ownership Models

Nationally, the nursing home industry has seen much consolidation and an injection of private equity. This trend has been seen in Vermont as national corporations have purchased nursing homes and created more complex corporate and ownership structures for operation. For example, it has become more common for entities to divide the ownership of nursing home real estate from the entity which operates the home. The complexity of some of these arrangements has posed policy concerns.[26] Although it is unclear whether these ownership structures impact nursing home quality, it is clear that

[26] C. Duhigg, "At Many Homes, More Profit and Less Nursing," *New York Times*, September 23, 2007.

both at the federal level and at the state level, current licensing and regulatory frameworks may not be designed to sufficiently address issues of accountability and compliance.[27] In 2009, the Legislature passed enhanced statutory authority relating to long-term care facility insolvency.[28]

CON STANDARD 5.12: Applicants seeking to restructure nursing home ownership that triggers the need for a new license from DAIL shall demonstrate the ability to meet all reasonably anticipated financial and quality obligations imposed by the operation of the nursing home.

3. Nursing Home Workforce Challenges

Workforce challenges, as in other areas of health care, have continued to provide additional obstacles for nursing homes. Data compiled from the University of Vermont Office of Nursing Workforce Research, Planning and Development at the University of Vermont indicates a mixed picture for nursing homes since 2007. Vacancy rates have generally increased, although with the exception of nurse managers, rates have not increased significantly. However, turnover rates appear to have increased dramatically. Staff turnover increases the possibility for decreased continuity of care. The reasons behind this turnover increase should be understood and addressed.

Table 5.4: Nursing Home Workforce Demand Comparison By Provider Type 2007 - 2009[29]

	Vacancy Rate		Turnover Rate	
Type of Provider	**2007**	**2009**	**2007**	**2009**
Registered Nurses	9%	8%	28%	57%
Physician Coordinators	5%	7%	10%	25%
Licensed Nursing Assistants	4%	6%	40%	44%
Nurse Managers	2%	14%	8%	16%
Licensed Practical Nurses	3%	7%	16%	34%
Quality Assurance	0%	0%	0%	0%

[27] D.G. Stevenson and D.C. Grabowski, "Private Equity Investment and Nursing Home Care: Is it a Big Deal?" *Health Affairs* 27, no. 5 (2008): 1399-1408.
[28] An Act Relating to Receivership of Long-Term Care Facilities, Act. No. 36 (2009).
[29] Data supplied by the Office of Nursing Workforce Research, Planning and Development at the University of Vermont. Mary Val Palumbo, e-mail of May 28, 2009. Data to be published at www.choosenursingvt.org in July 2009.

B. Home and Community Based Services

1. Significant Inventory Trends

Overall, the number of home health agencies has remained the same, with 12 Medicare certified home health agencies. There are eleven not-for-profit and one for-profit home health agencies in Vermont. The eleven not-for-profit home health agencies provide services to Vermonters in specific geographic areas that roughly follow county lines. The one for-profit home health agency is required to offer services statewide.[30]

2. Workforce shortages

Several converging demographic trends continue to focus concern on the adequate supply of providers for home care services. These trends include: the aging of the baby-boomers and the void left by their impending retirement from the work force as well as their increased future health care needs; growth in the number of children with cognitive disabilities; and growth in the number of people with physical disabilities who seek to live independently.[31]

In 2007, home health agencies employed 9% of nurses,[32] 16.8% of LNAs,[33] and 3% of the LPNs.[34] However, in addition to these licensed providers, there are approximately 10,350 unlicensed direct care workers providing care in the home health care system.[35] In 2007, Vermont's publicly funded eldercare/disability programs relied on an estimated 4,000 independent providers to deliver support and services to over 3,500 consumers who directly hired their own workers, sometimes their own family members.[36] These individuals are critical to the delivery of home care services.

The rubric of "direct care workers" refers to persons who work as personal and home care aides, home health aides, nursing orderlies, and personal attendants who provide significant daily services and supports to older persons, people living with

[30] As this HRAP goes to press, BISHCA is considering a certificate of need application to purchase the one for-profit home health care agency in Vermont. Application for Certificate of Need for the Acquisition of Professional Nurses Services, Inc., by Bayada Nurses, Inc., Docket No. 08-029-H.
[31] Vermont Department of Disabilities, Aging and Independent Living, "Legislative Study of the Direct Care Workforce in Vermont," (March 2008), at page i.
[32] Office of Nursing Workforce Research, Planning and Development at the University of Vermont, "Registered Nurses in Vermont," (March 2007), at page 2. In contrast, nursing homes employed 58.1% of LNAs.
[33] Office of Nursing Workforce Research, Planning and Development at the University of Vermont, "Vermont Licensed Nursing Assistant 2007 Board of Nursing Relicensure Survey," (2007), at page 4.
[34] Office of Nursing Workforce Research, Planning and Development at the University of Vermont, "Licensed Practical Nurses," (March 2008), at page 1.
[35] Paraprofessional Healthcare Institute, "Vermont's Direct-Care Workforce," *State Facts* (March 2009), at pages 1 – 2
[36] "Vermont's Direct-Care Workforce," (March 2009), at pages 1 – 2.

physical, intellectual, and developmental disabilities, and people with chronic care needs. Direct care workers assist with bathing, dressing, and eating, as well as other daily activities, and are employed in a range of eldercare and disability service programs and settings, including the consumer's home or workplace, nursing homes, and community-based residential settings ranging from group homes to assisted living facilities.[37]

The Office of Nursing Workforce Research, Planning and Development at the University of Vermont conducted a workforce demand comparison of the home health sector in Vermont from 2007 to 2009. The data show generally improved stability in the home health workforce.[38] That said, as with nursing homes, turnover rates appear to have generally increased. High turnover rates threaten continuity of care and quality of service. These rates should be understand and addressed. Shown below are the actual workforce demand comparisons from 2007 to 2009 for the following licensed providers.

Table 5.5: Home Health Agency Workforce Demand Comparison By Provider Type 2007 to 2009[39]

	Vacancy Rate		Turnover Rate	
Type of Provider	**2007**	**2009**	**2007**	**2009**
Clinical Managers	12%	1%	11%	22%
Clinical Nurse Specialists	10%	0%	20%	22%
Registered Nurses	8%	3%	23%	20%
Licensed Nursing Assistants	6%	2%	22%	22%
Licensed Practical Nurses	0%	0%	8%	52%

The number of persons requiring direct care services and support is growing faster than the growth in the number of direct care workers.[40] In addition, the direct care workforce is also aging. Approximately 64% of direct care workers surveyed as part of the Legislative Study of the Direct Care Workforce in Vermont were over age 40.[41]

The Legislative Study of the Direct Care Workforce in Vermont, published in March 2008, recommended the following need be addressed to increase the direct care workforce:

[37] "Vermont's Direct-Care Workforce," (March 2009), at page. 1.
[38] Data provided by Office of Nursing Workforce Research, Planning and Development at the University of Vermont, based on the results from the Home Health Nursing Study 2009 and Long-term care Nursing Study 2009, assessment survey to be released July 2009.
[39] Data supplied by the Office of Nursing Workforce Research, Planning and Development at the University of Vermont. Mary Val Palumbo, e-mail of May 28, 2009. Data to be published at www.choosenursingvt.org July 2009.
[40] Office of Nursing Workforce Research, Planning and Development at the University of Vermont. Mary Val Palumbo, e-mail of May 28, 2009.
[41] Department of Disabilities, Aging and Independent Living, "Legislative Study of the Direct Care Workforce in Vermont," (March 2008), at page 35.

- Increasing direct care worker wages;
- Increasing access to health insurance through group insurance plans;
- Creating accessible and affordable orientation, training and professional Development for direct care workers and their employers;
- Recruiting direct care workers from new sources;
- Continuing support for the development and full implementation of Direct Care Worker Registry;[42]
- Promoting recruitment and retention through the use of evidence based tools and promising approaches;
- Creating standardized and portable career ladders for direct care workers; and
- Establishing a workgroup responsible for developing protocols and methods for collecting needed direct care workforce data.[43]

3. Increased Financial Pressure On Home Care System

The Vermont Assembly of Home Health Agencies (VAHHA), the umbrella entity for the eleven not-for-profit home health agencies in Vermont, reported $6.9 million in losses in 2007 to its members.[44] VAHHA members assert that these losses are covered by private funds or contributions. The state budget passed in June of 2009 includes a 2% cut in Medicaid reimbursements for providers in fiscal year 2010. Medicare reimbursement reductions have also been suggested.

Medicare and Medicaid are the primary payers for home health services. In 2007, Medicare represented 53.7% and Medicaid 27.8% of total revenues for the VAHHA home health agencies, constituting 81.5% of total revenues. For Professional Nurses Services, Inc., an independent home health agency and the only other home health agency in Vermont, Medicare represented 8% and Medicaid 73% of revenue.[45] Because of their heavy reliance on government programs for payment, home health agencies are not as able, like hospitals, to make up lost revenues from government reimbursement reductions by charging higher rates to private pay clients. As such, these entities have expressed concern about long-term financial viability in the current environment. Kaye, et al. show that states that expand home and community based services may spend more money on Medicaid long-term care services initially, but ultimately see a reduction in

[42] A direct care worker registry would provide consumers with a list of direct care workers that have already been screened. Currently, Vermont law prevents background screening prior to an offer of employment. Consumers have indicated a desire to have a pre-screened list from which to hire.
[43] Vermont Department of Disabilities, Aging and Independent Living, "Legislative Study of the Direct Care Workforce in Vermont," (March 2008), at pages iv-xii.
[44] Letter submitted to BISHCA by Wilson & White, submitted statement of Peter Cobb, Docket No. 08-029-H (April 15, 2009).
[45] Bayada Nurses Inc., Certificate of Need Application, Docket No. 08-029-H (June 2, 2008), at Financial Table 6, "Revenue Source Projections."

spending and long term savings.[46] If Vermont intends to continue to support its strong commitment to home health care services as an alternative to institutional care, we must be cautious about putting additional financial strain on this system.

4. Long-term Care Service Mix

There is anecdotal evidence that at various times and in some regions of the state, hospital discharge planners experience difficulty making placements for patients who have complex medical needs and require subacute care.[47] In 2007, DAIL convened a variety of stakeholders as part of a Long-Term Care Special Populations Workgroup (LTCSPW) that included several state agencies, nursing homes, the Vermont State Hospital, hospitals, councils on aging, home health agencies, community mental health agencies, and the Long-term Care Ombudsman. The purpose of the workgroup was to discuss and propose strategies/solutions for various special populations that could be served in alternative settings.

As part of this work, Rutland Regional Medical Center, in partnership with a Rutland nursing home, established a "vent unit." The vent unit allows care for individuals to occur in a specialized care unit in a nursing home, rather than having all patients at the hospital. Care provided in the specialized nursing home unit is cost effective and provides the resident with better access to needed long-term care services. The success of this unit has led to exploring replication of this alternative in Chittenden County.

LTCSPW work has also led to an innovative program for patients with Huntington's Chorea.[48] Approximately ten to twelve Vermonters with Huntington's Chorea were receiving care out-of-state. In April 2009, Crescent Manor nursing facility in Bennington established a Huntington's Chorea unit. To date, two Vermonters receiving care out-of-state have moved to Crescent Manor, with the expectation that more patients will relocate to this unit in the upcoming months. This alternative setting allows the nursing home to specialize its services at a lower rate than the cost of out-of-state nursing homes and provides family members closer access to loved ones.

Consistent with these efforts, DAIL and the Department of Mental Health are working with other stakeholders in the state, including community mental health centers and nursing homes, to create several specialized nursing home units for individuals who are eligible for Medicaid Choices for Care and have severe and persistent mental illness.

---

[46] H.S. Kaye, et al., "Do Noninstitutional Long-Term Care Services Reduce Medicaid Spending," *Health Affairs* 28, no. 1 (2009): 262-267. Note, however, that this data analysis places Vermont in the "expanding" category (thus showing increased overall spending), as opposed to the "established" category (where investments have resulted in savings).

[47] Vermont Hospital and Health Care Systems Association, Public Oversight Commission hearing, testimony of Bea Grause (April 1, 2009), Tr. 104:11 – 105:2.

[48] Huntington's Chorrea is a central nervous system movement disorder which is extremely disabling for its sufferers.

Likewise, state and local provider networks are exploring options for specialization that focuses on severe bariatric patients.

These types of innovative programs should be encouraged and supported. Consistent with the Triple Aim, they have the potential to improve patient satisfaction, improve care quality, and increase the cost effectiveness of this care. Continuing to work on identifying specific sub-populations that are unable to access the appropriate level of care will help Vermont maximize the use of its limited resources.

III. RECOMMENDATIONS

As required by statute, we have included recommendations and implementation options. It is important to recognize that our implementation options are intended as possibilities. We recognize that not all of these options could be accomplished, that some of these options may conflict, and that resources may be unavailable to accomplish them. We offer these implementation options as ideas for further discussion only.

RECOMMENDATION 5.1. Policymakers should continue to grow and enhance home and community based options for long-term care to keep pace with changing demographics.

Implementation Option 5.1.1: DMH, OVHA, DAIL and other interested stakeholders could identify payment reform mechanisms and other regulatory tools which could facilitate the increased reliance on community based care.

Implementation Option 5.1.2: The Legislature could examine ways in which greater respite care support could expand capacity of the health care system with relatively little expense. (2005 State Health Plan at page 84.)

Implementation Option 5.1.3: BISHCA, DMH, VDH, DAIL and/or the Blueprint could examine ways to enhance and improve home and community based health promotion and disease prevention programs for older Vermonters and people with disabilities.

RECOMMENDATION 5.2. Policymakers should examine whether current regulatory structures, both through BISHCA's certificate of need program and DAIL's compliance programs, are sufficient to address issues associated with nursing home complex corporate ownership structures.

Implementation Option 5.2.1: BISHCA, in collaboration with DAIL, could develop a proposal to improve the regulatory framework for enhanced authority over complex corporate ownership of nursing homes.

RECOMMENDATION 5.3. Policymakers should examine creative ways to enhance the availability of a high quality direct care workforce through wage, education and benefit improvements and better recruitment and retention strategies.

Implementation Option 5.3.1: DAIL, DMH and other interested stakeholders could examine the greatest needs of the direct care workforce and identify specific barriers to career satisfaction that don't involve increased resources.

Implementation Option 5.3.2: Home health agencies, DAIL and/or other interested stakeholders could identify ways in which workforce retention could be enhanced, focusing on strategies other than additional compensation, such as enhancing career satisfaction and quality of life.

RECOMMENDATION 5.4. Policymakers should implement strategies to strengthen Vermont's nursing facilities through advancement of culture change models that are more home-like, the development of special care units, and the promotion of quality of care while providing incentives for home based care.

Implementation Option 5.4.1: DAIL could continue to examine ways in which its payment structure could be modified in order to encourage nursing homes, and other providers, to provide higher quality care that builds on Vermont's policy goals.

Implementation Option 5.4.2: DAIL, OVHA, health care service providers, community groups, long-term care insurance carriers, other stakeholders and/or a combination of these entities could develop and encourage the use of standardized informed decision making tools to assist people to make long-term care decisions which support their needs, values and preferences. (2005 Vermont State Health Plan at page 81.)

State of Vermont
Department of Banking, Insurance,
Securities & Health Care Administration
89 Main Street, Drawer 20
Montpelier, Vermont 05620-3101