



THE VERMONT  
HEALTH CARE

# Quality Report

2003

VERMONT PROGRAM FOR QUALITY IN HEALTH CARE, INC.

VPQHC



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132 Main Street  
P.O. Box 1356  
Montpelier, VT 05601-1356

Phone: (802) 229-2152  
Fax: (802) 229 -5098  
Web site: [www.vpqhc.org](http://www.vpqhc.org)  
E-mail: [mail@vpqhc.org](mailto:mail@vpqhc.org)

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# Introduction

The eighth edition of the *Vermont Health Care Quality Report* presents a different perspective on the quality of health care from previous reports. The 2003 *Vermont Health Care Quality Report* is designed to identify needed improvements to ensure health care in Vermont is safe, effective, patient-centered, timely, efficient, and equitable. This new design is consistent with recommendations of the National Academy of Science for a *National Quality Report*.<sup>2</sup> The first edition of the *National Quality Report* is due to be published this year. To date the *Vermont Health Care Quality Report* is the only state-based quality report. Hopefully, other state-based reports patterned after the *National Quality Report* will be available in the future allowing state-to-state comparisons of health care quality.

Safety, patient-centeredness, timeliness, efficiency, equity, and effectiveness are new concepts in health care quality. Our present ability to measure them is primitive. A principle aim of the *Report* is to call attention to deficits in our capacity to measure health care quality and stimulate expanded measurement efforts. As a result of expanded measurement activity, the Vermont Program for Quality in Health Care, Inc (VPQHC) anticipates being able to tell us more each year about the quality of Vermont's health system.

For the first time a new section, *Focus on Quality: Recommendations for 2003*, is included in the *Report*. *Focus on Quality* calls attention to two priority health care concerns. VPQHC promises to address these issues and invites others to join them in focused, statewide efforts to improve these two aspects of health care. These priority concerns and recommendations are the result of careful deliberation by the Board of Directors of VPQHC, Inc.

The Eighth Edition is available in a downloadable format on the VPQHC website, [www.vpqhc.org](http://www.vpqhc.org). Hard copy and CD versions can be obtained by calling VPQHC, Inc. at 802-229-2152.

<sup>1</sup> Institute of Medicine. *Crossing the Quality Chasm: A New Health System for the 21st Century*. Washington, D.C.: National Academy Press. 2001.

<sup>2</sup> Institute of Medicine. *Envisioning a National Health Care Quality Report*. Washington, D.C. National Academy Press. 2001.

*"All health care organizations, professional groups, and private and public purchasers should pursue six major aims: specifically, health care should be safe, effective, patient-centered, timely, efficient and equitable."*

*Crossing the Quality Chasm: A New Health System for the 21st Century*  
Committee on Quality of Health Care in America  
Institute of Medicine

# Focus on Quality: Recommendations for 2003

**F**ocus on Quality: Recommendations for 2003 puts forth both promises and an invitation. The promises are from the Vermont Program for Quality in Health Care, Inc. (VPQHC). The invitation is to others in high leverage positions capable of improving health care quality in Vermont. During the next 12 months VPQHC promises to commit its resources toward achieving better diabetes care and reducing the occurrence of hospital acquired infections. VPQHC invites other Vermonters to join us in a concerted year long effort to achieve these two health system goals.

These promises are the result of careful deliberation by the Board of Directors of VPQHC, Inc. In both areas there is need for improvement and known methods to deliver improvement.

*Focus on Quality* is based in part on a review of the larger *2003 Vermont Health Care Quality Report*, which contains more detailed information about our present capacity to measure and improve the quality of health care in our state. The more detailed *2003 Vermont Health Care Quality Report* has been published annually by VPQHC since 1996.

## 1) Diabetes Care: A journey begun, more steps to take

In Vermont over the past several years, there have been many efforts to improve the care for people with diabetes. Much of this activity has been reported in previous *Vermont Health Care Quality Reports*. Though initial steps have been taken to improve care, there are many more steps left to take before all Vermonters with diabetes get all the care they need.

### Common and Costly

There are 23,000 Vermonters who know they have diabetes and an estimated additional 11,000 that have the condition, but don't know it yet. Diabetes is getting more common; by 2010 one of every 14 Vermonters will have this condition. Direct medical costs for care of diabetes in Vermont are about \$150 million. Indirect costs such as time lost from work are this much again. \$132 billion is a conservative estimate of direct and indirect costs attributable to diabetes nationally. People with diabetes have medical expenses that are two times more than someone without diabetes.<sup>1</sup>

In spite of how common, serious, costly and treatable diabetes is, people with diabetes do not always get quality health care. Vermont is not unique. Less than ideal care is everywhere in the US.



## Standards of Care Well Known; Complications Avoidable

### Proactive Care

People with diabetes, doctors, and health insurance plans all agree that anyone with diabetes should have periodic monitoring with physical examinations and blood tests. This monitoring facilitates disease management including early identification of complication risk and additional treatment needs. Complications include blindness, kidney failure, heart disease, stroke and leg and foot amputations. Additionally, diabetes increases susceptibility to pneumonia, making influenza and pneumonia vaccinations very important.

### Chronic Versus Acute Illness

Chronic illness like diabetes presents a different challenge to the health system than acute illness. Acute illness produces signs or symptoms that motivate us to seek out health care. Chronic illness progresses slowly and silently. Early stage diabetes doesn't produce pain or other symptoms to motivate us to seek care. Chronic illness is easy to ignore both by those who have it and by health professionals. The current health system is designed to care for acute illness in that it depends on those in need being responsible for initiating contact. A health system capable of providing good chronic care needs reminders to both patients and providers to be vigilant and proactive.

### Diabetes Self Management Education (DSME)

People with diabetes need to know how to take care of their condition, what to eat and how to exercise. Teaching people how to help themselves, self-management education, is particularly important in chronic conditions like diabetes. Self-management education may be the single most important treatment for diabetes. People with diabetes spend 99.9% of their life outside of their practitioner's office or clinic. Good diabetes care teaches people to be their own caretaker.

## Data Shows Room for Improvement

There is solid data showing the need to improve diabetes care in Vermont. Tables 1 and 2 show how many Vermonters receive their periodic monitoring tests and education.

Table 1

2001 Vermont Behavioral Risk Factor Surveillance Survey				
Vermont Department of Health				
Measure	Vermont Result	National Result	Healthy Vermonter 2010 Goal	Pursuit of Perfection
DSME	48%	51%	60%	100%
Annual Eye Exam	75%	72%	90%	100%
A1c test	91%	82%	80%	100%
Flu Vaccine	31%	30%	60%	100%
Pneumonia Vaccine	22%	22%	50%	100%
Foot exams	75%	67%	75%	100%

## Vermont Better than US; Still Not 100%

Compared to the rest of the nation, the Vermont health care system does a better than average job delivering quality health care. Vermont ranked second only to New Hampshire in the CMS quality review. However, there is obvious room for improvement. The goal for all the measures in both tables is 100%. Furthermore, the CMS measure of quality was set lower than the local consensus standard here in Vermont. They looked at A1c testing once a year, and eye and lipid testing done once every two years. **The Vermont standards are for A1c tests to be done at least twice each year and eye examinations and blood lipid testing to be done at least annually.**

Table 2

<b>Centers for Medicare and Medicaid Services Office of Clinical Standards and Quality (CMS)<sup>2</sup></b>		
<b>Diabetes Care Measure</b>	<b>2001 Vermont</b>	<b>National Median State Rate</b>
A1c at least every year*	87%	78%
Eye examination at least every two years*	76%	70%
Lipid profile at least every two years*	75%	74%

*\*Quality Indicators for Care of Medicare Fee-for-Service Beneficiaries*

## What is High Quality Diabetes Care?

There is a growing consensus about the characteristics of ideal care for chronic illnesses like diabetes, asthma or depression. The Chronic Care Model<sup>3</sup> is based on scientific research, analysis of high performing health systems, and expert opinion. In order to deliver the highest quality care to persons with a chronic illness, a health system needs to include six essential dimensions:

### **1) Clinical Information Systems**

Practitioners must have clinical information systems that allow them to easily know which patients have diabetes and which specific patients are in need of tests or have missed a scheduled appointment. Electronic systems are the most useful.

### **2) Clinical Decision Support**

Practitioners must base their clinical decisions on current best scientific evidence. Real time reminders of standards, goals and best treatment options should be built into every patient encounter. Primary care clinicians must have convenient and supportive access to specialty physicians.

### **3) Planned Care**

Special office and clinic visits focusing only on the chronic illness need to be designated. Diabetes care should not be an add-on to a visit for a cold or arthritic problem. The devil is in the details, and the details will not be addressed unless there is a designated visit to address the many complex issues of the chronic condition.

### **4) Self-Management Education**

99% of a person's life is not spent in a doctor's office. People with diabetes need to know how to care for themselves.

### **5) Linkage with Community Resources**

Medical practices and people with diabetes must be aware of and make use of community resources such as support groups, exercise classes, or nutrition classes.

### 6) Alignment of Payment Incentives

Financial and other incentives should foster and reward quality care. Practitioners should be encouraged to keep people well, not just be paid to help them get better.

### In 2003 VPQHC promises to:

#### 1. Educate Practitioners about Best Diabetes Care

VPQHC will continue to update and distribute *Recommendations for Management of Diabetes in Vermont*<sup>4</sup> to all Vermont practitioners, hospitals, and health insurers. VPQHC will also continue educational sessions for medical practitioners based on the *Recommendations*.

#### 2. Host a Second Vermont Chronic Care Collaborative focused on diabetes

VPQHC will sponsor a second learning collaborative involving practices in all areas of the state and Dartmouth Hitchcock Alliance practices caring for Vermonters in New Hampshire. The goal of the Learning Collaborative will be to transform medical practices designed for acute illness care into practices capable of providing excellent chronic care.

#### 3. Work towards Aligning Payment Incentives with Best Diabetes Care

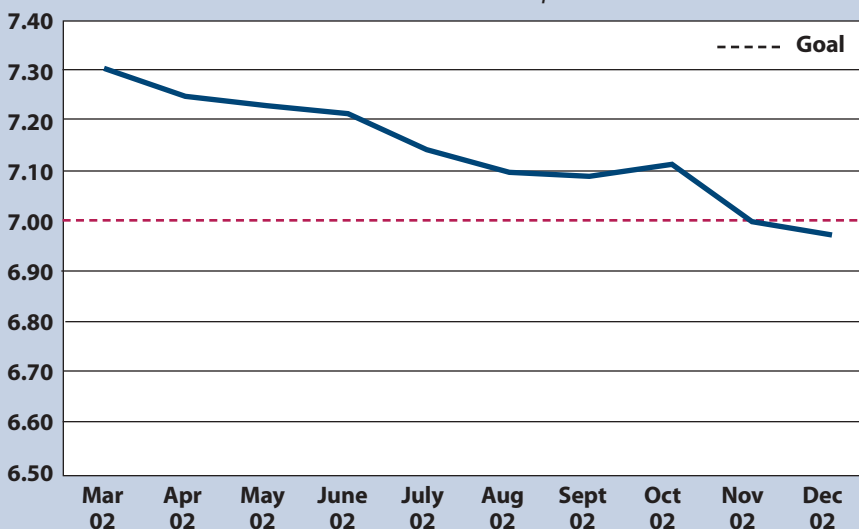
VPQHC will work with other stakeholders to broadly educate the community of

### First Vermont Community Diabetes Collaborative

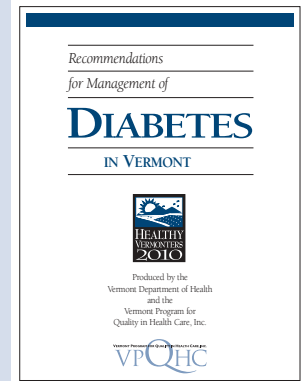
The first Vermont Community Diabetes Collaborative, a 13 month endeavor, began in January of 2002 and finished in February 2003. Eight Vermont hospitals and physician practices participated in this effort to improve care for diabetics. Each team of professionals identified a pilot population of persons with diabetes. The teams were instructed to pick two aims; one to improve glycemic control and the second to reduce cardiac risk factors. At the final meeting on Feb. 14, 2003, all the teams shared their successes and barriers to success. VPQHC plans to facilitate a second Collaborative in October of 2003. The intention is to further implement and spread the improvements realized in the first collaborative.

### A1c Results After 13 Months

White River Junction VA Diabetes Improvement Team



Every decrease in A1c level, e.g. 7.3 to 7.2, leads to significant decreases in the risk of blindness, heart and kidney disease, stroke and amputation.



### Recommendations for Management of Diabetes in Vermont

The *Recommendations* are a compendium of best medical practices for persons with diabetes. The *Recommendations* are developed by local experts in the field and recognized by Vermont health insurers and Vermont Medicaid. The *Recommendations* have been published by VPQHC since 1998 and are periodically updated as scientific knowledge about diabetes advances.

Currently, South Dakota is in the process of adopting these *Recommendations* for use there.

Vermont about the Chronic Care Model, and create an action plan to align incentives with quality care. We have begun the education process through sponsorship of a regional Conference, Aligning Payment Incentives with Quality of Care. Co-sponsors included the New England Public Health Managed Care Collaborative and the US Department of Health and Human Services Region 1. The Conference was funded in part by a grant from the federal Center for Disease Control and Prevention. The purpose of the conference was to explore opportunities to partner with other New England states and the Centers for Medicaid and Medicare Services to address this enormously complex and critical issue. A summary report of the regional conference will be available this summer on the VPQHC website.

#### **4. Broaden Stakeholder Engagement**

VPQHC cannot improve diabetes care alone. The current coalition of stakeholders needs to be broadened and built upon if we are going to accomplish measurable improvement during the next 12 months. VPQHC invites all consumers, employers, insurance payers, state government and all providers of health care to join us in both discussion and action with the goal of measurable improvement in the care of diabetes in our state.

Some of the challenges ahead include defining and promoting the role of consumers in promoting better health care and health outcomes, seeking approaches to changing our acute care health system to one that offers quality chronic care, and aligning payment incentives and policies that foster and reward quality, reduce waste, and promote cost efficiencies.

## **2) Fewer Hospital Acquired Infections**

### **Why Focus on Hospital Infections?**

National studies reveal that 5 to 10 percent of hospitalized patients acquire at least one infection, affecting approximately 2 million persons per year, resulting in 90,000 deaths and adding an estimated \$4.5 to \$5.7 billion to health care costs. The incidence of hospital acquired infections has increased in the past decades due to the increased complexity of treatment, increasing severity of illness of hospitalized patients, and antibiotic resistance of microorganisms. Information about the overall incidence and cost of hospital acquired infections in Vermont is not presently available.

National studies also show that three conditions account for 80 percent of hospital acquired infections: urinary tract infections, bloodstream infections, and pneumonias. One fourth of all infections occur in patients in intensive care units, particularly if urinary catheters, intravenous devices, and mechanical ventilation are part of the treatment needs. Nearly 70 percent of these infections are due to microorganisms that are resistant to one or more antibiotics, a related, emerging health crisis.<sup>5</sup>

### **Methods to Decrease the Risk of Infection Exist**

Scientifically proven interventions to reduce hospital acquired infections are known. These interventions include hand washing strategies for hospital personnel, preventive antibiotics for high risk surgical procedures, improved urinary drainage strategies, better techniques for inserting IVs, antibiotic-coated intravenous devices, and improved care of intensive care patients on ventilators. Consistent use of known strategies, however, is not common. For example, national studies reveal that compliance with recommended hand washing strategies varies from 16 to 81 percent.

### **Current Infection Control Efforts**

Presently, there are two principal infection control interventions in Vermont. One is based within the Vermont Department of Health. The Department has monitored the occurrence of serious

infections including hospital acquired infections for decades. The surveillance is based on voluntary reporting by hospitals and practitioners. The Department offers technical expertise to practitioners and hospitals related to the identification and treatment of infections. Additionally, the Department routinely informs all Vermont hospitals about infection trends and sentinel events.

A second tier of infection control exists in the hospitals themselves. All Vermont hospitals support active infection control programs. These programs continuously monitor the occurrence of infections and hospital staff compliance with scientifically proven infection control strategies, including judicious use of antibiotics. Infection control programs are responsible to prevent the spread of infections when there is an occurrence.

Additionally, Vermont hospitals have recently started a project focused on appropriate use of prophylactic antibiotics for selected surgeries. This new project is sponsored by the Northeast Health Care Quality Foundation, the Medicare Quality Improvement Organization (QIO) for Vermont, New Hampshire and Maine. The Centers for Medicare and Medicaid (CMS) has contracted with QIOs across the country to prevent surgical infections.

### **In 2003 VPQHC promises to:**

1. Promote and assist in the development of a statewide action plan to minimize the incidence of hospital acquired infections. The plan will focus on ensuring that scientific control strategies are in place at all institutions, avoiding redundancy, and maximizing the return on resource consumption.
2. Explore the development of an integrated system for documenting, and reporting of hospital acquired infections in Vermont hospitals.
3. Encourage and support the participation of all Vermont hospitals, Dartmouth Hitchcock Medical Center, the Vermont Department of Health, and the Northeast Healthcare Quality Foundation in the statewide action plan and reporting process.

## **3) Looking Ahead**

It is our sincere hope that *Focus on Quality: Recommendations for 2004* will contain evidence of measurable improvement in both diabetes care and in the risk of acquiring infection in Vermont's hospitals. VPQHC has made promises in these two areas for improvement because of need, known paths to success, and the uniqueness of Vermont that supports cooperative endeavors like VPQHC.

Improving the quality of health care requires participation from the entire Vermont community. VPQHC looks forward to joining others in taking the next steps toward better care.

<sup>1</sup> Vermont Diabetes Control Project of the Department of Health

<sup>2</sup> Jencks, Stephen F., Huff, Edwin D., Cuerdon, Timothy, Change in the Quality of Care Delivered to Medicare Beneficiaries, 1998-1999 to 2000-2001, *The Journal of American Medical Association*, January 15, 2003, Vol.289, No. 3, pp. 305-312.

<sup>3</sup> The Chronic Care Model was developed by Ed Wagner, MD MPH FACP, Director of the MacColl Institute for Healthcare Innovation Center for Health Studies, Group Health Cooperative of Puget Sound, Seattle, Washington. More information about the model is available at [www.improvingchroniccare.org](http://www.improvingchroniccare.org), the web site of the Robert Wood Johnson Foundation national program office on improving chronic care in the United States.

<sup>4</sup> *Recommendations for Management of Diabetes in Vermont* is published by VPQHC. Support for the effort comes from a federal grant to the Vermont Department of Health. The *Recommendations* are available on the web at [www.vpqhc.org](http://www.vpqhc.org) or in a hardcopy version from VPQHC offices in Montpelier. For more information about Learning Collaboratives call VPQHC in Montpelier at 802-229-2152.

<sup>5</sup> Burke JP, Infection Control — A Problem For Patient Safety. *New England Journal of Medicine*, 2003; 348; 651-6.

# Safety

Health care should be safe. Patients should not be injured by the care that is intended to help them. Safety is the first improvement aim for health care recommended by the Institute of Medicine (IOM).<sup>1</sup> Freedom from accidental injury should be self-evident in Vermont's health care system.

As our health care system has grown more complex, the potential for medical errors has increased. Improving the safety of health care has recently come to the forefront of quality improvement efforts both nationally and locally. From two studies of adverse events occurring in hospitals, it is estimated that as many as 44,000 to 98,000 people die as the result of medical errors in the US each year. More people die from medical errors in the US than motor vehicle accidents (43,000), breast cancer, (42,000), or AIDS (17,000).<sup>2</sup>

Examples of medical errors include prescribing the wrong amount of medicine, misinterpreting a chest x-ray as showing pneumonia when the real problem was heart failure, or having one person's lab result assigned to another.

The title of the Institute of Medicine report on patient safety, *To Err is Human*<sup>3</sup>, calls attention to how predictably we as humans err. One of the principal recommendations in the report is that the health system needs to be redesigned with our fallibility as individuals in mind. The present system is not designed to compensate for our human nature to err. Our present health system does not invest enough in proactive processes to avoid error. Typically, redesign is undertaken only after something wrong has occurred.

One pervasive obstacle to improving the safety of the health system is that the current health care culture does not encourage reporting of errors and near-misses, rather, the typical reaction is to blame and shame the individuals involved when something goes wrong. This shame and blame atmosphere results in under reporting of errors and near misses, and opportunities to identify needed improvements and prevent repeated errors are lost. Recent research has begun to show a relationship between workforce issues and health care safety, e.g. nurse to patient ratios.

An untapped resource for improving safety is to make health care more transparent to patients and in so doing recruit those being cared for in efforts to make care safer. The perspectives of patients need to be appreciated as an important resource to improve the safety. Much research is needed to enlighten us about the causes of error and how to avoid future mistakes.<sup>4</sup>

Measuring the safety of our health care system is a new endeavor. "What is safety?" and "How can it be measured?" are both active and evolving discussions. Within the next few years we anticipate more and better information on how safe Vermont's health system is and effective strategies to make it safer.

## Goals and Standards

No explicit statewide patient safety goals have been identified for Vermont. Nationally, the Joint Commission on Accreditation of Hospitals and Health Systems (JCAHO) published a set of goals effective January 1, 2003:

### 2003 JCAHO National Patient Safety Goals

1. Improve the accuracy of patient identification.
2. Improve the effectiveness of communication among caregivers.
3. Improve the safety of using high-alert medications.
4. Eliminate wrong-site, wrong-patient, wrong-procedure surgery.
5. Improve the safety of using infusion pumps.
6. Improve the effectiveness of clinical alarm systems.<sup>5</sup>

## Measurement

Currently there is a lack of direct measurement of health care safety both nationally and locally. The Agency for Health Care Research and Quality (AHRQ) is in the process of developing patient safety measures using currently available information. These Patient Safety Indicators<sup>6</sup> are being designed for potential use at national, regional and state levels. A preliminary set of Patient Safety Indicators will be available this year. The preliminary set of measures address hospital care. The measures focus principally on surgical conditions because of the relative ease of accessing information compared to outpatient, long-term care, or medical and psychiatric conditions. Additional opportunities to measure safety in other care settings need to be identified.

VPQHC in partnership with the Vermont Association of Hospitals and Health Systems is in the process of applying these measures to the hospital care received by Vermont residents. We hope to make available the results of our efforts later in 2003. Table 3 lists the preliminary Patient Safety Indicators.

## Relevant Resources

### Institute for Safe Medication Practice

Provides an independent review of medication errors that have been voluntarily submitted by practitioners. [www.ismp.org](http://www.ismp.org)

### National Patient Safety Foundation

Has its mission to make a long term measurable difference in patient safety. [www.npsf.org](http://www.npsf.org)

### AHRQ's 20 Tips to Help Prevent Medical Errors

Agency for Health Care Research and Quality (AHRQ)'s patient fact sheet of what you can do to be involved in your health care. [www.ahrq.gov/consumer/20tips.htm](http://www.ahrq.gov/consumer/20tips.htm)

### AHRQ's Five steps to Safer Health Care

Agency for Health Care Research and Quality's patient fact sheet tells what you can do to get safer health care. [www.ahrq.gov/consumer/5steps.htm](http://www.ahrq.gov/consumer/5steps.htm)

### The Leapfrog Group for Patient Safety

Created by a coalition of more than 130 public and private organizations that provide health care benefits; their goal is to improve health care by mobilizing employer purchasing power. [www.leapfroggroup.org](http://www.leapfroggroup.org)

Table 3

### **AHRQ Patient Safety Indicators**

- Complications of anesthesia
- Deaths in conditions associated with low mortality
- Pressure sores
- Unsuccessful cardiac or respiratory resuscitation
- Foreign body left in someone during a surgical procedure
- Collapsed lung as a complication of care
- Infection due to medical care
- Postoperative hip fracture
- Postoperative bleeding
- Postoperative medical complications
- Postoperative respiratory failure
- Postoperative blood clotting
- Postoperative systemic infection
- Technical difficulty with specific surgical procedures
- Transfusion reaction
- Unintended reopening of a surgical incision
- Physical injury to a newborn infant
- Mothers suffering physical injury giving birth either vaginally or by cesarean section

<sup>1</sup> Institute of Medicine. *Crossing the Quality Chasm: A New Health System for the 21st Century*. Washington, D.C.: National Academy Press. 2001.

<sup>2</sup> Ibid

<sup>3</sup> Institute of Medicine, *To Err is Human: Building a Safer Health System*. Washington, D.C.: National Academy Press, 2000.

<sup>4</sup> Ibid

<sup>5</sup> [www.jcaho.org/accredited+organizations/2004+standards.htm](http://www.jcaho.org/accredited+organizations/2004+standards.htm)

<sup>6</sup> [www.ahrq.gov](http://www.ahrq.gov)



## Building A Safer Health System

*Event Reporting at Fletcher Allen*

### Background

Two landmark reports by the Institute of Medicine began to focus the healthcare industry on the issue of patient safety. The Institute's first report entitled, "To Err is Human: Building a Safer Health System," noted that "the majority of errors are caused by faulty systems, processes, and conditions that lead people to make mistakes or fail to prevent them." The Institute's second report, "Crossing the Quality Chasm,"



focused on redesigning the healthcare system. Subsequently, the Joint Commission on Accreditation of Health Care (JCAHO) established standards in support of patient safety and medical/health care error reduction. The focus on patient safety must be a key component in every health care delivery system.

In fiscal year 2002, Fletcher Allen has endorsed this movement by making high quality, safe patient care its #1 goal. The philosophy behind Fletcher Allen's safety program is:

- Educate staff to increase awareness of patient safety issues,
- Use performance improvement methods to proactively design the failure out of the system,
- Analyze events and near-misses to identify the cause of system failure,
- Focus on system level performance improvement, and

- Replicate improvements across the organization.

### Overall Objectives

Fletcher Allen has prioritized its patient safety initiative around the following objectives:

- Develop a culture of safety,
- Design safer systems of care by focusing performance improvement efforts on high risk or problem prone processes,
- Educate staff and physicians regarding patient safety,
- Improve event and near miss reporting.

### Activities

One example of an improvement that is part of Fletcher Allen's integrated patient safety program began early in 2001. An interdisciplinary team was established to review and improve event and near miss reporting at Fletcher Allen. The team found that there were five stand-alone event-reporting systems in use in the network. They were medication events, adverse drug reactions, lab events, patient complaints and non-medication related patient events. These systems were paper-based and not integrated across the system, making analysis of trends difficult across all of the acute care and 65 ambulatory care clinic sites.

The goal of the project was to provide a single mechanism to report and analyze the performance of those care delivery processes which affect patient safety. To achieve that goal, Fletcher Allen implemented a web-based event reporting system. This tool allows end-users to report patient safety concerns. Everyone

*The goal of the project was to provide a single mechanism to report and analyze the performance of those care delivery processes which affect patient safety.*

### **Building A Safer Health System**

throughout the organization utilizes a single computerized event-reporting tool. The tool uses decision tree logic to walk the user through a series of questions that vary based on the type of issue being reported. The system records all entries online at the point of occurrence and allows for real-time notification of key contacts within the organization. Other improvements include real-time report writing and analysis for management. The system increases awareness throughout the organization of potential and actual risk and will assist with targeting performance improvement initiatives. The system is part of Fletcher Allen's

performance improvement process and is peer review protected.

### **Outcomes**

Since its implementation in March 2002, the system has improved the coordination and response to patient safety issues. The system has allowed the institution to get a better perspective on overall trends and allowed for enhanced coordination of improvement efforts.

### **Project Contact**

Anna Noonan  
Vice President of Quality and Care  
Management  
802-847-2468  
Anna.Noonan@Vtmednet.org

## **Falling Patients**

### *The Fletcher Allen Falls Reduction Program*

### **Background**

Across the country, 60 to 70 percent of all adverse events in the hospital are patient falls; the majority of these falls involve the elderly. In acute-care hospitals, such as Fletcher Allen Health Care, high fall risk patients can represent over 50% of the daily census. The higher risk of mortality and morbidity, along with the potential loss of independent living, make this a significant issue for the elder population.

In the summer of 2000, Fletcher Allen convened a group of hospital employees, including representatives from Quality & Care Management, Nursing, Medical staff, Patient Support, Measurement, Facilities, Risk Management, Information Services, Pharmacy, and Physical Therapy to focus on this area. The team noted increasing fall

rates over the past two years and an inconsistent risk-assessment and reporting process. In addition, variation in fall reduction strategies between different units and different patient populations was occurring.

### **Project Goals**

The team set its sights on reduction of total patient falls; development of population specific strategies; ensuring complete, accurate, timely reporting of all falls events; and development of an integrated "Patient Safety" policy.

### **Activities**

The team created a multidisciplinary Fall Reduction Algorithm, developed a "Falling Star" program, implemented electronic flagging of clinical records for communi-



## SPOTLIGHT ON IMPROVEMENT

cation of high-risk patients, and purchased bed equipment with exit alarm notification capability with central nursing station bed alarm bells. Population specific strategies were utilized to identify and reduce risk of falls for this population. A new event reporting system was tailored to capture fall incident details, which included an injury severity scale for reliable data collection. Fall reduction policy components were integrated into the current Safety Rounds audit tool for validation of staff knowledge and unit practices.

### Outcomes

As a result of the group's work, all patients are now assessed for their fall risk upon admission and are assigned to a specific level of intervention. Patients classified at lower risk receive instruction from nursing staff on how to negotiate their room environment while in the

hospital. If patients are classified at a higher risk, level II prevention strategies are employed. This includes the use of the Falling Star identification program and the bed exit alarm system, as well as an electronic record flag to alert all disciplines of fall risk.

The project has been a great success! The rate of falls per thousand patient days has dropped 35% since its implementation in 2000.

### Next Steps

Fletcher Allen Health Care will continue to develop and incorporate new strategies into the Falls Reduction Program to reduce the number of patient falls even further.

### Project Contact

Sue Goetschius  
Clinical Nurse Specialist – Gerontology  
802-847-1101  
Sue.Goetschius@vtmednet.org.

*As a result of the group's work, all patients are now assessed for their fall risk upon admission and are assigned to a specific level of intervention.*

## Let's Get Those Med Orders Right

*An Automated Process Initiated at the Brattleboro Retreat*

### Background

The Brattleboro Retreat is an independent, not for profit behavioral health organization. Patients, including children and adolescents, are treated in a variety of settings in residential programs. These children and adolescents are often institutionalized for several months at a time. By regulation, medications for each resident need to be renewed every month. This requires that a nurse or mental technician transcribe all of the orders by hand. A physician reviews the orders and signs off on them. These are then sent to the pharmacy at Brattleboro Retreat where any mistakes are identified and corrected. The correction of mistakes

requires additional time consuming steps. Numerous attempts have been made to improve the process. These have included ongoing in-house education of nurses and medical technicians, as well as attempts to double-check work. Whereas these previous efforts reduced the error rate, errors continued as orders were renewed.

### Project Goal

To implement a system that reduced medication errors.

### Activities

An automated process was implemented as follows:



*In the four months following the introduction of the computer-generated medication order system... the error rate dropped to approximately one tenth of its previous rate.*

**Let's Get Those Med Orders Right**

- Beginning in December 2001 the pharmacy, with help from the information services department, designed a computerized medication order system for review and renewal based on a patient's profile in the pharmacy.
- Pharmacists generated a monthly report for each residential patient, reviewed the report and made recommendations to the physician as appropriate.
- Adolescent residential nurses and/or child residential medical technicians verified the orders on the report against the medication activity record or original orders for accuracy and completeness.
- Discrepancies were brought to the attention of the pharmacist who updated those orders in the computer.
- Physicians reviewed the verified monthly medication orders for renewal and signed off.

**Outcomes**

For the five months prior to the introduction of the project, approximately 3.05% (12.2 per 400 orders) of the

transcription orders written per month were erroneous. In the four months following the introduction of the computer generated medication order system, the error rate has dropped to 0.312% (1.25/400 errors per month). The error rate dropped to approximately one tenth of its previous rate. In addition, the computer medication order system has alleviated the previous illegibility problem associated with medication orders. Furthermore, nursing and medical technician time has also been reduced because the time consuming task of copying multiple medication orders has been alleviated. Under the automated system, pharmacists also save time because they have to make fewer corrections of multiple errors and are more efficient as they are able to consolidate medication orders.

This project adds further evidence to growing data that shows that automated order entry leads to fewer errors and more efficient use of staff time.

**Project Contact**

Frederick W. Engstrom, MD  
Senior Vice-President of Medical Affairs  
Brattleboro Retreat  
Brattleboro, VT 05301  
802-258-6182  
fengstrom@retreathealthcare.org

## Focus on Quality Patient Care

### Medical Staff Quality Improvement at Copley Hospital

Hospital quality teams and champions have blazed a path of quality improvement (QI) across Vermont's health care organizations, raising the performance and safety of patient care provided in this state. Their success, however, depends in part on the doctors and medical staff involved in those processes, providers who demonstrate an equal commitment to quality improvement.



inspection and detection techniques of a "quality control" philosophy. For example, for almost a decade Copley has conducted 100% monthly retrospective surgical chart reviews. This process focuses on any question of error or deviation from accepted clinical standards. All inpatient medical charts were reviewed concur-

rently to find unexpected outcomes whether from clinical screens (e.g. post-admission neurologic damage) or utilization screens (e.g. readmissions related to a previous stay). Variations from the expected outcome would require a written or oral response by the physician. A well explained response could be the end point of this "QI" process but a presentation, which required further action, would typically result in any of the following: department conferences, counseling, continuing medical education or corrective action by the Medical Staff Executive Committee. From this perspective, relatively little change could be initiated that affected patient care processes, system issues, or health care outcomes.

At Copley Hospital, the medical staff have evaluated their old system of "QI" and implemented a new, more modern system to replace it. The focus of the new system is to change quality improvement from subjective opinions to objective guidance and from individual judgments to group processes and support.

#### Where Copley has been

Individual physicians who admit, treat, and discharge patients are responsible for every medication ordered, diagnostic test run, and clinical intervention that patients are involved in. Yet these decision makers are often limited to brief daily visits with their patients as they make their morning and evening rounds. They are dependent on a team of health care workers to act in their absence and keep them informed while they work off-site or in their offices. In a sense, each member of the medical staff stands in a spotlight of responsibility and accountability for any deviation from the standard of care.

Medical staff quality improvement activities of yesterday were based on

#### What Copley has done

Over the past two years, Copley's medical staff leaders have re-evaluated their goals for quality improvement and how they can achieve them. Concerns can be raised around how to make the care better – not whom to blame – and are reviewed by a team of medical staff leaders and triaged to internal review, external

*The focus of the new system is to change quality improvement from subjective opinions to objective guidance and from individual judgments to group processes and support.*

### Focus on Quality Patient Care

review, or executive committee if follow up is needed. Results from this new process have produced:

- Improved support of the Medical Staff credentialing process
- New physician orientation process to understand the functions and rules of the medical staff and hospital
- Medical staff “code of conduct” written as part of the Medical Staff By-Laws
- Case conferences for health care provider teams at all levels of hospital and/or medical staff
- Evolving guidelines for optimal care of acute myocardial infarction, exacerbated chronic obstructive pulmonary disease, and congestive heart failure.

These processes are supported by new plans and policies of how to collect data on patient care effectively, triage results of QI studies and how to handle information appropriately while focusing on what can be learned – not whom to penalize. Ultimately, the medical staff take responsibility for patient care quality through a “pyramid” of medical staff functions: recruitment, physician orientation,

performance monitoring, improvement/ education, peer review, and, if needed, corrective action. All of these steps are supported by the Board of Trustees in developing, implementing, and maintaining standards of care.

### Where Copley is headed

One of the greatest challenges for a medical staff organization in a remote setting, with many specialties and with few “peers” in any one area, is to find the most cost effective way to conduct unbiased QI studies without concerns about professional relationships among its members. Copley is working with tertiary care centers and other sources of clinical expertise and judgment to support the intent of quality improvement across the entire medical staff. We work to improve the care of patients, and we include all health care and medical staff providers in that process. Over time, Copley’s medical staff hopes to have a comprehensive medical staff QI system in place that does just that: focuses on patient care in every area of the hospital.

### Contact

Sam Labow, MD  
Medical Director  
Copley Hospital  
802-888-8105

## Medication Safety

*A Top Priority at Northwestern Medical Center*

### Background

In the past, the Risk and Pharmacy Managers reviewed medication error reports to identify trends; there was no real organizational effort in place to continually improve the process. The 2000 Institute of Medicine report (*To Err is Human*) statement that as many as 98,000 people die each



year from hospital medical errors, prompted the Administration and Board of Directors of the Northwestern Medical Center (NMC) to question the safety of patients at NMC. Medication Safety came into focus when the hospital-wide Quality Assurance Committee called for a systematic approach to reduction of medication errors, prompting the assembly of a multi-disciplinary Medication Error Task Force.

### Goal

To improve the safety of medication practices at NMC.

### Activities

- Evaluation and revision of medication practices using the Institute of Safe Medication Practices (ISMP) self-assessment tool (194 questions about medication processes that most significantly influence safe medication use). The goal is that all events designated by respondents as key determinants of medication safety will be addressed

and appropriate changes fully implemented.

- Institution of a type-based medication event reporting system relying on monthly self-evaluation.

These measurements revealed (see chart below) that omission, at 42%, was by far the most common type of medication error event at NMC.

- Education for all employees regarding event (medication and other types) reporting processes, categorization of events by severity and follow-up.
- Revision of the transcription process to a two step double check method
- Review and revision of the hospital abbreviations list; elimination of those that contribute to errors or misunderstanding

### Accomplishments

- The NMC Board of Directors approved expenditures for the AUTROS medication management system which on full implementation allows for point of care medication management, barcode scanning of patients and medication, real time charting, clinical documentation at bedside and physician order entry.
- NMC has been selected by the American Society of Health Systems Pharmacists (ASHP) Fail-Safe project as one of the sites to look at physician order entry systems to see if they are effective in reducing medication errors.

*The AUTROS medication management system [will] allow for point of care medication management, barcode scanning of patients and medication, real time charting, clinical documentation at bedside and physician order entry.*

## SPOTLIGHT ON IMPROVEMENT

### Medication Safety

- Elements determined by the ISMP self-assessment tool to be important to medication safety are being implemented. The chart below shows that in July of '00 only 46% of the medication safety determinants had been acted upon. By contrast, by November of '01 the number fully implemented had increased to 89%. The bar on the far right shows the percent projected to be implemented with the AUTROS system.

### Next Steps

- Implementation of the AUTROS

Medication Management System which is projected to significantly reduce 'omission' medication events.

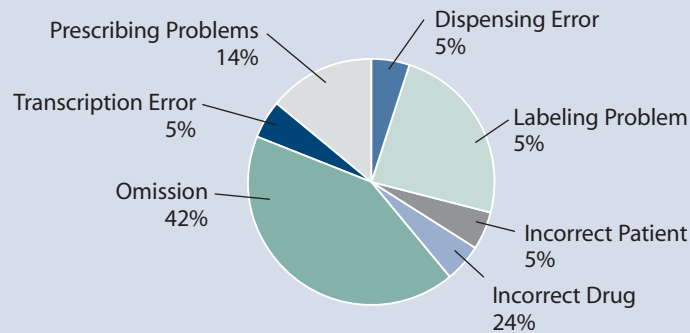
- Continuation of the Fail-Safe Project with ASHP to study the effects of physician order entry system on medication errors.
- On-going review of Monthly Medication Events.

### Project Contact

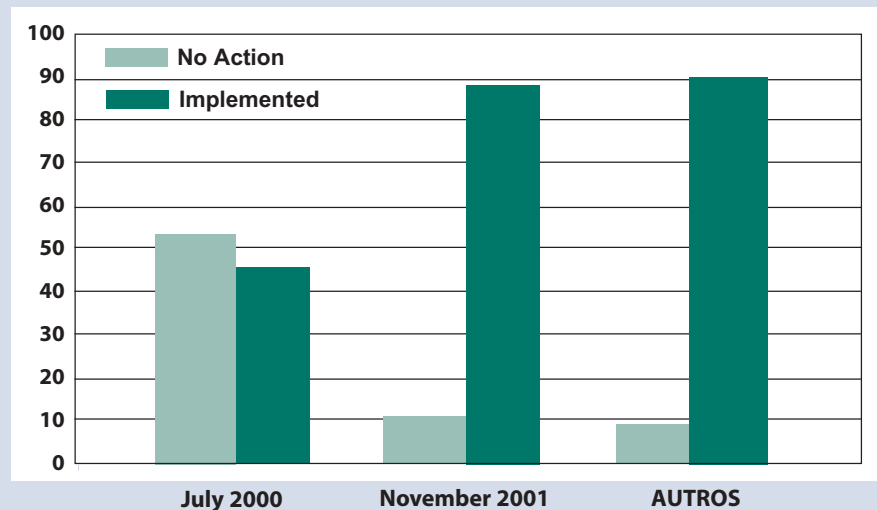
Nilda Gonnella-French  
 Risk Management and JCAHO Standards  
 Specialist  
 802-524-8463  
 ngonnella-french@nmcinc.org

### NMC Reported Medication Events

Random month example; N=21



### Progress of Implementation of Safety Determinants





## Middle School Students View of Nursing as a Career

*Nursing — the ideal career*

### Background

An adequate supply of skilled professional nurses must be assured for years to come in order to maintain a high quality health care system. A profound nursing shortage, however, has been predicted. Since students begin to explore career options in middle school, this research study focused on middle school students' perceptions of an ideal career versus nursing as a career. The research was funded by a HRSA Rural Outreach Grant administered through the Office of Nursing Workforce, Research, Planning and Development, UVM.

### Project Goals

Recommendations based on the research findings provided a first step in the development of timely and effective recruitment campaigns of students to choose a career in nursing.

### Activities and Outcomes

A convenience sample of 301 males and females, aged 9-15, was solicited at five agricultural fairs held in Vermont between July and September, 2002. A valid and reliable instrument (May, Champion, & Austin, 1991) was used to measure perception of an ideal career versus perception of nursing. Data were analyzed descriptively, followed by paired t-tests.

### Boys' Ideal Career More Congruent with Nursing

When examining the differences by gender, there was more congruence between boys' perceptions of an ideal

career and their perception of nursing than there were for girls. This difference by gender may reflect the boys' increased exposure to images of men who care for others, and are being appreciated for the differences they make in people's lives. These images have been particularly strong post-9/11 with respect to firemen, emergency medical technicians (EMTs), and nurses. It may also reflect that this rural sample had experience in caregiving, albeit for animals. The boys in this study also wanted to work with technology and recognized that nurses do. Finally, in the ideal career, "working in safe places" received a higher mean score for girls than boys, with girls reporting a statistically significant difference between the ideal career and nursing on this variable while the boys did not. It is apparent that gender plays a role in the perceived personal vulnerability to unsafe work environments.

There were significant differences between perceptions of an ideal career and nursing for both genders. The greatest discrepancies between the ideal career and nursing were centered around the items relating to "making decisions for myself", "being very busy", "working with my hands a lot", "making a lot of money", and "always having a job". Nursing was seen as having less decision-making, being more busy, more hands on, and making less money than the ideal career. This perceived lack of decision-making in nursing as compared to the ideal career is particularly troubling.

*Recommendations based on the research findings provided a first step in the development of timely and effective recruitment campaigns of students to choose a career in nursing.*

**Nursing as a Career**

**Next Steps**

A statewide advertising campaign targeting middle school students will incorporate results from this study to produce gender appropriate promotion of careers in nursing and portray nurses in their decision-making roles. A manuscript has been submitted for publication. Funding will be sought to replicate the study targeting young adults (age 18-25 years).

**Contacts:**

Judith A. Cohen PhD, RN,  
University of Vermont

Betty Rambur DNSc, RN  
University of Vermont

Joan Mongeon BS, MS (c)  
University of Vermont

Mary Val Palumbo MSN, APRN  
Office of Nursing Workforce  
802-656-0023  
mpalumbo@zoo.uvm.edu

# Patient-centeredness

**H**ealth care should be respectful and responsive to individual patient preferences, needs, and values. Patient values should guide all clinical decisions. Patient-centeredness is the third improvement aim for health care recommended by the Institute of Medicine.<sup>1</sup>

Several dimensions of patient-centered care have been identified.

These dimensions include:

- Respect for patients' values, preferences and expressed needs;
- Coordination and integration of care;
- Information, communication and education;
- Physical comfort;
- Emotional support, such as relieving fear and anxiety; and
- Involvement of family and friends.<sup>2</sup>

## Relevant Resources

### Agency for Health Care Research and Quality

Research that assists people in getting objective information on how to choose health plans, doctors, or hospitals based on their performance. [www.ahrq.gov](http://www.ahrq.gov)

## Goals and Standards

No explicit statewide patient-centeredness goals have been identified for Vermont.

### Relevant Healthy Vermonters 2010 objectives (<http://www.state.vt.us/health>):

- Increase the percentage of adults (age 18+) with disabilities reporting sufficient emotional support. (goal: 79%)

## Measurement

The following section contains available measures related to patient-centeredness in Vermont.

The Consumer Assessment of Health Plans Survey (CAHPS) was developed by the Agency for Health Care Research and Quality. CAHPS was developed to provide comparative information about health plans to consumers.<sup>3</sup>

In Vermont, CAHPS survey information is collected from a sample of people who are insured by a commercial managed care company. This survey information is mandated by Rule 10 and administered by the Health Care Administration.

The Office of Vermont Health Access collected CAHPS data on a sample of parents whose children were Medicaid beneficiaries in 2001.

## 2001 Behavioral Risk Factor Surveillance Survey

### Functional Status

Quality and Utilization Measures*	1997 VT	1998 VT	1999 VT	2000 VT	2001 VT	1997 US	1998 US	1999 US	2000 US	2001 US
Percent of people with good to excellent health status (ages 18+)	89%	90%	90%	89%	89%	86%	85%	86%	85%	84%

*\*Percents are calculated by dividing the total number of occurrences of the event/condition (numerator) by the total number of people in the population (denominator) and multiplying by 100.*

*1997-2000 US values represent median percents. VT data represents weighted percents.*

Definition of the Measures	2001 VT Numerator	2001 VT Denominator	VT Data Source	US Data Source
<p>Adults who reported that their general health was “good,” “very good” or “excellent”. The rate excludes those who responded “do not know”.            Based on a phone survey of a sample of Vermonters 18 years and older.            The U.S. rate is the median rate among the states.</p>	est. 407,844	est. 459,891	BRFSS	BRFSS

<sup>1</sup> Institute of Medicine, *Crossing the Quality Chasm: A New Health System for the 21st Century*. Washington, DC: National Academy Press, 2001

<sup>2</sup> Gerteis, Margaret, Susan Edgman-Levitan, and Jennifer Daley. *Through the Patient's Eyes. Understanding and Promoting Patient-centered Care*. San Francisco, CA: Jossey-Bass.1993.

<sup>3</sup> <http://www.ahcpr.gov/qual/cahpsix.htm>

## 2001 Rule 10 Consumer Assessment of Health Plans Survey (VT Data) Quality Compass 2002 (MCO Data Source)

### Satisfaction with the Experience of Care

Quality and Utilization Measures*	1998 VT	1999 VT	2001 VT	1999** NE MCO	2001** NE MCO	1999 US MCO	2001** US MCO
Satisfaction with health care by members of managed care plans							
overall satisfaction with health care services	75%	77%	75%	76%	77%	70%	73%
satisfaction with personal doctor or nurse	73%	75%	74%	75%	76%	73%	75%
getting needed health care as a member of a managed care plan (composite)	82%	83%	82%	78%	82%	74%	77%
getting care quickly (composite)			83%		84%		80%
how well doctors communicate (composite)			93%		93%		91%

\*Percentages are calculated by dividing the total number of occurrences of the event/condition (numerator) by the total number of people in the population (denominator) and multiplying by 100.

\*\*US and New England managed care organizations.

Definition of the Measures	VT Data Source***	MCO Data Source
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Survey of Vermonters who are 18 years or older indicating how well health care services meet their expectations across a wide range of experiences and different provider settings (e.g., hospital stays, hospital outpatient services such as the emergency room, or physician office visits). In 1998, people surveyed were in 6 commercial or Medicaid managed care plans in Vermont. In 1999, people surveyed were in 3 plans. In 2001, people surveyed were in 4 plans. The average rate was the simple average of the responses of those surveyed in the plans.

People who indicated they were very satisfied (reporting an 8, 9, or 10 on a 10 point scale) with all of the health care from all doctors and other health care providers.

Rule 10

QC02

People who indicated that they were very satisfied (reporting an 8, 9, or 10 on a 10 point scale) with their personal doctor or nurse.

Rule 10

QC02

This measure reports on the ease with which members can access care they needed. Score is the overall percentage of members who responded "Not a Problem" to the following questions:

1. How much of a problem, if any, was it to get a personal doctor or nurse you are happy with?
2. get a referral to a specialist that you needed to see?
3. get the care you or a doctor believed necessary?
4. were delays in health care while you waited for approval from your health plan?

Rule 10

QC02

Measure evaluates the ability of members to access necessary care. The composite score is the overall percentage of members who responded "Always" or "Usually" to the following questions: In the last 12 months

1. how often did you get the help or advice you needed?
2. get an appointment for regular or routine health care as soon as you wanted?
3. when you needed care right away for an illness or injury, how often did you get care as soon as you wanted?
4. how often did you wait in the doctor's office or clinic more than 15 minutes past your appointment time to see the person you went to see?

Rule 10

QC02

**How Well Doctors Communicate**

This measure evaluates the communication between doctor and patient. Score is the overall percentage of members who responded "Always" or "Usually" to the following questions:

1. In the last 12 months, how often did doctors or other health providers listen carefully to you?
2. explain things in a way you could understand?
3. show respect for what you had to say?
4. spend enough time with you?

Rule 10

QC02

\*\*\* Percentages include data from MVP, BCBS VT and TVHP. Not included in value is Cigna total number of occurrences of the event/condition (numerator) by the total number of people in the population (denominator) and multiplying by 100.

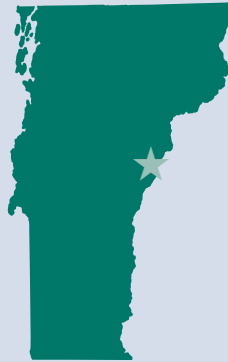
## Back To Life — One Back At A Time

*Dartmouth-Hitchcock Interdisciplinary Spine Center*

*Inherent in its organizational structure, the Spine Center staff includes both researchers and workgroups committed to advancing the state of the science for spine care and improving the overall health care delivery system.*

### Background

The Spine Center at Dartmouth-Hitchcock Medical Center (DHMC), which opened in July 1998, was the first such program in the nation to be created as a multi-disciplinary health care delivery system with a patient-centered, computerized survey. The survey aids in patient assessment at the point of care. The Spine Center was designed to bring together a traditionally disparate group of health care providers related to a single segment of care, spine care. Patients need not be seen as a surgical or non-surgical problem. We need to bring all disciplines together to benefit each and every patient, one stop shopping. The right hand needs to know what the left hand is doing and vice-versa. Today the Center hosts fourteen physicians from seven different specialties, along with psychologists, physical therapists, research nurses, clinical nurses and nurse practitioners.



The staff of the DHMC Spine Center has enjoyed distinction at the national and international level. The Center's Medical Director, Dr. James N. Weinstein, is the Principle Investigator of the single largest NIH multi-center grant that is focused on the care of the spine patient. Recently, the Spine Center model was described in the *Wall Street Journal* as... "an exciting and emerging model of care that is both patient-centered and one which provides important information that advances the science in the area of spine care."

### Project Goal

The mission of the Spine Center at Dartmouth-Hitchcock is to provide patient-centered comprehensive, coordinated interdisciplinary care that is cost-effective, convenient and timely for patients with complex spine problems. The Center is committed to the idea of "Back to Work, Back to Play, Back to Life, One Back at a Time," and "One-Stop Shopping."

### Activities

Inherent in its organizational structure, the Spine Center staff includes both researchers and workgroups committed to advancing the state of the science for spine care and improving the overall health care delivery system. The Center coordinates all processes of care for the patient seeking spine care. These include those of receptionists who log the arrival of patients and assist in the completion of the computerized patient survey at the time the patient is registered. Measurement is a core activity at the Center as the staff evaluates their individual practices and the efficacy of selected interventions. Examples of the Center's unique measurement capabilities include:

- Use of individual patient data which is benchmarked real-time with National databases;
- Aggregation of patient data and system performance data;
- Comparing and sharing surgical and non-surgical quality indicators among Spine Center staff; and,
- Utilization of the SF-36 Health Status Survey's Mental Component Summary score as a marker to determine whether a patient should be offered integrated



## SPOTLIGHT ON IMPROVEMENT

Behavioral Medicine services.

### Outcomes

Patient health outcomes and satisfaction with the Spine Center are monitored. Using these generic, well-established measures, 51% of surgical spine patients have reported significant improvement in both the Mental Component Summary (MCS) score and Physical Component Summary (PCS) at six-month follow-up. For non-surgical patients, there was a 37% improvement of MCS and a 32% improvement of PCS scores. Satisfaction at follow-up for the surgical patients was 72%, with 71% of patients stating that they would choose the same treatment.

### Next Steps

A significant challenge for the immediate future will be the incorporation of the automated Spine Center records with the computerized medical records of the DHMC organization at-large. The Spine Center's long-term goal is to create an auto-

mated system of patient information that is linked directly with scheduling and practice. The future system would allow patients to complete their surveys from the comfort of their home. This will allow the center to identify potentially at-risk patients and arrange for immediate consultation with the most appropriate members of their multidisciplinary team. It is the belief of the Spine Center leaders that the patient self-reported data will drive quality patient care. This is just one example of how the Spine Center utilizes, and will continue to utilize, evidence-based medicine for the actual delivery of patient care.

### Project Contact:

James N. Weinstein, DO, MS  
Medical Director, DHMC Spine Center, and

Dawne Mortenson  
Spine Center Nurse Coordinator  
(603) 650-2225  
Dawne.Mortenson@Hitchcock.org

## Improving Patient Satisfaction

*A Team Effort at Gifford Medical Center*

### Background

Gifford Medical Center is a small hospital in rural Vermont and a member of the Dartmouth Hitchcock Medical Alliance in Hanover, New Hampshire. Earlier this year we successfully achieved designation as a critical access hospital, thus we have "right sized" to 15 acute beds (medical, surgical and obstetrics), 25 "swingbeds," an Emergency Room with approximately 500 visits per month and an extended care unit with 20 residents.



Our participation in the Press, Ganey Patient Satisfaction Survey began in the latter half of 1999. Initially, we surveyed inpatients and emergency room patients. We have now added a survey of our hospital-owned Provider Practices. Our approach to improvement is a team effort which includes a Patient Satisfaction Project Team comprised primarily of managers representing the various services to be surveyed.

*The hospital Board designated patient satisfaction as a strategic initiative thereby lending key administrative support to the effort.*

**Improving Patient Satisfaction**

**Goal**

The first objective was to educate managers on the interpretation of survey results and the importance of patient satisfaction to our organization. The hospital Board designated patient satisfaction as a strategic initiative, thereby lending key administrative support to the effort.

**Activities**

Due to the vast amount of information available, the Patient Satisfaction Project Team designated a “Champion” for each set of questions. It was felt that while priority lists are important, there is value in every question asked and every comment solicited. The Patient Satisfaction Project Team meets regularly to review reports from “Champions” and to identify and implement improvement processes.

Also in place is a process to capture the comments of every patient; comments are reviewed and evaluated for trends. This allows us in certain instances to identify issues that are reflected in patient’s scores. Issues of a negative nature are acted upon if possible; positive comments provide the team with positive reinforcement. The comment of every patient is valued. Each comment that is received is logged. If a comment (good or bad) identifies a member of our staff (including providers) by name, the comment is immediately

forwarded to the appropriate manager to share with the staff member.

**Accomplishments**

Can we identify one focus that has positively improved our patient satisfaction scores? The answer is No! Early improvements include simple things, such as quieting doors which made loud noises, replacing malfunctioning TV remotes, implementing a quality improvement team to work on food temperature control and staffing an information desk. We have completed these and will do more!

**Next Steps**

Patient Satisfaction has been identified as a strategic initiative at Gifford Medical Center. A team approach is being used to identify opportunities for improvement and the comments of each and every patient are valued. Without question, we are making strides because we are listening and we will continue to listen. We are confident that this across the board team effort to listen to patients and respond to their needs will eventually lead to an overall improvement in patient satisfaction at Gifford.

**Project Contact**

Denise Simpson, CIC  
Quality Management  
Gifford Medical Center  
dsimpson@giffordmed.org  
802-728-4441

## Pain — Make It Go Away

*Pain Management Improvement Project at Dartmouth-Hitchcock Medical Center*

### Background

Dartmouth-Hitchcock Medical Center (DHMC) is participating in a pain management improvement project that is part of a national effort founded to make pain assessment and management an integral part of the nation's health-care system. The lead institution in the initiative is the Univ. of Wisconsin at Madison. DHMC is one of 280 hospitals across the country participating in the project. Fifty million Americans suffer from chronic pain and each year another 25 million experience acute pain as a result of injuries or surgeries. Much of the pain for which people seek care goes untreated. By participating in this program, Dartmouth-Hitchcock is working to improve pain management for patients and demonstrate its ongoing commitment to quality health-care by assuring that pain is assessed and managed appropriately.

The pain management program is designed to establish an ongoing interdisciplinary quality improvement process to improve acute post-operative pain management. While the national project focuses on acute post-operative pain, the resources and implementation process have been adapted to many additional populations within the organization. The project has been extended to address pediatric patients, patients who come to the clinic for a doctor's visit, and populations of patients with cancer or medical pain.

### Goals

DHMC aims to improve the assessment and treatment of pain through the implementation of quality monitoring, standards of practice, policies and

procedures and staff and patient education. The goal of the program is to assure that a balanced approach is used to treat pain: regularly administered pain medicine, a combination of techniques to treat pain, and consideration of alternative therapies (massage, guided imagery, etc.) as part of the intervention.

Specific aims are as follows:

- Pain is assessed and documented by the health-care team for all patients in which pain is present or anticipated based upon clinical condition/status
- Pain intensity is documented at frequent intervals as indicated by the patient's clinical condition
- Pharmacologic pain interventions reflect current, evidence-based practice
- Pain interventions reflect a balanced approach, inclusive of both pharmacologic and appropriate non-pharmacologic interventions
- Patient satisfaction with management of acute and chronic pain

### Activities and Outcomes

The project group has conducted both an initial assessment and a one-year follow-up evaluation. Surveys were collected from 100 patients at both the assessment and evaluation points. Patient charts were also reviewed for documentation of pain and pain interventions. In addition, the project group has formalized a Philosophy and Standards of Care for Pain Management, an initial pain assessment tool, and a pain management flow sheet. To date, the project is in place and data has been collected.



*By participating in this program, Dartmouth-Hitchcock is working to improve pain management for patients and demonstrate its ongoing commitment to quality health care by assuring that pain is assessed and managed appropriately.*

**Pain — Make It Go Away**

**Next Steps**

*Data analysis:* these results will be used to implement appropriate interventions. DHMC has designated Pain Management as the “technical excellence” educational focus for the present year. Currently, project members are assessing the

educational needs of staff, the results of which will help to direct the focus of educational events.

**Project Contact**

Linda J. Kobokovich, PhD, RN  
 Director of Nursing Practice, Project Chair  
 603-650-8575  
 Linda.J.Kobokovich@Hitchcock.org

**Satisfied Customers**

*The # 1 Goal at Brattleboro Memorial Hospital*



**Background**

A strong desire to improve Press, Ganey scores has led to an energetic, exciting and unique project for Brattleboro Memorial Hospital. The main goal of this team effort is to support the hospital’s #1 strategy – improving patient satisfaction – by creating a hospital-wide focus on “customer” satisfaction. Wisdom prevailed, thus the word ‘customer’ has been interpreted broadly to include not only patients and their families, but employees and physicians as well. While Press, Ganey scores at Brattleboro were very good, it was felt that there was some room for improvement.

**Goal**

To improve overall ‘customer’ satisfaction at Brattleboro Memorial Hospital.

**Activities**

The Service Excellence Team, a committee comprised of over 40 staff and physician members from all areas of the hospital, was generated. The Team *per se* is divided into four sub-teams with individual missions as follows.

- *The Irritant Team* – “To identify,

recognize and research irritants that annoy and negatively affect total service.”

- *The Standards Team* – “To foster exemplary standards of behavior which encourage and inspire each member of our Brattleboro Memorial Hospital team to exceed our customer’s expectations.”
- *The Rewards Team* – “To recognize the value of everyone with attitudes worthy of rewards for dedication to service excellence.” “Together everyone achieves more”
- *The Communication Team* – “To communicate the ideas, activities and outcomes of the Service Excellence Committee and its subcommittees to our hospital and community via a variety of methods in order to create an atmosphere of excellence.”

Whereas the sub-teams count heavily on Press, Ganey data for evaluating progress, each has also facilitated focus groups, reviewed complaints and conducted staff surveys and interviews. This provides a good cross-section of both patient and employee input. The results

## SPOTLIGHT ON IMPROVEMENT

are collated, categorized and analyzed. The appropriate team or department then deals with problem issues that have been identified. Not unexpectedly, it's often the so-called 'little things' that count a great deal to 'customers'. The Team has identified these as 'High Impact' items that need to be addressed quickly.

### Accomplishments

Improvements have been many — some major, others minor — and they cover a wide arena! From the purchasing and maintenance of minor equipment to education of staff and physicians; from the development of signage for better way-finding, to a more responsive greeting of patients and visitors; even the drafting of a booklet of behavioral standards has been accomplished by this energetic group. Most important of all, it's been well-received and despite the hard and sometimes difficult work, the team is having fun! Of course, it's

also nice to see our Press, Ganey scores rising! Patient satisfaction has improved and staff and physicians appear happier with changes that have been made.

### Next Steps

The Service Excellence Team has been so successful that its status was recently changed from a 'project' to a permanent committee with an annual budget. Their goal of continually improving customer satisfaction remains the same and with all that spirit we expect to see even more positive results!

### Contact

Corinne Bristol, RN  
Executive Director  
Quality Management Services  
Bristol Memorial Hospital  
802-257-8355  
cbristol@bmvht.org

*...it's often the so-called 'little things' that count a great deal to 'customers.'*

# Timeliness

The fourth IOM aim to improve the health system is to ensure that care is timely.<sup>1</sup> Reducing waiting and sometimes harmful delays for both those who receive and those who give care would improve the quality of our health system. Everyone has waited unreasonable lengths of time to get an appointment with a physician or other health care practitioner. Nearly everyone has found themselves waiting in an emergency room, clinic or medical office. Promptness is expected in most service industries, but waiting and delays are almost the norm in health care. Delays in care can be emotionally distressing, and potentially result in physical harm, e.g. delayed diagnosis or treatment. Inattention to timeliness is disrespectful.

Delays are frustrating to practitioners as well. Access to operating rooms frustrates surgical specialists. Long waits until patients can be seen for needed special care frustrate primary care practitioners who have made referrals.

## Goals and Standards

No explicit statewide timeliness goals have been identified for Vermont.

## Measurements

The following section contains available measures related to timeliness in the Vermont Health Care system.

The Consumer Assessment of Health Plans Survey (CAHPS) was developed by the Agency for Health Care Research and Quality. CAHPS was developed to provide comparative information about health plans to consumers.<sup>2</sup>

In Vermont, CAHPS survey information is collected from a sample of people who are insured by a commercial managed care company. This survey information is mandated by Rule 10 and administered by the Health Care Administration.

## Relevant Resources

### The Institute for Health Care Improvement

"...a not-for profit organization driving the improvement of health by advancing the quality and value of health care"  
[www.ihc.org](http://www.ihc.org)

### The Institute of Medicine

"...provides objective, timely, authoritative information and advice concerning health and science policy to the government, the corporate sector, the professions and the public"  
[www4.nationalacademies.org](http://www4.nationalacademies.org)

<sup>1</sup> Institute of Medicine, *Crossing the Quality Chasm: A New Health System for the 21st Century*. Washington, D.C.: National Academy Press, 2001

<sup>2</sup> <http://www.ahcpr.gov/qual/cahpsix.htm>

## 2001 Rule 10 Consumer Assessment of Health Plans Survey

### Getting care quickly

How often did you:	Never		Sometimes		Usually		Always		Sample Size
	Number	%	Number	%	Number	%	Number	%	
15) Get the help or advice you needed?	9	1.0%	74	8.1%	312	33.9%	524	57.0%	919
17) Get an appointment for routine care as soon as you wanted?	45	4.5%	132	13.1%	410	40.7%	420	41.7%	1007
20) Get care for an urgent illness or injury as soon as you wanted?	10	1.9%	51	9.6%	125	23.6%	344	64.9%	530
	Always		Usually		Sometimes		Never		
26) Wait more than 15 minutes past your appointment?	99	8.9%	177	15.9%	490	43.9%	350	31.4%	1116
<b>Composite</b>	<b>163</b>	<b>4.6%</b>	<b>434</b>	<b>12.2%</b>	<b>1337</b>	<b>37.4%</b>	<b>1638</b>	<b>45.9%</b>	<b>3572</b>

Vermont Composite Score contains data from TVHP, BCBS VT and MVP. Cigna data was not available. Percentage of people who answered that they usually or always get care quickly. **83.3%**

### Getting Needed Care

How much of a problem was it to:	Never/Sometimes		Usually		Not a problem		Sample Size
	Number	%	Number	%	Number	%	
6) Get a personal doctor or nurse you are happy with?	47	8.9%	126	23.7%	358	67.4%	531
10) Get a referral to a specialist that you needed to see?	47	6.6%	101	14.3%	559	79.1%	707
24) Get care you or your doctor believed necessary?	31	2.8%	129	11.6%	956	85.7%	1116
25) Were delays in health care while you waited for approval from your health plan?	39	3.5%	113	10.2%	957	86.3%	1109
<b>Composite</b>	<b>164</b>	<b>4.7%</b>	<b>469</b>	<b>13.5%</b>	<b>2830</b>	<b>81.7%</b>	<b>3463</b>

Vermont Composite Score contains data from TVHP, BCBS VT and MVP. Cigna data was not available. Percentage of people who answered that they usually or always get care quickly. **81.7%**

## How well doctors communicate?

How often did doctors / other providers:	Never		Sometimes		Usually		Always		Sample Size
	Number	%	Number	%	Number	%	Number	%	
29) Listen carefully to you	3	0.3%	70	6.2%	374	33.3%	675	60.2%	1122
30) Explain things in a way you could understand?	3	0.3%	35	3.1%	341	30.5%	739	66.1%	1118
31) Show respect for what you had to say?	4	0.4%	59	5.3%	327	29.2%	730	65.2%	1120
32) Spend enough time with you?	14	1.3%	108	9.7%	434	38.8%	563	50.3%	1119
<b>Composite</b>	<b>24</b>	<b>0.5%</b>	<b>272</b>	<b>6.1%</b>	<b>1476</b>	<b>33.0%</b>	<b>2707</b>	<b>60.4%</b>	<b>4479</b>

Vermont Composite Score contains data from TVHP, BCBS VT and MVP. Cigna data was not available.  
 Percentage of people who answered that they usually or always get care quickly: **93.4%**.



## 2002 Office of Vermont Health Access CAHPS Child Medicaid Survey

### Doctors Who Communicate Well

In the last six months, how often did your child's doctors or other health providers:	Never/Sometimes	Usually	Always
Q32. Listen carefully to you?	4.0%	20.0%	76.0%
Q34. Explain things in a way you could understand?	5.0%	12.0%	83.0%
Q35. Show respect for what you had to say?	3.0%	16.0%	81.0%
Q38. Explain things in a way your child could understand?	5.0%	22.0%	73.0%
Q39. Spend enough time with your child?	9.0%	23.0%	68.0%
<b>Composite</b>	<b>5.0%</b>	<b>19.0%</b>	<b>76.0%</b>
<b>Child Medicaid National Composite</b>	<b>11.0%</b>	<b>21.0%</b>	<b>68.0%</b>

Data collected from CAHPS Medicaid Survey (see spotlight that follows)  
 \*Based on an aggregate of data for the five survey questions listed above

### Getting Needed Care for Children

How much of a problem, if any:	A big problem		A small problem		Not a problem		Sample Size
	Number	%	Number	%	Number	%	
Q4. With the choices your child's health plan gave you, was it to get a personal doctor or nurse for your child you are happy with?	2	5.0%	9	21.0%	32	74.0%	43
Q13. In the last six months, was it to get a referral to a specialist that your child needed to see?	5	7.0%	5	7.0%	60	86.0%	70
Q27. In the last six months, was it to get the care for your child that you or a doctor believed necessary?	5	2.0%	13	5.0%	248	93.1%	266
Q28. In the last six months, were delays in your child's health care while you waited for approval from your child's health plan?	0	0.0%	5	2.0%	261	98.0%	266
<b>Composite</b>	<b>8</b>	<b>3.0%</b>	<b>25</b>	<b>9%</b>	<b>248</b>	<b>88%</b>	<b>282</b>
<b>Child Medicaid National Composite</b>	<b>3262</b>	<b>6.1%</b>	<b>6524</b>	<b>12.1%</b>	<b>44038</b>	<b>81.8%</b>	<b>53830</b>

Data collected from CAHPS Medicaid Survey (see spotlight that follows)  
 \*Based on an aggregate of data for the four survey questions listed above

## Getting Care Quickly for Children

In the last six months:	Never/Sometimes		Usually		Not a problem		Sample Size
	Number	%	Number	%	Number	%	
Q18 When you called during regular office hours, how often did you get the help or advice you needed for your child?	6	3.0%	26	13.1%	168	83.8%	201
Q20 How often did your child get an appointment for regular or routine health care as soon as you wanted?	15	8.0%	40	21.0%	135	71.0%	190
Q23 When your child needed care right away for an illness or injury, how often did your child get care as soon as you wanted?	5	4.0%	28	21.0%	101	75.0%	134
Q29 How often did your child wait in the doctor's office or clinic more than 15 minutes past the appointment time to see the person your child went to see?	44	17.2%	105	40.4%	110	42.4%	259
<b>Composite</b>	<b>24</b>	<b>8.0%</b>	<b>71</b>	<b>24.0%</b>	<b>201</b>	<b>68.0%</b>	<b>295</b>
<b>Child Medicaid National Composite</b>	<b>9134</b>	<b>17.0%</b>	<b>14507</b>	<b>27.0%</b>	<b>30089</b>	<b>56.0%</b>	<b>53730</b>

Data collected from CAHPS Medicaid Survey (see spotlight that follows)

\*Based on an aggregate of data for the four survey questions listed above

## Customer Service

In the last six months, how much of a problem, if any:	A big problem		A small problem		Not a problem		Sample Size
	Number	%	Number	%	Number	%	
Q79 Was it to find or understand information in the written materials?	1	2.0%	5	9.0%	48	89.0%	54
Q 81 Was it to get the help you needed when you called your child's health plan's customer service?	1	2.0%	7	15.0%	40	83.0%	48
Q8 Did you have with paperwork for your child's health plan?	4	5.0%	17	22.0%	58	73.0%	79
<b>Composite</b>	<b>4</b>	<b>3.0%</b>	<b>20</b>	<b>15.0%</b>	<b>109</b>	<b>82.0%</b>	<b>133</b>
<b>Child Medicaid National Composite</b>	<b>3069</b>	<b>11.0%</b>	<b>6137</b>	<b>22.0%</b>	<b>18690</b>	<b>67.0%</b>	<b>27896</b>

Data collected from CAHPS Medicaid Survey (see spotlight that follows)

\*Based on an aggregate of data for the four survey questions listed above

## Courteous and Helpful Office Staff

In the last six months, how often:	Never/Sometimes		Usually		Not a problem		Sample Size
	Number	%	Number	%	Number	%	
Q30 Did office staff at your child's doctor's office or clinic treat you and your child with courtesy and respect?	11	4.0%	35	13.0%	222	83.0%	268
Q31 Were office staff at your child's doctor's office or clinic as helpful as you thought they should be?	19	7.0%	61	23.0%	186	70.0%	266
<b>Composite</b>	<b>16</b>	<b>5.9%</b>	<b>48</b>	<b>17.8%</b>	<b>206</b>	<b>76.2%</b>	<b>270</b>
<b>Child Medicaid National Composite</b>	<b>4422</b>	<b>9.0%</b>	<b>9336</b>	<b>19.0%</b>	<b>35379</b>	<b>72.0%</b>	<b>49138</b>

Data collected from CAHPS Medicaid Survey (see spotlight that follows)

\*Based on an aggregate of data for the four survey questions listed above

## Consumer Ratings

Overall Rating of :	Worst Possible 0-6*	7-8*	Best Possible 9-10*
<b>Child's Personal Doctor</b> (Q11. How would you rate your child's personal doctor or nurse now?)	7%	25%	68%
<b>Child Specialists</b> (Q15. How would you rate your child's specialist?)	18%	27%	55%
<b>Child's Health Care</b> (Q49. How would you rate all of your child's health care?)	8%	27%	65%
<b>Child's Health Plan</b> (Q87. How would you rate your child's health plan now?)	10%	32%	58%

\*Based on a rating scale of 0-10 with 0 as the worst health care possible, and 10 the best health care possible.

Data collected from CAHPS Medicaid Survey (see spotlight that follows)

# Efficiency and Resource Consumption

## Efficiency

The health care system should avoid waste, including waste of equipment, supplies, ideas, and energy. Efficiency is the fifth aim of the Institute of Medicine for an improved health care system. Given the large amount of waste in the current system, the IOM sees no “immediate conflict in the simultaneous pursuit of lower costs through efficiency and better patient experiences through safety, effectiveness, patient-centeredness and timeliness.”<sup>1</sup>

Though the IOM includes efficiency as a key need in health care reform, the IOM does not recommend that measurements of efficiency be included in the *National Quality Report*. In part, the IOM’s recommendations are based on the current lack of valid scientific measurements of efficiency.<sup>2</sup>

The VPQHC Board of Directors is of the opinion that information on current expenditures and resource consumption is germane to the *Vermont Health Care Quality Report*. VPQHC recognizes our current inability to measure efficiencies; however, VPQHC believes that the inclusion of summary measures of health care expenditures supports important reflection on the relationship between the quality of care and the cost of care, i.e. the value of health care.

## Resource Consumption

The most comprehensive document on Vermont health care expenditures is the *Vermont Health Care Expenditure Analysis* published annually by the Health Care Administration.<sup>3</sup> This report provides two distinct views of health care expenditures in Vermont. The **resident analysis** quantifies expenditures on behalf of Vermont residents regardless of where care was rendered. For example, this view includes expenditures incurred by a Vermont resident who received care in a New Hampshire hospital. The **provider analysis** quantifies all revenue received by Vermont providers regardless of where patients live. This view includes the expenses incurred by a New York resident hospitalized in a Vermont institution. Highlights from the *2001 Expenditure Report* are included in the following measurement section.

## Goals and Standards

### Vermont State Statutes<sup>4</sup>

Two relevant legislative mandates exist in the Vermont State Statutes.

#### ***Title 18: Health; Chapter 221: Health Care Administration; Subsection 9401. Policy***

“...To achieve this policy it is necessary that the state ensure the quality of health care services provided in Vermont and, until health care systems are successful in controlling their costs and resources, to oversee cost containment.”

**Title 18: Health; Chapter 221: Health Care Administration; Subsection 9406.  
Expenditure analysis; unified health care budget.**

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

(1) The budget shall:

(A) Serve as the basic framework within which health care costs are controlled, resources directed, and quality and access assured.”

## Measurement

### 2001 Vermont Health Care Expenditure Analysis

#### Highlights from the Resident View

- Health care spending on Vermont residents totaled \$2.6 billion in 2001, an increase of 11.5 percent over 2000. National health care costs increased 8.7 percent in 2001.
- The trend of greater government financing of health care continued in 2001. Government spending, which includes Medicare, Medicaid, and Other Government expenditures, increased 12.9 percent in 2001, while private spending, which includes private health insurance and out-of-pocket expenditures, rose 11.4 percent.
- Of the \$262 million increase in health care expenditures for Vermont residents in 2001, government expenditures accounted for \$135 million (or 51.6 percent) of the increase. Spending for the Vermont Medicaid program rose an additional \$84 million between 2000 and 2001. Within the Vermont Medicaid program, the categories with the most growth in 2001 included mental health (\$34.5 million), hospital (\$14.8 million), physician (\$12.3 million) and drugs and supplies (\$8.7 million).
- The health care payer with the greatest rate of expenditure growth on Vermont residents between 1997 and 2001 was Medicaid, increasing on average 13.4 percent per year. This compared to 9.2 percent for all payer sources between 1997 and 2001.

#### Highlights from the Provider View

- Vermont health care providers reported \$2.5 billion in health care expenditures for residents and non-residents who used services in Vermont in 2001. Vermont provider health care expenditures increased 11.2 percent over 2000.
- The provider service category with the greatest change between 1997 and 2001 in Vermont was government health activities, increasing on average 18.3 percent annually. A large part of the increase was community mental health services funded by Medicaid. All provider services increased on average 9.0 percent per year between 1997 and 2001.
- Hospitals are the single largest health care expenditure category in Vermont. Hospital expenditures rose 10.8 percent in 2001, the largest increase in five years.
- Drug spending continued to grow faster than other areas. However, the 15.0 percent rate of growth in 2001 was down slightly from previous years.

<sup>1</sup> Institute of Medicine, *Crossing the Quality Chasm: A New Health System for the 21st Century*. Washington D.C.: National Academy Press, 2001 pg. 52.

<sup>2</sup> Institute of Medicine. 2001. *Envisioning a National Health Care Quality Report*. Washington, D.C.: National Academy Press, 2001

<sup>3</sup> [www.bishca.state.vt.us/HcaDiv/Data&Reports/data&reindex.htm](http://www.bishca.state.vt.us/HcaDiv/Data&Reports/data&reindex.htm)

<sup>4</sup> Vermont Statutes/Title 18 Health/Part 9 Unified Health Care System/Chapter 221. Health Care Administration/ Subchapter 1. General Provisions/§ 9401. Policy.

## Relevant Resources

State of Vermont

**Department of Banking,  
Insurance, Securities & Health  
Care Administration (BISHCA)**

Source of Consumer Reports and information regarding health administration, insurance, banking and securities.

<http://www.bishca.state.vt.us>

The following section contains available measures related to efficiency and resource consumption in the Vermont health care system.

## 2001 Vermont Hospital Discharge Data Set (VHDDS) and Health Care Cost & Utilization Project (HCUP)

### Hospitalizations

Quality and Utilization Measures*	1997 VT	1998 VT	1999 VT	2000 VT	2001 VT	1997 US	1998 US	1999 US	2000 US	2001 US
<b>Acute care in general hospitals (excluding newborns, mental health and chemical dependency) — admissions per 1,000 people**</b>										
all ages	94.8	91.9	92.4	93.9	94.2	122.1	118.6	119.2	121.6	122.3
ages 0-64	67.1	64.8	64.7	65.2	64.9	88.2	85.3	87.1	89.2	88.4
ages 65+	289.3	281.3	283.8	290.5	303.4	354.8	348.7	342.3	347.3	359.8
<b>Average length of stay for acute care admissions</b>										
all ages	4.7	4.6	4.9	4.5	4.3	4.6	4.5	4.4	4.4	4.4
ages 0-64	3.8	3.8	4.1	3.8	3.7	3.8	3.8	3.7	3.7	3.7
ages 65+	5.8	5.6	5.9	5.7	5.3	6.0	5.8	5.7	5.6	5.5
<b>Medical admissions (excluding maternity, newborns, mental health and chemical dependency) per 1,000</b>										
all ages	56.9	55.5	55.4	57.1	57.5	75.7	74.2	74.6	75.7	76.1
ages 0-64	36.0	35.1	34.7	35.4	35.4	50.5	49.1	50.2	51.1	50.6
ages 65+	203.7	197.5	197.6	205.9	215.2	249.4	248.8	244.6	248.3	255.1
<b>Average length of stay for medical admissions</b>										
all ages	4.8	4.6	4.7	4.3	4.0	4.5	4.4	4.3	4.2	4.2
ages 0-64	4.1	3.9	4.1	3.6	3.4	3.7	3.7	3.6	3.6	3.6
ages 65+	5.3	5.1	5.3	5.1	4.7	5.5	5.3	5.2	5.1	5.0
<b>Surgical admissions per 1,000**</b>										
all ages	26.2	25.1	25.8	25.6	25.9	30.2	28.9	29.0	29.5	30.5
ages 0-64	17.7	16.7	17.1	17.0	17.2	19.2	18.5	19.1	19.5	19.8
ages 65+	85.6	83.8	86.1	84.6	88.2	105.2	99.7	97.6	98.9	104.6
<b>Average length of stay for surgical admissions</b>										
all ages	5.7	5.7	6.3	5.9	5.9	6.1	6.1	5.9	5.8	5.7
ages 0-64	4.7	4.7	5.4	5.2	5.0	5.2	5.2	5.2	5.0	5.0
ages 65+	7.0	6.9	7.5	6.9	6.9	7.3	7.1	7.0	6.9	6.7
<b>Maternity admissions per 1,000 (women ages 10-49)</b>										
	39.6	38.6	38.3	37.9	37.8	55	52.7	53.3	56.0	54.3

\*Admissions per 1,000 are calculated by dividing the total number of occurrences of the event/condition (numerator) by the total number of people in the population (denominator) and multiplying by 1,000. Average length of stay is calculated by dividing the total number of days people were hospitalized by the total number of hospital stays for that condition.

\*\*Rates have changed slightly compared to previous years due to population estimates changing. Rates calculated using Hedis 2003 definitions.

Definition of the Measures	2001 VT Numerator	2001 VT Denominator	VT Data Source	US Data Source
<i>Medical, surgical and maternity DRGs 1-423 and 439-455, 461, 463-471, 473, 475-520. These admissions do NOT include non-acute care, newborns or stays for mental health and chemical dependency.</i>	57,701	612,308	VHDDS	HCUP
	34,869	537,053		
	22,832	75,255		
<i>Total acute care days divided by total acute care admissions.</i>	249,752	57,701		
	127,922	34,869		
	121,830	22,832		
<i>Medical admissions (excluding maternity, newborns, mental health and chemical dependency) DRGs 9-35, 43-48, 64-74, 78-102, 121-145, 172-190, 202-208, 235-256, 271-284, 294-301, 316-333, 346-352, 366-369, 385-391, 395-399, 403-405, 409-414, 416-423, 444-455, 463-467, 473, 475, 487, 489, 490, 492, 505, and 508-511.</i>	35,187	612,308	VHDDS	HCUP
	18,992	537,053		
	16,195	75,255		
<i>Total medical days divided by total medical admissions.</i>	141,280	35,187		
	65,487	18,992		
	75,793	16,195		
<i>Surgical admissions DRGs 1-8, 36-42, 49-63, 75-77, 103-109, 110-120, 146-171, 191-201, 209-234, 257-270, 285-293, 302-315, 334-345, 353-365, 392-394, 400-402, 406-408, 415, 439-443, 461, 468, 471, 476-486, 488, 491, 493-504, 506, 507, and 512-520.</i>	15,887	612,308	VHDDS	HCUP
	9,420	537,053		
	6,637	75,255		
<i>Total surgical days divided by total surgical admissions.</i>	93,030	15,887		
	46,993	9,420		
	46,037	6,637		
<i>Vaginal births, C-sections and other maternity-related hospitalizations DRGs 370-384 for women 10-49 years old.</i>	6,635	175,708	VHDDS	HCUP

## Additional High Volume Procedures

Quality and Utilization Measures*	1997 VT	1998 VT	1999 VT	2000 VT	2001 VT	1997 US	1998 US	1999 US	2000 US	2001 US
Back and neck surgery (laminectomy) admissions per 1,000 people (ages 20-64) (map)	1.7	1.3	1.3	1.1	1.2	(ages 18-64) 2.2	(ages 18-64) 2.2	(ages 18-64) 2.2	(ages 18-64) 2.3	(ages 18-64) 2.5
Hysterectomy—admissions per 1,000 (VT women ages 15+) (map)	4.4	4.5	4.4	4.6	5.0	(ages 18+) 5.7	(ages 18+) 5.4	(ages 18+) 5.6	(ages 18+) 5.7	(ages 18+) 4.5

\*Admissions or procedures per 1,000 are calculated by dividing the total number of occurrences of the event/condition (numerator) by the total number of people in the population (denominator) and multiplying by 1,000.

## Additional High Volume Services for the Elderly

Quality and Utilization Measures*	1997 VT	1998 VT	1999 VT	2000 VT	2001 VT	1997 US	1998 US	1999 US	2000 US	2001 US
Hip, knee and ankle replacement - admissions per 1,000 people (ages 65+) (map)	12.0	11.6	12.3	12.3	12.8	12.2	11.5	11.2	11.7	12.6
Total hip replacement - admissions per 1,000 (ages 65+)	4.6	4.2	4.4	5.0	4.9	3.7	3.6	3.5	3.6	4.0
Total knee replacement - admissions per 1,000 (ages 65+)	5.8	5.8	6.3	5.6	6.1	6.6	6	6	6.2	6.7
Reduction of fracture of the femur - admissions per 1,000 (ages 65+)	5.1	5.0	5.7	4.1	4.7	5.5	5.3	5.1	5.0	4.9
Total adult respiratory diseases - admissions per 1,000 (ages 65+) (map)	24.5	26.1	27.6	27.1	27.9	5.8	28.1	29.9	28.3	17.6
simple pneumonia and pleurisy	15.9	16.8	17.6	16.7	18.6	14.6	16.1	17.4	16.5	16.1
chronic obstructive pulmonary disease (COPD)	8.6	9.3	10.0	10.4	9.3	11.3	12	12.4	11.8	11.8
Major Surgery on the large intestines - admissions per 1,000 (ages 65+) (map)	4.3	4.1	3.9	4.0	4.2	4.5	4.5	4.3	4.2	4.3
Percent of older adults receiving flu shots in the past year (ages 65+) **	69.5%	N/A	73.4%	N/A	71.5%	65.9%	N/A	67.4%	66.1%	66.1%

\* Admissions or procedures per 1,000 are calculated by dividing the total number of occurrences of the event/condition (numerator) by the total number of people in the population (denominator) and multiplying by 1,000. Percents are calculated by dividing the total number of occurrences of the event/condition (numerator) by the total number of people in the population (denominator) and multiplying by 100.

\*\* Using data from the 2001 BRFSS — influenza objective reached by 54 states (includes District of Columbia and Puerto Rico) — state-based phone survey.



Definition of the Measures	2001 VT Numerator	2001 VT Denominator	VT Data Source	US Data Source***
<i>ICD-9 procedure codes 3.02, 3.09, 80.50, 80.51, 80.59.</i>	431	364,434	VHDDS	HCUP
<i>ICD-9 procedure codes 68.3-68.9.</i>	1,241	249,760	VHDDS	HCUP

Definition of the Measures	2001 VT Numerator	2001VT Denominator	VT Data Source	US Data Source
DRG 209.	967	75,255	VHDDS	HCUP
<i>ICD-9 81.51, 81.53.</i>	369	75,255	VHDDS	HCUP
<i>ICD-9 81.54, 81.55.</i>	462	75,255	VHDDS	HCUP
<i>ICD-9 procedure codes 79.05, 79.15, 79.25, and 79.35.</i>	356	75,255	VHDDS	HCUP
<i>DRGs 88 and 89.</i>	2,099	75,255	VHDDS	HCUP
<i>DRG 89.</i>	1,396	75,255	VHDDS	HCUP
<i>DRG 88.</i>	703	75,255	VHDDS	HCUP
<i>ICD-9 procedure codes 45.71-45.79.</i>	313	75,255	VHDDS	HCUP
<i>Elderly Vermonters receiving an influenza vaccination in the past year.</i>	2001 VT Numerator est. 53,807	2001 VT Denominator 75,255	BRFSS	BRFSS

\*\*\*New census population numbers for 2000 have adjusted the population used for calculating rates for past years. As a result rates have been recalculated. You may notice slight variation in rates when comparing them to past quality reports.

## Rule 10 Reporting Requirements\*\*\*

### Ambulatory or Outpatient Services and Supplies

Quality and Utilization Measures*		1997 VT	1998 VT	2000 VT	2001 VT	2001** US MCO	2001** NE MCO
Office, clinic and home visits per person	ages 0-64	3.5	3.7		3.3		
	ages 65+				5.4		
	all ages			3.1	3.3	3.4	3.9
Emergency room visits per 1,000 people	ages 0-64	127	196		185		
	ages 65+				185		
	all ages			158	185	177	193
Same-day surgery procedures per 1,000 people	ages 0-64	75	81.6		110		
	ages 65+				294		
	all ages			67	112	94	100
Drug prescriptions (and refills) per person	ages 0-64		5.6		7.7		
	ages 65+				22		
	all ages			6.4	7.9	9	10

\*Visits per person are calculated by dividing the total number of occurrences of the event/condition (numerator) by the total number of people in the population (denominator). Visits or surgeries per 1,000 people are calculated by dividing the total number of occurrences of the event/condition (numerator) by the total number of people in the population (denominator) and multiplying by 1,000.

\*\*US and New England managed care organizations.

\*\*\*In previous years data was calculated for select age groups. This data is no longer available for recalculation.

Definition of the Measures	2001 VT Numerator	2001 VT Denominator	VT Data Source	MCO Data Source
<i>Home and office visits, excluding mental health and chemical dependency visits. (1997 rates are only for Vermonters enrolled in managed care plans; 1996 and 1998 rates include people insured by managed care and fee-for-service health plans.) Based on the experience of 156,607 Vermonters, all ages, or 26% of the population.</i>	510,633	154,884	Rule 10	QC02
	9,256	1,723	Rule 10	
	519,889	156,607	Rule 10	
<i>Emergency visits based on hospital revenue codes 450-459. (1997 rates are only for Vermonters enrolled in managed care plans; 1996 and 1998 rates include people insured by managed care and fee-for-service health plans.)</i>	28,577	154,884	Rule 10	QC02
	319	1,723	Rule 10	
	28,896	156,607	Rule 10	
<i>Outpatient surgical procedures at a hospital or independent surgical center, based on Physicians' CPT-4 codes. (1997 rates are only for Vermonters enrolled in managed care plans; 1996 and 1998 rates include people insured by managed care and fee-for-service health plans.)</i>	17,017	154,884	Rule 10	QC02
	507	1,723	Rule 10	
	17,524	156,607	Rule 10	
<i>General volume indicator of prescription drug use, based on Vermonters with insurance coverage. 1998 data does not include elderly Vermonters.</i>	1,049,329	135,658	Rule 10	QC02
	36,293	1,645		
	1,085,622	137,303		

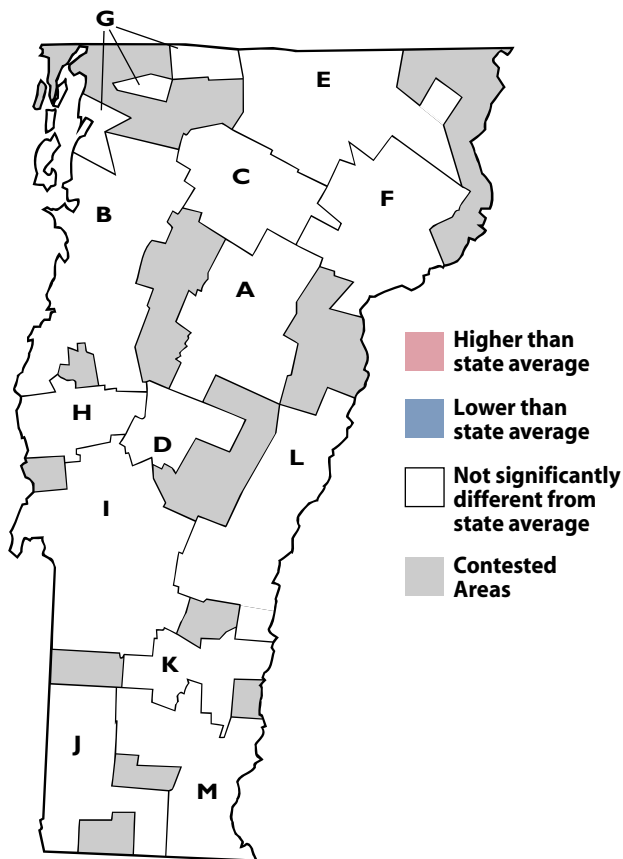
## Small Area Variation Analysis

The following displays are based on analysis done by the Vermont Department of Health using VHDDS.

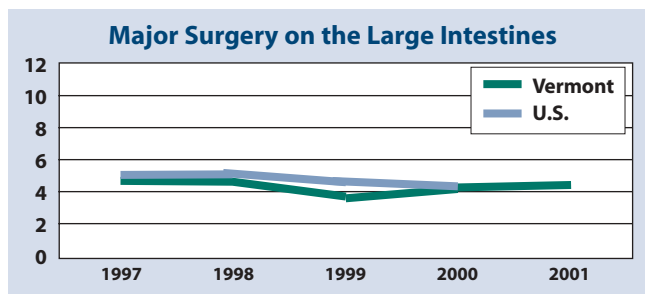
# Major Surgery on the Large Intestines

2001 age-adjusted rate of hospitalization per thousand residents age 65 and older

The most common diagnosis for older adults having major surgery on the large intestines is cancer.



Hospital Service Area	1997	1998	1999	2000	2001
A. Central Vermont					
B. Chittenden					
C. Copley					
D. Gifford					
E. North Country					
F. Northeastern					
G. Northwestern					
H. Porter					
I. Rutland					
J. Southwestern					
K. Springfield					
L. Upper Ct Valley					
M. Windham					
<b>State Rate</b>	<b>4.3</b>	<b>4.1</b>	<b>3.9</b>	<b>4.0</b>	<b>4.2</b>



Rates on this map represent the number of hospitalizations per thousand Vermont residents who live in a geographic region of the state. The geographic area is called the hospital service area (HSA). These rates do not reflect where care is actually delivered.

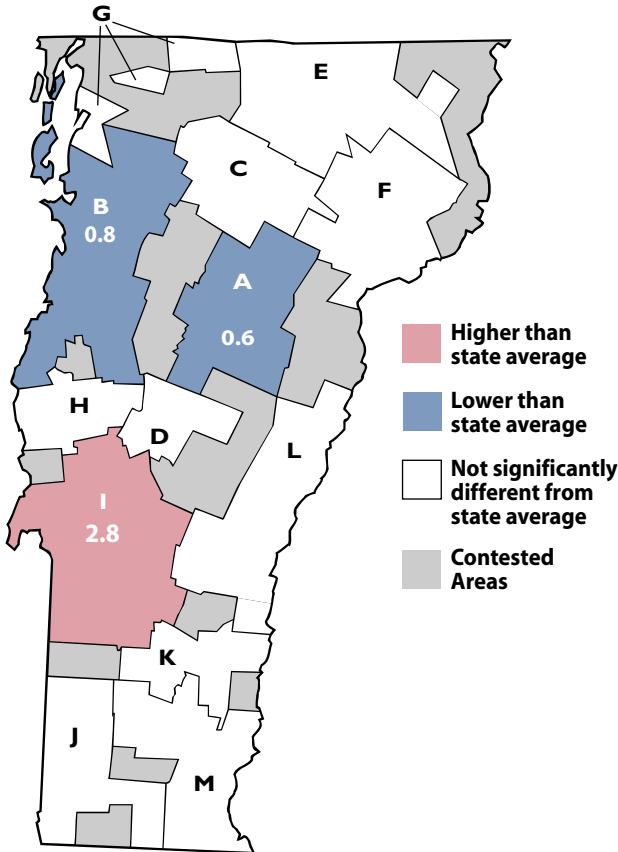
Statistical significance, measured at the .05 level, is highlighted in either pink (above the state average) or blue (below the average). In these areas, the regional rate is significantly different from the overall statewide rate. All of the HSA rates are age-adjusted to account for the different population mixes in different regions of the state.

New census population numbers for 2000 have adjusted the population used for calculating rates for past years. As a result, rates have been recalculated. You may notice a slight variation in rates when comparing them to past Quality Reports.

# Back and Neck Surgery

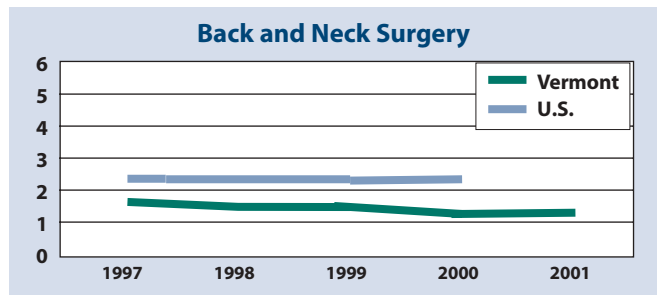
2001 age-adjusted rate of hospitalization per thousand residents ages 20-64

Surgery is one form of treatment for back pain caused by compression of the spinal cord or herniated vertebral discs.



**2001 State Average**  
**Total Discharges = 431**  
**Rate = 1.2 per 1,000**  
**Average Length of Hospitalization = 3.1 Days**

Hospital Service Area	1997	1998	1999	2000	2001
A. Central Vermont				0.6	0.6
B. Chittenden		0.8	0.8	0.7	0.9
C. Copley					
D. Gifford					
E. North Country					
F. Northeastern				2.1	
G. Northwestern					
H. Porter					
I. Rutland	2.5	2.4	2.0	1.7	2.8
J. Southwestern					
K. Springfield					
L. Upper Ct Valley					
M. Windham					
<b>State Rate</b>	1.7	1.3	1.3	1.1	1.2



Rates on this map represent the number of hospitalizations per thousand Vermont residents who live in a geographic region of the state. The geographic area is called the hospital service area (HSA). These rates do not reflect where care is actually delivered.

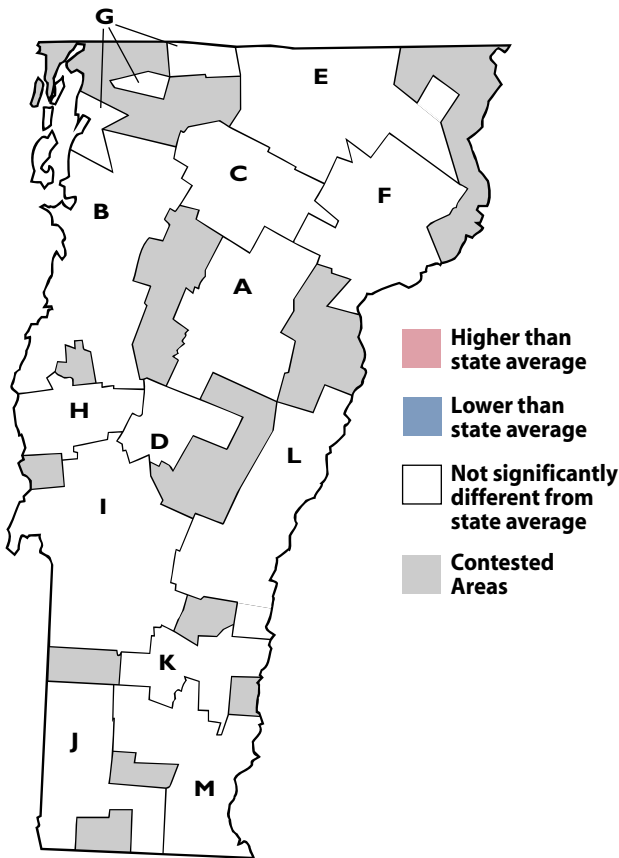
Statistical significance, measured at the .05 level, is highlighted in either pink (above the state average) or blue (below the average). In these areas, the regional rate is significantly different from the overall statewide rate. All of the HSA rates are age-adjusted to account for the different population mixes in different regions of the state.

New census population numbers for 2000 have adjusted the population used for calculating rates for past years. As a result, rates have been recalculated. You may notice a slight variation in rates when comparing them to past Quality Reports.

# Hip, Knee and Ankle Replacement Surgery

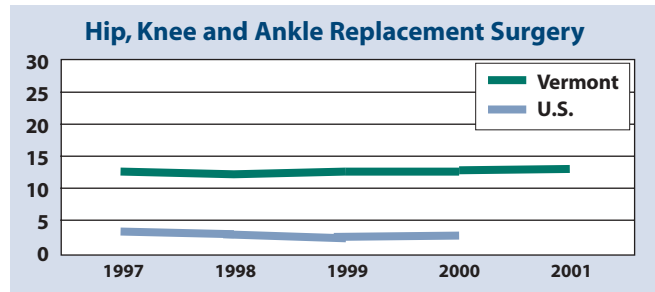
2001 age-adjusted rate of hospitalization per thousand residents age 65 and older

A total replacement is a surgical procedure to replace a damaged hip, knee or ankle joint with an artificial joint. The most common condition for which such replacements are performed is degenerative arthritis.



**2001 State Average**  
**Total Discharges = 967**  
**Rate = 12.8 per 1,000**  
**Average Length of Hospitalization = 5.6 Days**

Hospital Service Area	1997	1998	1999	2000	2001
A. Central Vermont					
B. Chittenden					
C. Copley					
D. Gifford					
E. North Country					
F. Northeastern					
G. Northwestern					
H. Porter					
I. Rutland				16.0	
J. Southwestern					
K. Springfield					
L. Upper Ct Valley					
M. Windham					
<b>State Rate</b>	<b>12.0</b>	<b>11.6</b>	<b>12.3</b>	<b>12.3</b>	<b>12.8</b>



Rates on this map represent the number of hospitalizations per thousand Vermont residents who live in a geographic region of the state. The geographic area is called the hospital service area (HSA). These rates do not reflect where care is actually delivered.

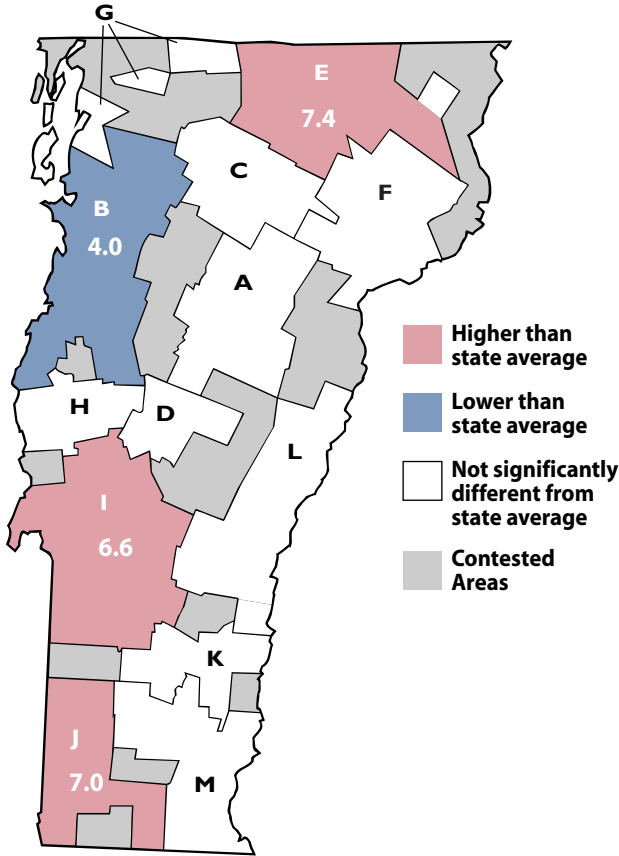
Statistical significance, measured at the .05 level, is highlighted in either pink (above the state average) or blue (below the average). In these areas, the regional rate is significantly different from the overall statewide rate. All of the HSA rates are age-adjusted to account for the different population mixes in different regions of the state.

New census population numbers for 2000 have adjusted the population used for calculating rates for past years. As a result, rates have been recalculated. You may notice a slight variation in rates when comparing them to past Quality Reports.

# Hysterectomy

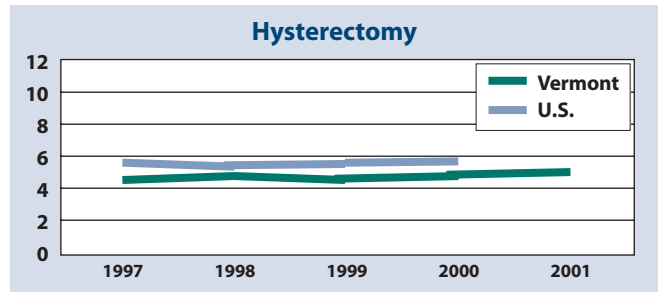
## 2001 age-adjusted rate of hospitalization per thousand women age 15 and older

A hysterectomy is the surgical removal of a woman's uterus. It is one form of treatment for common gynecological conditions such as fibroids, uterine prolapse, abnormal bleeding, pelvic pain and endometriosis.



**2001 State Average**  
**Total Discharges = 1,241**  
**Rate = 5.0 per 1,000**  
**Average Length of Hospitalization = 3.2 Days**

Hospital Service Area	1997	1998	1999	2000	2001
A. Central Vermont					
B. Chittenden	3.6			3.5	4.0
C. Copley					
D. Gifford		8.2			
E. North Country					7.4
F. Northeastern			6.6		
G. Northwestern					
H. Porter					
I. Rutland	5.6				6.6
J. Southwestern					7.0
K. Springfield					
L. Upper Ct Valley					
M. Windham					
<b>State Rate</b>	<b>4.4</b>	<b>4.5</b>	<b>4.4</b>	<b>4.6</b>	<b>5.0</b>



Rates on this map represent the number of hospitalizations per thousand Vermont residents who live in a geographic region of the state. The geographic area is called the hospital service area (HSA). These rates do not reflect where care is actually delivered.

Statistical significance, measured at the .05 level, is highlighted in either pink (above the state average) or blue (below the average). In these areas, the regional rate is significantly different from the overall statewide rate. All of the HSA rates are age-adjusted to account for the different population mixes in different regions of the state.

New census population numbers for 2000 have adjusted the population used for calculating rates for past years. As a result, rates have been recalculated. You may notice a slight variation in rates when comparing them to past Quality Reports.

# Equity and Access

**H**ealth care should be equitable. The quality of health care should not vary in quality because of personal characteristics such as gender, ethnicity, geographic location, or socioeconomic status. Equity is one of the six aims of a new health care system for the 21st century recommended by the Institute of Medicine.<sup>1</sup>

On a population level, equity implies universal access to health care services. Access to health care is a significant determinant of health care quality.<sup>2</sup>

## Goals and Standards

*Healthy Vermonters 2010 objectives (<http://www.state.vt.us/health>):*

### **Access to health care**

- Increase the percentage of people who have a specific source of ongoing primary care. (goal: 96%)
- Increase the percentage of people with health insurance for all or part of the year. (goal: 100%)
- Increase the percentage of people (adults age 18+) counseled by a primary care professional, in the past three years, about health behaviors. (goal to be set)
- Increase the percentage of schools that provide comprehensive education to prevent health problems. (goal: 95%)

### **Ambulatory Sensitive Hospitalizations (hospitalization that might have been avoided with timely ambulatory care)**

- Further reduce pediatric asthma hospitalizations per 10,000 population for asthma among people age 18 and younger (goal: 17.3%)
- Reduce diabetes hospitalizations (hospitalizations per 10,000 population for uncontrolled diabetes among people age 18-64) (goal: 5.4)
- Reduce pneumonia/influenza hospitalizations (hospitalizations per 10,000 population for immunization-preventable pneumonia and influenza among adults age 65+). (goal: 8.0)



## Goals and Standards

### Vermont State Statutes<sup>3</sup>

Two relevant legislative mandates exist in the Vermont State Statutes.

#### **Title 18: Health; Chapter 17: Emergency Medical Services; Subsection 901. Policy**

“It is the policy of the state of Vermont that all persons who suffer sudden and unexpected illness or injury should have access to the emergency medical services system in order to prevent loss of life or the aggravation of the illness or injury, and to alleviate suffering. The system should include competent emergency medical care provided by adequately trained and equipped personnel acting under appropriate medical control.”

#### **Title 18: Health; Chapter 221: Health Care Administration; Subsection 9401. Policy**

“(a) It is the policy of the state of Vermont to insure that all residents have access to quality health services at costs that are affordable.”

“(5) Facilitate universal access to preventative and medically necessary health care.”

## Measurement

The following section contains available measures related to equity and access in the Vermont health care system.

## Relevant Resources

### **National Health Disparities Report**

An annual report on health care disparities in the United States (Public Law 106-129), including a broad set of performance measures that will be used to monitor the Nation’s progress toward improved health care quality for all Americans. The first report is due to be published sometime in 2003.

<http://www.ahcpr.gov/qual/nhdr02/nhdrprelim.htm>

<sup>1</sup> Institute of Medicine, *Crossing the Quality Chasm: A New Health System for the 21st Century*. Washington D.C.: National Academy Press, 2001 pg. 52.

<sup>2</sup> Ibid

<sup>3</sup> Vermont Statutes/Title 18 Health/Part 1 State and Local Health Agencies/Chapter 17. Emergency Medical Services/ § 901. Policy.

## Rule 10 Reporting Requirements

### Access to Care

Quality and Utilization Measures*†	1997 VT	1998 VT	2000 VT	2001 VT	2001** US MCO	2001** NE MCO
Percent of children who have seen a medical professional in an office, clinic or at home						
12-24 months				97%	95%	97%
25 months-6 years				92%	86%	93%
7-11 years				93%	86%	94%
1-11 years		89%	90%	93%		
Percent of adults who have seen a medical professional in an office, clinic, nursing home or at home in the past three years.						
ages 20-44		89%	94%	94%	92%	95%
ages 45-64		92%	96%	95%	94%	96%
ages 65+			97%	96%	95%	96%

\*Percentages are calculated by dividing the total number of occurrences of the event/condition (numerator) by the total number of people in the population (denominator) and multiplying by 100.

†Rule 10 data is collected in CY 2001 submitted in 2002 for BCBS VT, Cigna, TVHP, and MVP Health Plans.

\*\*US National Average and New England managed care organizations average for all LOBs.

Definition of the Measures	2001 VT Numerator	2001 VT Denominator	VT Data Source	MCO Data Source
<i>This statistic measures the percentage of children 12 to 24 months who saw a health care provider for primary care in the preceding year.</i>	1480	1520	Rule 10	QC 02
<i>This statistic measures the percentage of children 25 months to 6 years who saw a health care provider for primary care in the preceding year.</i>	7095	7690	Rule 10	QC 02
<i>For children 7 to 11 years, the measure is the percentage who saw a provider for primary care within the last two years.</i>	5963	6383	Rule 10	QC 02
<i>Children aged 1-11 years who have had at least one home or office visit with a medical professional in 1 or 2 years, excluding mental health and chemical dependency outpatient visits.</i>	14,538	15,593	Rule 10	
<i>Adults who have had at least one home or office visit with a medical professional in the last 3 years, excluding mental health and chemical dependency outpatient visits.</i>			Rule 10	
<i>Based on data from 4.1% of Vermont adults between the ages of 20 and 44 years old.</i>	8,383	8,873	Rule 10	QC 02
<i>Based on data from 6.5% of Vermont adults between the ages of 45 and 64 years old.</i>	9,156	9,609	Rule 10	QC 02
	384	400	Rule 10	QC 02

# Effectiveness

**H**ealth care should be effective. Diagnostic testing and treatments should be based on scientific knowledge. Evidence-based medical practice should be provided to all who could benefit, but not to persons not likely to benefit. Effective care ensures that medical services are neither underused nor overused.<sup>1</sup>

The following nine sections focus on common health care conditions and topics of interest.

- Maternal Child Health
- Diabetes
- Cancer
- Respiratory Disease
- Heart Disease
- Behavioral Health
- Oral Health
- Long Term Care
- End of Life Care

## Spotlights on Quality

There are a few ongoing quality improvement efforts in the state that address important issues not included in the subsections of this chapter. Descriptions of these efforts follow.

### Relevant Resources

#### National Guideline Clearinghouse (NGC)

A public resource for evidence-based clinical practice guidelines. NGC is sponsored by the U.S. Agency for Healthcare Research and Quality (AHRQ) in partnership with the American Medical Association and the American Association of Health Plans. <http://www.guideline.gov/index.asp>

<sup>1</sup> Institute of Medicine, *Crossing the Quality Chasm: A New Health System for the 21st Century*. Washington D.C.: National Academy Press, 2001 pg. 52.

## Community-Based Osteoporosis Education

*A Rural Outreach Program to Promote Prevention and Early Detection of Osteoporosis in Women*

### Background

Nationally, it is known that one in two women over age 50 will have an osteoporosis-related fracture in their lifetime. In addition, one-fourth of those who suffer an osteoporosis-related hip fracture and were ambulatory before their fracture, will require long-term care after the fracture. While specific data regarding the incidence in Vermont of osteoporosis and its debilitating outcomes are not readily available, increasing the percentage of women who are counseled about osteoporosis prevention is among the goals of Healthy Vermonters 2010. Nearly 30% of the female population in the North Country Health System (NCHS) service area are age 55 and over, thus the risks of hospitalizations, lengthier convalescence, and impaired quality of life are greater in this area. A community-based osteoporosis education project was developed to help raise community awareness about prevention and early detection.



- Track number and age of women attending educational sessions, and town of residence to assure adequate geographic spread by project
- Measure change in osteoporosis knowledge via pre- and post-tests administered at educational sessions.
- Measure effectiveness of educational sessions via a brief evaluation tool administered at most sessions.

(Some settings, e.g. work sites did not allow adequate time for this.)

### Activities

The population of Vermont's rural northeastern counties which are served by NCHS is associated with significant economic and educational challenges. In 2001, with support from the Vermont Association of Hospitals and Health Systems, NCHS implemented a community-based outreach program for osteoporosis education. A community health educator/registered nurse developed an educational display and presentation that was implemented at over 40 sites throughout the two counties. Over 500 women were reached through group presentations and additional numbers were reached through community and work site health fairs and events.

### Outcomes

Pre- and post-test scores which ranged from an increase of from 7% to 29%, with an average increase of 13%, revealed a significant increase in knowledge about osteoporosis. A lack of understanding that osteoporosis might be preventable and an

*Nationally, it is known that one in two women over age 50 will have an osteoporosis-related fracture in their lifetime.*

### Project Goals

- Increase the number of women in the NCHS service area under 50 who are counseled about osteoporosis prevention, and those over 50 who are counseled about the need for early detection
- Increase osteoporosis knowledge in at least 250 women throughout the NCHS service area

..... SPOTLIGHT ON IMPROVEMENT .....

**Community-Based Osteoporosis Education**

attitude that it is a disease solely of older women emerged as obstacles for reaching a significant number of younger women in this rural area. Many older participants of the educational sessions who see their primary care providers regularly had received screening previously, others were informed of the screening available at NCHS and were advised to see a health care provider in the future.

**Next Steps**

A modified osteoporosis awareness campaign continues targeting younger women about prevention and older women about the need for early detection.

**Contact**

Joanne Fedele, RN, MS  
Community Health Planner  
North Country Health System  
802-334-3208  
jfedele@nchsi.org  
www.nchsi.org

## MATERNAL CHILD HEALTH

**M**aternal Child Health refers to a broad spectrum of health care issues including prenatal care, care during the delivery of the infant, postpartum care, and support of the infant through childhood and adolescence. Timely comprehensive care throughout the pregnancy is important to promote healthy outcomes for both mother and infant.

General categories of children's health care include healthy newborn care, neonatal care for sick babies (usually babies born with congenital anomalies or born prematurely), well child care (regular preventive care pediatric visits), treatment for injuries, hospital care for children with serious illnesses or in need of surgery.

### Goals and Standards

**Relevant Healthy Vermonters 2010 objectives:** (<http://www.state.vt.us/health>)

#### Maternal, infant and child health

- Reduce infant deaths (deaths per 1,000 live births). (goal: 4.5)
- Reduce the percentage of low birth weight births (5.5 pounds or less). (goal: 5%)
- Reduce the percentage of very low birth weight births (3.3 pounds or less). (goal: 0.9%)
- Increase the percentage of women who receive prenatal care beginning in the first trimester (three months) of pregnancy. (goal: 90%)
- Increase the percentage of women who receive early and adequate prenatal care. (goal: 90%)
- Further reduce or maintain teen pregnancy rate (pregnancies per 1,000 females age 15 – 17). (goal: 46%)

#### Immunization and infectious disease

- Increase the percentage of children (age 19-35 months) who receive universally recommended vaccines (4:3:1:3). (goal: 90%)
- Increase the percentage of children (age 19-35 months) who receive one or more doses of varicella vaccine at or after age 12 months. (goal: 90%)
- Reduce or eliminate cases of vaccine preventable disease. (Haemophilus influenzae B (age <5), Measles, Rubella, Hepatitis B (age 2-18) (goal: 0); Pertussis (under age 7) (goal: 8)
- Increase the percentage of children included in an immunization registry. (goal: 95%)

#### Safety

- Further reduce child abuse (number of substantiated cases per 1,000 children under age 18). (goal: 11.1)
- Increase the percentage of people who always use safety belts - for youth: (goal: 92%)

## Measurements

The following section contains available measures related to maternal child health care in the Vermont Health Care system.

### 2001 Vermont Vital Statistics/2001 National Vital Statistics

#### Place Of Birth

Place of Birth:	Doctor		Certified Nurse Midwife		Lay Midwife		Family Member, Other, Unknown		Total	
	2001 VT	2001 US*	2001 VT	2001 US*	2001 VT	2001 US*	2001 VT	2001 US*	2001 VT	2001 US*
<b>At Home, Other Places</b>	0.0%	0.1%	0.7%	0.1%	1.2%	0.2%	0.3%	0.2%	2.2%	0.6%
<b>All Hospitals</b>	79.7%	91.3%	17.1%	7.4%	0.0%	0.1%	0.9%	0.3%	97.8%	99.1%
<b>Total Births</b>	79.7%	91.4%	17.8%	7.6%	1.2%	0.4%	1.2%	0.6%	100%	100.0%

US all hospitals do not include freestanding birthing center or Clinic or doctor's office. US at home and other does not include not specified. US Total births does include data for all places of birth for all attendants.

#### Maternal and Infant Health Care

Quality and Utilization Measures*	HP 2000 Goal	1997 VT	1998 VT	1999 VT	2000 VT	2001 VT	1997 US	1998 US	1999 US	2000 US	2001 US
Percent of women receiving prenatal care in the first trimester (first three months of pregnancy)	90%	87.9%	87.3%	87.9%	88.4%	89.5%	82.5%	83.0%	83.2%	83.2%	83.4%
Percent of Cesarean section (C-section) deliveries	15%	16.5%	17.3%	16.6%	17.9%	18.2%	20.8%	21.2%	22.0%	22.9%	24.4%
Percent of vaginal deliveries for women with a prior C-section (vaginal birth after C-section or VBAC)	35%	39.7%	39.1%	37.4%	40.6%	37.0%	27.4%	26.3%	23.4%	20.6%	16.4%
Average length of stay for hospital deliveries (women 10-49)		2.1	2.2	2.4	2.3	2.3	2.4	2.5	2.5	2.5	
Percent of low birth weight babies (less than 2500 grams)	5%	6.3%	6.6%		6.1%	5.9%	7.5%	7.6%	7.9%	7.6%	7.7%
Percent of very low birth weight babies (less than 1500 grams)	1%	1.0%	1.4%	1.1%	1.1%	1.1%	1.4%	1.4%	1.5%	1.4%	1.4%
Prenatal Care Late or No Care				2.5%	2.1%	1.7%			3.9%	3.9%	3.7%

\*Percentages are calculated by dividing the total number of occurrences of the event/condition (numerator) by the total number of people in the population (denominator) and multiplying by 100.



## Relevant Resources

### 4 Girls – Health Information for Girls

Becoming a Woman — Fit for Life — You Are What You Eat — Mind Over Matters — Choosing Not to Use — Putting it All Together — In the News  
www.4girls.gov

### American Academy of Pediatrics

Electronic news service for the profession. With material for parents and links to the academy's consumer referral service.  
www.aap.org

### National Association of Pediatric Nurse Associates and Practitioners

The National Association of Pediatric Nurse Associates and Practitioners. Get news, organizational info, chapter locations, FAQs, and links.  
www.napnap.org

### Healthy People 2010

A 10 year health objectives for the nation developed by the U.S. Department of Health and Human Services.  
www.health.gov/healthypeople

	2001 VT Numerator	2001 VT Denominator	VT Data Source	US Data Source
<i>Vermont residents receiving prenatal care in the first 13 weeks of pregnancy, divided by the total number of babies born to residents (excluding 283 babies for whom the information was not known, or 283+6084=6367 resident babies).</i>	5443	6084	VVitStat	NVSS-N
<i>Deliveries by cesarean section at Vermont hospitals, divided by the total number of deliveries at these hospitals ( 6003 total deliveries at Vermont hospitals).</i>	1095	6003	VVitStat	NVSS-N
<i>Vaginal deliveries (at Vermont hospitals) by women who had a C-section in a prior delivery, divided by all women who had a prior C-section.</i>	227	613	VVitStat	NVSS-N
<i>Average length of hospital stay for Vermont residents (women 10-49) delivering vaginally and by C-section. Total days divided by total admissions. The VHDDS reported 6069 deliveries by Vermont residents in 2001.</i>	13960	6069	VHDDS	HCUP
<i>Newborns (born to Vermont residents) weighing less than 2,500 grams at birth divided by the total number of newborns (excluding 18 deliveries where weight was unknown, 18+6349=6367).</i>	376	6349	VVitStat	NVSS-N
<i>Newborns (born to Vermont residents) weighing less than 1,500 grams at birth divided by the total number of newborns (see above).</i>	70	6349	VVitStat	NVSS-N
<i>Women who received no care or care beginning in the third trimester.</i>	106	6084	VVitStat	NVSS-N

**Average length of stay** is calculated by dividing the total number of days people were hospitalized by the total number of hospital stays for that condition(s).

## 2001 Vermont Hospital Discharge Data Set (VHDDS) and National Immunization Schedule (NIS)

### Childhood and Adolescent Health Care

Quality and Utilization Measures*	HP 2000 Goal	1997 VT	1998 VT	1999 VT	2000 VT	2001 VT	1997 US	1998 US	1999 US	2000 US	2001 US
Children with complete immunization by age two - 4:3:1	90%	84%	84%	91%	84%	86%	74%	78%	78%	75%	76%
Children with complete immunization by age two - 4:3:1:3		82%	83%	91%	83%	85%	73%	77%	77%	74%	75%
Adolescent immunization (two doses of measles vaccine by 7th grade)		96%	97%	94%				1999 US MCO 59%	1999** NE MCO 83%	2001 US MCO 62%	2001** NE MCO 90%
Total pediatric respiratory infections and asthma—admissions per 1,000 children (ages 0-17) (map)	1994 VT										
simple pneumonia	5.0	3.1	2.9	2.9	3.3	3.2	6.9	7.3	6.1	7.3	6.2
bronchitis and asthma	1.6	0.9	0.9	1.1	0.9	1.0	2.5	2.5	2.4	2.6	2.1
other respiratory infection and inflammation	3.2	2.1	1.8	1.6	2.2	2.0	4.2	4.6	3.6	4.6	4.1
Child and adolescent well-care visits (ages 0-21)	<i>Vermont data not available.</i>										
Myringotomy — procedures per 1,000 children (ages 0-19)	<i>Inpatient data on Vermonters are available, but comparable outpatient data are not from border states, e.g., outpatient procedures from NH, NY, and MA.</i>										
Tonsillectomy — procedures per 1,000 children (ages 0-19)	<i>Inpatient data on Vermonters are available, but comparable outpatient data are not from border states, e.g., outpatient procedures from NH, NY, and MA.</i>										

\*Percentages are calculated by dividing the total number of occurrences of the event/condition (numerator) by the total number of people in the population (denominator) and multiplying by 100. Admissions per 1,000 are calculated by dividing the total number of occurrences of the event/condition (numerator) by the total number of children in the population (denominator) and multiplying by 1,000.

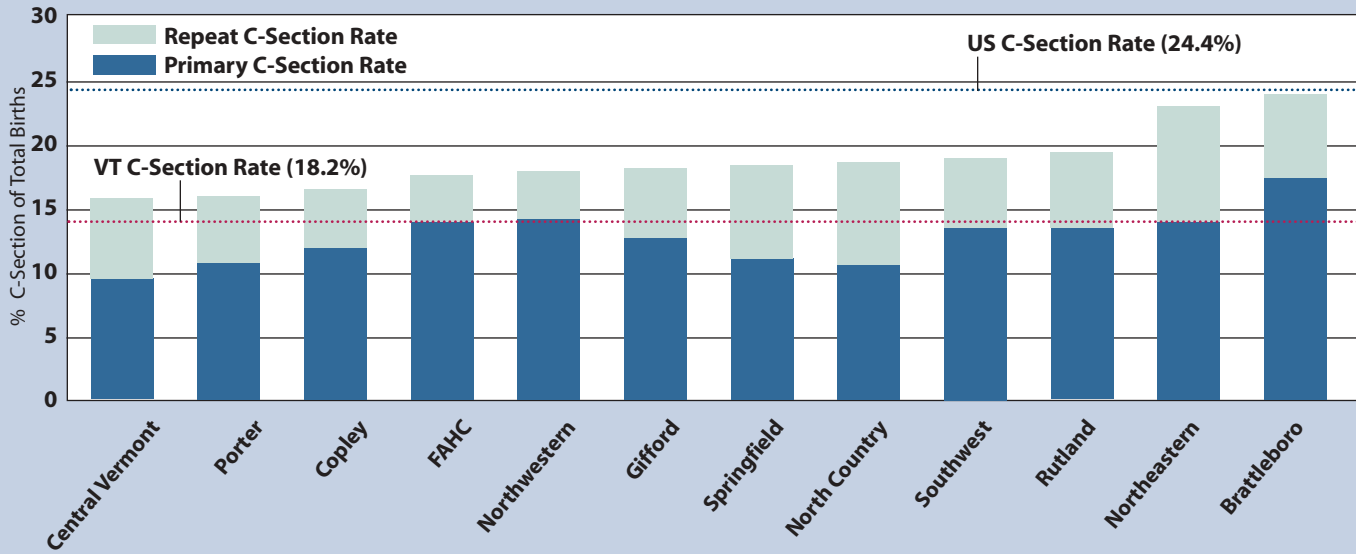
\*\*US and New England managed care organization.

Definition of the Measures	2001 VT Numerator	2001 VT Denominator	VT Data Source	US Data Source
National phone survey (with mail follow-up) to parents and providers. Based on completed surveys on Vermont children. Four or more doses of DTP/DT, three or more doses of poliovirus vaccine, and one or more of any measles-containing vaccine. The 95% confidence interval around the 2001 Vermont rate is +/- 3.6%. The 95% confidence interval around the U.S. rate is around +/- .09%.	est. 17,296	19,070	NIS	NIS
Same definition as above, plus children also completing 3 or more doses of H influenza type b vaccine. The 95% confidence interval around the 2001 Vermont rate is +/- 3.8%. The 95% confidence interval around the U.S. rate is around +/- .09%.	est. 17,258	19,070	NIS	NIS
Vermont 1998 data are the percent of all 7th grade students in Vermont who have received two doses of the measles vaccination. The US and NE MCO data are the percent of 13 year olds who received appropriate immunizations for measles, mumps and rubella during the previous year.	8,149	8,645	VSVSR	MCO Data QC02
DRGs 81, 91, and 98.	482	152,417	VHDDS	US Data HCUP
DRG 91.	152	152,417	VHDDS	HCUP
DRG 98.	301	152,417	VHDDS	HCUP
DRG 81.	29	152,417	VHDDS	HCUP
Children and adolescents receiving well-care visits with a primary care provider.				
Inpatient and same-day surgeries for ICD-9 procedure code 20.01.				
Inpatient and same-day surgeries for ICD-9 procedure codes 28.2-28.4.				
REF for immunizations - Centers for Disease Control and Prevention, National, State, and Urban Area Vaccination Coverage Levels Among Children Aged 19-35 Months - United States, 1997. MMWR, July 10, 1998, 47(26), pp. 547-554 FN HEDIS DEF reported was 4:3:1:2 hep B:2Hib vaccinations				
REF: Healthy Vermonters 2000 - Health Status Report '98.				

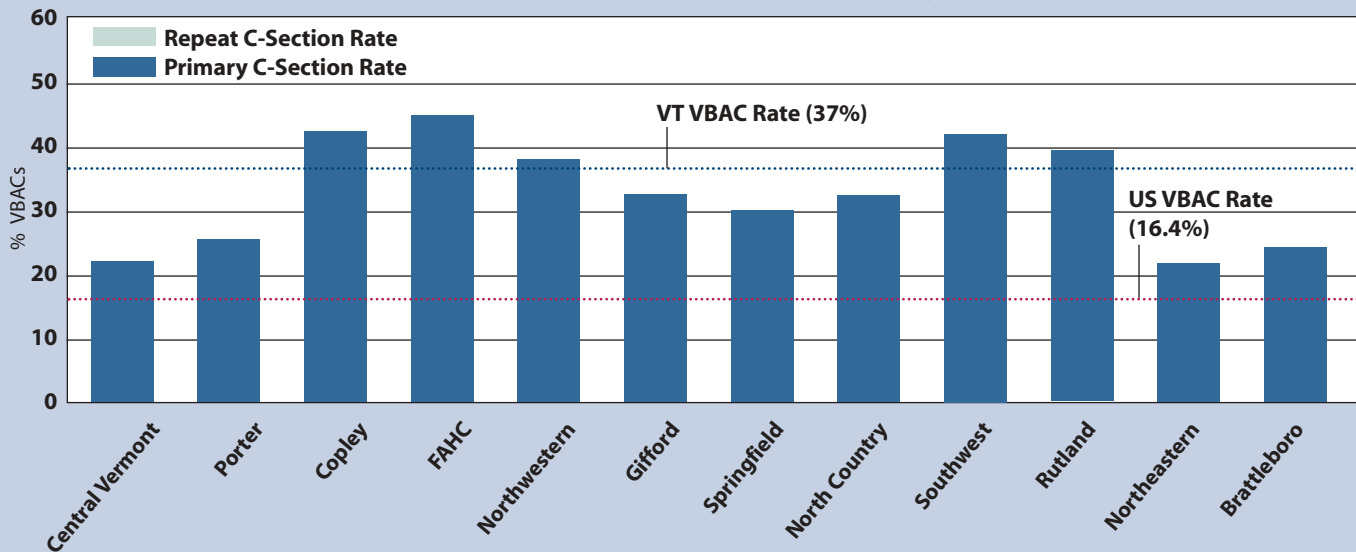
## 2001 State of Vermont Vital Statistics

### C-Section Rates (Primary and Repeat) — 2001

Ordered by Hospital — Low to High C-Section Rate in 2001

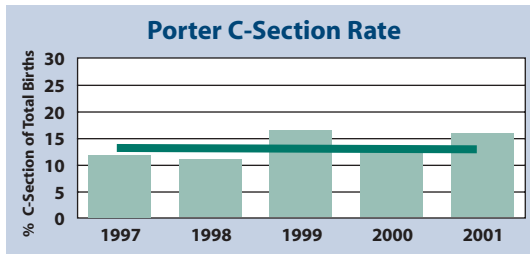
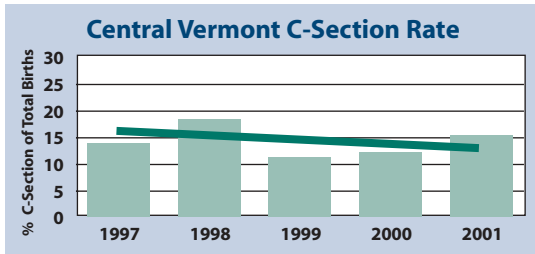


### Percent Women Having a Vaginal Birth of Those Who Had a Previous C-Section (VBAC) by Hospital—2001

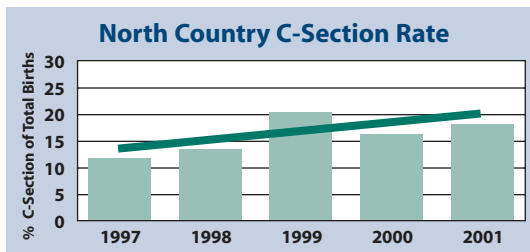
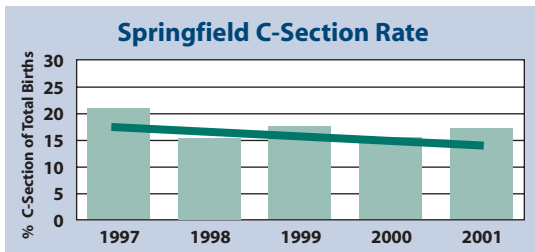
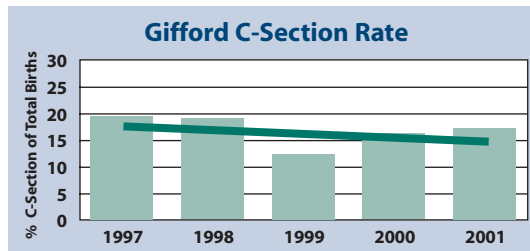
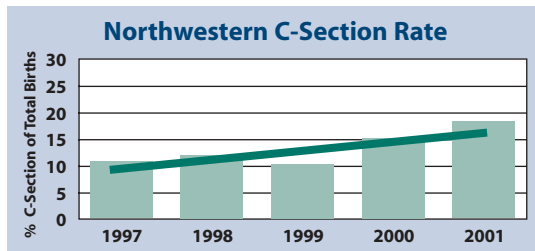
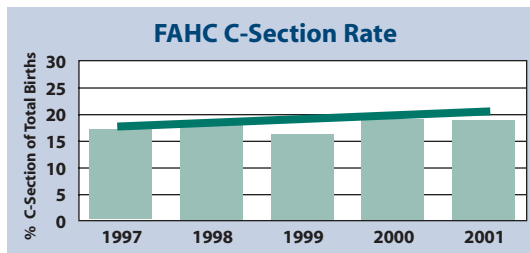
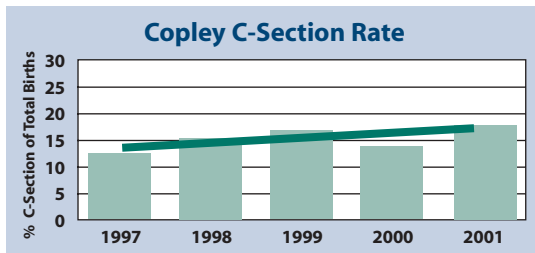


# Five Year Trend of C-Section Rates\*

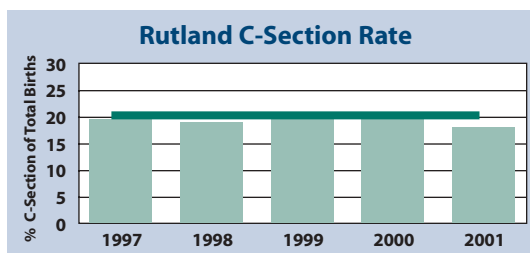
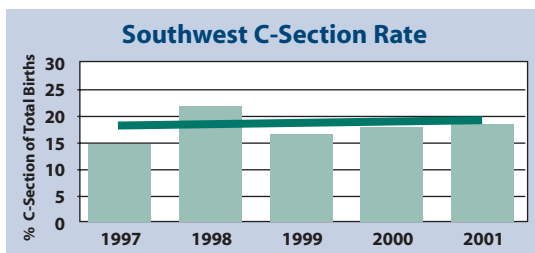
By Hospital, 1997-2001



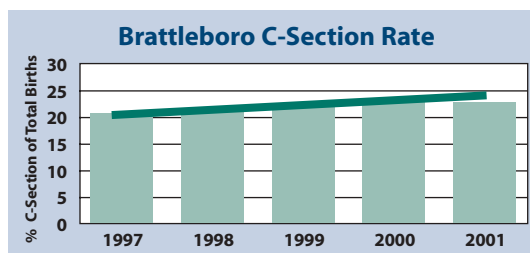
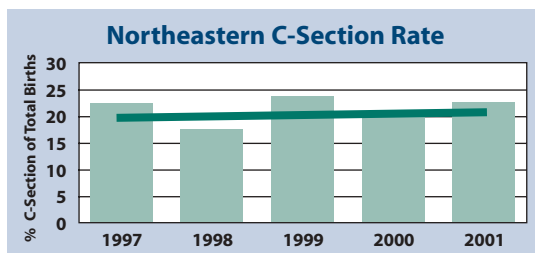
**C-Section Rates  
in 2001  
Below State  
Average**



**C-Section Rates  
in 2001  
Above State  
Average**



*\*These trend lines represent a straight line that "best fits" the five rates from 1997 to 2001 but is not a statistical finding, based on State of Vermont Vital Statistics (VDH, 2000).*



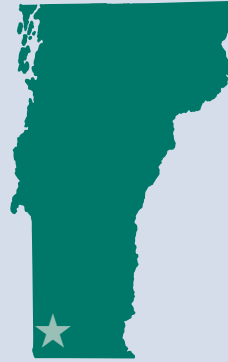
## Babies Extremely Against Tobacco

*The Southwestern Vermont Medical Center Project to Reduce the Number of Women Who Smoke During Pregnancy*

*Research has shown that women are motivated to quit smoking during pregnancy.*

### Background

BEAT (Babies Extremely Against Tobacco), a program to reduce the high percentage of pregnant women in Bennington County who smoke during pregnancy was established in 2001. When the project was initiated, 30.2 % of our pregnant mothers smoked, nearly twice the state average of 16.5%. The negative effects of smoking on the fetus are well documented. They include: low birth weight, spontaneous abortion, infant mortality and reduced fetal lung development. Maternal smoking risks do not end with childbirth, as parental smoking has also been linked to a higher incidence of childhood respiratory illness, Sudden Infant Death Syndrome (SIDS) and chronic otitis media.



motivated to quit smoking during pregnancy. Thus, they are more likely to listen to a medical provider's advice regarding smoking cessation while pregnant than at any other time. BEAT was developed specifically to utilize interventions and strategies recommended in documents by two well-known researchers on both behavior change and smoking cessation: Dr. Richard Windsor's *A Pregnant Women's Guide to Quit Smoking* and Dr. James Prochaska's *Trans Theoretical Model of Behavior Change*.

### Project Goal

The overall goal of the BEAT Program is to reduce smoking among pregnant mothers in Bennington County from the 2000 rate of 30.2% to 27% by 2003. To reach this goal, the following objectives were set for FY 2002:

- 15% of women who enter the program will have quit smoking upon delivery
- 7% of these women will remain smoke free at least 6 weeks post partum and
- 60% of the women in the program will reduce the number of cigarettes smoked during pregnancy

### Activities

The success of the BEAT program relies heavily on a partnership between the hospital and the physician office practices. Research has shown that women are

All obstetric providers perform an initial assessment of a woman's smoking status and offer identified smokers the opportunity to participate in the BEAT program. If a woman agrees to participate, the provider's office staff arrange for the patient to meet with an RN trained in smoking cessation and maternal-child health at the time of her next visit. The RN subsequently meets with the patient in the provider's office, where she explains the program and administers a pre-test to determine the patient's knowledge, attitudes and understanding about smoking reduction and cessation. The RN continues to meet with the patient for some 10 visits to assess her smoking status and provide one-on-one counseling as needed. The RN follows patients in the program through their six-week post-partum check up. A post-test is administered at the completion of the program to determine changes in behavior and knowledge regarding smoking and to obtain feedback about the program.

## SPOTLIGHT ON IMPROVEMENT

### Outcomes

In the first year of implementation, 55 patients entered into the program, 41 of which remained to participate fully. In its second year, 2002, 91 mothers participated in the program:

- 25% had quit smoking by the time they delivered their newborn,
- 50% of participants were still smoke-free at their 6-week post-partum check-up
- 89% reduced the number of cigarettes smoked each day.

Clearly, the BEAT program has been highly successful. All of the objectives set for FY 2001 and 2002 were met and the margins by which they were met were large.

### Next Steps

Future endeavors will include efforts to increase the number of pregnant women who enter and subsequently participate fully in the program. Efforts are ongoing to financially sustain this program beyond 2003 in Bennington and to grow to other sites in Vermont.

### Contact

Margaret Steele RN,C  
Jacqui Truex-Greenslet RN  
Smoking Cessation Co-ordinators for BEAT  
Southwestern Vermont Medical Center  
802-447-5219  
mds@phin.org  
truj@phin.org

## “Run, girl, run!”

*A project of The Vermont Department of Health's Division of Health Improvement*

### Background

A review of risk indicators shows that middle and high school girls in Vermont are at a greater risk of being sedentary and overweight than their male counterparts. In addition, middle school age is a pivotal age in which girls may choose unhealthy and risky behaviors over healthy ones. It is at this age also when girls begin to experience low self-esteem and preoccupation with body image. In 1999, the Vermont Department of Health's Division of Health Improvement implemented the “Run, girl, run!” program in an effort to counteract the development of these undesirable traits.



### Project Goals

The overall goal of “Run, girl, run!” is to promote physical activity by training for running events throughout the year, while encouraging positive emotional, social, mental, spiritual and physical development.

### Activities

In this fun-filled, girl centered program:

- Girls in grades 6 – 8 meet twice a week during June and July in preparation for the 3.1 mile Race for the Cure in Manchester, Vermont on July 28th.
- Practice sessions focus on running and running activities that train the girls to run in races.
- Sessions also include workshops on goal-setting, smart eating and drinking, self-esteem and body image,



## SPOTLIGHT ON IMPROVEMENT

*The overall goal of “Run, girl, run!” is to promote physical activity by training for running events throughout the year, while encouraging positive emotional, social, mental, spiritual and physical development.*

### Run, Girl, Run!

smoking/substance abuse, character development, resolving conflict, healthy snacking, injury prevention and many others.

- Girls earn incentives each session, such as tank tops, healthy snacks, water bottles and sneakers.
- After the intensive summer curriculum and the Race for the Cure, the girls continue to meet on a monthly basis for a variety of running and non-running activities which include fun, health-related educational programs.
- In the spring, the girls will meet weekly in order to train a team for participation in the Vermont City Marathon in Burlington.
- An assessment tool has been created using the Youth Behavior Risk Factor Survey. A pre-evaluation questionnaire is administered at the beginning of the summer session; post-evaluation questionnaires are given at the end of the summer session and again at the end of the year-long program.

### Outcomes

- “Run, girl, run!” sites, each with from 10 - 17 girls, have been implemented in Bennington, Burlington, Morgan (Newport area), Vergennes and Winooski. Coaches who oversee the practice sessions at each site were trained at an all-day training session in May. Everyone from the 5 different sites will meet at the Race for the Cure proudly wearing the team tank tops while running together as a huge group!
- “Run, girl, run!” *Leader’s Manual*, a handbook designed to serve as a

resource for the development of “Run, girl, run!” programs, has been created. The manual, together with information about the program, will be available to communities throughout Vermont in an effort to make this valuable program available to increasing numbers of Vermont girls.

### Next Steps

Future goals include:

- Training at least 5 more site coaches, so that within a year there will be a total of 10 “Run, girl, run!” sites in Vermont.
- Obtaining funding for a 3-year period to support the individual programs. We anticipate that communities will soon recognize the value of the program and that future support will be from local sources.
- Developing a tool to assess the environmental and policy factors of the communities in which the girls live. This “Community Audit” will include questions such as: “Are there sidewalks in your town? Bike paths? What sports facilities are available for public use? Is there a recreation dept? Is PE required everyday in school? Does your school have vending machines? Are there set times for use of the sports facilities by just girls?” Girls from each site will complete the “Community Audit” each fall; the results will then be presented to the local town government, to the community on town meeting day or to another community forum. The aggregated results will be presented to the Governor and the Governor’s Council on Physical Fitness and Sports in the spring at a summit at the State House. This will provide policy-makers with a clear picture of the statewide status of public opportunities (or lack thereof) for



physical activities/healthy lifestyles for their consideration when making decisions.

### Project Contacts

Jill Nye-McKeown, MS, RD  
Physical Activity Coordinator  
Vermont Department of Health  
802-651-1869 or  
jnyemck@vdh.state.vt.us.

## Care Of Low-Birth Weight Neonates

*The Vermont Oxford Network*

### Background

Fletcher Allen's Neonatal Intensive Care Unit (NICU) cares for babies weighing as little as 1 pound. To continually improve the treatment of these babies, Fletcher Allen participates in a group called the Vermont Oxford Network.

The network is an international coalition of Neonatal Intensive Care Units that share data on patient outcomes and collaborate on numerous projects to improve care for patients. Founded in 1988 by Fletcher Allen neonatologists, Jerold F. Lucey, MD, Roger F. Soll, MD and Jeffrey D. Horbar, MD, the network specializes in the care of babies weighing between 401 and 1,500 grams (or less than 3.3 pounds). Dr. Horbar currently serves as chief executive and scientific officer of the organization.

The network maintains a database which contains information on about 60 percent of all low-birth weight babies born in the United States. NICUs from Canada, Europe, Asia, Africa, Japan and the Middle East also participate in the network which tracks cases and treatment outcomes, along with data on medical errors and how to prevent those errors.

### Activities

Over the years the network has sponsored a number of collaborative projects. This year,



Fletcher Allen's NICU is involved in the "NIC/Q 2002" project, a collaboration among NICUs of 48 hospitals. The focus of the project is to improve nurse staffing, discharge planning, respiratory and ventilator care, pain and sedation and obstetrics and perinatal care. Twenty-one of the 48 participating hospitals will

focus initially on reducing infection, providing family-centered care and improving growth and nutrition.

As part of NIC/Q 2002, Fletcher Allen convened a multi-disciplinary team to standardize the set-up and use of neonatal resuscitation bags in its NICU. Resuscitation bags are used in emergencies to deliver 'manual breaths' — consisting of oxygen and pressure — to a baby that either is not breathing and/or has a heart rate below 100 beats per minute.

### Outcomes

The team measured the staff's performance with the bags and used those results to develop and implement an education and training plan for all respiratory therapists, nurses, nurse practitioners, physicians and others working in the NICU. Follow-up measures demonstrated a near-perfect performance in the set-up and use of resuscitation bags. The goal is to

*The network is an international coalition of Neonatal Intensive Care Units that share data on patient outcomes and collaborate on numerous projects to improve care for patients.*

**Care Of Low-Birth Weight Neonates**

improve the safety of this type of ventilation for newborns by standardizing the use of neonatal resuscitation bags across the organization.

**Future Endeavors**

The resuscitation bag project is just one of many in which NIC/Q 2002 team members will participate during the next

two years. "The goal is to have everyone in the NICU focused on performance improvement," said Roger Soll, MD, Director of Fletcher Allen's NICU.

**Project Contacts**

Vermont Oxford Network  
802-865-4814

Fletcher Allen Neonatal Intensive Care Unit  
802-847-2370

**Help Mom Quit — Let's Be Smoke Free**

*One-on-one Intervention to Facilitate Tobacco Cessation in Women in Rural Areas*

*The rate of tobacco use in pregnant women is significant, currently at 33% and historically as high as 40% (2000), compared to the statewide rate of 21% (VDH, Division of Health Surveillance).*

**Background**

In Vermont's rural northeastern counties, North Country Health System (NCHS) serves a population with significant economic and educational challenges. The rate of tobacco use in pregnant women is also significant, currently at 33% and historically as high as 40% (2000), compared to the statewide rate of 21% (VDH, Division of Health Surveillance). For NCHS, with an average of 200 births per year, this translates into a range of 64 to 80 women giving birth who are tobacco users. The effects of tobacco use on both the smoker and on those breathing second hand smoke are well known. It is clearly in the best interest of improving community health in the NCHS area to focus on lowering the rate of tobacco use in this target group.



women of childbearing age who use tobacco and are patients of a local OB/GYN practice. (It was estimated that about 27 women would become smoke-free.)

- Provide regular and dependable intervention and support for all patients of NC OB/GYN who have chosen to become smoke-free or are strongly considering becoming smoke free.
- Track number of women who quit, cessation method, and success rate of their quit attempt for up to one year post quit date.

**Activities and Outcomes**

With support from the VT Chapter of the March of Dimes in 2001, NCHS hired a tobacco cessation facilitator (who is also a RN) to work 16 hours/week for one-on-one stage-based intervention with women who use tobacco and are patients of the OB/GYN practice that serves the NCHS area. Based on the 40% tobacco use rate in the approximately 200 women who gave birth at North Country Hospital in 2000, a goal was set of reaching 33% (27) of these 80 women. By

**Goals**

- Decrease by at least 40% the number of

## SPOTLIGHT ON IMPROVEMENT

the end of the project year (12/31/01), 45 (56%) women had received intervention; 19 of these (42% of the 45) set quit dates, and 13 (29%) were still smoke free. Support was provided regularly with evaluation intervals established at 6 weeks, 3 months, 6 months and one-year post-quit date. Women who were eligible received nicotine replacement therapy (NRT) or a pharmacologic agent per provider approval / prescription (approximately 15 women). Relapse was tracked with 22% (10) remaining smoke free at one year after stopping tobacco use. Despite extensive facilitator availability, the greatest obstacle was recruiting women to speak with her and maintaining communication. Most women did not keep scheduled appointments (only a 50% show rate) and were difficult to reach by phone. Contacts were primarily accomplished by phone rather than in person. In addition to provider advice and appointment scheduling, recruitment methods included press releases, newspaper

advertising, brochure distribution, and mailings. Project replication is feasible with the knowledge that recruitment requires sound planning and a healthy dose of persistence.

### Next Steps

Tobacco cessation via an eight-week group course with NRT is regularly available through the NCH Wellness Center. However, it has been observed that women in the above target group do not attend this course, and depending on their physical status, may not be candidates for NRT. Consequently, plans are currently under discussion for project replication in 2003.

### Project Contact

Joanne Fedele, RN, MS,  
Community Health Planner  
North Country Health System  
802-334-3208  
fedele@nchsi.org; www.nchsi.org

## Postpartum Depression

*A Joint Project Between Blue Cross & Blue Shield of Vermont and Merit Behavioral Care/Magellan*

### Background

The number of women patients in the general population with Major Depressive Disorder outweigh their male counterparts by a ratio of more than two to one, and the literature conservatively reports that 12% of all women who give birth develop postpartum depression. The development of postpartum depression is associated with increased morbidity for unidentified or untreated members. In addition to the direct morbidity to the depressed mother, the family of the mother suffers as well. Unfortunately, this disorder, despite its high incidence and prevalence, often goes

undetected and thus it is both under-referred and under-treated.

### Goals

In 2000, a joint project between Merit Behavioral Care (MBC), an affiliate of Magellan Behavioral Health and Blue Cross and Blue Shield of Vermont was initiated to identify women who suffer from postpartum depression and to refer them for appropriate treatment.

### Activities

The plan modified the health risk assessment tool used for its Better

*The literature conservatively reports that 12% of all women who give birth develop post-partum depression.*

### **Postpartum Depression**

Beginnings prenatal program to include a question about any history of depression for individuals. Better Beginnings nurses also added a discussion of post-partum depression to their phone calls with participants and referral to MBC/Magellan as appropriate. The project team also enhanced the Better Beginnings postpartum mailing to include information about postpartum depression and Edinburgh scales for depression screening. Completed depression scales are reviewed by MBC/Magellan care managers to identify women with postpartum depression.

The project team identified practitioners who were willing to accept referrals for women with post-partum depression. Family practice and obstetrical practitioners, as well as pediatricians were sent information about the program. Vermont Maternal Health Coalition members, including some involved with postpartum depression support groups in various regions of the state, were also sent information.

### **Outcomes**

To date, approximately four percent of women who completed and returned the Edinburgh depression scales screened positive for depression. After first quarter data were reviewed, the team modified the program by developing a procedure that allows the Better Beginnings nurse to conduct the depression screening over the phone during the postpartum call. After analysis of data following the third quarter

of the project, the team consulted with associates of other MBC/Magellan plans in which similar programs were in place. Based upon feedback from these consultations it was concluded that the most effective time for members to receive the postpartum depression mailing was 4-6 weeks after delivery. Thus, the timing of Blue Cross and Blue Shield of Vermont Better Beginnings mailings was changed accordingly.

The project team concluded that the identification rate for postpartum depression would likely rise if a greater percentage of eligible women were enrolled in the Better Beginnings program. It was also determined that, in general, the number of women who screen positive for depression is lower in smaller plans with high response rates, such as Blue Cross and Blue Shield of Vermont, than in larger plans, particularly if the smaller plan is linked to a prenatal care program, such as Better Beginnings. Thus, women who enroll in Better Beginnings may be less vulnerable to postpartum depression

### **Project Contacts**

Christine Wells, PhD, MBA  
Executive Account Manager  
Magellan Behavioral Health  
802- 652-2901  
cawells@magellanhealth.com

Rosemeryl Harple, RN, BSN, CCM  
Better Beginnings Program Coordinator  
Blue Cross Blue Shield of Vermont  
800- 922-8778 (x 3334)  
harpler@bcbsvt.com

# Reaching Out To Victims Of Domestic Violence

*A Health Care Initiative of BlueCross BlueShield of Vermont*

## Needs Assessment

National data from the U.S. Department of Justice suggests that one in three American women have been abused by a husband or boyfriend in their lives. While the data in Vermont is limited, we do know that in the year 2000 there were 7,000 Vermont women who sought help at area programs for being abused by their husbands or boyfriends, 7,300 children who were exposed to domestic violence and 550 children and adults who were housed in shelters and safe homes.

Over the past ten years there have been several Vermont-based initiatives to inform health care providers about domestic violence. In 1996 the Department of Health prepared guidelines for hospitals that addressed domestic abuse issues; however, these guidelines are now out of print.

In a survey conducted by the Plan in January 2002, two thirds of primary care practitioners suggested they were not fully equipped to screen patients for domestic abuse and half of the offices surveyed reported they did not have up-to-date referral resources. Clearly, a new initiative dealing with domestic violence in Vermont was needed.

“Reaching Out,” the initiative developed by Blue Cross Blue Shield of Vermont, is unique in that it targets health care providers across the entire state and involves a collaboration between an employer/insurer, health care providers, academics and social service providers.

## Project Goals

- Educate health care practitioners about domestic violence and provide them with tools for screening, documentation

(to avoid physician court appearances) and referral resources

- Reach out to victims of domestic violence in health care settings to provide information on safety and how to seek help
- Support Healthy Vermonters 2010 goal of reducing partner abuse in Vermont

## Activities and Outcomes

Blue Cross and Blue Shield of Vermont developed a partnership between the Department of Family Practice at the University of Vermont Medical College, the Vermont Network Against Family Violence & Sexual Assault, and Women Helping Battered Women in Burlington, Vermont. The Network Against Family Violence & Sexual Assault and Women Helping Battered Women provided input on the content of tools and referral resources for practitioners as well as on possible outreach strategies. The University of Vermont is engaged in a grant-funded project to integrate training on family violence into its curriculum for medical students and residents. The “physician’s guide” was distributed to all primary care providers (internists, family practitioners and pediatricians), as well as to Emergency Room providers and obstetricians & gynecologists. Practitioners also received posters with a pocket of “victim cards” that outline safety tips for victims leaving a violent situation and telephone numbers to call for help.

This project was the 2002 Blue Cross and Blue Shield Association “Best of Blue” Award winner for Innovations in Patient Safety. The project was selected from among 73 applications, each of which underwent a

*This project was the 2002 Blue Cross and Blue Shield Association “Best of Blue” Award winner for Innovations in Patient Safety.*

**Reaching Out To Victims Of Domestic Violence**

review by an external panel of nationally recognized health industry experts.

**Next Steps:**

The Vermont Department of Health (VDOH) was awarded a grant to conduct focus groups with Vermont clinicians and identify effective training tools for treating and supporting victims of domestic

violence. The VDOH and the Vermont Network Against Family Violence and Sexual Assault are leading the development of a statewide plan to improve the health care system response to domestic violence.

**Project Contact**

Catherine Hamilton, Ph.D.  
Vice President of Planning  
Blue Cross and Blue Shield of Vermont  
802-371-3625  
hamiltonc@bcbsvt.com

**VCHIP – The Vermont Child Health Improvement Program**

*A Statewide Child Health Service Research & Quality Improvement Program*

**Background**

VCHIP, the Vermont Child Health Improvement Program, is a population-based, child health service research and quality improvement program based within the University of Vermont (UVM). Its mission is to optimize the health of Vermont’s children by initiating and supporting measurement-based efforts to enhance private and public child health practice. It is supported by and works in collaboration with, the State of Vermont, the American Academy of Pediatrics-VT Chapter, the UVM College of Medicine, and the National Initiative for Children’s Healthcare Quality.



**Goal**

To improve the health of Vermont’s children.

**Activities, Outcomes, and Next Steps**

Three of VCHIP’s established improvement projects and two newer

projects are described below.

**Vermont Preventive Services Initiative (VPSI)**

(VPSI) is a statewide clinical preventive service improvement project designed to assist primary care practices to improve the delivery of preventive services for children. As part of VPSI, VCHIP staff measures current performance and provides feedback to participating

practices, quality improvement materials and tools, and offers ongoing support through collaborative learning groups. VCHIP assists participating practices in selecting one or more preventive areas for improvement based on the Periodicity Schedule, developed by the Vermont Department of Health. Areas include: immunizations, tuberculosis and lead risk assessment and screening, anemia screening, tobacco risk exposure, sleep position risk identification and dental screening by two years; blood pressure, dental, and vision screening by four years.

As of June 2002, 31 of 35 pediatric

## SPOTLIGHT ON IMPROVEMENT

practice sites and 13 family practice sites in Vermont are enrolled in VPSI. Over half of the practices are actively engaged in improvement work in one or more preventive services areas. Twenty-nine pediatric practices and three family practices have received 18-month post intervention chart audits. Practices chose an average of five preventive service areas. Most commonly these were environmental tobacco smoke risk assessment (ETSRA), lead screening, vision screening, infant back-to-sleep counseling, TB risk assessment, and varicella immunization. Preliminary data analysis shows that practices made statistically significant improvements in those preventive service areas they specifically chose to focus their improvement efforts on. For example, practices that chose ETSRA increased counseling on average by 42.5% vs. a decrease by an average of 4.5% in those practices not choosing this area as goal. Final analysis of data for each preventive service area will be completed pending completion of the remaining 18-month chart audits in Spring 2003.

**Vermont Hospital Preventive Services Initiative** (VHPSI) extends the work of VPSI to hospitals throughout Vermont using a similar improvement model. VHPSI's goal is, through a collaborative effort, to design, measure, assess, and improve the processes and outcomes of preventive services delivered during the birth hospitalization. Preventive services measured include Hepatitis B immunization, hearing, metabolic screening, sleep position, nutrition (breastfeeding), car safety seat fit, assessment for jaundice, smoke exposure, domestic violence, and discharge follow-up.

All 12 Vermont hospitals with obstetrical delivery services are enrolled in VHPSI. Baseline chart audits and feedback sessions have been completed in the 12 enrolled

sites and 8 of 12 hospital teams have participated in an initial Learning Session, along with community partners from the Vermont Department of Health District Office, the Visiting Nurse Association and local pediatric provider practices. At these sessions a hospital improvement team is identified, goals and initial improvement cycles are discussed. In addition, the Learning Sessions have been an opportunity to review statewide aggregate data and take an in-depth look at the maternal infant discharge algorithm put forth by the Vermont Department of Health.

VCHIP is leading the **Vermont Youth Health Improvement Initiative**, a statewide collaborative with Banking, Insurance, Securities, & Health Care Administration, Blue Cross & Blue Shield of Vermont, MVP Health Plan, The Vermont Health Plan, and the Vermont Agency of Human Services, including the Office of Vermont Health Access and the Vermont Department of Health. The initiative is described in greater detail elsewhere in this report.

Examples of VCHIP projects in the early implementation phases include the following:

**Improving Pregnancy Outcomes in Vermont.** This project is funded by the March of Dimes with the goal of working with obstetric care providers to improve the quality of health care for pregnant women. The improvement model will be similar to that implemented for children through VPSI.

**Injury Prevention.** This project seeks to decrease the burden of childhood injuries through activities such as participation and clinical input to the Vermont Coalition for a Safe Ride, the Vermont Injury Prevention Advisory Committee, Vermont SAFE KIDS, and the Vermont Child Fatality Review Committee, through efforts to measure families' access to child safety seats,

..... SPOTLIGHT ON IMPROVEMENT .....

**VCHIP**

education, and resources for assistance with car seat installation, and through injury risk assessment and counseling improvement initiatives in pediatric primary care settings.

**Contact:**

Judith Shaw, RN, MPH  
Director, VCHIP  
UVM College of Medicine, Arnold 5,  
UHC Campus, 1 South Prospect Street  
Burlington, Vermont 05401  
(802) 847-4220  
[Judith.Shaw@vtmednet.org](mailto:Judith.Shaw@vtmednet.org)



## Vermont Youth Health Improvement Initiative

This multi-year project, initiated in 2001, is aimed at implementing cutting edge, evidence-based practices that health plans, medical providers, and communities can implement in order to improve the health services delivered to youth and their families in Vermont. Now in its second year, this project has made substantial progress thanks to a unique collaboration between health insurers and state agencies. Project partners include the Vermont Child Health Improvement Program (VCHIP); the Vermont Department of Banking, Insurance, Securities and Health Care Administration (BISHCA); Blue Cross Blue Shield of Vermont; MVP Health Plan; Magellan Behavioral Health; PrimariLink; the Office of Vermont Health Access; the Vermont Department of Health; the Vermont Department of Education and thirteen medical practices who have volunteered their time and effort to pilot this project in communities throughout Vermont.

The project focuses specifically on helping participating practices improve their assessment of youth health behavior risks and strengths (protective factors) and their screening, treatment, and referral for substance abuse. Chart audits on youth health services delivery, based on a sampling strategy devised by VCHIP and the other initiative sponsors, have been

completed for 12 of the 13 practices. Results will be delivered on site to each practice to allow for discussion and analysis. The pilot practices have also received training on the effective use of screening tools, quality improvement, and communicating with adolescents, as part of a Learning Session in October 2002. Based on these strategies, VCHIP and other initiative sponsors are assisting the pilot practices in identifying and establishing relationships with mentoring networks and substance abuse/mental health resources in their communities for referral and treatment. Initially, meetings will be facilitated within each pilot practice community, but the expectation is that each community will be able to establish its own self-sustaining relationship among the practices and referral sources, including hospitals, schools and parents.

### Contact:

Rebecca R. Dixon, Project Director  
Vermont Child Health Improvement Program  
University of Vermont College of Medicine  
Arnold 5, UHC Campus  
One South Prospect Street  
Burlington, VT 05401  
(802) 847-4338  
Rebecca.Dixon@uvm.edu

*The project focuses specifically on helping participating practices improve their assessment of youth health behavior risks and strengths*

## DIABETES

**D**iabetes is a chronic metabolic disease that occurs when a person's body cannot make insulin or cannot use insulin effectively. The American Diabetes Association (ADA) recognizes two general categories of diabetes, type 1 and type 2. People with type 1 diabetes secrete no insulin of their own and are dependent on insulin injections to control their blood glucose level. In the much more common type 2 diabetes, insulin is produced, but not in sufficient amounts or the body's response to insulin is diminished.

Vermont has not escaped the worldwide diabetes epidemic. It is estimated that approximately 5 percent of the Vermont population has diabetes, with 1/3 of all diabetics unaware that they have the disease. 90 to 95 percent have type 2 (formerly referred to as adult-onset) diabetes. Risk factors for diabetes include obesity, lack of physical activity, an age greater than 45, and a family history of diabetes. People of certain ethnic ancestry as well as women who have had gestational diabetes are also of greater risk.

### Goals and Standards

**Relevant Healthy Vermonters 2010 objectives (<http://www.state.vt.us/health>):**

- Increase the percentage of adults with risk factors for diabetes who have ever been tested. (goal to be set)
- Increase the percentage of people with diabetes who receive formal diabetes education. (goal: 60%)
- Increase the percentage of adults (age 18+) with diabetes who have an annual dilated eye examination. (goal: 75%)
- Reduce diabetes-related deaths (per 100,000 people). (goal: 45%)

## Relevant Resources

### American Diabetes Association

Nonprofit health organization provides diabetes research, information, and advocacy. Get tips on living with diabetes, make a donation, or volunteer locally.  
[www.diabetes.org](http://www.diabetes.org)

### American Association of Diabetes Educators

American Association of Diabetes Educators site. Includes catalog of educational products, legislative updates, "Ask the Expert", continuing education seminars and medical articles.  
[www.aadenet.org](http://www.aadenet.org)

### National Institute of Diabetes and Digestive & Kidney Diseases

Informative resource for the public, patients and health-care providers. Browse health articles and frequently asked questions.  
[www.niddk.nih.gov](http://www.niddk.nih.gov)

### Healthy People 2010

A 10 year health objectives for the nation developed by the U.S. Department of Health and Human Services.  
[www.health.gov/healthypeople](http://www.health.gov/healthypeople)

## Measurements

The following section contains available measures related to diabetes care in the Vermont Health Care system.

### Medicare Claims 2001

#### Diabetes

Definition of the Measures	1999 VT	2001 VT	1999 US**	2001 US**	Data Source*
Hemoglobin A1c at least every year	83%	87%	70%	78%	All Medicare Claims
Eye exam at least every 2 years	75%	76%	68%	70%	All Medicare Claims
Lipid profile at least every 2 years	56%	75%	60%	74%	All Medicare Claims

\*Sampling frame denominator: all medicare patients with two ambulatory diagnoses or one inpatient diagnosis of diabetes

\*\* Performance in median state

<sup>1</sup>Jencks, Stephen F., Huff, Edwin D., Cuerdon, Timothy, Change in the Quality of Care Delivered to Medicare Beneficiaries, 1998-1999 to 2000-2001, The Journal of the American Medical Association, January 15, 2003 - Vol. 289, No. 3, pp. 305-312

## 2001 Behavioral Risk Factor Surveillance Survey (BRFSS)

### Diabetes

Quality and Utilization Measures*	1997	1998	1999	2000	2001	1997	1998	1999	2000	2001
	VT	VT	VT	VT	VT	US	US	US	US	US
Percent of people with diabetes	4.7%	4.4%	4.3%	4.4%	5.1%	4.8%	5.4%	5.6%	6.1%	6.8%
Percent of people who suffer from obesity (ages 18+)	15.9%	14.8%	18.0%	18.2%	17.6%	16.6%	18.3%	19.7%	20.1%	20.6%
Incidence by Age	25-34	35-44	45-54	55-64	65+	25-34	35-44	45-54	55-64	65+
	VT	VT	VT	VT	VT	US	US	US	US	US
Percent of people with diabetes by age	0.1%	1.7%	3.3%	11.2%	15.9%	1.5%	3.2%	7.4%	12.3%	14.9%

\*Percents are calculated by dividing the total number of occurrences of the event/conditions (numerator) by the total number of people in the population (denominator) and multiplying by 100.

\*\*US and New England managed care organizations.

### Diabetes

Quality and Utilization Measures*	HP 2010 Goal	2000 VT Rate	2001 VT Rate	2000 US Rate	2001 US Rate
Percent of people with diabetes who have an annual eye exam (ages 18+)	75%	72%	73%		71%
Percent of people with diabetes who have an annual foot exam (ages 18+)	75%	69%	73%		66%
Percent of people with diabetes who monitor their blood glucose levels (ages 18+)	60%	51%	52%		52%
Percent of people with diabetes who have an annual HbA1C test (ages 18+)	50%	48%	52%		68%

\*Percents are calculated by dividing the total number of occurrences of the event/conditions (numerator) by the total number of people in the population (denominator) and multiplying by 100.

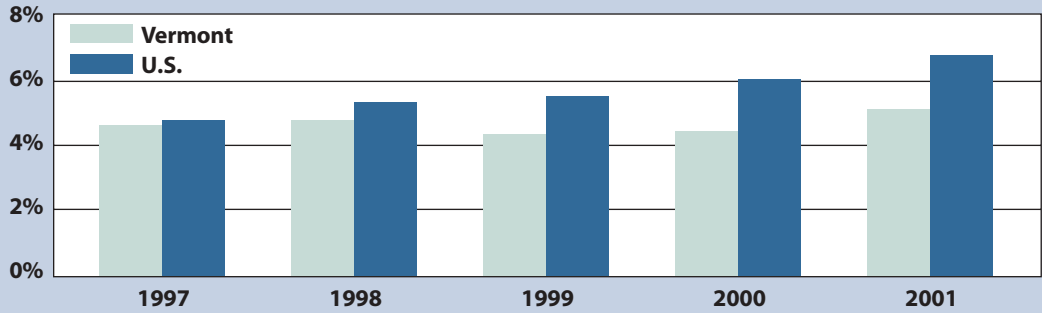
\*\*US and New England managed care organizations.

Definition of the Measures	VT Data Source	US Data Source
<i>Percent of people over 18 who have ever been told by a doctor that they have diabetes. Excludes pregnancy-related diabetes.</i>	BRFSS	BRFSS
<i>Individuals over 18 who have a body mass index of 30.0 or more.</i>	BRFSS	BRFSS
<i>Average of prevalence data by age for 1997, 1998 and 1999. Percent of people over 18 who have ever been told by a doctor that they have diabetes. Excludes pregnancy-related diabetes.</i>	BRFSS	BRFSS

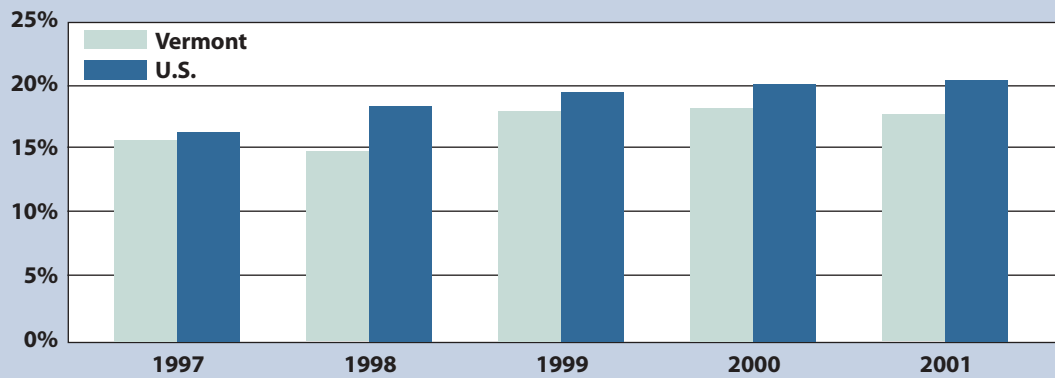
Definition of the Measures	VT Data Source	US Data Source
<i>Individuals who were told by a doctor that they had diabetes and reported that they had an annual dilated eye examination. The US rate is for white, non-hispanics.</i>	BRFSS	BRFSS
<i>Individuals who were told by a doctor that they had diabetes and reported that they had an annual foot examination. The US rate is for white, non-hispanics.</i>	BRFSS	BRFSS
<i>Individuals who were told by a doctor that they had diabetes and reported that they self-monitored their blood glucose. The US rate is for white, non-hispanics.</i>	BRFSS	BRFSS
<i>Individuals who were told by a doctor that they had diabetes and reported that they have a glycosylated hemoglobin (HbA1c) measurement at least once a year. The US rate is for white, non-hispanics.</i>	MMWR	MMWR

## 2001 Behavioral Risk Factor Surveillance Survey (BRFSS)

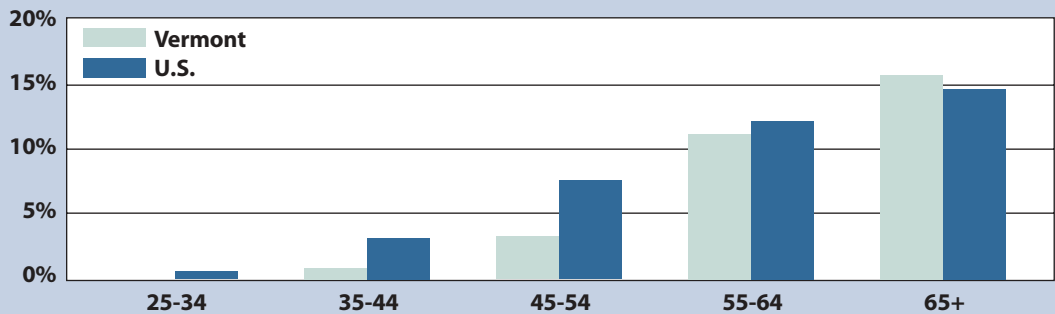
### Percent of Population with Diabetes



### Percent of Population with obesity (ages 18+)



### Percent of Population with Diabetes by Age



## Improving Diabetes Care

*A Project of the Area Health Education Center Program  
of The University of Vermont*

### Background

The Diabetes Care Improvement Project (DCIP) of the University of Vermont Area Health Education Center Program (AHEC) is in its third year.

Support for the project comes from The Fletcher Allen Community Health Foundation, The Health Resources and Services Administration, Fletcher Allen Health Care and The



University of Vermont (UVM). The DCIP is based on a 1999 pilot program developed by the Northeastern Vermont AHEC in partnership with the Vermont Program for Quality in Health Care (VPQHC).

### Goal

The aim of the project is to disseminate and incorporate into practice throughout the state the VPQHC *Recommendations for Management of Diabetes in Vermont*.

### Activities and Outcomes

A major effort of AHEC directed at accomplishing these goals has been the development of The Diabetes Coordinating Council, a collaboration with the Vermont Department of Health (VDH). Council members include clinical experts, insurance representatives, professional organization representatives and diabetes consumers. The Council is comprised of separate task forces that assist AHEC and the VDH with direction and support. These task forces address:

- Early detection, prevention, and health improvement
- Medication accessibility
- Services availability
- Communication — both public and patient
- Education and professional support

Efforts on early detection of diabetes include the generation of a standard process for diabetes screening in the community. In addition, educational materials on standards for early detection and screening is being provided to primary care practices.

The issue of improving access to medication and durable medical equipment is being addressed in part by the dissemination of a Medication Access Algorithm that will support providers in assisting patients with medication affordability. Primary care practices are receiving education on current medication treatments, their costs and access.

Office-based continuing education in the form of a Workshop Series was developed for education and support of healthcare professionals. The *UVM AHEC Diabetes Workshop Series* is comprised of a series of specific individual workshop sessions which occur over the course of a year. Currently there are 29 primary care practices enrolled in the Workshop Series. Components of the series include baseline and follow-up reviews of diabetic patient charts, educational updates, information related to community diabetes resources, specialist support and support in quality improvement projects

*The aim of the project is to disseminate and incorporate into practice throughout the state the VPQHC Recommendations for Management of Diabetes in Vermont.*

**Improving Diabetes Care**

In addition to the diabetes workshops, AHEC is promoting programs that support diabetes education for improved public and patient communication as well as patient self-management.

**Next Steps**

The DCIP will continue and be expanded and/or revised as necessary to meet the ever-growing need for greater diabetes

awareness and improved diabetes care in Vermont.

**Contact**

Rachel Smith, MSA  
UVM AHEC Diabetes Program Coordinator  
Arnold 5, UHC Campus  
1 South Prospect Street  
Burlington, VT 05401  
802-656-2179  
fax: 802-656-3016

**Diabetes Disease Management**

*A Blue Cross and Blue Shield of Vermont (BCBSVT) and  
The Vermont Health Plan Joint Project (TVHP)*

*Many diabetes patients do not receive the basic screening tests that provide information about the severity and status of their illness.*

**Background**

Diabetes is the seventh leading cause of death by disease in Vermont. Significant variation exists in the degree to which diabetes patients receive recommended care and in the outcomes of care for similar cases of this disease. Many diabetes patients do not receive the basic screening tests that provide information about the severity and status of their illness.

In 1999, BCBSVT and TVHP adopted the *Recommendations for the Management of Diabetes in Vermont* developed by the Vermont Department of Health and the Vermont Program for Quality in Health Care as a framework for this project.

**Project Goal**

The goal of the project is to improve the care of members with diabetes. Important clinical measures for this project include: HbA1c, microalbumin and fasting lipid profile testing; lowering of blood pressure (the goal is less than 130/80); retinal eye and foot examinations.

**Activities & Outcomes**

In 2002, BCBSVT and TVHP implemented the Diabetes Disease Management Program, resulting in a 56 percent enrollment by the end of the year. The Plans reviewed the health risk assessment survey responses to stratify members and identify members for specialty case management. Health care providers received a copy of the educational materials the Plans sent to members and the results of the HRA for their patients who agreed to the release of their survey information. All members with diabetes received quarterly educational mailings to assist them with managing their diabetes.

**Next Steps**

In 2003 BCBSVT and TVHP will continue to invite all identified new members with diabetes to enroll in the Diabetes Disease Management Program and strive to maintain the membership of those who enrolled in 2002. Quarterly educational mailings will continue to all newly identified members with diabetes as well as periodic



mailings to those who have completed the program. In addition, the program will analyze all survey/data results related to program activities and will focus interventions to improve care and update the program on those results.

**Project Contacts**

Stephen E. Perkins, MD  
 Corporate Medical Director  
 Blue Cross and Blue Shield of Vermont  
 802-371-3508 or perkinss@bcbsvt.com

Frank Provato, MD  
 Chief Medical Officer  
 The Vermont Health Plan  
 802-764-4809 or provatof@tvhp.com

Helena Waterhouse, RN, CCM  
 Quality Improvement Nurse  
 Blue Cross and Blue Shield of Vermont  
 802-371-3256 or waterhouseh@bcbsvt.com

**Diabetes Self-Management**

*The Education Program of Southwestern Vermont Medical Center*

**Background**

Southwestern Vermont Medical Center (SVMC) has an active Diabetes Education Program. It received initial recognition by the American Diabetes Association (ADA) in 1998, and repeat recognition in 2001. It was the first program in Vermont to receive recognition by the ADA for their insulin pump program in 2001.



**Goal**

To improve the care of individuals with diabetes through self-management education. Specific goals include hemoglobin A1c (A1c) levels of 7% or lower, blood pressure (BP) <130/80, an annual dilated eye examination and to have patients have a lipid panel drawn within the last year. We are tracking if patients had an A1c drawn in the last year.

**Activities In the year 2002:**

- Diabetes education was provided at 1,177 patient visits at three sites: SVMC, Manchester Health Center and Deerfield Valley Health Center. Twenty-nine percent of these visits were for patients with Type 1 diabetes, 57% were for Type 2 and 14% were for gestational diabetes.
- Insulin pump therapy was initiated on six patients bringing the total SVMC insulin pump population to 91 patients. The success rates for lowering HbA1c at SVMC are comparable to those of non-rural (University) hospitals (Gorson et al, 1999).

**Outcomes**

- Comparison of the actual clinical results based on a review of 447 patient charts and the goals established for 2002.
- Patient satisfaction with the insulin pump program is being tracked by means of the Diabetes Treatment Satisfaction Questionnaire through special arrangement with Dr. Claire Bradley, Professor of Medical Psychology, Royal Holloway and

*It was the first program in Vermont to receive recognition by the ADA for their insulin pump program in 2001.*

..... SPOTLIGHT ON IMPROVEMENT .....

Procedure	Actual (%)	Goal (%)
HbA1c at 7% or below	56	80
BP <130/80	90	90
Annual dilated eye exam	88*	100
Annual A1c drawn	99	100
Annual lipid panel	85	100

\*Rate exceeds the Vermont statewide rate of 72% (as published in the 2001 VPQHC report).

Bedford New College, Surrey, England.

- Potential emergency room visits avoided, and savings related thereto, as a consequence of the availability of the diabetes educators, are being monitored.

**Next Steps**

Clinical outcome measures and goals for 2003 remain approximately the same. All patients who smoke are referred into our smoking cessation program. We have set our

goal for BP at 130/80 from 130/85 in prior years and we have kept our goal for having lipids and A1cs drawn each year at 100%:

We will be re-applying for recognition by the ADA in the fall of 2003 for our out-patient, inpatient, gestational and pump programs.

**Contact**

David Gorson, MD, FACE  
802-442-3022

Patricia Carpenter, RN, CDE  
802-447-5315

**Reference**

Gorson, D. M., Hurley, L., Carpenter, P. Improved Control of Type 1 Diabetes with Insulin Pump Therapy in a Rural Hospital Setting, 1999. *Diabetes*, vol. 6 (48) (supplement 1):A354.

**‘Get Moving Vermont’**

*Increasing Physical Activity — A Joint Effort of Blue Cross & Blue Shield of Vermont, The Vermont Health Plan and the Vermont Governor’s Council on Physical Fitness and Sports*

**Background**

Regular physical activity throughout the lifespan is important for maintaining a healthy body, preventing premature death and enhancing psychological well-being. The importance of physical activity in reducing morbidity and mortality from chronic diseases is well-established. *Healthy Vermonters 2010, Vermont’s Blueprint for Improving Public Health*, reported that in 1997 only 15 percent of adults performed the recommended amount of physical activity and 40 percent engaged in no leisure-time physical activity whatsoever. In 1998, the number of adults who performed the recommended amount of physical activity had increased to 25 percent, still way too low. One current physical activity

objective of *Healthy Vermonters 2010* is to “Increase the percentage of adults (age 18+) who engage in regular physical activity (30 minutes per day/five days per week) to 30 percent.

**Goal**

To increase physical activity rates of Plan members.

**Activities and Outcomes**

Blue Cross & Blue Shield of Vermont (BCBSVT) and The Vermont Health Plan (TVHP) initiated a quality improvement project in 2001 aimed at increasing the rates of physical activity among its members. The Vermont Governor’s Council on Physical Fitness and Sports (the Council) is a partner

## SPOTLIGHT ON IMPROVEMENT

in the project, and the Council's chair serves as a member of the project team.

In 2001, the 'Get Moving Vermont' program of the Council was implemented by the project team in physician practices in Brattleboro and Central Vermont. Primary care physicians received a laminated 'Get Moving Vermont' sample packet and informational brochures. When Plan members enroll in the project, they receive a package of materials which includes inexpensive ways to get more physical activity. The program also provides incentives for participants as they become more active. A 'Get Moving Vermont' coordinator, whose responsibilities include sending out packets as they receive requests and periodically updating packet contents, has been recruited in every county in Vermont.

The project team also developed a survey which contained materials for evaluation of the project and suggested questions for interviewing patients about their physical activities. Surveys were sent to

selected primary care providers in Washington and Windham counties. Based upon the positive response to this pilot, 'Get Moving Vermont' materials were sent out in a collaborative effort between BCBSVT, TVHP and the Council to all primary care practices in these counties.

### Next Steps

In 2002, a follow-up program was developed and piloted in interested primary care physician practices in the two pilot counties. The 'Get Moving Vermont' program will also be implemented and evaluated at BCBSVT to determine its effectiveness in such a setting and whether expansion to employer groups is warranted.

### Project Contacts

Anne Sevee, RN, MS, CCM  
Senior Quality Improvement Nurse  
Blue Cross & Blue Shield of Vermont  
802-371-3267  
seveea@bcbsvt.com

*Regular physical activity throughout the lifespan is important for maintaining a healthy body, preventing premature death and enhancing psychological well-being.*

## Improving Comprehensive Care For Diabetes

*An MVP Program Designed to Better Meet the Needs of Members and Providers*

### Background

Diabetes affects 2.5% of the MVP HMO population. In 1997, MVP developed the Diabetes Care Program, which was expanded in 2001 to include a high-risk case management component. To better meet the educational needs of members and providers, MVP developed the Diabetes Informational Summary which was piloted from October 2000-2001.

### Project Goals

- To educate physicians regarding diabetes management, including the use of the American Diabetes Association (ADA) recommendations and MVP's guidelines
- To improve physician adherence to the above recommendations and guidelines
- To educate physicians on MVP's Diabetes Care Program and encourage referrals
- To educate members with diabetes on the ADA recommendations
- To provide members with a system with which to self-monitor their diabetes care

*Educate physicians regarding diabetes management, including the use of the American Diabetes Association (ADA) recommendations and MVP's guidelines*

**Improving Comprehensive Care For Diabetes**

- To encourage communication between members and their physicians about diabetes management

**Activities and Outcomes**

In October of 2000, MVP sent members with diabetes and their primary care physicians (PCPs) a Diabetes Informational Summary designed to monitor diabetes care. It included a description of the four tests (hemoglobin A1c, LDL-C, dilated eye exam, and microalbuminuria) recommended annually by the ADA and the most recent test dates of members for those four tests. Members were encouraged to discuss the tests with their primary care physicians (PCP); if they did not have a PCP they were urged to designate one.

In 2001, MVP met with physician groups to gain input on the makeup of the Informational Summary. The consensus of the physicians was that a more detailed report printed in a 'one-page per member' format would provide information easily accessible in a patient chart.

Based upon physician and other feedback, the Diabetes Informational Summary was modified in October 2001. The 'physician component' was revised to include more details on the diabetic care of members from claims data, while the 'member component' was revised to include more information on ADA's recommendations. A letter which explained the importance of a dilated eye exam and the process within MVP to obtain an exam was included in the 'member component'.

MVP received minimal feedback from

members on the 2001 Informational Summary. However, 103 members did call to request a dilated eye exam (1% of those not receiving an exam in 2001). Of the 1,683 physicians who received summaries, 212 returned the attached survey (12.6%). 65.5% of surveys returned indicated they would consider putting the summary in a patient's chart and 87.0% rated the tool as "useful," "very useful," or "somewhat useful" overall. Two negative patterns also emerged from physicians comments. The summaries added to the paper flow of the office and test dates were inaccurate.

**Next Steps**

The feedback on the Diabetes Informational Summary from physicians and members helped MVP learn what type of tool would benefit the care of individuals with diabetes. MVP used the Diabetes Informational Summary throughout 2002 and continues to receive positive feedback from physicians and members. In the fall of 2002, of physician surveys returned (6.42% return rate), 89% rated the tool as "useful" "very useful" or "somewhat useful". At this time, MVP is expanding the use of the Informational Summary to other health promotion programs.

**Project Contacts**

Joyce Gallimore, MPH  
Regional Director; QI/UM  
MVP Health Plan, Inc.  
Jgallimore@mvphhealthcare.com

Barbara Adle, RN; CPHQ; VT QI  
Project Manager  
MVP Health Plan, Inc.  
Badle@mvphhealthcare.com

## Reducing The Burden Of Diabetes

*The Diabetes Prevention and Control Program (DPCP),  
Vermont Department of Health*

### Background

Since 1996, the Vermont Department of Health (VDH) has received funds from the Centers for Disease Control and Prevention to implement a comprehensive diabetes program in the State. Activities funded by the grant focus on improvements in a variety of quality of care indicators through health systems change, expanded educational programs and community-based services.

### Goal

To reduce the burden of diabetes for Vermonters.

### Selected Outcome measures

1. Increase the percent of people with diabetes who receive the following:

	Base-line %	Goal %	% in 2001
<b>Annual</b>			
Eye exam	70 <sup>1</sup>	90	75
Foot exam	68 <sup>1</sup>	80	75
One HbA1c	82 <sup>2</sup>	95	91
Two HbA1c	63 <sup>2</sup>	85	77
Flu immunization	54 <sup>3</sup>	70	66
<b>Once</b>			
Pneumonia immunization	35 <sup>3</sup>	70	62
Diabetes education	44 <sup>2</sup>	60	48

<sup>1</sup>1996; <sup>2</sup>2000; <sup>3</sup>1997

2. Improve access to diabetes services among special populations (elders, children, mentally ill, racial-ethnic minorities, low income).
3. Increase the percentage of people with diabetes that describe their overall health as good or better from 56.3 % (1996) to 60 %. (56 % in 2001).

4. Develop strategies directed at the prevention of diabetes.

### Strategies

#### Improving Care

The *Recommendations for the Management of Diabetes in Vermont* are consensus clinical standards of care developed with the support of healthcare professionals from throughout Vermont and based on the American Diabetes Association (ADA) guidelines. The Vermont Community Diabetes Collaborative, the Vermont Area Health Education Centers, the Northeast Health Care Quality Foundation, and the Vermont Association of Diabetes Educators, promote and facilitate effective use of the *Recommendations* by practitioners around the state.

In 2002, two new chapters were added to the *Recommendations*; **Intensive Insulin Management** and **Medications**. These chapters were a response to the expressed interests and needs of the professionals who use the *Recommendations*. Additional chapters, including the **Psychology of Chronic Care** and **Primary Prevention**, are currently being written for publication in

2003. A **Pediatric** supplement is being developed for distribution to family practitioners, pediatricians, and other health professionals working with the pediatric population.

The Vermont Community Diabetes Collaborative, a 13-month endeavor, began in January of 2002 and finished in February 2003. Eight Vermont hospitals participated

*The Vermont Community Diabetes Collaborative, a 13 month endeavor, began in January of 2002 and finished in February 2003. Eight Vermont hospitals participated.*

### **Reducing The Burden Of Diabetes**

in this effort to improve care for diabetics. Each hospital identified a team of professionals and a pilot population of persons with diabetes. The teams were instructed to pick two aims; one to improve glycemic control and the second to reduce cardiac risk factors. At the final meeting on February 14, 2003, all the teams shared their successes and barriers to success. VPQHC plans to facilitate a second Diabetes Collaborative in October of 2003. The intention is to further implement and spread the improvements realized in Diabetes One.

### **Improving Self-management of Diabetes**

- "Learning to Live Well with Diabetes", a booklet designed by consumers for consumers has been developed. More than 15,000 copies have been distributed. A companion wallet-sized Personal Diabetes Care Card is also available.
- Introductory courses for individuals and small groups based on "Learning to Live Well with Diabetes" are now available in 12 communities.
- The American Diabetes Association recognized education course, "Life with Diabetes" is offered in 12 communities.
- The 3rd annual "Diabetes Conference and Health Fair" was held in Burlington in October.

### **Improving the ability to evaluate.**

- Logic models have been generated for most of the Diabetes Program outcome measures. These will be used to guide evaluation of what works and doesn't.
- A continuing challenge for the program is to identify data sources to supplement the Behavioral Risk Factor Surveillance Survey (BRFS) and vital statistics data sets. The DPCP intends to convene a working group to help address this issue over the coming year.

### **Prevention: A new challenge**

The CDC has directed the DPCP to initiate "primary prevention" programs. In this context, they have defined the target population for primary prevention as those with "pre-diabetes" (fasting blood sugar of 100-128 mg/%).

This effort will require more aggressive screening by physicians, updated standards for intervention and referral, and development of reimbursement/payment strategies. Over the coming year, the DPCP will work with VPQHC and others to plan this expansion in activity.

### **Contact**

Ellen Thompson, RD, MS  
Interim Administrator  
Diabetes Prevention and Control Program  
Vermont Department of Health  
802-863-7606 (Burlington area) or  
1-800-464-4343  
ethomps@vdh.state.vt.us

## CANCER

Cancer is a general term for hundreds of different diseases. Normally, the cells that comprise our bodies divide to produce more cells only when we are young and growing or when cells in certain tissues need replacement. When cells become cancerous, they become abnormal and begin to replicate themselves without control or order. Excess tissue often develops. This is referred to as a tumor. Some tumors are very aggressive and invade surrounding tissues and migrate to other parts of the body (metastasize). These tumors are referred to as malignant or cancerous. Others do not invade surrounding tissues or metastasize. These tumors are referred to as benign and generally are not as dangerous as malignant tumors unless they are contained in a limited space such as inside the skull or spine.

### Goals and Standards

**Relevant Healthy Vermonters 2010 objectives**  
(<http://www.state.vt.us/health>):

- Increase the percentage of at-risk adults (age 18+) counseled by their physician, in the past three years, about tobacco use cessation, physical activity, and cancer screening (goal to be set)
- Increase the percentage of adults screened for colorectal cancer
- Adults age 50+ who had a fecal occult blood test in the past two years (goal: 50%)
- Adults age 50+ who have ever had a sigmoidoscopy (goal:50%)
- Further increase the percentage of women age 40+ who have had a mammogram in the preceding two years. (goal: 70%)
- Increase the percentage of women (age 18+) who have had a Pap test in the preceding three years. (90%)
- Increase the percentage of people who use at least one protective measure to decrease their risk of skin cancer (as measured by percentage of adults age 18+) (goal: 75%)

### Measurements

The following section contains available measures related to cancer care in the Vermont Health Care system.

### Relevant Resources

#### American Cancer Society

Extensive network of services and organizations fighting cancer by providing education and support. With resources for survivors, family, friends and professionals.  
[www.cancer.org](http://www.cancer.org)

#### National Cancer Institute

Gateway for information on cancer for patients, the public and media. Features research updates, plus advice on prevention and early detection.  
[www.cancer.gov](http://www.cancer.gov)

#### American Society of Clinical Oncology

Explore the society's journal, delve into its information for patients, and view training center details. With contact information.  
[www.asco.org/ac/1,1003,\\_12-002138,00.asp](http://www.asco.org/ac/1,1003,_12-002138,00.asp)

#### National Breast Cancer Foundation

Nonprofit promotes breast cancer prevention and detection awareness and education.  
[www.nationalbreastcancer.org](http://www.nationalbreastcancer.org)

#### Healthy People 2010

A ten-year health objectives for the nation developed by the U.S. Department of Health and Human Services.  
[www.health.gov/healthypeople](http://www.health.gov/healthypeople)

## 2000 National Center for Chronic Disease Prevention and Health Promotion (NCCD)

### Cancer

Quality and Utilization Measures*	HP 2000 Goal	HP 2010 Goal	1997 VT	1998 VT	1999 VT	2000 VT	1997 US	1998 US	1999 US	2000 US	1998 US MCO	1998 NE MCO
Percent of women receiving breast cancer screening who have at any time had mammogram (age 40+)			84%	84%	88%		84%	85%	86%			
Percent of women who have ever had a mammogram who received breast cancer screening (mammography) in the past two years (age 50+)	60%		74%	77%	78%		74%	75%	76%		(ages 52-69) 72%	(ages 52-69) 75%
Percent of women who have ever had a cervical cancer screening (Pap smear) who received a Pap smear in the past three years (age 18+)	85%	90%	84%	86%	88%	(ages 18-44) 90.4%	85%	85%	85%	(ages 18-44) 89.0%	(ages 21-64) 70%	(ages 21-64) 75%
Percent of people who have ever had colorectal cancer screening - fecal occult blood testing that received a fecal occult test in the past two years	50%	50%	35%		26%	29.8%**	26%		20%	35%		
Percent of people receiving colorectal cancer screening - proctosigmoidoscopy ever done (50+)	40%	50%	40%			32.1%***	41%	38%		37%		
Prostatectomy—procedures per 1,000 men (ages 45+)	<i>Inpatient data on Vermonters is available, but comparable outpatient data is not from border states, e.g., outpatient procedures from NH, NY, and MA.</i>							5.1%	4.6%			

\* Percents are calculated by the National Center for Chronic Disease Prevention and Health Promotion and are based on a nationwide survey which includes Vermont.

\*\* Rate for 2000 VT is for fecal occult blood test in last year.

\*\*\* Rate for 2000 VT is for a sigmoidoscopy or colonoscopy within the preceding five years.



1999 US MCO	1999 NE MCO	2000 US MCO	2000 NE MCO	Definition of the Measures	VT Data Source	US Data Source	MCO Data Source
				<i>Based on a phone survey, the percent of women ages 40 years and older who reported ever having a mammogram. The U.S. rate is the median rate among the states.</i>	NCCD97- NCCD00	NCCD97- NCCD00	
(ages 52-69)  73%	(ages 52-69)  78%			<i>The denominator is women 50 years and older that have had a mammogram at any time. The numerator is women 50 years and older that reported having a mammogram in the past two years. The U.S. rate is the median rate among the states. MCO data is the percentage of enrolled women 52 to 69 who had at least one mammogram in the past two years and is based on claims data and/or medical records review.</i>	NCCD97- NCCD00	NCCD97- NCCD00	QC99, QC00
(ages 21-64)  72%	(ages 21-64)  79%			<i>The denominator is women 18 years and older that have had a Pap smear at any time. The numerator is women 18 years and older that reported having a Pap smear in the past 3 years. The U.S. rate is the median rate among the states. MCO data is the percentage of enrolled women 21 to 64 with at least one Pap in the past three years, and is based on claims data and/or medical records review.</i>	NCCD97- NCCD00	NCCD97- NCCD00	QC99, QC00
				<i>The denominator is individuals 50 years and older who have ever had a fecal occult test. The numerator is individuals that reported having the test in the past two years. The U.S. rate is the median rate among the states.</i>	NCCD97- NCCD00	NCCD97- NCCD00	
				<i>The percent who reported ever having a proctosigmoidoscopy. The U.S. rate is the median rate among the states.</i>	NCCD97- NCCD00	NCCD97- NCCD00	
				<i>Inpatient and same-day surgeries for ICD-9 procedure codes 60.21, 60.29, 60.3-60.5, 60.61, 60.62, and 60.69.</i>			

## Medicare Claims 2001

### Breast Cancer

Definition of the Measures	1999 VT	2001 VT	1999 US**	2001 US**	Data Source*
Mammogram at least every two years	63%	68%	55%	60%	All medicare claims

\*Sampling frame denominator: all female medicare beneficiaries aged 52-69 years

\*\* Performance in median state

<sup>1</sup>Jencks, Stephen F., Huff, Edwin D., Cuerdon, Timothy, Change in the Quality of Care Delivered to Medicare Beneficiaries, 1998-1999 to 2000-2001, The Journal of the American Medical Association, January 15, 2003 - Vol. 289, No. 3, pp. 305-312

## Measuring the Quality of Cancer Care in the Community

In a project funded by the National Cancer Institute, investigators from the University of Vermont developed and tested various strategies to measure the quality of breast cancer care in the state. The goal of the project was to develop a set of quality of care measurements

that spanned the broad range of cancer care from screening to palliative care. The measurement set would hopefully be appropriate for both statewide and local level analyses. The



effort utilized the information contained in the Vermont Breast Cancer Surveillance System including routine data collected at the time of mammography, pathology data, patient interviews and Vermont Cancer Registry data. The Vermont Breast Cancer Surveillance System is funded by the National Cancer Institute and is housed at the University of Vermont at the Office of Health Promotion Research. The System was created in part to support research efforts such as the one being described in order to improve the health care received by Vermont women.

University of Vermont researchers involved in the project include:

*Principal Investigator:* David W. Yandell, PhD,  
Director of the Vermont Cancer Center;

*Project Leader:* Benjamin Littenberg, MD,  
Division of General Internal Medicine;

*Project Manager & Co-Investigator:* Richard Pinckney, MD, MPH, Division of General Internal Medicine;

*Co-Investigator:* Berta M. Geller, EdD,  
Director of Vermont Mammography Registry;

*Co-Investigator:* Anupam Goel, MD, Division of General Internal Medicine;

Pamela M. Vacek, PhD - Biostatistician  
University of Vermont; and

Marge Coahran, BS - Data Analyst Vermont Mammography Registry

An initial group of 53 different quality measures was developed and tested. The focus of the measures ranged from the proportion of the women receiving screening mammography to the proportion of women receiving appropriate care for surgical complications. Many of the quality measures appear valid and demonstrate a high quality of care. However some measures suggest that some aspects of care could be improved, e.g. delays in diagnosing breast cancer, lower than expected proportion of women receiving specific treatment modalities. Further funding has been obtained to determine whether data artifact accounts for these findings or if opportunities for quality improvement exist.

### Contact

Richard G. Pinckney, MD, MPH  
General Internal Medicine  
371 Pearl Street  
Burlington, VT 05401

*The goal of the project was to develop a set of quality of care measurements that spanned the broad range of cancer care from screening to palliative care.*

## Breast Cancer Outreach

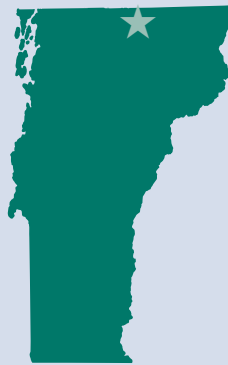
*Community-based Education with Easy Accessibility to Screening in Rural Areas*

*Over 500 women were reached through group presentations, with additional numbers reached through community and work site health fairs and events.*

### Background

The population served by North Country Health System (NCHS) in Vermont's rural northeastern counties has significant economic and educational challenges.

While breast cancer (BC) incidence is slightly lower in Vermont than in the United States, data indicate that the BC death rate is higher in the NCHS area, (21 per 100,000 in Orleans County and 44 per 100,000 in



Essex County) than in Vermont (17.2 per 100,000) (VT Department of Health, Vital Statistics Report 2000). Additionally, the screening rate in women of low or middle economic/educational status is lower (60%) than in women of higher economic/educational status (over 80%) (*Healthy Vermonters 2010 Status Report*, June 2002). It is also known that there is a significant population of self-employed individuals whose incomes are just over the Ladies First income guidelines and also uninsured or underinsured (a very high deductible) for breast cancer screening. This indicates a need for breast cancer education, particularly around the issue of early detection and screening in this target population.

### Project Goals

- Increase breast cancer knowledge in at least 250 women age 40 and older throughout the NCHS service area. Three

outcomes were measured to track this goal:

- Number and age of women attending educational sessions and town of residence to assure adequate geographic spread by project.
- Change in breast cancer knowledge via pre- and post-tests administered at most educational sessions. (Some settings, e.g. certain work sites did not allow adequate time for this.)
- Effectiveness of educational sessions via a brief evaluation tool administered at most sessions.
- Increase the number of women in the NCHS service area who are screened for breast cancer, targeting middle income women with a goal of reaching at least 50 women.

### Activities

In 2001, with support from the Vermont Affiliate of the Susan G. Komen Breast Cancer Foundation, NCHS implemented a community-based outreach program for BC education and screening. A community health educator (who is also a RN) working 16 hours/week developed an educational display and presentation that was implemented at over 45 sites throughout the two counties. Over 500 women were reached through group presentations, with additional numbers reached through community and work site health fairs and events.

## SPOTLIGHT ON IMPROVEMENT

### Outcomes

Post-test scores of BC knowledge tests increased over pre-test scores by 5% to 50% with an average increase of 17%. As of January 2003, nearly 100 women have received clinical breast exams, screening mammograms, diagnostic mammograms and/or ultrasounds through the outreach project. Whereas fear of cancer and prioritizing family needs over a woman's own health needs continue to emerge as obstacles to screening, the outreach program has alleviated the financial burden for those women who would not have breast cancer screening for monetary reasons.

### Next Steps

NCHS received funding for 2002-03 for screening from the Vermont Affiliate of the Susan G. Komen Breast Cancer Foundation and has applied for funding for 2003-2004. In addition, NCHS is implementing an ongoing breast cancer awareness campaign which emphasizes the need for early detection. It is anticipated that this campaign will help promote the utilization of these funds for clinical breast exams, mammograms and breast ultrasounds by women who may otherwise have financial obstacles to early detection.

### Project Contact

Joanne Fedele, RN, MS  
Community Health Planner  
North Country Health System  
802-334-3208  
jfedele@nchsi.org  
www.nchsi.org

# EFFECTIVENESS

## RESPIRATORY DISEASE

**R**espiratory disease refers to a variety of illnesses of the respiratory system. The most common illnesses include pneumonia, asthma, emphysema, and chronic bronchitis. Ten percent of all Vermonters have been affected by asthma and approximately seven percent of Vermont adults currently have asthma. It is the second leading cause of chronic illness in children. Both genetic and environmental factors contribute to one's risk for having asthma. Common environmental triggers include tobacco smoke, allergens, and air pollutants like ozone and sulfur dioxide. Emphysema and chronic bronchitis are commonly referred to as chronic obstructive pulmonary disease (COPD). 80 to 90 percent of COPD is attributable to smoking cigarettes. COPD affects approximately ten percent of people over age 65 and 5 percent of those adults age 18 – 65.

### Goals and Standards

*Relevant Healthy Vermonters 2010 objectives ([www.healthyvermonters.info](http://www.healthyvermonters.info)):*

#### Respiratory Diseases

- increase the percentage of people with asthma who receive education about recognizing early signs and symptoms and how to respond. (numeric goal to be set)
- increase the percentage of people with asthma who receive written management plans from their health care professional. (numeric goal to be set)
- reduce the percentage of young children who are regularly exposed to tobacco smoke in the home. (goal: 10%)
- further reduce pediatric asthma hospitalizations among people under age 18. (numeric goal to be set)
- reduce COPD deaths (per 100,000 adults). (goal: 18)

#### Immunization and infectious diseases

- Increase the percentage of non-institutionalized adults (age 65+) who receive annual influenza immunizations. (goal: 90%)
- Increase the percentage of non-institutionalized adults (age 65+) who have ever been vaccinated against pneumococcal disease. (goal: 90%)

### Measurements

The following section contains available measures related to respiratory disease in Vermont.

## Relevant Resources

### National Institutes of Health (NIH)

This extensive site is the federal focal point for biomedical research in the U.S. Find news, health info, and databases.  
www.nih.gov

### American Lung Association

Focuses on asthma, tobacco control, and environmental health. Includes news reports, and medical and legislative updates.  
www.lungusa.org

### Asthma and Allergy Foundation of America

Nonprofit organization conducts research, educational programs and support groups. Browse a catalog of materials for children and adults.  
www.aafa.org

### Centers for Disease Control - Respiratory Diseases

Useful introduction to respiratory diseases offers articles, fact sheets, biostatistics and prevention tips.  
www.cdc.gov/ncidod/dbmd/respirat.htm  
www.cdc.gov/nceh/airpollution/asthma/asthmaAAG.htm

### National Heart, Lung, and Blood Institute

Find out about diseases such as cystic fibrosis, lymphangiomyomatosis (LAM) and respiratory failure.  
www.nhlbi.nih.gov/health/public/lung

### Healthy People 2010

A 10 year health objectives for the nation developed by the U.S. Department of Health and Human Services.  
www.health.gov/healthypeople

## Medicare Claims 2001<sup>1</sup>

### Pneumonia

Definition of the Measures	1999 VT	2001 VT	1999 US**	2001 US**	Data Source*
<b>Pneumonia inpatient setting</b>					
Antibiotic within eight hours of arrival at hospital	89%	88%	85%	87%	Systematic random sample#
Antibiotic consistent with current recommendations	81%	81%	79%	85%	Systematic random sample#
Blood culture drawn (if done) before antibiotic given	89%	87%	82%	82%	Systematic random sample#
Patient screened for or given influenza vaccine	33%	33%	14%	27%	Systematic random sample#
Patient screened for or given pneumococcal vaccine	17%	17%	11%	24%	Systematic random sample#
<b>Immunizations</b>					
Influenza immunization every year	73%	77%	77%	72%	BRFSS/ CMS##
Pneumococcal immunization at least once ever	57%	69%	69%	65%	BRFSS/ CMS##

\*Sampling frame denominator: All medicare patients with principal diagnosis of acute myocardial infarction and no contraindications. \*\*Performance in median state. #Systematic random sample of up to 750 inpatient records per state ##Behavioral Risk Factor Surveillance System for 1998-1999; similar CMS survey for 2000-2001

<sup>1</sup>Jencks, Stephen F., Huff, Edwin D., Cuerdon, Timothy, Change in the Quality of Care Delivered to Medicare Beneficiaries, 1998-1999 to 2000-2001, *The Journal of the American Medical Association*, January 15, 2003 - Vol. 289, No. 3, pp. 305-312

## 2001 Vermont Hospital Discharge Data Set

### Respiratory

Quality and Utilization Measures*	HP 2000 Goal	1997 VT	1998 VT	1999 VT	2000 VT	2001 VT	1997 US	1998 US	1999 US	2000 US	2001 US
Total pediatric respiratory infections and asthma -admissions per 1,000 children (ages 0-17) (map)		3.1	2.9	2.9	3.3	3.2	7.3	6.1	7.3	6.2	5.9
simple pneumonia		0.9	0.9	1.1	0.9	1.0	2.5	2.4	2.6	2.1	1.9
bronchitis and asthma		2.1	1.8	1.6	2.2	2.0	4.6	3.6	4.6	4.1	3.8
other respiratory infection and inflammation		0.1	0.2	0.3	0.2	0.2	0.2	0.1	0.2	0.1	0.1
Total adult respiratory diseases - admissions per 1,000 (ages 65+) (map)		24.5	26.1	27.6	27.1	27.9	25.8	28.1	29.9	28.3	27.8
simple pneumonia and pleurisy		15.9	16.8	17.6	16.7	18.6	14.6	16.1	17.4	16.5	16.1
chronic obstructive pulmonary disease (COPD)		8.6	9.3	10.0	10.4	9.3	11.3	12	12.4	11.8	11.8
Percent of older adults receiving flu shots in the past year (ages 65+)		69.5%		73.4%			65.5%	67.4%			

\*Percentages are calculated by dividing the total number of occurrences of the event/condition (numerator) by the total number of people in the population (denominator) and multiplying by 100.

Admissions per 1,000 is calculated by dividing the total number of occurrences of the event/condition (numerator) by the total number of people in the population (denominator) and multiplying by 1,000.

\*\*US and New England managed care organization.



Definition of the Measures	2001 VT Numerator	2001 VT Denominator	VT Data Source	US Data Source
<i>DRGs 81, 91, and 98.</i>	482	152,417	VHDDS	HCUP
<i>DRG 91.</i>	152	152,417	VHDDS	HCUP
<i>DRG 98.</i>	301	152,417	VHDDS	HCUP
<i>DRG 81.</i>	29	152,417	VHDDS	HCUP
<i>DRGs 88 and 89.</i>	2,099	75,255	VHDDS	HCUP
<i>DRG 89.</i>	1,396	75,255	VHDDS	HCUP
<i>DRG 88.</i>	703	75,255	VHDDS	HCUP
<i>Elderly Vermonters receiving an influenza vaccination in the past year.</i>	<b>1997 VT Numerator</b> est. 53,520	<b>1999 VT Denominator</b> 72,916	NCCD98	NCCD98

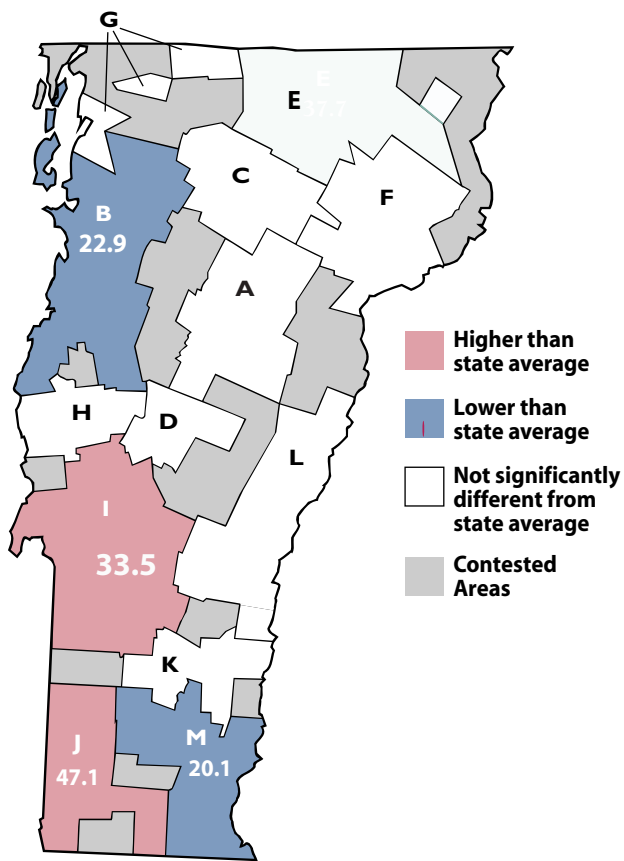
## Small Area Variation Analysis

The following displays are based on analysis done by the Vermont Department of Health using VHDDS.

### Adult Respiratory Diseases

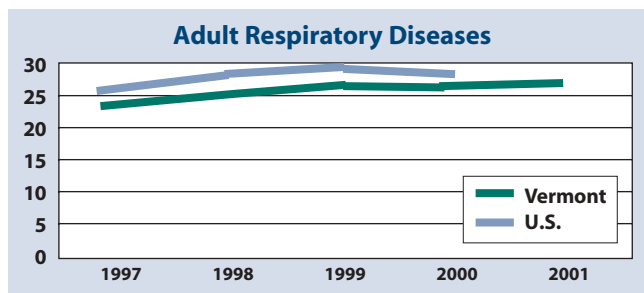
2001 age-adjusted rate of hospitalization per thousand residents age 65 and older

The most common respiratory conditions resulting in hospitalizations for older adults are pneumonia and chronic obstructive pulmonary disease (COPD).



**2001 State Average**  
**Total Discharges = 703**  
**Rate = 27.9 per 1,000**  
**Average Length of Hospitalization = 4.5 Days**

Hospital Service Area	1997	1998	1999	2000	2001
A. Central Vermont		19.7			
B. Chittenden	17.5	20.5	23.5		22.9
C. Copley					
D. Gifford	41.2			42.9	
E. North Country			36.3		
F. Northeastern		15.1			
G. Northwestern	33.7				
H. Porter					
I. Rutland	32.2	32.4	32.7	32.4	33.5
J. Southwestern		48.3	42.2	40.0	46.2
K. Springfield					
L. Upper Ct Valley					
M. Windham			19.8		20.1
<b>State Rate</b>	<b>24.5</b>	<b>26.1</b>	<b>27.6</b>	<b>27.1</b>	<b>27.9</b>



Rates on this map represent the number of hospitalizations per thousand Vermont residents who live in a geographic region of the state. The geographic area is called the hospital service area (HSA). These rates do not reflect where care is actually delivered.

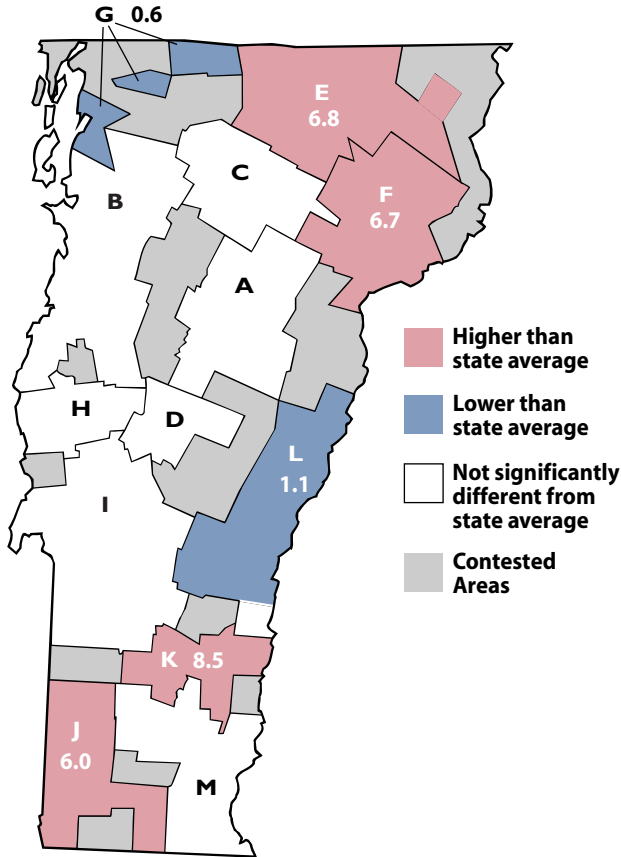
Statistical significance, measured at the .05 level, is highlighted in either pink (above the state average) or blue (below the average). In these areas, the regional rate is significantly different from the overall statewide rate. All of the HSA rates are age-adjusted to account for the different population mixes in different regions of the state.

New census population numbers for 2000 have adjusted the population used for calculating rates for past years. As a result, rates have been recalculated. You may notice a slight variation in rates when comparing them to past Quality Reports.

# Pediatric Respiratory Infections and Asthma

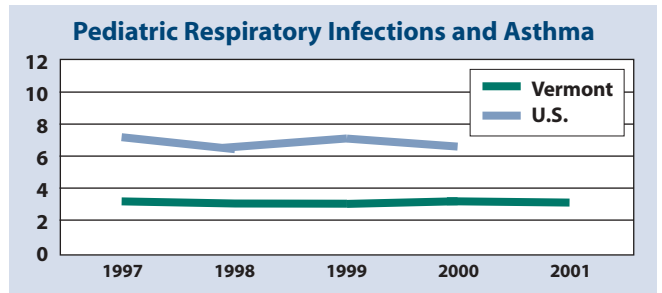
2001 age-adjusted rate of hospitalization per thousand residents under age 18

The most common respiratory conditions resulting in hospitalizations for children are asthma, bronchitis and pneumonia. A small number of less common infections are also included.



**2001 State Average**  
**Total Discharges = 482**  
**Rate = 3.2 per 1,000**  
**Average Length of Hospitalization = 3.0 Days**

Hospital Service Area	1997	1998	1999	2000	2001
A. Central Vermont					
B. Chittenden	2.1		1.9		
C. Copley					
D. Gifford					
E. North Country			7.1	8.5	6.8
F. Northeastern	7.3	9.0	6.9	10.1	6.7
G. Northwestern					0.6
H. Porter					
I. Rutland	4.8				
J. Southwestern	6.4		4.9		6.0
K. Springfield			5.7		8.5
L. Upper Ct Valley					1.1
M. Windham					
<b>State Rate</b>	<b>3.1</b>	<b>2.9</b>	<b>2.9</b>	<b>3.3</b>	<b>3.2</b>



Rates on this map represent the number of hospitalizations per thousand Vermont residents who live in a geographic region of the state. The geographic area is called the hospital service area (HSA). These rates do not reflect where care is actually delivered.

Statistical significance, measured at the .05 level, is highlighted in either pink (above the state average) or blue (below the average). In these areas, the regional rate is significantly different from the overall statewide rate. All of the HSA rates are age-adjusted to account for the different population mixes in different regions of the state.

New census population numbers for 2000 have adjusted the population used for calculating rates for past years. As a result, rates have been recalculated. You may notice a slight variation in rates when comparing them to past Quality Reports.

## Asthma Disease Management

*A Blue Cross and Blue Shield of Vermont (BCBSVT) and  
The Vermont Health Plan Joint Project (TVHP)*

*The Vermont  
Department of  
Health estimates a  
prevalence for  
pediatric asthma  
of 75 per 1,000  
and for adults  
(eighteen  
and over) of  
50 per 1,000.*

### Background

Asthma is a chronic respiratory disease which has been increasing in incidence nationally and in Vermont. From 1980 to 1996, the number of Americans with asthma has more than doubled to almost fifteen million.<sup>1</sup> Children under five years old are experiencing the highest rate of increase.<sup>2</sup> The Vermont Department of Health<sup>3</sup> estimates a prevalence for pediatric asthma of 75 per 1,000 and for adults (eighteen and over) of 50 per 1,000.<sup>4</sup> Asthma is identified as a leading reason for hospitalization among Vermont's children from 1986 to 1995.<sup>5</sup> Days lost from work and school mean that asthma has a significant impact on quality of life for individuals who suffer from the disease.

### Project Goal

The goal of the project is to improve the care of members with asthma. Important clinical measures for this project include: use of anti-inflammatories, use of an individual action plan, member knowledge of asthma and asthma care, rates of hospitalization and rates of emergency room visits.

### Activities and Outcomes

The BCBSVT/TVHP Asthma Disease Management Program was launched in 2002. The Plans adopted the 2002 National Asthma Education and Prevention Program (NAEPP) Guidelines for the Diagnosis and Management of Asthma and worked with the Vermont Department of Health and the State Asthma Advisory Panel to distribute the guidelines to Vermont physicians. The Plans view partnership with this state panel

as an ideal opportunity to address asthma care in Vermont in a collaborative way. All interested parties recognized the value of having a single asthma action plan that providers could use for all Vermonters with asthma, regardless of insurance coverage. BCBSVT and TVHP incorporated the Vermont Asthma Action Plan into their disease management program and assisted in its distribution to members and providers.

Additionally, BCBSVT and TVHP developed education tools for providers to use in their offices and designed a program to provide outreach and education to members with asthma. Members complete a health risk assessment and a knowledge survey and are stratified according to risk. Each member receives regular educational mailings to assist them with managing their asthma and also may be contacted by the program's nurse case manager based on their identified risk. Referrals to the specialty case management program are also available as appropriate.

### Next Steps

In 2003, BCBSVT and TVHP will continue to invite all identified new members with asthma to enroll in the program. Current members will continue to receive educational mailings throughout the year. All survey and data results related to program activities and member and provider satisfaction will be analyzed. Results of evaluation will be used to focus interventions for improvement in care and in overall design of the program.

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## SPOTLIGHT ON IMPROVEMENT

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3. Vermont Department of Health *Disease Control Bulletin*, Volume 1, Issue 5, 1999.
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### Project Contacts

Stephen E. Perkins, MD  
Corporate Medical Director  
Blue Cross and Blue Shield of Vermont  
802-371-3508  
perkinss@bcbsvt.com

Frank Provato, MD  
Chief Medical Officer  
The Vermont Health Plan  
802-764-4809  
provatof@tvhp.com

Anne Sevee, RN, MS, CCM  
Senior Quality Improvement Nurse  
Blue Cross and Blue Shield of Vermont  
802-371-3267  
seveea@bcbsvt.com

## Asthma

### *When Breathing Easy Isn't*

#### Background

Asthma is a chronic disease in which the small airways of the lungs narrow from inflammation and become overly reactive to “triggers.” With appropriate diagnosis, treatment and management -- including identification of the individual’s specific triggers, appropriate medication and reduction of exposure to his or her triggers—asthma, although it cannot be cured, can be controlled.

However, data indicates that asthma in the population is not well controlled. Many patients do not understand what is required to successfully manage it. Health systems are not well organized to deal with chronic conditions such as asthma and there is disagreement among health professionals about the appropriate way to treat and manage asthma. Many physicians do not follow national treatment guidelines. Few patients with asthma who should receive anti-inflammatory medications are getting them. Most asthma patients do not receive

written management plans from their physicians. Just thirty-one percent (31%) of Vermont adults diagnosed with asthma had written plans in 2001 ( BRFSS data). Most did not receive education about ways to manage their condition; only 44% of adults reported receiving asthma education in 2001 ( BRFSS data).

Persons who have difficult-to-manage asthma and who are high users of health services are often not identified for follow-up, nor do they receive case management services. In more rural areas of the state, persons with asthma often lack access to the full array of health services and social supports they need.

In an effort to address these issues, the Vermont Department of Health obtained a three-year Centers for Disease Control and Prevention planning grant to set up an asthma surveillance system and develop a state plan. A statewide leadership conference was held in 2001. Local area asthma action planning meetings were held

*Persons who have difficult-to-manage asthma and who are high users of health services are often not identified for follow-up, nor do they receive case management services.*

## Asthma

in 12 communities around the state in 2002. An Advisory Panel representing 56 organizations and individuals is involved in, and provides guidance to asthma planning activities. Findings from these activities, Vermont surveillance data, and the research literature resulted in the creation of the state asthma plan. The plan outlines the following general goal areas and lists specific objectives that, pending funding, will be implemented over the next 4 years:

- Promote asthma awareness
- Reduce asthma triggers
- Improve health services
- Promote self-management; provide case management where needed
- Increase school and community education and supports
- Improve asthma surveillance

## Activities

The action planning orientation of this project has produced the following results to date:

1. A task group of the Asthma Program partners (including representatives of all the interested parties) created a written asthma management plan form, *The Vermont Asthma Action Plan*. Content and implementation pilots were set-up with physicians, school nurses and the private health plans in Vermont.
2. Representatives from Blue Cross Blue Shield of Vermont, The Vermont Health Plan, MVP Health Plan, CIGNA and Medicaid and the physician community have collaborated to produce a *Common Guideline for the Treatment of Asthma in Children and Adults*, based on the

National Asthma Education Prevention Program's 2002 update. The *Guideline*, along with copies of the *Vermont Asthma Action Plan*, was mailed to all Vermont primary care providers, allergists and pulmonologists in December 2002.

3. A *School Health Manual for Asthma* has been developed and is scheduled for distribution in the spring of 2003.
4. Seven Local Area Asthma coalitions were formed in Rutland, Franklin – Grand Isle, Morrisville, Newport, Springfield, Burlington and Addison. Local initiative Grants ranging from \$1,000 - \$2,000 were awarded to 5 coalitions for action planning to facilitate a number of public awareness and asthma education activities.
5. 17,000 brochures targeting children and their parents were produced and distributed to Vermont pediatricians and family practice physicians, school nurses, hospital emergency departments and the 12 VDH District Offices and their related clinics.
6. Asthma management has been included in Act 125 School Indoor Air Quality Program.
7. A multi-function asthma web site has been developed and will soon go live at [www.healthyvermonters.info](http://www.healthyvermonters.info).
8. A workshop on the health effects of building practices was delivered to approximately 50 housing professionals at the Buildings 2002 Conference held in Burlington in February 2002.

## Outcomes

The Department of Health and its asthma partners plan to track population level outcomes such as: number of days missed from school due to asthma; survey reports

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(BRFSS) of symptom free days, proportion of children under five exposed to tobacco smoke in the home in the last 30 days; pediatric and adult hospitalization rates; and emergency room utilization. Patient level outcome data on quality of life (e.g., Juniper Mini Asthma Quality of Life scale) and asthma control measures (e.g., Juniper Asthma Control scale) will eventually be collected as clinical information systems evolve.

### Next Steps

- Seek grant funds for implementation of the state plan objectives
- Work with the asthma partners to develop strategies in the various goal areas consistent with organizational mission and priorities

### Project Contact

Norma Wasko, PhD  
Asthma Program Coordinator  
Vermont Department of Health  
802-865-7744  
nwasko@vdh.state.vt.us.

## Improving Pneumonia Patient Care

*A Team Effort at Porter Hospital*

### Background

Community Acquired Pneumonia is one of the most common diagnoses at Porter Hospital. Furthermore, the average age of our pneumonia population is 76 years old.

A team consisting of members of the Emergency and Medicine Departments, respiratory specialists, nutritionists, laboratory personnel and nurses was organized to look at issues (antibiotic administration, length of stay, discharge planning, etc.) associated with pneumonia patient care. Information garnered by the team included 1999 data which indicated that the time from admission to administration of antibiotics at Porter is 5 hours and 45 minutes, below the national average of 8 hours. However, those data showed a re-admission rate of 10.8% compared with 6.6% for peers in the state. Based upon the overall review, the group decided that there was clearly an opportunity for improvement in the management of patients with pneumonia at Porter.

### Project Goal

The overall goal was to improve the quality of care for patients with pneumonia through a multidisciplinary approach. Specific objectives were to:

- Decrease the time from admission to antibiotic administration
- Maintain antimicrobial treatment based on American Thoracic Society, Centers for Disease Control and Prevention, or Infectious Diseases Society of America guidelines for Community Acquired Pneumonia, and
- Decrease length of stay and readmission rates

### Activities

The multidisciplinary team worked together to develop and implement the following tools to meet the objectives.

- Pre-printed orders for use by physicians
- Nursing Care Maps which document the care provided



## SPOTLIGHT ON IMPROVEMENT

*The overall goal was to improve the quality of care for patients with pneumonia through a multidisciplinary approach.*

### Improving Pneumonia Patient Care

- Protocols to improve quality and timeliness of sputum and blood cultures; the sputum protocol allows a 30 minute window to collect sputum prior to initiation of antibiotics
- Educational information for staff on optimal pneumonia care
- Pneumonia education packets for patients with information on tobacco cessation, influenza and Pneumovac immunization
- Patient Care Maps with detailed explanations for patients/families of what to expect during their hospitalization

### Outcomes

- The project was highly successful.
- Length of stay was reduced from 5.5 days to 3.5 days

- Time from admission to antibiotic administration was reduced to two hours and 19 minutes
- In the most recent review of 17 admissions, the re-admission rate was zero.

### Next Steps

Great strides have been made in the management of pneumonia at Porter. Nonetheless, the team will continue to review pneumonia admissions in an effort to improve even further the care that is delivered to patients with pneumonia here at Porter Hospital.

### Project Contact

Ann Beauregard RN  
Quality Improvement at Porter Hospital  
802-388-5645  
ABeauregard@portermedical.org

## Pneumonia Improvement Team Develops Protocols to Improve Treatment

Fulfilling one of Fletcher Allen's goals and objectives for FY'02, a team of health care professionals from across the organization have developed a comprehensive series of protocols aimed at helping physicians provide best practice treatment of community-acquired pneumonia.

### Why a Pneumonia Protocol?

Nationwide, lower respiratory tract infections are the leading cause of death from infectious diseases. Literature has



shown that having specific guidelines helps improve outcomes for pneumonia patients in issues like length of stay and number of days on antibiotics.

In FY '00, the average length of stay for pneumonia patients at Fletcher Allen was 6.22 days – compared to the University Health Care Consortium benchmark of 4.97 days. Starting October, '01, a team began working to find ways to reduce length of stay to five days and improve treatment overall. Members of the Pneumonia Improvement team included a



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Family Practice physician, an Internal Medicine physician, an Infectious Disease physician, a Clinical Pharmacist, Nurses, and Quality Improvement staff.

### The Process

The first task for the Pneumonia Improvement team was to review the literature to identify best pneumonia practice. They relied on three major guidelines for this process: Infectious Disease Society of America (IDSA); the American Thoracic Society (ATS); and the Canadian Community-Acquired Pneumonia Working Group.

### The Result

The team used this information to develop a standard set of physician orders for patients with pneumonia, to be used by physicians so that they don't have to start from scratch every time they admit a patient with pneumonia. The orders appear in the admission order form and on a laminated card to be carried by every Emergency Department physician. The goal is to make sure that, starting in the Emergency Department, there is continuity to the standardized orders reflecting best practice.

Information included on the physician order form and the laminated card presents specific recommendations, including a pneumonia severity index – a scoring system which helps physicians identify patients who are at low-risk for mortality and morbidity, and makes treatment recommendations about whether the patient should receive outpatient treatment, outpatient observation, or inpatient admission.

The recommendations focus specifically on detailed clinical aspects of pneumonia treatment, including recommendations regarding what to look for in a chest x-ray; what other diagnostic tests to use for

inpatients; and how to assess blood cultures. Responding to clinical data indicating that timely administration of antibiotics leads to decreased mortality, one of the key emphases of the protocol is the importance of administering antibiotics within eight hours of the patient's arrival at the hospital. As a result of data showing that an early switch from IV to oral antibiotics results in lower cost of treatment and reduced length of stay, the protocol includes specific criteria for physicians to use when making the decision about when to switch patients from IV to oral antibiotics.

The protocol also makes it easy for physicians to make the decision about which antibiotics to use for pneumonia patients, providing specific criteria for the administration of different antibiotic options.

Finally, the protocol also provides physicians with best practice guidelines on when to discharge pneumonia patients, and what criteria to use in making recommendations to patients about the flu vaccine and the pneumovax vaccine.

Having best practice protocols in place will make it easier for physicians to make decisions that will benefit patients. It's important to remember, however, that, as always, physicians must always be flexible and take into consideration all special circumstances for each patient. The protocols developed for the treatment of pneumonia are guidelines – not mandates. Physicians are, as always, also expected to rely on their experience, training, and intuition, taking into account such factors as a patient's need for social support, and the possibility that sicker patients may need Visiting Nurse Association or daily office visits.

### Why Protocols are Important

Not only do protocols make it easier for

*Literature has shown that having specific guidelines helps improve outcomes for pneumonia patients in issues like length of stay and number of days on antibiotics.*

### **Pneumonia Improvement Team**

our physicians to provide the best possible care consistently, across health care services, they also provide a way for us as an organization to continue to measure our success against the success of other academic medical centers. Using a core measuring system developed by the Joint Commission on Health Care Accreditation (JCAHO), Fletcher Allen will be sending the results of our best practice efforts in pneumonia treatment to the University Health System Consortium, which will in turn be sending us feedback on how our results compare to

other academic medical centers.

Thanks to the efforts of a committed team of health care professionals, our quality improvements effort will also provide us with a way to measure ourselves against other high-quality health care organizations, at the same time allowing us to continue to raise the bar in our treatment of pneumonia.

### **Contact**

Susan K. Levinsky, RN, MPH,  
Clinical Improvement Coordinator  
802-847-4927  
Susan.Levinsky@Vtmednet.org

## **COPD — The Disease Of Smokers**

*A Fletcher Allen Health Care Project for Better Management of this Disease*

### **Background**

Chronic Obstructive Pulmonary Disease (COPD) is characterized by the presence of chronic bronchitis or emphysema. Tobacco smoking is the number one risk factor for this disease. "This is a disease of smokers," says Gerald Davis, M.D. COPD patients are generally 50 years or older and are former or current smokers with a 25-pack-per-year or greater, smoking history. Fourteen million Americans have COPD. What do these cases mean to our country's health care system? Sixteen million (yes, 16 million) doctor visits and 553,000 hospitalizations annually.

On average, Fletcher Allen admits more than 250 COPD patients with flare-ups or "exacerbations" per year. Many are re-admitted at short intervals. Against this backdrop, says Dr. Davis, "it became apparent that we weren't doing a good enough job managing these patients." One of the

primary issues was the sheer number of different providers caring for these patients. Of 190 cases recorded recently, 75 different physicians were admitting and caring for these patients. This made it difficult for any of these physicians to build a breadth of experience in the treatment of COPD.

In an effort to address these issues, a multidisciplinary group coordinated by the Fletcher Allen Health Care Management Department was formed to develop a new clinical pathway that will ultimately lower the length of stay and reduce cost, while maintaining or improving quality.

### **Project Goals**

- Specific goals were to:
- Decrease complications
  - Lower the number of COPD patients requiring intubation or tracheostomy



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- Reduce the re-admission rate
- Develop patient education tools
- Educate health care providers about evidence-based management and the clinical pathway

### Activities

With an eye to decreasing length of stay and ensuring better post-hospital management of COPD patients, efforts began to get these patients home – into situations where they have sufficient support to ensure their recovery. This is where Home Care Discharge Planning is a critical factor. Says Dr. Davis, “We looked at issues like, what are the resources at home? Who will be with the patient? Are there stairs that the patient will have to climb?” Now, discharge planning begins at the time of admission. Social workers and discharge planners work on placing oxygen and other treatment modalities in the home. Many patients need oxygen temporarily while they are recovering from the exacerbation. The Visiting Nurses Association is also actively involved in each patient’s discharge. “If we do our job right,” says Davis, “we can get these patients into a setting where they have the best chance for a full recovery.”

The group also developed a new clinical pathway and standardized orders that serve as templates for physician management of COPD, as well as a standardized work-sheet

for nursing, respiratory therapy staff and other support services. These templates act as checklists for key management strategies for the disease. The attending physicians, medical house staff, nursing, and respiratory therapy staff have had several educational sessions on the latest evidence-based COPD care and how to use these templates.

### Outcomes

Preliminary results show that average length of stay has decreased from 6.2 days in 1999 to 4.5 days in 2001. There is sufficient evidence that COPD patients benefit from getting home sooner rather than later and to homes that are well-prepared to help them achieve a safe recovery. With a more standardized approach to the care of these patients, Fletcher Allen is on track for greater success in the treatment of this often complex condition.

### Next Steps

These successful endeavors will continue with appropriate modification when it is apparent that a different course will best serve the patients and their recoverability.

### Project Contact

Dr. Gerald Davis  
802-847-1158  
Gerald.Davis@vtmednet.org.

*COPD patients are generally 50 years or older and are former or current smokers with a 25-pack-per-year or greater, smoking history.*

## Advising Smokers to Quit

*A Blue Cross and Blue Shield of Vermont (BCBSVT)  
and The Vermont Health Plan Joint Project (TVHP)*

*According to  
Healthy  
Vermonters 2010,  
22 percent of  
Vermonters over  
the age of  
eighteen smoke,  
and about  
1000 people  
die annually  
from tobacco  
related illness.*

### Background

Smoking is a recognized health risk nationally and in Vermont. According to *Healthy Vermonters 2010*, 22 percent of Vermonters over the age of eighteen smoke, and about 1000 people die annually from tobacco related illness.<sup>1</sup>

Advice to smokers from their primary care physicians (PCP) to quit has been shown to be effective in motivating smokers to quit. The 1999 Consumer Assessment of Health Plans (CAHPS) survey reports that 26 percent of BCBSVT and TVHP (the Plans) total membership smokes cigarettes. The survey further showed that 51 percent (VHP) and 61.3 percent (TVHP) of smokers visiting their PCPs were advised to quit smoking. In provider surveys, providers consistently report advising members at much higher rates. Our Plan PCPs report that they advise smokers about the benefit of quitting 75 percent or more of the time (TVHP 75 percent, VHP 94.5 percent).

A survey of the Plans' PCPs reveals that two factors associated with lower rates of advice to smokers to quit are 1) the office system to identify smokers at the time of visit and 2) insufficient referral sources. According to the Surgeon General's report, *Treating Tobacco Use and Dependency*:

"[t]he single most important step in addressing tobacco use and dependence is screening for tobacco use. After the clinician has asked about tobacco use and has assessed the willingness to quit, he or she can then provide the appropriate intervention."<sup>2</sup>

### Project Goal

The goal of the project is to increase providers' documentation of patient's smoking status, and increase the frequency with which providers advise smokers to quit. The overall outcome measurement is improvement of the rate at which providers advise smokers to quit by five percentage points over the results of the 2001 CAHPS survey results.

### Activities and Outcomes

After conducting an extensive literature review and evaluating the results of the CAHPS and provider satisfaction surveys (1999, 2000 and 2001), the Plans developed a PCP survey to determine whether the office had systems in place to identify and document patient tobacco use. Based on the results, the Plans developed a joint project aimed at assisting providers in identifying patients who smoke and increasing the rate at which providers advise their patients who smoke to quit.

The project team developed a sticker and stamp system that was easily adaptable to most provider office environments. Review of the project's PCP survey showed several offices with no identification system in place as well and several that were interested in becoming a pilot office for our program. The Plans identified five offices that agreed to pilot the program and obtained a baseline measurement for documentation of smoking status. After the baseline was obtained, the Plan's quality improvement (QI) nursing staff met with each office manager and participating physician to go over the program, the expectations, and

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follow up to measure the progress of the program.

The basis of the program is to identify each patient's tobacco use status using stickers that are supplied to the offices by the Plans. If a patient responds that he or she is a smoker, a sticker that identifies the patient as a smoker is applied to the "problem list" or other prominent document within the patient medical record. If the patient is not a smoker, a sticker that identifies the patient as a non-smoker is applied to the "problem list" or other prominent document within the patient medical record.

To help measure the success of the program, the QI nursing staff returned to the pilot offices at pre-determined intervals (six months post intervention, twelve months post intervention) to review at least thirty medical records for the presence or absence of documentation of "tobacco use status." Each of the five pilot offices demonstrated a significant increase of adherence at both the six month and one year post-intervention review.

The Plans collaborated with the Area Health Education Centers (AHEC) to enhance the value of the program. AHEC was instrumental in educating providers about how best to apply the tobacco cessation guideline<sup>2</sup> once the patient tobacco use status was identified. Through the Plans' partnership with AHEC, the smoking status sticker program was introduced and implemented in several new offices. Review of these medical records at six months post-intervention demonstrated a significant increase in the rate of documentation of smoker status.

Based on the success in the Plans' pilot

offices and the offices reached through coordinating with AHEC, the Plans decided to roll out the program to the remaining PCPs in the networks.

### Next Steps

In 2003, the Plans will continue to work in collaboration with AHEC as they begin to roll the program out to the obstetricians and gynecologists in their networks. The QI nursing staff will continue to monitor documentation adherence at six month and one year post-intervention time frames. The program will continue to supply stickers to provider offices as they request.

<sup>1</sup> *Healthy Vermonters 2010*. Vermont Department of Health. Agency of Human Services. January 2000

<sup>2</sup> *Treating Tobacco Use and Dependence. Quick Reference Guide for Clinicians*, October 2000. U.S. Public Health Service. <http://www.surgeongeneral.gov/tobacco/tobaqrg.htm>

<sup>3</sup> Ibid

### Project Contacts

Stephen E. Perkins, MD  
Corporate Medical Director  
Blue Cross and Blue Shield of Vermont  
802-371-3508  
[perkinss@bcbsvt.com](mailto:perkinss@bcbsvt.com)

Frank Provato, MD  
Chief Medical Officer  
The Vermont Health Plan  
802-764-4809  
[provatof@tvhp.com](mailto:provatof@tvhp.com)

Barbara Liberty, LPN  
Quality Improvement Nurse  
The Vermont Health Plan  
802-764-4821  
[bliberty@tvhp.com](mailto:bliberty@tvhp.com)

## Quit Time – Let’s Be Tobacco Free

*A Group Cessation Program Targeting Adult Tobacco Users in a Rural Area*

*Since 1982, the NCHS Wellness Center has provided the community with tobacco cessation options, including group cessation and hypnosis.*

### Background

In Vermont’s rural northeastern counties, North Country Health System (NCHS) serves a population with significant economic and educational challenges and a high rate of tobacco use by adults. Additionally, the NCHS area experiences a higher COPD death rate, (61 per 100,000 in 2000), than Vermont (50 per 100,000) or the United States (44 per 100,000) (Vermont Department of Health, Division of Health Surveillance, Public Health Statistics). Since 1982, the NCHS Wellness Center has provided the community with tobacco cessation options, including group cessation and hypnosis. Recent literature shows that group cessation programs that span several weeks and include nicotine replacement therapy (NRT) are extremely effective. Quit Time, the NCHS group cessation course, has been evaluated for over three years.



- Track the participant rate of abstinence from tobacco use at six weeks, three months, six months and one year post quit date

### Activities

Since 1999, through its Community Fund Program and more recently with grant funding from VDH, NCHS has provided a tobacco cessation opportunity that offers an 8-session group support course with behavior modification and NRT. The course, called Quit Time, was initiated as an ALA cessation program. It is administrated by two ALA-trained cessation facilitators (a registered nurse and a respiratory therapist) who work together with groups of as many as 20 participants. Course discussion includes preparation techniques, setting a quit date, learning to cope with urges, use and effectiveness of NRT, alternatives to smoking and celebrating small successes. NRT is provided to program participants with approval from their primary care provider. The course is offered for a very low fee (scholarships are always available) throughout the year through the NCHS Wellness Center. Telephone evaluation is carried out at six weeks, three months, six months and one year post quit date by a wellness professional that simultaneously provides support and encouragement.

### Outcomes

Data compiled from the more than 135 persons completing the course show a participant rate of abstinence from tobacco use of 60% at 6 weeks, 52% at three months, 32% at six months and 26% at one year post

### Project Goals

- Reduce the overall rate of tobacco use in adults in the NCHS service area
- Increase the number of adults in the NCHS service area who make attempts to quit tobacco use by attending the group cessation course offered by the NCHS Wellness Center
- Track the number of participants who complete the course

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quit date. This compares favorably with reports of results of similar cessation programs which show 12-month cessation rates ranging from 14% to 27%. The length of the program, the support and camaraderie that develops among participants, the availability of NRT at no or extremely low cost, and the periodic telephone support all contribute to the effectiveness and popularity of Quit Time.

### Next Steps

NCHS, through its Wellness Center, fully intends to continue offering tobacco cessation opportunities to the communities it serves, particularly this eight-session

group course with NRT. Courses are scheduled throughout 2003.

### Project Contacts

Joanne Fedele, RN, MS  
Community Health Planner  
North Country Health System  
802-334-3208  
jfedele@nchsi.org  
www.nchsi.org

Sue Alward, MS  
Wellness Center Director  
North Country Health System  
802-334-3226  
salward@nchsi.org

## CARDIOVASCULAR DISEASE

Cardiovascular disease (heart disease and stroke) includes chronic conditions, such as heart failure, and acute conditions, such as heart attacks. Twenty percent of hospitalizations in Vermont are for the diagnosis and treatment of cardiovascular disease. Cardiovascular disease is also the leading cause of death in Vermont. Thirty-six percent of deaths in Vermont are attributable to these diseases.

Atherosclerosis, a condition which leads to narrowing and damage to arteries and smaller blood vessels, is the primary underlying cause of cardiovascular disease. Whereas atherosclerosis causes damage to all arterial blood vessels, the consequence of atherosclerosis on the blood vessels which supply the heart muscle and brain cause the most frequent and deleterious effects.

### Goals and Standards

**Relevant Healthy Vermonters 2010 objectives (<http://www.state.vt.us/health>):**

- reduce coronary heart disease deaths (per 100,000 people) (goal: 166)
- reduce stroke deaths (per 100,000 people) (goal: 48)
- reduce the percentage of adults (age 20+) with high blood pressure (goal: 16%)
- reduce the percentage of adults (age 18+) who smoke cigarettes (goal: 12%)

### Vermont State Statutes<sup>1</sup>

**Legislative mandates:**

**Title 18: Health; Chapter 1; Subsection 11. Cardiovascular Health; Coalition**

“The department of health shall

- (1) Form a coalition to be known as “champps,” coalition for healthy activity, motivation and prevention programs.
- (3) Meet, gather testimony and other information, and hold public hearings as necessary to develop the capacity to define the cardiovascular disease and stroke burden on the state, and publish a cardiovascular disease and stroke document, which shall include:
  - (a) a description of the burden of cardiovascular disease and stroke and related risk factors;
- (4) Develop an inventory of policy and environmental supports related to cardiovascular and stroke risk factors.
- (5) Develop a cardiovascular and stroke health state plan, using *Healthy Vermonters 2010* as a framework.



## Relevant Resources

### Heart Failure Society of America

America's first effort by experts to organize and inform the public of congestive heart failure and how to treat it. Includes publications, news, events, and education.

[www.hfsa.org](http://www.hfsa.org)

### American College of Cardiology

Practice guidelines, news and information about ongoing educational programs.

[www.acc.org](http://www.acc.org)

### American Family Physician - Heart Disease and Diet

Article discusses the AAFP 1997-98 Annual Clinical Focus on prevention and management of cardiovascular disease.

[www.findarticles.com/cf\\_dls/m3225/n6\\_v57/20482455/p1/article.jhtml](http://www.findarticles.com/cf_dls/m3225/n6_v57/20482455/p1/article.jhtml)

### Congenital Heart Disease Information and Resources

Info for kids and adults with CHD, families, and professionals. Includes book reviews, teen lounge, nursing resources and links to chat groups.

[www.tchin.org](http://www.tchin.org)

### Healthy People 2010

A ten-year health objectives for the nation developed by the U.S. Department of Health and Human Services.

[www.health.gov/healthypeople](http://www.health.gov/healthypeople)

A description of the burden of cardiovascular disease and stroke related risk factors has been completed. The Cardiovascular and Stroke Health state plan has been developed, along with a tool to assess community resources and support for such a plan. The tool is being piloted in five Vermont communities.

## Measurements

The following section contains available measures related to cardiovascular disease in Vermont.

## 2001 Vermont Hospital Discharge Data Set

### Heart Disease and Stroke

Quality and Utilization Measures*	1997	1998	1999	2000	2001	1997	1998	1999	2000	2001
	VT	VT	VT	VT	VT	US	US	US	US	US
Angina and chest pain - admissions per 1,000 people (all ages) (map)	2.4	2.2	2.1	2.1	2.2	2.4	2.5	2.5	2.9	3.1
Heart failure - admissions per 1,000 (ages 65+) (map)	16.3	15.2	15.1	16.4	15.5	23.4	22.9	21.8	22.1	22.4
Cardiac catheterization** - admissions per 1,000 (ages 45+)	10.5	9.2	8.9	10.8	11.3	28.4	27.3	26.3	28.7	30.3
Cardiac catheterization** -admissions per 1,000 (excluding admissions where a PTCA or CABG was also performed) (ages 45+) (map)	5.0	4.6	3.5	3.9	4.2					
Angioplasty (PTCA)** -admissions per 1,000 (excluding admissions where a CABG was also performed) (ages 45+) (map)	4.2	4.4	5.1	5.5	5.7	4.7	5.5			
Coronary artery bypass graft (CABG) - admissions per 1,000 (ages 45+) (map)	3.2	2.9	2.9	2.8	3.0	7.9	7.1	6.6	7.0	6.8
Stroke and other cerebrovascular disease - admissions per 1,000 (ages 65+) (map)	13.3	12.6	11.7	12.0	12.0	18.5	17.9	16.8	16.8	16.7
Carotid endarterectomy - admissions per 1,000 (ages 65+) (map)	2.9	2.9	3.0	2.5	1.8	3.8	3.5	3.3	3.3	3.3
Advising smokers to quit (ages 18+)			1999*** VT 62.5%			1998 NE MCO**** 67.9%	1999 US MCO 65.3%	1999 NE MCO	2001 NE MCO	2001 US MCO
Beta blocker treatment after a heart attack (ages 35+)						85.0%	91.4%	91.4%	96.0%	92.5%
Cholesterol screening after acute cardiovascular events (ages 18-75)									82.4%	77.1%
Cholesterol management after acute cardiovascular events (ages 18-75)						68.9%	75.9%	75.9%	65.2%	59.3%

\*Admissions per 1,000 are calculated by dividing the total number of occurrences of the event/condition (numerator) by the total number of people in the population (denominator) and multiplying by 1,000.

\*\*Only inpatient catheterizations and angioplasties are reported here.

Definition of the Measures	2001 VT Numerator	2001 VT Denominator	VT Data Source	US Data Source
DRGs 140 and 143.	1,269	608,827	VHDDS	HCUP
DRG 127.	1,271	77,510	VHDDS	HCUP
ICD-9 procedure codes 37.21-37.23, 88.55-88.57. Outpatient procedures are not included here.	2,472	228,262	VHDDS	HCUP
ICD-9 procedure codes 37.21-37.23, 88.55-88.57, except if the discharge record showed a PTCA or CABG during the stay. Outpatient procedures are not included here.	891	228,262	VHDDS	HCUP
ICD-9 procedure codes 36.01-36.02, 36.05, except if the discharge record showed a CABG during the stay. Outpatient procedures are not included here.	1,263	228,262	VHDDS	HCUP
ICD-9 procedure codes 36.10-36.17, 36.19, 36.2.	635	228,262	VHDDS	HCUP
DRGs 14-17.	929	77,510	VHDDS	HCUP
ICD-9 procedure code 38.12.	195	77,510	VHDDS	HCUP
Adults age 18 and older who currently smoke or have recently quit, and have received advice to quit smoking from a medical professional.			HCA99	US MCO Data Source QC02
Adults age 35 and older who were hospitalized with a diagnosis of acute myocardial infarction and received a prescription for beta blockers at discharge.				QC02
Adults age 18 to 75 who were hospitalized for specific cardiovascular diagnoses or procedures who received an LDL-C screening between 60 and 365 days after discharge.				
Adults age 18 to 75 who were hospitalized for specific cardiovascular diagnoses or procedures who subsequently have appropriate cholesterol management.				QC02

\*\*\* Data are only available for adults in managed care organizations (MCOs) in Vermont, or 24% of adults. The state rate is the simple average of four commercial and two Medicaid MCOs.

\*\*\*\*US and New England managed care organizations.

## Medicare Claims 2001<sup>2</sup>

### Congestive Heart Failure

Definition of the Measures	1999 VT	2001 VT	1999 US**	2001 US**	Data Source*
Evaluation of ejection fraction	71%	81%	65%	70%	Systematic random sample#
Ace inhibitor prescribed at discharge for patients with left ventricular ejection fraction <0.40	77%	81%	69%	68%	Systematic random sample#

*\*sampling frame denominator: All medicare patients with principal discharge diagnosis of heart failure*

*#Systematic random sample of up to 800 inpatient records per state*

*\*\* Performance in median state*

## Stroke

Definition of the Measures	1999 VT	2001 VT	1999 US**	2001 US**	Data Source*
Warfarin prescribed for patients with atrial fibrillation*	58%	66%	55%	57%	Systematic random sample#
Antithrombotic prescribed at discharge for patients with acute stroke or transient ischemic attack.*1	86%	88%	83%	84%	Systematic random sample#
Avoidance of sublingual nifedipine for patients with acute stroke*1	98%	99%	95%	99%	Systematic random sample#

\*Sampling frame denominator: all medicare patients with principal diagnosis of acute myocardial infarction and no contraindications \*1 sampling frame denominator: All medicare patients with principal discharge diagnosis of stroke (nifedipine and antithrombotic) or transient ischemic attack (antithrombotic)

\*\* Performance in median state

#Systematic random sample of up to 750 inpatient records per state

## Acute Myocardial Infarction

Definition of the Measures	1999 VT	2001 VT	1999 US**	2001 US**	Data Source*
Administration of aspirin within 24 hours of admission	86%	92%	84%	85%	Systematic random sample#
Aspirin prescribed at discharge 24 hours	89%	90%	85%	86%	Systematic random sample#
Administration of B-Blocker prescribed at discharge	78%	82%	64%	69%	Systematic random sample#
B-Blocker prescribed at discharge	79%	86%	72%	79%	Systematic random sample#
Ace inhibitor prescribed at discharge for patients with left ventricular ejection fraction <0.40	72%	70%	71%	74%	Systematic random sample#
Smoking cessation counseling given during hospitalization	53%	56%	40%	43%	Systematic random sample#
Time to angioplasty, minutes	49	48	41	45	Systematic random sample#
Time to thrombolytic therapy, minutes	185	230	120	107	Systematic random sample#

*\*Sampling frame denominator: all medicare patients with principal diagnosis of acute myocardial infarction and no contraindications \*1 sampling frame denominator: All medicare patients with principal discharge diagnosis of stroke (nifedipine and antithrombotic) or transient ischemic attack (antithrombotic)*

*\*\* Performance in median state*

*#Systematic random sample of up to 750 inpatient records per state*

<sup>1</sup> Vermont Statutes/Title 18 Health/Part 1 State and Local Health Agencies/Chapter 1. Department of Health; General Provisions/ § 11. Cardiovascular health; coalition.

<sup>2</sup> Jencks, Stephen F., Huff, Edwin D., Cuerdon, Timothy, Change in the Quality of Care Delivered to Medicare Beneficiaries, 1998-1999 to 2000-2001, *The Journal of the American Medical Association*, January 15, 2003 - Vol. 289, No. 3, pp. 305-312.

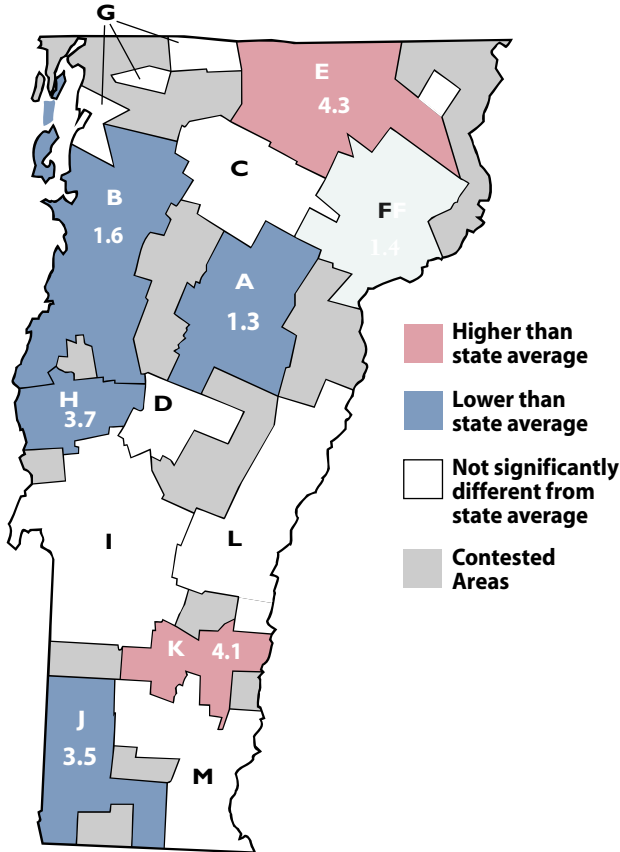
## Small Area Variation Analysis

The following displays are based on analysis done by the Vermont Department of Health using VHDDS.

### Angina and Chest Pain

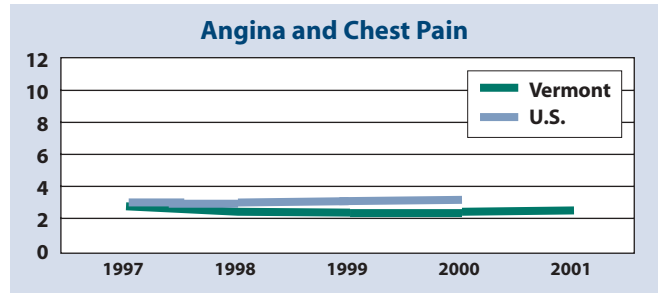
2001 age-adjusted rate of hospitalization per thousand residents of all ages

Angina is the pain someone experiences when there is insufficient oxygen supplied to the heart muscle (myocardial ischemia). Chest pain is included in this category because at the time of admission to a hospital, angina cannot always be differentiated from other causes of chest pain.



**2001 State Average**  
**Total Discharges = 1,340**  
**Rate = 2.2 per 1,000**  
**Average Length of Hospitalization = 1.8 Days**

Hospital Service Area	1997	1998	1999	2000	2001
A. Central Vermont	1.8	0.9	0.9	0.9	1.3
B. Chittenden	1.9		1.6	1.4	1.6
C. Copley					
D. Gifford	0.5				
E. North Country					4.3
F. Northeastern			1.4		
G. Northwestern					
H. Porter	1.0	0.8			3.7
I. Rutland					
J. Southwestern		3.6	3.6	3.1	3.5
K. Springfield		3.3	3.7	5.0	4.1
L. Upper Ct Valley	3.2	3.0			
M. Windham	3.6				
<b>State Rate</b>	<b>2.4</b>	<b>2.2</b>	<b>2.1</b>	<b>2.1</b>	<b>2.2</b>



Rates on this map represent the number of hospitalizations per thousand Vermont residents who live in a geographic region of the state. The geographic area is called the hospital service area (HSA). These rates do not reflect where care is actually delivered.

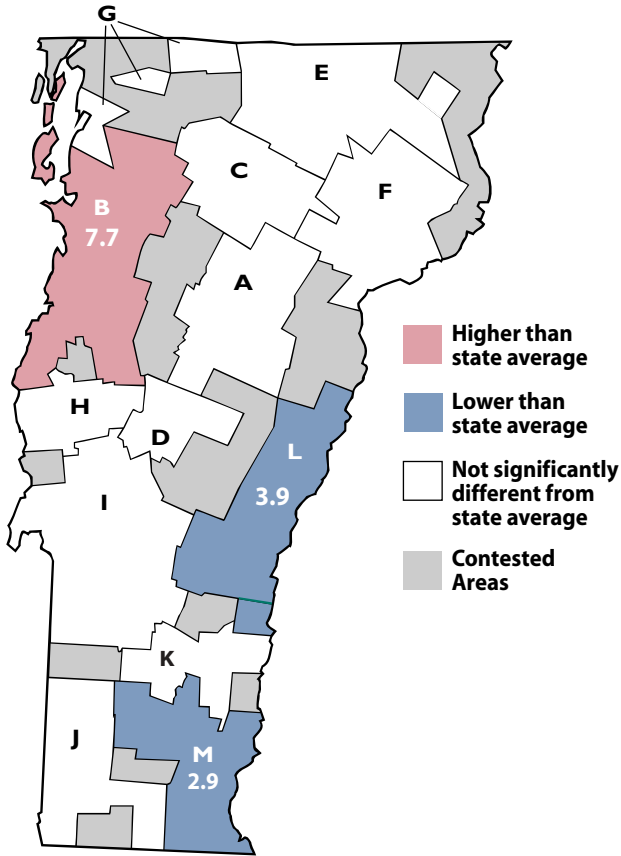
Statistical significance, measured at the .05 level, is highlighted in either pink (above the state average) or blue (below the average). In these areas, the regional rate is significantly different from the overall statewide rate. All of the HSA rates are age-adjusted to account for the different population mixes in different regions of the state.

New census population numbers for 2000 have adjusted the population used for calculating rates for past years. As a result, rates have been recalculated. You may notice a slight variation in rates when comparing them to past Quality Reports.

# Angioplasty (PTCA)<sup>‡</sup>

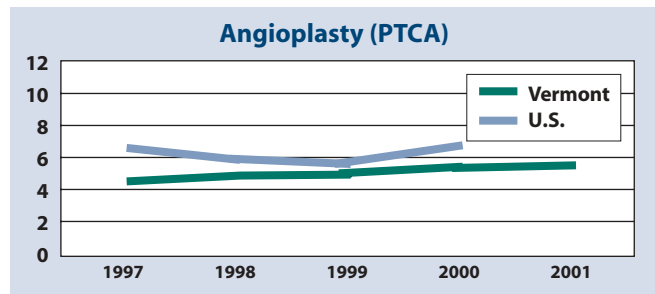
## 2001 age-adjusted rate of hospitalization per thousand residents ages 45 and older

PCTA (percutaneous transluminal coronary angioplasty) is a cardiac catheterization that is performed to correct obstructions in the coronary arteries. PTCA involves threading a catheter into the left chamber of the heart, the major outflow vessels, and into the coronary arteries that supply blood to the heart muscle itself. Catheter attachments are manipulated to repair the blocked artery.



**2001 State Average**  
**Total Discharges = 1276**  
**Rate = 5.7 per 1,000**  
**Average Length of Hospitalization = 3.1 Days**

Hospital Service Area	1997	1998	1999	2000	2001
A. Central Vermont					
B. Chittenden	6.2	6.9	7.9	8.2	7.7
C. Copley	6.7	7.0			
D. Gifford					
E. North Country				3.2	
F. Northeastern					
G. Northwestern					
H. Porter					
I. Rutland					
J. Southwestern	2.6	2.8			
K. Springfield			2.3		
L. Upper Ct Valley		2.8	3.1	3.8	3.9
M. Windham		1.9	2.1	3.0	2.9
<b>State Rate</b>	<b>4.2</b>	<b>4.4</b>	<b>5.1</b>	<b>5.5</b>	<b>5.7</b>



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Statistical significance, measured at the .05 level, is highlighted in either pink (above the state average) or blue (below the average). In these areas, the regional rate is significantly different from the overall statewide rate. All of the HSA rates are age-adjusted to account for the different population mixes in different regions of the state.

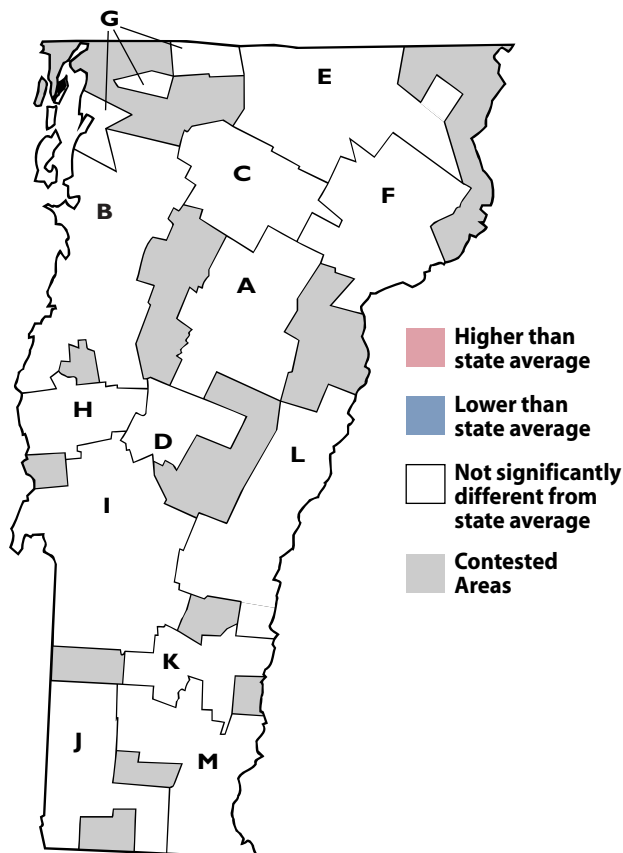
New census population numbers for 2000 have adjusted the population used for calculating rates for past years. As a result, rates have been recalculated. You may notice a slight variation in rates when comparing them to past Quality Reports.



# Coronary Artery Bypass Graft (CABG)

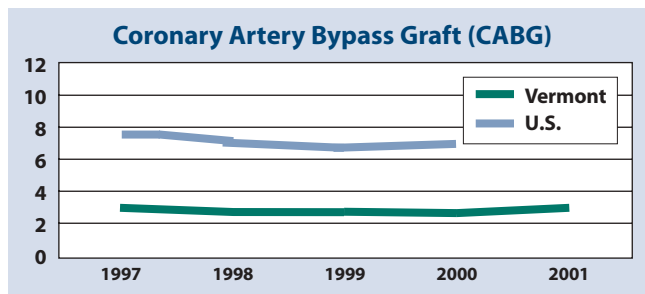
2001 age-adjusted rate of hospitalization per thousand residents age 45 and older

CABG is a major surgical (open chest) procedure using grafted veins or arteries to bypass obstructed coronary arteries that deliver oxygen to the heart muscle.



**2001 State Average**  
**Total Discharges = 658**  
**Rate = 3.0 per 1,000**  
**Average Length of Hospitalization = 10.1 Days**

Hospital Service Area	1997	1998	1999	2000	2001
A. Central Vermont					
B. Chittenden		3.6	3.9		
C. Copley					
D. Gifford					
E. North Country					
F. Northeastern					
G. Northwestern					
H. Porter					
I. Rutland					
J. Southwestern					
K. Springfield					
L. Upper Ct Valley					
M. Windham		1.1			
<b>State Rate</b>	3.2	2.9	2.9	2.8	3.0



Rates on this map represent the number of hospitalizations per thousand Vermont residents who live in a geographic region of the state. The geographic area is called the hospital service area (HSA). These rates do not reflect where care is actually delivered.

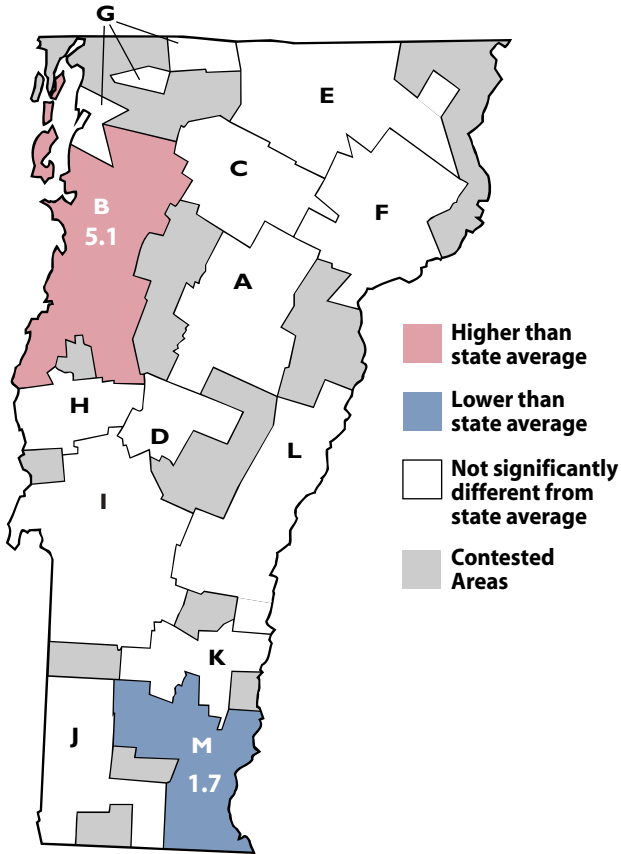
Statistical significance, measured at the .05 level, is highlighted in either pink (above the state average) or blue (below the average). In these areas, the regional rate is significantly different from the overall statewide rate. All of the HSA rates are age-adjusted to account for the different population mixes in different regions of the state.

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# Cardiac Catheterization<sup>‡</sup>

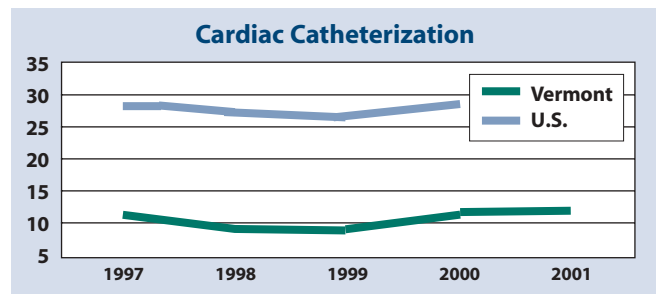
2001 age-adjusted rate of hospitalization per thousand residents age 45 and older

Cardiac catheterization involves introducing a catheter through the major artery in an arm or leg and threading the catheter upstream into the left chamber of the heart, the major outflow vessels, and into the coronary arteries that supply blood to the heart muscle itself. A diagnostic catheterization is done to determine whether the patient has coronary artery disease (a narrowing or obstruction of the arteries serving the heart itself).



**2001 State Average**  
**Total Discharges = 929**  
**Rate = 4.2 per 1,000**  
**Average Length of Hospitalization = 4.2 Days**

Hospital Service Area	1997	1998	1999	2000	2001
A. Central Vermont					
B. Chittenden	6.3	6.0	5.2	5.7	5.1
C. Copley					
D. Gifford					
E. North Country					
F. Northeastern					
G. Northwestern					
H. Porter					
I. Rutland			2.3		
J. Southwestern					
K. Springfield					
L. Upper Ct Valley					
M. Windham			1.9		1.7
<b>State Rate</b>	5.0	4.6	3.5	3.9	4.2



Rates on this map represent the number of hospitalizations per thousand Vermont residents who live in a geographic region of the state. The geographic area is called the hospital service area (HSA). These rates do not reflect where care is actually delivered.

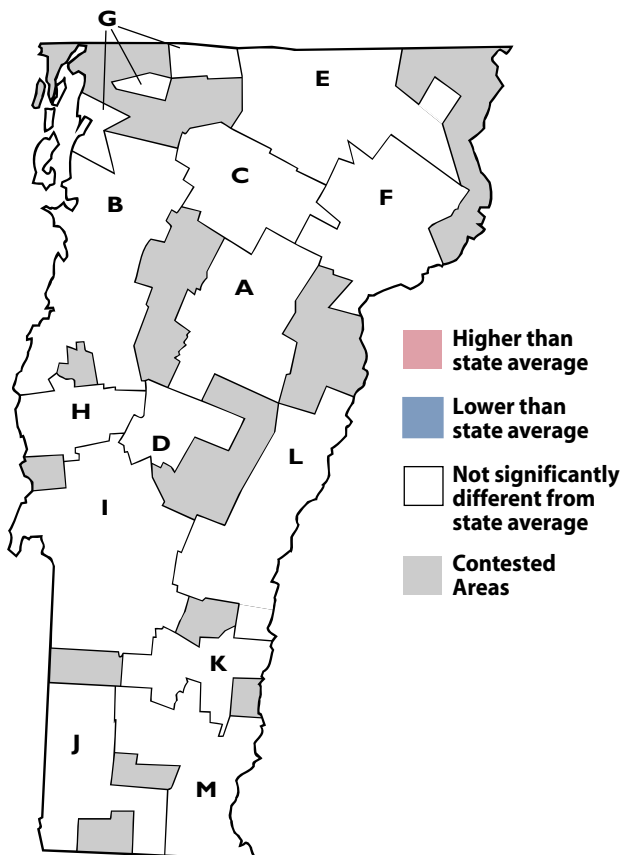
Statistical significance, measured at the .05 level, is highlighted in either pink (above the state average) or blue (below the average). In these areas, the regional rate is significantly different from the overall statewide rate. All of the HSA rates are age-adjusted to account for the different population mixes in different regions of the state.

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# Carotid Endarterectomy

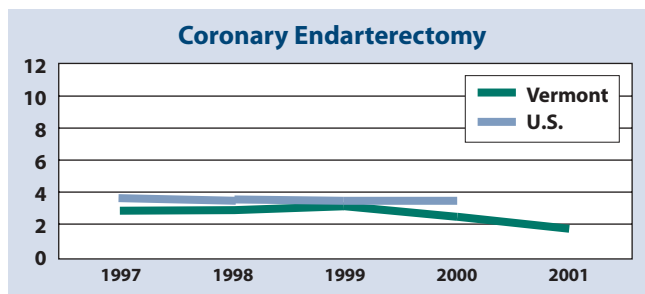
2001 age-adjusted rate of hospitalization per thousand residents age 65 and older

Obstruction of the carotid arteries, the major blood supply to the brain, can be surgically corrected by a procedure called a carotid endarterectomy. This procedure can prevent stroke.



**2001 State Average**  
**Total Discharges = 136**  
**Rate = 1.8 per 1,000**  
**Average Length of Hospitalization = 4.8 Days**

Hospital Service Area	1997	1998	1999	2000	2001
A. Central Vermont					
B. Chittenden					
C. Copley					
D. Gifford					
E. North Country	7.3			6.2	
F. Northeastern					
G. Northwestern					
H. Porter					
I. Rutland					
J. Southwestern					
K. Springfield					
L. Upper Ct Valley					
M. Windham					
<b>State Rate</b>	2.9	2.9	3.0	2.5	1.8



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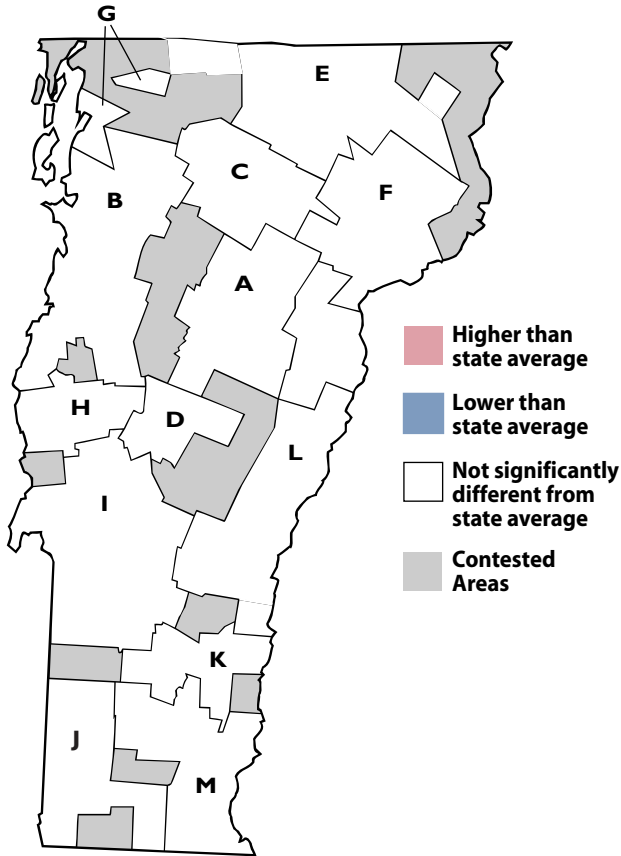
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# Heart Failure

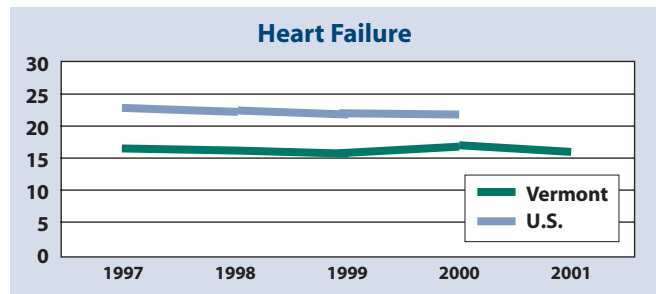
## 2001 age-adjusted rate of hospitalization per thousand residents age 65 and older

Heart failure is a chronic disease resulting from damaged heart muscle. The weakened heart no longer effectively pumps blood to the rest of the body. There are many causes of heart failure including advanced age and previous heart attacks.



**2001 State Average**  
**Total Discharges = 1,164**  
**Rate = 15.5 per 1,000**  
**Average Length of Hospitalization = 4.9 Days**

Hospital Service Area	1997	1998	1999	2000	2001
A. Central Vermont					
B. Chittenden					
C. Copley					
D. Gifford					
E. North Country		21.4			
F. Northeastern					
G. Northwestern		24.1	23.8	27.7	
H. Porter					
I. Rutland					
J. Southwestern					
K. Springfield					
L. Upper Ct Valley					
M. Windham					
<b>State Rate</b>	<b>16.3</b>	<b>15.2</b>	<b>15.1</b>	<b>16.4</b>	<b>15.5</b>



Rates on this map represent the number of hospitalizations per thousand Vermont residents who live in a geographic region of the state. The geographic area is called the hospital service area (HSA). These rates do not reflect where care is actually delivered.

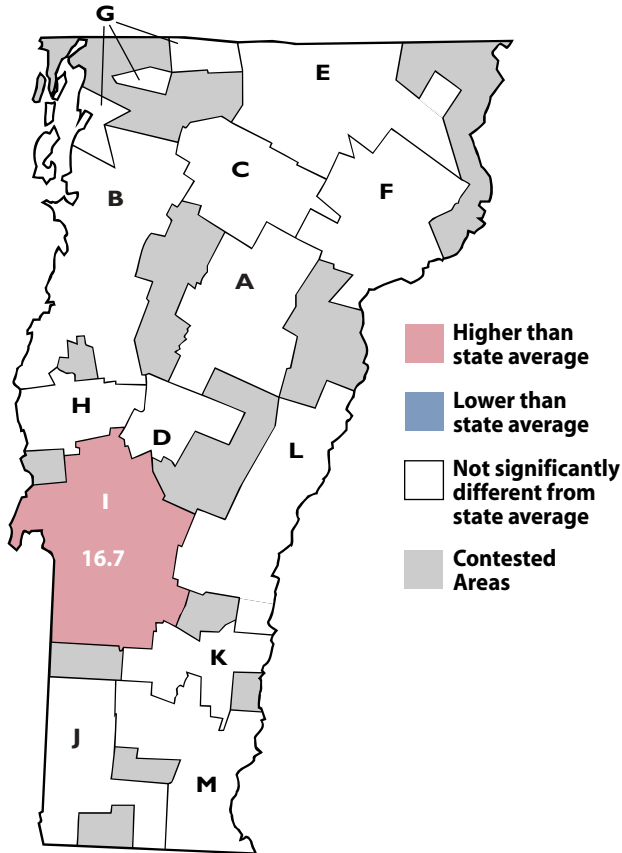
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# Stroke and Other Cerebrovascular Diseases

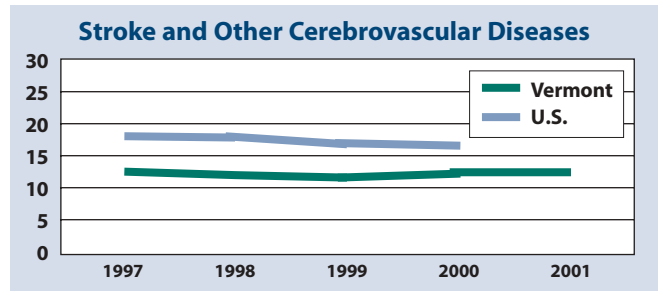
2001 age-adjusted rate of hospitalization per thousand residents age 65 and older

Both stroke and transient ischemic attack (TIA) are the result of a decrease in the flow of blood to the brain. In the case of TIA, the decrease is temporary. An interruption that leads to permanent damage is commonly referred to as a stroke.



**2001 State Average**  
**Total Discharges = 900**  
**Rate = 12.0 per 1,000**  
**Average Length of Hospitalization = 4.9 Days**

Hospital Service Area	1997	1998	1999	2000	2001
A. Central Vermont		7.9			
B. Chittenden					
C. Copley					
D. Gifford					
E. North Country					
F. Northeastern					
G. Northwestern					
H. Porter					
I. Rutland	19.8	16.2		15.8	16.7
J. Southwestern					
K. Springfield					
L. Upper Ct Valley					
M. Windham					
<b>State Rate</b>	<b>13.3</b>	<b>12.6</b>	<b>11.7</b>	<b>12.0</b>	<b>12.0</b>



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Statistical significance, measured at the .05 level, is highlighted in either pink (above the state average) or blue (below the average). In these areas, the regional rate is significantly different from the overall statewide rate. All of the HSA rates are age-adjusted to account for the different population mixes in different regions of the state.

New census population numbers for 2000 have adjusted the population used for calculating rates for past years. As a result, rates have been recalculated. You may notice a slight variation in rates when comparing them to past Quality Reports.

## Acute Stroke Intervention Team At Fletcher Allen

On July 1, 2001, Fletcher Allen began to offer the services of an Acute Stroke Intervention Team (or ASIT), which is ready to respond to acute strokes and stroke emergencies at Fletcher Allen. The team — led by Dean Kindler, M.D., a specialist in vascular neurology and stroke — includes neurointerventional radiologist Todd



Peebles, M.D., and neurology and radiology attendings and residents. The team will respond to stroke emergencies — cases where a patient’s symptoms are six hours old or less.

This team was created in order to respond to strokes with immediate treatment known as thrombolytic therapy. With this therapy, patients are treated with clot-dissolving drugs that break down blood clots, thereby preventing the clots from blocking blood flow to the brain.

The development of this team was part of a larger Care Management effort at Fletcher Allen Health Care to improve the care of stroke patients. Stroke was chosen because there was significant variation

among providers. As part of the Quality Improvement efforts, a multi-disciplinary team:

- Developed acute stroke admission orders.
- Developed ICU admission orders for rt-PA.
- Developed NIH stroke scale documentation form.
- Developed a clinical pathway, heparin guidelines and criteria for thrombolytic therapy.

Providers from other sites and referring providers can also access the stroke team. Arrangements will be made to have a patient referred and the stroke team will respond when the patient arrives in the Emergency Department. In addition to heading ASIT, Dr. Kindler offers inpatient consultations and is available to answer physicians’ questions about stroke and high-risk stroke.

### Contact

Susan K. Levinsky, RN, MPH  
Clinical Improvement Coordinator  
802-847-4927  
Susan.Levinsky@Vtmednet.org

## The Northern New England Cardiovascular Disease Study Group

The Northern New England Cardiovascular Disease Study Group (NNE) is a unique collaborative committed to continuously improving the quality, safety, effectiveness, and cost of medical interventions in treatment of cardiovascular disease. It is a regional, voluntary consortium that was founded in 1987 in order to provide information about best practice management of cardiovascular disease in Maine, New Hampshire, Vermont and Massachusetts.

The NNE maintains registries for all patients receiving coronary artery bypass grafting, percutaneous coronary interventions and heart valve surgery. During the past fourteen years, data on more than 100,000 procedures have been collected and analyzed. The group includes cardiologists and surgeons, perfusionists, nurses, anesthesiologists and administrators. They meet tri-annually to review data, plan research studies and discuss improvements.

As founding members of the NNE, FAHC has demonstrated leadership and longstanding commitment to rigorous outcome analysis and quality improvement involving coronary intervention, bypass surgery, and treatment of myocardial infarction. This effort has contributed to greater than 20 studies published over the past five years.

Reduction of mortality following coronary intervention has been a recent NNE as well as FAHC focus. A multi-disciplinary case review setting has been utilized for discussion of specific risk factors influencing mortality. In particular, attention has been focused on patients at

greatest risk, those undergoing emergency intervention for recurrent chest pain despite medical therapy, acute myocardial infarction (heart attack) or cardiogenic shock. Optimal treatments and modifiable risk factors have been identified and consensus conclusions have been implemented in the catheterization laboratory and the cardiology floor.

Improvements in outcomes have been measured. In 2002, total hospital deaths, including emergency cases, after Percutaneous Coronary Interventions (PCI) was 0.7%. This compares favorably with the 0.9% mortality rate in our benchmark group, the NNE. It is also below the national ACC/AHA benchmark of 1.0% for non-emergency procedures.

There has been a continued improvement in mortality following PCI over the past three years, despite an increase in the sickest patients undergoing emergency procedures over the same period. Total mortality, adjusted for case severity, has decreased from 1.6% in 1999 to < 0.7% in 2002. Over the same time period, mortality following emergency PCI has decreased from 8.0% to < 2.5%." The NNE model of multi-disciplinary analysis of patient care has been the basis for our programs to monitor and improve outcomes for patients undergoing angioplasty" said Matthew Watkins M.D., an interventional cardiologist at Fletcher Allen.

Based on a NNE study indicating 60 percent of patients who died after coronary artery bypass graft surgery died from low cardiac output failure, FAHC participated in a three year American Heart Association study. A pre-operative risk predictor for fatal low output failure was implemented. Interventions to reduce a patient's risk of

## SPOTLIGHT ON IMPROVEMENT

developing low output heart failure were developed i.e., reducing patient's pre-induction heart rate prior to surgery, avoidance of anemia on cardiopulmonary bypass pump and improving handoffs between cardiology, surgery, operating room and the intensive care. As a result, all coronary artery bypass graft patients at FAHC are assigned a level of risk pre-operatively.

Other interventions implemented from NNE studies include preoperative aspirin use and surgical use of internal mammary artery. Patients at FAHC receive aspirin in the morning prior to their bypass surgery to reduce mortality. As per a recent publication by FAHC's Bruce Leavitt, MD, use of the internal mammary artery as a graft for bypass surgery was demonstrated as being protective for both short and long term mortality. Cardiac surgeons at FAHC and in our region have increased the use of the internal mammary artery, especially in patients at high-risk.

The overall mortality for CABG procedures in the NNE registry has continued to decline over the past 15 years. FAHC continues to have a low mortality rate comparable to the region's rate. Other outcome measures such as return to the operating room for bleeding, stroke, and mediastinitis continue to remain lower than the NNE regional rate.

### **Other quality improvement projects:**

Based on existing evidence that diabetic patients who have tight control of their

glucose levels have a reduced incidence of post op wound infection and decrease risk of mortality, other institutions in NNE have successfully implemented an insulin infusion protocol. By communicating and sharing information with these institutions and working closely with FAHC's Endocrine and Pharmacy departments, FAHC has implemented it's own protocol. Insulin infusions will initiate in the immediate postoperative period and will be extended to the preoperative state soon.

Stroke following CABG is a devastating complication. The NNE has extensively studied the cause of strokes inpatients undergoing bypass surgery and have developed a risk model for this complication. Patients can now be informed of their risk of stroke with bypass surgery. Future studies will focus on interventions to reduce the incidence of stroke in these patients.

"This group makes it possible for the region's major medical centers to come together, share their knowledge and identify areas for improvement with the goal of doing what is best for the patient," said Bruce Leavitt, M.D., a Fletcher Allen cardiothoracic surgeon and one of the group's leaders. "Through these efforts, we have been able to take steps to improve the quality of care for cardiovascular disease patients in this region."

NNE Executive members at Fletcher-Allen Health Care include: Bruce J. Leavitt, MD, Associate Professor of Surgery, Matthew W. Watkins, MD, Professor of Medicine and Kristi Sapia, RN., Administrative Director Cardiology.



## BEHAVIORAL HEALTH CARE

**B**ehavioral health care is a general term for services aimed at diagnosis and treatment of mental illness and chemical dependency. Behavioral health providers care for people with a wide variety of problems ranging from grief or anxiety in response to a major life event to severe illnesses such as major depressive disorder or schizophrenia. Chemical dependency includes such problems as alcoholism and the misuse of prescription and illegal drugs. It is also referred to as substance abuse.

Mental health care treatments include: psychotherapy, which typically consists of counseling and helping people understand and cope with their problems, and drug therapies such as antidepressants. Severe illnesses can require hospitalization for intensive treatment and support.

Measures that are currently available on the whole population to evaluate the quality of behavioral health care services show the proportion of the population who use behavioral health services at hospitals or outpatient settings.

### Goals and Standards

*Relevant Healthy Vermonters 2010 objectives ([www.healthyvermonters.org](http://www.healthyvermonters.org)):*

#### Mental Health

- Increase the percentage of adults (age 18+) who are, at a minimum, screened in the past three years for depression by a primary care professional (goal: to be set)
- Increase the percentage of children with mental health problems who receive treatment (goal: to be set)
- Reduce suicide attempts by adolescents (as measured by attempts that require medical treatment) (goal: 1%)
- Reduce suicide deaths (deaths per 100,000 people) (goal: six per 100,000 people)

#### Alcohol and drug use

- Increase the percentage of people (adults age 18+) counseled by a primary care professional, in the past three years, about alcohol use (goal: to be set)

### Measurements

The following section contains available measures related to behavioral health care in Vermont.

### Relevant Resources

#### American Association of Geriatric Psychiatry

Access publications, caregiver information and a schedule of continuing education programs. Includes details of AAGP meetings.  
[www.aagpgpa.org](http://www.aagpgpa.org)

#### American Academy of Child and Adolescent Psychiatry

Find child and adolescent mental health resources for both the professional and consumer. Includes news, fact sheets and publications.  
[www.aacap.org](http://www.aacap.org)

#### American Psychiatric Association

Find news, research and clinical resources, education and guidelines. Public information includes many FAQs on illnesses and choosing a doctor.  
[www.psych.org](http://www.psych.org)

#### Healthy People 2010

A 10 year health objectives for the nation developed by the U.S. Department of Health and Human Services.  
[www.health.gov/healthypeople](http://www.health.gov/healthypeople)

## 2001 Vermont Department of Developmental and Mental Health Services (DDMHS)

### Behavioral Health Care

Quality and Utilization Measures*	1997 VT	1998 VT	1999 VT	2000 VT	2001 US MCO	2001 NE MCO
Percent of people hospitalized for behavioral health care (mental health and chemical dependency)	0.5%	0.5%	0.5%	0.6%	0.24%	0.27%
Behavioral health care hospitalizations—admissions per 1,000 people — all ages	7.6	7.4	7.5	8.5		
Average length of stay for behavioral health admissions — all ages	14	12	12	12	6.1	7.5

### Behavioral Health Care - Managed Care\*\*

Quality and Utilization Measures*	1998 NE MCO	1999 NE MCO	2001 NE MCO	1998 US MCO	1999 US MCO	2001 US MCO
Percent of people in managed care receiving follow-up after a hospitalization for mental illness	72.4%	80.8%	81.9%	67.4%	70.1%	73.2%
Antidepressant medication management (ages 18+)	58.8%	62.6%	63.6%	54.4%	58.8%	56.8%

\*Percents are calculated by dividing the total number of occurrences of the event/condition (numerator) by the total number of people in the population (denominator) and multiplying by 100. Admissions per 1,000 people are calculated by dividing the total number of occurrences of the event/condition (numerator) by the total number of people in the population (denominator) and multiplying by 1,000. Average length of stay is calculated by dividing the total number of days people were hospitalized (numerator) by the total number of hospital stays for that condition (denominator).

\*\*US and New England managed care organizations.

Definition of the Measures	VT Data Source	MCO Data Source
<i>Percent of Vermonters who were hospitalized for behavioral health care services (mental health and chemical dependency, DRGs 424-437) in and outside of Vermont, including community hospitals, specialized facilities, and the Veterans Administration Hospital in Vermont.</i>	DDMHS02	QC02
<i>Total hospitalizations and rehospitalizations for Vermonters for behavioral health care services. This number differs from the percent hospitalized (see above) in that it is a count of all of the hospitalizations of all of the people counted above. It is also a rate per 1,000 (rather than per 100).</i>	DDMHS02	QC02
<i>Average length of hospital stay for Vermonters hospitalized for behavioral health care. Total days divided by total admissions.</i>	DDMHS02	QC02

Definition of the Measures	VT Data Source	MCO Data Source
<i>Vermonters who received mental health services in an outpatient (ambulatory) setting sometime within 30 days after an acute incident requiring hospitalization.</i>		QC02
<i>This measure has three components: optimal practitioner contacts for medication management; effective acute care treatment; and effective continuation phase treatment.</i>		QC02

## Improving Behavioral Health Access

*Interventions Devised by MVP*

*Project Goal:  
To improve access  
to behavioral  
health services.*

### Background

Access to mental health services is an important factor in the overall health of MVP members. MVP Health Plan HEDIS data of July 2000 revealed that 7% of MVP members utilized mental health services with 0.8% accessing services for chemical dependency. Although this rate of penetration is well within national benchmarks, it is below that of other plans in the state of Vermont.

### Project Goal

To improve access to behavioral health services.

### Activities and Outcomes

Two interventions were developed by MVP in 2001:

1. Removal of the requirement for PCP referrals to obtain behavioral health services for HMO members in networks where a referral was still necessary
2. Recruitment of appropriate providers to eliminate network deficiencies identified by assessing geographic and specialty access

MVP monitored the effects of removing the referral throughout 2001 by comparing utilization of behavioral health services of members previously requiring referrals to those that had never had a referral requirement. Data were tabulated utilizing the primary diagnosis documented on the claim. For the first three-quarters of 2001, the analysis revealed little difference in the utilization of behavioral health services between the two groups. Due to the ninety-day claims lag, fourth quarter data are not

available at this time. However, claims data did reveal an overall increase in the utilization of mental health services in the first three-quarters of 2001. Since the two groups remained similar in utilization rates, it is difficult to determine if the increase in utilization was due to the removal of the referral or to other factors.

MVP and PrimariLink collaborated to assess and improve the behavioral health provider network in Vermont by implementation of the following interventions:

- Development of a Behavioral Health Questionnaire to accurately reflect the provider's clinical orientation, skills, and experience
- Formation of a Provider Data Bank to store provider information regarding clinical skills
- Face to face interviews with providers to enhance the information gathered from questionnaires and to develop working relationships between PrimariLink and individual providers
- Generation of a Paneling Algorithm with which to carry out a county-by-county evaluation of member needs and provider availability utilizing claims data, authorization data, and GeoAccess reports

The above interventions had little impact on the number of psychiatrists and psychologists in the MVP network. However, there was a significant increase in the number of Masters level prepared providers, including those with MSW and LADC degrees. MVP gained 226 providers in these two categories in 2001. Information gained from the assessment of the network revealed key areas

## SPOTLIGHT ON IMPROVEMENT

for recruitment in 2002; it will also serve as a baseline measure for future network assessments which are planned at regular intervals.

### Next Steps

Although the data regarding the removal of the referral is inconclusive, MVP does not plan to return to a referral-based system for behavioral health at this time. MVP anticipates improved member and provider satisfaction with a direct-access system. Given the success of the interventions to build the behavioral health

network, MVP will continue to utilize the processes implemented in 2001 to maintain and improve behavioral health access.

### Project Contacts

Joyce Gallimore, MPH  
Regional Director QI/UM  
MVP Health Plan, Inc.  
jgallimore@mvphealthcare.com

Barbara Adle, RN, CPHQ  
VT QI Project Manager  
MVP Health Plan, Inc.  
Badle@mvphealthcare.com

## Early Warning Reports

*The Impact of the Implementation of Case Rate Funding for Community Rehabilitation and Treatment Programs Serving Adults with Severe Mental Illness*

*A Project of the Adult Unit, Division of Mental Health, Vermont Department of Developmental and Mental Health Services*

### Background

In July 1999, Vermont's Department of Developmental and Mental Health Services (DDMHS) changed the funding mechanism for Community Rehabilitation and Treatment (CRT) services for adults with severe mental illness from fees for services delivered to case rates for the number of clients served. The change was part of the Adult Unit's assumption of broader managed-care responsibilities at that time, which also included quality management and monitoring of inpatient utilization. Early Warning Reports were in the agreement between DDMHS and the federal Centers for Medicare and Medicaid Services for the waiver amendment that permitted the replacement of fees for services by case rates. The idea is to produce regular reports

on the same indicators over time so that the Department and local providers have timely, consistent information in order to:

- Manage the new financial structure,
- Assure that clients continue to receive the proper amount of services,
- Monitor client and system outcomes and
- Detect trends, especially potential problems, early enough to take corrective measures

### Goals

The Early Warning Reports help us to evaluate the impact of case rates on services, client outcomes and overall system expenditures. As we accumulate Early Warning Reports over longer periods of time, we hope to come to know which indicators are most significant. Comparing our data with data from other states, as we expect to do in coming years, will help us put Vermont into a national perspective.

*The Early Warning Reports help us to evaluate the impact of case rates on services, client outcomes and overall system expenditures.*

## SPOTLIGHT ON IMPROVEMENT

### Activities

Nine parameters were measured by the Early Warning Reports. They included:

- Planned allocations system-wide in comparison to actual month-by-month expenditures
- Actual revenues at each community agency in comparison to the case rate allocation
- Average monthly CRT core service hours per client, by agency
- Average number of CRT clients receiving no core services in a given month, by agency
- CRT client involuntary community and inpatient status as a percentage of CRT caseload, by agency
- Voluntary and involuntary inpatient admissions as a percentage of CRT caseload, by agency
- Inpatient admissions by hospital
- Inpatient readmissions within forty-five days, by agency
- Deaths from natural and other causes, by agency

### Outcomes

The move to the case rate funding mechanism prompted strong ongoing concerns with regard to maintaining services to clients at appropriate levels and knowing if clients leave the system.

Analysis of the Early Warning Reports for the first two years following implementation of case rate funding revealed the following:

- Services declined only slightly, within a tolerable range
- The percentage of clients getting no core services in any given month was fairly steady

- Both the absolute number and the percentage of CRT inpatient admissions declined
- Readmissions varied greatly, with no detectable trend
- CRT client involuntary status numbers rose somewhat and then declined to starting levels in 2001 (data for 2000 are not available)
- Introduction of the case rate system had no influence on the CRT client death rate
- Both the system in general and individual agencies are doing well financially. In both years, revenues and expenditures came within two percent of target, although performance at individual agencies varied somewhat

### Next Steps

Using other data sources, we have already added reports on employment status as well as on the number and types of complaints, grievances and appeals filed by CRT clients. Other reports we hope to produce with the Department's enhanced Management Information System include:

- Demographic information and analysis
- First appointment follow-up from inpatient care
- CRT staff turnover rates
- Critical incidents and
- Housing stability

### Contact

Frank Reed, LICSW  
Director of Quality Management  
Adult Unit, Division of Mental Health  
802-241-1363  
freed@ddmhs.state.vt.us  
www.state.vt.us/dmh/

## Parental Evaluation Of Children's Services Programs

*An Evaluation of Child and Adolescent Mental Health by the Parents of Children Served in Vermont September 2001 - March 2002*

### Project Overview and Summary of Results

During spring 2002, the Child and Family Unit of the Vermont Department of Developmental and Mental Health Services invited the parents of children who had recently received community mental health services to complete a survey to evaluate child and adolescent mental health programs in Vermont's ten regional Community Mental Health Centers (CMHCs). Surveys were sent to parents of all children up to the age of 18 who received at least three Medicaid reimbursed services during the period September 2001 through March 2002. In total, 800 (29%) of the potential pool of 2,788 deliverable surveys were returned. Out of these, 10 respondents returned questionnaires with comment only. This left 790 (28%) useable surveys for quantitative analysis (See Appendix V).

The parent survey consists of twenty-six fixed alternative items and four open-ended items designed to provide information that would help stakeholders to compare the performance of child and adolescent mental health programs in Vermont. The survey instrument was based on the MHSIP Consumer Survey developed by a multi-state work group and modified as a result of input from Vermont stakeholders (see Appendix II).

### Methodology

In order to facilitate comparison of Vermont's ten child and adolescent mental health programs, parents' responses to

twenty-six fixed alternative items were combined into five scales. These scales focus on overall consumer evaluation of program performance, and evaluation of program performance with regard to outcomes, quality, services, and staff. In order to provide an unbiased comparison across programs, survey results were statistically adjusted to remove the effect of dissimilarities among the client populations served by different community programs. Measures of statistical significance were also adjusted to account for the proportion of all potential subjects who responded to the survey. (For details of scale construction and adjustment, see Appendix IV.) Reports of significance are at the 95% confidence level ( $p < .05$ ). The percentages of parents making positive and negative narrative comments in response to the open-ended questions are noted in this report. A more detailed analysis of the content of the comments of parents and other stakeholders will be issued in a separate report.

### Overall Results

The parents of children served by child and adolescent mental health programs in Vermont rated their programs very favorably. Statewide, on the overall measure of program performance, 81% of the parents evaluated the programs positively. Some aspects of program performance, however, were rated more favorably than others. Fixed alternative items related to staff, for instance, received the most favorable responses (87% favorable), followed by services (81% favorable) and quality (80% favorable). Items

*The parents of children served by child and adolescent mental health programs in Vermont rated their programs very favorably.*

### Positive Evaluation of Child and Adolescent Mental Health Programs

related to outcomes (62% favorable) received the lowest ratings. Additional comments about program performance were offered by 77% of the parents. When these comments were coded as positive or negative, it was found that significantly more parents made positive comments (66%) than negative comments (47%). Notably, all scale scores were higher than scores recorded in recent surveys of other stakeholders.

### Overview of Differences Among Programs

In order to compare parents' evaluations of child and adolescent mental health programs in the ten CMHCs, ratings of individual programs on each of five composite scales were compared to the

median of the regional scores (referred to in this report as the statewide median) for each scale. Although all programs received high scores, the results of this survey indicate that there were some significant differences in parents' evaluations of some of the state's ten child and adolescent community mental health programs (Figure 1).

The child and adolescent mental health program in Chittenden County received the most favorable parent assessment in the state, scoring better than the statewide median on two of the five scales. The child and adolescent mental health programs in Rutland and the Southeast region each scored better than the statewide median on one of the five scales. The child and adolescent mental health program in the Northwest region was rated below the statewide median on two scales. Parents' evaluations of six of the other programs were not statistically different from the statewide median rating on any of the scales.

Figure 1.  
Positive Evaluation of Child and Adolescent Mental Health Programs  
By Parents of Children Served in Vermont September 2001 - March 2002

Agency	Overall	Staff	Quality	Services	Outcomes
Chittenden					
Rutland					
Southeast					
Addison					
Bennington					
Lamoille					
Northeast					
Orange					
Washington					
Northwest					

Higher than statewide median  
 No difference  
 Lower than statewide median



..... **SPOTLIGHT ON IMPROVEMENT** .....

The results of this evaluation of child and adolescent mental health programs in Vermont need to be considered in conjunction with other measures of program performance in order to obtain a balanced picture of the quality of care provided to children and adolescents with mental health needs and their families in Vermont.

**Project Contact**

Alice Maynard, DDMHS  
Child, Adolescent and Family Unit  
802-241-2609  
amaynard@ddmhs.state.vt.us

Janet Bramley  
Performance Indicator Project  
802-241-2659  
jbramley@ddmhs.state.vt.us  
pip@ddmhs.state.vt.us.

## ORAL HEALTH

Oral health is an essential element of overall health. Oral diseases have a strong impact on quality of life at all stages of life, including pain and suffering, inability to chew, self-consciousness, and low self esteem. Dental caries and periodontal (gum) disease are the most common chronic infections of humans.<sup>1</sup> Cleft lip and cleft palate are relatively common birth defects (on per 1000 US live births).<sup>2</sup> Oral and pharyngeal cancers are significant and result in more than 8,000 US deaths each year.<sup>3</sup>

In the last few decades, the rate of total tooth loss in the US declined steadily. However, in 1997, 30 percent of people age 65 and older had lost all of their teeth, the majority of cases being attributable to periodontal disease and dental caries.<sup>4</sup>

Tooth loss (six or more) due to decay or gum disease in Vermont was slightly higher than the US average in 1999. Interestingly, the percentage of Vermonters in 1999 who had contact with a dental professional was 4% to 5% higher than the nationwide rate.

In 1998, 46% of children and 25% of adults who had Vermont Medicaid coverage obtained regular dental care.<sup>5</sup>

### Goals and Standards

*Relevant Healthy Vermonters 2010 objectives (<http://www.state.vt.us/health>)*

- Further reduce the percentage of children (age 6-8) with untreated dental decay in primary and permanent teeth. (goal: 21%)
- Reduce the percentage of youth (age 14-15) with untreated dental decay. (goal: 15%)
- Increase the percentage of people who use the dental system each year. (goal: 83%)
- Increase the percentage of children who receive dental sealants. (goal at age 8: 50%) (goal at age 14: 50%)
- Increase the percentage of dentists who counsel patients about quitting smoking. (goal: 85%)

### Measurements

This section contains available measures related to oral health in Vermont.

## Relevant Resources

### American Dental Association (ADA)

Easy-to-read educational material for consumers combined with dental news, and a products and services guide.  
[www.ada.org/index.html](http://www.ada.org/index.html)

### American Academy of Pediatric Dentistry (AAPD)

American Academy of Pediatric Dentistry, a professional body with journals, news, reference and parent information.  
[www.aapd.org](http://www.aapd.org)

### American Dental Hygienists' Association (ADHA)

Obtain pointers on maintaining oral health, career information, and a FAQ. Read Blip, the group's newsletter, or join the hygienist e-mail list.  
[www.adha.org](http://www.adha.org)

### National Oral Health Surveillance System

Association of State and Territorial Dental Directors NOHSS  
 Main Menu • Dental Visits • Teeth Cleaning • Complete Tooth Loss • Fluoridation Status • State Profiles • Data Sources • Related Links • Frequently Asked Questions  
[www.cdc.gov/nohss](http://www.cdc.gov/nohss)

### Healthy People 2010

A 10 year health objectives for the nation developed by the U.S. Department of Health and Human Services.  
[www.health.gov/healthypeople](http://www.health.gov/healthypeople)

## Oral Health

Quality and Utilization Measures*	HP 2010 Goal	1999 VT	2001 VT	2002 VT	1999 US
People who have:					
had teeth cleaned by dentist or dental hygienist in the last year.		71.5%			76.8%
visited dentist/dental clinic for any reason in the past year.	83.0%	72.5%			68.1%
lost six or more teeth due to decay or gum disease (all ages).		20.5%			19.9%
lost all natural permanent teeth (age 65+)					
females		25.6%			24.4%
males		27.4%			22.9%
Vermonters on public water system who received fluoridated water.			54.2%	55.5%	

\* All oral health data is from the National Oral Health Surveillance System.

- <sup>1</sup> Landis, S. H.; Murray, T.; Bolden, S.; et al. Cancer statistics, 1999. *CA-A Cancer Journal for Clinicians* 49:8-31, 1999.
- <sup>2</sup> U. S. Department of Health and Human Services (HHS). *Oral Health in America: A Report of the Surgeon General*. Rockville, MD: HHS, National Institutes of Health, National Institute of Dental and Craniofacial Research, 2000.
- <sup>3</sup> Slavkin, H. C. Meeting the challenges of craniofacial-oral-dental birth defects. *Journal of the American Dental Association* 127: 126-137, 1998.
- <sup>4</sup> *Healthy People 2010*. CDC. National Health Interview Survey 1997
- <sup>5</sup> *Healthy Vermonters 2010*

## LONG-TERM CARE

Long-term care is a general term used to describe the array of health care and social support services available for persons of all ages (who have some type of physical disability or reduced cognitive ability), and who need assistance with essential daily activities in order to continue to function independently and live in their communities. The services are available in an ever increasing variety of settings: nursing homes; residential care homes; congregate living settings; assisted living; senior housing; daytime community programs; and private homes.

Two demographic groups, children and adults with chronic disabilities and the elderly are the heaviest users of long-term care services and both groups can be expected to increase in size over the long term. While both the disabled and the elderly are expected to grow in numbers over time, the increase in the number of elderly will be especially dramatic. The number of elderly in Vermont is projected to nearly double over the next twenty-five years.

Four out of ten people turning age 65 will use a nursing home at some point in their lives and almost one out of ten will spend five years or more in a nursing home, according to the Agency for Health Care Policy Research.

### **Goals and Standards:**

#### ***Healthy Vermonters 2010 objectives (<http://www.state.vt.us/health>):***

- “Increase the percentage of adults (age 18+) with disabilities reporting sufficient emotional support.” (goal: 79%)

#### ***Vermont Agency of Human Services:***

“To improve the health and well-being of Vermonters and promote their ability to meet their basic needs.”

#### ***Vermont Department of Aging and Disabilities:***

“Enhance the ability of Vermont elders to live as independently as possible, actively participating in and contributing to their communities, by expanding the options available to consumers who choose not to live in an institutional setting, maximizing the value of public resources by targeting community-based and consumer-directed services to those with the greatest need, and by improving the efficiency and effectiveness of the services and service delivery systems.”

“Continue the development and enhancement of multifaceted systems of services to provide needed support and resources for family caregivers, and which encourages them to maintain the care-giving role.”

## Relevant Resources

### **Americans with Disabilities Act**

Lies under the prevue of the U.S. Department of Justice and is an excellent resource for information about services and statues that support the elderly and disabled.

[www.ada.gov](http://www.ada.gov)

### **Vermont Agency of Human Services**

Has as its goal to improve the health and well-being of Vermonters and promote their ability to meet their basic needs.

[www.ahs.state.vt.us](http://www.ahs.state.vt.us)

### **The Department of Aging and Disabilities**

Mission is to assist older persons and adults with physical disabilities to live as independently as possible

[www.dad.state.vt.us](http://www.dad.state.vt.us)

### **Healthy People 2010**

A 10 year health objectives for the nation developed by the U.S. Department of Health and Human Services.

[www.health.gov/healthypeople](http://www.health.gov/healthypeople)

## Measurements

This section contains measurements related to long-term care in Vermont.

## Nursing Home Comparison

### Long-Term Care

Quality and Utilization Measures*	VT	US
Average Number of Residents	74.6	88.5
RN (Registered Nurse) hours per resident per day	0.7	0.7
CNA (Certified Nurses Aid) hours per resident per day	2.7	2.4
Total number of nursing staff hours per resident per day.	4.1	3.9
The percentage of Residents with Loss of Ability in Basic Daily Tasks	19%	15%
The percentage of Residents with Pressure Sores	9%	8%
The percentage of Residents in Physical Restraints	6%	10%
The percentage of Residents with Infections	15%	N/A
The percentage of residents reported to have very bad pain at any time, or moderate pain every day, in the seven days prior to the assessment	13.0%	10.0%
The percentage of Short Stay Residents with Pain	31%	26%
The percentage of Short Stay Residents with Delirium	5%	4%
The percentage of Short Stay Residents who walk as well or better.	30%	30%

*\*Numbers are based on information provided by nursing homes in Vermont and the US and are not checked for accuracy. They represent nursing staff levels for a two week period prior to time of state inspection. Caution should be used when interpreting the data. Data was collected in the time period between July and September 2002.*

*\*\*Hours per resident per day is the average daily work (in hours) given by the entire group of nurses or nursing assistants divided by total number of residents. The amount of care given to each resident varies.*

*Nursing Home Comparison can be looked up on the internet at <http://www.medicare.gov/NHCompare/Home.asp>.*

*Some loss of function may be expected in the elderly, especially if they are in poor health. However, this measure only counts unexpected, sudden, or rapid loss of the ability to do one or more of these activities.*

- 1. feeding oneself*
- 2. moving from one chair to another*
- 3. changing positions while in bed*
- 4. going to the bathroom alone*

*A pressure sore is a skin wound. Pressure sores usually develop on bony parts of the body such as the tailbone, hip, ankle, or heel. They are usually caused by constant pressure on one part of the skin. Pressure sores are sometimes called bedsores. These sores can be caused from the pressure on the skin from chairs, wheelchairs, or beds. Severe pressure sores may take a long time to heal. As a result, some of the*

Definition of the Measures	VT Data Source	US Data Source
	CMS	CMS
<i>Average RN staff hours worked each day divided by the number of residents.</i>	CMS	CMS
<i>Average CNA staff hours worked each day divided by the number of residents.</i>	CMS	CMS
<i>Average total nursing staff hours worked each day divided by the number of residents. Includes hours for RN, CNA, LPN/LVN's.</i>	CMS	CMS
<i>This measure shows the percentage of residents whose need for help doing basic daily activities is greater than when their need for help was last checked</i>	CMS	CMS
<i>The percentage of residents reported to have one or more pressure sores.</i>	CMS	CMS
<i>The percentage of residents in the nursing home who are in physical restraints daily (lower percentages are better).</i>	CMS	CMS
<i>The percentage of residents who have certain types of infections in the nursing home (lower percentages are better).</i>	CMS	CMS
<i>The percentage of residents reported to have very bad pain at any time, or moderate pain every day, in the 7 days prior to the assessment.</i>	CMS	CMS
<i>The percentage of short-stay residents (residents who are expected to stay for a short period of time) who have reported to have very bad pain at any time, or moderate pain every day, in the 7 days prior to assessment.</i>	CMS	CMS
<i>The percentage of short-stay residents (residents who are expected to stay for a short period of time) who have symptoms of delirium (lower percentages are better).</i>	CMS	CMS
<i>The percentage of short stay, independent residents who walked better on day 14 than on day 5 of their stay or who walked independently on day 5 and maintained that level on day 14. In this measure, higher percentages are better.</i>	CMS	CMS

pressure sores included in this data may be ones that facilities are in the process of successfully treating and improving.

A physical restraint is any device, material, or equipment that keeps a resident from moving freely. Examples of physical restraints include special types of vests, chairs with lap trays, ankle restraints, or wrist restraints. Bed rails (side rails) are not used in the calculation of this measure.

Examples of infection are pneumonia, wound infections, and urinary tract or bladder infections.

Delirium is a mix of short-term problems with focusing or shifting attention, being confused, and not being aware of one's surroundings or environment. (Note that delirium is not "dementia" or "senility," which is more about learning and memory problems). These symptoms may appear suddenly, from a variety of causes, and can be reversible.

The percentage of short stay, independent residents (residents who are expected to stay for a short period of time) who walked better on day 14 than on day five of their stay or who walked independently on day five and maintained that level on day 14. Examples of residents who are not included in this measure are those who are in a coma, on a ventilator, are paralyzed, or are receiving hospice care. NOTE: In this measure, higher percentages are better.

Improved walking is an increase in a resident's ability to walk with little help or no help at all. Examples of residents who are not included in this measure are those who are in a coma, on a ventilator, are paralyzed, or are receiving hospice care.

## Home Care in Vermont

*Vermont Association of Home Health Agencies*

*On any given day, there are more patients served by Vermont's 12 home care agencies than there are patients in Vermont's 14 hospitals.*

On any given day, there are more patients served by Vermont's 12 home care agencies than there are patients in Vermont's 14 hospitals. On any given day, the Visiting Nurse Association of Chittenden, Grand Isle Counties provides in-home service to more Vermonters needing nursing-home level care than live in any of the state's 44 nursing homes. Most Vermonters know something about home care, few know about the size and scope of home care services.

In 2001, Vermont's 12 Medicare-certified home care agencies made 864,575 home visits to 21,754 people. One in every 36 Vermonters received home care, possibly the highest service penetration rate in the nation. Services include nursing, therapies, respite care, hospice, home health aide, and homemaker. Some patients today receive high tech care, such as ventilator care, IV therapy, and chemo-therapy treatments, that twenty years ago was limited to in-hospital service.

Home care is not just for the elderly. Forty-two percent of the home care patients in 2001 were under 65. That number has grown steadily over the past decade. Ten years before, only 29 percent of home care patients were under 65. Part of the increase is due to more high tech services to children and expanded service to the Maternal Child Health and Healthy Babies programs.

Total Revenues in Fiscal Year 2001 were \$73,520,327. Medicare payments, the largest revenue source, were \$35,516,949, 48.3% of the total. Medicaid revenues, the second largest payer, were \$21,024,138, or 28.6%. Over the past seven years the Medicare percentage of the total revenues has steadily declined while the Medicaid percentage has increased. In 1996, Medicare comprised

62.3% of the total home care revenues while Medicaid was 18.3%. The shift is due mostly to the rise of the Medicare Home and Community-based Waiver program. This program, which was established in 1987, provides services to nursing-home eligible patients who live at home rather than in a nursing home. Currently there are 945 "slots" available. Another 100 are expected to be added this year.

All 12 home care agencies are not-for-profit, visiting nurse associations. This system provides a unique public, private partnership that guarantees all Vermonters access to a full range of high quality, low cost home health and hospice services. Another important feature of the not-for-profit system is the effort to coordinate and collaborate in the organization and delivery of services, rather than compete for patients, territory, and funding. Because the 12 VAHHA members collaborate rather than compete, they can work together on statewide quality improvement initiatives including patient satisfaction measurements, high tech training and standards, and agency accreditation statewide. Currently the member agencies are also measuring 41 clinical outcomes and bench marking with federal data to assure that Vermont quality is high.

The 12 home health home care agencies in Vermont are committed to local community governance, involvement and accountability, and promotion of client self-determination and independence.

### Contact

Peter Cobb, VAHHA Director  
802-229-0579  
vahha@together.net  
www.vna.com



## **Recruitment & Retention Of Care Attendants**

*An Action Plan of Franklin County Home Health Agency  
Addresses the Challenge*

### **Background**

Access to health care and quality of care are dependent upon adequate numbers of qualified, trained workers. Currently in Vermont, there is a shortage of Care Attendants. Consequently, home health agencies have had difficulty staffing their long-term care services. Among these services is the Home & Community Based Waiver program which provides home care to nursing home-eligible individuals. Clients receive an average of 30 hours of Care Attendant services weekly. A shortage of Care Attendants can result in inability to admit new clients to the program and difficulty providing requisite care to existing clients. High employee turnover can result in high costs for recruitment, hiring, and orientation of new workers. Care quality may also be affected because clients are best-served by experienced and familiar caregivers in their homes.

The Franklin County Home Health Agency (FCHHA) found itself challenged by both a shortage and high turnover of Care Attendants. The situation was attributed in part to a low pay scale for Attendants and low unemployment rates. The Agency recognized the impact of recruitment and retention on its services and selected recruitment and retention of Attendants as a top priority for a Performance Improvement team project.

### **Goals**

In the past, FCHHA Human Resources had put a great deal of effort into hiring and training Care Attendants without the desired result – retaining the staff. More effective recruitment and retention were

necessary to meet the growing needs of the Agency's Long-Term Care services. The goal was to decrease turnover from 36% in 2000 to 20% in 2001.

### **Activities**

The team analyzed the current situation and determined that both recruitment and retention could be improved. An action plan was developed which included establishing profiles for both Care Supervisors and Care Attendants.

#### **Care Supervisors should:**

- Provide visionary leadership;
- Be visible to staff and community;
- Educate staff via a variety of means and resources;
- Follow-up on program inquiries, and
- Collaborate and communicate with other providers.

#### **Care Attendants should:**

- Be committed to the intent of the program — success breeds success;
- Proactively address caseload changes and scheduling challenges;
- Be well-informed about all aspects of the program;
- Have a sense of being an integral part of the program and sharing in its responsibilities; and
- Dedicate themselves to making the program work and serving the needs of the client well.

*A shortage of Care Attendants can result in inability to admit new clients to the program and difficulty providing requisite care to existing clients.*

## SPOTLIGHT ON IMPROVEMENT

The team identified the following specific objectives:

### **To Improve Recruitment:**

- Generate a profile of an ideal candidate
- Increase wages and benefits and establish wage differentials for weekend and night work
- Improve the hiring process — develop an interview tool and provide interview training
- Respond promptly to applications and applicants
- Participate in 'Job Fairs' and work with the Department of Employment & Training
- Promote referral incentives from current staff

### **To Improve Retention:**

- Increase wages and benefits
- Improve orientation, standardize information and provide training to increase job satisfaction and performance
- Offer opportunities for staff development, e.g. Licensed Nurse Assistant training, scholarships, and tuition reimbursement

- Increase Care Attendant participation in 'Skills Fairs' and Agency meetings and governance
- Emphasize the importance of the role of the Care Attendant to the Agency
- Communicate more effectively, e.g. establish an 'open door' policy for supervisors
- Respond to employees concerns promptly and caringly

### **Outcomes**

The action plan was implemented over a period of 18 months beginning in August of '99. As a result of these efforts, FCHHA's annual Care Attendant turnover rate declined from 36% in 2000 to 28% in 2001. This improvement has led to a decrease in costs and resources devoted to training and recruitment and improved continuity of care for our clients.

### **Next Steps**

The Agency will continue with the improvement initiatives in order to sustain the improvement and decrease turnover even further.

### **Project Contact**

Ellen Leff, RN  
Director of Clinical Services, FCHHA  
802-527-7531  
eleff@fchha.org.

## CARE AT THE END OF LIFE

Vermont has a long tradition of caring for the dying both at home and in the hospital. Groups interested in improving care for individuals at the end of their life have made progress, but there is still much to be done. Education related to the medical aspects of care at the end of life, and the art of communicating with patients and families dealing with death remain priority projects. Strong statewide, regional and local hospice and palliative care initiatives have developed in Vermont, in response to the need to assure that the care experience is supportive and respectful. Significant gains continue to be made in strengthening end of life care in our communities.

A 1996 National Gallup Poll reported that 90% of Americans said they would prefer to die at home if they were terminally ill (six months or less to live). The place where people die has changed in the past decade. While the proportion of Vermonters dying at home has remained relatively constant across the 1990s (one in five people), the proportion dying in hospitals has declined to below half of all deaths, and the proportion dying in nursing homes has risen to more than a quarter. Palliative Care is available in many hospitals and nursing homes in Vermont, and Certified Hospice Services are available in some nursing homes, as well as through the Visiting Nurse Association.

According to the U.S. Census, there were 73,000 people 65 or older in Vermont in 2000. It is projected by the year 2025 this figure could be 138,000, nearly double. It is likely that by the year 2040 there will be more people over age 85 than there are over 65 today.

### Goals and Standards

#### National Hospice and Palliative Care Organization (NHPCO)

Vermont hospice and palliative care organizations have adopted standards set forth by the NHPCO.

#### Vermont Medical Society (VMS)

Statement on Physician-assisted suicide was adopted by the VMS Council on April 28, 1997. [www.vtmd.org/excel/policysuicide.htm](http://www.vtmd.org/excel/policysuicide.htm)

### Measurements

This section contains measurements related to care at the end of life in Vermont.

### Relevant Resources

#### Last Acts

A campaign to improve end-of-life care by a coalition of more than 990 professional and consumer organizations. Believe in palliative care, focused on managing pain and making life better for individuals and families facing death. [www.lastacts.org](http://www.lastacts.org)

#### National Hospice and Palliative Care Organization

The largest nonprofit membership organization representing hospice and palliative care programs and professionals in the United States. The organization is committed to improving end of life care and expanding access to hospice care with the goal of profoundly enhancing quality of life for people dying in America and their loved ones. [www.nhpc.org](http://www.nhpc.org)

#### Promoting Excellence in End-of-Life Care

Dedicated to long-term changes to improve health care for dying persons and their families. [www.promotingexcellence.org](http://www.promotingexcellence.org)

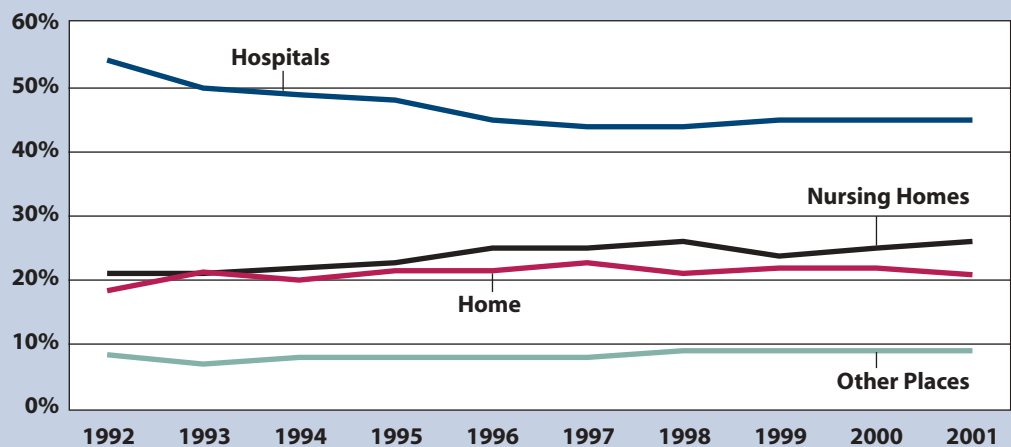
## Cancer Deaths and Hospice/ Palliative Patients in Vermont, 1990-2000

	1990	1993	1996	1998	1999	2000
Cancer deaths - age-adjusted rate per 100,000 Vermonters*	181	172	170	165		199
Total number of cancer deaths for Vermonters*	1131	1132	1204	1209		1211
Hospice/Palliative patients in Vermont <sup>†**</sup>	617	1074	1091	1478		

\*Cancer deaths for Vermonters based on data from the Vermont Department of Health, 2003.

\*\*Hospice and palliative patients in Vermont based on data from the Hospice Council of Vermont, 2000.

## Place of Death for Vermonters\*/\*\*



\*Includes Vermont residents who died in-and-out of state, and out-of-state residents who died in Vermont. In 2000, 5127 Vermont residents died in Vermont, 399 Vermont residents died outside of Vermont and 487 people died in Vermont who were not Vermont residents.

\*\* Vermont Department of Health website —  
[http://www.state.vt.us/health/\\_hs/pubs/2003/vitals/c21.htm](http://www.state.vt.us/health/_hs/pubs/2003/vitals/c21.htm)

## Improving End-Of-Life Care

*A Partnership between Central Vermont Medical Center and Central Vermont Home Health & Hospice*

### Background

Public and professional recognition of the need to improve care of the seriously ill and dying in Vermont is growing. A project, Partnership in Palliative Care, between Central Vermont Medical Center (CVMC) and Central Vermont Home Health & Hospice (CVHHH) devoted to this purpose was built on existing relationships and the desire of all involved to improve symptom management and end-of-life care in central Vermont.



relatively small community of limited financial resources.

The Partnership is featured in the first national report on healthcare partnerships that are seeking to improve care for hospitalized patients who are seriously ill or nearing death. It is also one of nine healthcare collaboratives featured in Hospital-Hospice

Partnerships in Palliative Care: Creating a Continuum of Service, published jointly by the National Hospice & Palliative Care Organization and the Center to Advance Palliative Care. The Center was established by The Robert Wood Johnson Foundation to promote wider access to excellent palliative care in hospitals and health systems nationwide. By building on the success of hospice and encouraging new palliative care practice models, such as the CVMC/CVHHH Partnership, the Center hopes that palliative care will become the standard of care for Americans suffering from serious conditions and for those approaching the end of life.

“The CVMC Palliative Care Service is a tribute to what can be accomplished when hospitals and community agencies have developed strong working partnerships,” says Roseanne Palmer, Director of Inpatient Services at CVMC. “It’s a blessing to work in a community in which you can call your colleague with an idea to improve service and have them respond with ‘let’s figure out how to get this done.’”

### Project Goal

The mission of the CVMC/CVHHH Partnership in Palliative Care is to optimize the overall comfort of end-of-life patients and their loved ones.

### Activities and Outcomes

The Palliative Care Service provides physical, emotional and spiritual comfort to hospital patients who are chronically ill or at end-of-life, as well as education and support to loved ones and caregivers of these patients. The service provides pain, disease and symptom management, help with end-of-life decisions and bereavement referrals.

The Partnership is based on improving care through empowerment and education of the staff of CVMC. While a consult team is available for very complex problems, most of the care needs can be met by staff and attending physicians.

By making state-of-the-art information available and with ongoing support of the institution, the goals of the project have been accomplished over a brief time in this

### Next Steps

The Palliative Care Service will be monitored continually in an effort to build on this highly successful project for the

*The mission of the CVMC/CVHHH Partnership in Palliative Care is to optimize the overall comfort of end-of-life patients and their loved ones.*

overall management of end-of-life care.

**Contacts**

Roseanne Palmer  
Director of Inpatient Services  
Central VT Medical Center  
802-371-4100

Diana Peirce, RN, CHPN  
Director, CVHHH and Palliative Care  
President, Hospice &  
Palliative Care Council of VT  
802-223-1878  
diana.peirce@hitchcock.org

**Communicating End-Of-Life Wishes**

*The Advance Care Planning Network Initiative to  
Improve Shared Decision-Making*

*It has become  
clear over the  
years that what is  
most important to  
this end is the  
process of  
communicating  
wishes in advance  
— what we call  
advance care  
planning.*

**Background**

The need for awareness and use of advance directives, such as “Living Wills” and Durable Power of Attorney for Health Care, has been inferred from national data and occasional daily census surveys that indicate a low completion rate of these documents, generally in the 20-25% range. Even more troubling is the ongoing reluctance of many families and medical practitioners to engage in early conversations that would lead to the framing of patient wishes about care near the end of life. It has become clear over the years that what is most important to this end is the process of communicating wishes in advance — what we call advance care planning. The completion of necessary documents is a secondary benefit.

**Project Goal**

To promote the concept of advance care planning through education and outreach.

**Activities and Outcomes**

In June of 2000, the Vermont Ethics Network (VEN) began a collaborative regional training project with support from regional hospitals, the Northeastern Vermont Area Health Education Center and the ExCEL (Excellent Care near the End of

Life) project of the Vermont Medical Society. The aim of the collaborative, termed The Advance Care Planning Initiative, is to educate a diverse inter-disciplinary group about “Promoting Patient Self-Determination through Shared Decision-Making and Advance Care Planning”, and to create a nucleus of professionals and volunteers in each region to provide education and outreach about the process of patient self-determination, especially in critical care and end-of-life situations.

The role of trained volunteers in the community is to provide any additional specific support that is needed by patients and families individually to approach the issues involved in anticipating care needs. Volunteers can also expand the capability of regional health systems to promote advance care planning through community programs in churches, at Rotary Clubs and in schools or senior centers. As people in the community become more familiar with the concept of advance care planning and the tools with which to communicate their wishes, they will be better prepared to engage with their physicians in prospective planning.

In the first year and a half of this initiative, VEN had conducted regional training sessions at hospitals in Brattleboro,

..... **SPOTLIGHT ON IMPROVEMENT** .....

Bennington, Berlin, Rutland, St. Johnsbury and St. Albans. Over 100 volunteers were trained. Active community outreach and educational programs have been planned by some of the groups involved.

We hope that reassessment in 3-5 years will show a marked increase in the number of patients having advance directives (more than doubling the national data, we hope) as well as anecdotal evidence from both physicians and patients of improved communication about end-of-life treatment wishes.

**Next Steps**

Programs are planned in 2002 and 2003 at North Country Hospital, the Visiting Nurse Association of Chittenden and Grand Isle Counties, Springfield and Copley Hospitals and Porter Medical Center. The production

of additional outreach materials, including a resource guide and video, in collaboration with the Madison Deane Initiative and the Fletcher Allen Health Care Educational Resource Center, is also planned. Presently, advance directive forms and worksheets to help people understand the process of advance care planning are available directly through VEN and on its website: [www.vtethicsnetwork.org](http://www.vtethicsnetwork.org) .

**Contact**

John Campbell, Executive Director  
Vermont Ethics Network  
89 Main Street, Drawer 20  
Montpelier, VT 05620  
(802) 828-2909  
[ven@bishca.state.vt.us](mailto:ven@bishca.state.vt.us)  
[www.vtethicsnetwork.org](http://www.vtethicsnetwork.org)

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## Honoring Advance Directives

*A project to assure that 'Do Not Resuscitate' directives are honored while maintaining comfort*

**Background**

In the past, Emergency Medical Technicians (EMTs) who were called to aid a patient whose respiratory and/or cardiac function had ceased were required to attempt resuscitation even if the patient had previously requested not to be resuscitated. For nearly two years, a collaborative effort has been underway to create a protocol and process related to the role of EMTs who are called to serve such individuals. It is designed to include people at home and in facilities, whether EMTs are called on an emergent or transfer basis. Collaborators include the Emergency Medical Service (EMS) Association of the Vermont Department of Health, Hospice & Palliative

Care Council of Vermont, Vermont Ethics Network and Project ExCel of the Vermont Medical Society.

**Project Goal**

To assure that 'Do Not Resuscitate' directives are honored by EMTs.

**Activities and Outcomes**

A protocol was created and distributed to EMTs statewide. It helps to define the role of the EMT when called to these situations, including the suggestion of comfort measures which may be employed.

Statewide implementation is in process (see time-table below) and scheduled to be completed by September, 2002. The individ-

*In addition to assuring that individual wishes are honored, implementation of this project provided another opportunity to highlight the importance of advance care planning.*

## SPOTLIGHT ON IMPROVEMENT

### Honoring Advance Directives

ual implementation schedules basically combine related counties, EMS districts and their principal and secondary hospitals. Each area is free to decide the manner and details of implementation to reflect the needs of the individual community. A suggested 'Do Not Resuscitate' form was created by the project group. The form is designed to be portable. That is, a copy may be transported from home to facility, facility to facility or facility to home, as well as carried by the patient/family. Facilities and home care/hospice providers work out specific processes for consistent introduction, identification and placement of the documents.

In addition to assuring that individual

wishes are honored, implementation of this project provided another opportunity to highlight the importance of advance care planning.

### Next Steps

Plans are pending for evaluating the effectiveness and outcomes of the project, as well as any issues or problems which may surface as a result of implementation.

### Contact

Diana Peirce, RN, CHPN  
 Director, CVHHH and Palliative Care  
 President, Hospice & Palliative Care Council  
 of Vermont  
 (802) 223-1878  
[diana.peirce@hitchcock.org](mailto:diana.peirce@hitchcock.org)

### Statewide Implementation of "Do Not Resuscitate" Directives

County	Planned Implementation Date	EMS District(s)	Principal Hospital(s)	Secondary Hospital(s)
Grand Isle	Sep-02	1, 3	Northwestern	Fanny Allen Health Center
Franklin	Aug-02	1	Northwestern	
Orleans	Sep-02	2	North Country	
Chittenden	Jun-02	3	Fanny Allen Health Center	
Lamoille	Jul-02	4	Copley	
Essex	Aug-02	5	Northeastern VT Regional	
Washington	Feb-02	6	Central Vermont	
Addison	May-02	7, 3	Porter	Fanny Allen Health Center
Orange	Jan-02	8, 9, 6	Gifford	Dartmouth Hitchcock, Central Vermont
Rutland	Apr-02	10	Rutland Regional Medical Center	
Windsor	Nov-01	9, 11, 8	Springfield, Mt. Ascutney	Dartmouth Hitchcock
Bennington	Mar-02	12	So. Western Vermont Medical Center	
Windham	Dec-02	13, 11	Brattleboro Memorial, Grace Cottage	Springfield



## Integrating Palliative Care Into The Rural Community

*The Experience of the Northeast Kingdom Palliative Care Initiative*

### Background

The Northeast Kingdom Palliative Care Initiative (NEKPCI) is a coalition of health care providers and community members. It was established in the fall of 1997 to improve the care of the dying in Orleans and Northern Essex counties through education, communication and institutional change. The coalition, comprised of all of the area community health care facilities and agencies (North Country Hospital, the Orleans Northern Essex VNA & Hospice and all five of the area nursing homes), is in the process of developing a model system of end-of-life care for the small community. The model builds on the Hospice philosophy and provides a common standard of care across institutions for pain control and emotional and spiritual support. The standard reflects national norms for excellence in end-of-life care. Performance is assessed through ongoing institutional review and annual survey of families experiencing a death.

### Goal

To provide community end-of-life care which reflects national standards of excellence.

### Activities and Outcomes

In the 4½ yrs since its inception, NEKPCI has created an organizational structure in which representatives of its participating facilities and community members meet on a monthly basis to develop programs, plan educational forums, review progress, assess community needs and report on institutional initiatives. These representatives then

liaison with palliative care committees or performance improvement initiatives within their institutions to implement and critique the programs developed in the larger setting, thereby creating an ongoing feedback loop. Yearly, a retreat is held bringing together interested parties from all institutions to review progress and brainstorm new projects. The initiative has:

- Created a common set of palliative care orders
- Standardized palliative nursing care plans
- Generated a volunteer program for respite and music volunteers to provide services in the facilities as hospice volunteers do in the home
- Transformed the Hospice memorial service into an annual community memorial service
- Instituted a common approach to the delivery of palliative care in the institutions through the palliative care cart

The palliative care cart (comprised of various sizes and shapes) best symbolizes and actualizes the experience of community palliative care. The cart is moved into the room of a dying patient and transforms the experience of care in that room. It is a reminder to the care team that a special kind of caring needs to occur and a source of information and comfort to the family/patient. A cassette player and tapes, lotions and aromatherapy, inspirational books and religious articles, a journal to

*The coalition is in the process of developing a model system of end-of-life care for the small community.*

**Integrating Palliative Care Into The Rural Community**

record notes, and information on the dying process are among its components. It is also a connection of the community to the dying patient in that it contains a teddy bear with the NEKPCI logo, a gift of the local Rotary, and a handmade quilt or afghan donated by local women's groups to replace the institutional bedding. This cart has been such a success in the hospital that patients' families have designated the Palliative Care Program as a recipient of memorial donations.

NEKPCI monitors its progress through annual surveys sent to families experiencing a death as well as through quality improvement activities which occur within participating facilities. The information generated in this way determines the focus of the group's projects and educational efforts. Current efforts resulting from this process are directed to improving bereavement support. In the past year NEKPCI has produced a bereavement brochure listing community resources as well as selected books and web sites. In addition, the group is establishing a database to monitor its activities within institutions.

NEKPCI has promoted the professional

education of its members through the nationally recognized EPEC (Education for Physicians on End-of-life Care) and ELNEC (nursing) programs. During 2002, the coalition sponsored ELNEC training for the Hospice nursing director, who will bring this training to the community nursing staffs this year. North Country Hospital provided EPEC training for its Palliative Care Performance Improvement Chairperson who presented a 14-module CME Program to the hospital medical staff during the spring of 2002. The coalition also sponsored a three-hour training session for staff members at all the long-term care facilities.

**Next Steps**

Future goals are to consolidate NEKPCI's activities into a well coordinated program with a dedicated part-time employee. The first part of this process includes incorporation as a 501-c3 which is currently in progress.

**Project Contact**

Denise A. Niemira, M.D.  
Chairperson, NEKPCI  
802-334-6140  
denise@nekpci.org  
www.nekpci.org

## Visiting Nurse Association Palliative Care Initiatives

Palliative care, care which is considered comfort care as opposed to life-extending care, is a vital choice for individuals who have chronic illnesses, who may be living their final days, weeks or months of life. The VNA is developing three exciting new palliative care initiatives, thanks in part to funding from the Fletcher Allen Community Health Foundation. These three initiatives are designed to improve palliative care practices in the agency, and increase understanding of palliative care in the greater community we serve.

### **Advance Care Planning/Palliative Care Education**

The Advanced Care Planning/Palliative Care Education project is designed to educate clinical staff about the importance of advanced care planning, the basics of palliative care practice, and ways of communicating with clients about these important topics. The need for the project became clear from the results of a national study that showed nurses did not feel prepared to talk to patients about end-of-life care issues, and also through concerns expressed by VNA clinical staff. All nurses, not just hospice nurses, need to understand what palliative care is, and how it can improve the patients' quality of life. They need to learn how to talk to patients about traveling life's final journey. Communicating the importance of clear advanced care planning to patients and their families is critical to ensure that patients' wishes are carried out.

Funding from the Fletcher Allen Community Health Foundation has helped the VNA, in collaboration with the Vermont Ethics Network, to develop a course which

will over time be offered to all clinical staff. Arnold Golodetz, MD, has been instrumental in developing and teaching the class, along with Zail Barry, MD and Barb Seigel, RN, from Fletcher Allen Health Care. John Campbell from the Vermont Ethics Network, Cate Nicholas and Alan Rubin, MD, from the University of Vermont College of Medicine, and Pat Donehower, MSN, Roz Grossman, and Angel Collins, MSN from the VNA are also contributors. Currently, nine home care staff members are taking the course each Friday for four hours over four weeks. The home care staff are learning about patient assessment for advanced care planning, the law and advanced directives, symptom management, and how to educate patients about palliative care and hospice.

### **Pediatric Palliative Care**

Keven Ericksen and Angel Collins are heading the Pediatric Palliative Care Initiative. This is a very timely project, as the health care community is recognizing the importance of palliative care and symptom management in critically ill children. The American Academy of Pediatrics recently issued a statement calling for the establishment of Pediatric Palliative Care centers to ensure that children with life limiting illnesses receive appropriate treatment, and that their families receive needed support. For this project the VNA is collaborating with Parent to Parent, an important community resource for parents of ill or disabled children, and Fletcher Allen Health Care.

A steering committee has been established and has met several times. A focus group that includes members of the community will be held mid-winter. The

*These three initiatives are designed to improve palliative care practices in the agency, and increase understanding of palliative care in the greater community we serve.*

**Visiting Nurse Association  
Palliative Care Initiatives**

focus group will help the organizations that manage the work do an “up-to-date” community assessment. A next step will be to provide education to the care providers. The Jason Program, a pediatric palliative care program from Maine, will come in the spring of 2003 to help provide advanced training in pediatric palliative care. The goal is to provide a solid educational base and build sustainable community systems to care for children with life threatening illnesses.

**Madison-Deane Initiative:  
Resources for End-of-Life Care**

The Madison-Deane Initiative, a VNA program, in partnership with Vermont Ethics Network and Fletcher Allen Community Resource Center, received a grant to expand educational outreach on end-of-life care throughout the community. The grant will partially fund the

development of a resource guide which will include information about local, state, and national resources. The resource guide will contain educational information about palliative care, as well as listings of organizations and services. The grant will also fund production of an educational video about palliative care. The video will introduce the topic of end-of-life care, and also serve as a companion to the resource guide.

Through the support of Fletcher Allen Community Health Foundation, the VNA is working to improve palliative care, and educate the community about treatment options for serious, life threatening illness. These three initiatives are clear examples of the VNA’s commitment to provide excellent care to people at all stages of life.

**Project Contact**

Larisa Pazmino  
VNA of Chittenden, Grand Isle Counties  
802-659-1900

## Data Sources

Vermont, New England and U.S. data come from a variety of sources. Also see the bibliography for the complete reference, where available.

### Vermont Data

Short Source Name	Data Source	About the Data
Rule 10	Department of Health Care Administration	Based on data submitted under Rule 10 for Vermonters enrolled in managed care plans.
DDMHS	Vermont Department of Developmental and Mental Health Services	Based on data gathered on Vermont residents hospitalized for mental health or substance abuse at the Vermont State Hospital, the Brattleboro Retreat, Veterans' Administration Hospitals in VT and MA, and general hospitals in VT, NH, MA and NY.
Hospice Council	Hospice Council of Vermont	Based on survey data collected by the Hospice Council of Vermont on patients in hospice care.
NIS	Centers for Disease Control and Prevention	National Immunization Survey - National phone survey (with mail follow-up) to parents and providers of Vermont children to estimate the vaccination coverage of children 19 to 35 months old.
VHDDS	Vermont Department of Health	Vermont Hospital Discharge Data Set - Special analyses of Vermont resident discharges from VT (including the Veterans Administration in White River Junction), NH, NY, and MA hospitals.
VSVSR	Vermont Department of Health	Vermont School Vaccine Survey Report - Report for the Centers for Disease Control and Prevention based on information submitted by schools.
BRFSS	Center for Disease Control	Behavioral Risk Factor Surveillance Survey — A national survey of individuals age 18 or older, about their health-related behavior. Vermont data is collected by the Vermont Department of Health.
VDH 2000b	Vermont Department of Health	Cancer death rates for Vermonters, age-adjusted per 100,000 to the 1970 U.S. standard population.
VVitStat	Vermont Department of Health	Vermont Vital Statistics based on birth certificates.

### New England and National Data

HCUP	Agency for Healthcare Research and Quality	Health Care Cost and Utilization Project - National hospital discharge data statistics based on a 20% sample of U.S. community hospitals in 22 states, including more than 1,000 hospitals and 7.1 million discharge records.
HP2010	U.S. Department of Health and Human Services	Healthy People 2010 - Report on national health targets for the year 2010, including data on progress to date on national objectives for health promotion and disease prevention.
BRFSS	National Center for Chronic Disease Prevention and Health Promotion	Behavior Risk Factor Surveillance Survey of adults interviewed about their health-related behavior. Based on phone surveys conducted by each state of a sample of adults age 18 or older interviewed about their health-related behavior.
NHDS	National Center for Health Statistics	National Hospital Discharge Survey, National survey of approximately 300,000 discharge records from 474 short-stay hospitals.

## New England and National Data

Short Source Name	Data Source	About the Data
NIS	Centers for Disease Control and Prevention	<i>National Immunization Survey - National phone survey (with mail follow-up) to parents and providers to estimate the vaccination coverage of children 19 to 35 months old.</i>
QC96, QC99	National Committee for Quality Assurance	<i>Quality Compass 1996 - Detailed utilization statistics based on 250 managed care plans who voluntarily participated. The New England data was based on 20 managed care plans. Quality Compass 1999 - Summary of regional and national statistics based on 359 managed care plans with over 70 million members. The plans voluntarily participated in supplying the data.</i>
USNat, NVSS-N	U.S. Vital Statistics, National Center for Health Statistics	<i>Birth certificate data collected in each state and aggregated nationally by the Division of Vital Statistics, National Center for Health Statistics.</i>
Census PPL47	U.S. Census	<i>Population Projections - middle series from 1995 to 2025</i>
USNat	MMRW	<i>Morbidity and Mortality Weekly Report, Centers for Disease Control - Reports published on a variety of statistical subjects related to health throughout the year which focus on many different areas.</i>

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## **Staff**

Helen Riehle  
*Executive Director*

Cy Jordan, MD MPH  
*Medical Director*

Paul Turner, PhD  
*Director of Analysis*

Patricia Launer, RN  
*QI Specialist*

Maureen Fraser, RN  
*QI Specialist*

Bill Marcinkowski  
*Data Analyst*

Lea Fournier  
*Business Manager*

Dail Riley  
*Office/Project Coordinator*

Linda Schlott  
*Receptionist/Office Assistant*



132 Main Street  
P.O. Box 1356  
Montpelier, VT 05601-1356

Phone: (802) 229-2152  
Fax: (802) 229 -5098  
Web site: [www.vpqhc.org](http://www.vpqhc.org)  
E-mail: [mail@vpqhc.org](mailto:mail@vpqhc.org)

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