

VPQHC

VERMONT PROGRAM FOR QUALITY IN HEALTH CARE, INC.

Thirty Years of Quality



2018 Annual Quality Report

Mission

We improve health care quality in Vermont by studying the system and making it work better:

- We *serve* as a reliable source for data collection and analysis on health care quality.
- We *establish* appropriate and effective standards and measurement tools for quality of care.
- We *educate* health care providers on quality improvement.
- We *inform* consumers and *make recommendations* to policymakers on issues of health care quality.

Vision

To improve the health status for all Vermonters.

Aims

The Vermont health care system must be safe, patient-centered, effective, efficient, timely and equitable.

Strategic Goals

- Secure staffing and financial capacity that will allow for an agile and timely approach to identifying, analyzing, adapting and responding to new opportunities that will advance our work.
- Enhance the coordination of patient care across the health care continuum to improve health care quality and outcomes.
- Partner with state and regional entities to provide balanced and meaningful guidance to inform, align and integrate into the State's Health Care Quality Improvement Plan.
- Leverage information technology to advance health care quality in the State of Vermont.
- Be a resource and neutral mechanism on behalf of quality improvement professionals and providers for training, professional guidance and collaboration.

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Message from the Board Chair



John M. Lindley III, CEO
John M. Lindley Insurance Agency, Inc.

It seems impossible that the Vermont Program for Quality in Health Care has been around for 30 years, but I can attest to that fact because I have been with the organization for at least half of that time!

It has been a pleasure to serve this small but efficient organization, first as a Board member on the Finance Committee, then ultimately as the Board chair. It has been quite a ride witnessing the growing pains this organization has experienced as it has evolved with the times. Health care here in Vermont is a little like a box of chocolates ... “You never know what you’re gonna get!” But Vermont has this wonderful organization to help sort out the acronyms and confusion and keep us all on a healthy path to the future.

VPQHC staff work with hospitals and other partners to make sure we all receive the best and safest care possible.

You will read about those projects in the coming pages. Staff have also designed new, dynamic transformation services and skill sets to help hospitals and practices implement LEAN quality-improvement methods. These methods will help providers find the time they need to focus more on patients and less on paperwork, and to enjoy their work while they are at it. Speaking on behalf of the full Board of Directors, we all look forward to the new directions that the Infinitum services will bring to the organization, to providers, and to the communities and people of Vermont.

As I prepare to hand the reins of leadership to a new Board chair, I encourage you, the reader, to explore VPQHC’s website and learn more about how this organization looks out for the quality of our health care. The activities of the staff and Board of VPQHC are truly bending the curve of rising health care costs, and have increased the quality of care for all of us in Vermont.

I encourage you to get involved in supporting this organization with your time and talent. You will learn a great deal, and you’ll be part of a great movement.

VPQHC Board of Directors

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Dartmouth-Hitchcock Medical Center

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Blue Cross Blue Shield of Vermont

VPQHC Committees

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Tracy Dolan, *Secretary*
Michael del Trecco, *Treasurer*

Project Advisory Committee
Tracy Dolan, *Chair*
Jason Minor
Dr. Joseph Haddock
Mary Moulton
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Steve Kappel – *Ad hoc*

Finance Committee
Michael Del Trecco, *Chair*
Aaron French
Jack Lindley
Paul Daley – *Ad hoc*



Catherine Fulton, MS, CPHQ

Wow! The Vermont Program for Quality in Health Care (VPQHC) is 30 years old!

The world of health care today is challenging, demanding and constantly changing. In VPQHC's three decades of work, our efforts have been laser-focused on improving care for Vermonters. For the early years of guideline development, distributed through learning-collaborative formats, to our current initiatives to highlight delivery-system improvements, Vermonters have always been at the center of our efforts.

Health care delivery has a complex and confusing system of rules, regulations and payment streams. This often creates barriers to providing the quality of care that can produce the best outcomes. Our mission to “study the system and make it better” seeks to identify and fix barriers to great care.

VPQHC was established in 1988 with a four-fold purpose:

1. Evaluate and improve the quality of health care services rendered by health care providers or facilities;
2. Determine that health care services rendered were professionally indicated;
3. Determine that services rendered were performed in compliance with the applicable standard of care; and
4. Determine that the cost of the care rendered was considered reasonable by the providers of professional health services in that area.

Our work is even more important today than when the organization first came into existence. Quality is now the foundation of reimbursement for providers who are participating in OneCare Vermont (OCV), the statewide Accountable Care Organization (ACO) — and the federal government expects all providers to transition to value-based payments within the near future.

Approximately 114,000 Vermonters are currently part of this new, experimental reimbursement system, which aims to provide the best value and outcomes for all individuals involved. Quality and value no longer exist at the fringe — they are now the core of payment systems.

VPQHC also supports compliance, safety and transformation through the contracts we deliver to hospital and physician providers. We work with many partners to ensure that safe, effective, timely, efficient, patient-centered care is delivered consistently. The focus on improving care for Vermonters still lives today at the core of VPQHC's values. We analyze data to produce high reliability in care delivery, and we work with our key stakeholders to deliver improvement information that can fully inform a learning health system.

Many new relationships and partnerships with key stakeholders have emerged within the state and across the region. With our regional partners in Maine and New Hampshire we have delivered new, exciting work supporting practice transformation: see the chapters on the Practice Transformation Network (PTN, page 31), on our work with Alcohol & Drug Abuse Programs (ADAP, page 23) and Infinitum (page 34), and on our collaborative efforts to create a regional replication hub for Project ECHO (Extension for Community Healthcare Outcomes, page 16).

Our next 30 years will be equally exciting, as we all embrace personalized medicine that will be conveniently delivered through multiple platforms, devices and communications. Shifts in knowledge and power bases will allow each of us to become active participants in what Dr. Don Berwick describes as the “co-production of health,” each as a central team member working alongside trained medical personnel to create our own patient-centered health and wellness.

These major paradigm shifts in care delivery are readily embraced here in Vermont, thanks to our state's innovative spirit and common-sense approach to doing the right thing for ourselves and our neighbors. Vermont has also consistently been a thought leader in creating and leading some of the most valuable and effective delivery system reforms. Look, for example, at the effectiveness of the Blueprint for Health and its impact on every Vermont community. The Blueprint started at VPQHC, with a small grant from the Department of Vermont Health Access to redesign care delivery for the neediest Vermonters.

Regardless of how the health care system evolves over the next 30 years, VPQHC will always be a loyal partner in keeping Vermonters informed and safe, and keeping the focus of care delivery on living a long, healthy, high-quality life.

Thirty Years of Making a Difference: A Timeline

1988: Birth of The Vermont Program for Quality in Health Care, Inc. (VPQHC)

VPQHC is established as a private, non-profit corporation, formed to improve the quality and efficiency of Vermont's health care system. We are governed by a board of directors, including a coalition of health care providers, insurers, payers, employers and consumers. Founders include the Vermont Dept. of Health (VDH), Vermont State Medical Society (VMS), Vermont Employers Health Alliance, Blue Cross & Blue Shield of Vermont (BCBSVT), and the Medical Center Hospital of Vermont, one of the two hospitals that later merged to form Fletcher Allen Health Care, now the University of Vermont Medical Center (UVMHC).

Our purpose is to “design, promote, and implement a system of quality assurance in health care delivery within the State of Vermont.”

Mission Statement: *“To develop and implement a system of quality design and measurement for physicians and other health care professionals, hospitals and other health care facilities, users and purchasers that produces continuous improvement of health care and efficient uses of resources.”*

1989

Vermont Statute SS1441: “Peer Review Committee” Status Designation. Recognizing VPQHC's role in improving health care quality, the Vermont Legislature amends this statute to designate VPQHC as a peer review committee.

VPQHC acts as a resource center for health care in Vermont, coordinating three functions:

- Implementation and maintenance of a statewide database for health care quality;
- Training for health care providers in a continuous quality improvement (CQI) methods and support for their CQI projects; and
- Focusing clinical study-group work on specific diagnoses or procedures.



Vermont Statute SS1445: “Organized for the purpose of implementing and maintaining a statewide quality assurance system.”

In October, VPQHC hires our first employee, Lea Fournier. Lea remains a valued and respected employee for 22 years as the office manager.

1990

VPQHC's primary activities are to provide training and expertise to hospitals in continuous quality improvement (CQI), and to develop medical quality improvement projects in specific clinical areas. The first of these areas are obstetrics and gynecology, cardiology, orthopedics and mental health.

VPQHC receives a \$291,436 initial grant to implement CQI techniques in Vermont hospitals.

Congestive Heart Failure Project: In previous projects, VPQHC focused largely on cost and clinical practices: Did the surgery work and what did it cost? The Congestive Heart Failure Project brings the new dimension of patient satisfaction to VPQHC's work. The organization believes it can get a better measure of value in the health care system once it examines patients' satisfaction with the service provided, and their physical and mental well-being after surgery or hospitalization. This project's steering committee, including some of the state's most respected cardiologists, reviews the findings and develops a consensus on standards of care that is sent to every Vermont cardiologist.

1991

Acute Myocardial Infarction Project: Data obtained from each of the 14 participating hospitals shows significant variations in the time from the onset of chest pain to the patient's arrival at the hospital, and from hospital arrival to administration of medication. This project addresses those variations.

Patient Satisfaction Project: This work focuses on improved patient satisfaction as it is associated with improved treatment outcomes — for example, with reduced readmission rates, even with reduced inpatient mortality. Patient-satisfaction survey results suggest that patients are good discriminators of the type of care they receive.

Pneumonia in the Elderly Project: Activities focus on improving the outcomes for elders diagnosed with community-acquired pneumonia. We begin by understanding how the health status of an elderly person affects recovery time. For those in good health, expected recovery time is about three weeks. For an elderly person with existing health conditions, especially those such as COPD that involve the respiratory system, the recovery period can take as long as 60 days or more and be far more challenging.

1992

Vaginal Births After Cesarean Section (VBAC) Project:

Successful vaginal-births-after-C-section (VBAC) rates (primary and repeated) from the statewide database are measured, plotted and shared with Vermont hospitals. Based on this data, one hospital develops a plan to lower the repeat C-section rate and improve its VBAC

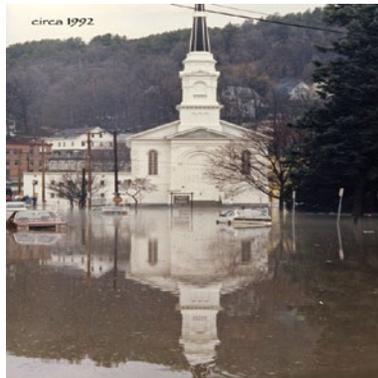
rate. This hospital collects and reviews the local data, which show interesting variations. The time between the mother's decision of vaginal vs. C-section and the actual birth becomes the focus of the overall project.

Carpal Tunnel Syndrome Guideline: Carpal tunnel syndrome is a common condition that causes pain, numbness and weakness in the hands and wrists as a result of increased pressure on the median nerve. VPQHC creates and prints a pamphlet that describes the symptoms and causes of carpal tunnel syndrome, and provides a guide to testing and diagnosis, and to management and treatment, with a focus on prevention.

1993

Pharmacy Study Group: VPQHC creates the nation's first adverse drug-event registry, with a tool for investigating unintended or unexpected reactions to therapeutic drugs among Vermont's hospital patients.

Breast Cancer Study Group: VPQHC collaborates with the Vermont Cancer Center and the University of Vermont to create one of the nation's first mammography screening registries.



A sudden flood struck Montpelier when an early-spring ice dam backed up the Winooski River — but VPQHC quickly got back to work.

C-Section Collaborative: Even though Vermont's overall C-section rate of 16.5% is well below the national average of 20.8%, VPQHC partners with Vermont doctors and national experts to share their knowledge about how to reduce C-section rates. VPQHC also sends hospitals quarterly C-section rate reports to facilitate comparative performance with peer hospitals.

1994

Ear Infections in Children: VPQHC designs a report that outlines a collaborative process to develop the guidelines for diagnosing and treating ear infections in children. The report is distributed to hundreds of physicians in the state, along with an examination-room poster that highlights the ear infection guidelines. More than 200 physicians attend 12 educational forums sponsored by VPQHC. The study group also develops a family education brochure, outlining key aspects of treating middle-ear infections, that is distributed through school and public health nurses.

VBAC Rate Study: This follow-up to VPQHC's previous work finds that between 1989 and 1994, the percentage of vaginal births after previous cesarean deliveries in Vermont increased to 18.9%. Nationally, the increase is 7.8%.

Dartmouth-Hitchcock Advanced Response Team (DHART): According to the Dartmouth-Hitchcock Medical Center website: "On July 1, 1994 DHART began operations with its very first emergency flight callout only 7 minutes after going online." VPQHC is chosen to serve as the Vermont Air Ambulance Review Committee, to review the medical necessity of individual helicopter flights.



1995

Vermont Statute 18 V.S.A. 9416: "The Commissioner of Health shall contract with the Vermont Program for Quality in Health Care, Inc. to implement and maintain a statewide quality assurance system to evaluate and improve the quality of health care services rendered by health care providers of health care facilities, including managed care organizations, to determine that health care services rendered were professionally indicated or were performed in compliance with the applicable standard of care, and that

the cost of health care rendered was considered reasonable by the providers of professional health services in that area.” This statute continues to guide our work.

This year there is one hospital admission for every 10 people in Vermont. The most common reason for admission relates to the diagnosis and treatment of cardiovascular disease. The average length of hospitalization is almost five days.

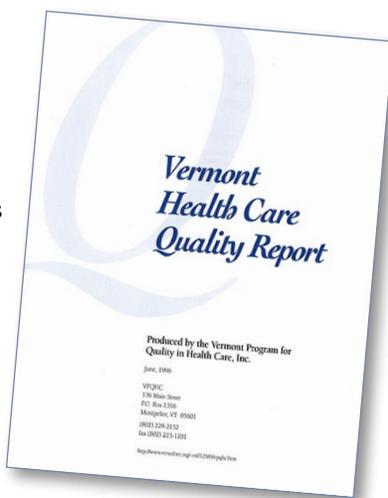
VPQHC develops and distributes two pamphlets: Report of the Mental Health Task Force and Proposal for a Behavioral Health Outcomes Measurement Project, December 1995; and A Consumer’s Guide to Childbirth in Vermont Hospitals for Women and their Families, 1995-96.

In 1995, 87.4% of Vermont women receive prenatal care during the first three months of pregnancy. The national goal is 90 percent by the year 2000.

1996

Vermont Health Care Quality Report:

In June, we produce our first public *Quality Report*. VPQHC has two broad responsibilities: measuring the quality and improving the quality of health care in Vermont. As an example of quality measurement, this report and other tools help guide us in choosing quality improvement priorities and tracking the effectiveness of our work.



Vermont Statute 18 V.S.A. 9416: The legislation establishes a formal mechanism for funding VPQHC’s activities through insurers, health maintenance organizations and hospitals.

Measures of Hospitalization and Surgery: VPQHC publishes nine clinical guidelines, whose aims are to help physicians provide the highest-quality care. In this process, we involved more than 300 Vermont physicians and coordinated dozens of clinical study groups that examined and addressed potential health care quality issues.

Measures of Maternal and Child Health: VPQHC convenes a Maternity Stays Guideline Committee of practitioners with knowledge of prenatal, intrapartum and postpartum care for mothers and infants. The committee develops criteria for mothers and newborns that should be met before hospital discharge.

1997

Overall Use of Health Care Services in Vermont:

Quality Report data retrieved from health care payers, CHP, BCBS Vermont and Medicare shows that Vermonters had fewer hospitalizations than the national average. In terms of having access to health professionals for preventive care or outpatient treatment, we find that 85-90% of Vermonters age 23 to 64 in public or privately insured programs had a visit with a health care provider at least once during the past three years. More than 86% of Vermonters 65 and older had an office visit within the past two years.

Health Care for Children and Adolescents:

Reducing Hospitalizations for Pediatric Asthma: The Office of Vermont Health Access (formerly Medicaid) asks VPQHC to work with pediatric providers, payers and others to develop guidelines for the treatment of pediatric asthma in Vermont. We work to implement those guidelines through provider education and other means. Appropriate outpatient protocols help to reduce overuse of hospitals for pediatric care, and improve the quality of care for children who have asthma. Ideally, very few children would be admitted to the hospital for asthma with proper outpatient management of the condition, and the need for hospitalization would be greatly reduced.

Diabetes: VPQHC partners with the Vermont Department of Health to improve care for diabetics in the state. A CDC grant is used to develop guidelines for the best treatment of diabetes, and to develop a system for tracking the burden and treatment of diabetes in Vermont over time. VPQHC identifies a panel of experts to help develop treatment guidelines for providers and patients, to optimally manage diabetes. VPQHC also develops an educational curriculum and other tools to enhance provider knowledge and use of the guidelines.

1998

VPQHC begins work on “Selected measures of health care quality and utilization applied to Vermont’s population,” including:

- **Health Care for Children and Adolescents –** Vermont’s rate of pediatric hospitalizations for respiratory infections and asthma has been declining annually and remains below the national rate, but there is significant variation in rates among hospital service areas. This work focuses on promoting healthy behavior, preventing illness, and improved screening for health problems as key components of pediatric health care.
- **Heart Disease and Stroke –** The rate of hospitalization for Vermonters with angina and chest pain had been

declining over time and is comparable to the national rate. Hospitalization for strokes and other cerebrovascular diseases for elderly Vermonters has remained relatively constant, with little variation around the state. Vermont's rate for both heart disease and stroke is below the national rate.

- **Cancer: The Vermont Mammography Registry (VMR)** – The VMR has been created by the University of Vermont to improve breast cancer screening services for Vermont women. As a member of the VMR Peer Review Committee, VPQHC helps guide operations and reviews requests from researchers to use registry information in determining the causes of breast cancer in Vermont. The rate of breast cancer screening (mammography) for Vermont women, at 78%, exceeds the national goal of 60%.

1999

Maternal and Infant Health Care: Vermont continues to be a leader in achieving national goals associated with maternal-infant care. Measurable aspects of the quality of maternal and infant health care include prenatal care, appropriate use of C-sections, and maternal and infant outcomes. VPQHC, the Maine Medical Assessment Foundation, and the Foundation for Healthy Communities co-sponsor a one-day conference on Cesarean sections and obstetrical care. This conference is the first of its kind to coordinate efforts in Vermont, New Hampshire and Maine.

Behavioral Health Care: The Vermont Department of Developmental and Mental Health Services joins with 15 other states in a federally funded Performance Indicator Project. Over the next three years, this project will produce measures of mental health program performance in the areas of access to care, practice patterns, and treatment outcomes. Vermont is the lead state for measures of access to care. The findings of this project allow states to compare, for the first time, the performance of their public mental health service delivery system with those of other states.

Improving Care for People with Heart Failure: In 1998, VPQHC's Board of Directors initiated a statewide project to improve the care of Vermonters with heart failure. To date, the project had adapted the 1994 federal publication Heart Failure: Management of Patients with Left-Ventricular Systolic Dysfunction, so that it is better suited for physician practices. The resulting document, Recommendations for the Clinical Management of Heart Failure in Vermont, is distributed in autumn 1999 to all clinicians in the state who treat people with heart failure. Each Vermont hospital holds educational sessions, to review the key recommendations

and gather information about local resources for care and the obstacles for improving care.

2000

American College of Surgeons (ACS) Colorectal Cancer Presentation: In April, the Vermont ACS chapter begins a statewide quality improvement project to optimize the care of patients with colorectal cancer. VPQHC provides administrative support and peer review protection. A process is developed to collect information about pre-surgical status, events at the time of surgery, and postoperative outcomes on every patient undergoing this type of surgery.

Vermont Birth Project Conference: VPQHC hosts this June conference, designed to support local hospital-based teams in continuing to build on their improvements in maternal and infant care. The agenda includes updates on professional standards for VBAC deliveries, and managing the labor process in ways that best benefit mothers and infants.

2001

In the spring, VPQHC collaborates with the American Academy of Pediatrics (AAP) and Vermont Child Health Improvement Project (VCHIP) to host a two-day conference on process improvement in maternal and child health care. The gathering offers numerous opportunities for attendees to learn from each other, hear about innovative ideas, and establish a connection with those working in health care improvement, both locally and nationally.

In the fall, five VPQHC staff members attend the Institute for Healthcare Improvement's Breakthrough Series College and return to launch the Vermont Diabetes Collaborative. Nine primary care practices participate in this original collaborative, and work to improve the care provided to people with diabetes.

Recommendations for Management of Diabetes in Vermont is distributed to about 2,000 Vermont health care providers. The University of Vermont's College of Medicine uses the guidelines as a basis for graduate medical education.

2002

A condo!
VPQHC purchases the first-floor condo in our building, after renting offices on the second floor for many years.



External Quality Review Organization: VPQHC and the University of Vermont collaborate to fill the role of the external quality review organization for the Office of Vermont Health Access (OVHA). OVHA is required by the Centers for Medicare and Medicaid Services to contract with an independent reviewer to assess the quality of care received by Medicaid beneficiaries enrolled in managed care.

Quality Improvement Forum: VPQHC facilitates the Quality Improvement Forum, a quarterly meeting of quality improvement leaders from the 14 Vermont hospitals, the VA Hospital in White River Junction, Dartmouth-Hitchcock Medical Center, and Vermont health insurers. The forum provides opportunities for these leaders to exchange ideas, report on successful quality improvement activities, and provide input to VPQHC for future improvement projects.

2003

Quality Report, Revised: The *Quality Report* presents a different perspective on the quality of health care, as compared to previous reports. The *Vermont Health Care Quality Report* is designed to identify needed improvements to ensure that health care in Vermont is safe, effective, patient-centered, timely, efficient and equitable. To date, VPQHC's *Quality Reports* are the only state-based quality report in the U.S. The first edition of the *National Quality Report* was published in 2003.

First Vermont Community Diabetes Collaborative: Beginning in January 2002 and wrapping up in February 2003, eight Vermont hospitals and physicians practices participate in this collaborative effort to improve care for diabetics. Each team of professionals identifies a pilot population of diabetic patients and chooses two aims: to improve glycemic control and to reduce cardiac risk factors. At the final meeting on Feb 14, 2003, the teams share their successes and barriers to success.

Condo Expansion! VPQHC is growing, and we need to make room for more employees.



2004

In August, VPQHC mails the fifth edition of the *Recommendations for Management of Diabetes in Vermont* to more than 800 Vermont practitioners. Forty-five regional experts in diabetes worked with VPQHC to update this edition of the manual. Updates included a chapter on primary prevention, which addresses the diagnosis and treatment of the newly recognized conditions metabolic syndrome and pre-diabetes. VPQHC hosts the second Vermont Diabetes Learning Collaborative in October.

Excellent Collaboration at the End of Life (ExCEL): The purpose of this work is to assess perceptions of end-of-life care in Vermont using interactive voice recognition (IVR) technology. Meeting four times per year, ExCEL provides a forum for sharing information and resources. Throughout the year, members of ExCEL, including VPQHC, are actively engaged in improving end-of-life care for Vermonters.

2005

ExCEL: In May, ExCEL applies for and receives an Opportunity Award from Rallying Points. There is very little data on the quality of end-of-life care in Vermont, especially for those dying outside the hospital or hospice setting. Using funding from the Opportunity Award, ExCEL collaborates with the Vermont Department of Health on a pilot study. A total of 976 surveys are mailed out, each to the listed contact person for an adult Vermonter who died of natural causes in the fourth quarter of 2004, to obtain their perceptions and feedback.

Third Vermont Chronic Care Collaborative: Diabetes & Heart Disease: VPQHC kicks off its third Chronic Care Collaborative in March, as 22 teams and a number of observers come to Montpelier to focus on improving the quality of diabetes and cardiac care for their patients. Practices participating in these collaboratives have seen improvement in both process and outcome measures, related to diabetes care.

Quality Report Survey: This year's *Quality Report* contains a reader survey that asks several questions, including: Do you reference the *Quality Report* throughout the year? Has the *Quality Report* helped you generate any quality improvement projects? Are the resource links useful to you? Is the data useful? Responses are collected to gauge how our *Quality Reports* are being used as a resource tool. VPQHC's hope is that the reports provide meaningful and Vermont-specific information that can inform the public about the health care they receive, and can identify and drive quality improvement throughout the health care system.

2006

VPQHC staff identifies a need to change the process for engaging provider practices in Vermont. In many cases, small practices have been unable to close their practice for a day or two to attend the Learning Sessions, but are still interested in incorporating the quality-improvement methodology being taught during the collaborative meetings into their daily work. The new VPQHC Learning Community is formed, with three components: centralized, statewide learning forums; multiple community based mini-learning sessions (the “Collaborative on Wheels”); and a virtual dimension. These Learning Community forums and collaboratives have very specific goals:

Strategic Goal 1: “Produce evaluative analyses to illustrate the quality of health care in Vermont.”

Strategic Goal 2: “Support quality improvement and clinical best practices at the clinical microsystems level where care is actually delivered.”

Strategic Goal 3: “Serve as the state’s premier organization dedicated to quality improvement in health care, and to provide expert information and advice to the diverse constituencies it serves.”

2007

ExCEL: Members are asked to identify two or three key barriers to providing quality care for Vermonters at the end of life. The barriers identified this year are funding issues, cultural issues, pain and symptom management, resources for supporting patients and their caregivers, advanced directives planning, and lack of data and adequate staffing. Using this information, the quarterly collaborative can focus on providing information and resources to help break through these barriers.

2008

VPQHC Learning Community: Improving Care for People with Chronic Disease: During the 2007–2008 collaborative year, these learning forums offer opportunities for participants from inpatient and outpatient settings to learn about improving their clinical microsystems. For 2008–2009, VPQHC returns to a more traditional, centralized collaborative model. The Vermont Quality Improvement Collaborative will focus on creating an empowered, engaged, educated patient.

Vermont Statute SS281: This act relates to end-of-life care and pain management, and calls for the creation of a committee to study and report back to the Legislature their findings on palliative care, end of life care, and pain management in Vermont.

The Vermont Collaborative on End of Life

Care: The Board and staff of VPQHC begin work on this collaborative by gathering teams of health care professionals and community members committed to a 9–12 month period of rapid change to improve care in their communities. Each team tests a series of small-scale changes, in consultation with other teams and experts around the state.

2009

This year’s Quality Report provides examples of two quality improvement activities implemented across the state:

VPQHC Quality Improvement Collaborative:

Twenty-six outpatient care teams from around Vermont focus on practice and system improvements, ranging from implementing an electronic medical record system to supporting the practice becoming a “medical home,” along with reducing wait times, patient no-shows and telephone issues. The teams see notable improvement in the integration of information with patients’ performance results, process improvement and organizational support.

Health Care–Associated Infections (HAI): Several hospitals implement strategies for preventing and controlling HAI. Infection prevention specialists at several hospitals develop curriculums to educate and train bedside nurses on best practices. One example of targeted HAI quality improvement results in a 64% reduction in central line-associated bloodstream infections in the medical ICU unit at Fletcher Allen Health Care.

2010

The Rutland Regional Medical Center (RRMC) asks VPQHC to formally evaluate its innovative and popular Palliative Care Program, focused on improving the quality of care for patients at the end of life. The program has earned accolades from those involved, including patients, families and practitioners. VPQHC’s analysis is multi-dimensional and includes assessments of patient, family and practitioner satisfaction, and financial aspects of the effort. The data show that RRMC’s intensity of care is among the highest in the state.

Roadmap for Chronic Care Evaluation: At the request of an ad hoc committee of key members of the Legislature, VPQHC Board members and others, VPQHC conducts a review of state-run programs serving consumers with chronic illness. The project is intended to outline the different aspects of several prominent state programs from an evaluative standpoint, and to provide guidance that ties efforts together.

2011

Vermont Senate Resolution 196 honors Dr. Cyrus Jordan and Helen Riehle for “their exemplary contributions to the improvement of high quality health care in Vermont.” Cyrus Jordan was VPQHC’s medical director from 1992–2010; Helen Riehle was VPQHC’s executive director from 2000–2010.

RRMC’s Palliative Care Program: RRMC asks VPQHC to augment its evaluation by conducting satisfaction surveys of physicians and family members of patients who have died. Physician respondents to this survey have suggestions for expanding the hospital’s palliative care team to include a member of nursing staff, a psychologist, and possibly also a chaplain. Family members had indicated that RRMC offered a well-balanced program serving the needs and honoring the wishes of patients at the end of life.

Initiative Related to Preventing Health Care Associated Infections (HAI) in Vermont: Unique in the nation, this project includes representatives from both acute and long-term care organizations, who work in clusters across the state. VPQHC serves as group administrator for data activity, supports hospitals when questions arise, and analyzes data from the National Healthcare Safety Network (NHSN) for presentation in community report cards. VPQHC also provides direct support to hospitals and long-term care facilities through monthly calls to the cluster teams, and by responding to requests of participants. VPQHC provides financial stewardship for the project, including the distribution of stipends, grants and funds for educational items. Lastly, VPQHC leads the planning process, working with VDH and collaborative participants to plan and support webinars and learning sessions, develop program evaluations and reports, assist with surveys and VDH requests, and maintain relevant project documents on the VPQHC website.

2012

Patient Safety Surveillance and Improvement System (PSSIS): Detailed work begins on the PSSIS, in collaboration with the Vermont Department of Health, in response to 2008 legislation that called for its development to improve patient safety, eliminate adverse events in Vermont hospitals, and facilitate hospital quality improvement efforts. VPQHC supports hospital quality and safety directors in producing thorough and credible root-cause analyses and corrective action plans in response to serious reportable events.

VPQHC launches website: The new website includes

extensive information and educational programs, for health care professionals and for public consumers of services. Continued expansion of this valuable resource provides information on new programs related to patient experience, nursing informatics and health literacy.



2013

Facilitating Peer Review Activities: VPQHC has been privileged to facilitate the peer review process by hosting its portal on our website. The portal is given a new look this year, to aid in the ease of use. Hospitals use the site to augment their internal peer review process, to ensure high-quality medical care for their patients. VPQHC also connects with hospital quality directors for information sharing on best practices regarding physician peer review.

Supporting Quality in Small Rural Hospitals: Critical Access Hospitals (CAHs) are facilities in rural areas with less than 25 beds. These hospitals meet a critical need, but face unique challenges because of their small size and limited resources. VPQHC is dedicated to the support of the eight Vermont CAHs, which must meet the Centers for Medicare and Medicaid Services (CMS) standards to be reimbursed for care. VPQHC expands a self-assessment tool for these hospitals’ Quality Departments to use in preparation for CMS reviews.

2014

Statewide Surgical Services Collaborative: VPQHC develops a successful proposal for funds to support this collaborative, which will cut costs and reduce errors made during surgeries. This is the first coordinated, statewide health care reform effort to include all providers of one type, aimed at the most common surgical procedures. The collaborative promotes data-driven clinical quality assessments and patient safety improvements. As a result of this work, Vermont projects a reduction of between 150–200 post-operative complications; actual cost savings amount to some \$836,000.

Improving Coordination of Care for Patients Experiencing Stroke Symptoms: Together with a group of medical professionals from throughout the state, VPQHC works to standardize protocols and tools for the evaluation of acute stroke patients. For strokes caused by a blood clot, timely diagnosis is crucial, and improved coordination

of care through standardized tools and protocols will help minimize the impacts. VPQHC is contracted by the state to support emergency departments (ED) in incorporating these stroke symptom tools into their protocols. A team approach in the ED is critical to ensure that clinical assessment, laboratory tests and x-rays are carried out quickly and accurately.



2015

Integrated Care Management (ICM): In March, VPQHC begins work, funded through the Vermont Child Health Improvement Program, to make health care more patient-centered, progressive and non-episodic. An integrated care management (ICM) model is implemented in three pilot communities, Rutland, Bennington and St. Johnsbury. ICM supports joint care planning among providers and patient, with the goal of identifying and preventing the underlying reasons for frequent, often recurring uses of health care services. VPQHC's quality improvement facilitator assists in the development of care-planning tools, and in the collection and interpretation of data. VPQHC also participates in a series of webinars and in-person sessions designed to help communities develop, refine and share strategies for implementing ICM.

FLEX: Medicare Rural Hospital Flexibility Grant: This grant aims to assist rural hospitals in improving their internal processes. VPQHC works closely with our partners to help small rural hospitals navigate the changes in health care technology, specifically to improve the use of technology solutions in emergency departments.

2016

ACT 53: VPQHC continues to support the state in its annual production of hospital community reports, also known as the Hospital Report Card. We compile data on health care-associated infections and nurse staffing, ensuring that the data is accurate and presented in an accessible way to patients. The training, technical assistance and support that VPQHC provides enables hospital staff to use data more effectively for internal monitoring and reporting processes. High-quality data empower patients to make informed decisions about where to obtain their care in Vermont, and encourages hospitals to support quality improvement projects.

FLEX — Conditions of Participation (CoPs): As part of the Medicare Rural Hospital Flexibility Grant

Program (FLEX), VPQHC visits Vermont's small rural hospitals to review the quality-related regulations established by CMS. This work helps to support hospital compliance with federal CMS regulations, ensuring that these rural hospitals receive the payments for services that they rely on to stay open and keep serving their communities. Vermont patients benefit from the improvements in safety and care delivery made when hospitals thoroughly review their systems and processes.

2017

Infinitum: A New, Holistic System for Practice Transformation: This system for practice management and transformation is designed to work from the ground up, within a health care practice of any size. Infinitum works with the whole practice to bring all its systems back into balance. Practice operations are mapped at three distinct but linked levels, staff members design future configurations, and practices are guided as they progress to specific levels of achievement. Infinitum is a scalable methodology for transformation in any area of health care, from practices to health systems.

Integrated Communities Care Management Learning Collaborative (ICCMCLC): Through VPQHC's participation in several activities of the VHCIP program, we develop many new and ongoing partnerships to support practice transformation efforts across the state. VPQHC supports this collaborative, which identifies key individuals within 11 Vermont communities who would benefit from highly coordinated, individualized care plans. For providers, this means understanding the impacts of treatment on patients who are integrated as a key part of the care team, and adjusting to and addressing the patient's needs.

The Vermont Statewide Surgical Services Collaborative (VSSSC): Even though funding is no longer available, VPQHC continues to support and host this collaborative, which remains focused on improving surgical outcomes by understanding the circumstances that lead to complications associated with surgical care. The hospitals in the collaborative continue to meet to build this understanding, and to improve performance for their surgical patients.

VPQHC begins work this year with ADAP, a division of VDH. This new project supports transformation efforts by designated practices, to improve their working relationships with individuals who need better support as they initiate and engage in treatment for mental health and substance issues.

Transformation and Change: The Year in Review

As a small state with a let's-get-busy spirit and a legacy of innovation and collaboration, Vermont has earned our place at the forefront of the efforts to transform American health care into a system that controls costs, invests in prevention, and puts the patient at the center of care. As Vermont's only statewide nonprofit organization focused entirely on studying health care quality and making the system work better, the Vermont Program for Quality in Health Care (VPQHC) played a key role during FY 2018 in a wide range of promising, collaborative projects. The following pages review those efforts, and their outcomes so far. Here, briefly, are some highlights of the work we did with our partners this past year:

Vermont has committed to the **Accountable Care Organization** model, which places quality and value at the center of reimbursement for health care services — and VPQHC is working with strategic state partners to help track and monitor the quality metrics that will ensure the delivery of high-quality care. We also worked throughout the year with **quality and safety professionals** from hospitals across the state. We organized and convened a series of gatherings where these experts heard presentations and legislative updates, learned more about OneCare Vermont, our state's accountable care organization, discussed patient safety data and reporting requirements, and shared a variety of ongoing initiatives, statewide and local, for quality improvement.

We also supported Vermont hospitals through the collaborative **Medicare Beneficiary Quality Improvement Program**, with its variety of quality measurement and improvement activities that focus on four priorities: patient safety, patient engagement, transitions of care from one provider to another, and Emergency Department outpatient services. For the Vermont Department of Health, we administer the **Patient Safety and Improvement System**, which is building a comprehensive system for improving, safeguarding, and supporting patient safety efforts in all Vermont hospitals. We work closely with the hospitals, helping them to analyze safety-related events and develop corrective action steps as needed.

We also worked with clinical practices across Vermont, guiding and supporting them as they make changes that center on providing high-quality, data-driven, patient-focused

care. The **Transforming Clinical Practice Initiative** began with the U.S. Centers for Medicare and Medicaid Services, and for the past three years we've managed this initiative in Vermont through the Northern New England Practice Transformation Network. VPQHC facilitators provided individual practice assessments and coaching to 18 practices around the state, with strategies focused on patient- and family-centered care, continuous quality improvement, and sustainable business operation.

Having collaborated with primary and specialty care practices as they strive to deliver the best value to patients, we've developed a center of excellence for practice transformation based on a holistic methodology we call **Infinitum**. This uses a suite of tools, derived from proven systems of production and change management, and we coach practice staff in shaping and applying these techniques. Step by step, adapting the process to their particular practice, staff reach and celebrate achievement levels as they measure performance in entirely new ways. Infinitum is a scalable methodology for transformation in all areas of health care, from individual practices to complex delivery systems, and you'll hear more about it from VPQHC in the months to come.

Our work with hospitals to improve and safeguard quality also included the **Hospital Improvement Innovation Network (HIIN)**, a nationwide initiative in which four Vermont hospitals are participating. Hospitals collect and report data that relate to the Innovation Network's "Core Areas of Harm," and VPQHC provides the Vermont participants with access to a rich variety of quality-improvement resources.

We also facilitate the **Peer Review Program**, through which hospitals — especially those that are smaller and lack a range of specialty practices — can access board-certified reviewers to perform the case reviews that help hospitals improve quality and follow-up on negative outcomes. And we convey quality, safety and infection-related information to the state Department of Health for its annual statewide comparative report, the **Hospital Report Card**.

VPQHC provides networking and technical assistance to the **Vermont Statewide Surgical Services Collaborative**, an effort that brings together surgeons, so far from five hospitals, to use standardized data for comparing hospital performance related to surgery, and complications

from surgery, in an effort aimed at improving the delivery and outcomes of surgical care.

We provide particular support to primary care providers in small, rural practices through the **Project ECHO™ (Extension for Community Healthcare Outcomes): Northern New England Network**. The network was developed in 2017 as a replication hub, in Vermont, New Hampshire and Maine, for this proven approach to providing support and learning for rural primary care providers as they treat patients who present with complex conditions and needs.

Health care organizations are subject to unannounced site visits, or surveys, that lead to evaluations by the **Survey & Certification** branch of the Vermont Division of Licensing and Protection. At that agency's request, VPQHC has developed and maintains an online feedback mechanism, so organizations can anonymously share honest, constructive feedback on the survey process. We also work with the **Vermont Department of Corrections** on an independent assessment of the quality of health care services provided to those housed in the correctional system, with an eye toward continuing to improve the quality of that care.

For patients who are treated for mental-health conditions, access to appropriate and continued follow-up care is vital — and for the past two years, VPQHC has led a multi-insurer workgroup that uses the **Follow-up After Hospitalization** measure to improve the continuity of mental health care in Vermont.

And since 2011, VPQHC has worked in partnership with a statewide workgroup of neurologists, emergency physicians and other experts to support a variety of efforts to ensure that **acute stroke patients**, wherever they are in Vermont, receive the most responsive, highest-quality care.

In November 2017, VPQHC presented an overview of our previous work with the Integrated Communities Care Management Learning Collaborative (ICCMLC) to the

annual meeting of the American Public Health Association in Atlanta. In keeping with the meeting's theme of "Climate Changes Health," our presentation highlighted the disruptive effects of Tropical Storm Irene on Vermont's mental health system. As a result of the devastation from this storm and the need to reconstruct the state's mental health infrastructure, the ICCMLC sought to implement a statewide model of integrated, person-centered care and services for persons with complex health and social needs.

We presented the primary tools and methods of this model to the meeting attendees, along with successes of the project — including favorable reception and use of the model by service and care providers throughout the state, and some early data that showed a reduction in use of emergency and hospital services by participating individuals with complex needs.

Finally, with opioid addiction and overdose deaths having risen to very alarming levels, in Vermont as elsewhere around the nation, we're partnering with a statewide network of **outpatient service providers for substance abuse**. We're helping the staff at these practices build in quality-improvement practices to make the changes they see as key to improving two vital measures: the rate of patient initiation of treatment, and patients' rate of engagement in continuing to return for treatment.

If all that sounds like a quite challenging scope of work for an organization that's still modest in size, it is! But we're Vermonters; we roll up our sleeves, work hard together, and get things done.

It's an enormous privilege for all of us at VPQHC to collaborate with our partners and participants across Vermont's whole, diverse health care community. More than ever, we truly are a community — one that is rising to the challenges and opportunities of this historic time of transformation and positive change.



Improving Outcomes through the Hospital Improvement Innovation Network

The Hospital Improvement Innovation Network (HIIN) is a quality improvement initiative, funded by the Centers for Medicare & Medicaid Services (CMS), that aims to reduce inpatient harm by 20% and readmissions by 12% by 2019. The sixteen CMS-funded HIINs are continuing the work of the Hospital Engagement Networks, which saved an estimated 125,000 lives and \$28 billion in health care costs by focusing on patient safety and reducing hospital acquired conditions.

In 2017, the Vermont Program for Quality in Health Care (VPQHC) recruited four Vermont facilities — Northwestern

Medical Center, Northeastern Vermont Regional Hospital, UVMMC-Porter and Rutland Regional Medical Center — to participate in the nationwide HIIN offered by the American Hospital Association through its Health Research and Educational Trust (HRET). As a part of the network, hospitals collect and report on data in relation to the HIIN-identified core areas of harm.

The Vermont hospitals were ahead of the curve from the outset, as they were already reporting on several of the



required measures. For select measures that weren't already being reported, and to avoid any additional administrative burden on the hospitals, VPQHC partnered with the Vermont Association of Hospitals and Health Systems to explore what could be reported on facilities' behalf from the data contained in the Hospital Discharge Dataset.

The Vermont hospitals were ahead of the curve from the outset, as they were already reporting on several of the required measures.

VPQHC is able to provide participating HRET-HIIN hospitals with access to many quality improvement resources, including (but not limited to) on-site and virtual technical assistance, connections to subject-matter experts, change-package resources and tools, fellowships and webinars, scholarships to local, regional and national conferences, and certifications and memberships.

Recommendations and Next Steps

We look forward to continuing to connect participating hospitals with resources through the HRET-HIIN and to strengthening our partnerships with VAHHS and others in order to continue to support hospitals in their quality improvement and patient safety journeys.

HIIN Core Areas of Harm

- Adverse drug events
- Central line-associated bloodstream infections
- Catheter-associated urinary tract infections
- Clostridium difficile
- Injuries from falls and immobility
- Pressure ulcers
- Sepsis and septic shock
- Surgical site infections
- Venous thromboembolism
- Ventilator-associated events
- Readmissions

Providing Vermont's Inmates with Quality Health Care

In early 2018, the Vermont Program for Quality in Health Care (VPQHC) began working with the Vermont Department of Corrections (DOC) to provide an independent assessment of the quality of health care services provided to individuals housed in Vermont's correctional facilities.

The state is seeking objective, accurate and meaningful data, in part to achieve these goals:

- Improving the quality of care,
- Identifying barriers to care,
- Evaluating timeliness and appropriateness of care, based on established standards, and
- Continuing to develop Quality Improvement Plans.

Utilizing information shared by DOC, we provide data analysis and feedback to demonstrate areas of success with providing quality care and follow-up. In addition, leveraging our experience with the Patient Safety Surveillance and Improvement System (PSSIS, page 36), VPQHC will be working with DOC to review, support and strengthen both its incident analyses and the action plans it develops, on an as-needed basis, to improve internal processes.

A few years ago VPQHC partnered with the DOC to evaluate and analyze care, and we are excited to be working with the department again to support this important effort.

We provide data analysis and feedback to demonstrate areas of success with providing quality care and follow-up.

Recommendations and Next Steps

VPQHC will continue to work with the DOC leadership to provide an independent assessment of the quality of its health care services, and to provide feedback of our analyses to support continued DOC improvements. We also look forward to identifying future opportunities to support DOC in improving health care quality.



Vermont Correctional Facilities

1. Northern State Correctional Facility (NSCF) - Newport
2. Northwest State Correctional Facility (NWSCF) - Swanton
3. Chittenden Regional Correctional Facility (CRCF) - South Burlington
4. Northeast Correctional Complex (NERCF & CCWC) - St. Johnsbury
5. Marble Valley Regional Correctional Facility (MVRCF) - Rutland
6. Southeast State Correctional Facility (SESCF) - Windsor
7. Southern State Correctional Facility (SSCF) - Springfield

Supporting Rural Primary Care Providers through Project ECHO Network

The Project ECHO™ (Extension for Community Healthcare Outcomes): Northern New England Network was established in July 2017 following a successful award application to the U.S. Health Resources and Services Administration (HRSA). The application focused on the development of a Project ECHO replication hub to serve the northern New England region of Maine, New Hampshire and Vermont.

The intent of this replication hub is to support primary care providers in small, rural practices as they address patients who present for increasingly complex, ongoing care. These providers often do not have the complex care teams that can safely deliver specialty or continuing care for these patients. The Project ECHO model provides a network of support to these providers, to enhance their connectedness and deliver excellent patient care.

Project ECHO was developed at the University of New Mexico by Dr. Sanjeev Arora, to address a severe shortage of physicians providing care for individuals with hepatitis C. He developed the ECHO model to enhance knowledge of treatment guidelines at the local level, so people could be treated within their own communities and not have to travel long distances for care at an academic medical center.

The ECHO model connects specialists to primary care teams through case-based learning sessions. Unlike telemedicine, where specialists assume the care of patients, ECHO is educationally focused, using experts to mentor and teach, and extending peer learning in the principle of “all teach, all learn.”

Dr. Arora created 21 “Centers of Excellence” to support these rural providers in delivering complex care for their patients. In one result, the appointment wait time to see the hepatitis C specialist at the region’s academic medical center dropped from eight months to two weeks.

Dr. Arora supports the development of Project ECHO



The intent of this replication hub is to support primary care providers in small, rural practices as they address patients who present for increasingly complex, ongoing care.

replication hubs across the world. In addition to approximately 208 replication hubs within the U.S., 197 hubs have been developed across Europe, South East Asia, Africa, Australia and North and South America. Within the Northern New England (NNE) hub, VPQHC has partnered with Maine Quality Counts, New Hampshire’s Citizens Health Initiative, and the Area Health

Education Centers (AHEC). The NNE replication hub will support rural providers throughout Northern New England in improving outcomes of care for complex conditions.

For each Project ECHO program, partners in the regional hub work together to select a relevant topic, recruit expert faculty, and design a curriculum. Practices are recruited

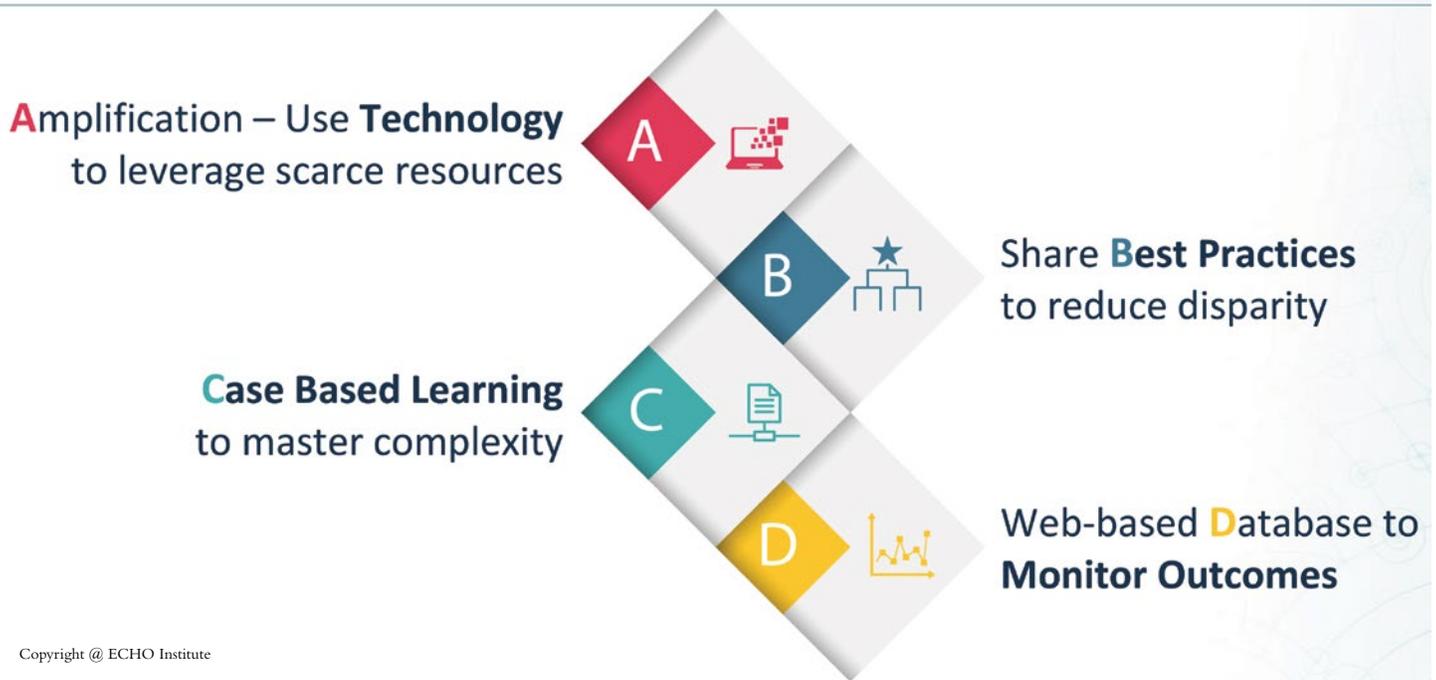
to participate in the ECHO programs for these topic areas. All presentations and discussions occur over interactive technology, with all participants connecting simultaneously through the web-based platform.

The first program developed by the Project ECHO: NNE Network is “Continuity of Care for Substance Use & Exposure during the Perinatal Period.” It focuses on supporting physicians in managing the demands of perinatal care with the complication of substance use, and on improving care overall for pregnant women, women who have delivered, and newborns.

During the ECHO sessions, participating practices present difficult cases and expert faculty and colleagues offer feedback, treatment recommendations, and resources. A brief 15-minute lecture related to best practices is also shared during each ECHO session.

Over 22 unique sites throughout Maine, New Hampshire and Vermont have participated in the Perinatal Substance Use Disorder ECHO program, with more than five Vermont practitioners consistently attending and contributing. The feedback has been very valuable to the providers involved in these often difficult cases. Session evaluations have returned

The ECHO Model



very high marks for excellent presentations and very stimulating, valuable discussions.

Recommendations and Next Steps

The second Project ECHO: NNE Network program topic, already selected, will focus on geriatric care. VPQHC will continue to support the project network through participation and leadership, with planning and recruiting faculty resources for the geriatric care sessions and for other,

concurrent topics as they are identified and funded.

VPQHC will continue to work with partners to develop a sustainability plan to support the ongoing efforts of the Project ECHO: NNE Network replication hub. VPQHC will also explore potential work with stakeholder partners to become an independent replication hub, and to support local Vermont-specific topics on improving care and supporting our rural physicians.

Ensuring that Acute Stroke Care Is Timely and Effective

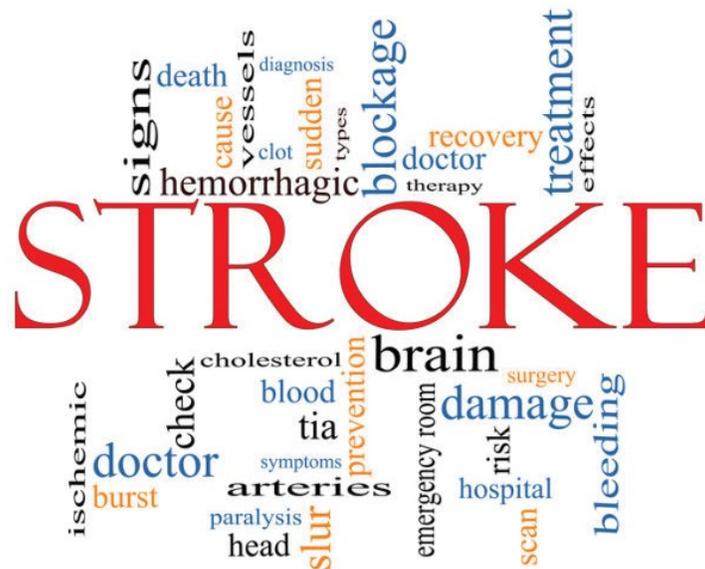
The Legislature's Act 61 of 2009 charged the Vermont Association of Hospitals and Health Systems (VAHHS) with convening a workgroup of neurologists, Emergency Department physicians, and representatives of the American Heart Association/American Stroke Association to recommend ways to integrate timely, effective stroke treatment in Vermont, considering evidence-based treatments accepted by the American Academy of Neurology and/or the American College of Emergency Physicians.

The workgroup was asked to evaluate the capacity of each hospital to provide emergency treatment of strokes following the established guidelines, and to identify the challenges faced by Vermont emergency medical services (EMS). The workgroup was also asked to provide recommendations about additional services or infrastructure needed to ensure that all Vermonters are able to receive the recommended treatment for acute stroke.

A report was compiled with several recommendations, including activities to improve the triage, stabilization and appropriate EMS routing of acute stroke patients, and to improve coordination and communication between providers. It became clear to the workgroup that given Vermont's rural nature, it was crucial to structure a model that provides all hospitals with access to the tools needed to ensure that stroke patients receive evidence-based initial care.

The workgroup made the following key recommendations in the report it presented to the Vermont Legislature in January 2010:

- Review the emergency dispatch system for recognizing and responding to stroke symptoms, by March 30, 2010.
- Develop and adopt an evidence-based EMS stroke screening tool, a treatment protocol for the Vermont



EMS statewide protocols, and an implementation plan led by the EMS medical directors, by March 30, 2010.

- Recommend nationally accepted, evidence-based guidelines for acute stroke care to Vermont hospitals, by August 15, 2010.

- Explore the feasibility of, and barriers to, statewide implementation of teleradiology and telemedicine, and develop recommendations, by November 15, 2010.

- Work with tertiary

care centers serving Vermont to better define the consultative expertise they provide to community hospitals, and to develop inter-facility treatment and transfer protocols.

- Explore the feasibility of a quality improvement-focused organization, such as VPQHC, taking over the staffing of the committee, by January 30, 2010.

Other recommendations included:

- Maintain the workgroup for at least one year to implement the recommendations.
- Monitor the progress of the requirement by the Centers for Medicare and Medicaid Services that hospitals report on their participation in a "systematic clinical database registry for stroke care," scheduled for implementation in 2011, which will allow the collection of data on the incidence, treatment and outcome of stroke care.

In 2011, the Vermont Program for Quality in Health Care (VPQHC) began partnering with the workgroup to support improvement activities for acute stroke care. The collaboration has made significant progress in addressing many of the workgroup's recommendations:

Following review of the *Vermont Dispatchers Medical Desk Reference Manual*, there were no further

**MORE STROKE PATIENTS
MAY NOW BE ELIGIBLE
FOR TREATMENT, BUT
THE FIRST STEP IS STILL
UP TO YOU: CALL 9-1-1**

F FACE DROOPING | **A** ARM WEAKNESS | **S** SPEECH DIFFICULTY | **T** TIME TO CALL 911



recommendations made by the group.

The workgroup developed an EMS screening tool and standing orders in consultation with Vermont EMS officials.

Vermont statewide EMS protocols were revised in 2013 to include the recommended stroke screening tool and treatment protocol. The annual, required, stroke-specific EMS education modules support recognition and response to acute strokes.

On the recommendation that EMS medical advisors lead the implementation of the EMS stroke screening tool and treatment protocols, the workgroup concluded that this should be pursued regarding implementation of the ED acute stroke guidelines.

With the ED Medical Directors Committee, the workgroup approved the acute stroke guidelines.

The workgroup identified that the barriers related to image sharing were initially more related to policy and operational concerns than to technology.

- All Vermont hospitals now have 24-hour coverage for radiology. Most utilize external, contracted teleradiologists after hours, and on weekends and holidays.
- Two hospitals have implemented telemedicine services in their ED.

Consultative services, long provided by neurologists at both the University of Vermont Medical Center and Dartmouth-Hitchcock Medical Center, were formalized.

CMS ultimately did not require hospital participation in a stroke registry.

While great progress was made, other issues were identified, leading to the project focus for this year.

Since 2011, acute stroke care data has been obtained through various manual abstraction methods, including collection by VPQHC staff at each hospital. This hands-

on approach supports better identification and auditing of acute stroke records, in an effort to improve the reliability of data submissions. The workgroup has also developed an electronic, online chart-audit tool, which includes detailed verbal, written and electronic guidance, and drop-down menus to standardize responses.

In response to hospitals' requests, the number and frequency of data submissions the workgroup requested from the hospitals significantly decreased. With those adjustments made to reduce hospitals' administrative reporting burden, data submitted remained sub-par for the workgroup to obtain an accurate analysis of acute stroke care in Vermont.

In 2017, VPQHC's focus shifted from evaluating acute stroke care in Vermont's hospitals to determining if hospital data currently flowing into existing data sources could be used to evaluate the Stroke System of Care, thus eliminating the administrative reporting burden for the hospitals. The necessary data elements were identified for both the Vermont workgroup's time-based treatment guidelines, as well as for the "reach goal" of obtaining the extensive list of required data elements in the AHA/ASA Get With The Guidelines (GWTG) Program.

Outreach was conducted to existing data sources to locate these data elements, and to determine if and how this information could be leveraged in the future to evaluate acute stroke care in our state. VPQHC reached out to these data sources:

- University of Vermont Medical Center (UVMHC), Stroke Program
- Vermont Department of Health (VDH), Emergency Medical Services
- Vermont Association of Hospitals and Health Systems, Network Services Organization (VAHHS/NSO)

- Vermont Information Technology Leaders (VITL), Vermont Health Information Exchange (VHIE)
- American Heart Association/American Stroke Association (AHA/ASA) – Get With The Guidelines Program.

The data sources were asked to provide information about data contained in their systems, ability to generate reports, formatting, potential costs, and any known barriers to providing this information. Varying degrees of responses were received from UVMHC, VAHHS/NSO, VITL and AHA/ASA. Some provided great detail concerning their data and system, while others provided more general information. All the information received was compiled into an analytical report, accompanied by a conceptual map to guide future acute stroke data collection and analysis.

Several benefits or successes were identified in this data source analysis:

- UVMHC Stroke Program staff is already obtaining and submitting extensive data from their patients into the GWTG system, and are able to generate reports.
- UVMHC's hospital network has expanded in recent years, potentially supporting improved data collection and flow from the other hospitals within the network.
- NSO staff are engaged in the process and willing to support data-related endeavors. The NSO Hospital Discharge Dataset contains relatively current information, as it runs approximately one quarter behind.
- Discharge data is currently submitted by all Vermont hospitals, except Brattleboro Retreat.
- Data could be leveraged to provide a more global picture of acute strokes in Vermont.
- Data within the NSO supports identification of a patient's prior hospital visits to the same facility. This information could be used to identify patterns or trends for that patient, or for future patients with a similar path.
- The VHIE includes many of the data elements needed to conduct an analysis of Vermont's Stroke System of Care, housed in one data source.
- Extensive data contained in the GWTG system could support identifying areas of opportunity for improvement initiatives, refining processes, and monitoring progress.

Several barriers to success and other gaps were also identified:

- The only Vermont hospital entering data into GWTG is UVMHC, and its data only includes UVMHC patients.
- Identification and reporting may require ongoing discussions to better understand what question needs to be answered with the data, as the discharge data set is composed of discharge, revenue and DRG codes versus more direct time-stamped activities.
- Data from patients who are transferred between facilities would be duplicative, as it is included from each facility. The NSO is unable to easily link information between facilities, as patient identifiers vary. Using the discharge code for "transfer" as the distinguishing identifier is suboptimal, as some facilities may enter "discharge" for interfacility transfers, or may use "transfer" to indicate discharge to a long-term care facility.
- Smaller Vermont hospital participation with AHA/ASA's GWTG stroke program may be cost-prohibitive.

Finally, next steps related to the data sources were identified:

- Further discussions with UVMHC Stroke Program staff should include potential reporting formats, focus and utility, to provide a preliminary overview of acute stroke care in Vermont.
- Continued discussions with the NSO leadership to better understand the data needs and capabilities, as well as further sharing the goals of this project, could support the development of a stroke occurrence graphic.
- VITL/VHIE activities should continue to be monitored, to identify availability and potential partnering opportunities.
- The project should continue to partner with UVMHC and AHA/ASA, to identify opportunities to leverage the GWTG system and data analysis to support acute stroke care in Vermont.

The analytical report and conceptual map were presented to the workgroup for review and feedback.

Moving forward, VPQHC hopes the information obtained, the identification and location of key data elements, and the engagement of existing data sources in this process can be leveraged by the workgroup members to evaluate the Stroke System of Care in Vermont, thus removing the burden of administrative reporting from hospitals.

Following Up to Improve Continuity of Mental Health Care

According to the National Survey on Drug Use and Health, between 2014 and 2015 approximately 4.9% of Vermonters (24,000) experienced a serious mental illness, compared to 4.2% nationally. In 2015, there were over 2,900 mental-health disorder inpatient discharges from Vermont hospitals. For patients like these, access to appropriate and continued mental health care following a hospital stay is imperative for future success.

Over the past two years, the Vermont Program for Quality in Health Care, Inc. (VPQHC) has led a multi-insurer workgroup, with representatives from Blue Cross and Blue Shield (BCBS) of Vermont, the Department of Vermont Health Access, MVP Healthcare and PrimariLink, that is focused on improving the continuity of mental health care. Inadequate follow-up care can result in exacerbation of symptoms, challenges in work/home life, higher risk of chronic medical conditions with decreased life expectancy, high drop-out rates from school, hospital readmissions, and suicide.



Erin Carmichael, QI Administrator at the Department of Vermont Health Access, participates in a poster activity at the September 2017 Statewide FUH Meeting.

Defining “Follow-up After Hospitalization for Mental Illness”

This term covers the percentage of discharges for members six years of age and older who were hospitalized for treatment of selected mental illness diagnoses, and who had a follow-up visit with a mental health practitioner. Two rates are reported:

- The percentage of discharges for which the member received follow-up within 30 days after discharge, and
- The percentage of discharges for which the member received follow-up within seven days after discharge.

As a way to measure progress, the workgroup has focused its activities on the Follow-up After Hospitalization (FUH) for Mental Illness measure from the Healthcare Effectiveness Data and Information Set (HEDIS). Before the workgroup was formed, each insurer was independently collecting and reviewing its FUH data. Breaking down those silos and pooling the data permits unique trends to emerge can lead to the implementation of more tailored interventions for improving access to mental health care after hospitalization.

The aggregated data compiled by the workgroup found that women and men aged 19–29 are most at risk for not receiving follow-up care, and that women, on average, receive follow-up care than men.

In September 2017, the workgroup hosted a statewide meeting at BCBS of Vermont titled “Improving the Continuity of Mental Health Care: A Call to Action.” Attendees included representatives from hospitals, insurers, designated agencies and other community organizations that are involved in transitioning patients hospitalized for

mental health to the outpatient setting. The meeting's goals were to present the aggregated data, identify whether attendees were observing similar trends, provide a space for connecting and sharing best practices, and encourage attendees to volunteer to try different interventions that may improve the FUH measure.

One key takeaway was that there are many ways to impact the FUH measure. Attendees identified housing as the top social determinant of health that puts persons recently hospitalized for mental health at risk for not continuing their treatment. Other identified opportunities for improvement included changing clinic hours to better meet people's schedules, ensuring a warm handoff from the discharging unit to the insurer care manager, and implementing a statewide consenting process for sharing medical records.

Those are just a few of the identified opportunities for improvement. All of the content that this meeting generated has been compiled in a "Report Out" that is posted on our website.

Since last September, representatives from Vermont Care Partners and OneCare Vermont have joined the workgroup, which has been dedicated to supporting volunteer sites, sharing identified best practices, and raising awareness of the FUH HEDIS measure and its importance. The group has



Megan Resnick, Information Analyst at OneCare Vermont (at left of easel) and Shellie Stevens, Clinical Quality Consultant, Blue Cross and Blue Shield of Vermont (right) present their group poster at the September 2017 Statewide FUH Meeting.

also been exploring the use of tele-health as an option for follow-up care.

Recommendations and Next Steps

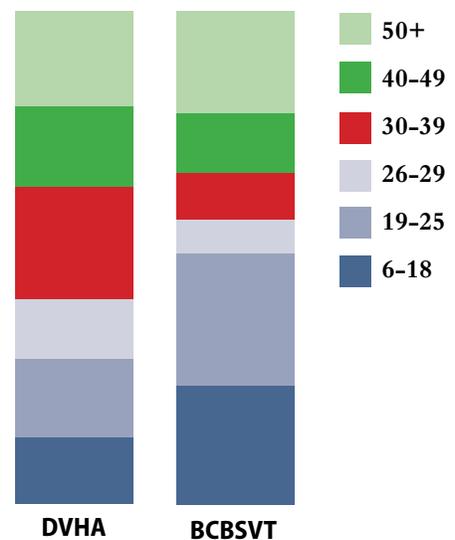
The current project activities are to wrap up in June 2018. But VPQHC intends to continue raising awareness about the importance of improving Vermonters' follow-up rates post-hospitalization for mental health, by supporting networking opportunities, and by sharing information, data, and best practice whenever and wherever possible.

2016 Age and Gender Distribution: Follow-Up Post Hospitalization for Mental Health

Combined workgroup data presented at FUH Statewide Meeting 9/15/2017

	Females	Males
DVHA	53.4%	46.6%
BCBSVT	59.0%	41.0%
Combined	54.3%	45.7%

Age Band Distribution



Improving Access and Coordination: Substance Abuse Treatment

Opioid abuse, addiction and overdose deaths continue to be among the greatest threats to public health and quality of life. According to the U.S. Department of Health & Human Services, in 2016 over 2 million people in the United States had an opioid-use disorder, and more than 42,000 died from opioid overdose — an average of about 116 deaths each day. Between 1999 and 2016, opioid overdose deaths increased five-fold.

According to data from the Centers for Disease Control (CDC), opioid deaths in Vermont rose by nearly 33% between 2015 and 2016, placing this state among the ten with the largest increases in opioid-related deaths.

Many people with substance abuse disorder suffer not only from the negative health effects of physically addictive drugs, but also from alienation, shame, loss of basic daily function, inability to improve their standard of living, and economic hardship. The public's perception of drug use as criminal, rather than a disease condition, contributes to the lack of recognition of the importance of social determinants of health (SDH) for wellness, and the effect of SDH on people with substance abuse disorder.

The Division of Alcohol and Drug Abuse Programs (ADAP) at the Vermont Department of Health (VDH) oversees a statewide system of preferred providers of outpatient substance-abuse treatment services. Measures tracked by ADAP include “Initiation of Treatment,” defined

In 2016 over 2 million people in the United States had an opioid-use disorder, and more than 42,000 died from opioid overdose — an average of about 116 deaths each day.

as the percentage of Medicaid clients who start treatment within 14 days of their substance abuse diagnosis, and “Engagement,” defined as the percentage of clients that return for at least two subsequent treatment appointments within the first 30 days after starting treatment. ADAP's goal for the initiation rate is at least 50%, and for the engagement rate it is at least 21%. Both these

rates have remained relatively stagnant since 2009, with the 2016 initiation rate at 45% and the engagement rate at 17%.

In 2017, VPQHC began assisting ADAP preferred providers and practice staff in their efforts to improve workplace and client experience, with the ultimate goal of improved client engagement. Frontline practice staff were provided with tools, education and continued support to identify direct quality-improvement activities, based on what they see as the changes needed to improve internal processes. Processes for interacting with clients were also analyzed, to identify ways of improving client engagement.

VPQHC engaged with key practice staff who interact directly with clients, to obtain their perspective on opportunities to improve initiation and engagement-related processes. Practice staff created value stream maps, with support from VPQHC's QI (Quality Improvement) facilitator, to visually display key client and workplace processes, and to improve understanding of how staff roles and processes are interrelated and how those processes affect clients' experience with treatment services.

Some Definitions

Value stream: A study of work that graphically represents time used both efficiently and inefficiently, within a work process.

Change agents: Stakeholders, constituents and supporters of quality improvement who are united around a common, compelling goal.

IHI Model for Improvement: A simple yet powerful system for quality improvement. Basic elements are setting aims, establishing measures and selecting changes. These elements are used before starting PDSA cycles.

Plan, Do, Study, Act (PDSA): A method of rapid-cycle tests of incremental changes in processes, to advance specific quality improvement actions.

A3 method: A graphical, one-page written summary that describes the current state of a process, a root-cause analysis of causes, the

proposed improved future state, and actions, accountabilities and due dates to work toward that future state.

Domain cards: A set of cards to encourage recipients of care and services to discuss what social determinants of health are most important to them. Cards may have picture or word prompts.

Eco-mapping: A graphical representation of a person's relationships, both professional and personal. The quality or strength of the relationship is depicted by the use of different styles of lines that connect the person to the relationship.

Shared care plans: Plans based on client priorities and participation in action steps, including identification and engagement of community-based agency partners that can help provide holistic services to meet client needs and preferences.

In each preferred practice, staff committed to implementing cycles of change, as a means of testing improvements to internal processes while monitoring the larger impact on client experience, and on rates of initiation and engagement. Practice staff set out several priority goals:

- Working with clients to reduce missed appointments.
- Reducing the time between the referral to substance abuse treatment and the first appointment.
- Implementing an agency protocol to better support productive communication.
- Improving the process for training and orientation for new staff.

The practices also set initiatives for improving waiting-room amenities and client orientation processes. The hope for making all these changes at the practice level is to raise the levels of engagement by better serving clients' needs.

Preferred providers and practice staff learned and applied several widely known methods and tools to support internal QI efforts. VPQHC worked with practice staff to identify goals, select appropriate QI initiatives, and design and implement specific activities to work toward achieving those goals. To demonstrate and monitor progress, practices worked with VPQHC to develop and utilize detailed improvement plans and project-tracking tools. The team also worked to implement data tracking of process and outcome measures, including the measures of engagement.

Ultimately, the goal of the QI facilitation is to promote the ongoing independent use of tools and methods, so that preferred providers can maintain a continuous quality improvement program. Practices were supported in their efforts to meet the quarterly milestones they set out to demonstrate success with continuous QI.

The VPQHC QI facilitator met with practice staff at least twice each month to discuss progress with the identified initiatives and to determine next steps. Practice staff and

States with Significant Increases in Rates of Opioid Death from 2015-2016

(source: <https://www.cdc.gov/drugoverdose/data/statedeaths.html>)

State	Significant	% Change
MD	Yes	58.9
FL	Yes	46.3
PA	Yes	44.1
NJ	Yes	42.3
DE	Yes	40
ME	Yes	35.4
VA	Yes	34.7
IL	Yes	34
VT	Yes	32.9
NY	Yes	32.4
MO	Yes	31.8
OH	Yes	30.8
MA	Yes	28.4
WV	Yes	25.3
NC	Yes	24.7
WI	Yes	24.5
CT	Yes	24
IN	Yes	23.1
MI	Yes	19.6
MN	Yes	17.9
SC	Yes	15.3
LA	Yes	14.7
OK	Yes	13.2
KY	Yes	12
TN	Yes	10.4
TX	Yes	7.4

VPQHC also communicated regularly between those meetings, discussing progress and troubleshooting challenges. VPQHC's QI facilitator provided staff from each practice with hands-on training for several quality improvement tools, including the A3 communication and project tracking tool; Value Stream mapping; and the Plan, Do, Study, Act (PDSA) method of the Institute for Healthcare Improvement's Model for Improvement.

Improved communication strategies were also incorporated into the training, with a focus on creating and sustaining open and productive agency communication. VPQHC's QI facilitator integrated tools and strategies from previous work with the Integrated Communities Care Management Learning Collaborative (ICMLC), whose primary objective was to structure and support client-centered care and engagement. Providing this structure and placing the client at the center improves compliance and success with treatment services.

Several methods of client-centered care and engagement were also introduced, including eco-mapping, shared care plans, and the use of domain cards (see definitions, p. 23).

Recommendations and Next Steps

VPQHC will continue to work with the current preferred provider practices, and to support these practices as they

become progressively more independent with CQI tools and methods, and with utilizing data to demonstrate progress.

VPQHC will also continue to work with the ADAP team to identify additional preferred providers that would benefit from QI facilitation, improvement methodologies, and ICMLC concepts and tools to support client-centered care that strengthens the foundation of substance abuse treatment services. Improving this foundation will strategically place Vermont in a position to better care for this population, and to proactively address the epidemic of opioids and other substances in our state.

Helping Hospitals Measure Quality to Improve Patient Outcomes

Vermont hospitals are committed to ensuring that their patients receive the highest quality of care, and to continually reviewing and improving their systems to achieve this aim. Over the past year, the Vermont Program for Quality in Health Care (VPQHC) has supported hospitals through the Medicare Beneficiary Quality Improvement Program (MBQIP), in partnership with the Vermont Department of Health’s State Office of Rural Health and Primary Care, and with funding from the federal Health Resources and Services Administration.

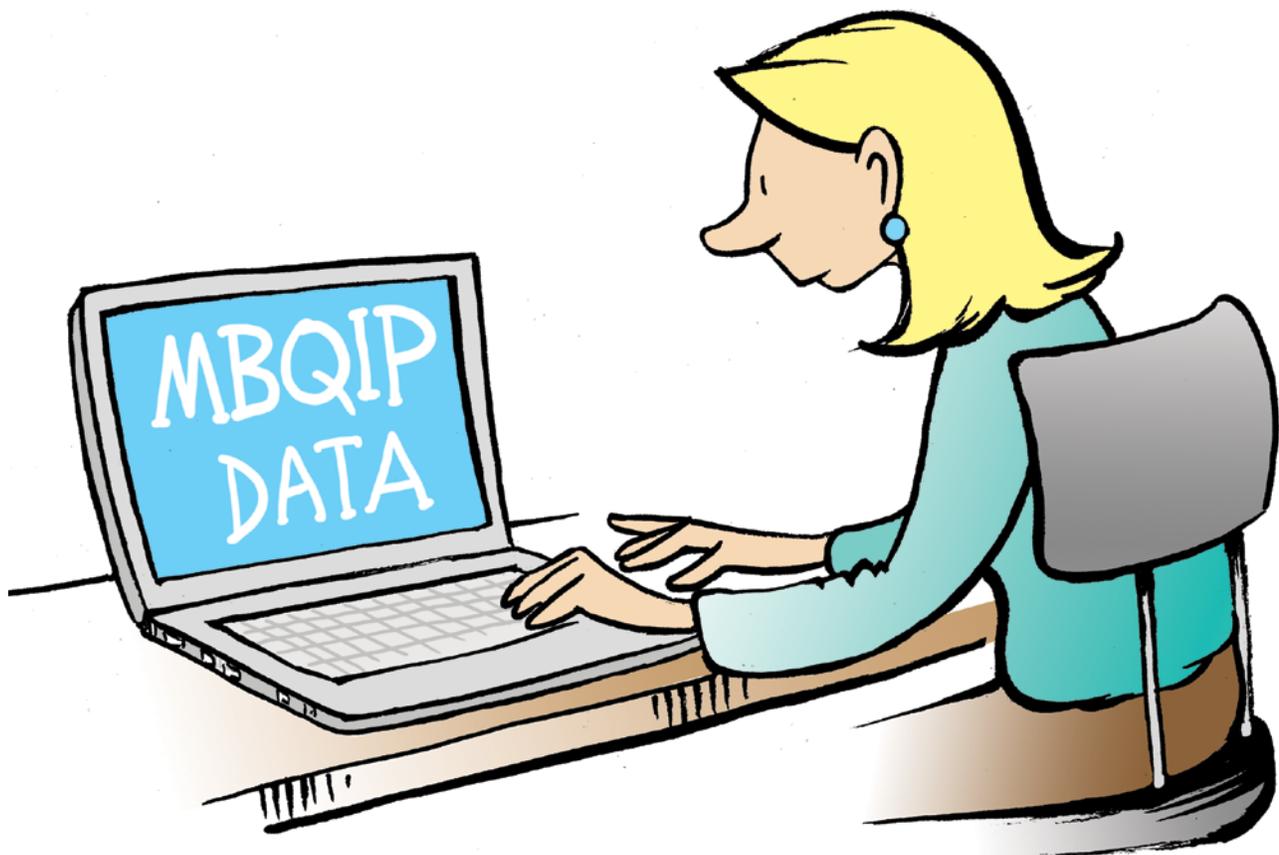
Hospitals have internal processes for measuring the quality of care they provide, and for using these measures to identify areas of opportunity for improvement. At the core of quality measurement is the collection of data, and the use of that data to:

- Determine the development and implementation of projects to address areas of opportunity to improve care;

- Communicate relevant health care-related information to consumers, to help them make decisions about where to go for care;
- Determine payment reimbursements for health care services that may be tied to a hospital or provider meeting certain quality standards or benchmarks; and
- Improve patient outcomes, save lives, and ensure continued quality of life.

The purpose of the MBQIP is to support Vermont’s critical access hospitals in reporting a new quality measure, or in working to improve a quality measure selected from an established list. Measures on the list are considered to be “rural relevant,” and are organized into four categories:

- **Patient Safety**, which includes influenza vaccination coverage among health care personnel, and influenza immunizations provided to applicable patients.
- **Patient Engagement**, collected through the Hospital Consumer Assessment of Healthcare Providers and



Systems (HCAHPS) survey, which assesses patient perspectives on care received.

- **Care Transitions**, which assesses the transfer of patient information when patients have been discharged from the hospital to their next point of care.
- **Outpatient measures**, encompassing a range of services provided in the Emergency Department.

Vermont hospitals participating in MBQIP are focusing on a range of quality measurement and improvement activities that fall under these four categories, and have worked diligently to develop, implement and monitor these programs. Hospitals have conducted deep dives into their current systems and processes, to pinpoint what changes need to be made, to develop and implement projects that address those areas of opportunity — and ultimately, to improve care.

In addition to this work, the participating hospitals are collecting and measuring key data regarding the Emergency Department information that is sent to the receiving hospital when they transfer a patient. Emergency Department Transfer Communication (EDTC) data elements are collected to ensure that the receiving hospital has accurate, adequate and timely patient information that will support the highest quality of continued care possible.

Because of their small size and rural location, many Vermont hospitals face challenges in working on data collection and quality improvement projects. These challenges typically relate to limited financial, clinical and technological resources. Through MBQIP, hospitals receive monetary support toward their quality-related infrastructure, to improve internal data collection and measurement processes.

Regardless of the challenges, in the past year Vermont hospitals have demonstrated their continued commitment to improving patient outcomes through enhanced quality measurement and improvement processes. Through MBQIP projects, VPQHC supported hospitals during this time by:

- Facilitating a statewide hospital network, which provided hospitals with a platform for connecting and sharing best practices;
- Participating in the New England Rural Performance Improvement (NEPI) regional planning committee, which ensured that Vermont-specific issues were addressed at the regional level, and that relevant information gained was passed on to Vermont hospitals;
- Coordinating the submission of each hospital's Emergency Department Transfer Communication (EDTC) data;
- Hosting an annual statewide meeting where hospital staff had the opportunity to review publicly reported data measures, receive MBQIP-related education, and develop strategies for quality improvement initiatives and reporting;
- Coordinating applicable financial support for quality-related infrastructure building; and
- Providing technical assistance to hospitals as they addressed areas of opportunity and rolled out initiatives.

Hospitals have conducted deep dives into their current systems and processes, to pinpoint what changes need to be made, to develop and implement projects that address those areas of opportunity — and ultimately, to improve care.

Recommendations and Next Steps

VPQHC will continue to work with VDH and our hospitals to identify and evaluate potential, broader statewide quality initiatives and improvement strategies. In addition, we will support hospitals by providing technical assistance; by coordinating available funding that assists hospitals in continuing to build and improve their quality reporting infrastructure; and by continuing to foster statewide network-building among Vermont's hospitals.

Improving Care through the Statewide Surgical Services Collaborative

The Vermont Statewide Surgical Services Collaborative (VSSSC) meets regularly to review complications that sometimes occur during surgical procedures. This review is important for the team to understand complications of surgery, learn and improve techniques, and improve surgical outcomes.

The VSSSC received funding through 2016 from the State Innovation Model (SIM) Provider Sub-Grant Program. Surgeons came together and committed to use standardized data from the American College of Surgeons National Surgical Quality Improvement Program (ACS-NSQIP) database, to compare hospital performance related to surgery and complications of surgery. The ACS-NSQIP database is the best surgical clinical database available for accurately capturing and analyzing raw clinical data entered into the NSQIP system.

Surgeons recognized that the process is very complicated for capturing clinical data from the patients' electronic medical records and entering the relevant clinical surgical data into the ACS-NSQIP database for further review and analysis. Five Vermont hospitals are consistently managing this process, providing the VSSSC with enough raw data to start analyzing and interpreting what it means. The end goal is always to understand the story the data tells, to improve care delivery and surgical outcomes for patients.

Mohawk Valley Physicians (MVP), a valued hospital partner based in New York state that places a high value on improving surgical care in Vermont, has committed to providing financial support to Vermont hospitals for their continued enrollment in the ACS-NSQIP. This support has made a significant difference in the continuing efforts to improve care.

Surgical case reviewers (SCR) are specially trained and certified staff who review patient charts to locate documentation about the surgical visit, including patient data, the surgical problem and procedure, and how the surgery went. An exhaustive amount of data is gathered on every qualifying surgical case, then entered into the ACS-NSQIP database for review and analysis. The Vermont surgical data is then incorporated into data entered from participating

The end goal is always to understand the story the data tells, to improve care delivery and surgical outcomes for patients.

hospitals across the country.

Through this process, the ACS-NSQIP system benchmarks are produced and applied to the output reports. These performance reports show providers how they perform when compared to other hospitals and surgeons just like them. SCRs work together with their "surgical champion" at each hospital, to review the comparative reports and identify opportunities

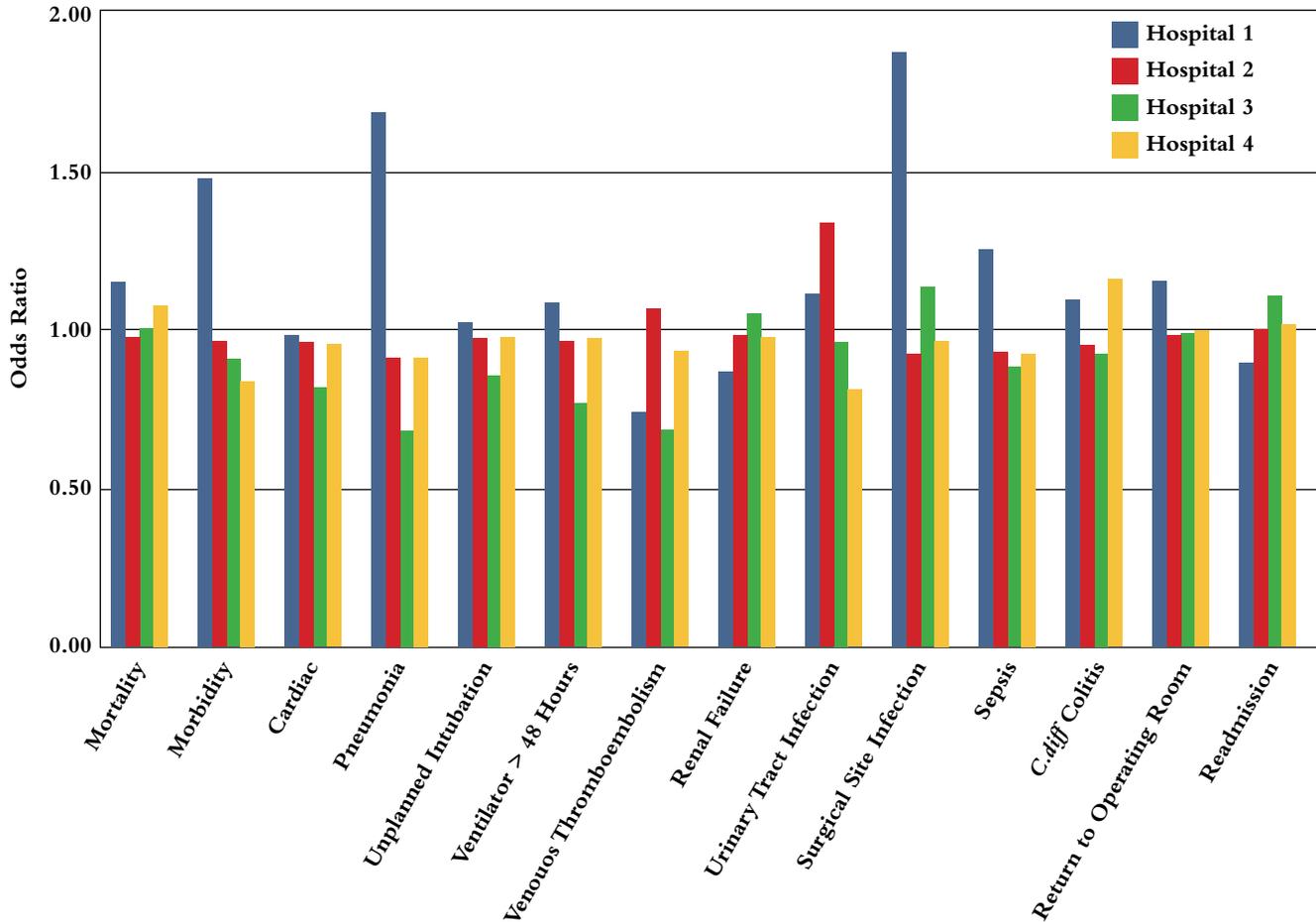
to improve. Each surgeon learns new best practices for improving care, which helps improve outcomes for patients.

This sounds simple, but it involves a very long and complex process to understand how best to care for surgical patients. The surgical champions and surgical case reviewers meet as a peer-review group to review cases and best practices, and to support each other through the VSSSC.

The accompanying chart shows the variation in performance between the four Vermont hospitals that reported to the ACS-NSQIP system in 2016 (Copley Hospital joined in 2017). Seeing the variation between the hospitals identifies a few specific opportunities to leverage best practices to reduce surgical site infections and pneumonia. Hospitals work on these improvements internally, but also benefit from the networking that the VSSSC adds to the improvement efforts undertaken at each Vermont hospital.

The VSSSC continues to make a difference in reducing surgical site infections by implementing best practices learned through our local VSSSC network and the national ACS-NSQIP conference partners and resources. Vermont now has five hospitals participating. The VSSSC leadership recognizes that not all Vermont hospitals can contribute to the ACS-NSQIP database, due to the complexity and expense of that work. The VSSSC has worked with the Vermont Association of Hospitals and Health Systems (VAHHS) to acquire statewide data on surgical complications to engage all Vermont hospitals in surgical improvement work. The group is focusing on small-bowel perforations as a possible complication with opportunity for improvement for all Vermont hospitals.

VSSSC Collaborative CY 2016 All Cases Comparison Chart



What the “Odds Ratio” Shows

An *odds ratio* of 1 is the expected score, like par on a golf course. This metric shows the risk-adjusted performance at a specific site compared to the average hospital. Odds = # of events/# of non-events.

An odds ratio of <1 means the site is performing better than expected; an odds ratio >1 indicates an excess of adverse events. The NSQIP odds ratio is the risk-adjusted odds for an event at a site, divided by the odds for an event at an average site.

Recommendations and Next Steps

VPQHC supports the surgical case reviewers through networking and technical assistance. We maintain access to collaborative reports through the ACS-NSQIP database portal, and encourage Vermont hospitals to participate in the ACS-NSQIP annual national conference.

VPQHC is seeking a sustainable funding mechanism to continue our support for VSSSC collaborative meetings, and for utilizing our website as a repository for resources and communications. We seek to partner with VAHHS through data-sharing and analysis, to encourage all Vermont hospitals to participate in the VSSSC.

Health Care Reform Efforts: VPQHC's Expanding Role

Vermont continues to be a leader in health care reform, with initiatives for change and improvement in both the payment and delivery systems. Staying connected to the strategic conversations that impact policy direction can help guide the Vermont Program for Quality in Health Care (VPQHC) in both our contract work and our organizational development.

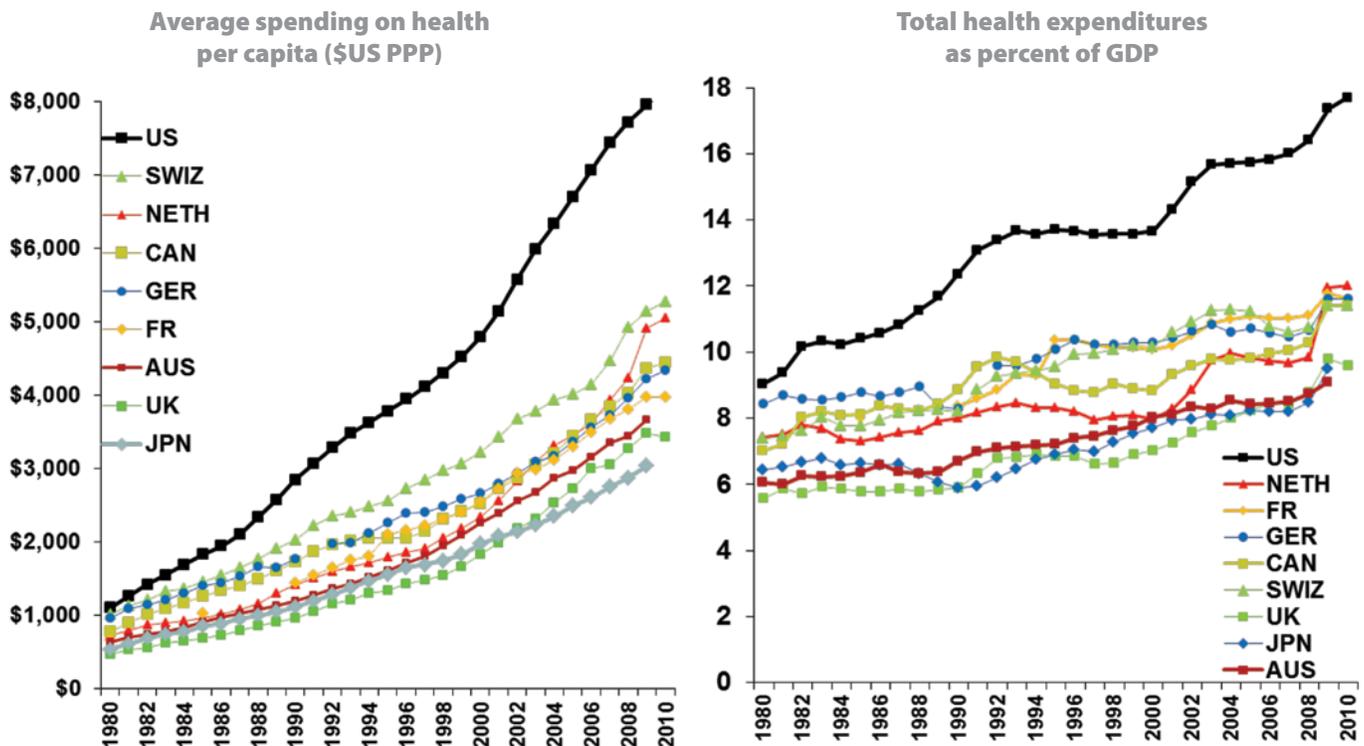
Despite state government's decision to abandon single payer, system changes continue to take place, partly as a result of changes in federal reimbursement programs and partly due to state program changes. Through its support of OneCare Vermont as the state's Accountable Care Organization (ACO), Vermont has committed to the ACO reimbursement model of the Centers for Medicare and Medicaid Services. In an ACO, physicians are paid in advance on a per-person basis, but are then accountable for the outcomes of care provided for their attributed population.

These changes are so important because the current payment systems for Medicare and Medicaid are not sustainable. With the expanding population of high-cost baby boomers, Vermonters cannot afford higher taxes to pay for overused or inappropriate tests and medical visits. Through studying the system, we can make it better by ensuring the right access to the right care for the right person at the right time and for the right duration.

The state law that defines our funding and responsibilities, 18 V.S.A. 9416, assigns four charges to VPQHC:

1. Evaluate and improve the quality of health care services rendered by health care providers or health care facilities;
2. Determine that health care services rendered were professionally indicated;
3. Determine that health care services rendered were performed in compliance with the applicable standard of care; and

International Comparison of Spending on Health, 1980–2010



Notes: PPP = purchasing power parity; GDP = gross domestic product.
Source: Commonwealth Fund, based on OECD Health Data 2012.

4. Determine that the cost of health care rendered was considered reasonable by the providers of professional health services in that area.

There are several ways that VPQHC connects to reform initiatives and conversations. Our organization wants to ensure that the care provided by the accountable care organization is of high quality, with the best possible outcomes. VPQHC works with strategic partners at the Green Mountain Care Board and Vermont Department of Health, to track and monitor essential quality metrics that will ensure delivery of high quality care. We attend crucial planning meetings that involve these organizations as well as insurer partners, legislators and OneCare Vermont.

Through these relationships, we encourage our partners to keep a focus on quality outcomes and continuous improvement.

VPQHC has made a difference by contracting with multiple strategic partners, through three different contracts to change and improve practice care-delivery systems and provide care for patients in the most effective and efficient manner possible. For more on these projects, please see the chapters on TCPI (page 31), Infinitum (page 34) and ADAP (page 23).

VPQHC also continues to partner with policy leaders, to ensure that the right supports and resources are in place to deliver great care in a safe, timely way.

Recommendations and Next Steps

VPQHC will guide and support strong partnerships among acute medical and community-based providers to support appropriate utilization and the best possible outcomes for delivery of care.

Four cornerstones support continuous quality improvement and high-quality care: aligning measures that matter in improving the system; applying relevant benchmarks to understand comparative performance; collegial discussion within peer review settings, to understand and discuss performance and improvement; and, finally, turning this valued feedback into information that supports the continuous growth and development of a learning health system.

In 2018 and beyond, VPQHC is looking forward to working within these focus areas, and continuing to strengthen partnerships with a focus on improving the care delivery system and patient outcomes.



Coaching Practices through the Process of Transformation: TCPI

Transforming how health care is delivered and reimbursed is a big goal: it envisions a systemic change that includes both the actual time a patient spends with a doctor and the entire time, from scheduling to discharge, that the patient is in the system. The Transforming Clinical Practice Initiative (TCPI) of The Centers for Medicare and Medicaid Services (CMS) is designed to support clinician practices for up to four years in sharing, adapting and further developing strategies for quality improvement. Intended to alter health care delivery, TCPI's goal is to tie reimbursement to higher-value care — because care starts when the patient calls to make an appointment.

TCPI provides the framework, resources and knowledge base to support practices in their transformation journey. It has been implemented across the country, and includes a standardized practice assessment. The TCPI process is designed to help clinicians and their staff achieve large-scale health transformation through five phases. The phases of transformation are shown in Diagram 1.

Each phase has associated milestones for the practices to work toward, with drivers to help them reach each milestone. The drivers help the practices work to complete the milestones, and to process change within the practice. The TCPI Aims and Goals are shown in Diagram 2 on page 33.

The Vermont Program for Quality in Health Care (VPQHC) is managing this transformation work with practices throughout our state, as part of the Northern New England Practice Transformation Network (NNE PTN).



Practices come in different types and sizes, specialty or primary care, and they have varying numbers of staff and patients. Practices enroll in the program with different levels of business knowledge, and they work at different paces and levels of motivation.

This transformation work takes time and patience to learn, and VPQHC facilitators are coaching practices through the TCPI process. The practices start at different places and at their own pace; but in the end, as graduates of TCPI, they will be ready to migrate into an alternatively based payment arrangement.

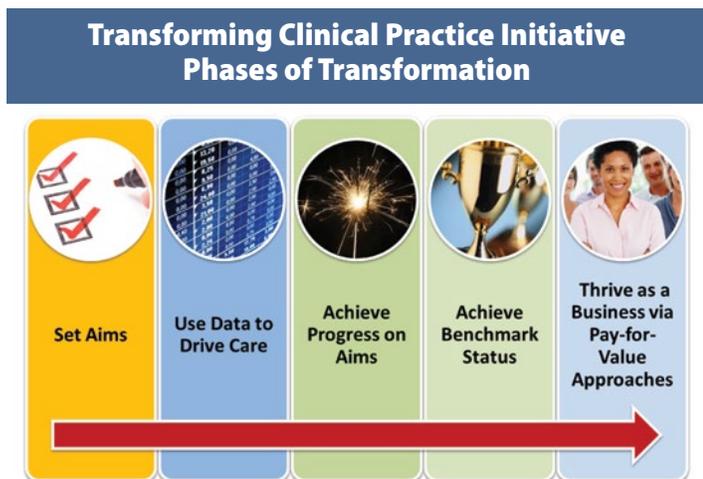
In year three of our work with TCPI, VPQHC staff have continued developing and strengthening our relationships with health care practice teams and state partners. We have been able to support our practices in realizing the true goal of improving value for patients. From the patient's perspective, value is defined as achieving identified health outcomes at an acceptable cost.

VPQHC has provided individualized practice assessments and coaching to 18 specialized health care practices, including podiatry, gynecology, oncology, obstetrics, primary care, optometry, ophthalmology, mental health, cardiology and pain management. Progress is made by focusing on strategies related to patient and family-centered care design, continuous data-driven quality improvement, and sustainable business operations.

Progress is measured by administering practice assessments every six months, and evaluating the results. Working with VPQHC staff, practices advance toward the TCPI goals through defined milestones, quality improvement processes, observations, and compelling performance stories — all to increase the practice's readiness to succeed in today's health care environment.

The table on page 32 is a TCPI performance story, an example of how the transformation framework works:

A podiatrist was interested in improving how the practice interacted with patients who have high blood pressure. Working with the VPQHC facilitator and following the TCPI framework, the doctor created a project plan to “Increase participation in the local Rx program for patients with in-office blood pressure of >140/90 by 5%.” The plan included these elements:



Primary Driver	Patient and Family-Centered Care Design
Secondary Driver	Improvement Plan
1.1 Patient & family engagement	Patients who were ineligible for local Rx program were provided patient education materials, and the podiatrist engaged in motivational interviewing to identify alternatives and levels of activation.
1.2 Team-based relationship	The practice developed a protocol for referring patients to a local Rx program, with each team member having a role in the workflow.
1.3 Population management	The practice identified a workflow for measuring blood pressure and stratifying patients based on risk level.
1.4 Practice as a community partner	“Park Rx” is a local nonprofit whose mission is to decrease the burden of chronic disease, increase health and happiness, and foster environmental stewardship, by prescribing time on local parks and trails during the routine delivery of health care (www.rutlandrec.com/parkrx/).
1.5 Coordinated care delivery	A Park Rx representative engaged with the practice to identify a referral protocol to ensure efficient care coordination.
1.6 Organized, evidence-based care	The practice began the use of an evidence-based algorithm for triaging high blood pressure.

Primary Driver	Continuous, Data-Driven Quality Improvement
Secondary Driver	Improvement Plan
2.2 Quality improvement strategy supporting a culture of quality and safety	The new protocol was implemented and tested using a quality improvement tool, the Plan, Do, Study, Act (PDSA) cycle.
2.3 Transparent measurement and monitoring	The practice decided to report the controlling hypertension measure via the Merit Based Incentive Program (MIPS).
2.4 Optimal use of health information technology (HIT)	The practice configured its electronic health record to efficiently document, collect and analyze the results.

Primary Driver	Sustainable Business Operation
Secondary Driver	Improvement Plan
3.1 Strategic use of practice revenue	The podiatrist was able to close her records earlier in the billing process, which may allow for an increase in cash flow from third-party payers.
3.3 Capability to document and analyze value	Used MIPS as a method of receiving financial reimbursement for performance.

Preliminary analysis of project outcomes indicates an improvement in blood pressure control, an increase in referrals to the Park Rx program, and greater patient satisfaction with their treatment.

As practices work to achieve from 22–27 milestones

(depending on the type of practice), the VPQHC PTN facilitator provides behind-the-scenes assistance. This includes guidance on what to work on next; coaching on what makes the most sense for the practice; brainstorming ideas to solve a problem; clarity on projects like mini-grants;

training on quality improvement tools like a Plan, Do, Study, Act (PDSA) cycle; and — most important — empathetic listening. This can be hard and complicated work, and the VPQHC PTN facilitator is there for the practice on a regular set schedule.

Recommendations and Next Steps

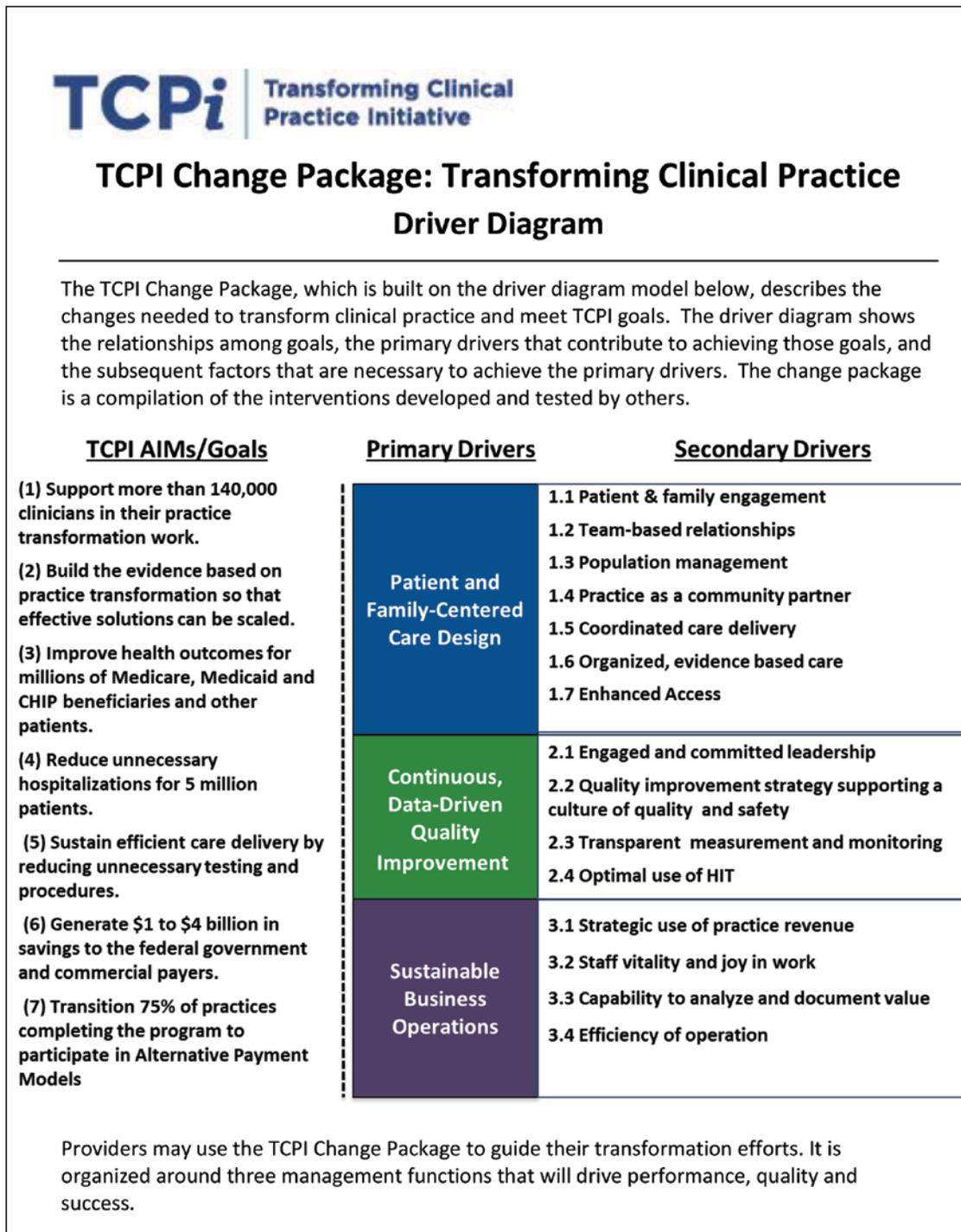
During the next 18 months, VPQHC will continue to work with the TCPI-enrolled practices to navigate the process of transformation to the federal Advanced

Alternative Payment Model (AAPM). This work includes identifying areas for improving patient care, practice team functioning, and the financial health of practices.

Our next steps include recruitment of the practices that completed the Vermont Blueprint for Health initiative, and are now eligible for the TCPI program; an intense effort to graduate as many practices as possible before September 2019; and preparing ourselves for what will be the next step at CMS, once the AAPM goes into effect.

We look forward to crossing paths with you as we

continue to provide quality coaching and support to our practices along the transformation journey. VPQHC is collecting stories like the one described above — and we're happy to share our successes, observations and data, and to have a general discussion about our work with TCPI.



Infinitem: A New Methodology for Practice Transformation

At the Vermont Program for Quality in Health Care (VPQHC), we cover the whole spectrum of health care in Vermont, and increasingly across the care continuum as the United States begins to move toward embracing the social and behavioral determinants of health. VPQHC is the only neutral health care quality organization mandated by statute in this state, and we take very seriously our role in guiding the development of the statewide health care quality system.

Primary care and specialty practices have historically been underserved with high-quality, independent assistance in their operations, strategy and growth pathways as they struggle to adapt to the rapidly changing world of value-based compensation amid the traditional fee-for-service environment. Recognizing this, we took a long, hard look at the needs of this sector, matched it with our broad and deep experience bases, and developed a practice-

We don't use the word transformation lightly at VPQHC. To us it means, "Working in a manner that, post-transformation, people could not imagine working in the previous manner because the new ways are so much better and make so much sense."

transformation center of excellence based on a holistic methodology we call **Infinitem**.

Infinitem is a practice management and transformation system designed to work from the ground up within a practice of any size. A practice consists of a series of interlinked streams of value generation which, when properly balanced, enable the delivery of value to patients with minimal waste, stress and frustration. The main patient-care value stream is, at the core, supported by ancillary value streams that deliver supplies, staff, patients and all other materials necessary to provide care. Infinitem is composed of a suite of tools and philosophies — derived from the Toyota Production System and advanced change management — that practices need in order to make permanent and successful changes in their methods of operation.

Practice organizations typically evolve along entrepreneurial lines, resulting in systems that can be biased

Potential Benefits

- **Less stress in daily life**
 - Typical reductions in wasted time in 30% range
 - Much less conflict and residual antagonism
 - Less overtime necessary—no charting to 10:00 p.m.
- **More time spent with patients**
 - Capacity restored can now be used to increase quality of care, resulting in higher patient satisfaction scores
- **Projected spending offsets**
 - Released capacity often allows postponement or cancellation of capital builds such as new buildings, extra equipment
- **Ability to develop and incorporate new service lines**
 - Released capacity allows flexible options when deciding on practice performance and growth



in many ways, and that place artificial demands on the remaining areas of the practice. Infinitum works with the whole practice to bring those areas back into balance.

Practice operations are mapped at three distinct but linked levels, and the practice staff themselves design future configurations. Measurement systems are implemented, and level-specific management dashboards are created and used monthly to gauge performance. Owners, providers and staff are not only coached intensively to learn the new techniques; they are also coached in the application within their own environments. A structured approach to change management is integral, and results in a high probability of the new methods being accepted and integrated into day-to-day operations.

We don't use the word *transformation* lightly at VPQHC. To us it means, "Working in a manner that, post-transformation, people could not imagine working in the previous manner because the new ways are so much better and make so much sense." We infuse this goal into our transformation work, and we design every program to address the inherent strengths and style of the practice.

As practices progress in their transformation process, they are guided to reach discrete levels of achievement. These are rewarded by a certification system designed to both recognize and reinforce the Infinitum methodology in the practice. Infinitum assessments will be available to all practices in the near future.

Management dashboards become integral to successful operation as practices progress through Infinitum. Rather than conforming to a template, these dashboards are custom-designed to reflect true operations. Inherent to them are process-derived metrics, which measure performance in

entirely new ways.

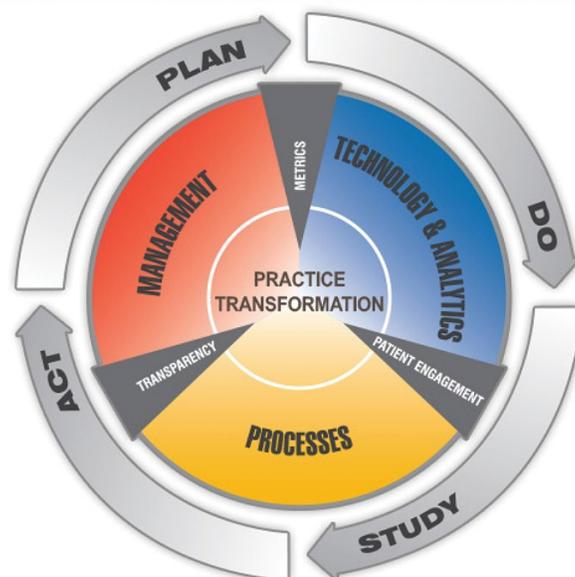
As practices become more proficient, it is natural to want to benchmark against other practices using similar metrics. Our Infinitum comparative database is designed to receive and compare these metrics as the number of Infinitum practices grows, answering to the question, "Where are we against our peers?"

Guiding a practice through an Infinitum transformation requires a coach with significant skill and experience. VPQHC is launching a practice-coach training and certification system, designed to train coaches in the Infinitum methodology and philosophy at three distinct levels.

A mix of coaches at each of the three Infinitum transformation levels ensures consistent and efficient delivery. Each level builds on the previous level, but all start with a thorough training in the Toyota Production System (or "lean production") techniques, and all progress through advanced change management and multiple project experiences until the final Sensei level is achieved, where a coach may guide multiple entire transformations. This practice-coach training and certification system will be available to everyone in the near future.

Infinitum is a truly scalable methodology for transformation in any area of health care, from practices to health systems. We have proven results showing demonstrable return on investment far in excess of most improvement methodologies in use today.

Over the coming months, you will begin to see more about this in our materials, communications and events. If you would like to learn more, please call us at (802) 229-2152 and ask for Lee Bryan, or email leeb@vpqhc.org.



Helping Hospitals Strengthen and Sustain Patient Safety

Since 2008, the Vermont Program for Quality in Health Care (VPQHC) has administered the Patient Safety Surveillance and Improvement System (PSSIS) on behalf of the Vermont Department of Health, following a state law enacted in 2006. The statute and its Final Rule tasked the Department of Health with establishing a comprehensive system for improving patient safety, eliminating adverse events in Vermont hospitals, and supporting and facilitating safety and quality improvement efforts by hospitals.

The PSSIS Final Rule requires hospitals to report specific types of adverse events based on the list of Serious Reportable Events (SRE) from the National Quality Forum (NQF). Hospitals are also required to report all Intentional Unsafe Acts (IUA). The IUA criteria, also given in the Final Rule, include an adverse event or near miss that results from a criminal act; a purposefully unsafe act; alcohol or substance abuse; or patient abuse. Even though events of this type are rare, including the information and reporting requirements in the Final Rule provides hospitals with clear direction if such an event should occur.

Improved hospital patient safety and health outcomes result from timely identification of a reportable adverse event or near miss, thorough causal analysis to identify areas of opportunity, and the development of a comprehensive action plan to address those findings. As hospital staff conduct their analysis of an event, they work to identify contributing factors from the systems perspective, rather than trying to assign blame to an involved individual.

Many times incidents occur as a result of multiple, smaller errors in environments that have underlying system flaws. There may not be policies or procedures in place to proactively address issues, or there may be barriers or gaps in the system that result in the event. The event reports, causal analyses, and corrective action plans submitted to VPQHC require hospitals to make a substantive evaluation of the circumstances that led to the event, and to determine meaningful corrective action steps for preventing future harm. The event-related documents are reviewed to ensure that findings identified in the causal analysis are addressed appropriately in the corrective action plan.

Analyzing events from the systems perspective gives hospitals the opportunity to correct the larger issues leading to the event. Addressing these systemic findings allows hospitals

Some Definitions

Adverse event means any untoward incident, therapeutic misadventure, iatrogenic injury, or other undesirable occurrence directly associated with care or services provided by a health care provider or health care facility.

Near miss means any process variation that did not affect the outcome, but for which a recurrence carries a significant chance of a serious adverse outcome

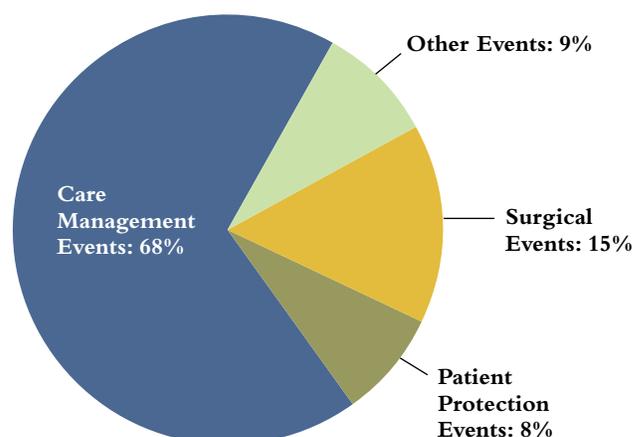
Causal analysis means a formal root-cause analysis, similar analytic methodologies, or any similarly effective but simplified processes that use a systematic approach to identify the basic or causal factors that underlie the occurrence or possible occurrence of a reportable adverse event, adverse event, or near miss.

Corrective action plan is a plan to implement strategies intended to eliminate or significantly reduce the risk of a recurrence of an adverse event, and to measure the effectiveness of such strategies.

to prevent similar events in the future.

VPQHC also provides frequent assistance to the hospitals, to discuss internal events, determine if they meet criteria for mandated reporting, and consider possible action steps. When events do not meet reporting criteria, hospitals utilize internal

Serious Reportable Event Data, 2016-2017



criteria to determine the level of analysis and actions needed. VPQHC staff are always available to assist hospitals with non-reportable events, analyses, and corrective action plans, as we recognize the significance of any safety incident and the need to address findings before harm occurs.

VPQHC has been receiving, reviewing and monitoring reported events since 2008. This has given us the opportunity to identify trends, and to work with quality and safety leaders in Vermont hospitals to build a network of support within the group. Event details are not shared; but trends of concerning event types are discussed and best practice initiatives are shared, thereby improving patient safety across the state.

Because Vermont is a small state, and to protect and maintain confidentiality for all involved, data presented publicly by VPQHC is aggregated into categories. Categories with fewer than six events are aggregated further to ensure privacy.

Between 2016 and 2017, Vermont hospitals reported 101 events based on the NQF SRE and IUA reporting criteria. The bulk of these events (68%) fell under the Care Management Event criteria, which includes patient harm following medication errors, falls, test result communication failures, labor in a low-risk pregnancy, or acquisition of a stage 3 or 4 pressure ulcer.

The NQF SRE list of surgical or procedural events includes surgeries or procedures that occur on the wrong patient, incorrect surgery or procedure, retained object, or an error in the surgical site. These events made up 15% of the 2016–2017 total. Patient protection events include death or serious injury associated with a patient eloping from the hospital, patient suicide or self-harm while being cared for

in the hospital, or the release to an unauthorized person of a patient who is unable to make decisions. These made up 8% of the 2016–2017 total.

The remaining 9% of reported events include Intentional Unsafe Acts, Potential Criminal Events, Product or Device Events, and Environmental Events.

Recommendations and Next Steps

Sustainability of the strong culture of patient safety that is needed to protect Vermonters relies on continued commitment to improving internal processes, maintaining open lines of communication to address concerns, identifying areas of opportunities to maintain a safe environment, and thoroughly evaluating internal systems to proactively address findings. VPQHC's continued support of Vermont's hospitals, as they identify events and develop comprehensive corrective action plans that address systemic findings, will strengthen the sustainability of the patient safety culture. VPQHC will also continue to provide proactive support that helps Vermont hospitals identify areas of opportunity and best practice initiatives before harm occurs.

The final key piece to supporting and sustaining a patient safety culture is to engage all hospital staff members, patients, family members and visitors as active participants in maintaining safe care environments. If you see something that concerns you, say something! Ask your care providers questions. Take an active, engaged role in the safety of your care. You have the power to be a patient safety champion — and you might be preventing harm to you or someone you care about.



Supporting a Vital Process: Compliance Survey Feedback

The Survey and Certification (S&C) branch of the Vermont Division of Licensing and Protection (DLP) is the state compliance survey agency for health care organizations in Vermont. The S&C branch conducts unannounced site visits, or surveys, on a routine recurring basis and as a result of complaints received by the DLP. The purpose is to ensure that health care organizations consistently meet the minimum state and federal regulations designed to make sure their patients and residents receive safe and ethical care.

The S&C branch's thorough evaluations cover all aspects of care — including kitchen or dietary areas, storage areas, medical records, policies and procedures, staff interviews, and resident or patient interviews. If the survey identifies areas of opportunity, facility leadership is required to develop a corrective action plan that adequately addresses the findings. In some cases, the leadership can expect a follow-up visit by S&C, to ensure that appropriate mitigating actions have been taken.

Should the survey identify findings that are extremely unsafe for patients or residents, or if findings have gone uncorrected, fines may be levied against the health care organization. In the most serious situations, health care organizations can lose the ability to receive payments from federal entities; in certain cases, the license to operate may be revoked. Often commercial insurers follow the lead of the federal and state entities and will also deny payments to the facility, resulting in almost certain closure.

In order to work most effectively with health care organizations across the state, DLP asked the Vermont Program for Quality in Health Care (VPQHC) to develop and maintain a feedback mechanism for the staff of health care organizations participating in the survey process. Given the nature of the relationship between facilities and DLP, it was important to provide an anonymous method that enabled health care organizations to provide honest constructive feedback. VPQHC worked with both DLP and health care

Who is surveyed

S&C surveys the following types of facilities across the state:

- Assisted living residences
- End-stage renal dialysis centers
- Home health agencies
- Hospice providers
- Hospitals
- Nursing homes
- Residential care homes
- Rural health clinics
- Therapeutic care residences

organization staff to develop questions that best supported this relationship.

The anonymous online questionnaire was implemented two years ago, and VPQHC continues to capture, analyze, de-identify and aggregate responses. These reports are provided twice each year to DLP leadership, to inform and guide survey-related processes with a goal of continuing to strengthen the relationships.

Health care organizations have expressed appreciation for the opportunity to provide feedback on the surveys. Many shifts in processes have occurred as a result of the feedback provided, both within DLP and within the health care organizations. Facility staff have reported improved understanding of survey processes and rationales for DLP actions, resulting in better relationships and communication.

Recommendations and Next Steps

VPQHC will continue to support DLP and the Vermont health care organizations, by maintaining the online questionnaire and providing aggregated, de-identified reports with the goal of facilitating opportunities for shared learning and improved communication.

Bringing Together Hospital Quality and Safety Professionals

The Vermont Program for Quality in Health Care (VPQHC) maintains a close working relationship with quality and safety professionals from hospitals across the state, to help them share their expertise, leadership and assistance. This is part of our commitment to provide hospitals with technical support and information, and it meets requirements contained in the state statute (18 V.S.A. 9416) that designates VPQHC as a statewide resource center for health care quality improvement.

VPQHC facilitates at least four meetings each year with these key hospital personnel. Agendas are structured to provide opportunities to network with peers; to discuss quality improvement, best practices and health care reform initiatives; to problem-solve, and to share successes.

Over the past year, VPQHC facilitated several opportunities for quality and safety professionals to network, openly discuss processes, and learn new things. Each presentation provided exceptional information to professionals from across the state, and covered many topics that directly impact our hospitals. Presentations included

These meetings are structured to support open communication between participants, and to create opportunities for sharing ideas and networking with peers.

state-level legislative updates; information about OneCare Vermont, our state's accountable care organization, including data and measures; patient safety data and an overview of reporting requirements; Northern New England ECHO activities; and data, reporting, overview and updates on the Medicare Beneficiary Quality Improvement Project (MBQIP).

These meetings are structured to support open communication between participants, and to create opportunities for sharing ideas and

networking with peers. This year, in response to requests from our hospital quality and safety partners, VPQHC added an executive session to the meeting agendas, in which only hospital and VPQHC staff may participate. In this secure environment, hospitals can discuss challenges and seek guidance from others. We have provided time during this session for specific peer-led discussion and sharing.

VPQHC encourages hospital staff to present information about their own quality and safety initiatives to the group. When hospitals share successes, gaps, barriers and challenges, everyone benefits, and facilities can better prepare their own initiatives. To reduce duplicative efforts, the meetings included discussion and sharing of process or policy templates between facilities.

Thirteen of Vermont's 16 hospitals were able to participate in one or more of the meetings this year.

Recommendations and Next Steps

Continued active participation in these meetings by Vermont's quality professionals will be integral as we continue to navigate our way through health care reform. VPQHC's designation as the statewide resource center for health care quality improvement uniquely positions our organization to provide relevant information, and to obtain hospital perspectives that can inform decisions by larger state agencies and reform initiatives.

Moving forward, VPQHC will be expanding the list of meeting invitees to include other quality, safety and care management leaders from across the health care continuum.



Act 53: Vermont's Hospital Report Card

Patients want to get the best care, treatment and quality for the best price, and Vermont hospitals are working consistently to improve their quality of care. Act 53 (18 V.S.A. 9405b) is a 2003 state law that provides consumers a window into how the hospitals are doing on metrics that are indicators of quality. The Vermont Program for Quality in Health Care (VPQHC) provides quality, safety and infection-related information to the Vermont Department of Health (VDH) for its annual statewide comparative report, the Hospital Report Card (HRC).

Quality measures evolve to reflect areas of opportunity that need improvement, and VPQHC keeps track of the data that the hospitals are required to submit. The HRC includes measures and information for consumers, covering quality of care provided, hospital-acquired infections (HAI), nurse staffing, aggregated patient perceptions of care received, hospital financial and pricing information, and aggregated patient safety data.

Throughout the year, VPQHC works closely with hospitals to support their required data submissions and external reporting. Each year we also review hip and knee replacement-specific surgical site infection (SSI)-related data, to ensure accuracy and compliance. VPQHC submits an annual, aggregated SSI report to VDH for posting on the HRC website, at www.healthvermont.gov/health-statistics-vital-records/health-care-systems-reporting/hospital-report-cards.

VPQHC works with hospitals on a quarterly basis to ensure accurate and timely submission of any identified multi-drug resistant organisms (MDRO) such as methicillin-resistant staphylococcus aureus or clostridium difficile. Continued monitoring and reporting of MDRO infections supports early identification of increased incidence, timely and appropriate changes to patient care, and improved

adherence to and effectiveness of infection control guidelines, all resulting in improved patient care and safety.

VPQHC also supports the HRC

Knee Replacement

Before

After



What Goes Into the Hospital Community Reports

The Vermont Legislature enacted Act 53 in 2003 and has amended it on numerous occasions. The law requires Vermont hospitals and those outside of the state who serve a large number of Vermont residents to submit data for a statewide hospital quality report. The report must include:

1. Measures of quality, including process and performance measures that are valid, reliable and useful, including comparisons to appropriate national benchmarks for high quality and successful results.
2. Measures of patient safety.
3. Measures of hospital-acquired infections.
4. Valid, reliable and useful information on nurse staffing.
5. Measures of the hospital's financial health.
6. A summary of the hospital's budget.
7. Data for the comparison of charges for higher-volume health care services.

Along with these measures, the hospital must publish on its website a link to the comparative statewide hospital quality report; its process for achieving openness, inclusiveness and meaningful public participation in its strategic planning and decision making; its consumer complaint-resolution process, and information on membership and governing-body qualifications.

by tracking and reporting aggregated data on adverse patient safety events. Hospitals are required to report specific patient-safety events to VPQHC on behalf of VDH. (See page 36 for more information about the Patient Safety Surveillance and Improvement Program.)

Recommendations and Next Steps

VPQHC is continuing to support hospitals in providing accurate, timely, and relevant reporting on quality, safety and infection-related data, to ensure that consumers have a valid, reliable resource for determining where to receive the best health care.

Peer Review: Helping Hospitals Ensure Quality

Peer review is one way that hospitals improve quality, by ensuring that procedures and protocols are being followed and evaluating how specific care was given. The Vermont Program for Quality in Health Care, Inc. (VPQHC) laid the groundwork for the Peer Review Program in 2001, and has been involved ever since.

The program's goal is to provide a reliable pool of board-certified reviewers from varied specialties, to perform case reviews for all Vermont hospitals. Having qualified case reviewers is important to aid in process improvement, and to ensure that best practices and guidelines are followed. Hospitals also use case review for the re-credentialing of physicians, for internal quality improvement, and to improve processes when negative outcomes have occurred.

Larger hospitals like the University of Vermont Medical Center and Dartmouth Hitchcock Medical Center have the staff to conduct peer reviews in-house — but this is more difficult for small rural hospitals, which may only have one or two physicians of a certain specialty on staff. Sometimes these physicians are in the same practice, and may have a conflict of interest when trying to provide a balanced case review of their colleague.

The VPQHC Peer Review portal, located on our website, allows access to all specialties and a deeper set of reviewers.

VPQHC has been granted peer review protection status via Vermont law, 26 V.S.A. 1441-1443. This statute protects the confidentiality of medical records, case reviews, proceedings, reports and any information shared in the process of the peer review.

VPQHC reaches out to hospitals twice each year,

The program's goal is to provide a reliable pool of board-certified reviewers from varied specialties, to perform case reviews for all Vermont hospitals.

asking for physicians who are willing to be in the peer review pool. We ask the medical-staff leadership to review our current list of peer review members from their hospital, and to nominate any additional

medical staff members who would be willing to participate. VPQHC then updates the peer review portal with the medical staff recommended by their leadership.

As part of our ongoing responsibilities with the Peer Review portal, we assist hospitals in locating an external case reviewer when the need arises. The hospital independently accesses the portal and reaches out to a physician on the list to conduct the case review. VPQHC is not directly involved with the case review, but the pool of reviewers helps to make it possible.

Recommendations and Next Steps

During 2018 we expect to continue maintaining and enhancing the Peer Review program, including our biannual review of members and improving the program's resources, materials and education for users.



Summary of Recommendations and Next Steps

Improving Outcomes through the Hospital Improvement Innovation Network

We look forward to continuing to connect participating hospitals with resources through the HRET-HIIN and to strengthening our partnerships with VAHHS and others in order to continue to support hospitals in their quality improvement and patient safety journeys.

Providing Vermont's Inmates with Quality Health Care

VPQHC will continue to work with the DOC leadership to provide an independent assessment of the quality of its health care services, and to provide feedback of our analyses to support continued DOC improvements. We also look forward to identifying future opportunities to support DOC in improving health care quality.

Supporting Rural Primary Care Providers through Project ECHO Network

VPQHC will continue to work with partners to develop a sustainability plan to support the ongoing efforts of the Project ECHO: NNE Network replication hub. VPQHC will also explore potential work with stakeholder partners to become an independent replication hub, and to support local Vermont-specific topics on improving care and supporting our rural physicians.

Following Up to Improve Continuity of Mental Health Care

The current project activities are to wrap up in June 2018. But VPQHC intends to continue raising awareness about the importance of improving Vermonters' follow-up rates post-hospitalization for mental health, by supporting networking opportunities, and by sharing information, data, and best practice whenever and wherever possible.

Improving Access and Coordination: Substance Abuse Treatment

VPQHC will continue to work with the current preferred provider practices, and to support these practices as they become progressively more independent with CQI tools and methods, and with utilizing data to demonstrate progress. VPQHC will also continue to work with the ADAP team to identify additional preferred providers that would benefit from QI facilitation.

Helping Hospitals Measure Quality to Improve Patient Outcomes

VPQHC will continue to work with VDH and our hospitals to identify and evaluate potential, broader statewide quality initiatives and improvement strategies. In addition, we will support hospitals by providing technical assistance; by coordinating available funding that assists hospitals in continuing to build and improve their quality reporting infrastructure; and by continuing to foster statewide network-building among Vermont's hospitals.

Improving Care through the Statewide Surgical Services Collaborative

VPQHC supports the surgical case reviewers through networking and technical assistance. We maintain access to collaborative reports through the ACS-NSQIP database portal, and encourage Vermont hospitals to participate in the ACS-NSQIP annual national conference.

VPQHC is seeking a sustainable funding mechanism to continue our support for VSSSC collaborative meetings, and for utilizing our website as a repository for resources.

Health Care Reform Efforts: VPQHC's Expanding Role

VPQHC will guide and support strong partnerships among acute medical and community-based providers to support appropriate utilization and the best possible outcomes for delivery of care.

Coaching Practices through the Process of Transformation: TCPI

During the next 18 months, VPQHC will continue to work with the TCPI-enrolled practices to navigate the process of transformation to the federal Advanced Alternative Payment Model (AAPM). This work includes identifying areas for improving patient care, practice team functioning, and the financial health of practices.

Infinitem: A New Methodology for Practice Transformation

Primary care and specialty practices have been underserved with high-quality, independent assistance in their operations, strategy and growth pathways as they struggle to adapt to the rapidly changing world of compensation for healthcare services. We took a long, hard look at the needs of this sector and developed Infinitem, a practice management and transformation system designed to work within a practice of any size.

Infinitem is composed of a suite of tools and philosophies — derived from the Toyota Production System and advanced change management — that practices need in order to make permanent and successful changes in their methods of operation. Practice operations are mapped at three distinct but linked levels, measurement systems are implemented, and level-specific management dashboards are used to gauge performance. A mix of coaches at each of three transformation levels ensures consistent and efficient delivery. All start with a thorough training in the Toyota Production System (or “lean production”) techniques, and all progress through advanced change management and multiple project experiences. This practice-coach training and certification system will be available to everyone in the near future.

Infinitem is a truly scalable methodology; we have proven results showing demonstrable return on investment far in excess of most improvement methodologies in use today. Over the coming months, you will begin to see more about this in our materials, communications and events.

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From the Director of Finance

Financial Results for Fiscal Year Ended June 30, 2018

The figures below are not audited

Income		
9416 Bill-Back	\$660,000.00	50%
Other Grants and Contracts	\$628,616.00	48%
Miscellaneous	\$32,505.00	2%
Total Income	\$1,321,121.00	
Expenses		
Personnel	\$1,010,713.00	77%
Operating	\$203,836.00	16%
Grants to Hospitals for Quality Improvement Projects	\$58,621.00	4%
Other Project Expenses	\$41,824.00	3%
Total Expenses	\$1,314,994.00	
Surplus	\$6,127.00	

VPQHC Staff

Catherine Fulton, MS, CPHQ
Executive Director

Bill Marcinkowski
IS Manager

Bruce Saffran, BS, RN
Quality Improvement Facilitator

Marianne Bottiglieri
Director of Finance

Bonnie Collins
Administrative/Program Assistant

Barbara Groff
Transformation Coach

Lee Bryan
Director of Operations

Dail Riley
Business Office Manager

Hillary Wolfley
Health Data Analyst

Holly Poulin
Transformation Specialist

Susan Rivera, RN, CPHQ
Senior Program Manager

On behalf of the Board of Directors and Staff of Vermont Program for Quality in Health Care, we would like to say it has been a privilege serving the Vermont healthcare community for the past 30 years, and we look forward to partnering and progressing together for the next 30 years.

Vermont and the nation has seen a lot of changes in the healthcare system over 30 years and we consider it an honor to be able to continue our work and help transform the healthcare system to benefit all Vermonters. We are only beginning to imagine what the next 30 years could mean for delivery system transformation

Connect to our website (www.vpqhc.org) throughout the year to keep informed of this new and exciting work. We look forward to keeping you informed of our progress.





VPQHC

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