New Models of Primary Care Workforce and Financing

The Health Center

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Case Example #2: The Health Center

This report is based on research conducted by Abt Associates in partnership with the MacColl Center for Health Care Innovation and Bailit Health Purchasing, Cambridge, MA, under contract to the Agency for Healthcare Research and Quality (AHRQ), Rockville, MD (Contract Nos. 290-2010-00004-I/ 290-32009-T). The findings and conclusions in this document are those of the authors, who are responsible for its contents; the findings and conclusions do not necessarily represent the views of AHRQ. Therefore, no statement in this report should be construed as an official position of AHRQ or of the U.S. Department of Health and Human Services.

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Introduction

The Agency for Healthcare Research and Quality (AHRQ) contracted with Abt Associates and its partners, the MacColl Center for Health Care Innovation and Bailit Health Purchasing, to conduct research on innovative ways to configure primary care workforce teams that can deliver fully comprehensive, high-quality care to the U.S. population. The purpose of the research is to offer models of primary care teams and the associated costs for consideration and discussion by policymakers and providers in the field of health services delivery. To explore existing innovative workforce configurations, AHRQ and the Abt project team conducted a literature review, explored extant data sources, convened a Technical Expert Workgroup of national experts in primary care workforce, and conducted site visits to primary care practices with innovative workforce configurations.

The case example report which follows provides an in-depth look at the workforce configuration of Northeast Washington County Community Health, Inc. DBA The Health Center (THC), a rural Federally Qualified Health Center (FQHC) delivering high-quality, comprehensive medical and dental care (located at 157 Towne Ave., Plainfield, VT 05667). Team members visted the practice on May 13, 2015. The data discussed below were collected on or prior to the visit and reflect calendar year 2014.

Why The Health Center?

THC is a FQHC located in rural Vermont that has been taking a patient-centered approach and addressing the needs of the local population for more than 40 years. THC was visited because of its reputation for high quality and comprehensiveness. In addition, THC has been an active participant in the Vermont Blueprint for Health (Blueprint). The Blueprint is a State-led, nationally recognized initiative to transform the way primary care and comprehensive health services are delivered and paid for. It is a program for integrating a system of health care for patients, improving the health of the overall population, and improving control over health care costs by promoting health maintenance, prevention, and care coordination and management. A unique aspect of the Blueprint is that it provides ways, on a regional basis, for community health workers to augment the capacity of primary care practices to connect and integrate with community resources.

Overview of the Practice

Over the past 42 years, THC has worked to become a community fixture and a leader in providing comprehensive, high-quality primary care in Plainfield, Vermont. THC has offered dentistry services for 41 years. Other services offered by the practice include medical care, oral surgery, nutrition and certified diabetes education, behavioral health, patient education, psychiatry, lab tests, social work, care coordination, physical therapy, pharmacy, and transportation. The practice also offers behavioral neurology. The practice is open 60 hours a week, including 3 evenings until 9:00 PM (Tuesdays, Wednesdays, and Thursdays) and Saturday mornings from 9:00 AM to noon. Two hours a day are available for urgent care visits.

Over time, THC has evolved to meet patient needs. THC works with a 12-member Community Board, of which 11 members are patients, to meet the needs of the community. THC staffs and operates a school-based clinic, a dental van to provide dental care to children, an in-house pharmacy program with an onsite automated dispensing unit (ADU) and a shared pharmacy (remote). THC also offers a designated space for community programs and meditation classes (see Access, Comprehensiveness, and Quality section). Panel management is funded by the Blueprint (see Model of Care section). The longevity of the practice means that multiple generations of local families have received their primary care at THC.

> "It's building the history, too. You have the grandmother, (the great-grandmother sometimes), sons, daughters, kids—you know, the whole family history right there."
> –Medical assistant

The physical space of the practice includes open nursing stations positioned near physicians' offices to facilitate communication, a bariatric room, and an onsite laboratory. Dr. John Matthew—THC's founder, medical director, and chief executive officer—has led the growth of THC from a five-person practice to a staff of more than 90. The number of clinicians has increased from two to nine. Dr. Matthew espouses "nurturing expertise" among all staff members and says he is committed to fostering teamwork among everyone who works at THC. Staff are encouraged and supported to work at "top of license." For example, staff members are supported through knowledge sharing about best practices during regular staff meetings. In these meetings, interested staff members are engaged as champions for a particular topic (e.g., hypertension, chronic obstructive pulmonary disease) and asked to lead a topic-specific discussion. THC leadership is committed to having its personnel model healthy behavior. For example, salad and fruit are provided for lunch in the staff kitchen to encourage healthy eating.

THC belongs to the Community Health Accountable Care LLC2 (CHAC), which comprises nine community health centers and is one of three accountable care organizations (ACOs) in Vermont. As the CHAC Medical Director, Dr. Matthew distributes summaries of new research or evidence-based practices to encourage best practice adoption by CHAC physicians.

Patient Population Description and Practice Panel Size

The patient mix is typical of a rural practice, with 46.9 percent of patients on Medicaid and 15.6 percent on Medicare. Almost 3000, or 20 percent of medical visits each year include social workers or care coordinators. THC patients exhibit high prevalence of moderate-to-severe chronic disease. Other demographic characteristics for both medical and dental patients are:

- men: 46%, women: 54%
- white: 95%
- Up to 100% of poverty threshold: 16%
- 101–150% of poverty threshold: 13%
- 151–200% of poverty threshold: 6%
- Unknown/not reported poverty threshold: 65%

Cultural backgrounds range from Scottish, Irish, and French backgrounds to Native Americans residing in Vermont. Over multiple years, only 17 of the 7000+ patients have needed language translation.

Unique Patients

In 2014, THC cared for 7,503 unique medical and dental patients. The number of unique patients by service is below, although some patients received more than one service, so the total is greater than 7,503:

- 3,909 medical
- 231 mental health (80% also medical patients)
- 4,753 dental

Patient Visits

In 2014, the number of patient visits was:

- 14,964 medical
- 2,891 mental health
- 2,937 case management
- 11,094 dental

Panel Size

THC leaders find it difficult to define panel size as they consider themselves a single care team. For connection and continuity, interviewees said, patients identify with team members who are responsible for their care. For insurance purposes, patients are assigned to a medical doctor (MD) as their PCP, but THC's philosophy is that PCPs and physician assistants (PAs) share information about patients so they can care for any patient. Although patients are routinely seen by a physician, PAs perform many followup visits and/or follow patients over time, often in concert with a physician. Patients are informed that they will likely see multiple clinicians in the course of their care and that all team members will know about them. Patients are discouraged from asking for or attempting to schedule appointments with specific providers.

Model of Care

THC has both physicians and PAs working as primary care providers (PCPs). While PCPs work closely with medical assistants (MAs), they do not work in permanent PCP-MA teamlets. (At THC and in this report, registered nurses [RNs], licensed practical nurses [LPNs] and MAs are collectively referred to as nurses. These staff have similar roles and responsibilities, except for certain procedures such as intravenous infusions that must be performed by an RN or LPN.) Team members work in different combinations depending on factors such as patient needs and schedules. Huddle-type meetings are a long-standing feature of THC's workflow. At the

beginning of each half day, upcoming tasks and other pre-visit items are discussed by provider-MA teamlets.

The MDs and other staff who cover the evening hours may or may not typically work together during the day shift. This means that team members work in a variety of combinations. During the Saturday hours, a PA staffs the clinic with a nurse and a receptionist. The practice found that these staffing combinations reduced the burden on the on-call MD and provided additional urgent care hours.

The practice depends on staff being crosstrained and able to cover for each other to avoid bottlenecks. As Dr. Matthew stated, "The entire staff is a team collaborating to take care of the community. Everyone is part of the team." THC specifically tries to hire MDs who are good team players. Dr. Matthew said that PAs are valued colleagues and this contributes to building a team approach. THC recently hired a PA and a physician who trained at THC to add staff who know THC and are known to THC. Dr. Matthew stated that his goal is to "hire for life" and ensure that staff stay with THC as long as possible. Staff longevity helps reduce the need for training new staff and provides continuity for patients. THC's leadership team members have all been with the practice from 15 to more than 30 years.

Since THC began, its physicians have taken turns conducting daily rounds on patients admitted at the nearby hospital. Proximity to the hospital enables the MDs to maintain this model of care. In-hospital care facilitates postacute care transitions and enables the entire practice team to keep track of the practice's highest risk patients.

The philosophy of THC is to take advantage of the unique strengths and talents of each staff member and bring those strengths to bear on patient care. For example, team members who are especially good at working with adolescents might be assigned to teen patients or a PA with good motivational interviewing skills might work with patients who need to be drawn out and engaged. Similarly, the physicians specialize to a certain extent, according to preferences. For example, one THC physician has a special interest in partial complex seizures and another specializes in care for patients with special needs. All THC physicians care for some complex patients.

The Vermont Blueprint for Health

The Blueprint works with practices, hospitals, health centers, provider networks, insurers, and other stakeholders to implement a statewide health service model in Vermont. The model includes advanced primary care in the form of patient-centered medical homes (PCMHs), multidisciplinary support services in the form of community health teams, a network of self-management support programs, comparative reporting from statewide data systems, and activities focused on continuous improvement (the learning health system model). The Blueprint aims to give all State residents access to high-quality primary care and preventive health services, and to establish a high-value health system in Vermont[1].

THC served as a Blueprint pilot site and currently participates in the program. THC receives $2.40 per member per month, which has helped fund data compilation and analysis and pre-visit planning for patients enrolled in Medicaid, Medicare, and three private insurers. Initially, the Blueprint funded a community health worker for THC; however, over time, the program decided that giving THC the funding and authority to hire a staff person that the practice deemed appropriate was more beneficial. Currently, this staff member is a former nurse with some PA training and a health coach who serves as a full-time panel manager.

The Blueprint brings medical directors together for meetings and supports collaboration. It provides quality improvement (QI) reports that compare practices to each other and to State averages. The Blueprint offers the Stanford Chronic Disease Self-Management Program (CDSMP) on a regional basis, with self-management support groups run by trained CDSMP facilitators.

THC offers classes for groups dealing with specific topics such as diabetes, insulin pumps, and meditation/mindfulness.

340B Pharmacy Program

As patients of an FQHC, THC's clientele are eligible for 340B pharmacy program discounts. In addition, because insurers reimburse at a rate above 340B prices, THC receives some net income (the contribution margin between the two rates) from the program, which the practice has used to acquire and support EHR implementation.

Workforce Configuration

Exhibit 1. The Health Center Team FTEs and Roles

FTE	Clinical Staff Workforce Category/Role	Comments
3.28	MDs	4 physicians (3 primary care and 1 behavioral health).
.4	MD/DO-Behavioral Health Psychiatrist	
1.0	RN Care Manager	
4.20	RNs	Primary care and triage nurses.
1.0	LPN	Shares responsibilities with the RN/MA nursing staff.
3.28	PAs	PAs are not empanelled, but work in tandem with MDs.
5.0	MAs	MAs share responsibilities with the RN/LPN nursing staff.
1.8	Social Worker (master's level, working as behavioral health clinician)	.6 LCSW, .6 Master's-level behavioral health clinician, .6 alcohol and drug psychologist.
2.0	Community Health Worker	

1.0	CDE	Health educator; runs diabetes and dietary support groups and works closely with the social workers on community-based programs. Also manages the dental program.
1.0	Pharmacy technician	
2.6	Laboratory personnel	
FTE	**Business Operations Support Workforce Category/Role**	**Comments**
2.4	General administrative (administrators, office managers, financial or human resources)	Chief Operating Officer, Chief Financial Officer, and support staff.
3.60	Patient accounting staff (billing and collections)	
1.0	General accounting staff (payroll and other general accounting)	
1.0	Information technology staff	Handles both EHR and general IT issues.
2.0	Housekeeping, maintenance, security	
FTE	**Front Office Support Workforce Category/Role**	**Comments**
5.0	Medical receptionists	Behavioral and medical receptionists.
3.0	Medical secretaries	Front desk receptionists.
2.5	Medical records	
2.0	Other administrative support	

MD=medical doctor; DO=doctor of osteopathy; RN=registered nurse; MA=medical assistant; LPN=licensed practical nurse; PA=physician assistant; LCSW=licensed clinical social worker; CDE=certified diabetes educator; EHR=electronic health record; IT=information technology

THC's core care team is an MD or PA working closely with an RN, LPN, or MA (collectively referred to as nurses). Prescription refills are generally addressed by RNs or LPNs, except that MAs can complete basic refill requests for patients on chronic disease medication. One provider described THC nurses as the "glue holding the encounter together."

Other clinical team members include behavioral health providers (psychiatrist and psychologist), social workers, lab staff, a dietician, dental clinicians, and community resource staff. A pharmacy technician can dispense medications via an ADU by communicating via telehealth with a pharmacist located at a remote pharmacy center who reviews and approves prescriptions and counsel patients on the medication. The vast majority of prescriptions, however, are provided via mail order from the pharmacy center, which is shared among a regional group of five FQHCs.

THC has five medical receptionist staff members who answer 26 telephone lines, four dental receptionists, and one mental health receptionist. THC leaders feel strongly that patients who call should talk to a person rather than leaving voicemails.

Pre-Visit Planning and Data Entry

A nurse reviews patients' charts several days in advance of appointments to identify well-care and preventive services (e.g., pap smear, colonoscopy, mammogram, immunizations) that are due.

A medical coder codes diagnoses and prepares invoices and audits some records after the patient visit.

Care Coordination and Referrals

THC has three care coordinators, called medical secretaries, who set up and manage all referrals. These staff coordinate multiple visits for patients needing more than one service to ensure they occur on the same day. They obtain missing discharge notes, track referrals, and perform other referral management tasks. In addition, providers deliver counseling at every encounter, and care coordination is a staff-wide priority.

Integrated Services

The co-location of many services at THC facilitates warm handoffs and identifies opportunities for prevention. For example, at the staff meeting during the site visit, the team discussed possible screening for human papillomavirus vaccine history as part of dental visits. They also discussed an example of a patient with severe shoulder pain who was seeing a PA. The PA called in a physical therapist for an "on-the-spot" assessment to determine an appropriate treatment plan for the patient.

The Blueprint provides THC with a full-time embedded staff person (see Vermont Blueprint for Health section) who is responsible for panel management. This person conducts outreach to patients who need preventive services or better management to improve clinical outcomes. Examples of situations that prompt outreach efforts include hemoglobin A1c (HbA1c) levels higher than 9, blood pressure higher than 140/90 mm Hg, and need for followup after hospital and emergency room visits.

Workflow

The typical workflow for a patient visit at THC is as follows: Before the visit, a nurse reviews the patient chart for needed well-care and preventive services. On the morning of the visit, each team of an MD or PA and a nurse reviews and discusses the patient to determine needs to be addressed in the visit and to resolve issues. After checking in, the patient reviews and completes a pre-visit form. This form is a printout excerpted from the patient's electronic record including family, social, and surgical history and problem and medication lists. See the section on "Health Information Technology and Electronic Health Record Use" for more information about THC's transition to an electronic version of the pre-visit form. The patient reviews the list and notes any additions or corrections. The nurse rooms the patient, takes vital signs, reviews the medication list with patient notes, conducts a risk factor questionnaire, sets up for procedures, and orders lab

tests or preventive services using standing orders. Often, nurses will ask lab personnel to conduct tests before the provider sees the patient. The nurse indicates in visit notes if a patient is due for a preventive service for the provider to order. The provider then sees the patient to address medical needs, manage ongoing chronic care, and provide well care or preventive services identified through chart review or by the provider directly. At the end of the visit, if referrals are needed, the patient is sent to the care coordinators (medical secretaries). If lab tests are needed and time permits, the provider walks the patient to the lab for a warm handoff. During each encounter, the provider explains the medications the patient is taking and why, and discusses the patient's use of their medications.

When possible, the patient sees the same provider-nurse pair for the duration of the visit. Pairs typically stay together for full half days. Nurses also deal with prescriptions and lab result calls, when appropriate.

In addition to ambulatory care, THC physicians conduct daily patient rounds at the hospital and report on THC's hospitalized or recently discharged patients at weekly medical meetings.

Exhibit 2. The Health Center Team Tasks and Roles

Tasks	Roles Included
Pre-visit planning, chart review (scrubbing)	A pre-visit planning nurse reviews patient charts to identify gaps in preventive care (e.g., immunization needs) for all THC patients systematically, not just as pre-visit chart review. THC also has a running record of preventive medicine alerts. Gaps in care are flagged in the EHR for the nurse before the patient's visit.
	Every morning, MD or PA and nurse pairs review the appointment list for needs to address. During this time, they may reassess the provider who will see the patient and make changes to the care plan. The nurse checks that the patient's file is ready, ensuring lab results and records from other care sites since the last visit (including electronic or paper hospital discharge summaries when appropriate) are entered by the medical secretaries, the medical records scanner, or other nurses so they are in the chart before the encounter. The nurse also reviews the medication list.
Checking patients in	The front desk/reception staff serve multiple roles from scheduling to receipt and accounting of co-pays. The five front desk staff answer 26 phone lines and process encounter forms that go to billing. The lead receptionists change and make appointments, which is managed through the EHR practice management module. THC hopes to move to an electronic patient check-in system using tablets for patients. Patients are encouraged to fill out a paper pre-visit form while waiting for the encounter.
Rooming the patient	The nurse rooms the patient by addressing the chief complaint and reviewing the patient's basic medical history using the EHR on a laptop. Nurses can use standing orders to order lab tests. Time-permitting, they review previous notes for issues pending from a previous visit. Nurses may review the medication list and mark that the list is updated in the EHR. The nurses prepare patients for preventive tests. THC aims to keep wait times under 20 minutes. Nurses offer coffee or tea while patients wait.

Tasks	Roles Included
Ordering lab tests and collecting vital signs	Nurses take vital signs either electronically or manually. Physicians or PAs enter orders for lab tests for which no standing orders exist. These are processed by either medical secretaries or the lab. After the encounter, patients are offered a warm handoff to the medical secretaries by either the nurse or the provider. Lab results are given to the provider who ordered them. Lab staff (supervisor, administrative supervisor, or lab technician) typically call the provider only for abnormal results. Either a provider or a nurse familiar with the patient calls to share abnormal results. Patients are encouraged to call THC if they do not hear about their results. They can also access a patient portal for lab results that have been reviewed and posted.
Delivery of routine preventive services	PAs or physicians conduct patient encounters. Patients may be assigned to providers based on provider skills and interests. MDs actively engage PAs in decisions regarding patient care. The encounter begins with the provider addressing the chief complaint and management of chronic conditions, then continues into preventive services. Patients are asked to verify information as the provider collects and documents data. THC hopes to shift more preventive tasks to RNs by developing additional EHR standing orders.
Medication reconciliation or management	*Medication Reconciliation:* Time-permitting, nurses review medications during rooming so the provider only reviews or adds new medications. Either the nurse who specializes in chart pre-visits or the certified pharmacy technician enters data into the EHR to changes the medication list after a hospital discharge. If new medications are needed from the ADU, an offsite pharmacist approves the release of medications from the ADU at THC. *Medication Management and Teaching:* During each encounter, providers explain the medications the patient is taking and why and discuss the patient's use.
Reviewing and reconciling problem list	Nurses review this list, which is part of the pre-visit form, during rooming. Often a PA or physician will clarify terminology or a detail of the problem list.
Patient navigation	Community resources staff (social workers, one of whom is master's level) funded by the Vermont Blueprint for Health provide most care coordination such as help with access to housing and food. The certified pharmacy technician supports access to the onsite ADU and mail-order medications. Medical secretaries are primarily responsible for coordinating and following up on referrals to specialists.
Self-management goal setting and action planning	During the patient encounter, providers perform motivational interviewing so patients understand target metrics and what to try to improve. Self-care is an inherent part of every patient encounter. The CDE runs support groups for patients with diabetes, patients who need dietary support, and insulin pump users. THC staff offer smoking cessation, a positive psychology class, and meditation and mindfulness classes, among others.
Patient telephone /email followup	Patient telephone and followup is mainly by community resources staff, nurses, and providers. Medical secretaries track patient referrals in a spreadsheet with some tracking in the EHR. Medical secretaries perform followup.
Injections and venipuncture	RNs and lab technicians perform venipuncture, usually in the exam room or lab suite. Lab technicians sometimes perform home visits for blood samples. Both RNs and MAs give injections.

Tasks	Roles Included
Triaging phone calls and patient portal messages.	Front desk receptionists triage phone calls and patient portal messages about appointments. Each day, an RN is charged with triaging phone calls and portal messages about medication refills and urgent appointments.
Care and transition management of high-risk patients	The Vermont Blueprint for Health-funded panel manager and a social worker track hospital discharges, ER visits, and express care visits, and schedule followup appointments at THC. Currently, the hospital alerts THC of discharges by phone or fax.
Referral management	Medical secretaries enter, coordinate, and track referrals for services not handled by THC. Providers provide counseling at each encounter.
Independent visits by nonproviders (RN, MA, health coach)	Nonproviders do conduct independent visits at THC. Visits with nurses are for instructions on, for example, insulin administration or testosterone self-injection.

THC=The Health Center; EHR=electronic health record; MD=medical doctor; PA=physician assistant; RN=registered nurse; ADU=automated dispensing unit; CDE=certified diabetes educator; MA=medical assistant; ER=emergency room

Team Building and Training

"Everyone who works here contributes something that [is important]…you're not just a cog—you are instrumental."
– Physician's assistant

Team-based care at THC begins with the hiring process. Dr. Matthew says he ensures the candidates understand the emphasis on team care because everyone needs to work together and delegate to other providers.

Regular staff meetings ensure protocols and shared goals are understood by the entire team. The full care team of more than 50 medical, behavioral health, and dental staff participates in monthly staff meetings. All attendees are expected to share either a status update, a question for discussion, or a request to their coworkers. THC leadership uses these meetings to discuss upcoming events, revisions to protocols, and recently published medical findings.

In weekly meetings, medical and behavioral health providers discuss the status of hospitalized patients with discussions led by the provider who most recently conducted hospital rounds, and cover specific medical issues in depth. This ensures adequate followup for THC patients who are hospitalized or recently discharged. Weekly health information technology (HIT) meetings allow the HIT workgroup to troubleshoot technical difficulties and revise protocols.

Crosstraining of staff and less-stringent Vermont State certification requirements for MAs allows for flexibility in staff roles. Ongoing onsite training and shadowing is used to crosstrain staff. Strict documentation and protocol handbooks help staff explain their roles and train others. Only one of the five nonlicensed positions that THC calls nurses is a certified MA.

To use staff most effectively, THC is open to finding new roles for staff members. For example, a former RN allowed her license to lapse and now works as a pre-visit chart-review specialist

contributing to QI efforts. When possible, medical residents and other students who have trained at THC are hired upon graduation. All new staff members complete a basic orientation program.

Access, Comprehensiveness, and Quality

THC prioritizes access and comprehensiveness for its patient population. QI has recently become a focus as the Blueprint and CHAC have produced reports on a variety of indicators.

Access

The staff tries to be diligent in continually assessing patient needs and responding by initiating services or programs. For example, THC has long recognized the relationship between physical and oral health, offering dental services since its inception. It owns and operates a mobile van that provides dental services to children in remote areas of northern Vermont, where access to dental care is limited.

THC offers extended hours to increase patient access. Since only 17 patients speak a first language other than English, permanent bilingual staff and translated forms have not been necessary. Sliding scale notices are posted in English, Spanish, and Tibetan to accommodate the patient demographics.

According to Dr. Matthew, 59 percent of patients receive their medications via the 340B mail-order pharmacy. This reduces the need for patients to drive to pick up medications, especially for multiple medications with different refill periods. It also helps ensure medications during the winter and for patients who live far from a pharmacy.

Comprehensiveness

The Health Center is dedicated to providing comprehensive services and has expanded its services over the years. The team said they believe that comprehensive primary care can reduce hospitalizations, limit emergency room visits, and improve health. THC offers classes in self-management. As an example of THC's open-minded approach, the team had discussed a paper that demonstrated the efficacy of didgeridoo playing on sleep apnea because it strengthens and opens the nasal passageway. A staff member knew of a local didgeridoo teacher, so THC offered classes to its patients. Information on medical treatments and results of new research are shared with all staff, not just the clinical staff, to ensure that all staff members are bought into care processes. This, as well as staff crosstraining, is viewed as contributing to overall QI.

THC offers as many services as possible onsite so patients receive services in a single location, reducing the need to travel. THC support groups are based on patient need and clinical evidence. Quality of life classes include meditation, tai chi, yoga, and positive psychology. Previous programs include Pilates and physical therapy for women experiencing incontinence. Dr. Matthew explained that, ideally, providers "sniff out" patients who benefit from a program and refer them appropriately.

Community Linkages

THC participates in and consults for the Blueprint (see Vermont Blueprint for Health section). The Blueprint funds a community-based staff member for every 20,000 residents to help primary care practices improve and better serve their communities. The THC staff member funded by the Blueprint serves as a panel manager and liaison to community services and resources.

THC works with other area organizations including home health, with quarterly meetings at THC to share information about common patients, and mental health services, with case managers who collaborate with THC providers. The Director of the Council on Aging is a THC board member. The school nurse of an area school is also a THC staff member.

Quality

Health Information Technology and Electronic Health Record Use

In 2012, THC purchased General Electric's Centricity EHR system after the team tried using eClinicalWorks. THC is still working on merging old and new data and systems. The use of HIT is a relatively recent endeavor at THC. Many HIT implementation components are "still evolving" and "can be very challenging," according to THC staff. A HIT workgroup of technical and clinical staff members meets weekly to work on data use and entry into the EHR. Purchasing the EHR system cost $700,000. Maintaining it costs $100,000–125,000 per year.

THC has undertaken a measured transition to using the EHR for all aspects of documentation and reporting. THC's EHR has limited interoperability with the EHRs of other providers, including specialist offices, hospitals, and post-acute care facilities. Data that cannot be sent electronically between EHRs is usually faxed to THC and scanned or attached to the electronic file by the records scanner.

Communication across sites of care is quite good, according to THC staff, who say this helps make up for the lack of HIT system connections. The hospital, including emergency room and urgent care staff, has systems to alert THC staff when their patients are seen. Given the small rural setting, most providers know each another, interviewees said, which increases coordination and followup. A medical secretary who is a care coordinator separately tracks referrals and follows up using a spreadsheet not integrated with the EHR to record where patients are sent, whether the patient was seen, and followup needed from THC. The Blueprint-funded panel manager separately tracks discharge of THC patients from the hospital and tertiary centers and schedules followup appointments.

THC uses a non-electronic pre-visit checklist that is reviewed and updated at every visit. The form is populated from data in the EHR and printed for patients to review and correct. Changes and new data added by patients are manually entered into the EHR by the pre-visit planning nurse or other staff. THC recently bought 37 electronic tablets that contain the pre-visit checklist and other forms; in the future, data will be electronically entered by patients for transmission into the EHR. An online patient portal has also been launched. THC staff hope that patients will use

the portal to enter personal data, including pre-visit checklist items, at their convenience. For example, family medical history may be best recorded at home, interviewees said, when a patient can consult with family members.

Currently, the pre-visit planning nurse completes all electronic and manual data entry for the pre-visit form, as well as other miscellaneous data entry. The nurse is supported by other staff, some part-time, who also scan items from past records and incoming medical reports from specialists or prior providers. One part-time staff member updates registrations, and another updates problem lists. The pre-visit nurse or other staff input medicine lists and family and surgical histories.

The medication list from the pre-visit form is confirmed by nurses during rooming. Patients are encouraged to bring their medications to appointments and review them with their medical team. According to Dr. Matthew, conducting medication reconciliation in-person emphasizes the importance of medication management and increases adherence to medication regimens. Dr. Matthew believes data tracking and entry are important but not at the cost of minimizing clinician-patient interaction. He is skeptical of the ability of an EHR to support a meaningful visit.

> "The [EHR] 'industry' has expectations of how one uses a record, and a visit is seen as an occasion to get through a checklist, putting us at risk of providing a record rather than providing quality care."
> –Dr. Matthew

Another element of HIT at THC is extensive use of telehealth. With no pharmacist onsite at THC, pharmacist videoconferences are used to approve and consult with patients on medications released from the ADU. THC's dietician works with other health centers remotely, offering telephone consultations. THC providers have access to a series of broadcasts in Vermont and New Hampshire on mental health and other medical topics through statewide educational television. However, THC replaced a child-and-adolescent psychologist available virtually with an onsite staff psychiatrist.

THC increasingly uses HIT for quality measurement reporting. Ongoing work to expand HIT use at THC includes building better HIT systems and data templates that map to reporting requirements for public funders, such as the State of Vermont and the Health Resources and Services Administration (HRSA), and for value-based reimbursement and quality programs, such as Meaningful Use and PCMH. Dr. Matthew mentioned potentially contracting with a former or new staff member with a clinical and IT background, to be shared with other health centers to help with EHR design and quality-measure reporting.

Quality Improvement

THC has had access to data for comparison with other FQHCs through Uniform Data Set reports from HRSA for many years, although the initial intent was not QI per se. With the advent of the Blueprint, THC now receives reports comparing its performance with other primary care

practices in the region and State; Dr. Matthew said THC performs very well compared to the average. The reports compare metrics for blood pressure control, HbA1c, hospitalizations, and emergency room visits. In addition to reports, the Blueprint facilitates exchange among providers through in-person meetings and regional leadership boards. Recently, the CHAC ACO began offering comparative reports that help primary care practices focus on specific clinical processes and outcomes.

The THC PCPs discussed and arrived at a consensus on clinical preventive services; specifically, standards they will follow so different teams do not work differently. This resolution aimed to promote quality and interchangeability among team members. THC has historically supported QI efforts to improve patient outcomes, support staff development, and meet quality measure reporting standards for State and Federal funders.

THC providers are encouraged to use motivational interviewing with patients to promote self-care. As Dr. Matthew explained, patients "should understand target metrics [to achieve] and what to do to better themselves." The medical staff encourages frequent followup visits for complex patients, such as people with high-risk diabetics. Nursing staff, the licensed clinical social worker, and others help patients determine barriers to better management and solutions such as medical or pharmacological help, or patient education. THC staff have a multidisciplinary committee that includes nurses, dieticians, social workers, and a State-level HIT staff person to monitor quality metric panels for patients with particular chronic conditions, for example patients with diabetes who have HbA1c levels over nine.

Additional resources from the Blueprint and other State programs have bolstered QI programs. The panel manager funded by the Blueprint works in-house to follow complex patients and ensure care coordination across settings, including tracking hospital discharges. A nurse from the Medicaid-funded Chronic Care Initiative is at THC 2 days per week to focus on the highest cost Medicaid users. This nurse sets up appointments and helps navigate extra followup needed by these patients. THC hopes this staff member will work on dual-eligible patients in the future.

Finally, a growing pillar of quality management at THC is measurement and reporting, which is increasingly based on EHR data.

The Blueprint has been an important source of assistance for reporting requirements and implementing data infrastructure improvements. As a Blueprint pilot site, THC exceeded initial quality targets for diabetes and chronic disease management. Some THC programs have been replicated across the State as part of the Blueprint. Dr. Matthew emphasized that an ongoing challenge has been balancing providing good care with good documentation to meet reporting requirements. Despite providing the quality of care needed to meet measure requirements, not all data are sufficiently documented in the EHR; some THC data is hand collected.

THC is working on improving data collection and mapping. The clinical team is working on a master list of reporting requirements for each payer or program to clarify what data are entered into the EHR and how. The goal is improving compliance with data entry and streamlining

reporting. A Blueprint-funded HIT staff person operating across the State has been a resource for improving quality measurement, helping THC's HIT workgroup measure crossmapping activity. Comparing quality measures across payers will allow THC to ensure all data is recorded and data entry is not duplicated. The THC HIT workgroup meeting during the site visit included a demonstration from a clinical staff member on correctly entering data in response to a query from a staff member having difficulty reporting quality data. The team is working on updating standing orders to allow nonphysician providers to provide evidence-based care to meet quality standards. The team is also working on increasing care coordination across settings and collecting data from outside THC. For example, THC wants to streamline the process for obtaining data from State registries, such as advance directives and records from other institutions.

Implications for Primary Care Staffing Models

THC's model is a comprehensive response to the needs of its rural community. THC provides care for patients with diagnoses that would typically be referred. Furthermore, THC has found a way to provide pharmacy services onsite. Patients receiving medications from an onsite Automated Dispensing Unit receive live education from a pharmacist via Webcam.

THC promotes staff crosstraining and flexibility; many staff members perform multiple, sometimes unrelated tasks. For example, the staff member who assists with data entry also drives the dental van and operates lab equipment when needed to support multiple areas of operations. Team members' ability to perform multiple roles to support colleagues reduces bottlenecks and increases the time providers are able to spend with THC patients.

THC is currently at maximum capacity for both physical space and workforce configuration. The current panel size serves the 4,000+ medical patient population well.

> "If it were configured any other way, we wouldn't be able to do what we do."
> – Dr. Matthew

Services such as telehealth, the dental van, and onsite self-management support classes contribute to THC's accessibility and comprehensive care.

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