One of the aspirational goals for the PCMH “movement” has been a desire to provide “whole-person care.” This requires integrated care delivery systems that can seamlessly connect patients with a broad range of providers and services to fully address their healthcare needs.

This issue of Medical Home Digest presents effective ways in which safety net practices have worked to integrate previously separate or sequestered services into care delivery. It also describes strategies and tactics practices can use to assure that patient preferences and priorities are integrated into individual care plans and PCMH transformation efforts.

We begin by summarizing several models for integrating behavioral health into primary care, and describing how two different systems have sought to address the total healthcare needs of patients with behavioral health problems.

continued
While the importance of behavioral health integration is widely recognized among primary care providers, integration of oral health has generally received far less attention. However, the lack of access to dental services among safety net populations creates a strong argument for the integration and co-location of dental services with general primary care. In this issue we describe how several community health centers have gone well beyond the co-location of dental services to create strong partnerships between primary medical and dental care providers in order to reduce morbidity associated with poor oral health. The article summarizes a recently published white paper, commissioned by the Funders Oral Health Policy Group, that provides a comprehensive overview of effective integration of oral health into safety net patient-centered medical homes. I encourage readers to follow the links to the white paper for additional information and resources.

This issue also describes some techniques that have been successful in assuring that individual care plans address the needs of patients and families and that patient experience is incorporated into quality improvement activities. These include use of the Patient Activation Measure, which provides insights into patients' activation, knowledge, and confidence about healthcare management, and peer-lead chronic disease self-management programs.

We end with a reminder on the capacity of health information technology to support integration of the various components of a medical home and to allow practices to more easily provide, track, and evaluate patient-centered care.

We hope that the ideas in this edition of Medical Home Digest stimulate readers to identify opportunities for integration of not-yet-fully-integrated services into their own PCMH transformation activities.
Behavioral Health Integration in the Patient-centered Medical Home (PCMH): Case Examples from Cherokee Health Systems and Community Health Centers of Lane County

Introduction

Concerns are growing about deficiencies of the U.S. mental health system. An estimated 26% of Americans aged eighteen and older—about one in four adults—suffer from a diagnosable mental disorder in a given year.\(^1\) About half of all lifetime cases of mental illness begin by age 14 and three-quarters by age 24, making mental disorders the chronic diseases of the young.\(^2\)

Unfortunately, both the mental health and substance abuse systems fail to reach a significant number of people with behavioral health issues, which include both mental health and substance abuse issues. The Surgeon General estimates that fewer than one-third of adults with a diagnosable mental disorder receive treatment in a given year.\(^3\) When treatment is received, patients often get insufficient and uncoordinated care resulting in high treatment dropout rates.\(^4\) This inability to meet patient need leads to higher mortality rates with individuals with the most serious mental illnesses dying approximately 25 years earlier than the average American.\(^5\)

Higher mortality among people with serious and persistent mental health issues is due to lack of access and poor quality medical care.\(^6\) The National Association of State Mental Health Program Directors found that three out of every five individuals with serious mental illness die as a result of lack of treatment for preventable health conditions including: diabetes, metabolic syndrome, lung and liver disease, hypertension, cardiovascular disease, infectious diseases, or dental disorders.\(^1\) In addition, individuals with serious physical health problems often have co-morbid mental health issues, which can complicate their medical illness or compromise their ability to engage with care or follow treatment protocols.\(^6\)

The Role of Primary Care

Most people with mental health issues access the healthcare system through primary care and present with physical complaints.\(^7\) In 2010 the Center for American Progress concurred, issuing a report stating that treatment of mental health problems by primary care doctors was on the rise.\(^1\) Over 50% of patients treated for a mental disorder received care from a primary care provider and over one-third of patients with a diagnosed mental disorder relied solely on primary care for treatment.\(^1\) While this may represent patient preference, there is evidence that the quality of treatment provided in primary care settings is uneven, with many conditions going unrecognized and untreated. An estimated one-third of cases seen by primary care doctors receive only minimally adequate care.\(^8\)

Research has demonstrated that frontline mental health services within primary care can result in positive outcomes for most patients when appropriate and optimal. However, primary care-based behavioral health services will not meet many of the needs of persons with serious and persistent mental illness (e.g., individuals with psychoses, including schizophrenia). These
patients often present with complex mental health problems and require specialized treatment. Many receive care from community mental health centers. They are much less likely to seek care from primary care settings: the pace of care may be too fast and the setting is not geared for the longer visits required to address the complex, multiple co-morbidities often found in this population. Efforts have been underway for some time to meet the needs of these patients by creating health homes within community mental health centers that integrate primary care into behavioral health settings to address care holistically in a manner that parallels the PCMH Model of Care.

The Case for Integration

Integrating behavioral health services into primary care settings offers a viable and efficient means of ensuring that people have access to needed mental health and substance abuse services. Additionally, delivering mental healthcare in an integrated setting can help to minimize stigma and/or discrimination, while increasing opportunities to improve overall health outcomes.

Integration Models

A number of models exist representing vastly different methods of integrating behavioral health into primary care – from minimal collaboration, partial integration, to full integration – based on stakeholder needs, available resources, and practice patterns. With the increasing transformation to patient–centered medical homes, which foster team-based, coordinated, and “whole-person care,” abundant possibilities exist to improve care outcomes, increase patient and provider satisfaction, and decrease overall cost of care through collaboration and integration.

Integration in Action: Case Examples

Two safety net providers, Cherokee Health Systems in Tennessee and Community Health Centers of Lane County in Oregon, have effectively integrated physical and mental healthcare. Below are their stories of integration.

Cherokee Health Systems

Dennis Freeman, CEO of Cherokee Health Systems, describes Cherokee’s experience and outcomes:

**Effective integration of behavioral health as a means for delivering quality, effective physical and mental healthcare has been demonstrated by Cherokee Health Systems in Tennessee. Cherokee Health Systems began in 1960 as the Mental Health Center of Morristown, TN.**

We started offering primary care in 1984 and became an FQHC in 2002. Currently, Cherokee operates 45 sites, including school-based clinics, and served 63,800 people in 2012. Our model blends behavioral health consultants into the patient-centered medical home. This care model increases the efficiency of primary care providers, expands access to behavioral health interventions, improves clinical outcomes, enhances patient and provider satisfaction, and reduces overall healthcare costs. The basic healthcare needs of our patients with serious mental illness are accommodated by this enhanced primary care model and a continuum of specialty mental health services are available within the organization when needed.

Referrals to our specialty mental health clinic are facilitated through close working relationships between the primary care behavioral health team and specialty mental health staff. However, our PCMH-based team manages more than 80% of patient mental health problems without referring to specialty mental health services. When an acutely ill or destabilized patient is referred to the psychiatrist or behavioral health consultant, our primary care providers are more comfortable accepting these patients back knowing that psychiatric consultation is readily available. Finally, Blue Cross Blue Shield compared service utilization of our patients with other primary care systems in the same region and found that our patients’ utilization of emergency departments (ED), medical specialists, and hospital care was significantly below the rate of use of other Blue Cross Blue Shield enrollees. Overall, healthcare costs of our patients were only 78% of the average cost of a Blue Cross Blue Shield enrollee. The fundamental difference in care was the presence of a behavioral health consultant on our PCMH team. Our conclusion from this study is that including behavioral health providers on the team makes a significant difference in utilization and the overall cost of healthcare services.
Community Health Centers of Lane County (CHCLC)

Community Health Centers of Lane County (CHCLC) is a Safety Net Medical Home Initiative site. CHCLC has been working to better integrate physical and mental health services for the past five years.

Eric Van Houten, Director of CHCLC, shares CHCLC’s integration journey and achievements:

CHCLC had three main motivators for behavioral health integration:

- Our primary care providers identified that the processes and staff we had in place were not adequately meeting the mental health needs of many of our primary care patients.

- Research showed that patients with severe and persistent mental illness (SPMI) die 25 years sooner than the general population.

- Our center served a large number of patients with significant mental health needs, however, our separate primary care and mental health systems traditionally worked in silos; communication about shared patients was virtually non-existent.

It was our experience that many patients with mental health challenges required a disproportionate amount of time and could be very disruptive to the practice. Our providers expressed a desire for greater accessibility to counseling staff and psychiatric consults. We strongly believed that these services should be available on-site, and in 2005, we brought a mental health specialist into primary care to provide services. The therapist had an easily accessible office and provided brief behavioral interventions, consultation regarding resources, and supportive counseling to clients struggling to adjust to changes in their lives. In 2008, we decided to embed primary care into a community mental health setting, bringing in a team that included a primary care provider, a medical assistant, and an office assistant. We co-located a satellite primary care office within our county’s community mental health program. Co-location has resulted in immediate benefits in the number of shared patients with chronic health issues, as well as our improved ability to address acute care needs.

We have continued integration along two fronts:

1. Reverse integration with primary care embedded in the behavioral health clinic. In this model, our shared patients receive coordinated care between a family nurse practitioner, a master’s prepared mental health specialist, and a psychiatrist or psychiatric nurse practitioner; and

2. Integration of behavioral health providers in the primary care clinics. In 2011 CHCLC hired four mental health staff to work alongside primary care providers to improve patient outcomes, staff experience of their working with patients with mental health disorders, and to help with reducing costs. These staff worked with over 700 patients across three visit types – 1) warm hand-offs where the PCP introduced the patient to the mental health specialist; 2) co-visits where the PCP and the mental health specialist scheduled a joint visit to review the care plan with the patient; and 3) scheduled therapy sessions with the mental health specialists. While we are unable to pull clinical data, we have seen a slight reduction in PHQ-9 scores from an average of 15 to 13 when reviewed on three and six month intervals. As of 2012, we have 539 shared severe and persistently mentally ill patients jointly served.

We recently reviewed claims data for the 539 shared patients to determine the impact of our behavioral health integration and other PCMH transformation work on overall healthcare costs.

We reviewed claims data for patients treated in 2006-2007, before we launched the clinic in 2008, and then into 2012 to determine the impact of our behavioral health integration and other PCMH transformation efforts on overall healthcare costs. Claims data showed a decrease in total costs (behavioral and physical health claims) of almost 23% in the period from 2006-2007 to 2009-2010 with the most sizable savings coming from decreased hospitalizations.
Between 2006 and 2010, Emergency Department (ED) claims for behavioral health services declined by 10% and total behavioral the service claims (ED, inpatient, and outpatient combined) declined by 6%. As might be expected with greater access to primary care, some costs increased for physical health services: primary care costs increased by 31%, specialty care costs increased by 29%, and ED utilization costs increased by 39%.

We reviewed data for 2011 through the first half of 2012 for an update, and it appears that savings on behavioral health expenditures have continued, with overall behavioral health expenditures down 25% since 2008. Cost increases for physical health services have begun to slow, and overall ED utilization has leveled with no change between 2010 and 2012.


Oral Health Integration: Highlights from “Oral Health Integration in the Patient-Centered Medical Home (PCMH) Environment”

Oral Health’s Impact on Physical Health

There is growing recognition that poor oral health has significant negative impacts on overall health, especially for children, patients with diabetes, and pregnant women. Gum disease has been linked to negative health outcomes including cardiovascular disease, diabetes,¹ and stroke,² and poor birth outcomes.³

Barriers to Oral Healthcare

Despite the critical importance of oral health, accessing dental care is difficult for many Americans, especially those receiving medical care through the safety net. Approximately 30 million Americans lack access to a dentist,⁴ and the American Dental Association estimates that 30% of Americans have difficulty accessing dental services.⁵ Access is a particular challenge for Medicaid enrollees. A 2008 national analysis estimated that one third of children on Medicaid had never seen a dentist.⁶ The historical separation of oral health and physical health, and separate payment structures for dental and medical services, are primary drivers of the problem. Integrating dental care into primary care is one solution for addressing oral health access barriers.

Oral Health Integration as a Solution

Community health centers are well positioned to integrate oral health and physical health by providing dental services in the primary care setting. Many community health centers already provide extended care services, such as behavioral healthcare or on-site pharmacy, and enabling services, such as transportation or nutrition services. Community health centers also serve populations with high rates of oral disease. Moreover, many community health centers are in the midst of redesigning their practices in line with the Patient-Centered Medical Home (PCMH) Model of Care, which requires primary care practices to take on accountability for patient health outcomes. The PCMH Model of Care emphasizes population health and “whole-person” care. Providing dental services directly, or expanding access via established referral protocols, will allow community health centers to address a pressing access challenge and better address the total health needs of their patient population.

Examples of Oral Health Integration in the Safety Net

There are several levels of dental and medical care integration in a primary care setting. Levels of integration include:

- **Minimal:** Separate clinics with no referral.
- **Basic:** Co-located services. While co-location in the same building improves access, it does not necessarily ensure integrated care.
- **Close:** Integrated space. Using a collaborative care model (providing dental services at the primary care site) and having a bi-directional referral process (establishing relationships between medical and dental providers to improve rapid access to dental services and oral health consults for primary care providers) are indicative of fully-integrated care.

This article provides highlights from a recently published white paper, “Oral Health Integration in the Patient-Centered Medical Home (PCMH) Environment: Case Studies from Community Health Centers,” which illustrates how four community health centers around the country have integrated oral health care into primary care settings to increase access to dental services for their vulnerable patients. The full white paper is available here.
The four programs described below use these models to address the significant oral health needs of vulnerable patients. Open communication, facilitated by an integrated EHR, has proven pivotal in the success of these four programs.

Neighborcare Health, Seattle, Washington

Neighborcare Health, a leading safety net provider in the Puget Sound area, operates three sites that provide integrated dental and medical care. Before integrating oral and medical care within these three sites, Neighborcare struggled to meet its community’s high need for dental services. Neighborcare implemented a number of strategies to expand access for existing patients, which improved access for established patients, and later allowed Neighborcare to open its panel to new patients and even expand to schools serving children who receive Medicaid. Neighborcare’s innovative strategies include:

- Implementation of a bi-directional referral process supporting referrals to dental from primary care and referrals from dental to primary care.
- A dental in-reach program (proactive, intra-site referral) targeting established pediatric patients, prenatal patients, and adults with chronic disease.
- Training for primary care clinicians on oral health.
- Partnership with Public Health Department to address the special needs of HIV-subpopulation.
- School-based screenings as outreach strategy with positive impact on revenue.
- Identification of quality improvement initiatives and metrics.
## Dorchester House Multi Service Center, Boston, Massachusetts

The Dorchester House has been offering medical services for almost 40 years and dental services for 33 years. Limited pediatric dental availability spurred a partnership between the leaders of the two clinical disciplines, a grant application, and the development of a five-year strategic plan to ensure that children aged 0-5 receive an oral health screening, anticipatory guidance for the parent or caregiver, and priority treatment based on an oral health risk assessment documented in the primary care setting. Dorchester House's leadership anticipated mixed acceptance of the integrated model of care. Cross-training clinical teams on issues relating to oral health, and providing special training for dentists in managing pediatric patients, led to higher levels of acceptance. Dorchester House also identified and supported clinical champions to lead the change. Innovative solutions include:

- Education and motivation for medical and dental providers.
- A revised dental reimbursement system in Massachusetts to support fluoride varnish applied by non-dental professionals.
- Creation of simple Caries Risk Assessment template in the EHR.
- Effective case management and referral process.
- Multi-language anticipatory guidance with low literacy messaging and tools.
- Placement of a dental suite in the pediatric clinic.

## Marshfield Clinic, Marshfield, Wisconsin

The Marshfield Clinic is one of the largest private multispecialty group practices in the United States and operates eight dental clinics. Recognition of the need for skilled dental professionals in underserved areas led the clinic to design a dental school embedded within the community health center, with the goal of training students to practice in rural health centers. At the clinic level, EHRs assist bi-directional communication between dental and medical staff. This functionality allows dental staff to review a patient’s immunization history and encourage clinical preventive services. In addition, medical clinicians review dental records and encourage dental services at appropriate intervals. Marshfield Clinic’s innovative solutions include:

- Design of a dental professional training curriculum with a community service base.
- Population health planning for equal geographic distribution of infrastructure to meet target population need and reduce disparities in access to care.
- Custom-designed integrated electronic record system to support medical and oral health disciplines simultaneously.

---

I see a day where the primary care provider has a team that looks at the risks, scores, and targets, and applies interventions including oral healthcare to reduce the rate of heart disease, improve blood glucose control, and achieve other improvements for specific subpopulations.

—Dan Watt, DDS
Terry Reilly Health Services, Nampa, Idaho

Terry Reilly Health Services was founded to serve the area’s large migrant and seasonal farm worker population. It currently operates five dental clinics. Terry Reilly initially focused dental services on diabetic and prenatal patients including an assessment of oral bacteria to initiate self-care of oral disease. Referrals from medical to dental clinics are facilitated through a prompt within EHR templates. Terry Reilly’s innovations include:

- Medical staff designed a prompt in the EHR to make a referral to the dental clinic.
- Microscopy review of oral pathogens as a patient motivator towards improved self-care.
- Dental professionals assist in cross-training medical staff to emphasize that oral health is an integral part of medical care.
- Reports to assist in quality improvement.

Spreading these innovative solutions across the safety net is paramount to increasing access to oral healthcare for vulnerable populations. Fully integrating dental and medical care in the primary care setting will require a culture shift as well as operational changes. Read the paper, “Oral Health Integration in the Patient-Centered Medical Home (PCMH) Environment: Case Studies from Community Health Centers” for more information on oral health integration.

2 Albert D, Sadowsky D, Papapanou P, Conicella M, Ward A. An Examination of Periodontal Treatment and Per Member Per Month (PMPM) Costs in an Uninsured Population. BMC Health Services Research. 2006; 103(6).
**Integrating Patient Experience into Primary Care**

**Introduction**

One of the more radical descriptions of patient-centered care is the phrase used in some quality improvement initiatives, "nothing about me without me." Is it possible for a practice to be a patient-centered medical home (PCMH) without asking patients for input on care delivery?

PCMH transformation will miss the mark unless the practice incorporates both patient and family needs and wants in its transformation goals and quality improvement activities. In addition to survey information about patients' satisfaction with their healthcare, practices benefit from information about patients' actual experience of health care. This article describes a third kind of information, the degree to which patients feel knowledgeable and confident about their ability to manage their health and healthcare, sometimes called patient activation.

Enhanced access to medical information and a growing recognition of the role of healthy behaviors in improving health outcomes has made it possible for patients to become more actively engaged in improving the quality of healthcare delivery. However, discovering what patients want and need can be challenging.

Practices often use techniques such as surveys or focus groups to gather input from patients and families. Federally Qualified Health Centers (FQHCs) regularly involve consumer board representatives in quality efforts. However, because of delays in data collection and other limitations, these techniques are unlikely to yield the real-time, actionable information that practice teams need to make meaningful changes that will allow their practices to deliver more patient- and family-centered care.

This article provides information on ways exemplar practices are engaging patients in quality improvement and practice redesign.

**Engaging Patients in Quality Improvement and Practice Redesign**

A few exemplar practices are finding new ways to integrate patient experience in practice redesign and ongoing quality improvement efforts.

**Step 1: Assess a patients' readiness to engage in their own care.**

Supporting patients in taking an active role in managing their own care is a first step toward engaging patients in overall quality improvement efforts.

The Patient Activation Measure (PAM) was developed by Dr. Judith Hibbard at the University of Oregon Medical Center, to gather information from patients about their level of activation, knowledge, and confidence in managing their own health and healthcare. Patients are asked a series of questions about a range of self-care behaviors. The combined score segments patients into one of four activation levels:

1. Starting to take a role
2. Building knowledge and confidence
3. Taking action
4. Maintaining behaviors

Practices can use PAM data to develop cost-effective strategies and tailored interventions that address patients' medical needs while taking into account their social, behavioral, and educational needs, such as limited literacy.

PeaceHealth in Eugene, OR and Multicare in Tacoma, WA, both use the Patient Activation Measure (PAM) to measure patient activation.
Tips for Using the PAM:

- Make the survey tool available in the waiting room.
- Introduce the concept while rooming so that patients are assured there are no wrong answers.
- Do not make assumptions. Patients who seem knowledgeable may score at level one on activation.
- Educate staff on why you use the tool, specifically benefits to the patient that result in better outcomes and higher patient satisfaction.
- Some staff may be uncomfortable using the tool. Train on the basics, have an identified expert lead on the tool to do coaching, and repeat refresher trainings at intervals as needed.

Step 2: Engage activated patients as practice advisors and make them part of the healthcare team.

When Humboldt Del Norte IPA began a PCMH initiative, called Primary Care Renewal (PCR), the organization wanted to include patient and family perspectives in all of the delivery system changes they were designing. To do so, they looked to Pathways Program peer leaders. “The Pathways leaders were wonderful sources of guidance for the project,” said Betsy Stapleton, FNP, and founding member of the Pathways Program, “They have had lots of interaction with the healthcare system and years of experience managing their own chronic conditions. They also are able to reflect on the experience of others in the workshops, so they can understand issues of broad relevance. We call them Patient Partners to reflect the central role they have played.”

At Humboldt Del Norte IPA, patients and family members were engaged in two roles: each clinical practice was asked to identify a patient or family member as an advisor to the practice, and the group of advisors from all participating practices met and provided guidance to the PCR leadership and project team. Stapleton and Jessica Osborne-Stafsnes, project coordinator, served as guides and liaisons for the Patient Partners, briefing them on issues to discuss at PCR learning sessions. They compiled the responses of Patient Partner group discussions into a cohesive report and this information informed Humboldt Del Norte IPA’s delivery system changes.

At PeaceHealth, medical assistants follow-up with patients scoring at lower levels of activation. Medical assistants use a coaching tool for activation to help patients do action planning. They also conduct outreach and problem solving. Cathy Davenport, an RN at PeaceHealth, explains that the instrument has created a paradigm shift for her as a nurse. She now focuses first on patient goals and barriers as a pathway to healthier living, rather than looking for quick fixes to meet medical goals. Dr. Fillingame, the practice’s physician, has learned that if he knows the patient’s specific activation level at the beginning of the visit, he can adapt his communication messages to be more appropriate. Another PeaceHealth medical assistant has found that PAM questions can provide a starting point for building rapport with patients. Low scores on individual questions can point to conversation topics around problem issues. At Multicare, a trained health coach follows-up with patients with lower activation scores and encourages them to enroll in “Living Well” workshops, a six-week Chronic Disease Self-Management Program created by Kate Lorig from Stanford University.

Look for other examples and tools to help teams engage patient partners in the updated Patient-Centered Interactions Implementation Guide available on the SNMHI website in May 2013.
Bringing IT All Back Home: Health Information Technology and the PCMH

Integrating health information technology (HIT) into patient care and practice operations are important goals of patient-centered medical home (PCMH) transformation. This article describes how HIT supports the implementation and sustainability of the first four Change Concepts for Practice Transformation.

- Laying the Foundation: Engaged Leadership and Quality Improvement Strategies
- Building Relationships: Empanelment and Continuous & Team-based Healing Relationships

Introduction

The PCMH Model of Care is a vision for re-organizing primary care to achieve the triple aim:

1) Providing high quality care experience to individual patients;
2) Improving outcomes for populations using evidence-based guidelines and managing chronic conditions; while
3) Lowering overall costs by engaging patients in healthy behaviors and preventing avoidable complications through preventive care, disease management, and care coordination.

For most practices, PCMH requires transformation—a paradigm shift in the way the practice relates to its patients, staff, other clinicians and facilities, and even its community. What is the role of HIT in PCMH transformation? HIT is the information infrastructure that powers the PCMH. HIT makes the implementation and sustainability of all aspects of the PCMH Model of Care easier by improving the efficiency of key processes through the timely availability of properly organized information. Without the vision of the PCMH, Health IT risks being little more than a set of expensive and complicated tools requiring replacement every three years. Without Health IT, the vision of the PCMH can easily remain a receding unattainable mirage.

Laying the Foundation for PCMH Transformation: How HIT Can Support Engaged Leadership and Build a Culture of Quality Improvement

Engaged Leadership

Top leadership must develop and oversee a strategy to integrate technology use into practice operations, and then work closely with all types of leaders throughout the enterprise, including informal opinion leaders, to implement that strategy. This requires using whatever data are available to tell a story explaining why the current state is unsustainable, what a preferable future looks like, and how the organization will make the transition. Leadership must not only devote sufficient resources to purchasing, installing, and maintaining HIT; they must also stay engaged in the entire process of EHR implementation from start to finish. Leadership must work with the Chief Financial Officer to assure HIT is leveraged to maximize return on investment through lowering costs and increasing revenue. They must also work with their quality improvement people to leverage HIT as quickly as possible to improve quality, efficiency, and patient safety in ways that are visible throughout the organization. Lastly, leadership must assure patient input into how HIT is used, e.g., formatting screen views to make it easy for patients to identify problem list or medication errors, or how request-for-advice calls are routed to someone who can answer a clinical question the first time a patient calls.
Quality Improvement Strategy

HIT plays two roles in quality improvement: first, to measure outcomes, quantify gaps, and help suggest changes designed to close gaps; and second, to supply reliable information to the workflows where care is delivered to improve care quality. HIT can function in both roles at different levels of sophistication. If a clinic chooses hypertension (HTN) as an organizational priority and HIT is limited to a practice management system (PMS), a clinic can set a goal of having 90% of HTN patients seen every 6 months, and build reports using diagnostic codes showing the percent of patients with an encounter diagnosis of HTN who have been seen within 6 months. If a gap is identified, staff can design and implement a workflow intervention to close the gap. Once the EHR is installed the goal may change to having 100% of patients with a BP > 140/90 have HTN on the problem list, or 90% of patients with HTN on the problem list have a most recent BP < 140/90. The improvement methodology doesn’t change, but the power of the intervention increases with HIT sophistication. The sooner this approach becomes part of an organization’s culture, the more effectively HIT can be leveraged to benefit patients.

For HIT to be sustainable within a practice, clinicians and staff must understand the relevance and value of HIT. Leaders should demonstrate the benefits of HIT to clinicians and staff and stress how HIT allows the practice to more easily provide, track, and evaluate patient-centered care.

HIT: Helping Practices Build Healthy Relationships

Empanelment

By assuring that every patient knows his or her care team and every care team knows the population for which it is responsible, an organization creates an environment where transparency fosters accountability. Empanelment does not require an EHR. Reports to support the attribution of patients to clinicians based on visit history can be run from PMS data. Changes to initial assignment based on clinician or patient input, and panel size adjustment using age/sex adjusted expected visit rates, can also be done using data from a PMS.

Once a practice has implemented an EHR, the potential for panel management increases dramatically. Problem list entries can be used to identify special populations based on chronic disease and/or disease combinations. This in turn allows practices to identify needs and allocate resources based on panel composition beyond simple age/sex adjusted panel size. A care team panel with a high concentration of frail elderly may be inferred from Age/Sex adjusted data, but two practices with the same number of patients over age 75 may have very different levels of cognitive impairment. EHR data can guide placement of a geriatric social worker or psychologist to assist in care.

Empanelment information in an EHR increases reporting accuracy. With custom report writing capability, the presence of an EHR in an empanelled PCMH setting allows an organization to identify gaps in clinical quality goals at a practice level and focus resources, including workflow redesign efforts, on care teams where the gap is greatest. A clinic using a spreadsheet-type registry to support a diabetes project may meet the quality goal of having 80% of patients with diabetes receive HbA1c testing every six months and reduce the percent of patients with a value over 9 to < 10%. After installing an EHR and using it to support the diabetes project, staff may discover that a significant number of patients with diabetes in their clinic were never entered into the registry and that many of those patients have not been recently tested and had poor glycemic control when last tested. This problem may be distributed unevenly across panels and their care teams. Empanelment with the EHR allows organizations to develop more refined quality interventions that focus on the source of a quality gap.
**Team-based Care**

In a single-clinician traditional practice with paper charts it was possible for all information to go to the clinician, who would then make all decisions and delegate work to support staff. In a PCMH, the work required to manage every patient’s preventive, chronic illness, and acute care needs easily overwhelms a single clinician. An EHR increases the amount of information available on each patient, further increasing the amount of work required. Therefore, to be successful, clinicians must share with their care team both the information management for their panel and the clinical work it supports. Examples of how information management tasks previously performed by clinicians can be shared with other care team members using an EHR include:

- Whenever possible information gathering and data entry should be done either by non-clinician care team members, or even by patients themselves.
- Non-clinician care team members can respond to decision support for evidence-based interventions like immunizations, cancer screening, and monitoring of known chronic conditions. Although clinicians may need to sign the order, other care team members can set up the orders so that the clinician’s only job is to review and sign them.
- Care team members can give information to patients, including normal lab results, information about specific conditions, self-management skills, and lifestyle change counseling.

To accomplish the above tasks, care teams must have the appropriate skills, and team members must work to the top of their license. The EHR should be configured to support workflows in which the information management tasks are shared. For example, decision support alerts prompting the care team to order a cancer-screening test should be delivered to the person who will set up the order, which may not be the clinician. HIT should support communication within the team, for example with a dashboard view of each patient’s chart displaying information that will help the care team prepare for the day during its morning huddle. Every effort should be made to configure the EHR to make the job of the care team easier. HIT is a tool to support workflows such as rooming patients or renewing prescriptions.

Integrating HIT into care workflows also supports improvement methodology. Steps include:

1. Define the purpose and goal of the workflow.
2. Measure how well the workflow is meeting the goal and measure any gaps that exist.
3. Change the workflow, and determine if that change helps to close the gap.

Successful innovations can be spread to other care teams. The process should be repeated as long as care team members come up with new ideas for how to improve the workflow.

**Sequencing Implementation of HIT to Ensure Sustainability**

Engaged leadership and a quality improvement culture are foundational for a PCMH. By ensuring these change concepts are in place before restructuring organizational relationships through empanelment and team-based care, leadership can leverage HIT to:

- Improve clinical quality for patients; and,
- Help care teams get through their day more easily.

These are both strong motivators for clinicians and staff, and successes in both should be publicized and celebrated to help keep HIT adoption and PCMH transformation on track. Once care delivery relationships have been transformed and consolidated through empanelment and team-based care, clinics are prepared to use their HIT to support patient-centered care, enhanced access, evidence-based population management, and care coordination.