MEDICAL HOME DIGEST

NEWS FROM THE SAFETY NET MEDICAL HOME INITIATIVE

March 2010

The Medical Home Digest is a newsletter devoted to keeping you informed about medical home transformation in the safety net. This newsletter is brought to you by the Safety Net Medical Home Initiative, which is sponsored by The Commonwealth Fund. Each issue highlights critical aspects of patient-centered care and PCMH transformation.

From the Principal Investigator

Jonathan Sugarman, MD, MPH
President & CEO
Qualis Health

Healthcare providers sometimes feel tension in reaching an ideal balance between providing highly responsive, patient-centered care for their individual patients, and providing care that maximizes health outcomes for patient populations, especially when the "patient populations" for which they are responsible are not well defined. This tension can be particularly acute in safety net settings, which often struggle with high patient volumes and the inertia of systems developed to address an onslaught of acute clinical, social, and administrative crises. These challenges are sometimes further complicated in settings with many part-time providers.

In this issue of the Medical Home Digest, we present a strategy for addressing this tension. This strategy involves the implementation of **"empanelment"**—one of the Safety Net Medical Home Initiative's (SNMHI) eight Change Concepts for Practice Transformation.

In the first article, Dr. Ed Wagner introduces the notion of empanelment, and outlines several of the benefits of

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EVENTS:

2010 National Farmworker Health Conference
"A Look at the Future of the Health Care Home"

Omni San Diego Hotel
San Diego, CA
May 5 – 7, 2010

For more information and to register, go to
www.nachc.com/farmworker-health-conference2.cfm

RESOURCES:

Empanelment Implementation Guide website

Safety Net Medical Home Initiative Facebook page

The Economic Recession: Early Impacts on Health Care Safety Net Providers PDF

American Association of Family Physicians (AAFP) PCMH website

Medical Home for All (from Texas Academy of Family Physicians) website

The Safety Net Medical Home Initiative

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continuous relationships between patients and providers. Dr. Gordon Moore describes the extent to which patient-provider relationships are enhanced by stable care teams.

In "Knowledge from the Field," a column that describes the real world experience of practices participating in the SNMHI, Dr. Amit Shah, Medical Director of Oregon's Multnomah County Health Department, suggests that leadership and culture change—rather than technical complexity—are the greatest barriers to implementing patient-provider panels in complex safety net settings. These ideas are described in greater depth in a webinar that can be accessed here.

Finally, medical informaticist Dr. Jeff Hummel introduces a series of articles that address the role of information technology in supporting medical home transformation. Part 2 of the introduction presents an overview of the role of information technology in attributing patients to specific providers and care teams, a critical first step in implementing empanelment.

With this issue of the Medical Home Digest, we announce the first in a series of tools to assist safety net providers in implementing the eight Change Concepts for Practice Transformation. Each "implementation guide" will describe the specific steps that support practice transformation for each Change Concept, and will include references and links to other valuable tools.

Medical home transformation is hard work requiring meaningful and sustained efforts at practice redesign. We hope that by sharing insights and practical tools, the experience of SNMHI participants can help accelerate your progress towards the goal of providing relationship-based, patient-centered care that meets the needs of individual patients and enhances the health of a population.

Safety Net Medical Home Initiative

This is a product of the Safety Net Medical Home Initiative, which is supported by The Commonwealth Fund, a national, private foundation based in New York City that supports independent research on health care issues and makes grants to improve health care practice policy. The views presented here are those of the author and not necessarily those of The Commonwealth Fund, its directors, officers, or staff. The Initiative also receives support from the Colorado Health Foundation, Jewish Healthcare Foundation, Northwest Health Foundation, The Boston Foundation, Blue Cross Blue Shield of Massachusetts Foundation, Partners Community Benefit Fund, Blue Cross of Idaho, and the Beth Israel Deaconess Medical Center. For more information about The Commonwealth Fund, refer to www.cmwf.org.

The objective of the Safety Net Medical Home Initiative is to develop and demonstrate a replicable and sustainable implementation model to transform primary care safety net practices into patient-centered medical homes with benchmark performance in quality, efficiency, and patient experience. The Initiative is administered by Qualis Health and conducted in partnership with the MacColl Center for Health Care Innovation at the Group Health Research Institute. Five regions were selected for participation (Colorado, Idaho, Massachusetts, Oregon and Pittsburgh), representing 65 safety net practices across the U.S. For more information about the Safety Net Medical Home Initiative, refer to: www.safetynetmedicalhome.org.

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Transforming Safety Net Clinics into Patient-Centered Medical Homes

Empanelment

Ed Wagner,
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Care Innovation
Group Health
Research Institute

At the heart of the Patient-Centered Medical Home (PCMH) model is the relationship between a patient and a provider and his/her practice team. All the activities of an effective PCMH should strengthen and reinforce the primacy of that relationship, and its accountability for the totality of the patient's care. The additional benefits and related payment increases proposed for PCMH care assume such a relationship. The positive impacts of seeing the same provider on patient experience, clinical care, and outcomes have been unequivocally demonstrated.[1,2] But for many larger practices, especially in the fee-for-service, safety net environment, **empanelment** (linking patients with specific providers) has been challenging and often not an organizational priority. Empanelment must be an early change on the journey to becoming a PCMH because other key changes such as continuous, team-based healing relationships, enhanced access, population-based care, and care coordination depend on the presence of such linkages.

Safety net practices serve a wide variety of patients who use the practice in very different ways. The first step is to decide the population of patients to consider for empanelment; commonly, this population is composed of patients seen once or twice in some recent interval of time, but could be broader or narrower depending on the practice's clientele and preferences. This may be influenced by data availability. Next, the practice needs to decide who among their clientele would benefit from being linked to a particular provider. While the goal is to empanel as many of the practice's patients as possible, there are likely some patient groups whose preferences or life situation suggest other care arrangements. Like most decisions in a PCMH, the decision to form a patient-provider relationship should have input from both parties. Many practices often begin with utilization data to identify pre-existing contacts between patients and providers. Then patients may be tentatively linked with the provider who they have seen most frequently. These tentative links should be reviewed by the provider AND the patient, and adjusted individually according to their input. The process of empanelment helps a practice better understand the demand for its services, overall and by provider. This information facilitates more objective evaluation of the workloads of individual providers and affords opportunities to balance supply and demand. For example, such analyses at Group Health Cooperative made it clear that many provider panels were too large to provide high quality, patient-centered care, and so they were reduced in size.[3]

> Definition: Empanelment – a deliberate attempt to identify the group of patients for whom a provider and team is responsible.

Once a patient is empaneleled, the practice's care delivery, information and measurement, appointment-making, and other systems should reflect and reinforce the relationship. Information systems with registry functionality enable providers to examine their full panel of patients or selected sub-populations within their panels, such as diabetics or obese children,to identify sub-populations or individual patients in need of additional attention. This enables practices to schedule and organize planned visits with patients, and more effectively

Empanelment is the first of eight Change Concepts for Practice Transformation guiding the Safety Net Medical Home Initiative. For more information on the Change Concepts visit www.safetynetmedicalhome.org/change-concepts

use their outreach capabilities such as community health workers or promotoras, to identify and respond proactively to patient needs. Empanelment and panel-data also facilitate the measurement of clinical performance and reporting of feedback at the individual provider level, which has been shown to be much more meaningful and influential to staff than practice-level metrics. Appointment, care management and care coordination resources in a well-functioning PCMH assure that visits are generally with the primary care team, and that the primary care team receives timely information about care rendered by others.

In sum, healthcare systems built upon and supportive of stable provider-patient relationships:

- Can identify and address the preventive, chronic, and acute needs of all patients – including those who don't come in for care very often.
- Should have better patient experience and clinical metrics since research consistently shows that patients benefit from seeing the same provider.[1,2]
- Can balance patient loads so that patients can see their provider when they need to, and patients and providers have enough time during the visit to get all of their needs met.

1. Saultz JW, Lochner J. Interpersonal Continuity of Care and Care Outcomes: a Critical Review. *Ann Fam Med*. 2005;3(2):159-66.

2. Haggerty JL, Reid RJ, Freeman GK, Starfield BH, Adair CE, McKendry R. Continuity of Care: a Multidisciplinary Review. *BMJ*. 2003;327(7425):1219-21.

3. Reid RJ, Fishman PA, Yu O, Ross TR, Tufano JT, Soman MP, Larson EB. Patient-Centered Medical Home Demonstration: a Prospective, Quasi-Experimental, Before and After Evaluation. *Am J Manag Care*. 2009;15(9):e71-87.

For More Information on Empanelment, view the [Empanelment Implementation Guide](#)

Safety Net Medical Home Initiative

IMPLEMENTATION GUIDE

EMPANELMENT PART 1:
Establishing Patient-Provider Relationships

March 2010 Transforming Safety Net Clinics into Patient-Centered Medical Homes

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The goal of the Safety Net Medical Home Initiative (SNMHI) is to help practices redesign their clinical and administrative systems to improve patient health by supporting effective and continuous relationships between patients and their care teams. In addition, SNMHI seeks to sustain practice transformation by helping practices coordinate community resources and build capacity to advocate for improved reimbursement. The SNMHI is sponsored by The Commonwealth Fund and is administered by Qualis Health and the MacColl Center for Health Care Innovation at the Group Health Research Institute.

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Introduction

At the heart of the Patient-Centered Medical Home (PCMH) model is the relationship between a patient and a provider and his/her practice team. All the activities of an effective PCMH should strengthen and reinforce the primacy of that relationship, and its accountability for the patient's care. The positive impacts of seeing the same provider on patient experience, clinical care, and outcomes have been unequivocally demonstrated by research and practice[1-2]. But for many larger practices, especially in the fee-for-service, safety net environment, empanelment (linking patients with specific providers) has been challenging and often not an organizational priority. Empanelment must be an early change on the journey to becoming a PCMH, because other key changes such as continuous, team-based healing relationships, enhanced access, population-based care, and care coordination depend on the presence of such linkages. This implementation guide, developed by the Safety Net Medical Home Initiative, explains the purpose and process of empanelment and provides step-by-step directions for successful implementation in the safety net.

Message to Readers: SNMHI implementation guides are living documents. Updates will be issued as additional tools, resources, and best-practices are identified. This implementation guide provides an introduction to the following elements of empanelment:
- Determine and understand which patients should be empanelled in the medical home and which require temporary, supplemental, or additional services.
- Use panel data and registries to proactively contact, educate, and track patients by disease status, risk status, self-management status, community and family need.
- Understand practice supply and demand, and balance patient load accordingly.

1

Ask the Experts

Relationships Are Key to the PCMH Model of Care

L. Gordon Moore, MD; Ideal Medical Practices

So what's the scoop with provider-patient relationships? We make this relationship out to be sacrosanct—meddle with this and great suffering will occur—yet we also believe that teams are the means by which we achieve excellent patient care and outcomes. I believe the truth lies at neither end of the spectrum but in the elegant management of provider-patient relationship in the context of a well-coordinated team. I will address the provider-patient relationship and emphasize its importance and impact on outcomes, but in so doing, I want to be clear that this relationship works within the context of a team.

We know that care for our patients can achieve better outcomes when we embed evidence-based guidelines in our work and when we redesign our work to take advantage of information systems that support the decisions we make for the populations we serve. But we also know or suspect that helping our individual patients achieve their best possible outcomes requires nuances in interaction that can exceed any system design—no matter how elegant. Common sense tells us that the better we know and understand someone, the more likely we are to make suitable recommendations and the more likely he/she is to follow them. There are indeed studies that support our common sense. Ling *et al* describe the link between trusting the provider and following through on colorectal cancer screening.[1] Lacy *et al* expose the link between 'no-show' and 'lack of respect'.[2] Both studies explain the connections between respect, trust, and patients who follow up for needed care.

There are numerous studies documenting the link between continuity of care and good process and outcome measures. Of particular note for community health centers is the correlation between continuity and reduced hospitalization rates seen in some studies of Medicaid populations. These findings point out the obvious: relationship matters. How does this knowledge help steer the redesign of our delivery systems? We must figure out how to build and enhance relationships between our patients and ourselves. We need to expand the discussion from "provider-patient relationship" to "patient relationship with each and every member of the team."

Some community health centers and other safety net providers specifically recruit community members for front desk and clerical positions. They do this because they see a benefit in patient relationship and outreach efforts—particularly for preventive care. This is an example of the power of relationship and teams. When you think about and test ideas to improve relationships, stretch your work to include as many levels and layers of team as possible.

Efforts to improve patient-provider relationship are best guided by the discovery and ongoing evaluation of simplification.

There are numerous studies documenting the link between continuity of care and good process and outcome measures. These findings point out the obvious: relationship matters.

- **Establish provider panels.** Empanelment is the foundation of relationships. It removes ambiguity in scheduling and communication and provides the foundation for continuity of care.
- **Ensure a consistent core team.** In primary care there is a core team—typically a provider, nurse, and receptionist interact most often with patients. In community health centers, this core team typically sits within the context of an extended team including multiple disciplines and services. Relationships between core team members and patients are more likely to develop when there is a designated staff member in each role, not a 'mix-n-match' pool. Relationships work best when patients are able to identify the members of their care team and when team members recognize patients as partners in care.
- **Minimize the number of steps and time it takes a patient to connect with the core team.** We often develop way stations for phone calls and patient encounters. These way stations may be very important (e.g., financial verification, social work, medication adherence) so the work is the figure out how to simultaneously maintain the integrity of your operations while minimizing the complexity and inherent delays in processes.

Relationships work best when patients are able to identify the members of their care team and when team members recognize patients as partners in care.

One benefit of the Safety Net Medical Home Initiative, the virtual Medical Home Learning Community, is the opportunity for each of the participants to share stories of their failures and successes in their efforts to improve patient-provider relationships. You can do so by writing to us at info@qhmedicalhome.org.

1 Ling BS, Klein WM, Dang Q. Relationship of communication and information measures to colorectal cancer screening utilization: results from HINTS. *J Health Comm*. 11 Suppl 1:181-90, 2006.

2 Lacy N, Pullman A, Reuter M, Lovejoy B. Why we don't come: Patient perceptions on No-shows. *Ann Fam Med*. 2004;2:541-545.

Knowledge from the Field

Implementing Patient-Provider Panels in a Safety Net Clinic

Amit Shah, MD; Multnomah County Health Department Medical Director

Amit Shah, MD, is the Medical Director of Multnomah County Health Department. Multnomah County Health Department operates Community Health Centers that serve uninsured, low income, and underserved residents in the most populous county in Oregon. These centers provide primary care, dental care, and behavioral health services and also operate school-based and correctional health programs.

What was the impetus for implementing patient-provider panels at the Multnomah County Health Department?

First, we needed to know which patients we were actually caring for and to be able to proactively manage patients—even manage those patients who don't regularly come in for office visits. Second, we needed to judiciously establish a reasonably sized panel in order to manage our work and work flow—we had to find a way to balance our supply and demand so that we could provide high-quality, timely care to all of our patients and yet not burn-out our providers and clinic teams. We also wanted to be able to produce data to demonstrate and learn from PDSAs and understand the impact these and other quality improvement activities have on clinic measures, patient experience, and staff satisfaction.

What was your first step towards implementation?

Leadership and culture change. I needed to "sell" the concept of empanelment and show our staff members how this change would benefit patients and allow us to deliver better and more satisfying care.

What was the greatest challenge you faced implementing patient-provider panels?

Culture change—the mechanics of empanelment are not difficult, but making it the standard of practice and changing the practice culture is, and remains, the greatest challenge.

What have patients appreciated the most about this new system of care?

Continuity—we really have outstanding organizational continuity. Patients notice this and they appreciate it.

What have providers appreciated the most?

Providers appreciate having a process in place that defines their scope of work and effectively balances supply and demand. Providers and our clinical teams also appreciate the emphasis on continuity and patient-centered care.

What's next for Multnomah? Where do you see your clinic a year from now?

We plan to refine our process for measuring and responding to changes in supply and demand. We also want to optimize care management processes and allow clinical teams to manage their panels directly. My hope it that in our year our clinic will have a culture of true patient-centeredness with efficient business practices that preserve the patient-team relationship and emphasize the importance of continuity.

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Special Supplement: EHR Tools to Support the Medical Home Part 1

Information Tools to Support PCMH Workflows: Introduction

Jeff Hummel, MD, MPH, Medical Director for Clinical Informatics, Qualis Health; Medical Director, Deep Domain

The vision of a primary care practice as a patient-centered medical home (PCMH) relies heavily on the promise that information technology will guide clinical teams in performing a new array of patient-centered activities as specified in the NCQA criteria. Both the medical home movement and the current national effort to encourage widespread meaningful use of electronic health records (EHRs), spurred by the 2009 HIT Act, are predicated on the assumption that an EHR is the foundation upon which any improvement in outcomes, including greater patient involvement, must be based. Yet recent studies showing that EHRs by themselves don't lead to clinical improvement are mirrored by the experience of clinics with EHRs already in place, in which workflows are often distorted to serve the technology. Our goal is to help care teams think of information technology as a set of tools, the purpose of which is to support workflows that manage information as an integral part of providing their patients the right care at the right time—every time without fail.

This series on using information technology to support new workflows in a team-based medical home environment is based on an understanding that the workflows by which we deliver care are completely inseparable from the methods we use to organize clinical information. After all, our workflows depend on information to function. We spend a significant amount of time and effort simply gathering the information we need to make clinical decisions. One thing that distinguishes highly effective from dysfunctional workflows is the ability of providers to quickly put their hands on properly organized information.

This series will cover five PCMH-related workflows:

1. Establishing and maintaining a reliable method for patient attribution.
2. Care management for preventive and for chronic illness services.
3. Test and referral tracking for overdue results and abnormal results.
4. Population management of chronic conditions.
5. Outcomes reporting.

We will examine both sides of the workflow/information management unit. This is necessary to think through how workflows can be standardized as a starting point for continuous improvement, not only for delivering specific elements of care, but also standardized in terms of how the team members handle the information generated as part of the workflow. In order for the tools to work properly, everyone must understand how to use them correctly. Lastly, we will review the information management tools that are currently available to support each of these workflows.

One thing that distinguishes highly effective from dysfunctional workflows is the ability of providers to quickly put their hands on properly organized information.

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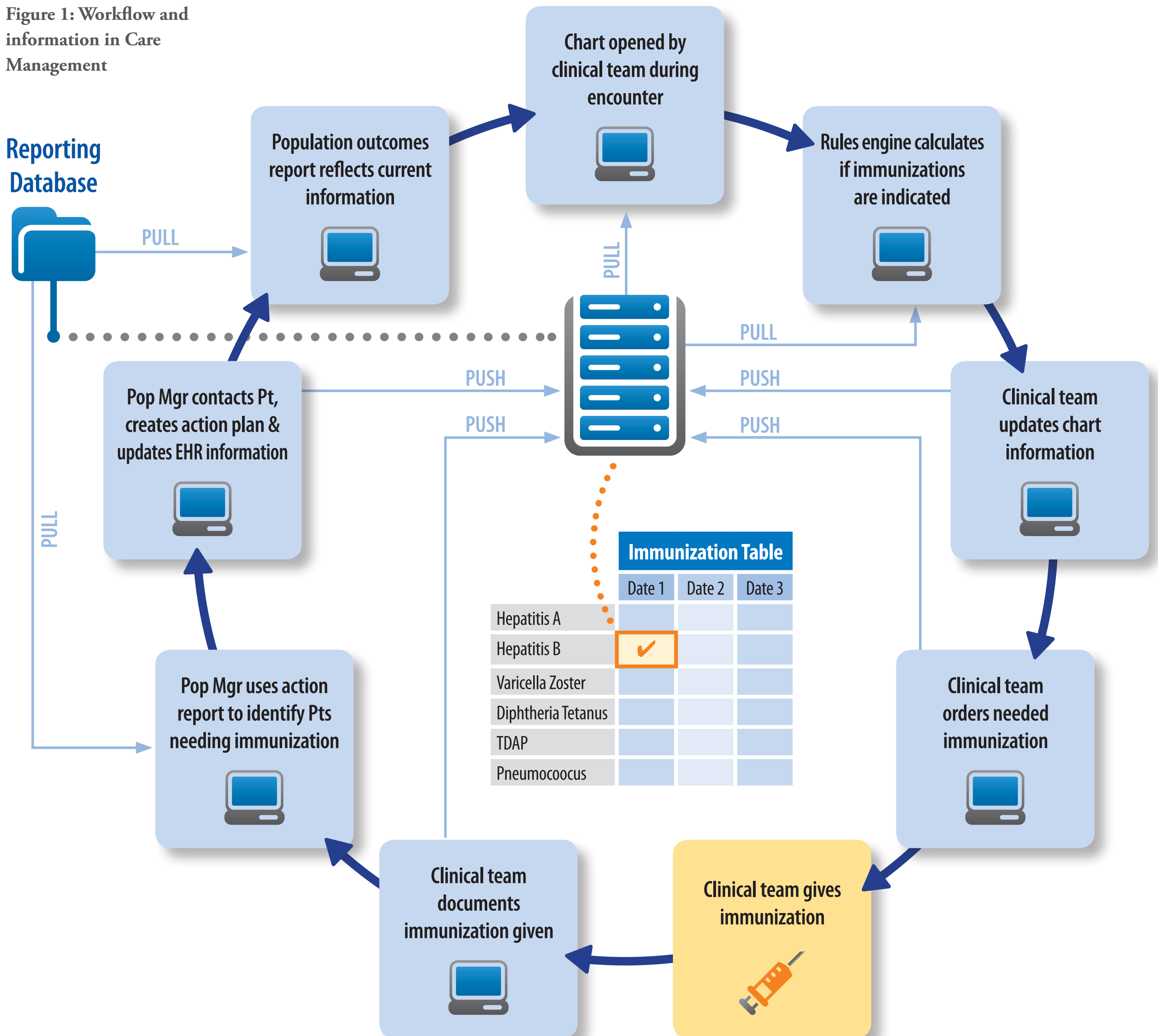
Figure 1: Workflow and information in Care Management



Special Supplement: EHR Tools to Support the Medical Home Part 1

Below I describe how to structure workflow to ensure a population is adequately managed, using pneumococcal vaccination as an example. In this workflow there is only one step in which the patient receives a service. The other steps are gathering, recording, and organizing information. These steps are essential because, without an information management process, there would be no way to track and increase the percent of patients who are immunized.

Process Steps for Verification of Pneumococcal Vaccination

1. The clinical team opens the chart and is automatically alerted to a potential gap in the standard of care by a rules engine that checks the demographic and co-morbidity information in the EHR to determine: 1) whether the patient should be vaccinated; and 2) whether the vaccination date is recorded. If there is no documented immunization, the clinical team asks the patient if he or she has been vaccinated. If the patient confirms vaccination, a member of the clinical team enters an approximate date (supplied by the patient) into the EHR. If no vaccine has been given, then a member of the clinical team offers the vaccine to the patient. If the patient agrees, the vaccine is ordered, administered, and documented.
2. Meanwhile, at regular intervals the population manager runs a report listing the names of patients eligible for pneumococcal immunization who have no documentation in their electronic record of having been vaccinated. The reports the population manager uses are not drawn from the production EHR (which could impact performance of the EHR in the exam room), but rather from a separate reporting database that is updated nightly from the EHR. The population manager contacts patients by a variety of methods including telephone, secure asynchronous messaging, or mail. If she learns that a patient has been immunized elsewhere she enters this information into the EHR. If not, and if the patient agrees, she can order the immunization and ask the patient to come in to be vaccinated.
3. Lastly, an outcomes report runs at some specified interval showing for each provider the number of patients eligible for pneumococcal immunization and the percent of those patients who are adequately immunized. This information is used for both internal and external incentives, and to refine and improve the workflows.

There are four different types of data management tools available to care teams to run reports to support this type of operation:

1. For those without an EHR, it is possible to use a spreadsheet to create a registry of all patients eligible for immunization, including those over 65 and anyone with a chronic illness such as asthma or diabetes. This approach requires double entry and is not easily scalable, but many organizations learned the basics of care management with diabetes using nothing more than a spreadsheet, and if it is the only tool available then it is the right tool to use.
2. Most EHRs contain some rules engines, flow sheets, and reporting capability, if only in the form of patient lists for specific conditions. These features are often not very robust, and they may require some back-end programming; however, they generally require only financial investment, so it is worthwhile to know what tools are included in this set and understand how they work.
3. There are a number of expensive query engines which are essentially complex reporting software designed for database analysts to create canned reports. Sometimes they are hard-wired to particular EHRs. These products have a steep learning curve, and are relatively difficult for non-IT people to master without investing more time

Special Supplement: EHR Tools to Support the Medical Home Part 1

than is usually available, so if a report needs modification it requires going back to the IT shop to have the database analyst fix it. These are also usually the first tools considered for report writing.

4. New aftermarket products are starting to appear that are designed for use by quality improvement people rather than by database analysts. These products are sold on a service contract basis, so for several hundred dollars a month a practice can design and modify a custom multi-parameter dashboard that can be adjusted by the end-user. For example, if the recommendations for mammograms change from age 40 to 50, or from every year to every two years, the dashboard can be modified with the turn of a dial. These dashboards are multipurpose, and can drill down from aggregate outcomes reports, to a clinic or individual provider level, and can display lists of patients overdue for specific interventions to use as action reports.

Subsequent articles in this series will describe similar workflows, examine how information is generated and used within those workflows, and describe the electronic tools that can be used to manage the information.

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Special Supplement: EHR Tools to Support the Medical Home Part 2

Attribution and Empanelment

Jeff Hummel, MD, MPH, Medical Director for Clinical Informatics, Qualis Health; Medical Director, Deep Domain

Patient-centered medical homes (PCMHs) are about patients; not about computers. Nevertheless, homes are built and maintained with tools, and people who build or repair their own homes must learn to use new tools, and to use them well if they are going to do quality work. Medical homes are no different, only the tools we use are in electronic health records (EHRs), and they are designed to help us manage information so that the right information gets to the right person at the right time, organized correctly so that the right decisions can be made.

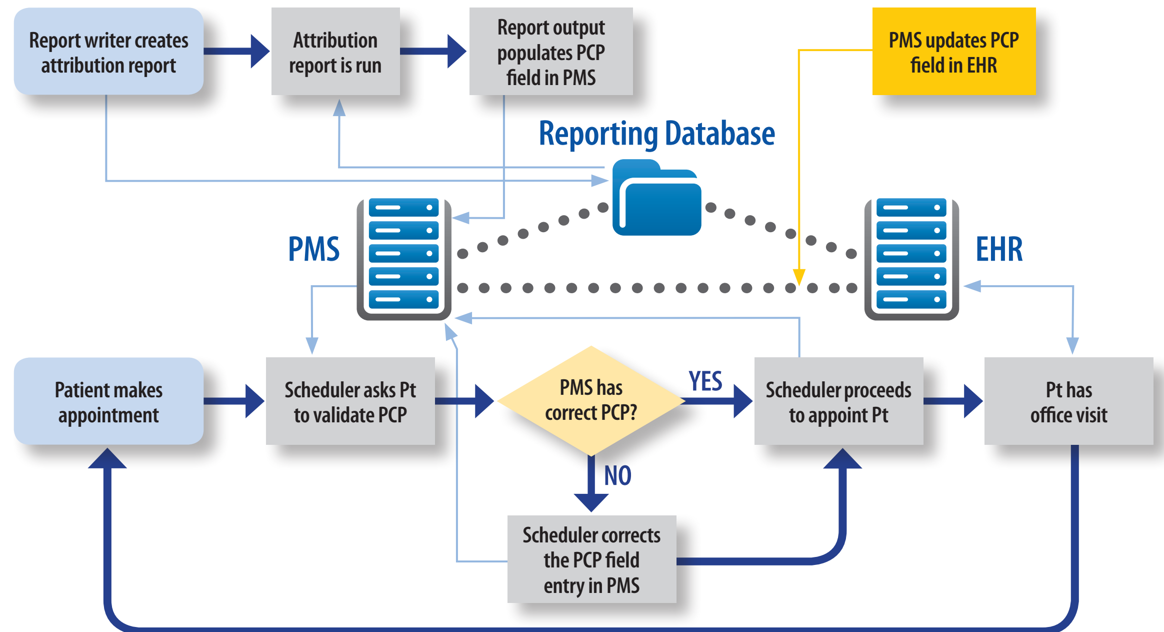
To further explore the interdependence between workflow and information management, we will consider the process of patient attribution, since it is a foundational building block for empanelment, which is foundational for most other PCMH workflows. Attribution is the step of creating a data definition for the concept of the patient's primary care provider (PCP). The patient may know who his PCP is, and the PCP may know that a patient is in her practice or panel, but we also need a standardized process to define exactly how a report or a dashboard determines that a specific patient should be attributed to a specific provider. The database analyst who writes a report or programs a dashboard has to tell the application exactly which field in the EHR or the reporting database to look in to find the information we want it to retrieve, and we need a process to assure that the attribution information in that field is accurate. We start by asking, "What is our workflow to assure that all of our patients are attributed to the right provider?" and then, "who does it, when to they do it, and what information do they need in order to do it?"

To further explore the interdependence between workflow and information management, we will consider the process of patient attribution, since it is a foundational building block for empanelment, which is foundational for most other PCMH workflows.

What is the process for doing this? First we need a quick-and-dirty way to attribute patients to the provider most likely to be their PCP on a probability basis. Several protocols have been developed for this. Most of these protocols look at all of a patient's office visits in the past 1 or 2 years and then assign the patient to the provider seen the most times. In case of a tie the patient is assigned to the tied provider seen most recently. This initial attribution process is quick in the sense that it assures that every patient has an entry in the data field defining their PCP so that the activities that depend on attribution, including empanelment and reporting, can begin without delay. It is dirty in the sense that any attribution protocol will be wrong a significant percent of the time. The idea is not to try and create a perfect algorithm; rather it is to create a system that starts with an acceptable level of accuracy, and then implement an ongoing mechanism to improve the quality of attribution information each time a patient is seen. The report assigning each patient to a PCP only needs to be run initially, and perhaps when a provider leaves the clinic and patients need to be reassigned. As shown in Figure 1, the output of the report is entered into the designated field for PCP in the EHR (hopefully by programming rather than by hand).

Special Supplement: EHR Tools to Support the Medical Home Part 2

Figure 1: Information flow associated with attribution workflow



The second part of this process deals with the fact that the question, "Who does the patient think of as his doctor?" can only be answered by asking the patient. One logical workflow to address this is shown in the bottom line of Figure 1, in which the scheduler verifies the PCP each time a patient makes an appointment.

In this way the PCP field in the Practice Management System (PMS) becomes the data definition or gold standard for PCP assignment, and information entered in that field will overwrite the corresponding fields in both the EHR and the reporting database. This makes the patient the ultimate source for accurate information entered into the field (through interaction with the scheduler). Although at the beginning there will be a significant number of attribution errors in the system due to the initial attribution protocol, the errors will decrease with time (most quickly for patients seen most often), as will errors in empanelment and the information used for demand/capacity planning. To protect the accuracy of these important empanelment functions it is essential to guard the integrity of this information from systemic external errors, such as the potential for this data field to be overwritten by a hospital EHR with the name of the attending physician from a recent hospitalization.

The underlying conceptual framework is that information is the primary commodity with which we perform our work of making clinical decisions. The value of information is totally dependent upon 1) our ability to find it, and 2) our ability to trust it. In that context, we might summarize this workflow/information unit as follows. First we agree on a data definition, which is just another way of saying where to find the information (PCP field). Then we use a protocol (that is imperfect by definition) to generate enough information to start the process, with the understanding that imperfect information is better than no information, as long as we have a reliable workflow to quickly replace inaccurate information with accurate information so that we can start to trust it.