White Paper

The Progress and Potential of Patient-Centered Medical Homes

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With a Foreword by Newt Gingrich, Former Speaker of the House; and Founder, Center for Health Transformation

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Foreword

By Newt Gingrich, Former Speaker of the House; and Founder, Center for Health Transformation

It is a fact that better care and better health undoubtedly leads to lower costs. Quality-improvement initiatives that focus on wellness, better coordination of care, and preventing chronic illness truly do save lives and save money. These kinds of powerful models, especially coupled with the adoption of electronic health records, are critically important to building a 21st century health system.

The patient-centered medical home is one of those transformational models. Many private insurers and community providers have already partnered together to encourage consumers to develop a strong, ongoing relationship with their primary care doctors, with the shared goal of improving individual health.

The physician's responsibility is to provide health services that focus on wellness, to help prevent chronic illness and its complications, and to intervene when acute illness or accidents occur. In addition to this focus on wellness, physicians help coordinate the services that consumers receive in other sectors of the health system. By delivering information that follows the patient, the physician's office becomes the "library" that contains the history of the patient's care, from hospitals and subspecialty physicians to home-health agencies and long-term care providers.

This approach overcomes one of the most inefficient and deadly aspects of the current system: the fragmentation of care where treatment occurs in isolation with virtually no information about a patient's past.

To serve this role, and to truly provide patient-centered primary care, health information technology is essential. Technologies like electronic health records allow physicians to connect with other stakeholders in the system, share information, and better coordinate the delivery of patient care. It is simply impossible to do this with paper medical records.

The use of technology can also help measure whether physicians meet quality standards and promote the use of clinical guidelines. It can also offer convenience to patients through same-day appointments, telemedicine tools, and secure online services, such as appointment requests, patient history updates, and reports of lab results.

NextGen Healthcare has been a true leader in making the patient-centered medical home model a reality. The following publication was originally included in the book *Paper Kills 2.0*, released by the Center for Health Transformation in February 2010. Dr. Sarah Corley and Charles Jarvis highlight the progress that has been made to create and successfully implement the medical home model, and they explore the potential that it has to help transform our health system.

We at the Center for Health Transformation are proud to partner with industry leaders like NextGen Healthcare. It is through innovative models and strong collaboration that we will be able to move our health system into the 21st century.

Newt Gingrich, October 2010

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Just over a decade ago, the Institute of Medicine (IOM) released the groundbreaking publication, *To Err Is Human: Building a Safer Health System*, which revealed the staggering consequences of medical errors in U.S. hospitals: an annual cost of as much as $29 billion and at least 44,000 deaths—perhaps as many as 98,000—attributed directly to those medical errors.[1] The IOM commented, “When patients see multiple providers in different settings, none of whom has access to complete information, it becomes easier for things to go wrong.”

More recently, a November 2008 white paper issued by Senate Finance Committee chairman Max Baucus (D-MT) again spelled out the clinical and business toll exacted by the current system of care.[2] It noted that 45 percent of Americans suffer from one or more chronic conditions, such as heart disease, stroke, cancer, and diabetes. Chronic disease accounts for 70 percent of the deaths in the United States, and “treatment of the seven most common chronic diseases, coupled with productivity losses, costs the U.S. economy more than $1 trillion annually. About 78 percent of the nation’s total health care spending is due to chronic illness.”[3]

These and other measurements have caused the United States to fall far short of being the healthiest society in the world, despite spending one-sixth of our entire gross domestic product on healthcare. One reason is that we spend the vast majority of our resources treating the symptoms of disease rather than treating the causes. People seek fragmented, acute-based care when they need it, and physicians are paid when they treat the sick, not when they prevent illness.

The conclusion drawn by many clinicians and economists alike was succinctly stated in the Baucus paper: “Prevention must become a cornerstone of the healthcare system rather than an afterthought.”[4] However, this will require a fundamental shift toward placing a premium on broad-spectrum coordination of information and clinical resources that promote health, rather than simply treat illness.

There is a model of care that can accomplish all this: the patient-centered medical home (PCMH). It is a care environment based on evidence, driven by data, focused on wellness, and centered on the needs of the patient. This approach can help drive a healthier America, with fewer errors and less strain on our limited resources. Many forward-thinking organizations already have adopted this care model and discovered its benefits. Some have advanced even further, rising to the level of a technology-based PCMH with results that are path-breaking.

What Is the Patient-Centered Medical Home?

Any explanation of the PCMH must begin by clarifying what it is not. Many mistakenly associate it with a physical location, such as a nursing home or an assisted living center, when, in fact, the opposite is true. The medical “home” is a team-based, *virtual* network of doctors, nurses, and other providers that share information about the patient to coordinate his or her medical care better.

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The PCMH emphasizes and requires the patient and his or her primary care provider to work as a team that shares responsibility for the patient's care. That responsibility includes not only providing care, but also coordinating it system-wide, with specialists and other ancillary care providers as needed. The patient and primary care physician are at the hub of the decision-making wheel, with other medical services and providers—such as hospitals, home health, and pharmacists—as its supporting spokes.

Key Characteristics

In 2007, the American Academy of Family Physicians, the American Academy of Pediatrics, the American College of Physicians, and the American Osteopathic Association published the "Joint Principles of the Patient-Centered Medical Home" to outline key characteristics of a PCMH:[5]

- **Whole-person orientation:** The primary care physician is responsible for meeting all of the patient's healthcare needs or arranging appropriate care with other qualified professionals. This includes care for all stages of life: acute care, chronic care, preventive services, and end-of-life care.
- **Care coordination:** Care is integrated across all elements of the healthcare system and the patient's community to ensure that patients get the indicated care when and where they need and want it, and in a culturally and linguistically appropriate manner.
- **Quality and safety measurements:** Care is based on evidence and best practices, using clinical decision-support tools to guide decision-making. Physicians accept accountability for continuous quality improvement through voluntary engagement in performance measurement. Information technology is utilized appropriately to support optimal patient care, performance measurement, patient education, and enhanced communication.
- **Payment:** Provider reimbursement complements the additional responsibility and is properly aligned to reflect the benefits of the medical home and the additional value providers contribute.
- **Enhanced access:** Care is improved through enhancements such as open scheduling, expanded hours, and new options for communication between patients and the primary care team.

Many primary care practices today have implemented this model and documented improvements in care delivery and quality. They have often been in partnership with hospitals and private insurers. While some of these practices still work from a paper-based foundation, those that have embraced health information technology (HIT) have seen better results compared to their paper-based PCMH counterparts.

PCMH is, in fact, wholly consistent with the objectives for the "meaningful use" of HIT as outlined by the American Recovery and Reinvestment Act (ARRA) of 2009. Many PCMH practices already are using technology to reach the goals of improved care quality, communication and coordination.

"Just as pen and paper were 20th-century methods for practicing medicine, giving attention to the patient only when he/she is in your office is an outdated method of healthcare delivery," according to Dr. James L. Holly, CEO of the multi-specialty group SouthEast Texas Medical Associates (SETMA) in Beaumont, Texas, who has been practicing this method of care delivery in an automated setting for several years.

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One approach made possible in an automated PCMH model is to provide electronic visits, or e-visits. The Medical College of Wisconsin family medicine residencies, for example, have created a web-based portal for patient messaging, scheduling, education, and communication of test results. A secure Internet portal allows communication about non-urgent issues, with staff committed to responding within a single business day, according to Program Administrator Sandra Olsen, MS, BA.

Elmhurst Clinic in Elmhurst, Illinois, is part of a Blue Cross Blue Shield medical home pilot that offers patients a secure, integrated Internet portal to request appointments or medication refills and access to their medication lists, lab, and diagnostic test results. This can be done through any Internet connection or even on a cell phone. All communication is documented in Elmhurst's EHR system.

New Pueblo Medicine in Tucson, Arizona, uses technology to enhance the patient experience by tracking response time to patient calls. Call reports are linked to same-day scheduling, giving patients faster responses and more convenience, notes CEO Michael Cracovaner.

The Medical Clinic of North Texas in Dallas/Ft. Worth uses an interface between its EHR system and a clinical protocol engine to automatically generate a personalized "patient recommendation report" for every patient at every visit, regardless of the reason for the visit, according to Chief Administrative Officer Karen Kennedy. That means each provider has appropriate, patient-specific clinical protocols available to reference and act upon during every patient exam, ensuring all conditions and disease states are being effectively managed. As a result of such proactive measures, the Medical Clinic of North Texas can demonstrate clinical improvements such as:

- Diabetic patients with a current HgA1c increased from 40 percent to 80 percent;
- Patients with a current LDL increased from 24 percent to 62 percent;
- Female patients who had current cervical cancer screening increased from 45 percent to 70 percent;
- Patients who had current mammograms increased from 38 percent to 70 percent; and,
- Diabetic patients who had an annual foot exam increased from 5 percent to 50 percent.

HIT is the information centerpiece of all these successes.

Electronic Data Capture and Exchange: Both Breakthrough and Barrier

What sets the patient-centered medical home apart from other care models? Dr. Holly of SETMA notes that "the 'connector' for all of the elements of care which we are doing is the medical home care coordination database and review."[6]

Indeed, the critical difference between the PCMH and a typical acute-based, fragmented approach is data management. The automated medical home has been called "high touch/high tech" care. The "high touch" is the desire of the care providers to work in concert with one another as members of a care team; "high tech" is technology integration that allows patients to see multiple providers in different settings, all of whom have electronic access to a current, complete record of patient health information. The proactive use of electronic tools to manage patient data and drive decision-making is essential.

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Capturing and exchanging electronic patient data lies at the heart of this collaborative approach, as the model cannot exist without it. The current paper-based approach cannot provide the requisite data interconnectivity, accessibility, tracking, reporting, and analytic functions to allow a primary-care team to build a true medical home. In fact, one of the largest obstacles to widespread adoption of the medical home model is a lack of information technology use to capture and exchange data.

With healthcare IT adoption rates still unacceptably low, the ability to achieve widespread adoption of this model is going to be limited. It will take a concerted commitment to and an acceptance of IT before we begin to realize the gains that this enhanced data management can bring.

Models of Success

Lifetime Health Medical Group

Lifetime Health Medical Group (LHMG) of the Buffalo and Rochester, N.Y. region looks to data integration among a number of keys to success. It is currently participating in a pilot PCHM program in the Buffalo region. “PCMH is a strategic imperative, fulfilling our mission to ‘do the right thing’,” says Medical Director and Chief Medical Information Officer Douglas Golding, MD.

One example of data integration is a registry used primarily by practice managers and nurses, which has helped increase the provision of mammography and colonoscopy screenings. The practice performs mammography on-site, and has brought the screening rate from just under 70 percent to more than 80 percent in less than six months at one location – significantly higher than national averages reported by the Centers for Disease Control and Prevention (CDC).[7] Colonoscopy rates at one site also increased from less than 40 percent to more than 60 percent, again higher than the rate in many areas of the country.[8] “And this is in an inner-city population,” notes Golding.

Physicians and nurses also utilize data from a clinical data repository at the point of care to retrieve recommended “action items” that can help engage the patient in his or her care. The reports provide pertinent, patient-specific questions for the nurse or physician to ask, serving as a springboard for patient discussion and treatment recommendations.

Community Health Centers

Community health centers (CHCs) in particular, where HIT adoption rates are much higher than in private practice, have helped develop the medical home model by focusing on team-based primary care, prevention, and coordination, the core of their organizational structure. Through the use of EHR systems, community health centers have helped patients avoid emergency rooms and make better use of preventive services, in turn saving more than $17 billion a year, according to the National Association of Community Health Centers.[9]

One successful example comes from the Southern Arizona Integrated Network (SAIN), a group that includes four Federally Qualified Health Center (FQHC) organizations, including El Rio, Sunset, Mariposa, and Desert Senita Community Health Centers. SAIN recently expanded to add a fifth health center when they invited Canyonlands Community Health Care in Page, Arizona to join the network. The practices within SAIN utilize a common practice management and

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electronic health record (EHR) system. Since deployment of the EHR systems in January 2008, improved reporting capabilities and access to comprehensive patient data have given participating providers the ability to monitor long-term trends in patient outcomes. Midway through 2009, 80 percent of providers had adopted the EHR technology, utilizing IT tools that allow them to better gauge the impact of their disease management programs on their patient populations. As progress continues in upcoming months, the providers will be able to aggregate the data to conduct meaningful peer-based outcome reporting. Over the longer term, participants plan to implement community health solution technology, enabling them to share data with others in the state and improve population management.

The NCQA Approach

The non-profit National Committee for Quality Assurance (NCQA) has championed the cause of improving healthcare quality for two decades. Already known for a wide variety of healthcare accreditation, certification, and recognition programs, NCQA now offers practices the chance to attain its Physician Practice Connections® –Patient-Centered Medical Home™ (PPC–PCMH) Recognition.

PPC-PCMH builds on the joint principles noted above to provide recognition for practices that establish “systematic, patient-centered, coordinated care management processes.”[10] The organization created nine standards for certification that encompass 30 elements and 189 data points, including care management, patient self-management support, electronic prescribing, performance reporting and improvement, and advanced electronic communications.

Practices can receive one of three levels of recognition as PCMHs, depending on their mastery of the standards. Crystal Run Healthcare, a 200+ provider multi-specialty group practice in New York, for example, has received Level-3 recognition, the highest possible. It attributes its success to the detailed patient knowledge it collects, manages, and shares through an integrated EHR system. For instance, the group’s lab and radiology information systems import clinical data directly into patient charts, giving clinicians easy, point-of-care access at all locations. Physicians can take laptops from room to room or building to building. On-call staff can log in from anywhere—home, office, hospital, or elsewhere— via a secure virtual private network to access patient information.

The EHR system and messaging of clinical information is tightly integrated across the Crystal Run enterprise. Clinical systems are also meshed with communication services, as the practice adopted the BlackBerry platform several years ago to more seamlessly communicate. Laboratory and radiology turnaround times, as well as reporting of critical results, are also closely tracked.

Crystal Run’s results include 93 percent of radiology reports now available and delivered to the ordering provider within 24 hours, and 98 percent of International Normalized Ratios (to report anti-coagulation level) reported within one hour of being obtained. The practice has also installed a centralized call center to handle 4,000 calls a day, capture information, and forward it to the appropriate physician via e-mail, who then records outcomes in the EHR system.

The Gilbert Center for Family Medicine in Gilbert, Arizona, has also earned Level-3 PCMH recognition. According to Practice Manager Jim Stape, Gilbert’s automated interfaces with several lab and radiology facilities, e-mail notification of emergency department visits and

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inpatient admissions, and detailed reporting on evidence-based practices, coupled with patient compliance, all contributed to the recognition. While measurable cost reduction has not been published yet, pertinent clinical measures have shown excellent results. Measures such as HgA1c indicate 83 percent of Gilbert's total diabetic patient population is below 7.0.

SouthEast Texas Medical Associates

SouthEast Texas Medical Associates (SETMA) has received NCQA PCMH Level 3 recognition as well. It has an NCQA Diabetes Recognition Program for all clinics, and will use its EHR system to better track and generate:

- Reports provided the day prior to a patient visit that detail what each patient needs during the next day's visit, including requirements to meet all quality measures the group is tracking;
- Performance results from the previous day's visits. The immediacy with which individual provider performance is measured against all SETMA providers is aimed at helping effect positive change more rapidly; and,
- Practice-wide performance information (without patient or provider identification), which will be posted on the SETMA public website. The goal is to bolster patient confidence in the standard of care, as well as motivate providers to continue raising that standard.

In the near future, it is expected that payers will begin to tie the levels of NCQA recognition for patient-centered medical homes to the amount of care management fee reimbursement they offer. Many major commercial payers, including United Healthcare, Aetna, CIGNA, WellPoint, and Kaiser, already are initiating PCMH pilot programs that incorporate standards from NCQA, or even require NCQA certification before offering incentive rewards.

Bridges to Excellence

Bridges to Excellence (BTE) is another not-for-profit collaboration that creates and implements care and reporting programs to help realign incentives around quality. Among its many objectives are driving the use of health IT by leveraging existing quality reporting/data aggregation initiatives and facilitating the connection between quality improvement and financial incentives.

For example, BTE accepts PPC-PCMH Recognition to satisfy the qualification requirements for its Physician Office Link rewards. In this program, physician offices qualify for bonus payments, which BTE negotiates with private insurers based on implementation of specific quality improvement and error reduction processes. A program "report card" is then made available for the public to review. While an EHR system in itself has not been a requirement for participation, successful tracking of quality improvement and error reduction initiatives is extremely difficult without one.

The automated PCMH model is an ideal fit for the BTE value system. "The proactive uses of technology to develop the patient-centered medical home fit nicely with the Bridges to Excellence core principles: transform care to reduce mistakes, reduce underuse, and increase quality improvements," notes Mary Stull, RN, PhD, Vice President and COO of the Elmhurst Clinic's physician practice division.

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Coordination of Care and Patient Engagement: Cornerstones of Quality

The PCMH is built on a close relationship between the primary care team and the patient, where sharing information and responsibility is a key to success. The more patients know about and understand their health, the more they can take responsibility for it. However, it also requires primary care physicians to gather and manage patient information and educate patients beyond isolated episodes of care. To accomplish this without automation is nearly impossible and increases the chances of inaccurate and inconsistent results between patient files and physician records.

Physicians at Crystal Run in New York, for example, have personalized the care they deliver by tapping into EHR data at the point of care to analyze patient status. Patients receive a heightened awareness of their health when, for instance, providers hand them a history of their own vital signs to show progress toward— or deviation from—their personalized care goals. In turn, this can increase patient compliance with care plans, particularly for improving chronic disease. “Our EHR gives us detailed knowledge of our patients, allowing us to improve care by moving patient data to the appropriate specialists,” notes practicing partner Dr. Greg Spencer.

Patients identified as high-risk for certain conditions, or who are already struggling with them, are urged to enroll in appropriate disease management programs at Crystal Run. They are assigned a nurse who regularly reviews their medical records to assess risk factors and coordinate what care they should be utilizing. This approach has bumped mammography screening for breast cancer to an 82 percent compliance rate for patients in their care management program, well above the 72 percent national average reported by the NCQA.[11]

Elmhurst Clinic in Illinois employs an automated method for proactively contacting patients with chronic conditions due for follow-up appointments. Diagnostic data and visit histories from the group’s practice management system are sent to an electronic program that uses evidence-based protocols to identify patients who are overdue for a visit. A series of reminder calls is generated for each patient, with a call history returned to Elmhurst’s EHR for compliance tracking. During the first three quarters of 2009, Elmhurst booked over 7,000 appointments as a direct result of automated outreach. Over 2,000 of these visits pertained to the management of chronic conditions associated with the medical home.

“We look at the selection and development of our technology—and all of our processes—based on their ability to enhance our patients’ experiences and keep them in the center of all we do,” says Stull.

Widespread Adoption: Next Steps in the Process

A number of public- and private-sector programs aimed at testing the PCMH model currently exist. Late in 2009, for example, the Centers for Medicare and Medicaid Services announced it would partner with several multi-payer medical home pilots on a project titled the Multi-Payer Advanced Primary Care Practice Demonstration. More funding and pilots were included in several of the leading bills in Congress to overhaul the nation’s health system, and indeed the federal government is “counting” on this effort to help achieve some of the savings needed to pay

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for the major investments being made to achieve health reform today. But bringing the medical home concept to fruition in a meaningful, broadly adoptable way requires five distinct actions:

1. **Understanding.** All parties—payer, patient, and clinician— must come to the realization that real transformation is essential. Providers, in particular, will need to adjust to a new model for both reimbursement and care delivery.

2. **Validation.** Adequate time must be spent obtaining and analyzing results from the various federal and private payer pilot projects now under way, so that any nationwide reform efforts rest on solid data.

3. **Commitment.** Government and commercial payers will need to reinforce their dedication to the concept by more openly promoting it.

4. **Education.** Patients must be educated regarding the value of the PCMH, and physicians must be taught how to derive the greatest clinical and business benefits from it.

5. **IT adoption.** The healthcare community must adopt and use information technology. Simply put, none of the responsive, proactive, data-intensive processes at the core of the medical home model is feasible in a cumbersome, labor-intensive, paper-based environment.

These are, admittedly, daunting tasks—especially when more than 75 percent of physician practices are still paper-based. But the impact of PCMH hinges on widespread implementation and use of information technology. Critical steps have been taken to make this a reality. Titles VIII and XIII of the American Recovery and Reinvestment Act of 2009 will provide tens of billions of dollars in incentives and other funding over the next several years that will allow practices to transform themselves into patient-centered medical homes.

Conclusion

The IOM's conclusion that "things go wrong" without access to complete information would not be a valid criticism today if the patient-centered medical home were more prevalent. The tools exist now to give every provider and patient access to all information necessary to prevent errors, improve patient satisfaction, and improve quality outcomes. The physician practices identified in this chapter are all brilliant examples of what can happen when high-quality, well-intentioned providers adopt this model and use health information technology to maximize its benefits.

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