



American Hospital
Association

Patient-Centered MEDICAL HOME

AHA RESEARCH SYNTHESIS REPORT

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Committee on Research



AHA Research Synthesis Reports are periodic reports that synthesize literature on key issues related to the 2010 to 2012 AHA Research Agenda as part of Hospitals in Pursuit of Excellence. The AHA Committee on Research developed the 2010 to 2012 AHA Research Agenda, which was approved by the AHA Board in November 2009.

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Executive Summary

Introduction

This synthesis report presents an overview of the Patient-Centered Medical Home (PCMH), including key features, discussion of federal, state, and private sector medical home models, and considerations for hospitals interested in developing a PCMH.

What is a Patient-Centered Medical Home?

The medical home concept, which was originally developed in the 1960s, refers to the provision of comprehensive primary care services that facilitates communication and shared decision-making between the patient, his/her primary care providers, other providers, and the patient's family. The PCMH concept was included as a program in national health care reform legislation with components similar to joint principles developed by the American Academy of Family Physicians (AAFP), American Academy of Pediatrics (AAP), American College of Physicians (ACP), and the American Osteopathic Association (AOA):

- *Personal physician* – Each patient has an ongoing relationship with a personal physician trained to provide first contact, continuous, and comprehensive care.
- *Physician directed medical practice* – The personal physician leads a team of individuals at the practice level who collectively take responsibility for the ongoing care of patients.
- *Whole person orientation* – The personal physician is responsible for providing for all the patient's health care needs or taking responsibility for appropriately arranging care with other professionals.
- *Care is coordinated and/or integrated* across all elements of the complex health care system (e.g., subspecialty care, hospitals, home health agencies, nursing homes) and the patient's community.
- *Quality and safety* are hallmarks of the medical home, supporting the attainment of optimal, patient-centered outcomes.
- *Enhanced access* to care is available through systems such as open scheduling, expanded hours, and new options for communication between patients, their personal physician, and practice staff.
- *Payment* appropriately recognizes the added value provided to patients who have a PCMH.

The specific role of hospitals in a PCMH

The definition and structure of most PCMH initiatives do not include a unique role for hospitals. However hospitals can participate in the PCMH model in a supportive, complementary role to primary care practices, in the following ways:

- *Convene physicians*
- *Offer capital and IT infrastructure*
- *Offer staff resources and other functionalities*
- *Offer management expertise*
- *Serve as an administrator of bundled payment*

Hospitals looking to participate in a PCMH can get started with the following recommended steps:

- *Assess current organizational capabilities and resources*
- *Identify opportunities in the community for partnership*

Conclusion

The PCMH model offers significant promise as a method of both improving the patient experience and reducing cost. Hospitals face the challenge of not having a defined role in the PCMH model. Still, researchers believe that hospitals will begin a migration to embrace the PCMH model in coming years as a natural extension of clinical IT investments and increasing care coordination (Deloitte, 2008).

Introduction

The AHA Committee on Research develops the *AHA Research Synthesis Reports* to explore answers to AHA's top research questions. This report addresses the following question from the AHA Research Agenda:

What is the role of the hospital in a new community environment that provides more efficient and effective health care (e.g., what are the redesigned structures and models, the role and implementation of the patient-centered medical home, the structures and processes needed to implement new payment models such as bundled payments, and how do organizations transition to this new role)?

This report is the third in the series of synthesis reports, and presents an overview of the Patient-Centered Medical Home (PCMH), including key design features, discussion of federal, state, and private sector medical home models, and considerations for hospitals interested in developing a PCMH.

Overview of the Patient-Centered Medical Home

The medical home concept, which was originally developed in the 1960s, generally refers to the provision of comprehensive primary care services that facilitates communication and shared decision-making between the patient, his/her primary care providers, other providers, and the patient's family. This patient-centric care model is led by the personal physician who provides continuous and coordinated care for the patient across the care team. Over the past few years, there have been more than 100 medical home initiatives aimed at more effectively supporting both primary care and chronic disease management (Fields et al., 2010; Fisher, 2008).

In 2007, the American Academy of Family Physicians, American Academy of Pediatrics, American College of Physicians, and the American Osteopathic Association developed joint principles for the PCMH model.¹ These principles informed the NCQA's Physician Practice Connections® - Patient-Centered Medical Home™ (PPC-PCMH) standards. The PPC-PCMH program includes nine PPC standards, including 10 "must pass" elements, such as adopting and implementing evidence-based guidelines, tracking referrals with paper-based or electronic systems, and measuring clinical performance.² Provider organizations can apply for one of three PCMH recognition levels – basic, intermediate, and advanced. The Accreditation Association for Ambulatory Health Care (AAAHC) also offers PCMH accreditation. Most of the PCMH

AAFP, AAP, ACP, AOA Joint Principles for PCMH:

- Personal physician
- Physician directed medical practice
- Whole person orientation
- Care is coordinated and/or integrated
- Quality and safety improvement,
- Enhanced access
- Payment

¹ Further information on the joint principles is included in the Appendix.

² Further information on the PPC-PCMH standards is included in the Appendix

principles identified by AAFP, AAP, ACP, and the AOA as well as the AAAHC measures are based on tools and processes that translate into higher quality care (Friedberg et al., 2009). Researchers continue to explore and develop a systematic evidence base that informs the specific capabilities and processes that are central to the PCMH's effectiveness and efficiency.

Opportunities and Challenges

The PCMH model leverages many of the benefits of primary care, such as access to care, established patient-physician relationships, and comprehensiveness of care to improve patient care. Approximately 65 million Americans live in officially designated primary care shortage areas, and a recent survey found that only 27 percent of U.S. adults can easily reach their primary care physician by telephone, obtain after-hours care or advice and schedule timely office visits (Health Affairs/Robert Wood Johnson Foundation 2010). Researchers believe that strengthening primary care delivery in the PCMH model could lead to a reduction in health care costs while also improving quality for patients with chronic conditions (Jaen et al., 2009). Proponents of the PCMH model argue the approach could improve physician-patient relationship and realign payment incentives more closely with evidence-based medicine (Deloitte, 2008). The PCMH model could also address racial, ethnic, and socioeconomic disparities in health care outcomes.

Successful implementation of a PCMH will however require significant investments on the part of primary care practices and other providers. Most physicians in primary care practices are not trained or reimbursed to provide care coordination and do not have the resources to acquire the necessary information technology to undertake care coordination (Deloitte, 2008). The reimbursement models used in current PCMH initiatives attempt to strengthen the link between payment and the goals of the PCMH. For example, some medical home pilot projects involve new and improved versions of capitation, such as the model described in Section 3502 of the Affordable Care Act. Other medical home initiatives use the traditional fee-for-service approach or involve any combination of fee-for-service, capitation fees, and extra payments for care coordination and management, treating high-risk patients, and meeting quality and efficiency goals.

In addition, effective care coordination is dependent on not only improved clinical information, but on a willingness by physicians to participate in collaborative decision-making (Fisher, 2008). Practice redesign poses several challenges for primary care practices. However, researchers caution that primary care practice redesign is not enough on its own to generate significant cost reductions and quality improvements in a PCMH; it also requires the active participation of patients in their care. There is emerging evidence that shared decision-making will be an important component of the PCMH (O'Connor et al., 2009). Patient engagement will require extensive patient education by providers. To date, engagement of patients in their care is still uncertain, despite efforts to increase patient-centeredness that date back to the 1970s (Kilo and Wasson, 2010).

The PCMH Model and Health Care Reform

Section 3502 of the Patient Protection and Affordable Care Act directs the Secretary of Health and Human Services (HHS) to provide grants to or enter into contracts with 'eligible entities' to establish community-based interdisciplinary, interprofessional teams ('health teams'). The 'health teams' will support primary care providers in the entity's hospital service area in the creation of 'medical homes.' The grants will provide capitated payments to providers. The primary care teams eligible for capitated payments may include medical specialists, nurses, pharmacists, nutritionists, dieticians, social workers, behavioral and mental health providers, doctors of chiropractic medicine, licensed complementary and alternative medicine practitioners and physician assistants. The definition of a medical home provided in legislation mirrors the components identified in the PCMH Joint Principles.

Prospective community health teams eligible for capitated payments through Section 3502 will be required to:

- Submit plans for achieving long-term financial sustainability within three years
- Submit plans for integrating prevention initiatives, patient education, and care management resources with care delivery
- Create an interdisciplinary health team that meets HHS standards
- Provide services to eligible patients with chronic conditions

Current Medical Home Programs

The proliferation of public and private medical home demonstrations presents both an opportunity and challenge for providers. States have especially been active in this area: 31 states are planning or implementing PCMH pilots within Medicaid or the Children's Health Insurance model (Health Affairs/Robert Wood Johnson Foundation, 2010). Several states have PCMH language in their Medicaid programs and may offer financial support for setting up a PCMH. Some are transitioning Medicaid to a medical home model. Numerous private sector efforts have also been launched by payer and provider organizations, and national and regional collaboratives.

Federal Medical Home Demonstrations

➤ Multi-Payer Advanced Primary Care Practice (MAPCP) demonstration

Under the terms of MAPCP, CMS will be participating in state-sponsored multi-payer initiatives that promote Advanced Primary Care (APC), defined as prevention, health information technology, care coordination, and shared decision-making among patients and their providers. In exchange, participating providers will receive enhanced payments for Medicare patients. Applications for participation were due in August 2010; the demonstration will formally begin in early 2011.

➤ *Federally Qualified Health Centers Advanced Primary Care Practice (FQHCAPC) demonstration*

The FQHCAPC demonstration is designed to “evaluate the impact of the advanced primary care practice model on the accessibility, quality, and cost of care provided to Medicare beneficiaries served by Federally Qualified Health Centers” (CMS, 2010). Earlier this year, CMS established an email box for interested individuals to submit comments or questions about the initiative.

➤ *Department of Veterans Affairs*

The U.S. Department of Veterans Affairs (VA) is in the middle of a \$250 million effort to adopt the PCMH model nationwide at its clinics, with the expectation of 80 percent participation by 2012 and full participation by 2015 (Health Affairs/Robert Wood Johnson Foundation, 2010). Core features of the VA initiative include team-based care, a larger role for nurses in care coordination, email and other alternative forms of contact with patients, and increased attention to behavioral health issues. The VA also plans to study the medical home with several regional research initiatives designed to test different PCMH elements and their impact on quality, safety, patient satisfaction, and economic viability (Veterans Health Administration Research and Development, 2010).

State Medical Home Programs

➤ *Colorado Children's Healthcare Access Program (CCHAP)*

CCHAP began in 2006 as an 18-month pilot project to help private pediatric and family practices serve Medicaid patients, in the interest of providing medical homes for low-income children. The pilot included seven pediatric practices serving 7,000 children in the Denver metro area. CCHAP worked with private practices to receive enhanced Medicaid payments in exchange for providing preventive services, and also provided support services to providers, including care coordination, a resource hotline, and Medicaid billing assistance. The pilot increased immunization rates, reduced emergency department use, increased preventive care visits, and reduced Medicaid costs in affiliated practices. A second pilot, launched in 2007, also led to improvements in preventive care and reductions in emergency department visits and hospitalizations. As of January, 2010, the program includes 116 practices and 405 providers, representing 93 percent of private pediatric practices and pediatricians in Colorado (Silow-Carroll and Bitterman, 2010).

➤ *Michigan Children's Healthcare Access Program (MCHAP)*

The Michigan Children's Healthcare Access Program was launched in 2008 to provide access to medical homes for low-income children in Grand Rapids and surrounding Kent County, Michigan. MCHAP provides enhanced Medicaid payments to pediatric providers, while helping organize community-based care coordination, supportive services, and family provider education. A one-year pilot program reported lower emergency room use and inpatient use among CHAP patients (Silow-Carroll and Bitterman, 2010).

➤ *Community Care of North Carolina*

Since 1998, the state of North Carolina has operated Community Care of North Carolina, an enhanced medical home supported by the state's Medicaid program. The program builds community health networks organized collaboratively by hospitals, physicians, health departments, and social service organizations to manage care. Each enrollee is assigned to a specific primary care provider, while network case managers work with physicians and hospitals to identify and manage care for high-cost patients. A study by the University of North Carolina found that the program saved roughly \$3.3 million in the treatment of asthma patients and \$2.1 million in the treatment of diabetes patients between 2000 and 2002, while reducing hospitalizations for both patient groups. In 2006, the program saved the state roughly \$150 to \$170 million (Kaiser Commission, 2009).

Private Sector Medical Home Programs

➤ *TransforMED National Demonstration Project (NDP)*

In 2006, TransforMED, a subsidiary of the American Academy of Family Physicians launched the National Demonstration Project as a two-year experiment to analyze aspects of the PCMH model. The 36 participating family practices received ongoing assistance from a change facilitator, consultations from economists, health IT and quality improvement training, and regular group conference calls. Following the completion of the 2-year test, evaluators found that to effectively establish a medical home, individuals in practices needed to change their 'roles and identities' within the practice. The evaluation also found that the focus on implementing the technological components of the NDP potentially took away from the patient experience. This might explain why patient ratings of their PCMH declined on four measures: easy access to first-contact care, comprehensive care, coordination of care, and personal relationship over time (Jaen et al., 2010).

Some researchers argue that the NDP demonstrated the need for PCMH initiatives to focus resources on patient-centered care and proven primary care practices, instead of on disease management and information technology improvements (Crabtree, 2010). Other researchers note that organizational "adaptive reserve," or a practice's ability to provide both participatory leadership and be a learning organization, will significantly impact its ability to implement a PCMH model (Jaen, 2010).

➤ *Group Health, Seattle*

In 2006, Group Health, which provides insurance and care to 500,000 residents in the Pacific Northwest, piloted the PCMH redesign at one Seattle-area clinic. As part of the pilot, Group Health decreased the number of patients each primary care doctor was responsible for from 2,300 to 1,800, thereby allowing physicians to spend more time with the patient and coordinate his/her care. Group Health also invested \$16 more per patient per year to staff the medical home pilot clinic. An evaluation conducted at the end of a two-year period found that the model reduced physician and care team burnout, improved quality scores, and reduced emergency, specialty, and avoidable hospitalization use and costs. The success of the demonstration

prompted Group Health to spread the medical home model to all its medical centers in early 2010 (Reid et al., 2010). According to one analysis, Group Health generated a return of \$1.50 for every \$1 invested in the medical home demonstration (Health Affairs/Robert Wood Johnson Foundation, 2010).

➤ *Geisinger Health System*

In 2005, Pennsylvania-based Geisinger Health System began implementing a PCMH model, or “ProvenHealth Navigator,” predicated on round the clock access to primary and specialty care, and tied to care coordination, care management support, and tele-monitoring. To encourage participation, the system offers physicians \$1,800 monthly payments and stipends of \$5,000 per 1,000 Medicare patients to pay for additional staff. Preliminary data suggests the PCMH model has produced a 20 percent reduction in hospital admissions and a 7 percent savings in total medical costs (Paulus et al., 2008).

The Hospital and the PCMH

The definition and structure of a PCMH does not include a unique role for hospitals. While hospitals are not specifically referred to in Section 3502 of the Affordable Care Act, the requirements for the creation of the care teams mentioned in the Act stipulate that the new entities “incorporate health care providers, patients, caregivers, and authorized representatives in program design and oversight.” More importantly, delivery and payment reforms such as bundled payments and accountable care organizations will require collaboration between hospitals, physician groups, and other providers, thereby making the PCMH model a logical step for health care providers in the evolving care delivery and payment structure.

The current private and public sector PCMH programs differ in design and focus. A recent article that analyzed seven PCMH pilot and demonstration programs identified variations in population of focus, target conditions, type of financial incentives used, and practice-level features such as the use of electronic health records. The article however found four common and critical features across the seven medical home models. All of the PCMH programs utilized the services of a dedicated, trained, non-physician care manager to coordinate patient care. The programs also provided expanded access to providers, including access outside of provider’s regular office hours. The practices involved in the seven PCMH programs also had analytic tools that provided them with real-time data on their performance and patient status. Finally, the programs also used effective incentive payments to encourage physicians to take on care coordinating responsibilities. An example of an incentive payment is additional per member per month payment (Fields et al., 2010).

Hospitals looking to participate in the PCMH model will likely assume a supportive, complementary role to primary care practices. The four features of successful PCMHs identified in the previous section are areas where primary care practices are ill-equipped or do not have the

Participating hospitals will likely assume a supportive, complementary role to primary care practices in a PCMH.

required resources and expertise to implement. Specifically, hospitals can support primary care practices in the following ways:

- *Convene physicians:* Hospitals may be able to bring together affiliated physicians to further develop the strong relationships necessary for a successful PCMH. For instance, primary care providers in a PCMH will need to track patients to ensure they follow up with specialists (Fields, 2010). Currently, no incentives exist for specialists to work collaboratively with primary care providers in a PCMH. Hospitals may be able to link PCMH initiatives with their affiliated specialists. This arrangement also provides a platform for implementing an ACO.
- *Offer capital and IT infrastructure:* Hospitals may be able to play a critical role in new PCMH models by offering information technology networks and capital resources to primary care providers. Currently, few local, independent physician practices and local community centers have the IT capabilities to seamlessly communicate with local hospitals. Hospitals considering participation in a PCMH should consider the substantial resources to be invested in IT capabilities (Deloitte, 2008) and analyze whether they will be able to offer those resources to the newly formed PCMH and their prospective partners.
- *Offer staff resources and other functionalities:* Hospitals may also be able to support PCMHs with staff resources and other functionalities. Most of the members of the 'health teams' described in health reform, such as medical specialists, nurses, pharmacists, nutritionists, dietitians, social workers, health educators/health system navigators, behavioral, and mental health providers are all resources that hospitals may already have in-house. Hospitals may be able to leverage these staff resources in a PCMH. It is also conceivable that hospitalists, in their role as care managers for hospitalized patients and those responsible for returning patients to their primary physicians at discharge, could have a role to play in care coordination in the PCMH model.
- *Offer management expertise:* Many primary care providers may not possess the management or knowledge translation expertise required to effectively administer a PCMH initiative. Hospitals may be able to lend administrative expertise to PCMH initiatives to further these goals.
- *Serve as an administrator of bundled payment* – Hospitals are able to use their management capacity and organizational structure to develop payment allocation methods for components of the payment bundle that are the responsibilities of primary care, specialists, hospital inpatient and outpatient units, and related facilities. An important function of the bundled payment administrator is to assume overall accountability for the financial and clinical integration of patient care; a potential role that hospital management is well positioned to assume.

Hospitals, faced with competing priorities, may be inclined to dedicate available resources to other care delivery innovations, such as developing an accountable care organization, rather than developing a PCMH. It is however important to note that the PCMH can be viewed as being complementary to or critical to the formation of an ACO (Devers and Berenson, 2009). The chart below highlights the key similarities and differences between the ACO and PCMH along five components.

Table 1: Side-by-side of components of ACO and PCMH (Affordable Care Act)*

	PCMH	ACO
Key Players	Primary care practice teams, including medical specialists, nurses, pharmacists, nutritionists, dieticians, social workers, health educators/health system navigators, behavioral and mental health providers, doctors of chiropractic medicine, licensed complementary and alternative medicine practitioners, and physician assistants	Hospitals, physician group practices, networks of individual practices, and partnerships between hospitals and other health care professionals
Delivery Structure	Focus on patient-physician relationship (single practice); physician-led practice; enhanced access to care; coordinated and integrated care; comprehensive, continuous care	Multiple providers; complete and timely information about patients and services they are receiving; resources & support for patient education and self-management support; coordinated relationships of PCP with specialists
Required Resources	interoperable EHR: Resources to provide 24-hour care management and support during transitions in care, including on-site visits, discharge plans, counseling, medication management, referrals for behavioral health as needed; serve as liaison to community prevention and treatment programs	Technology and skills for population management and coordination of care
Accountability	Rests primarily with the primary care practice	Joint accountability for care by all providers involved
Payment Structure	Grants or contracts from HHS to interdisciplinary, interprofessional teams	Traditional fee-for-service, supplemented by annual shared savings for participating ACOs that meet specified quality performance standards at expenditure benchmarks

*Level of detail and specificity provided for each program in the Affordable Care Act varies

Next Steps for Hospitals

Hospitals looking to participate in the PCMH can get started with the following recommended steps:

- *Assess current organizational capabilities and resources:* Hospitals may not be able to provide support to a PCMH in all the areas identified in the previous section; however,

conducting a scan of available resources and capabilities will help to guide the scope of involvement in a PCMH.

- *Identify opportunities in the community for partnership:* Hospitals can use existing partnership with physician organizations to establish a PCMH, and subsequently, an ACO. Hospitals who currently do not have those affiliations can proactively reach out to primary care practices in their service area to establish such linkages. Hospitals that are able to position themselves as a 'community medical center' can leverage that position to serve as a business unit for chronic disease management and improved transitions across care settings.

Conclusion

Private and public sector demonstrations have shown that the PCMH model offers significant promise as a method of both improving the patient experience and reducing cost. However, major barriers to PCMH adoption persist, including insufficient IT capabilities among primary care physicians, patient uncertainty about a gatekeeper approach, and the need for clinicians to adopt a model emphasizing shared decision-making (Fisher, 2008). Hospitals also face the additional challenge of not having a defined role in the PCMH model. Hospitals considering PCMH participation in either the national health reform initiative or other efforts should note that the complementary role they would play in the PCMH model does not diminish the ability of the PMCH to contribute to other quality improvement and care delivery goals that they are currently pursuing. While some integrated health systems have developed hospital-based PCMH models, most PCMH initiatives, including the pilot demonstration established in health reform legislation, are constructed to give primary care practices a leading role in guiding the patient experience. Still, many analysts believe that hospitals will begin a migration to embrace the PCMH model in coming years as a natural extension of clinical IT investments and increasing care coordination (Deloitte, 2008).

Appendix

A. The National Committee for Quality Assurance 2011 PCMH standards

The National Committee for Quality Assurance has proposed new PCMH standards, building upon its existing 2008 standards with new goals to increase patient-centeredness, align the requirements with processes that improve quality, increase the emphasis on patient feedback, enhance the use of clinical performance measure results, integrate behaviors affecting health, mental health, and substance abuse, and enhance care coordination. The six proposed standards are:

- Access and Continuity
- Identify and Manage Patient Populations
- Plan and Manage Care
- Self-Management Support
- Track and Coordinate Care
- Performance

B. The Joint Principles for the Patient-Centered Medical Home

<http://www.medicalhomeinfo.org/downloads/pdfs/jointstatement.pdf>

**American Academy of Family Physicians (AAFP)
American Academy of Pediatrics (AAP)
American College of Physicians (ACP)
American Osteopathic Association (AOA)
Joint Principles of the Patient-Centered Medical Home
March 2007**

Introduction

The Patient-Centered Medical Home (PCMH) is an approach to providing comprehensive primary care for children, youth and adults. The PCMH is a health care setting that facilitates partnerships between individual patients, and their personal physicians, and when appropriate, the patient's family. The AAP, AAFP, ACP, and AOA, representing approximately 333,000 physicians, have developed the following joint principles to describe the characteristics of the PCMH.

Principles

Personal physician – each patient has an ongoing relationship with a personal physician trained to provide first contact, continuous, and comprehensive care.

Physician directed medical practice – the personal physician leads a team of individuals at the practice level who collectively take responsibility for the ongoing care of patients.

Whole person orientation – the personal physician is responsible for providing for all the patient's health care needs or for appropriately arranging 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 is coordinated and/or integrated – across all elements of the complex health care system (e.g., subspecialty care, hospitals, home health agencies, nursing homes) and the patient's community (e.g., family, public and private community-based services). Care is facilitated by registries, information technology, health information exchange and other means to assure that patients get the indicated care when and where they need and want it in a culturally and linguistically appropriate manner.

Quality and safety are hallmarks of the medical home.

- Practices advocate for their patients to support the attainment of optimal, patient-centered outcomes that are defined by a care planning process driven by a compassionate, robust partnership between physicians, patients, and the patient's family.
- Evidence-based medicine and clinical decision-support tools guide decision-making.
- Physicians in the practice accept accountability for continuous quality improvement through voluntary engagement in performance measurement and improvement.
- Patients actively participate in decision-making and feedback is sought to ensure patients' expectations are being met.
- Information technology is utilized appropriately to support optimal patient care, performance measurement, patient education, and enhanced communication.
- Practices go through a voluntary recognition process by an appropriate non-governmental entity to demonstrate that they have the capabilities to provide patient centered services consistent with the medical home model.
- Patients and families participate in quality improvement activities at the practice level.

Enhanced access to care is available through systems such as open scheduling, expanded hours, and new options for communication between patients, their personal physician, and practice staff.

Payment appropriately recognizes the added value provided to patients who have a patient-centered medical home. The payment structure should be based on the following framework:

- It should reflect the value of physician and non-physician staff patient-centered care management work that falls outside of the face-to-face visit.
- It should pay for services associated with coordination of care both within a given practice and between consultants, ancillary providers, and community resources.
- It should support adoption and use of health information technology for quality improvement.
- It should support provision of enhanced communication access such as secure e-mail and telephone consultation.

- It should recognize the value of physician work associated with remote monitoring of clinical data using technology.
- It should allow for separate fee-for-service payments for face-to-face visits. (Payments for care management services that fall outside of the face-to-face visit, as described above, should not result in a reduction in the payments for face-to-face visits).
- It should recognize case mix differences in the patient population being treated within the practice.
- It should allow physicians to share in savings from reduced hospitalizations associated with physician-guided care management in the office setting.
- It should allow for additional payments for achieving measurable and continuous quality improvements.

C. The PPC-PCMH Standards - <http://www.ncqa.org/tabid/631/default.aspx>³

Standard 1: Access and Communication

- A. Access and communication processes****
- B. Access and communication results****

Standard 2: Patient Tracking and Registry Functions

- A. Basic system for managing patient data
- B. Electronic system for clinical data
- C. Use of electronic clinical data
- D. Organizing clinical data****
- E. Identifying important conditions****
- F. Use of system for population management

Standard 3: Care Management

- a. Guidelines for important conditions ****
- b. Preventive service clinician reminders
- c. Practice organization
- d. Care management for important conditions
- e. Continuity of care

Standard 4: Patient Self Management Support

- A. Documenting communication needs
- B. Self-management support****

Standard 5: Electronic Prescribing

- A. Electronic prescription writing
- B. Prescribing decision support - safety
- C. Prescribing decision support - efficiency

Standard 6: Test Tracking

- A. Test tracking and follow up****
- B. Electronic system for managing tests

³ ** : Must-Pass Elements

Standard 7: Referral Tracking

A. Referral tracking**

Standard 8: Performance Reporting and Improvement

A. Measures of performance **

B. Patient experience data

C. Reporting to physicians **

D. Setting goals and taking action

E. Reporting standardized measures

F. Electronic reporting to external entities

Standard 9: Advanced Electronic Communications

A. Availability of interactive website

B. Electronic patient identification

C. Electronic care management support

D. ACOs vs. PCMH Comparison (Yoder, 2010)⁴

PCMH	ACO
• Personal physician, focus on patient-physician relationship (single practice)	• Provider-led organization, multiple providers, practices organized
• Physician-led team	• Culture of teamwork among staff of practices
• Whole person model of care, patient and family-centered	• Complete and timely information about patients and services they are receiving
• Enhanced access to care	• N/A
• Care coordinated, integrated	• Resources & support for patient education and self management support
• Comprehensive, continuous care	• Coordinated relationships of PCP with specialists and other providers
• Continuous improvement	• Manage full continuum of care for populations
• Quality and safety, guide all care individual/population	• Accountable for quality and safety for populations • Technology and skills for population management and coordination of care • Ability to measure and report on quality
• Payment supports patient-centered care, and is value driven	• Accountable for overall costs • Infrastructure and skills for management of financial risk • Leaders committed to improving value of health care services

⁴ Ernie Yoder, M.D., vice president of Medical Education and Research for St. John Health, developed this chart comparing the PCMH and ACO models for a July 2010 presentation to the Michigan Association of Health Plans.

References

Legislation and proposals:

1. Patient Protection and Affordable Care Act, Section 3502: Establishing community health teams to support the patient-centered medical home (2010).
<http://docs.house.gov/energycommerce/ppacacon.pdf>

Summary: This section of federal health care reform describes the stipulations for physicians, hospitals and other providers wishing to participate in the CMS PCMH demonstration.

2. Patient-Centered Medical Home 2011 Draft Standards Overview. *National Committee for Quality Assurance*.
http://www.ncqa.org/Portals/0/PublicComment/Draft_Standards_PCMH.pdf

Summary: The article lays out the proposed, up-to-date NCQA draft standards for the patient-centered medical home, building upon the existing 2008 standards with new goals to increase patient-centeredness, align the requirements with processes that improve quality, increase the emphasis on patient feedback, enhance the use of clinical performance measure results, integrate behaviors affecting health, mental health and substance abuse and enhance care coordination.

3. Multi-Payer Advanced Primary Care Practice Demonstration Fact Sheet. Centers for Medicare & Medicaid Services (2010).
<http://www.cms.gov/demoprojectsevalrpts/md/itemdetail.asp?itemid=cms1230016>

Summary: The fact sheet describes the parameters of participation in CMS's MAPCP demonstration.

Evaluation of demonstration projects:

4. Crabtree, B.F., Nutting, P.A., Miller, W.L., Stange, K.C., Stewart, E.E., Jaen, C.R. (2010) Summary of the National Demonstration Project and Recommendations for the Patient-Centered Medical Home. *Annals of Family Medicine* (Vol. 8, Supplement 1).
http://www.annfammed.org/content/vol8/Suppl_1/

Summary: The article summarizes findings from the National Demonstration Project, a PCMH test of 36 family care practices. The article concludes that PCMH initiatives should focus more on patient-centered care and proven primary care practices than on disease management and information technology. The article also argues that the PCMH model is dependent on widespread systemic reform.

5. Silow-Carroll, S., Bitterman, J. (2010) Colorado Children's Healthcare Access Program: Helping Pediatric Practices Become Medical Homes for Low-Income Children. *The Commonwealth Fund* (Vol. 47).
<http://www.commonwealthfund.org/Content/Publications/Case-Studies/2010/Jun/Colorado-Childrens-Healthcare-Access.aspx>

Summary: The article analyzes the Colorado Children's Healthcare Access Program's efforts to help private pediatric and family practices serve Medicaid patients, in the interest of providing medical homes for low-income children. The authors found an 18-month pilot project led to increased immunization rates, reduced emergency department use, increased preventive care visits and led to reductions in Medicaid costs in affiliated practices. A second pilot, launched in 2007, also led to improvements in preventive care and reductions in emergency department visits and hospitalizations. The program now includes 116 practices and 405 providers, representing 93 percent of private pediatric practices and pediatricians in Colorado.

6. Jaen, C.R., Ferrer, R.L., Miller, W.L., Palmer, R.F., Wood, R., Davila, M., Stewart, E.E., Crabtree, B.F., Nutting, P.A., Stange, K.C. (2010) Patient Outcomes at 26 Months in the Patient-Centered Medical Home National Demonstration Project *Annals of Family Medicine* (Vol. 8, Supplement 1). http://www.annfammed.org/cgi/content/short/8/Suppl_1/S57

Summary: The authors analyze patient outcomes from the PCMH National Demonstration Project, focusing on two questions: Whether adoption of the NDP model would be superior in practices which worked with a facilitator or those who adopted them in a self-directed process, and whether adoption of the model would improve patient outcomes. The analysts found that facilitated practices adopted more of the components of the NDP model, but did not generate statistically significant improvements in quality outcomes relative to the self-directed group. The researchers also found that adoption of the NDP model was not associated with patient-rate outcomes other than access. Finally, the researchers noted that implementation of the project's technological components was not associated with improved patient care, and suggest that the effort need to implement IT improvements may interfere with patient-centered care delivery.

7. Reid, R.J., Fishman, P.A., Yu, O., Ross, T.R., Tufano, J.T., Soman, M.P., Larson, E.B. (2009) Patient-Centered Medical Home Demonstration: A Prospective, Quasi-Experimental, Before and After Evaluation. *American Journal of Managed Care* (Vol. 15, No. 9).
http://www.ajmc.com/articles/managed-care/AJMC_09sep_ReidWEbX_e71toe87

Summary: The authors consider a PCMH demonstration at Group Health, which provides in insurance and care to 500,000 residents in the Pacific Northwest. In 2007, Group Health launched a comprehensive PCMH redesign, which included staffing increases for physicians and other clinicians, redesigned processes for team huddles, pre-visit outreach and chart review and the introduction of patient-centered quality deficiency reports. The article

concludes that the PCMH demonstration led to significant improvements in patients' and clinicians' experiences and in the quality of clinical care, and notes that despite a significant investment, the costs of the PCMH redesign were recouped in the first year.

8. Kaiser Commission on Medicaid and the Uninsured (2009) *Community Care of North Carolina: Putting Health Reform Ideas into Practice in Medicaid*.
<http://www.kff.org/medicaid/upload/7899.pdf>

Summary: This article assesses North Carolina's Community Care of North Carolina program, an enhanced medical home model operated by the state's Medicaid program. The program relies on nonprofit community networks of hospitals, physicians, health departments and social service organizations to manage care, and notes that the program saved roughly \$3.3 million in the treatment of asthma patients and \$2.1 million in the treatment of diabetes patients between 2000 and 2002, while reducing hospitalizations for both patient groups. In 2006, the program saved the state roughly \$150 to \$170 million. The article concludes that the practices developed by CCNC show promise as tools to implement health reform national and provide "coordinated, cost effective care to low-income individuals with significant health needs."

9. Paulus, R.A., Davis, K. and Steele, G.D. (2008) Continuous Innovation in Health Care: Implications of the Geisinger Experience *Health Affairs* (Vol. 27, No. 5).
http://www.geisinger.org/info/innov_conf/medicalHomeConf/references/2008%20Continuous%20Innovation.pdf

Summary: The authors discuss innovations at Geisinger Health System in Pennsylvania, including efforts to implement a PCMH model predicated on round-the-clock access to primary and specialty care and tied to care coordination, care management support and home-based monitoring. The authors discuss reimbursement incentives and IT advances used to develop the program, and conclude that the PCMH has led to a 20 percent reduction in hospital admissions and a 7 percent savings in total medical costs.

10. Next-Generation Primary Care: Coming To a VA Clinic Near You (2010) *Veterans Health Administration Research and Development*
http://www.research.va.gov/news/features/primary_care.cfm

Summary: This article takes a comprehensive look at the VA's \$250 million effort to adopt the PCMH model at its clinics, with the goal of complete adoption by 2015. The article also explores the VA's plans to study the medical home with several regional research initiatives designed to test different PCMH elements and their impact on quality, safety, patient satisfaction and economic viability.

Other Published Literature

11. Fields, D., Leshen, E. and Patel, K. Driving Quality Gains and Cost Savings Through Adoption of Medical Homes (2010) *Health Affairs* (Vol. 29, No. 5 p. 819-826).
<http://content.healthaffairs.org/cgi/content/abstract/29/5/819>

Summary: The article analyzes the potential for the medical home model to create value. The article considers the medical home guidelines developed by the National Committee for Quality Assurance and the Center for Medical Home Improvement, and analyzes seven medical home initiatives to determine the intrinsic characteristics of a medical home project. The article identifies four common features of medical home projects as the use of dedicated care managers, expanded access to health practitioner, data-driven analytic tools and the use of incentives. The article concludes that successful medical home initiatives will hinge on the ability of physician practices to embrace teamwork, expand access to their primary care services and modify their clinical management to utilize quality performance data.

12. Kilo, C.M. and Wasson, J.H. (2010) Practice Redesign and the Patient-Centered Medical Home: History, Promises and Challenges. *Health Affairs* (Vol. 29, No. 5).
<http://content.healthaffairs.org/cgi/content/abstract/29/5/773>

Summary: The authors summarize the history of primary care and practice redesign dating back to the 1960s, and analyze current challenges to successful PCMH implementation. The authors conclude that while the PCMH model faces many challenges to widespread implementation—including physician shortages, unrealistic expectations and uncertain engagement from patients—the model holds promise as primary care continues to evolve.

13. Broccolo, B. (2010) Toward Accountable Care: How Healthcare Reform Will Shape Provider Integration. *McDermott, Will & Emery LLP*.
www.healthlawyers.org/Events/Programs/Materials/.../broccolo.pdf

Summary: This presentation outlines key aspects of health care reform in the context of provider integration, including the portions of reform that relate to the PCMH model.

14. Scholle, S.H., Torda, P., Peikes, D., Han, E. and Genevro, J. (2010) Engaging Patients and Families in the Medical Home. *Agency for Healthcare Research and Policy* (Publication No. 10, June 2010). http://www.pcmh.ahrq.gov/portal/server.pt/community/pcmh_home/1483

Summary: This article catalogues the evolution of the role of the patient in the medical home model, and considers several different PCMH models in terms patient and family-centered care. The article suggests a three point framework for patient engagement in the PCMH predicated on care for the individual patient, practice improvement and policy design and implementation.

15. Yoder, E. (2010) Patient-Centered Medical Home: Embracing Federal Reform. www.mahp.org/events/.../2010/.../YoderPostConferenceHandout.doc

Summary: This presentation offers a comprehensive assessment of the PCMH and ACO initiatives included in health reform legislation, including a comparison chart detailing the critical similarities and differences between each model.

16. Reid, R.J., Coleman K., Johnson, E.A., Fishman, P.A., Hsu, C., Soman, M.P., Trescott, C.E., Erikson, M. and Larson, M.B. (2010) The Group Health Medical Home At Year Two: Cost Savings, Higher Patient Satisfaction, And Less Burnout For Providers. *Health Affairs*. (Vol. 29, No. 5)

Summary: The authors of the article found that the "patient-centered medical home" model launched by Group Health Cooperative in Seattle, paid off after a two-year period. According to the article, the model improved outcomes, including better-quality care, better experiences for patients, less burnout for clinicians and cost neutrality in the first-year results. By the second year, most of these outcomes were more pronounced, particularly for costs: the overall return on investment was 50 percent, mostly from curbing visits to emergency rooms and hospitals, according to the study's findings.

17. Devers, K. and Berenson, R. (2009) Can Accountable Care Organizations Improve the Value of Health Care by Solving the Cost and Quality Quandaries? *Robert Wood Johnson Foundation*. <http://www.rwjf.org/qualityequality/product.jsp?id=50609>

Summary: The authors survey the potential of accountable care organizations for managing patients' continuum of care across different institutional settings, better allocation of resources and serving as a framework for improved performance measurement of patient populations. The article also compares the ACO model with the PCMH model, noting important similarities and differences. The article concludes that ACOs have the potential to improve quality and reduce costs, but will require years of practice and refinement to reach those goals.

18. The Medical Home: Disruptive Innovation for a New Primary Care Model. (2008) *Deloitte Center for Health Solutions*. http://www.deloitte.com/view/en_US/us/Insights/centers/center-for-health-solutions/c67f5264b03fb110VqnVCM100000ba42f00aRCRD.htm

Summary: The authors briefly summarize the history of the PCMH model, dating back to its initial coinage in 1967 by the American Academy of Pediatrics to refer to a central location for archiving a medical record that was connected to specialty services and support functions. The article analyzes the potential return on investment for a PCMH model, considering its implications for individual primary care physicians, hospitals with primary care referral networks and commercial health plans. The article concludes that while the

PCMH model will have to overcome several obstacles—including insufficient training of to provide care coordination, physician shortages, competition between providers and uncertain financial savings—it holds strong promise as a delivery model that, given the proper incentives, can be financially sustainable.

19. Fisher, E.F. (2008) Building a Medical Neighborhood for the Medical Home. *New England Journal of Medicine* (September 2008) <http://www.nejm.org/doi/full/10.1056/NEJMp0806233>

Summary: The author surveys the challenges and opportunities offered by the PCMH model of care, noting that high expectations for PCMH persist despite major clinical and financial barriers to widespread adoption. The article notes challenges for providers considering PCMH adoption, including needed IT integration, the historical reluctance of physicians to make decisions collaboratively, the uncertain response by patients to the new model and uncertain financial returns. The article calls for aligning medical homes with the goals of effective communication and care coordination among all provides, payments aligned with creating shared electronic health records and broadened performance measures that assess the patient's care experience. The article concludes by noting that while the medical home model has great potential, its success is dependent on more effectively aligning the interests of physicians and hospitals with the improvement of patient care.

20. Health Policy Brief: Patient-Centered Medical Homes. (2010) *Health Affairs/Robert Wood Johnson Foundation* <http://www.rwjf.org/pr/product.jsp?id=68929>

Summary: This policy brief outlines current developments and trends concerning the PCMH model, highlighting the concept's inclusion in recent reform legislation and exploring emerging standards and existing PCMH initiatives. The article includes several key questions about the PCMH model that address patient and physician readiness, necessary resources and changes to payment systems.

21. Medical Home 2.0: The Present, The Future. (2010) *Deloitte Center for Health Solutions* http://www.deloitte.com/view/en_US/us/Industries/US-federal-government/center-for-health-solutions/research/f25a02f31251b210VqnVCM2000001b56f00aRCRD.htm

Summary: This issue brief provides key references on emerging PCMH standards, existing pilots and key characteristics of the PCMH concept. The article concludes that the model can yield results with significant investments, noting challenges that include physician adoption and health IT readiness. The article also advocates for a three-tiered PCMH reimbursement model consisting of a monthly care coordination payment, visit-based fee for service arrangements and performance-based payments centered on the achievement of quality and efficiency targets.