

Health Information Policy and The Patient-Centered Medical Home

—Notes from an NCVHS Hearing—

Executive Summary

The National Committee on Vital and Health Statistics (NCVHS) advises the Secretary of Health and Human Services on health information policy. On May 19-20, 2008, the NCVHS Subcommittees on Population Health and on Quality held a joint hearing in Washington, D.C., on the patient-centered medical home (PCMH).

Stakeholders from across a broad spectrum are embracing PCMH principles as a potentially critical step in improving health care in the United States. A hallmark of the PCMH, as it is currently articulated, is coordination of comprehensive care through a personal physician, in a practice setting that makes extensive use of practice systems, with a goal of better clinical outcomes and better cost containment. Several large demonstrations are under way to evaluate this approach. The two-day NCVHS meeting brought stakeholders together to review PCMH concepts and definitions; to consider issues surrounding the information, dataflow, and standards needed to assess the existence of medical homes and their performance and value in comparison to conventional care; and to look at medical home requirements related to process redesign, health information technology (HIT) systems, and public policy.

This report summarizes the major themes that emerged in the hearing. The Appendix contains a brief summary of each presentation within the structure of the hearing agenda, with an index of presenters on page 15.

PCMH Foundations and Core Attributes

PCMH models integrate the attributes of high-quality primary care and the Chronic Care Model developed by Dr. Ed Wagner and colleagues (see note 7 below). At the core is the focus of *patient-centricity*, which was a touchstone throughout the hearing. A key challenge is the difficulty of measuring patient experience. *The team* is another key PCMH concept, including the patient and family as well as the members of the healthcare team. The presenters emphasized the fundamental cultural and process changes needed to create such a team, and the information systems and tools needed to support it.

In 2007, four associations representing a majority of the nation's physicians, issued a Joint Statement on the PCMH (see note 3 below) that expresses the following areas of agreement about its key components: a personal physician, a physician-directed medical practice, a whole person orientation, coordination and/or integration of care, quality and safety as hallmarks, enhanced access to care, and appropriate payment and incentives.

Early Exemplars and Facilitators

At the May 2008 hearing, NCVHS members learned about several leading-edge PCMH programs (described below) in which quality improvement processes are a driving force, enabled by IT with rich clinical content and functions. The testimony highlighted the fundamental shifts needed to achieve PCMH goals—including shifts in the payment system, in clinical and administrative processes, in the doctor-patient relationship, and in the data and information systems that support and enhance care delivery. The testimony also illustrated the many obstacles and inefficiencies that hinder comprehensive change of this kind.

Enabling Process Redesign with Health IT

Many speakers stressed that implementation of the PCMH begins with process redesign, enabled by HIT. The testimony called for an expansion of national focus from HIT adoption, *per se*, to the creation of efficient systems and processes, supported by HIT. In addition, the testimony highlighted a number of technology gaps related to PCMH needs. One that stood out for NCVHS members was the lack of assurance that all of today's electronic health records (EHRs) can generate patient registries easily from the information collected within the EHR.

Measurement, Data, and Standards Issues

A major theme in the hearing was the importance of measurement, demonstration, and testing to evaluate the PCMH and guide its evolution. In that context, the key finding concerned the need for a standards-based data model to serve as a conceptual framework and information platform for these activities.

The testimony also brought to light the diversity of current PCMH models and a number of data gaps and measurement challenges. Of particular concern are the gaps related to identifying patients' understanding of their problems (and practitioners' understanding of patients' problems), measuring and reporting their experience of care, and assessing the comprehensiveness of the services provided by the PCMH.

It was evident that even with a simplified set of measures, many approaches will be needed to capture the necessary data to assess all the variables pertinent to the existence, functions, and performance of the PCMH. These may include capturing information directly from patients, such as from a personal health record system. The subcommittees were briefed on four Federal surveys that either already supply data on medical home or could be adapted for this purpose.

Commentary

The patient-centered medical home emerged from the testimony as, at the very least, a conceptual model aimed at better ways to achieve the objectives of health care, and potentially population health, with crucial roles for health statistics and health information technology. Many observers hope that the efforts of the numerous stakeholders involved can create a tipping point for fundamental change. NCVHS members were

struck by the scope and scale of the interest in the PCMH and by several positive aspects of the reported developments.

While the PCMH vision has stimulated widespread interest and guided some reform efforts, however, it is not without its critics. These critics raise questions about such matters as what value the medical home adds to fully-realized primary care; whether the “medical model” of the PCMH is compatible with placing an activated, informed patient at the center of health management; whether the medical home model adequately represents the comprehensiveness aspect of primary care; and how to accommodate a social-model view, which recognizes the broader concept of personal and social functioning.

The multiplicity of definitions, initiatives and models is another source of concern. Indeed, early adopters and supporters are focusing on demonstrations and evaluations to determine the signal characteristics of the PCMH and assess whether this approach can meet public needs, revitalize primary care, and link it systematically to the other dimensions of health care.

The Committee heard a strong message that successful implementation of the PCMH is tied to payment reform that addresses both the activities of the primary care provider/team and the obligatory infrastructure (including HIT). A constructive aspect of the hearing was that it showcased concrete work on the mechanics of reimbursement and clinical process, guided by comprehensive models of care.

NCVHS members expressed interest in addressing the clear need for an overarching, standards-based data model to guide PCMH design, evaluation and evolution. Other PCMH-related tasks that fall in NCVHS domains include studying the prospects for enhancing classification and coding systems to provide better coverage of primary-care concepts, pursuing privacy issues, and monitoring the impact on health disparities. These possible NCVHS activities suggest a host of potential roles for Federal government.

Health Information Policy and the Patient-Centered Medical Home: Notes from an NCVHS Hearing

Background and Overview

The National Committee on Vital and Health Statistics (NCVHS) is the Department of Health and Human Services' statutory public advisory body on health data, statistics, and national health information policy. The Committee "is intended to serve as a forum for the collaboration of interested parties to accelerate the evolution of public and private health information systems toward more uniform, shared data standards, operating within a framework protecting privacy and security."

A particular area of focus is to "monitor the nation's health data needs and current approaches to meeting those needs" and to "identify emerging health data issues, including methodologies and technologies of information systems, databases, and networking that could improve the ability to meet those needs."¹

Toward those ends, the NCVHS Subcommittees on Population Health and on Quality held a hearing on the patient-centered medical home (PCMH) in Washington, D.C., on May 19-20, 2008. The two-day meeting brought together expert stakeholders for the following purposes:

- to review PCMH concepts and definitions;
- to consider issues surrounding the information, dataflow, and standards needed to assess the existence of medical homes and their performance and value in comparison to conventional care; and
- to look at medical home requirements related to process redesign, health information technology (HIT) systems, and public policy.

The subcommittees heard a total of 26 presentations from 20 individuals, representing professional groups, a consumer-oriented partnership, health care organizations, payers, employers, academic and research institutions, quality improvement bodies, and State and Federal agencies. The agenda allowed ample time for discussion among NCVHS members and presenters.

This report summarizes the major themes that emerged in the hearing testimony and discussions. The presenters are listed, and their presentations briefly described following the hearing agenda structure, in the Appendix. (The reader can use the names referenced in the summary and the index on page 15 to find additional information on the presenters. Further detail is available in the meeting transcript and speakers' slides, posted on the NCVHS Website at <http://www.ncvhs.hhs.gov/080519ag.htm>.)

The hearing identified many factors that are stimulating the search for new approaches to care delivery, particularly to enable integration and coordination around the needs of the individual. Those factors include the fragmentation and escalating

¹ Quotations are from the NCVHS Charter. <<http://ncvhs.hhs.gov/charter08.pdf>>

cost of health care, the vulnerability of primary care, the growing prevalence of chronic illness, the explosion of information and technology, the rise of consumer empowerment, and the heightened national focus on population-based outcomes and ending health disparities.

The medical home concept was first enunciated in 1967 by the American Academy of Pediatrics. It evolved in pediatrics as a strategy for children with special health care needs. More recently, spurred by a 2004 report on the future of family medicine,² four physician associations came together and in March 2007 issued a *Consensus Statement of Medical Home Principles*.³

A diverse group of stakeholders—called a national movement by one speaker⁴—has now embraced the principles of the patient-centered medical home (described below) as a critical step in bringing U.S. health care up to the standards set for it by the Institute of Medicine in 2001.⁵ Policymakers, provider groups, foundations, purchasers, and payers are involved in efforts, many of them collaborative, to refine, operationalize, test, and evaluate PCMH concepts and practices and develop supportive public policy. Many of the key actors were represented at the May 2008 hearing.

The array of motivations and constituencies of these stakeholders has given rise to a spectrum of aspirations and views about the PCMH, and the hearing testimony highlighted several evolving conceptions of the medical home. Indeed, some presenters asserted that there always will be multiple definitions and proposed models of the PCMH. One formulation incorporates the notion of PCMH stages and levels, with incentives to encourage health care practices to progress to more complete versions.⁶

While the PCMH vision has stimulated widespread interest and guided reform efforts in some arenas, it is not without its critics. They raise questions about such matters as what value the medical home adds to fully-realized primary care, and whether the “medical model” of the PCMH is compatible with placing an activated, informed patient at the center of health management. These and other concerns are discussed below.

Early adopters and supporters are focusing on demonstrations and evaluations to determine the signal characteristics of the PCMH and assess whether this approach can meet public needs, revitalize primary care, and link it systematically to the other dimensions of health care. The testimony supported the observation that achieving the desired improvements will require harnessing health information technology and addressing an array of data, standards and measurement issues. It also showed the need for a comprehensive information model to guide the further design and evolution of the PCMH.

² *The Future of Family Medicine: A Collaborative Project of the Family Medicine Community*. *Annals of Family Medicine*, 2004. <http://www.annfammed.org/cgi/content/full/2/suppl_1/s3>

³ American Academy of Family Physicians (AAFP), American Academy of Pediatrics (AAP), American College of Physicians (ACP), and American Osteopathic Association (AOA). Joint statement: <http://www.medicalhomeinfo.org/Joint%20Statement.pdf>

⁴ Dr. John Tooker, the first speaker

⁵ The Institute of Medicine articulated the major issues and what must be changed in its seminal 2001 report, *Crossing the Quality Chasm: A New Health System for the 21st Century*. <<http://www.iom.edu/?id=12736>>

⁶ For example, the National Committee on Quality Assurance’s PPC-PCMH model (Pawlson).

PCMH Foundations and Core Attributes

It's really about the handoff. It's about coordinating patients' movement through the system. (Allen Dobson, M.D.)

The functions of a medical home are to maintain a long-term relationship with a patient; deliver comprehensive, high-quality, evidence based care; ensure adequate access to care; and integrate care across providers and settings. (Myles Maxfield [slides])

In general, PCMH models integrate the principles of high-quality primary care and the Chronic Care Model.⁷ The “home” is a clinical practice, which provides reliable access to care, care for acute and chronic problems, preventive care, and integration of care with secondary and tertiary health care providers.⁸ The medical home also has links to community resources and services such as pharmacy, social services, and dentistry. NCVHS members heard that the *team* is an essential component of the medical home. At its center are the patient and family, activated and informed according to their preferences and capacities and partnering with health care providers to manage personal health needs. (The team concept and patient-centricity are discussed further below.)

The seven PCMH principles outlined in the Joint Statement of the AAFP, AAP, ACP and AOA⁹ represent areas of agreement among these groups, which together account for a majority of the nation’s physicians. The principles are:

- Personal physician
- Physician directed medical practice
- Whole person orientation
- Coordination and/or integration of care
- Quality and safety as hallmarks
- Enhanced access to care
- Appropriate payment and incentives

Linkage with community and public health activities and resources is an integral part of PCMH. Presenters pointed out that the use of population-based registries to monitor patients with conditions such as diabetes lends itself to expanded approaches to monitor and intervene in the health of larger population segments. NCVHS members found it significant that the medical home is conducive to population health approaches. Dr. McGeeny pointed out that the ability to follow up on social problems

⁷ The essential features of primary care are first patient contact, longitudinality, comprehensiveness and coordination. The Chronic Care Model was developed by Ed Wagner, MD, MPH, Director of the MacColl Institute for Healthcare Innovation, Group Health Cooperative of Puget Sound, and colleagues. The fundamental areas are self-management, decision support, delivery system design, clinical information system, organization of health care, and community. <http://www.ihl.org/IHI/Topics/ChronicConditions/AllConditions/Changes/>

⁸ An alternative version is for a specialty practice such as cardiology or oncology to serve as the medical home for patients with chronic conditions. Presenters were in agreement that this variation is plausible, provided the specialist practice is willing and able to carry out all PCMH functions. A particular challenge for a specialty practice serving as a PCMH would be the high prevalence of co-morbidity among individuals with several chronic conditions.

⁹ See note 3.

that have an impact on the public's health is one of the opportunities offered by this approach.

The PCMH Team

This is a team sport; and it revolves around what the patient needs.

(Allen Dobson, M.D)

As noted, the medical home team includes the patient and family and the members of (usually) the primary care practice, including physician(s), other health care professionals, and staff members such as administrative staff, educators, and social workers.¹⁰ Presenters stressed that the medical home approach is not possible without the participation of appropriate team members; physicians cannot do it alone. They offered examples of teams in which every staff member fulfills his or her unique role.

They also emphasized the fundamental cultural and process changes needed to make this kind of team a reality, and the information systems and tools that must support the team (discussed below). It was noted that many physicians have a poor understanding of medical home terms and concepts, including the principles and mechanisms of teamwork and coordinated care. A key step in this transformative change, presenters said, is getting physicians to understand and buy into PCMH principles. Once this is accomplished, further steps for providers are to redesign their structures and behaviors accordingly—non-trivial undertakings that span the full scope of health care delivery.

Patient-Centricity

If the model works, ... patients will be informed and activated and participating in their care....If they don't trust it, then the model is not working.

(John Tooker, M.D.)

The principle of patient-centricity—what it is, how to accomplish and measure it, and the issues associated with it—was a touchstone throughout the hearing. The concept, which is one of the six “aims” outlined in the IOM Quality Chasm report, includes the important role of the family, especially for children and elderly or disabled persons. In addition to self-management (part of the Chronic Care Model), various PCMH models refer to such values as a healing and ongoing relationship, patient activation, family centeredness, cultural sensitivity, and trust.

Generally, these models seem to incorporate a strong role for an activated and informed patient, armed with technology such as a personal health record. In discussion with the presenters, however, NCVHS members drew out a rather more complex picture, stemming from inevitable variations in factors such as literacy, health literacy, technology access, cultural preferences, trust, and appreciation for PCMH attributes. These complexities relate in part to issues of choice and privacy. Regarding the former, for example, while the optimal version of PCMH may involve partnership with an activated and well informed patient, some patients may lack the desire or capacity for this, thus necessitating other approaches. It was noted, as well, that the PCMH might be perceived by some as paternalistic. As for the privacy issues, they are inherent in

¹⁰ See note 8 regarding variations.

the wide sharing of personal health information that medical homes need to integrate care around the individual. In addition to these concerns, Ms. Partridge cautioned that consumers will be wary of any health care model that seems driven primarily by cost-saving motives.

A major barrier to realizing patient-centricity is the challenge of measuring patient experience. The needed information begins with the individual's understanding of his or her reason for seeking care, which at present is not routinely captured and coded. Over time, outcomes emerge that often require self- or proxy-report. Measurement and data issues are discussed further below.

Early Exemplars and Facilitators

This is unbelievably difficult.... And I would say that almost nobody is telling you the truth about how hard this is, ... in terms of changing the way everybody in an organization works.... But our net actual improvement has been significant. (James Walker, M.D.)

We found that practices needed help. (Allen Dobson, M.D.)

The testimony highlighted the fundamental shifts needed to achieve PCMH goals—including shifts in the payment system, in clinical and administrative processes, in the doctor-patient relationship, and in the data and information systems that support and enhance care delivery. Presenters also stressed the difficulty of making these changes, and providers' need for technical assistance and capital to cover the additional costs of transforming their care. This is especially true for the small practices that predominate in the U.S. After noting "how hard this stuff is," however, Dr. McGeeney added this: "On the other hand, practices that have gone through it are saying they are finally enjoying medicine again."

Committee members learned about several programs exploring PCMH concepts, some of which have demonstrated improved patient outcomes and/or better bottom lines:

- Dr. McGeeney of **TransforMED** described AAFP's **National Demonstration Project**, which jump-started medical homes in 36 family medicine practices and assessed how much assistance they needed to implement the model, and what kind of assistance. The project uses the TransforMED Medical Home model. Dr. McGeeney reviewed the early findings and stressed the importance of population-based registries, health IT, and teamwork.
- Dr. Walker described **Geisinger Health System's** PCMH, which has as its organizing principle "end to end processes that work for patients." Geisinger, which has 41 clinics and 3 hospitals in 31 Pennsylvania counties, uses thousands of process and patient-outcome goals to manage and monitor care. It has achieved improvements in patient outcomes, such as reductions in complications of open-heart surgery, including acute re-admissions.
- North Carolina's **Community Care Network** was created by NC Medicaid to control costs and improve care for people with chronic illness. Dr. Dobson explained that the Network, a public-private partnership, is led by physicians and involves

patients in medical homes that are connected in community networks. The State's Medicaid program monitors the program's quality and costs.

- Mr. Nohrden reported on **IBM's** work to bring about the kind of quality health care it wants to purchase for its employees, based on PCMH attributes. To that end, it created the **Patient-Centered Primary Care Collaborative (PCPCC)**, a national coalition that is promoting and facilitating PCMH pilots in 16 states. He also described a program operated by IBM's Danish subsidiary that illustrates the ways e-health tools can be used to facilitate and enhance patient-centered primary care.
- Dr. Boudreau described the **BlueCross/BlueShield of Massachusetts (BC/BS-MA)** initiative to create clinical quality measurements and provider incentives based on a PCMH framework. BC/BS-MA regards PCMH as a "critical stepping-stone" for improving the quality of care. The demonstration project it is developing will measure patient experience, clinical performance, and cost/efficiency.

In general, the testimony showed that quality improvement processes are a driving force of these innovative programs, enabled by IT with unusually rich clinical content and functions to help clinicians take care of people. The presentations also illustrated the many obstacles and inefficiencies that hinder comprehensive change of this kind, including high start-up costs, conflicting incentives, data and measurement challenges, and the lack of interoperability among information systems used in various service locations.

Measurement, Data, and Standards Issues

This has been probably the biggest measurement challenge I've seen since I've been at NCQA because it's sort of like the blind man and the elephant.
(Greg Pawlson, M.D.)

The importance of measurement, demonstration, and testing to evaluate the PCMH and guide its evolution was a major theme of the hearing. Complex issues associated with data, measurement, and standardization led NCVHS members to a key finding about the need for a standards-based data model that could provide a conceptual framework and information platform for these activities.

The hearing highlighted the fact that there are multiple definitions of the PCMH—not surprisingly for an emerging concept—as well as unresolved issues of implementation, all of which make consistent evaluation difficult. Dr. Starfield observed that “[medical home] has an imprecise definition and unstandardized measurement.” She also pointed out that “the medical home is a 40-year-old concept,” while the primary care concept has been around for 90 years. Indeed, the evidence presently undergirding the PCMH is derived to a large extent from research about primary care.

The testimony also brought to light the substantial variations in PCMH models; for example, some are far more oriented to chronic disease management than others. Convergence on a single model is possible, given the interaction among PCMH activists. However, the historical preference for pluralism and choice in the U.S. makes it more likely that variations in the structure and function of the PCMH will continue. In that

case, a plausible scenario may be the use of “levels” like those built into the NCQA model (Pawlson).

The multiple data gaps and measurement challenges in this arena were apparent in the testimony. Dr. Starfield called particular attention to the gaps related to identifying patients’ understanding of their problems, measuring and reporting patients’ experience of care, and assessing the comprehensiveness of PCMH services. The sheer number of indicators being considered for assessment of the existence, performance, and value of the PCMH is another challenge.¹¹

Despite these obstacles, however, Ms. Partridge affirmed that “there is a tremendous learning opportunity opening up before us.” She attributed this in part to the National Committee’s emerging interest in the PCMH.

The testimony showcased several organizations’ work on definitions, measurement development, and evaluation:

- The **National Committee for Quality Assurance** (NCQA) has developed its Physician Practice Connection-Patient Centered Medical Home (PPC-PCMH) tool to qualify practices as medical homes and in terms of their use of practice systems. Based on PPC scores, practices are ranked across three levels which can be linked to different levels of reimbursement, as encouragement to develop more complete, higher-level medical homes. The qualification of patient-centered medical homes would then be linked to evaluation with patient experience surveys, clinical measures, and if possible, cost-resource use measures. (Pawlson)
- Dr. Bethell described her research for several Federal children’s surveys on definitional and measurement issues related to measuring the medical home. A major aim in the surveys, especially the **National Survey of Children with Special Health Care Needs**, is to establish “medical homeness” for children and adolescents. Among other things, she outlined the key issues in operationalizing a working definition of the PCMH.
- The **National Quality Forum** (NQF) has launched a consensus process to develop care coordination measures, having taken the initial step of endorsing a Care Coordination Framework that has the PCMH as one of its domains. NQF has already approved a care transitions measure (CTM-3) and identified potential HIT structural measures. The National Quality Forum has endorsed the PPC-PCMH survey itself as the “medical home systems survey.” (Winkler)
- Ms. Partridge testified about the efforts of the **National Partnership for Women and Families** to develop focus-group-tested consumer principles for assessing a medical home. The Partnership has compiled a provisional list of principles that will be refined and tested with other national consumer organizations. Ms. Par-

¹¹ According to Dr. Pawlson, four types of data can be used to identify or evaluate the presence and impact of the PCMH: 1) practice structure and process measures (such as the NCQA PPC-PCMH survey); 2) patient experience of care (as with the Ambulatory Care Experiences Survey [ACES] or the Clinical Group CAHPS survey); 3) clinical quality; and 4) cost-resource use.

tridge observed that patients need to understand their medical conditions well enough to be active partners in their health care.

- As noted above, **AAFP and the Patient-Centered Primary Care Collaborative** are conducting and facilitating demonstration and evaluation pilots on the implementation and operation of medical homes. (McGeeney, Nohrden)
- The **Centers for Medicare and Medicaid Services** (CMS) has a demonstration project in the works for Medicare beneficiaries. More on this below, in the section on payment reform. (Coan)

This buffet of important work appears to be occurring without benefit of a comprehensive data model to define the expected use and exchange of data among patients, providers, and the medical home. At the hearing, Dr. Klinkman proposed such a data model to support the PCMH, based on his work in Michigan. He also expressed his opinion that the International Classification of Primary Care, or ICPC, is “the best available framework to support the data model,” due to its episode of care structure, its incorporation of the patient “voice” regarding the reason for encounter, its accommodation of social problems, and other attributes. ICPC maps to standard terminologies and classifications, such as SNOMED-CT and ICD-10. Dr. Hunt then used and modified Dr. Klinkman’s proposed model in his testimony, illustrating the potential usefulness of having a common data model.

Potential Federal Data Sources

I was sitting here thinking, This clearly is an issue that’s not going to go away; how are we going to get households to provide information about a medical home? ... We’re going to have to come up with additional measures to provide some benchmarks for measuring the penetration of medical home into the population. (Doris Lefkowitz, Ph.D.)

It was evident that even with a simplified set of measures, many data systems will be needed to assess all the variables pertinent to the existence, functions, and performance of the PCMH. The subcommittees were briefed on four Federal surveys that either already supply data on medical home or could be adapted for this purpose. One of them, the National Survey on Children with Special Health Care Needs, collects explicit data on the existence of medical homes for children. Three Federal surveys have potential uses, if modified: AHRQ’s Medical Expenditure Panel Survey (MEPS), NCHS’s National Ambulatory Medical Care Survey (NAMCS), and the Consumer Ambulatory Health Care Survey (CAHPS). These Federal sources are briefly described in the Appendix (Bethell,¹² Lefkowitz, Blumberg,¹³ Burt).

¹² Dr. Bethell has authored a relevant new paper, commissioned by NCHS: *Measuring Medical Home: Using Data Elements from the National Survey of Children with Special Health Care Needs or the National Survey of Children’s Health* (September 2008). Posted on www.cahmi.org and www.childhealthdata.org

¹³ Dr. Blumberg’s slides #10-18 provide the texts of the 16 questions asked on the National Survey on Children with Special Health Care Needs as indicators of the existence of a medical home. The questions are in 6 categories: usual source of care, personal doctor or nurse, no problems obtaining referrals, coordination and communication, sufficient help coordinating

The presenters discussed what it would take to modify the frame, scope, and/or content of these surveys to provide more data on medical homes. Questions would have to be tailored to the target population, methodology, and constraints of each survey, and measures would have to be tested and evaluated. This would involve a lead time of between a few months and a few years, they said, plus associated costs.

Enabling Process Redesign and PCMH with Health IT

The goal of health information technology is to support the flawless performance of a PCP-and-patient-led virtual team that manages all of a patient's health needs ... across every setting of care, across the life span.

(James Walker, M.D.)

Many speakers stressed that implementation of the PCMH begins with process redesign, enabled by HIT. Dr. Walker, describing the extensive information systems that support Geisinger's health care operations, was one of many¹⁴ to call for a national shift of focus from HIT adoption, *per se*, to the creation of efficient systems and processes, supported by HIT. He suggested a broad frame for the discussion of costs: "When you think about the training and organizational-change costs of this, it really means saying, 'We're going to transform the way we do healthcare.' It's like saying, 'We're going to go from being Ford to being Toyota.' So I think the cost-benefit discussion has been at too low a level.... It's a bargain if what you want to do is transform your business."

Dr. McGeeney asserted that technology, itself, must be transformed before it can enable health care transformation. He outlined the following technology-related PCMH needs, all of them inadequately met at present: interoperability, secure messaging, realtime payer information, population-based registries, the ability to automatically remind patients, and patient portals. A technology gap that stood out for NCVHS members was the inability of most of today's electronic health records to support the creation of patient registries, which link health care to population-based activities and are important to chronic disease care, prevention, and payment strategies. (Some of the issues arise from the way data are stored in the EHR, while others have to do with how patient populations are identified or reported using current definitions of quality measures.)

The Committee also heard a recurrent message that medical homes cannot coordinate care without interoperability, which is currently thwarted by proprietary attitudes and practices. Dr. Kibbe, for example, contrasted the ideal of "data liquidity" with the reality of "data islands." His testimony also highlighted the engagement of the private sector in developing health care data tools and policies for supporting patient care and assessing the population's health.

care, and family-centered care. The slides also give the survey findings in each area.
<<http://ncvhs.hhs.gov/080520p07.pdf>>

¹⁴ Including Dr. Hunt of the Office of the National Coordinator for Health Information Technology (ONC).

Several presenters noted ways that the Federal government could facilitate progress in these areas. This includes recommendations to more aggressively facilitate interoperability.

The Need for Payment Reform

The medical home model will not work if we don't change the reimbursement system. Period. End of story. (Greg Pawlson, M.D.)

IBM and Blue Cross/Blue Shield-MA typify purchasers and payers who want to buy health care that has the attributes of the PCMH vision. Representatives of these organizations (Nohrden, Boudreau) joined others in stressing that payment reform is an absolute precondition for transforming health care. They pointed out that today's payment system rewards volume rather than value, and specialty care rather than primary care. Moreover, primary care is in peril because, as Dr. McGeeney put it, "the economics aren't there." Dr. Boudreau added that simply paying doctors more will not suffice, because "[i]f you're still working in a nightmare, [more money] is not going to make you happy for long. What is needed is to fundamentally change the way care is provided and reimbursed."

While calls for payment reform are not new, a value of this hearing was that it showcased concrete work on the mechanics of reimbursement and clinical process, guided by comprehensive models of care. For example, Dr. Boudreau described her organization's work to devise quality improvement processes and incentives to encourage health care with PCMH attributes. Mr. Coan described the forthcoming Medical Home Demonstration being devised by CMS, under Congressional mandate, to test cost and quality issues and to identify the appropriate per member/per month payment for care coordination and management services between office visits. And Dr. Underwood provided a theoretical context by describing a new report that assesses the costs and value of the PCMH using planning factors and actuarial models.¹⁵

Commentary

We're about thirtieth in the world in the health of the population. We're clearly doing something wrong.... If the U.S. is serious in pursuing the WHO goal of primary health care, ... it must come to grips with defining and assessing health services according to evidence-based functions associated with primary care systems and practices. (Barbara Starfield, M.D.)

The NCVHS hearing illuminated the patient-centered medical home as, at the very least, a conceptual model aimed at better ways to achieve the objectives of health care that involves crucial roles for health statistics and health information technology. Many observers hope that the efforts of the numerous stakeholders involved can create a tipping point for fundamental change. The presenters themselves expressed relatively modest short-term expectations, speaking of the PCMH as part of the process or a stepping stone, in need of careful evaluation.

¹⁵ Keckley P. and Underwood H., *The Medical Home: Disruptive Innovation for a New Primary Care Model*. The Deloitte Center for Health Solutions (2008).

NCVHS members were struck by the scope and scale of the interest in the PCMH and by several positive aspects of the reported developments. These aspects include the detailed articulation of a vision, the momentum for change, the impressive exemplars, the broad commitment to evaluation, and the potential for population health applications. It was evident that both the person-centric foundation of the medical home model and its population health extensions resonate with core NCVHS values, as well as with public needs. Furthermore, medical home concepts use a broad approach to information that aligns with the one envisioned in the seminal NCVHS report, *Information for Health*, with its three intersecting dimensions of information use—person, provider and population.¹⁶

On the other hand, Committee members both heard and voiced a number of concerns, several of which have been noted. Dr. Starfield questioned whether the evidence for primary care is generalizable to the PCMH, and whether the PCMH adds value to fully-realized primary care. She pointed to the established but neglected evidence base for primary care and said, “We know so much, and we’re just not using it.” She also critiqued existing PCMH assessment instruments for their failure to measure comprehensiveness and capture the patients’ experience. In addition, some NCVHS members wondered whether the PCMH is too “medical” a model, as its name suggests. A related question was whether patient centricity is well served, in this information age, by a model apparently structured around a health care practice that serves as not only the locus of the medical home, but also the prime mover in the health management team. Participants also wondered how to accommodate a social-model view, which recognizes the broader concept of personal and social functioning.

The multiplicity of definitions, initiatives and models led several NCVHS members to remark that the more they heard about the PCMH, the less they understood it. Some wondered how much flexibility and choice medical homes could offer and still be viable. On a wider scale, several participants wished for a less decentralized and more coordinated developmental process—“connecting the dots”—to lead more expeditiously to a true health care system for the country.

NCVHS members expressed interest in addressing the clear need for an overarching, standards-based data model to guide PCMH design, evaluation and evolution. Repeated references to the differing perspectives on “the elephant” prompted members to recall the Committee’s historic role in envisioning and describing “the whole elephant”—as in its seminal reports on the NHII and a vision for health statistics.¹⁷ Other PCMH-related tasks that fall in NCVHS domains include studying the prospects for enhancing classification and coding systems to provide better coverage of primary-care concepts (e.g., ICPC), pursuing privacy issues, and monitoring the impact on health disparities.

These potential NCVHS activities, of course, link to potential roles for Federal government. The potential roles include payment reform; defining the needed system; improving data flow and interoperability; facilitating new terminologies and classifica-

¹⁶ NCVHS, *Information for Health: A Strategy for Building the National Health Information Infrastructure*, 2001. < <http://ncvhs.hhs.gov/nhiilayo.pdf>>

¹⁷ NHII: see note 15; 21st c health statistics vision: NCVHS, *Shaping a Health Statistics Vision for the 21st Century*, November 2002. <<http://ncvhs.hhs.gov/21st%20final%20report.pdf>>

tions; redesigning Federal survey instruments to provide data on the medical home; and supporting research on such questions as measuring patient centricity, measuring comprehensiveness, capturing the patient's reason for seeking care, and integrating these components into core data mechanisms

Appendix: Presenters and Presentations

See the hearing transcript and the presenters' slides (those marked *) for details.

< <http://www.ncvhs.hhs.gov/080519aq.htm> >

INDEX (presenter name, number[s] of presentation[s])

Bethell-8	Kibbe-23	Pawlson-2, 7
Blumberg-18	Klinkman22	Starfield-12
Boudreau-16	Lefkowitz-17	Tooker-1, 6
Burt-19	Maxfield-11	Underwood-15
Coan-4	McGeeney-9, 25	Walker-13, 26
Dobson-10	Nohrden-5, 20	Winkler-14
Hunt-21, 24	Partridge-3	

Overview

(1) John Tooker, M.D., MBA, FACP, Executive VP and CEO, American College of Physicians (ACP)*

ACP joined with the American Academy of Pediatrics, the American Academy of Family Physicians and the American Osteopathic Association to develop "Joint Principles of the Patient-Centered Medical Home," issued in March 2007. Dr. Tooker described the principles and a large national effort to test and measure key PCMH attributes, with pilots and demos in some 25 states, most coordinated by the 128-member Patient-Centered Primary Care Collaborative (PCPCC). He outlined the major players in what he called "a national movement."

(2) Greg Pawlson, M.D., Executive Vice President, National Committee for Quality Assurance (NCQA)*

As background for his next presentation (below), Dr. Pawlson outlined why we need a new system of health care, and he reviewed the concepts and components that comprise the PCMH.

(3) Lee Partridge, Health Policy Advisor, National Partnership for Women and Families

Ms. Partridge spoke on patient and family perspectives. The Partnership, which has been active in the PCPCC, is developing a set of consumer principles for assessing a medical home. She reviewed the principles under consideration.

Key PCMH Actors/Current PCMH Stakeholders

(4) James Coan, Project Officer, CMS Medical Home Demonstration*

Mr. Coan described the complex needs of the target population for a CMS medical home demonstration—“high-need” Medicare beneficiaries with multiple chronic conditions—and the agency’s interest in both cost and quality. The demonstration project, which was mandated by Congress and is still being developed, will run for three years in up to eight states and use the Joint Principles to track progress. One purpose is to figure out what the per member/per month care coordination fee should be.

(5) Chris Nohrden, MPH, Project Manager, Patient-Centered Primary Care Initiative, IBM Healthcare and Life Sciences*

Mr. Nohrden, from the vantage point of a large employer and health care buyer, expressed IBM’s dissatisfaction with the quality and cost of available care and its desire to purchase the kind of care embodied in the PCMH model. IBM brought together stakeholders in the Patient-Centered Primary Care Collaborative (PCPCC), a coalition of major employers, consumer groups, and others who have joined with organizations representing primary care physicians to develop and advance the patient centered medical home. The PCPCC is facilitating and advising PCMH pilots in 16 states.

(6) John Tooker, M.D., MBA, FACP, Executive VP and CEO, American College of Physicians (ACP)*

Dr. Tooker reviewed the key PCMH actors and noted their perspectives and motivations in the face of the threats to primary care. ACP contracted with Mathematica and the Urban Institute to define the PCMH for the rigorous pilots and demonstrations under way. He noted the policy implications of the model, the tensions in the medical community around it, and the challenges of meaningful measurement. He also reviewed the structure of the PCMH team, centered on the patient and extending out into the community.

Assessing the Existence of PCMH

(7) Greg Pawlson, M.D., Executive Vice President, National Committee for Quality Assurance (NCQA)*

Dr. Pawlson talked about NCQA’s approaches to “knowing a PCMH when we see it” (qualification) and “knowing if it enhances value” (evaluation). He outlined the indicators, measures and sources for each assessment process and described NCQA’s qualification tool, the Physician Practice Connection Patient Centered Medical Home (PPC-PCMH), which is being used in multiple demonstration projects but is seen as evolving further as results from demonstration and pilot projects become available. Qualifying practices that complete the survey-based tool are ranked on three levels based on their PPC-PCMH score, with the idea that they will be reimbursed accordingly and encouraged to move up the scale.

(8) Christina Bethell, Ph.D., Oregon Health & Science University and Director, The Child and Adolescent Health Measurement Initiative*

Dr. Bethell described the research leading to current tools to measure Medical Home for children and youth. She reviewed three patient-reported tools—a child survey for

CAHPS, the national Survey of Children’s Health, and the National Survey of Children with Special Healthcare Needs—and some of their findings. She also discussed the issues they raise for operationalizing the working definition of medical home and measuring on that basis.

PCMH in Practice

(9) Terry McGeeney, M.D., University of Kansas School of Medicine and CEO, TransforMED*

The American Academy of Family Physicians (AAFP) will soon complete a proof-of-concept National Demonstration Project (NDP), a “learning lab” for the PCMH. The TransforMED Medical Home is the model for this project. The demo involved 36 practices around the U.S. Half were “aggressively facilitated,” and half had to do it on their own, to determine how much support is needed to help practices transform into PCMHs. Dr. McGeeney reviewed the early findings from the NDP. Another TransforMED training demonstration project is for residents, to prepare the personal physician for practice (“P4”).

(10) Allen Dobson, M.D., Carolinas HealthCare System; former NC Medicaid Director*

Dr. Dobson described North Carolina Medicaid’s Community Care Network (CCN), created to control costs and improve care for people with chronic illness. A public-private partnership, CCN is physician-led and involves patients in PCMHs that are connected in community networks. NC Medicaid has devised a payment system for this, and it monitors quality and costs. He discussed practices’ need for help, the measurement challenges, and the critical role of government in defining the needed system.

(11) Myles Maxfield, Ph.D., Mathematica Policy Research*

Dr. Maxfield focused on the data issues in the CMS Medical Home Demonstration, for which Mathematica is a contractor. (He noted that he was speaking as an individual.) He reviewed the need for data to qualify the PCMH, operate it, and measure its performance—needs that require many data sources and raise a host of data and standards issues, which he enumerated. He suggested a role for government, notably to expand the Physician Quality Reporting Initiative for evaluating performance.

Measuring the Performance of the PCMH

(12) Barbara Starfield, M.D., The Johns Hopkins University*

Dr. Starfield, a former NCVHS member, contrasted the “definable, evidence-based and measurable” functions of primary care with the “imprecise definition and unstandardized measurement” of PCMH. This makes it difficult to know whether PCMH models are “the same, fundamentally different, complementary, or supplementary” to primary care. She stressed the importance of evaluating supposed “enhancements to primary care” in terms of their contribution to primary care functions. She pointed out the content missing from the instruments for looking at the PCMH, notably the inability to assess comprehensiveness and capture patients’ problems. She briefly reviewed the Primary Care Assessment Tool.

(13) James Walker, M.D., CHIO, Geisinger Health System*

Geisinger is an early model of patient-centered care akin to a PCMH. Dr. Walker described their work monitoring and measuring what they called “the advanced medical home,” which they regard as a subset of the transformative care processes being implemented. He reviewed the process and performance goals underlying its management and measurement activities, and stressed the profound cultural and process changes required as well as the reliance on HIT. He showed several reports used to drive clinical improvement and tools available to patients.

(14) Reva Winkler, M.D., Clinical Consultant, National Quality Forum (NQF)*

As the first step toward endorsing measures of care coordination, NQF has endorsed a Care Coordination Framework for measurement, which Dr. Winkler outlined. PCMH is one domain. She said the measures are not coming easily; NQF has only endorsed a set of care transitions measures (CTM-3) and identified potential HIT structural measures. NQF will soon announce calls for care coordination measures as part of a new consensus project.

Economic Models: Measuring Sustainability, Assessing Value, Determining What to Pay for**(15) Howard Underwood, M.D., Center for Health Solutions, Deloitte & Touche***

Dr. Underwood summarized a paper by him and Dr. Paul Keckley, Deloitte’s CEO¹⁸. The authors estimated the costs and economic impact of a PCMH model (largely based on disease management components) and predicted that after four years, the average private-practice medical home can “more than pay for” itself. The report outlines the assumptions, analysis, findings, and implications for key stakeholders.

(16) Karen Boudreau, M.D., Medical Director for Healthcare Quality Improvement, BlueCross/BlueShield of Massachusetts (BCBSMA)*

BCBSMA regards PCMH as a “critical stepping stone” in its efforts to change their providers’ practices and reward them for improved outcomes. Dr. Boudreau stressed the need, system-wide, to radically change the payment system and create new incentives. She described the quality measures BCBSMA is developing and commented on the measurement challenges facing the field.

Federal Surveys as Potential Data Sources**(17) Doris Lefkowitz, Ph.D., Center for Financing, Access and Cost Trends, Agency for Healthcare Research and Quality (AHRQ)***

Dr. Lefkowitz focused on AHRQ’s Medical Expenditure Panel Survey (MEPS) and its possible adaptation as a future data source on the PCMH. She described MEPS, highlighted its PCMH characteristics, and described what would be involved in modifying the survey. She added that the Consumer Assessment of Health Plans (CAHPS) family of surveys, a standardized source on patients’ experience with medical care, has some relevance.

¹⁸ See note 15.

(18) Stephen Blumberg, Ph.D., Division of Health Interview Statistics, National Center for Health Statistics (NCHS)*

Dr. Blumberg focused on the National Survey of Children with Special Health Care Needs (CSHCN), a joint effort of NCHS and the Maternal and Child Health Bureau of the Health Resources and Services Administration. The survey determines whether CSHCN have medical homes, toward the Healthy People 2010 objective that all of them will. He described the survey's screening and interview processes, sampling, and content. 47.1 percent of all CSHCN in the U.S. had a medical home in 2005-2006.

(19) Catharine Burt, Ed.D., Division of Health Care Statistics, NCHS*

Dr. Burt focused on the elements associated with the medical home in the National Ambulatory Medical Care Survey (NAMCS), a component of the National Healthcare Survey that surveys about 3,600 physicians and gathers data on some 31,000 encounters. She described the methodology and relevant content and findings of NAMCS and suggested ways future surveys might be modified to yield more data on PCMH.

Enabling PCMH with HIT

(20) Chris Nohrden, MPH, Project Manager, Patient-Centered Primary Care Initiative, IBM Healthcare and Life Sciences

Mr. Nohrden described the PCMH infrastructure managed by IBM's Danish subsidiary that illustrates how e-health tools can enhance patient-centered primary care. There are functionalities for providers, consumers, and administrators. He discussed the barriers to applying such a model in the U.S., notably the lack of interoperability here, and he described PCPCC's efforts to improve information flow and advance the PCMH in the U.S.

(21) David Hunt, M.D., Medical Officer, Office of the National Coordinator for HIT (ONC)*

Dr. Hunt described ONC's work, with the American Health Information Community (AHIC), to build a national HIT infrastructure, how decisions are prioritized, and the implications for the advancement of the PCMH. He reviewed the role of use cases in operationalizing AHIC priorities and the path to certifying HIT products.

(22) Michael Klinkman, M.D., Depts. of Family Medicine and Psychiatry, University of Michigan

After reiterating the gaps in data, evidence and consensus, Dr. Klinkman stressed the need for a data model to support and enable the PCMH. He reviewed the needed building blocks, showed a possible model, and presented an idealized scenario of the use of e-health tools. After enumerating the data gaps regarding core PCMH attributes, he recommended the International Classification of Primary Care (ICPC) as a framework to support the data model, linked to SNOMED-CT, ICD and ICF. He concluded with several recommendations.

(23) David Kibbe, M.D., American Academy of Family Physicians

Speaking by phone, Dr. Kibbe stressed the need for “data liquidity,” which he contrasted with the “data islands” that predominate today. After reviewing the type of data needed for the PCMH, he offered two examples of the kind of networking standards needed: the SureScripts Network and Google Health Data.

(24) David Hunt, M.D., Medical Officer, ONC*

Dr. Hunt discussed the lack of a convincing value proposition for the EHR, as reflected in the low adoption rates. ONC is addressing the barriers. Using Dr. Klinkman’s scenario as his framework, he pointed out what AHIC and ONC are doing to promote the value of the EHR and other HIT in enabling quality care.

(25) Terry McGeeney, M.D., University of Kansas School of Medicine and CEO, TransformMED*

Dr. McGeeney reviewed the HIT issues for primary care practices and patients. He outlined the major information needs (e.g., interoperability) and the challenges in addressing each one. He stressed that the technology already exists to meet most needs, but barriers remain. He concluded that HIT must transform to adequately support the PCMH.

(26) James Walker, M.D., CHIO, Geisinger Health System*

Dr. Walker described the extensive information system supporting Geisinger’s “end-to-end care,” with screen shots of various functionalities. He described the links between continuous quality improvement and “continuously optimized HIT” and outlined some of Geisinger’s performance improvement tools. Finally, he discussed the Data Response Center it is starting to build.

Public Testimony

Bob Hall of the American Academy of Pediatrics’ Department of Federal Affairs spoke about the interests and needs of pediatric providers, patients and families with respect to the PCMH. He highlighted disparities issues, variations in access to care, the particular barriers to specialist care, and adolescent privacy issues. He urged that assessments of PCMH look at family decision making and cultural competence, which are not mentioned in the Joint Principles.