REPORT

Pediatric Medical Homes

Laying the Foundation of a Promising Model of Care

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October 2011

NCCP

National Center for Children in Poverty
Mailman School of Public Health
Columbia University

The National Center for Children in Poverty (NCCP) is a leading public policy center dedicated to promoting the economic security, health, and well-being of America's low-income families and children. Using research to inform policy and practice, NCCP seeks to advance family-oriented solutions and the strategic use of public resources at the state and national levels to ensure positive outcomes for the next generation. Founded in 1989 as a division of the Mailman School of Public Health at Columbia University, NCCP is a nonpartisan, public interest research organization.

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ACKNOWLEDGEMENTS

This publication was supported by the Maternal and Child Health Bureau, of the Health Resources Services Administration (MCHB) of the U.S. Department of Health and Human Services under funding to Project Thrive. The authors would like to thank Dr. Katherine Lobach, Professor Emerita of Pediatrics at the Albert Einstein College of Medicine for her thoughtful comments on earlier drafts. Special thanks also to Morris Ardoin, Amy Palmisano, and Telly Valdellon.

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Introduction

In recent years the nation's health care system has accelerated the development and implementation of a new model of patient care – the *medical home*. States, insurers, health care delivery systems, and individual practices are increasingly exploring ways to leverage medical homes to improve the quality of care and limit increases in health care costs.

This Thrive report describes the current status of the medical home concept and explains how it has been broadly defined, applied to children, and measured. It also reports on the number and characteristics of American children served by medical homes and discusses opportunities to further leverage medical homes to improve medical care and achieve better health outcomes for young children, with a particular focus on the coordination of care for vulnerable children.

The medical home concept builds on the foundations of primary care and managed care. Though the model is increasingly being recommended for all people, medical home implementation often prioritizes the goal of improving the quality and management of care for individuals with chronic disease or other critical health-impacting factors.

Originally conceived by pediatricians over four decades ago, the medical home concept has become much more visible recently, particularly within the context of health care reform. The development of the medical home model of primary care can be traced back to the 1960s,[1] but not until the 1990s did the advent of managed care prompt more focused exploration of potential payment models that could support broader implementation of medical homes. As a result, recent years have seen a high degree of activity around the definition, accreditation, and reimbursement of medical homes.

Definitions and Key Policy Statements

During the past decade, as various stakeholder organizations have developed formal positions on the value of the medical home model, different terms have been advanced, including *patient-centered medical home*, *family-centered medical home*, *enhanced medical home*, *advanced medical home*, and *health home*. The proliferation of multiple terms reflects the continuing evolution of the medical home model, and the idea that various groups emphasize different factors, such as the roles of providers and patients and their families in directing and accessing health care.

Joint Principles

The most standard definition of Medical Homes is articulated in the *Joint Principles of the Patient-Centered Medical Home*, adopted by the American Academy of Family Physicians, American Academy of Pediatrics, American College of Physicians, and the American Osteopathic Association in 2007.[2] The joint statement outlines seven principles describing the characteristics of medical homes, and defines homes as both "an approach to providing comprehensive primary care for children, youth and adults" and "a health care setting that facilitates partnerships between individual patients, and their personal physicians, and when appropriate, the patient's family."

The seven principles described in the joint statement are:[3]

1. **Personal physician** – each patient has an ongoing relationship with a personal physician trained to provide first contact, continuous and comprehensive care.
2. **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.
3. **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 qualified professionals.
4. **Care is coordinated and/or integrated** across all elements of the complex health care system (such as subspecialty care, hospitals, home health agencies, nursing homes) and the patient's community (for example, family, public and private community-based services). Care is facilitated by registries, information technology, health information exchange and other means to ensure that patients get the indicated care when and where they need and in a culturally and linguistically appropriate manner.
5. **Quality and safety** are hallmarks of the medical home.
6. **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.
7. **Payment** appropriately recognizes the added value provided to patients who have a patient-centered medical home.

The joint statement is significant because it represents the agreement of many organizations on key components. However, the constituents of the statement retain different viewpoints about some of the priority areas of a medical home and the best way to operationalize the home concept. For instance, in 2008, shortly after the statement was published, the American Academy of Family Physicians issued its own statement about patient-centered medical homes that emphasized the role of the patient to a greater extent.[4] Though there are some differences in emphasis on key characteristics, the joint statement is the current foundation for the following pediatric-specific medical home definitions.

American Academy of Pediatrics

The American Academy of Pediatrics (AAP) issued its first statement on medical homes in 1992, with a particular focus on children with special health care needs. The statement was expanded and revised in 2002, to apply to all children. AAP describes the

medical home as, "a model of delivering primary care that is accessible, continuous, comprehensive, family centered, coordinated, compassionate, and culturally effective."[5] The 2002 AAP definition describes characteristics of medical homes and services that should be advanced in the context of comprehensive health care. In 2005, the AAP also issued an updated policy statement on medical homes for children with special health care needs.[6] Medical home concepts are also woven into the fabric of *Bright Futures*, AAP's and the Maternal Child Health Bureau's (MCHB) national initiative to promote and improve child health through health promotion and disease prevention within the contexts of family and community.

Another conceptual framework for medical homes was presented by The Children's Health Fund (CHF) during a webinar coordinated by Project Thrive in August 2009.[7] CHF endorses the AAP definition of medical home but further advocates for development of enhanced medical homes for medically underserved children, who "tend to have a higher than typical rate of many chronic conditions and economic, geographic and psychosocial social factors," the interplay of which can cause medical conditions to worsen. In addition to intensive primary care and an expanded use of health information technology, the enhanced medical home model emphasizes an integrative approach between disciplines.

Maternal and Child Health Bureau

The Health Resources and Services Administration's Maternal and Child Health Bureau (MCHB) articulates medical homes as one of six critical indicators of progress in meeting the long-term national goal of expanding systems of care for children "with or at risk for chronic and disabling conditions."

"Once identified, children with special health care needs (CSHCN) require a medical home: a source of ongoing routine health care in their community where providers and families work as partners to meet the needs of children and families. The medical home assists in the early identification of special health care needs; provides ongoing primary care; and coordinates with a broad range of other specialty, ancillary, and related services."[8]

The medical home model is regarded by MCHB as an important tool to advance the development of systems of care for CSHCN that are "family-centered, community-based, coordinated and culturally competent."[9]

Measuring Medical "Homeness"

States and other stakeholders interested in expanding access to medical homes utilize a number of different accreditation and recognition tools to measure medical "homeness." These include resources used to assess whether an individual practice meets standards consistent with the medical home model and survey tools that measure the degree to which segments of the population receive care from providers meeting qualifications of a medical home.

The most widely utilized means of assessing practice-level medical home qualification is the National Committee for Quality Assurance's (NCQA) *Physician Practice Connections® Patient-Centered Medical Home™* (PPC-PCMH) tool. Developed in consultation with the medical professional associations that developed the Joint Principles, the PPC-PCMH assesses six standards, includes 166 items, and issues one overall grade from a three-level scoring range. The six standard categories are:

1. **Enhance access and continuity.**
2. **Identify and manage patient populations.**
3. **Plan and manage care.**
4. **Provide self-care and community support.**
5. **Track and coordinate care.**
6. **Measure and improve performance.**

The recognition tool was designed to be applied through practice self-reporting and is used in most medical home demonstration projects. NCQA medical home accreditation is often a prerequisite for obtaining enhanced reimbursement rates from public and private insurers. Partly in response to a number of criticisms,[10] NCQA launched an updated tool in January 2011 with new features designed to better capture some key components of the medical home model.

Designed specifically for purposes of assessing care providers serving children, the *Pediatric Medical Home Index* gauges six domains of the pediatric medical home model (organizational capacity, chronic-condition management, care coordination, community outreach, data management, and quality improvement).[11] Developed by the Center for Medical Home Improvement, the index scores fewer items (25) than the PPC-PCMH, but each individual item is scored on a scale from one to four, allowing for more specific identification of where the practice sits along the continuum of care. The *Medical Home Index* also has a companion tool, the *Medical Home Family Index,* which allows for assessment by patients and their families, including families of children with special health care needs.

Other assessment tools that measure key elements of the medical home model and are either explicitly designed for pediatric care or specifically examine some of the key elements of the AAP definition include the *Consumer Assessment of Healthcare Providers and Systems* (CAHPS) *Child Primary Care Questionnaire*, the *Components of Primary Care Instrument* (CPCI), and the *Medical Home Implementation Quotient* (MHIQ).[12]

Additional measures are currently under development. For example, the Joint Commission recently developed standards to assess whether an ambulatory care organization qualifies for designation as a "Primary Care Medical Home" provider. The new program was launched in July 2011, and is an optional expanded accreditation process for ambulatory care practices.

On the population level, two national child health surveys have incorporated questions about medical homes access and utilization. Both the National Survey of Children's Health (NSCH) and the National Survey of Children with Special Health Care Needs (CSHCN) introduced new medical home questions within the past decade.

With robust definitions and multiple provider-based assessment tools, the current concept of medical homes is well-articulated, but the actual measurement of the percentage of children with access to homes remains somewhat elusive. One method of capturing information on access is to ask parents to identify which medical home characteristics are met by their child's regular health care provider.

Analyses of the NSCH and the CSCHN, suggest that access to medical homes is associated with income and other socioeconomic factors, with children who are low income, publicly insured, and black or Hispanic less commonly receiving care from a medical home. This trend is particularly alarming in the case of vulnerable children, including children with special health care needs.

Medical home measurement is a specific goal of the NSCH.[13] Analysis published recently in *Pediatrics* suggests a small majority (56.9 percent) of all children ages 1 to 17 received care in a medical home setting in 2007.[14] Large racial and ethnic disparities were visible, with non-Hispanic white children having the highest level of medical home access and Hispanic children having the lowest. Lower income children had substantially lower levels of medical home access.

Looking across the states, an analysis by the Commonwealth Fund of the 2007 NSCH found the median medical home attainment rate to be 60.7 percent for children under 18, with individual states ranging from 45 to 69 percent of children having a medical home.[15] This analysis is contained in a larger report finding that "states vary widely in their provision of children's health care that is effective, coordinated, and equitable."

Young Children

The NSCH data indicate a remarkably high level of access to coverage and care among children up to 5 years old, with over 93 percent having a usual source of care and a personal physician.[16] This is largely a reflection of the significant strides the country has made in improving access to coverage through public health insurance program expansions for children introduced in the 1990s. With implementation of the Affordable Care Act of 2010, a further reduction in the number of children without a usual source of care and a personal physician is anticipated.[17]

Therefore, much of the discussion around early childhood health is shifting from an emphasis on access to a renewed emphasis on the quality and effectiveness of the medical care received. Young children are an important sub-group to examine in analyses of health care quality because of the high volume of health care encounters they experience, with 13 well-child care visits recommended by *Bright Futures* in the first five years of life. Although younger children tend to have a higher likelihood of receiving care from a medical home than older children, critical components of the medical home are still not universally available even to young children, as reported by parents. An analysis by the National Center for Children in Poverty (NCCP) of the 2007 NSCH reveals that racial/ethnic and income-based disparities in relationships between the health care system and families show up early.

NCCP Analysis of the National Survey of Children's Health

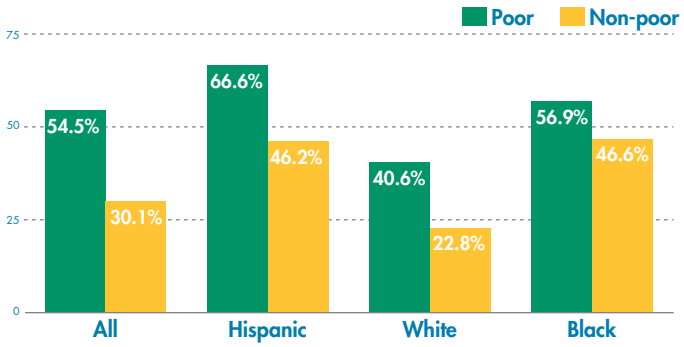
NCCP analyzed data from the 2007 NSCH to assess access to medical homes among children ages birth to 5.[18] We examined access based on race, ethnicity, and income.

Following the guidance of the Maternal and Child Health Bureau (MCHB), we used a medical home measure comprised of five elements:[19]

- having a usual source of care;
- having a personal physician or nurse;
- receiving all needed referrals for specialty care;
- receiving help, as needed, to coordinate health and health-related care; and
- receiving family-centered care (characterized by the extent to which the provider took time, listened, evidenced sensitivity to family values, partnered with parents in care, and provided interpreter services, as needed).

Nationally, nearly two-thirds (65 percent) of young children (birth to 5) had a medical home. Poor children were significantly more likely than non-poor children not to have a medical home, and this income difference was evident among each of the three racial and ethnic subgroups studied – Hispanic, Non-Hispanic white, and Non-Hispanic black (see figure 1).

Figure 1: **Children (ages 0 to 5) who did not have a medical home, by race and ethnicity 2007**



Source: NCCP analysis using data from the National Survey of Children's Health (NSCH), 2007.
Note(s): As discussed in the text, according to the definition of the Maternal Child Health Bureau (MCHB), to be characterized as having a medical home, a child must: have a personal doctor or nurse, have a usual source of sick or well care, have a satisfactory level of care coordination, and have a satisfactory level of family-centered care. This measure was based on valid responses for a sample of 24,373 Hispanic, Non-Hispanic white, and Non-Hispanic black children. Poverty is defined based upon the ratio of family income to the federal poverty line.

Controlling for poverty, white children were consistently more likely to have a medical home than Non-Hispanic black or Hispanic children. These findings are consistent with the racial and ethnic disparities observed by others.[20]

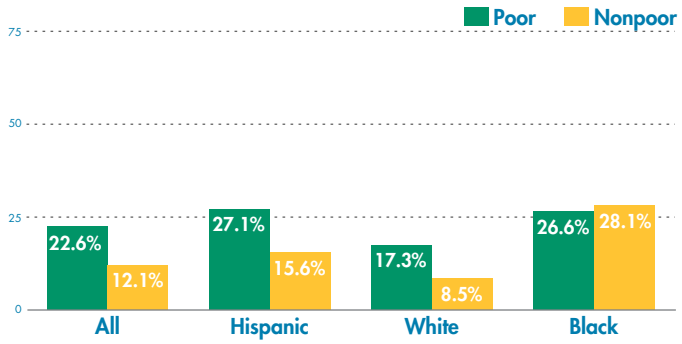
Among the approximately one-sixth of children who needed a specific referral for medical care or related services, getting those referrals proved to be a "big problem" more often for poor children. Black poor and non-poor children were equally disadvantaged on this measure, however, and both black and Hispanic children were more disadvantaged than their white counterparts, as shown in Figure 2.

Roughly one-third of the full sample reported that they needed to coordinate care among various medical, mental health, and related service providers. Among this group, care coordination was more often inadequate for black children than for Hispanic or white children, as shown in Figure 3. Among black and white children, poor children were less likely to receive effective care coordination. Among Hispanic children, the association with poverty was less pronounced.

Similarly, caregivers of black and Hispanic children were less likely to report receiving "family-centered practices," such as a doctor who "spends enough time," listens carefully, partners with parents in care, and provides important health information. (see figure 4). In each of the three ethnic groups, parents of poor children were significantly less likely to report adequate "family-centered practices."

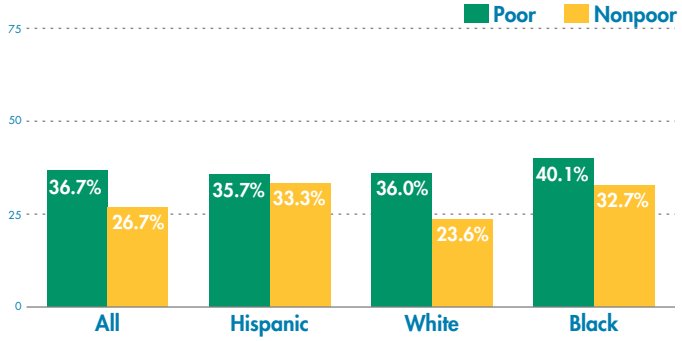
In sum, young children with minority status or low family income are at higher risk of receiving care that falls short of a medical home, specifically in the areas of coordinating care and quality of interaction with health provider. These characteristics of coordination and communication are not only key components of the medical home but noteworthy also because they are among the primary factors identified as most important to consumers. Patients participating in focus groups describe improved coordination and communication, having a "point" person to help navigate the health care system, and a focus on whole person care as the most critical medical home elements.[21]

Figure 2: **Children (ages 0 to 5) who had a "big problem" getting a necessary referral, by race and ethnicity 2007**



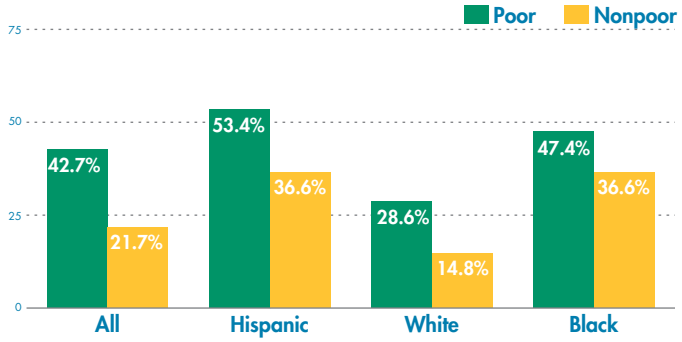
Source: NCCP analysis using data from the National Survey of Children's Health (NSCH), 2007.
Note(s): This measure was based on valid responses for a sample of 3,987 Hispanic, Non-Hispanic white, and Non-Hispanic black children who needed a referral to "see a doctor or receive any medical services."

Figure 3: **Children (ages 0 to 5) who did not receive "effective care coordination," by race and ethnicity 2007**



Source: NCCP analysis using data from the National Survey of Children's Health (NSCH), 2007.
Note(s): This measure was based on valid responses for a sample of 8,506 Hispanic, Non-Hispanic white, and Non-Hispanic black children who needed medical or related service referrals during the year. As discussed in the text, according to the definition of the Maternal Child Health Bureau (MCHB), to be characterized as having received "effective care coordination," a child who needed care coordination must have been "very satisfied" with the coordination of care received, and received extra help coordinating care if warranted.

Figure 4: **Children (ages 0 to 5) who did not receive "family-centered care," by race and ethnicity 2007**



Source: NCCP analysis using data from the National Survey of Children's Health (NSCH), 2007.
Note(s): This measure was based on valid responses for a sample of 8,506 Hispanic, Non-Hispanic white, and Non-Hispanic black children who needed medical or related service referrals during the year. As discussed in the text, according to the definition of the Maternal Child Health Bureau (MCHB) , to be characterized as having received "family-centered care," a caregiver must have agreed that his/her medical provider: "always or usually" spends enough time with him/her, listens carefully, is sensitive to family values and customs, provides needed information, "makes me feel like a partner in my child's care," and provides interpreter services as needed.

National Survey of Children with Special Health Care Needs

A 2009 analysis of the2005-2006 National Survey of Children with Special Health Care Needs (CSHCN) identified geographic and socioeconomic disparities in medical home access among medically vulnerable children.[22] CSHCN are defined as "those who have or are at increased risk for a chronic physical, developmental, behavioral, or emotional condition and who also require health and related services of a type or amount beyond that required by children generally."[23]

Overall, immigrant children faced the largest disparity in access, with those speaking a primary language other than English in the home having 67 percent higher odds of not having a medical home. The study also found access inequity for poor, Hispanic and black children, trends previously identified in earlier analyses of CSHCN surveys.[24] Younger children (birth to 5 years) had improved access to a medical home as compared to older children (12 to 17 years). Overall, at least 43 percent of medically vulnerable children in each state were found to lack access to a medical home.

On the whole, data from these two surveys suggest that many patients and families report not having access to care through a provider that meets the standard of a medical home. In part, this reflects the need for more education to drive patients to expect more from their providers. The medical home access disparities identified in the data further illustrate the need to implement the model more broadly. This is the aim of the various types of medical home pilot projects described below.

Summary and Description of Existing Pilot Projects

Leadership for medical home projects, including demonstration pilots and those that aim to institute more widespread, permanent home expansion, can come from several levels. Three types of projects are described below: pilots initiated by State Medicaid and Child Health Insurance (CHIP) administering agencies, initiatives advanced by a state or local/regional government but not exclusively focused on care provided to publicly-insured residents, and efforts that are primarily driven by private payers.

Each of the three is developed using the following building blocks:

1. **Formation of strong leadership and diverse stakeholder teams** – including key public entities, providers, patients-consumers, and payers-insurers.
2. **Definition of a medical home and development of measurable standards and a process for recognition of providers** – utilizing definitions and recognition tools previously discussed.
3. **Design and implementation of reimbursement model** – critically important and discussed further below.
4. **Engagement of and support for individual practices and providers** – necessary to make redesign successful and sustainable.

Pilots and demonstration projects in individual states can be identified through the Patient-Centered Primary Care Collaborative's Center for Multi-Stakeholder Demonstrations (PCPCC CMD), which provides an annual *Pilot Guide* and other pilot tracking information at pcpcc.net. State-level information on pilots and other medical home developments affecting children is also highlighted on the website of the National Center for Medical Home Implementation (medicalhomeinfo.org), a collaborative project of the AAP and MCHP. Several multi-pilot evaluations are underway, promising to provide much more comprehensive information about medical home outcomes in terms of health benefits and cost savings.[25]

Pilots Initiated by State Medicaid/CHIP Administrators

Medical home initiatives to improve state Medicaid and CHIP programs have become increasingly common, with a broad range of models found in 40 states.[26] State-initiated pilots have been developed to target publicly insured children, adults, those with chronic conditions, and the general Medicaid/CHIP population.

State Medicaid administrators have developed medical home projects in partnership with other state agencies, managed care organizations, key stakeholders from the medical community, and patients and consumer groups. Each state has developed its own method for defining and recognizing medical homeness, in many cases with considerable guidance from language in state legislation.

In 1991 North Carolina helped set the course for other states by establishing Carolina Access, a Medicaid-enhanced medical home initiative that went statewide in 1998. Another example is Colorado's medical home initiative, featured during Project Thrive's 2009 webinar,[27] which also aims to provide universal home access. The Colorado Children's Healthcare Access Program was designed to bring more practices to the medical home level, while at the same time expanding the pool of providers serving publicly insured children. Additional information on these and other public coverage-focused pilots can be found in the National Academy for State Health Policy's (NASHP) 2009 report, *Building Medical Homes in State Medicaid and CHIP Programs.* NASHP monitors state Medicaid/CHIP efforts to advance medical homes on an ongoing basis through its website, www.nashp.org.

Pilots Initiated by States or Regions not Primarily Targeting the Publicly Insured

In addition to instituting programs through public health insurance programs, states and regions also leverage relationships with private insurers to expand medical home access. Many pilot initiatives driven by states and regionally-based collaborations seek to support local practices as they move to incorporate the medical home model and receive recognition through the NCQA PCMH certification process. Such efforts typically involve a planning body working closely with multiple insurers (often including Medicaid) to design and develop reimbursement policies to finance practice-level infrastructure and service model changes.

Rhode Island was the first to implement medical home pilots on a broad scale, with three insurer partners. Other prominent examples include Maine's PCMH Pilot and the Oregon Medical Home Project, which specifically promotes medical homes for children through a statewide network of parent and professional resource teams.[28] Pennsylvania's Chronic Care Management, Reimbursement, and Cost Reduction Initiative, designed as a permanent program with an incremental regional rollout, is one of many state initiatives currently being evaluated.

Pilots Initiated by Private Payers or Health Care Systems

Medical home pilots that emerge from private sector leadership are increasingly common, though few have focused exclusively on children. At least 27 commercial payer medical home pilots are underway in 18 states, with projects under development in at least 21 more states.[29] At this point, a strong majority of states has at least one private payer pilot in progress. Competitive barriers have historically limited the number of multi-payer (thus, wider-reaching) pilots, but there has been some progress in recent years.

Like all medical home efforts, private payer initiatives require tightly coordinated support and accountability at both the micro level (for individual providers) and macro level (for the initiative as a whole). Partnership with public entities such as state and local departments of health often enhance payer-driven initiatives. While private payer-driven initiatives are typically less focused on improving care for economically vulnerable children, their development can provide an example for parallel efforts in states that emphasize medical home advancement for children with public coverage.

Payment Models Used in Medical Homes Pilots

Reimbursement reform is an important driver for medical home access expansion. In order for practices to offer care consistent with the medical home model – which emphasizes, among other things, intensive care coordination and enhanced patient access to providers – payer to provider payment innovations are required.[30] Most medical home pilots establish new provider reimbursement models, which can include any of the following components:

1. **Monthly payment –** provides a fixed monthly payment to providers for the care coordination and care management of each patient. The value of the payment usually depends on a number of factors, including the age and medical condition of the patient.
2. **Enhanced payment for selected services –** places a higher value on certain types of visits.
3. **Performance-based payment –** compensates providers for specific patient outcomes. This component can be designed so that providers share in a portion of cost savings that may be attributed to preventive actions.

Practices utilize enhanced reimbursement payments in a number of ways, from investing in information technology such as medical records and systems for communication with patients and other providers, to payment for new care management and coordination resources.

Several practice redesign elements can require that new staff positions be created and filled, and for smaller practices in particular shared-resource strategies are a valuable option to consider.[31] All of these enhancements are intended to foster improved coordination of specialty care, access to community resources and more intensive engagement with patients and families regarding care management.

Opportunities and Challenges: Leveraging Medical Homes to Meet the Needs of Young Children

Despite a recent swell of activity in states across the country, implementation of the medical home concept in the pediatric care universe remains largely incomplete. Within the context of health care reform, medical homes present a unique opportunity to improve the quality of care for young children; most urgently, children with special health care needs and other vulnerable children. States are in a prime position to work with strategic partners to address the significant challenges to broader medical home implementation and advance positive health outcomes for children.

Key Strengths of Medical Homes in the Pediatric Health Care Setting

Pediatric medical homes offer highly valued strengths that are particularly beneficial for the early childhood population. Several critical health areas benefit from implementation of the medical home model.

Early identification – Medical homes have the potential to advance more proactive detection of disabilities and developmental problems among young children, allowing for earlier intervention where necessary. The whole-person orientation of homes, as well as some of the payment enhancement innovations, motivate providers to take a broad and long range approach to treating patients, and encourage comprehensive screening and treatment.

Care coordination – Pediatric care coordination within medical homes has been defined as "a patient- and family-centered, assessment-driven, team-based activity designed to meet the needs of children and youth while enhancing the caregiving

capabilities of families" and addressing "interrelated medical, social, developmental, behavioral, educational, and financial needs to achieve optimal health and wellness outcomes."[32] Improving integration across the wide range of medical and community resources is one of the most critical tasks of a pediatric medical home.

Effective care coordination occurs on multiple levels: vertical integration relates to care management with other medical providers; horizontal integration seeks to develop bridges to the health, education, community, and family support sectors; and longitudinal integration concerns sustained coordination of care over time. Well-coordinated care is critically important for children with special health care needs, including those with developmental and mental health problems. There is some evidence that effective care coordination in a medical home context can also help reduce financial stressors facing families of CSHCN.[33]

Addressing health disparities – Analyses of the NSCH conducted by NCCP and others have demonstrated that poor, Hispanic, and black children are less likely to receive care from a medical provider that meets the standard of a medical home. Increasing the number of medical homes accessible to these children and their families would create important new opportunities to reduce racial, ethnic, and economic health disparities.

Challenging chronic conditions affecting young children – Medical homes specifically hold promise for improving health outcomes for children affected by the most common childhood chronic diseases, including asthma.[34] There is some evidence that children with the most severe health care needs can receive the largest benefit from medical home interventions.[35]

Challenges Facing Pediatric Medical Home Implementation

Considering the many advantages presented by medical homes, the central challenge is how to transform the existing primary care delivery system into one that supports the creation and support of additional medical homes. The main obstacle to more rapid medical home expansion is the level of funding required to redesign practices and sustain necessary resource enhancements over time.

From a business perspective, medical homes are desirable when they improve the health care delivery value for purchasers (including states) and insurers. The short and long term health care system cost savings from medical homes remain largely undemonstrated in the pediatric care setting. Payment incentives that channel more health care dollars into the primary care system are valuable, but further analysis of the experience of existing pilots is needed to understand how pediatric medical home investments result in cost savings over time.

In addition to challenges related to reimbursement, medical home implementation must overcome the difficult task of culture change for each pediatric practice and health care system adopting a medical home model. Since many medical regional and state home pilots have been designed with adults with chronic conditions in mind, adapting more broadly to the family-centered pediatric care universe will take careful thought and new resources. There is also a need for sustained education of parents and families on the value of medical homes and strategies for maximizing the utilization of home providers in the best interest of child health.

Opportunities to Advance Medical Home Implementation

The medical home concept has been under development for decades, and is increasingly driving discussions around quality of care, particularly for patients with multiple chronic conditions. A number of exciting opportunities exist to help the medical home paradigm reach its full potential in improving care management and care coordination for young children. Strategies to address barriers to medical home expansion range from the dissemination of technical assistance resources to help providers prepare for practice redesign, to financial investment in large scale pilots and demonstrations with new

reimbursement models. The following four principles articulate additional opportunities to advance medical home implementation and improve the quality of medical care for children.

1. **Prioritizing and incentivizing –** Medically- and socioeconomically-vulnerable communities should be primary targets for expansion initiatives. National survey data indicate low income and black and Hispanic children have substantially less medical home access. States, health care systems, and other stakeholders have the potential to provide additional resources that directly address inequities in medical home attainment. Medical home development incentives should address disparities in need and access for the most vulnerable, including children from high-risk, high-need communities. Shifting financial incentives to improve the quality of care for vulnerable young children is a critically important way to address health disparities that unfold over the course of a lifetime.[36]
2. **Incorporating patient and family experience in the credentialing processes –** Qualitative indicators of the medical home experience have historically been excluded from the measurement tools most commonly used to assess medical home qualification. Accreditation processes need to continue to evolve to find new ways to capture information on the complex interaction between providers and patients and their families to complement existing information on more structural redesign elements. NCQA's new emphasis in this regard is welcome, and utilization of these and other related measures should be monitored and analyzed closely.
3. **Further integrating care coordination –** Young children are in greatest need of well-integrated and coordinated care. For some, visits to a primary care physician are the only form of professional interaction prior to elementary school enrollment. Providers have the strategic opportunity to build bridges to other types of educational and community resources that promote healthy development. The efficacy of medical homes for young children is to a large degree dependent on strong linkages across early childhood systems.
4. **Broadening research agenda –** There are promising strategies to adapt the medical home model, more widely applied to address the medical needs of adults with chronic disease, to address the specific health care needs of young children with serious physical and mental health needs and/or multiple socioeconomic factors which impact health. The body of literature on the efficacy of medical homes, however, does not reflect children as a priority for research. The national research and evaluation agenda must be broadened to emphasize children, particularly young children, as a target group to study in greater detail.

Future Opportunities to Build High Performing Medical Homes as Part of Pediatric Accountable Care Organizations

Medical home expansion is being supported by the advancement of an emerging health care system model – the accountable care organization, or ACO. Referred by some as medical neighborhoods, ACOs are organizing entities that can house many practices and are accountable to patients, providers, and health care purchasers and payers for the quality and cost of care delivered to the collective patient population.[37] Examples of ACOs include integrated delivery systems, multispecialty group practices, physician-hospital organizations, and independent practice associations.[38] ACO implementation is believed to be an important component in health system reform efforts to support higher value care rather than higher-volume care.[39] NCQA is launching an ACO accreditation program in the Fall of 2011, and the evaluative standards specify that primary care practices within an ACO must function as medical homes.

The ACO is a health service delivery concept under intense development, and such development should consider pediatric care, including early childhood care, as a central concern. To date, much of the thinking around ACOs has evolved within the context of medical care for adults. More specifically, ACOs are set to become a permanent delivery system option within the Medicare Program under a

provision of health reform scheduled to take effect in 2012. Implementation of a child-inclusive ACO is an opportunity with its own set of challenges, since early childhood medical needs are somewhat unique. With typically lower per patient costs, the field of pediatrics has less of a cost savings incentive to drive the development of ACOs, but consideration of an alternative economic model that factors in longer term cost savings might hold promise for a pediatric ACO.

Some much needed federal demonstration funding will support the next stage of pediatric ACO exploration. Section 2706 of the Affordable Care Act of 2010 authorizes the creation of a four-year pediatric ACO demonstration project, which would begin January 2012. Qualifying providers in participating states will be eligible to receive incentive payments for cost savings attributed to care of publicly insured patients.[40] Emerging ACO pilots should seek to aggressively target vulnerable child populations in the same way adults with chronic conditions have been targeted. Pilots that identify children as priority groups also need to identify new partners (in the fields of education and social services) to strengthen integration with non-medical services.

Overall, opportunities to achieve improvements in patient and family experience and health outcomes for pediatric health care, particularly among vulnerable communities and high risk children, should be a central focus of stakeholders engaged in discussion and strategic planning for medical home and ACO expansion. Children (and the field of pediatrics) should not be excluded from or marginalized in national initiatives around medical homes and accountable care organizations. Instead, the medical home concept needs to be brought "home" to its originally conceived target population – children.

Resources for Further Information

National Academy for State Health Policy
www.nashp.org/node/28

National Center for Medical Home Implementation (AAP)
www.medicalhomeinfo.org
www.pediatricmedhome.org
(*Building Your Medical Home Toolkit)*

National Committee for Quality Assurance
www.ncqa.org

Patient-Centered Primary Care Collaborative
http://pcpcc.net

Endnotes

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15. The Commonweath Fund; How, S.K.; Fryer, A.K.; McCarthy, D.; Schoen, C.; & Schor, E.L. (2011). *Securing a healthy future: The Commonwealth Fund state scorecard on child health system performance*.

National and state level data on medical home access as assessed in the survey are also available through the Data Resource Center for Child and Adolescent Health at http://medicalhomedata.org.

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19. Not all components applied to all children. Assessments of the quality of referrals, coordination, and special services apply to only children who needed those more intensive services, and thus the standard of care was evaluated most stringently for those with the greatest need. The medical home measure used here was designed to approximate the components of the AAP-defined medical home concept.

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