

# There's More Than One Way to Build a Medical Home

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**T**he patient-centered medical home (PCMH) has gained tremendous momentum in both the public and private sectors as a fast growing model of primary care redesign.<sup>1,3</sup> More than 90 commercial insurance plans, multiple employers, 26 state Medicaid programs, and federal agencies including the Department of Defense and the Health Resources and Services Administration (HRSA) have sponsored projects to support adoption of the PCMH. To date, thousands of small and large clinical practices have adopted the PCMH model.<sup>4</sup>

Multiple studies in larger health systems have highlighted positive findings from PCMH implementation, particularly in the area of patient experience, quality improvement, and reductions in cost and utilization associated with hospitalization and emergency department use.<sup>2,3</sup> However, some studies highlight aspects of the PCMH model which have not had significant impact on patient experiences<sup>5</sup> and cost savings.<sup>5,6</sup> A systematic review in 2012 concluded that PCMH implementation has a weak association with improvement of clinical staff experiences and improved care processes, and that there is insufficient evidence to determine the impact of PCMH implementation on clinical outcomes.<sup>7</sup>

One of the major reasons evidence in the literature is mixed regarding specific outcomes of PCMH domains is that there is not a single, unifying definition of a "medical home."<sup>8,9</sup> Despite the widespread endorsement of the Joint Principles,<sup>10</sup> there is still strong variation in implementation of the components that are usually included: an identified primary care clinician for continuity; team-based care utilizing all members of the team functioning at the top of their scope of practice; patient-centered orientation toward the whole person; care that is coordinated across all elements of the healthcare system and the patient's community; enhanced access to care that uses alternative methods of communication; and a systems-based approach to quality and safety.<sup>7</sup> Thus, as PCMH is being integrated in many healthcare systems and settings, exact approaches to implementation

## ABSTRACT

### Objectives

The patient-centered medical home (PCMH) is a critical aspect of delivery system reform. The purpose of this study was to examine variations in achievement of PCMH requirements across different types of practices.

### Study Design

We used data on the points awarded, by standard and element, to 2369 practices recognized by September 2013 under the National Committee for Quality Assurance (NCQA) PCMH program, 2011 version.

### Methods

We tested for differences across practice types in the percentage of practices achieving full credit for 27 element scores using likelihood ratio  $\chi^2$  tests with an adjustment for multiple comparisons.

### Results

Of the practices, 45% were affiliated with health systems, 22.6% were community health centers, and 5.3% were military treatment facilities. The remaining practices were physician-owned, 10% with at least 5 clinicians and 17.3% with less than 5. Even among Level 3 practices, there were significant differences across the practice types in the percentage of practices achieving full credit for 19 of 27 elements. Different types of practices demonstrated strengths in different medical home capabilities.

### Conclusions

Even among practices with the highest level of PCMH achievement, there are variations in key medical home capabilities. While research is needed to identify PCMH components having the greatest impact on outcomes, this research shows that the NCQA model is flexible enough to adapt to the strengths and needs of practices and the patients they serve. Efforts to support widespread dissemination of the PCMH model and practice transformation should recognize and build on these variations.

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vary broadly.<sup>11,12</sup> However, practices likely to have more resources, such as those owned by a hospital, health system, or health plan, have been shown to be significantly more likely to use more medical home processes.<sup>13</sup> Analysis of the first 500 National Center for Quality Assurance (NCQA)-recognized practices showed that practices affiliated with larger organizations achieved higher levels of PCMH recognition compared with unaffiliated small practices.<sup>14</sup>

With more than 6000 practices including nearly 30,000 clinicians—about 10% of the 295,000 primary care clinicians practicing in the United States<sup>4,15,16</sup>—NCQA’s database of recognized practices allows a unique view of the implementation of the PCMH across diverse practices. Because NCQA recognition standards allow practices flexibility to adapt recognition to their setting while maintaining key requirements, we used this data set to characterize how different types of practices have achieved the capabilities of the medical home. Our specific research questions were: 1) How does the level of PCMH recognition vary across different types of practices? and 2) How does achievement of specific PCMH requirements vary across different types of practices?

## METHODS

This analysis focuses on primary care practices that were recognized under NCQA’s 2011 PCMH recognition program as of September 13, 2013. The PCMH 2011 program evaluates processes in 6 domains called standards: 1) enhance access and continuity; 2) identify and manage patient populations; 3) plan and manage care; 4) patient self-management and support; 5) track and coordinate care; and 6) measure and improve performance.<sup>17</sup> Within these 6 standards are 27 elements, each with an assigned number of points. Of the 27 elements, there are 6 “must pass” elements, which are considered essential to the PCMH, and practices must achieve at least 50% of the points for each of these elements to gain recognition. Three levels of PCMH recognition are possible based on the total number of points achieved out of 100 possible: Level 1 = 35-59 points; Level 2 = 60-84 points; Level 3 = 85-100 points.

To obtain recognition, practices complete a Web-based data collection tool and submit documentation to support their responses. Trained reviewers assess the documentation, and 5% of applications undergo audit (on-site or by e-mail or telephone). All applications undergo 3 rounds

### Take-Away Points

- Among practices with the highest level of patient-centered medical home (PCMH) achievement, there are variations in the implementation of key medical home capabilities by type of practice. These variations are consistent with the organization of and supports available to the practices and likely reflect different priorities and needs of the populations served.
- By providing data on diverse practices across the country, this report suggests how different types of practices might approach PCMH implementation.
- Efforts to support widespread dissemination of the PCMH should support practices in tailoring the PCMH to their strengths and to the needs of the patients they serve.

of internal review. Practices that were recognized under the previous version of NCQA’s program at Level 2 or 3 are allowed to use a streamlined process for renewal requiring less documentation support. Because information on both the standards and the scoring is freely available, practices should be able to determine whether they meet standards (assuming they provide adequate documentation) before undergoing review. Few practices submit and fail to achieve recognition (although 86 applications, 3.5% of those submitted, failed to achieve recognition during the time period of this work). Still, the number of points awarded to practices is usually lower than the self assessment; this may be due to poor documentation, lack of understanding of the requirements, or generalizing about the extent of their own activities.

NCQA defines a “practice” as 1 or more clinicians (physicians, nurse practitioners, and/or physician assistants) who practice together at a single geographic location. Nonclinician staff must follow the same procedures and protocols for all clinicians at the site.

Self-reported information on practice characteristics is collected during the application process. We categorized practices into 5 groups: federally qualified health centers or community health centers (hereafter referred to as “community health centers”); practices owned by hospitals, health plans, or health systems (hereafter referred to as “health system practices”); military treatment facilities (which provide health services to active duty and retired military personnel and their dependents); small physician-owned practices (with fewer than 5 clinicians); and large physician-owned practices (with 5 or more clinicians). We also used data on the most recent level achieved in the PCMH 2011 program and whether the practice was recognized under NCQA’s prior PCMH program.

We present a descriptive analysis of the practice characteristics overall and by the 5 practice type groupings. We used separate  $\chi^2$  tests to determine whether these practice characteristics were associated with being PCMH Level 3 and with the practice type. We cal-

**Table 1.** Practice Characteristics of Patient-Centered Medical Home (PCMH) Practices Recognized by NCQA, by Practice Type (N = 2369)

Practice Characteristic	Percentage of Practices					
	All practices (N = 2369)	Community health centers <sup>a</sup> (N = 535)	Small physi- cian-owned (<5 providers) (N = 409)	Large physi- cian-owned (≥5 providers) (N = 237)	Health- system practices <sup>b</sup> (N = 1063)	Military treatment facilities (N = 125)
Level 1	3.6	4.9	3.4	4.2	3.3	0.0
Level 2	25.3	34.6	26.9	24.9	21.7	11.2
Level 3	71.1	60.6	69.7	70.9	75.0	88.8
<b>Number of Clinicians</b>						
1	17.1	16.1	30.8	0.0	11.9	52.8
2-4	43.1	39.6	69.2	0.0	47.6	16.0
5-9	26.1	28.2	0.0	70.5	25.7	20.8
10 or more	13.8	16.1	0.0	29.5	14.9	10.4
<b>Specialty</b>						
Adult primary only	13.7	2.6	21.5	15.6	16.8	6.4
Adult and pediatric	75.5	95.3	62.8	60.3	73.1	82.4
Pediatric only	10.7	2.1	15.6	24.1	10.2	11.2
<b>PCMH 2008 Program Recognition</b>						
No PCMH 2008	79.0	86.9	66.5	54.0	83.0	100.0
PCMH 2008 Level 1	2.7	1.5	4.6	5.5	2.4	0.0
PCMH 2008 Level 2 or 3	18.2	11.6	28.9	40.5	14.7	0.0

NCQA indicates National Committee for Quality Assurance.  
<sup>a</sup>Community health centers include federally qualified health centers and other community health centers.  
<sup>b</sup>Health system practices include practices owned by hospitals, health systems, and health plans.

culated the percentage of practices achieving 100% of the points available for each of the 27 elements within the 6 standards. Among PCMH Level 3 practices, we then conducted a likelihood ratio  $\chi^2$  test to determine if there were significant differences in the proportion of practices receiving full credit according to the practice type, using a Bonferroni-adjusted *P* value of .0019 because of 27 comparisons.

## RESULTS

As of September 13, 2013, 2369 practices had achieved NCQA's PCMH 2011 recognition (Table 1). Of these, 45% were affiliated with health systems, 22.6% were community health centers, and 5.3% were military treatment facilities. The remaining practices were physician-owned—10% with at least 5 clinicians and 17.3% with fewer than 5 clinicians. The majority of practices (75.5%) had both adult and pediatric specialties, though this differed by practice type with nearly all community health centers serving both adults and children. Large physi-

cian-owned practices were more likely to have a pediatric-only specialty and small physician-owned practices more likely to have an adult-only primary care specialty (21.5%). Of these 2369 practices, 21% had previously received recognition under NCQA's Physician Practice Connections—Patient-Centered Medical Home 2008 program; this was more common among physician-owned practices, where 33.5% (small practices) to 46% (large practices) had achieved recognition.

Overall, 71.1% of practices achieved Level 3, the highest level of recognition (Table 2). Practices with an adult-only primary care specialty were more likely to have achieved PCMH level 3 (80.9%) than adult and pediatric specialty practices (69.6%) and pediatric-only practices (69.3%). Practices that had participated in the PCMH 2008 recognition program were also more likely to be PCMH Level 3 (85.5%) than those who had not participated (67.3%). Military practices were more likely to be Level 3 (88.8%), and community health centers were the least likely to be Level 3 (60.6%).

Even among Level 3 practices, there were significant differences across the practice types in the percentage

of practices achieving 100% of element points for 19 of 27 elements based on the likelihood ratio  $\chi^2$  test across categories (Table 3). Military practices had the highest proportion of practices with full credit for 9 of the 19 elements, including the majority of elements in track and coordinate care (Standard 5) and measure and improve performance (Standard 6).

Different types of practices demonstrated strengths in different medical home capabilities. For example, most large physician-owned practices received full credit for having structured data on patient demographics and clinical data (88.1% and 97.6%, respectively, on Elements 2A and 2B) but military clinics did not. The vast majority of military clinics (89.2%) and community health centers (86.4%) got full credit for using a team to provide services (Element 1G) compared with only 62% of small and large physician-owned practices. Community health centers were significantly more likely to get full credit for after-hours access (64.2% vs 47.7% to 51.2% for other types of practices on Element 1B), but the centers were the least likely to get full credit for electronic access (28.7% vs 55% to 72% for other types of practices on Element 1C).

While military clinics were least likely to have full credit for maintaining structured data on patient demographics and key clinical factors (Elements 2A and 2B), they had the highest proportion of practices (82%) gaining full credit for using data for population management (Element 2D). Compared with other types of practices, at least 20% more military clinics received full credit for care coordination tasks such as medication management (100% vs 78.2% of large physician-owned practices, Element 3D), referrals to community resources (72.1% vs 47.3% of health-system practices, Element 4B), and coordinating transitions of care (98.2% vs 77.2% for small physician-owned practices, Element 5C).

More community health centers received full credit for measuring performance (72.2%, Element 6A); they also performed better on getting patient feedback (13.3%, Element 6B), as did small physician-owned practices. Small and large physician-owned practices tended to lag behind other types of practices in implementing continuous quality improvement (Element 6C) and performance reporting (Element 6E).

**Table 2.** Practice Characteristics of Patient-Centered Medical Home (PCMH)-Recognized Practices, and Percentage Obtaining Level 3 Recognition (N = 2369)

Practice Characteristic	Level 3 %
<b>Practice Type</b>	
Community health centers <sup>a</sup>	60.6
Small physician-owned (<5 Clinicians)	69.7
Large physician-owned (≥5 Clinicians)	70.9
Health system practices <sup>b</sup>	75.0
Military treatment facilities	88.8
<b>Number of Clinicians</b>	
1	70.0
2-4	70.2
5-9	70.0
10 or more	77.4
<b>Specialty</b>	
Adult primary only	80.9
Adult and pediatric	69.6
Pediatric only	69.3
<b>Participation in NCQA's PCMH 2008 Program Recognition</b>	
No PCMH 2008	67.3
PCMH 2008 Level 1	44.6
PCMH 2008 Level 2 or 3	91.7
<small>NCQA indicates National Committee for Quality Assurance.  <sup>a</sup>Community health centers include federally qualified health centers and other community health centers.  <sup>b</sup>Health-system practices include practices owned by hospitals, health systems, and health plans.</small>	

## DISCUSSION

This is the first study to use a large and representative data set based on validated information to examine how different kinds of practices implement the medical home model. Even within NCQA's PCMH program, which standardizes many of the PCMH concepts, our data show that practices approach the implementation of this model of care differently. Even among practices that achieved the highest level of recognition, community health clinics, physician-owned practices, and health system-affiliated practices excelled at different components of the PCMH, while military clinics had uniformly high performance across all standards. These findings suggest possible differences in capability, values, and patient needs.

The high performance of the military clinics (with 88% achieving Level 3 recognition) is likely due to the infrastructure and incentives to change provided by the

■ **Table 3.** Percentage of Level 3 Patient-Centered Medical Home (PCMH)-Recognized Practices With 100% Achievement of Each Element, by Practice Type

Standard description	Element <sup>a</sup>	Percentage of Level 3 Practices						P <sup>d</sup>	Difference in Performance <sup>e</sup>
		Overall (N = 1685)	Community Health Centers <sup>b</sup> (N = 324)	Small Physician-Owned (<5 Providers) (N = 285)	Large Physician-Owned (≥5 providers) (N = 168)	Health-System Practices <sup>c</sup> (N = 797)	Military Treatment Facilities (N = 111)		
<b>1. Enhance Access and Continuity</b>	1A: Access During Office Hours <sup>a</sup>	82.3	72.8	76.8	81.0	87.6	87.4	<.0001	14.7
	1B: After-Hours Access	52.8	64.2	50.2	51.2	50.2	47.7	.0003	16.4
	1C: Electronic Access for Patients	59.7	28.7	55.1	72.0	72.0	55.0	<.0001	43.3
	1D: Continuity	97.5	95.1	97.5	98.2	98.0	100.0	.0111	4.9
	1E: Medical Home Responsibilities	89.9	80.9	92.6	94.0	92.3	84.7	<.0001	13.2
	1F: Culturally & Linguistically Appropriate Services	90.1	94.4	86.3	94.6	91.0	73.9	<.0001	20.8
	1G: Using a Team to Provide Services	76.9	86.4	62.1	62.5	79.5	89.2	<.0001	27.1
<b>2. Identify and Manage Patient Populations</b>	2A: Having Structured Data for Patient Information	76.5	83.3	81.1	88.1	75.9	31.5	<.0001	56.6
	2B: Having Structured Data for Clinical Data	86.2	81.8	96.5	97.6	86.8	50.5	<.0001	47.2
	2C: Comprehensive Health Assessment	86.6	87.0	84.2	81.5	87.3	94.6	.0124	13.0
	2D: Use Data for Population Management	75.7	64.2	78.6	81.5	77.2	82.0	<.0001	17.8
<b>3. Plan and Manage Care</b>	3A: Implement Evidence-Based Guidelines	95.5	88.0	94.7	94.6	98.9	96.4	<.0001	10.9
	3B: Identify High-Risk Patients	86.7	91.0	88.4	90.5	83.6	86.5	.0040	7.5
	3C: Care Management	66.5	65.4	64.9	69.0	65.9	73.9	.4132	9.0
	3D: Medication Management	83.3	85.2	86.0	88.7	78.2	100.0	<.0001	21.8
	3E: Use Electronic Prescribing	95.2	95.7	94.4	98.2	94.4	97.3	.1180	3.9
<b>4. Provide Self-Care Support and Community Resources</b>	4A: Support the Self-Care Process	79.3	75.0	74.7	78.0	82.8	80.2	.0094	8.1
	4B: Provide Referrals to Community Resources	51.6	59.3	48.1	50.0	47.3	72.1	<.0001	24.8
<b>5. Track and Coordinate Care</b>	5A: Test Tracking and Follow-up	87.0	84.6	87.7	93.5	85.2	95.5	.0004	10.9
	5B: Referral Tracking and Follow-up	79.3	73.5	77.2	88.7	79.8	84.7	.0006	15.2
	5C: Coordinate With Facilities/Care Transitions	86.9	84.9	77.2	79.8	91.2	98.2	<.0001	21.0

(Continued)



■ **Table 3.** Percentage of Level 3 Patient-Centered Medical Home (PCMH)-Recognized Practices With 100% Achievement of Each Element, by Practice Type (*continued*)

Standard description	Element <sup>a</sup>	Percentage of Level 3 Practices						P <sup>d</sup>	Difference in Performance <sup>e</sup>
		Overall (N = 1685)	Community Health Centers <sup>b</sup> (N = 324)	Small Physician-Owned (<5 Providers) (N = 285)	Large Physician-Owned (≥5 providers) (N = 168)	Health-System Practices <sup>c</sup> (N = 797)	Military Treatment Facilities (N = 111)		
<b>6. Measure and Improve Performance</b>	6A: Measures of Performance	66.6	72.2	60.0	56.0	68.5	70.3	.0004	16.3
	6B: Measuring Patient/Family Experience	11.5	13.3	13.0	11.9	11.4	1.8	.0021	11.5
	6C: Implement Continuous Quality Improvement	81.5	83.0	69.1	64.9	87.3	91.9	<.0001	27.0
	6D: Demonstrate Continuous Quality Improvement	95.9	95.7	97.5	95.2	95.6	95.5	.6079	2.3
	6E: Report Performance	65.9	71.3	57.9	51.8	66.1	90.1	<.0001	38.3
	6F: Report Data Externally	75.8	67.3	78.6	81.0	75.9	84.7	.0003	17.4

<sup>a</sup>Elements in bold type are “must pass” elements. Practices are required to earn 50% of allotted points on these elements in order to receive PCMH recognition.

<sup>b</sup>Community health centers include federally qualified health centers and other community health centers.

<sup>c</sup>Health-system practices include practices owned by hospitals, health systems, and health plans.

<sup>d</sup>Likelihood ratio  $\chi^2$  tests for categorywide differences across all practice types with a Bonferroni adjustment for 27 multiple comparisons ( $P < .0019$ ).

<sup>e</sup>Difference in performance between highest performing type of practice and lowest performing.

US Military Health System. Given the Military Health System's unique roles as an integrated healthcare payer, provider, and employer of its beneficiaries, it has specific advantages in its model of healthcare delivery: it is a closed, continuous system with a centralized structure and budget.<sup>18</sup> It also has a well-developed, integrated electronic health record (EHR) and existing database of patient experience; uses “state-of-the-art” medical informatics tools; and has its own medical education programs. This enables implementation of new models of care, such as the PCMH, to be systematic and complete. One author (EM) participated in the transformation of a military clinic in which a specific method and timeline for implementing PCMH activities was provided. In this setting, evaluation using standardized tools is common and there is high degree of collaboration and desire to demonstrate excellence. In addition, military treatment facilities with a higher level of readiness to change may have sought recognition among the early group of recognized practices.

Community health centers demonstrated special areas of strengths that are expected given their organizations' mission and federal support. In November 2010 HRSA

made funding available to support its health center grantees to seek NCQA PCMH recognition.<sup>19</sup> Clinics that receive federally qualified health center and “look-alike” designations have access to resources such as enhanced Medicare and Medicaid reimbursement and reduced-price medications for outpatients as well as learning collaboratives focused on quality measurement and improvement. They also have a historical commitment to community governance and team-based care,<sup>20,21</sup> and a model that emphasizes integration of nonmedical services such as eligibility assistance, transportation to and from appointments, and community outreach programs.<sup>22</sup> This infrastructure and history provides rationale for community health centers' relative higher achievement in the areas of quality measurement and improvement, after hours access, patient experiences, and aspects of care coordination with the community resources. However, their more disadvantaged and transient patient population may explain their lower scores in other PCMH domains such as electronic access and population management.

Small physician-owned practices were the least likely to get full credit on some of the same areas. Data from

the National Study of Small and Medium-Sized Physician Practices suggest that smaller practices were significantly less likely to use processes related to clinical information technology, as well as to use the “rapid-cycle” quality improvement strategy and to participate in any quality improvement collaborative.<sup>13</sup> As noted in our earlier report on PCMH, affiliation with a larger practice or a health system appears to provide practices more support for core activities of the medical home related to population management, care coordination, and quality measurement and improvement.<sup>14</sup> In addition, practices with fewer providers may find it more difficult to expand access.

The variations in implementation contribute to earlier research suggesting that internal and external contextual factors are associated with successful implementation of the medical home.<sup>23,24</sup> Key ingredients to successful implementation include “intangibles” of leadership and commitment to patient-centered care among physicians and others in leadership roles in the practice, as well as effective adoption of a team-based approach to care where authority and responsibility are delegated and shared broadly among all clinicians and staff.<sup>24,25</sup> Emphasis in the NCQA program on the effective use of the EHR was originally criticized for detracting from emphasis on patient care<sup>26</sup>; however, adequate electronic data systems were identified as critical for data-driven population management and performance measurement.<sup>24</sup> Our findings suggest that PCMH practices may start with different strengths and follow different paths to implementing these aspects of the medical home.

The external context surrounding the PCMH practice is also important. Nearly all PCMH practices obtain help of some sort in adopting the PCMH model.<sup>12</sup> This help may include consultation or collaboration on how to implement the PCMH (technical assistance), financial incentives for implementation, or both. In addition to federal demonstration activities to support practice adoption of the medical home,<sup>26</sup> there is a rapidly growing cadre of consultants and tools available to support practices, and increasing realization on the part of EHR systems that their market share is impacted by their ability to support PCMH practice activities (as it did with meaningful use adoption). Research on effective approaches to helping practices tailor the medical home to their strengths and needs will be important, as federal initiatives are poised to place greater incentives on adoption of the PCMH.

## LIMITATIONS

This study is limited to descriptive patterns of PCMH implementation. While the NCQA database is large and

diverse, it does not include information on performance results in areas of quality, patient experiences, or costs of care. Furthermore, this analysis focuses on early adopters of the 2011 version of the NCQA program; practices that seek recognition as new standards are introduced are likely to be better prepared than their peers.

## IMPLICATIONS

Even among practices with the highest level of PCMH achievement, there are variations in the implementation of key medical home capabilities. These variations are consistent with the organization of and supports available to the practices and likely reflect different priorities and needs of the populations served. Research to identify components of the PCMH having the greatest impact on outcomes is needed; this should explore how different practices tailor the model to adapt to their strengths and to the needs of the patients they serve, which the flexibility in the NCQA model allows. This is an important consideration in setting criteria for PCMH implementation. Efforts to support widespread dissemination of the PCMH should recognize and build on these variations.

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