

# Small Practices Need Big Help to Transform Toward the Medical Home

*Rittenhouse DR, Casalino LP, Shortell SM, et al. Small and medium-size physician practices use few patient-centered medical home processes. Health Aff (Millwood) 2011;30:1575–84.*

## Study Overview

**Objective.** To evaluate the extent to which small and medium-sized practices across the United States use processes associated with the Patient-Centered Medical Home (PCMH) model of primary care.

**Design.** Retrospective cross-sectional study.

**Setting and participants.** Researchers used data from the telephone-based National Study of Small and Medium-Sized Physician Practices, conducted between July 2007 and March 2009. The sample featured practices from the IMS Healthcare Organization Services database, a private, nationally representative database of 793,235 physicians. Eligibility was based on whether the practice had 1 to 19 physicians, at least 60% of whom were adult primary care providers (PCPs), endocrinologists, pulmonologists, or cardiologists. The specialties were included because they treat 3 of the major chronic illnesses the survey focused on: diabetes, asthma, and congestive heart failure. Hospital-owned practices were included, while academic faculty practices were not. A random sample of eligible practices was collected, stratified by practice size (1–2, 3–8, 9–12, and 13–19 physicians), specialty type, and location (each of the 14 *Aligning Forces for Quality*

sites sponsored by the Robert Wood Johnson Foundation and the rest of the United States). 1765 practices completed the survey, a response rate of 63.4%. The 1344 that were included in the analysis were at least 33% PCPs, as specialty practices do not provide primary care to the majority of their patients.

**Main outcome measures.** The survey included measures for 4 of the 7 Joint Principles of PCMH: enhanced access, quality and safety, physician-directed medical practice, and care coordination and integration. The 3 principles not assessed were a personal physician for each patient, whole-person orientation of care, and payment reform. Seventeen domains were used to evaluate use of PCMH processes. Enhanced access comprised 2 domains: group visits and e-mail communication between physicians and patients. Quality and safety was measured over 9 domains relating to both providers and patients, including use of clinical information technology, specialized staff training, chronic care quality improvement, clinical preventive services, and health promotion. Care coordination and integration involved 5 domains: electronic health records (EHR) and prescribing, electronic access to clinical information from hospitals and specialists, nurse care managers for the severely ill, and electronic chronic

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disease registries. Physician-directed medical practice was determined by a 1-question domain on primary care teams. Each domain was worth 1 point; scoring thus ranged from 0–17. Solo or 2-physician practices were not asked about team care and could get a maximum of 16 points.

The study also used literature reviews and past research to determine practice capabilities and external incentives that could be associated with greater uptake of PCMH processes. Practice capabilities included practice size, ownership, specialty composition, and patient demographics. External incentives included public reporting of practice data, pay-for-performance, acceptance of financial risk for patient hospitalization costs, a small population of uninsured or Medicare patients, and insurance plans that contribute care management processes. Public reporting was measured by an index that counted whether health plans publicly reported a practice's patient satisfaction and clinical quality data. The pay-for-performance index was scored based on the practice's opportunity to gain income through external entities based on information technology (IT) use, efficient use of resources, and clinical quality scores. Practices were also surveyed about presence of the other incentives.

Evaluation for presence of medical home processes was done for the entire sample, and the mean value of the medical home index was calculated. The study then used chi-square tests to perform bivariate analyses by practice size. Linear regression was used to determine relationships between the medical home index and external incentives and practice capabilities. The analyses were adjusted for the probability of selection non-response and clustering in the survey sample and were weighted to reflect the national population of practices in the IMS database.

**Main results.** Small and medium-sized practices, on average, earned only 21.7% of the possible points for use of PCMH processes. The prevalence of use of processes varied by type of process, from 73.2% for having electronic access to emergency department notes to 2.4% for use of depression care managers. Fewer than 10% of practices had nurse care managers for chronic disease or reported that a majority of physicians use e-mail to communicate with patients. Although 1- and 2-physician practices were more likely to incorporate feedback from and use

e-mail communication with patients, they generally used fewer PCMH processes than larger practices. Indeed, larger practice sizes were associated with higher scores on the medical home index ( $P < 0.001$ ), with a range from 18.6% for solo or 2-person practices to 32.7% for practices of 13–19 physicians. Use of clinical IT systems (for example, EHR or e-prescribing) was particularly low in the smallest practices; only 6.5% used registries compared to 34.3% in practices of 13–19 physicians ( $P < 0.05$ ).

Practices owned by hospitals or HMOs on average used more medical home processes than smaller or physician-owned practices ( $P < 0.05$ ). Larger practices were more likely to have external incentives, and practices exposed to external incentives were more likely to utilize medical home processes. For example, public reporting and pay-for-performance were associated with higher adjusted medical home index scores ( $P < 0.001$ ). Payer mix, health plan–contributed chronic care management tools, and patient demographics were not significantly associated with use of medical home processes.

**Conclusion.** The authors found limited use of PCMH processes in practices with fewer than 20 physicians. Internal capabilities and external incentives were associated with greater use of medical home processes, as were larger practice size and ownership by hospital or HMO.

### **Commentary**

As a model for renovating the nation's teetering primary care system, PCMH have been the focus of much recent press and scrutiny. The broad goals of PCMH are to reduce costs and improve patient outcomes by using team-based care that is accessible, comprehensive, continuous, and coupled with payment reform. Seven specific joint principles of PCMH were enumerated in 2007 and include a personal physician for each patient, whole-person orientation of care, payment reform, physician-directed medical practice, care coordination and integration, enhanced access, and a focus on quality and safety. A 2010 study found 26 active PCMH demonstration projects nationally that incorporate external payment reform (private or public), including almost 14,000 physicians and over 5 million patients [1]. Further transformation across the country is being catalyzed at the small practice level, though less is known about the scope of these efforts [2].

Thus, despite widespread interest in the PCMH model, questions exist about the capacity for small practices not involved in multisite demonstrations or affiliated with larger entities to adopt it [3]. The combination of fewer staff resources, thin operating margins, and large demands to meet volume targets under fee-for-service payment makes it less feasible to hire extra staff (such as a nutritionist, data analyst, or care coordinator). Ultimately, it is unclear how readily small practices will be able to take on the mantle of a Medical Home — a pressing concern given 50% of PCPs practice in solo settings or groups of 5 or less [4].

A 2008 study by Rittenhouse et al using the same survey tool as the current study looked at PCMH uptake in practices with 20 or more physicians and found that the largest practices had the most successful adoption of the joint principles, and that there was a significant discrepancy overall between PCMH potential and achievements to date [5]. Building upon those earlier findings, the 2011 study examined small and medium-sized practices of 19 or fewer physicians in an attempt to determine the level of adoption of processes relating to 4 of the 7 joint principles. The study also looked for factors associated with use of PCMH processes, including external incentives and internal resources.

In alignment with their past work, the investigators found a size-mediated gap between PCMH uptake and potential. On average, the practices scored only 21.7% on the Medical Home Index, with higher scores among larger practices. Most external incentives and internal practice capabilities were associated with increased use of PCMH processes, excluding payer mix, insurer-supplied chronic care management tools, and patient demographics.

This study is novel for the inclusion of a nationwide sample of practices that, until now, have been in few PCMH-related studies. It is policy-relevant given the popularity of the PCMH model and the hope of using wide adoption to spearhead broad health care change. However, the findings are sobering given the large proportion of small practices across the country and their low rate of PCMH process uptake. Notably, disparities in medical home process uptake were not seen in practices providing care to historically underserved communities. A central question remains around how to support these smaller practices so that they can succeed in transforming toward PCMH given their

current constraints. Two key areas needing early focus are improved health IT (HIT) capacities and shared clinical resources.

HIT represents a necessary, but alone insufficient, step toward PCMH transformation. Three of the 4 joint principles assessed by this study can be addressed at least in part by improved HIT: care coordination and integration, focus on quality and safety, and improved access. Yet simply adopting an EHR does not guarantee an improved practice; indeed, adoption can cause its own share of difficulties and disruptions in care delivery [6–8]. Moreover, small practices face particular hurdles to adoption and incorporation of HIT due to the extensive costs, limited staff and resources, and unpredictable service needs [3,7,8].

One promising way of improving HIT adoption and use by small practices is the involvement of Regional Extension Centers (RECs). Supported under the HITECH Act, the REC program is intended to broadly disseminate HIT by assisting practices with 4 key domains: EHR selection, implementation, workflow adjustments, and privacy compliance [6,9]. With REC assistance, small and medium-sized practices can increase care integration and electronic prescribing, as well as utilize EHR for quality reporting or physician-patient communication. Importantly, RECs may play an active role in the implementation process, as studies of similar initiatives suggest that practices had difficulty predicting the requirements of adopting an EHR, especially with regards to time spent, resources, upfront and continuous costs, technical expertise, best practices, ease of installation, and practice redesign [6,10]. However, when the adoption is guided by coordinated, state-based resources, the results have been promising; one study of a similar initiative in Massachusetts saw increased use of disease registries, a core goal of PCMH, after assisted implementation [11].

Shared clinical resources are another way for small practices to increase their PCMH potential. Successful examples exist of shared after-hours care, care coordinators, and phone-accessible specialist teams for physicians. Additionally, integration and team care could be improved by shared nutritionists, social workers, and other care providers that individual small practices may not have the patient panel size or finances to support alone [3].

A more formal way to assist small practices is via Accountable Care Organizations (ACOs), which incen-

tivize integrated care across the continuum of health care settings [12]. Linking small and medium-sized practices with hospitals would grant them access not only to HIT capabilities and assistance, but to specialists and quality and data metrics and comparisons. Indeed, interlinked networks of PCMH practices are envisioned to become the “medical neighborhoods” of ACOs. However, finding the political will to overcome historically large barriers to physician-hospital integration and data-sharing, let alone shared financial risk, will be daunting.

Results from the American Academy of Family Physicians’ (AAFP) National Medical Home Demonstration Project (NDP) highlight that small and medium-sized practices will need transformation help. The project followed practices that were randomized into 2 groups from 1 June 2006 to 31 May 2008. The facilitated intervention group received external assistance in the transformation to PCMH in the form of a facilitator, consultants, vendors, and stakeholder meetings; the self-directed group received no assistance to meet the same set of goals [13]. Although both groups improved significantly, the facilitated intervention group was able to implement significantly more components of the PCMH model over 2 years and scored higher on a measure of practice change sustainability [14].

Among the many lessons stemming from the NDP, a key one was the acute difficulty in undertaking extensive PCMH transformation without payment reform to serve as the bedrock incentive and to provide ongoing support [13]. Ultimately, payment reform will need to take center stage in the PCMH discussion, or the model will continue to grow only in a slow, piecemeal fashion, and small practices will lag in adoption rates. Simply put, most small practices have neither the will nor the financial capacity to engage in extensive transformation toward the PCMH model until there are sufficient payment mechanisms in place to encourage such a move.

Several key limitations of this study deserve mention. First, only 4 of the 7 joint principles were assessed. Given that the survey only focused on roughly half of the major endorsed principles, clear constraints in their ability to comprehensively assess the model are apparent. Further limitations include the response rate of 63.4%, and the fact that the survey interviewed only 1 respondent per practice, which may have resulted in over-reporting or omission. The cross-sectional nature of the study limits the results to associative

interpretations, not causation. Moreover, the survey was conducted from 2007–2009. Given the fast pace of PCMH transformation nationally, the results are a bit dated, but still important.

In addition, a majority (about 70%) of the sites surveyed were associated with the Robert Wood Johnson Foundation’s Aligning Forces for Quality Initiative. This could cause an overestimate in the number of PCMH processes adopted, as these sites all receive funding and assistance to improve quality in domains that likely overlap with PCMH joint principles. Finally, and perhaps most importantly, the study sample was restricted to practices with at least 33% PCPs, which is likely not representative of most primary care practices, particularly those likely to undergo conscious transformation to PCMH. The high proportion of specialists within these practices and the exclusion of academic practices limits the generalizability of the results.

### **Applications for Clinical Practice**

This study found a limited presence of many PCMH processes in a national sample of small and medium-sized practices, indicating that these groups will need significant assistance to transform into fully-fledged Medical Homes. Small practices are clearly lagging behind their larger counterparts. To maximize PCMH transformation, practice change needs to be catalyzed through the use of local and regional sharing of common resources and change collaborative processes. At the end of the day, payment reform will catalyze practice change and start rebuilding our fragmented primary care base.

—Review by Lydia Flier, BS, and Asaf Bitton MD, MPH

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