



## LESSONS LEARNED

# Advancing Primary Care: Opportunities to Support Care Delivery Redesign in Practices Serving Medicaid and Racially and Ethnically Diverse Patients

August 2012

## Introduction

Primary care is at a crossroads. Practices are transforming from procedure-based, physician-centric care delivery to more advanced primary care models that put patients and their families at the center. These advanced practice models improve care delivery through meaningful use of health information technology, expanded access to care, targeted care management, ongoing quality improvement activities, and care coordination across providers. Across the country, myriad stakeholder groups, such as the *Aligning Forces for Quality* alliances, are promoting opportunities to support advanced primary care models.

To date, however, little is known about the capacity of practices serving large numbers of low-income patients, including many who are racially and ethnically diverse, to implement advanced primary care models. This *Advancing Primary Care* study was designed to be a “reality check” regarding the capacity of practices serving large numbers of Medicaid and racially and ethnically diverse patients to support advanced primary care delivery. The study surveyed 126 practices in four communities that are participating in the Robert Wood Johnson Foundation’s *Aligning Forces for Quality* (AF4Q) regional quality improvement effort, as well as in two additional states (Arkansas and Oklahoma). The analysis sought to: (1) assist practices in assessing their own capacity; (2) help local community alliances better target efforts to improve care delivery; and (3) assist state agencies across the country in better preparing the nation’s primary care system to deliver high-quality care to Medicaid beneficiaries.

The findings offer unprecedented “behind closed doors” information on both areas of strength in practices caring for underserved populations and areas of opportunity where primary care offices may need external resources to facilitate care delivery redesign. The findings can inform regional improvement coalitions, like the AF4Q communities, as they attempt to build ambulatory quality improvement infrastructure in their markets and pursue payment reform strategies. Findings also can help guide Medicaid agencies as they pursue strategies to improve primary care for the current 60 million, soon to be 80 million, beneficiaries under health reform.

## About Aligning Forces for Quality

*Aligning Forces for Quality* (AF4Q) is the Robert Wood Johnson Foundation’s signature effort to lift the overall quality of health care in targeted communities, as well as reduce racial and ethnic disparities and provide real models for national reform. The Foundation’s commitment to improve health care in 16 AF4Q communities is the largest effort of its kind ever undertaken by a U.S. philanthropy. AF4Q asks the people who get care, give care and pay for care to work together to improve the quality and value of care delivered locally. The Center for Health Care Quality in the Department of Health Policy at George Washington University School of Public Health and Health Services serves as the national program office. Learn more about AF4Q at [www.forces4quality.org](http://www.forces4quality.org). Learn more about RWJF’s efforts to improve quality and equality of care at [www.rwjf.org/qualityequality/af4q/](http://www.rwjf.org/qualityequality/af4q/).

## About the Author

The Center for Health Care Strategies (CHCS) is a non-profit health policy resource center dedicated to improving health care access and quality for low-income Americans. CHCS is a technical assistance provider for the Robert Wood Johnson Foundation’s *Aligning Forces for Quality* regional collaboratives and authored this publication.

## Survey Design

To get a comprehensive look at primary care delivery at the ground level, Center for Health Care Strategies (CHCS) administered a survey assessing physician practice capacities in 13 key areas required for advanced primary care (see Appendix A for a detailed description of the survey instrument and methodology). The survey was based on three validated tools: (1) the *Primary Care Assessment Tool*;<sup>1</sup> (2) the National Committee for Quality Assurance's (NCQA) *Physician Practice Connections® Tool—Research Version*;<sup>2</sup> and (3) leadership questions developed at Case Western Reserve University.<sup>3</sup> CHCS developed additional questions to explore practice demographics, health information technology (HIT), and barriers and facilitators to implementing quality improvement strategies. Four AF4Q Alliances (Cleveland, Maine, Minnesota, and Puget Sound) and two Medicaid agencies (Arkansas and Oklahoma) were surveyed. The participating Alliances and Medicaid agencies identified 171 practices that met established criteria. See Appendix B for details regarding surveyed practice characteristics. A lead medical provider/medical director and an office/practice manager were identified in each practice and asked to complete independent surveys. Between March 2010 and August 2011, CHCS received at least one completed survey from 126 of the 171 practices (a national response rate of 74 percent).

### Key Findings

- Overall, practices excel in many areas, including providing comprehensive services, being family-centered, and implementing clinical information systems.
- However, practices struggle to provide expanded access, use care teams effectively, and implement systems for quality measurement and improvement.
- Smaller practices perform better than other practices in providing ongoing care and care coordination but are more challenged than larger practices in implementing quality measurement and improvement systems.

### Ground-Level Perspectives on Practice Transformation

*The 126 practices surveyed through the Advancing Primary Care analysis all had unique personalities, infrastructures, and funding mechanisms, but all shared a common desire to adopt innovations to do what was best for their patients. The following is a glimpse of three practices surveyed:*

**Neighborhood Family Practice**, a community health center in Southwest Cleveland, serves more than 12,000 patients, predominantly from the city's African American and Hispanic communities. Roughly half of its patients are insured by Medicaid, and approximately 20 percent are uninsured. The health center's 16 providers include physicians, nurse practitioners, and nurse midwives. It recently implemented an electronic health record (EHR), spurred by HITECH incentive funding, and is seeking Patient-Centered Medical Home (PCMH) certification from NCQA. Although the practice has begun efforts to improve care delivery, its work is impeded by limited resources available to practices for related activities. One provider notes that "it is tough to improve people's health care with 10-minute office visits. If we want to add care nurses, for example, we can't do that within the current reimbursement system."

**Metro Health Lee Harvard Health Center**, part of Metro Health System, an academic medical center in Southeast Cleveland, has eight primary care providers, an obstetrician, and a pulmonologist who see roughly 1,300-1,600 patients a month. Approximately 40 percent of its patients are insured by Medicaid, and one-third are uninsured. In seeking PCMH certification, the practice holds weekly team meetings, uses care teams, and relies on population-based EHR data to drive improvement efforts. The practice benefited early on from having an EHR provided by Metro Health, and providers use it "for everything" except e-prescribing. Regular staff meetings promote team cohesion, staff training, and a sense that "it's everyone's patient." The center is working to expand access, although staffing shortages have limited its ability to do so.

**New Horizons** in Fairfield, ME, a solo practitioner primary care office that provided care independently for more than 25 years, recently became associated with Eastern Maine Medical Center. The practice has more than 3,000 patients and is adding an additional physician to its three medical assistants, referral specialist, two patient service representatives, and practice manager. Roughly a quarter of New Horizon's patients are insured by Medicaid. The practice has achieved Level 2 PCMH certification from NCQA, has used an EHR for more than eight years, and is currently transitioning to the EHR system used by its parent health system. The practice is committed to open-access scheduling and has gained access to a shared social worker through its association with Eastern Maine Medical Center. Its ability to sustain quality improvement and care management efforts has been hampered by lack of staffing and quality improvement resources.

## The State of Practice Transformation: Key Themes

Practices serving a significant number of low-income patients provide critical primary care services and play an essential role in communities across the country. CHCS' survey, as well as face-to-face interviews with 11 practices and four

AF4Q Alliances, identified key themes that can inform practice redesign efforts, including those of regional improvement coalitions like AF4Q and purchasers such as Medicaid. The following themes help pinpoint areas of needed investment and infrastructure for building a stronger primary care system:

➤ ***Transformation Activity Is High, but Real Understanding Is Often Lacking***

The surveyed practices are pursuing advanced primary care models in a variety of ways -- building care teams, using decision support, and trying to coordinate care better. However, surveyed practices were often unclear regarding the rationale for practice and care delivery change, and the necessary elements needed for such change or this knowledge was relegated to a few champions or a parent organization, e.g., a hospital or integrated health system. As one practice staff member noted, “I am not exactly sure what constitutes a medical home, but I know that we’re moving toward it.”

Several factors may contribute to this disconnect. First, practices may be undertaking several transformational activities at once, driven both by internal and external forces. Rather than viewing such initiatives within an overall transformational strategy, implementation may be disjointed, with little emphasis on how such activities interrelate. Secondly, parent organizations and practice leaders may struggle to convey a clear vision of the goals of transformational activities and how practices will benefit.

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**Takeaway**

Regional improvement collaboratives such as AF4Q can play an essential community leadership role in articulating the goals of practice transformation and helping practices connect the dots between multiple national, state, and local efforts. Medicaid agencies can rely on these regional improvement partners to help align efforts and create a unified community message.

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➤ ***Structural Health System Changes are Uneven***

The adoption of practice- and physician-level quality measurement and formal improvement activities varied significantly across the surveyed practices. These activities appear to be driven partly by information technology. Practices in communities lacking clinical information systems reported lower levels of structural health system activities, such as performance measurement and formal quality improvement. Practices in communities participating in multi-stakeholder measurement initiatives were much more likely to have access to performance data and use it for improvement, demonstrating that such efforts have a positive impact at the practice level.

However, small practices across all communities struggled to obtain practice- and physician-level quality measurement data. This impedes practices’ ability to conduct formal, data-driven quality improvement projects. As one respondent noted, practices need help “implementing all of the evidence-based strategies and sharing outcome data with physicians and staff [to] hold them more accountable for the outcomes.”

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**Takeaway**

Regional quality improvement alliances should connect with smaller practices in their communities and provide assistance with practice redesign and practice networking activities. Alliances and other regional coalitions can help direct national, regional, and local resources to smaller practices, given those practices’ lack of support from parent organizations.

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➤ ***Physician Leadership and the Presence of Physician Champions Are Uneven***

Some survey respondents noted the lack of physician leaders and champions in their practices. In part, this could be due to the perceived lack of influence held by individual physicians. This leadership deficiency is also likely related to the perceived lack of time that physicians have to make changes in their own practices, much less provide leadership and mentorship to other physicians and practice team members. Given the heterogeneity of prac-

tices in terms of size and ownership, developing physician champions whom “everyone can relate to” continues to be a challenge.

Redesigning primary care delivery at the practice site requires both knowledge of how to create practice-level change and people willing to lead, facilitate, and embrace change. Thus, practices need ongoing training in managing both technical and cultural changes, as well as support to implement practice-based improvements. Training in many communities tends to be funded by grants and therefore ebbs and flows based on availability. Consequently, practices are rarely able to sustain efforts beyond the initial grant period. As noted by one practice, “We implemented a depression initiative and implemented it religiously for three years, and then it just disappeared.”

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### **Takeaway**

Alliances and other regional coalitions can build community and regional capacity to train primary care practices and test different training models (including collaboratives, on-site training, mentorship programs, and virtual models). Alliances could help “pool” funding from multiple sources, including Medicaid, to create more centralized training functions in many communities.

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### ➤ ***Clinical Information and IT Adoption are High, But Meaningful Use Is Still To Come***

Many of the practices surveyed have made significant investments in clinical information systems and decision support. The overall level of EHR adoption was high, and practices noted that the HITECH meaningful use incentives were a powerful financial motivator. However, implementation has been a struggle for many practices, as they encountered difficulties selecting certified EHRs that “truly reflect practice needs” and managing reduced productivity during implementation. Practices appreciate many of the operational benefits of an EHR but find it difficult to leverage these systems to conduct meaningful, data-driven, population-based care management, performance measurement, and quality improvement.

This analysis suggests that practices may lack the time or staff skills to implement the meaningful delivery system improvements that EHRs can facilitate, such as conducting formal quality improvement activities or redesigning systems of care via care teams; care coordination with specialists, hospitals, or other providers; or post-visit follow-up. The surveyed practices did, however, express a strong desire for financial and educational resources to assist them in their quality improvement efforts.

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### **Takeaway**

The Alliances could help practices effectively leverage the new technology. Payers could provide or fund supports such as quality improvement coaches or deliver technical assistance through peer-based learning collaboratives to help build practice capacity to leverage EHRs and other technologies effectively. Such activities would support practices in using technology to identify areas for improvement and undertake quality improvement projects.

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### ➤ ***Providing Comprehensive Care Under One Roof Suffers Significantly Due to Lack of Funding***

Although providing comprehensive services under one roof is a key tenet of advanced primary care models, most surveyed practices lack funding sources to pay for “the team,” including nurse care managers, behavioral health specialists, nutritionists, health coaches, etc. Practices understand the importance of using these professionals, particularly for patients with multiple chronic illnesses and for culturally diverse, non-English speaking patients. But challenges remain to find both sufficient funding—particularly within fee-for-service payment models that do not directly pay for these services—and sufficient time to integrate team members into the practice.

Existing pay-for-performance incentive programs do not provide practices serving a high volume of Medicaid patients with the financial resources necessary to invest in these much-needed supports. Thus, new funding sources must be identified for both team-based care and practice coaches.

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### Takeaway

Alliances and other regional health partnerships can seek opportunities for new or redirected funding from Medicaid agencies, Medicaid managed care organizations, or the Affordable Care Act to support team-based care. For example, many states seeking to create health home programs could potentially use the 90 percent federal match to fund team-based services for Medicaid beneficiaries with multiple chronic conditions and mental illness. States are also evaluating the effectiveness of shared savings mechanisms as a vehicle for funding practice resources without incurring additional expenditures. In addition, Alliances can partner with Medicaid to seek potential grant opportunities under the Center for Medicare and Medicaid Innovation to deploy care team members to these high-opportunity practices.

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## National Survey Results

The survey results were analyzed in aggregate and at the community level to identify areas of strength, opportunities for improvement, and capacities that vary widely across practices and communities. An evaluation of the results by practice size uncovered areas in which smaller practices excelled, as well as areas of relative weakness. Table 1 details the practice dimensions examined within the survey, including key features for each and an overview of results.

**Areas of Strength:** Overall, survey findings demonstrated that primary care practices serving a high proportion of Medicaid and racially and ethnically diverse patients are performing well on many dimensions. Practices scored highest along four areas:

1. Comprehensiveness of Services Available;
2. Comprehensiveness of Services Provided;
3. Family-Centeredness; and
4. Clinical Information Systems.

Practices scored highest in Comprehensiveness of Services Available and Comprehensiveness of Services Provided. Results show that the practices are able to: (1) offer a range of services to patients on site, including immunizations, family planning/birth control, and counseling for mental health problems (Services Available); and (2) discuss of health topics such as nutrition, exercise, home safety, and personal safety with their patients (Services Provided).

A high percentage of practices reported on activities to deliver family-centered care, such as meeting with family members and seeking opinions from patients when planning their treatment or care. One respondent noted the value of making a “joint plan” between the patient and the practice by “negotiating with clients what they want and if they are willing to make changes.”

Practices surveyed are investing heavily in Clinical Information Systems, where the average score was 78 percent out of 100. Many practices have advanced systems to manage patient care, including electronic registries, EHRs, and electronic tracking of referrals, lab results, and radiology results.

**Areas of Opportunity:** Results show that while practices serving a high volume of Medicaid patients are performing well in many areas, they are struggling in four areas:

1. Community Orientation;
2. First Contact: Access;
3. Health System; and
4. Delivery System Redesign.

**Table 1: Practice Assessment Results**

Survey Dimension and Scale	Key Features	National Mean	Standard Deviation
1. <b>First Contact: Access</b> (1-4)	Same-day appointment, after-hours access, phone advice	3.18	0.34
2. <b>Ongoing Care</b> (1-4)	Personal provider, continuity of provider	3.48	0.41
3. <b>Coordination</b> (1-4)	Referrals to other providers, follow-up to referrals	3.40	0.50
4. <b>Comprehensiveness: Services Available</b> (1-4)	Immunizations, family planning/birth control services, counseling for behavioral or mental health problems	3.73	0.45
5. <b>Comprehensiveness: Services Provided</b> (1-4)	Home safety, advice about prevention, counseling on family issues	3.70	0.38
6. <b>Family-Centeredness</b> (1-4)	Meeting with family members, seeking opinions	3.67	0.34
7. <b>Community Orientation</b> (1-4)	Home visits, knowledge of community, consumer input, networking	3.05	0.54
8. <b>Culturally Competent</b> (1-4)	Communication, health beliefs	3.44	0.52
9. <b>Leadership</b> (1-5)	Team environment, responsiveness to change, leaders open to input	3.99	0.58
10. <b>Health System</b> (0-100)	Performance measurement, feedback to physicians on quality of care, formal quality improvement activities	63	38
11. <b>Delivery System Redesign</b> (0-100)	Primary care teams, non-MD educator/nurse manager for condition, pre-visit planning, post-visit follow-up, follow-up on missed appointments	61	28
12. <b>Clinical Information Systems</b> (0-100)	Registries, problem lists, medication lists, flow sheets for condition, checklists of tests and interventions	78	21
13. <b>Decision Support</b> (0-100)	Adopted guidelines for condition treatment, clinician reminders for condition care, abnormal test alerts for clinicians	74	28

Surprisingly, the practices scored low on community orientation, but several practices acknowledged the importance of community connections in delivering care and are looking for “more contact with local community leaders and agencies.”

Several respondents recognized patient access to services (First Contact: Access) as an area of weakness, acknowledging the need to “work more extended hours.” Larger delivery system barriers, such as low Medicaid reimbursement for primary care and administrative burdens, are likely key drivers for poor performance in access. The Medicaid primary care rate increase, mandated under health reform in 2013 and 2014, may facilitate improvements in access.

While the average practice surveyed has strong clinical information systems in place to assist with Delivery System Redesign activities, practices are struggling to make the most of these systems. Many respondents addressed the difficulty of implementing delivery system redesign activities (mean = 61 out of 100), such as developing care teams, coordinating care, or post-visit follow-up, with existing resources. One respondent noted, “There are only one physician and physician assistant in the practice, and we are both [preoccupied] with daily care.”

Surveyed practices also conceded low levels of practice- and physician-level quality measurement and formal improvement activities (Health System), pointing out the need to focus efforts on strengthening such activities, specifically by “developing individual reports for physicians” and implementing “documented processes for medical care.” Respondents emphasized the value of building a culture for these activities, noting the importance of “training for all staff

on quality improvement in practices...to understand what [quality improvement] leaders are trying to accomplish and why.”

**Variations across Practices:** The survey results reveal wide variations in practice capacity, with some practices demonstrating strong capacity, while others struggle. Dimensions with significant variation included:<sup>4</sup>

1. Health Systems;
2. Leadership;
3. Community Orientation; and
4. Cultural Competence.

Variations in quality measurement and formal improvement activities (Health Systems) were particularly notable at the regional level among the six communities surveyed, with the highest community score (92 percent) triple that of the lowest community (32 percent). The practices that performed best are part of the AF4Q communities, which are required to create and publish an ambulatory quality of care report card as well as support quality improvement initiatives.

The results showed wide variation in Leadership capabilities across practices. Several respondents recognized the need to focus on developing leadership skills, specifically in terms of building team players and establishing a cohesive team. Practices noted the impact of training, or the lack thereof, in building leadership capabilities.

Finally, the survey revealed uneven capacity among practices in terms of connecting in meaningful ways to their communities and providing culturally competent services (Community Orientation and Cultural Competence). Such variation exists across all communities in the study. One practice acknowledged the need for “improving health follow-through for culturally diverse/non-English-speaking patients.”

**Variations by Practice Size:** Table 2 displays survey results broken down by practice size. For this analysis, small practices were defined as those with four or fewer providers. Medium and large practices were those with five or more providers. Recognized providers included those certified in family medicine, internal medicine, or pediatrics, as well as non-certified providers.<sup>5</sup>

The survey revealed that smaller practices have strengths in the domains of Ongoing Care and Coordination. The results suggest that, relative to larger practices, smaller practices have a greater capacity to create an environment where patients see the same

**Table 2: Results by Practice Size**

Survey Dimension and Scale	Medium & Large Practices (n=52)	Small Practices (n=49)	Significance Level (probability)
1. <b>First Contact: Access</b> (1-4)	3.20	3.15	NS
2. <b>Ongoing Care</b> (1-4)	3.31	3.64	p<.001
3. <b>Coordination</b> (1-4)	3.23	3.56	p<.01
4. <b>Comprehensiveness: Services Available</b> (1-4)	3.77	3.75	NS
5. <b>Comprehensiveness: Services Provided</b> (1-4)	3.66	3.74	NS
6. <b>Family-Centeredness</b> (1-4)	3.63	3.74	NS
7. <b>Community Orientation</b> (1-4)	3.14	2.98	NS
8. <b>Culturally Competent</b> (1-4)	3.59	3.29	p<.01
9. <b>Leadership</b> (1-5)	3.99	3.99	NS
10. <b>Health System</b> (0-100)	76.9	50.3	p<.001
11. <b>Delivery System Redesign</b> (0-100)	64.4	58.4	NS
12. <b>Clinical Information Systems</b> (0-100)	81.4	77.8	NS
13. <b>Decision Support</b> (0-100)	77.5	70.6	NS

(NS = Not Statistically Significant)

physician at each visit, the clinicians know the patients well, and patients receive help with referrals. Smaller practices, however, find it more difficult to provide culturally competent care and are less likely to have Health Systems capabilities, such as practice- and physician-level quality measurement and formal improvement activities.

**Barriers and Facilitators:** The survey asked about barriers and facilitators for providing optimal primary care and implementing quality improvement initiatives (see Table 3). Surveyed practices noted the lack of resources, money, support, and time to “make it happen sooner rather than later” as the most common barriers to practice improvement. One respondent explained, “We are expected to spend our time and the time of our staff to educate the patients, coordinate care, plan and develop home and family care plans, yet we don’t have the funds to maintain adequate staff to perform these duties.” Surveyed practices also described being “understaffed” as a major barrier.

Practices said they need more financial resources, as well as educational and technological support, to help bridge the gaps in providing high-quality care. About one-third of the practices said that a practice coach or facilitator would be helpful. Practices feel that these resources should be provided by parent organizations, such as hospitals or integrated health systems, as well as by Medicaid, insurers, and other purchasers.

Respondents noted parent organizations were critical facilitators of quality improvement initiatives, EHR adoption, and training related to achieving PCMH accreditation. As one physician noted, “Being part of a system helps sustain our practice. We wouldn’t be able to do it on our own.” However, this significant influence seems to come at the slight expense of primary care practices and physicians feeling a lack of ownership and empowerment related to transforming primary care delivery at the practice site. Many of the directives come from “up above,” and as a result, the practice-level “activities” can seem more transactional than transformational.

**Table 3: Barriers and Facilitators for Providing Optimal Primary Care**

% OF PRACTICES

Resources Needed to Ensure Appropriate Primary Care Services:	
Assistance with Implementing Quality Improvement Processes	31%
Assistance with HIT Systems	27%
Administrative Senior Leadership Support	14%
Necessary Facilitators to Bridge Gaps in Providing Quality Care:	
Financial Resources	68%
Educational Resources	44%
Technological Support	43%
Practice Coach/Facilitator	32%
Resources Should Come From:	
Parent Organizations	49%
Other Purchasers (employers, Medicare)	41%
Medicaid Agency	41%
Insurers	40%
Quality Improvement Organizations	29%

**Table 4: Quality Incentives**

% OF PRACTICES

Practices Receiving Reimbursement For:	
Patient Care Management	32%
Improved Patient Outcomes	21%
Medical Home Participation	15%
Access to Care	18%
Quality Improvement Activity Participation	17%
Processes of Care	13%
Implementing New Technology	10%

**Quality Incentives:** Practices were surveyed regarding the quality incentives they receive from payers (see Table 4). Notably, the number of practices that either did not receive incentives or did not know whether they do was particularly high. For example, 37 practices (32 percent) receive reimbursement for patient care management, another 54 (45 percent) do not, and 27 (23 percent) did not know.

Surveyed practices were generally unaware of financial incentives related to outcome or process goals or practice transformation efforts. Providers suggested several reasons for this lack of awareness, including the fact that: (1) incentive payments

are relatively small, (2) incentives are not aligned across payers and the message seems to get lost, and (3) incentives do not outweigh a fee-for-service payment system that bills based on visits. As one respondent put it bluntly, “The incentives are not large enough to support the amount of change that needs to occur.”

## Conclusion

This unprecedented study provides new insights into the inner workings of America’s primary care practices, including areas of strength and critical areas for growth. The study’s findings can help drive provider education, practice site improvement opportunities, and financial incentives and payment reform efforts to transform primary care practices that provide a critical safety net to the nation’s low-income and diverse populations. Regional improvement efforts across the country, such as *Aligning Forces for Quality*, can partner with Medicaid programs to build ambulatory quality improvement capacity in their communities and ensure these critical practices are not left behind.

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<sup>1</sup> Developed by Barbara Starfield and colleagues at The Johns Hopkins Primary Care Policy Center, Johns Hopkins Bloomberg School of Public Health. For more information, visit: [http://www.jhsph.edu/pcpc/pca\\_tools.html](http://www.jhsph.edu/pcpc/pca_tools.html).

<sup>2</sup> Developed and owned by the NCQA. Solberg LI, Asche SE, Pawlson LG, Scholle SH, Shih SC. “Practice Systems are Associated with High-quality Care for Diabetes.” *The American Journal of Managed Care*, 14(2): 85-92, 2008.

<sup>3</sup> Nutting PA, Miller LW, Crabtree BF, Jaén CR, Stewart EE, Strange KC. “Initial Lessons from the First National Demonstration Project on Practice Transformation to a Patient-Centered Medical Home.” *Annals of Family Medicine*, 2009: 254-260.

<sup>4</sup> For the purposes of this analysis, dimensions with notable variation are defined as those with a standard deviation greater than 0.5 (range = 1-5) or 30.0 (range = 1-100).

<sup>5</sup> The survey asked, “How many of your providers are board-certified in the practice areas below?” The answer choices were family medicine, internal medicine, pediatrics, and not board certified. These numbers may overestimate the number of FTEs, as they are often shared by many people. We may have categorized some practices as medium or large that are, in fact, small practices.