

**COMMENTARY**

# Solo Practitioners Remain Important Contributors to Primary Care

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Peterson et al<sup>1</sup> raise important issues about the decline in the proportion of solo practitioners in primary care and whether it will have a detrimental effect on access to care in rural areas. They use practice organization data provided by family physicians who took the American Board of Family Medicine's recertification examination in 1993, 1998, 2003, 2008, and 2013 to track the proportion of family physicians in solo practice. The reported percentage was 13.9% in 1993, stayed approximately 16% from 1998 to 2008, and then decreased significantly to 11.0% in 2013 ( $P < .01$ ).

Their work raises important questions:

1. Are solo practitioners endangered?
2. How does considering other clinicians (nurse practitioners [NPs] and physician assistants [PAs] who bill for seeing patients) change the prevalence of solo practitioners?
3. How do the patient and community characteristics of small primary care practices compare with those of larger practices?
4. Are solo and small practices having more difficulty responding to payment and delivery system reforms such as becoming medical homes and participating in the Medicare electronic health record meaningful use incentive program?
5. How do cost, quality, safety, access, and patient experience outcomes vary by practice size?

6. How would declines in solo practitioners affect access to primary care?
7. Should policies support solo and small practices?

To help frame discussion of these questions, we used data from all primary care practices with physicians, NPs, or PAs in 6 US states: Connecticut, Idaho, Kansas, Tennessee, Utah, and Washington.

## Methods

We assembled data from multiple sources. We purchased data from SK&A (Irvine, CA), a health care marketing vendor, on all practices (defined as clinicians working together at a single site) with at least 1 physician who had a "primary care" specialty (defined more broadly here than by Peterson et al<sup>1</sup> to include internal medicine, general practice, and geriatric medicine, as well as family medicine) in selected states. SK&A maintains a roster of all practice sites in outpatient settings in the United States; this roster includes the number of physicians, NPs, and PAs at each practice and the specialty of each physician. We then merged these data with National Committee for Quality Assurance (NCQA) data on practice sites recognized as NCQA patient-centered medical homes, Medicare claims and enrollment data, Centers for Medicare & Medicaid Services (CMS) data on meaningful use, the Area Resource File for county-level measures of household income and urbanicity, and Health Resources and Services Administration (HRSA) data on whether a practice was located in a medically underserved area.

## Results

### *Are Solo Practitioners and Small Practices Endangered?*

To compare our estimates with those of Peterson et al,<sup>1</sup> we first examined practice size defined by physicians only (but with the broader definition of

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**Table 1. Proportion of Solo Practitioners and Small Practice Sites in Primary Care\***

	All Six States (%)	Connecticut (%)	Idaho (%)	Kansas (%)	Tennessee (%)	Utah (%)	Washington (%)
Practice site size defined by number of physicians							
Proportion of physicians at sites with 1 physician	13	20	14	11	20	7	8
Proportion of sites with 1 or 2 physicians	65	70	62	61	74	52	55
With 1 physician	46	50	43	41	55	34	40
With 2 physicians	19	20	19	20	19	18	15
Practice site size defined by number of clinicians <sup>†</sup>							
Proportion of clinicians at sites with 1 clinician	8	14	6	6	11	4	5
Proportion of sites with 1 or 2 clinicians	53	62	48	47	60	39	47
With 1 clinician	34	42	26	28	38	22	32
With 2 clinicians	19	20	22	19	22	17	15

\*This table includes all practice sites in the region that have at least 1 primary care physician; about 12% of these practice sites have both specialists and primary care physicians. Data are based on author analysis of data from SK&A. Practice site size is defined by the total number of physicians or clinicians who practice at the site, not just those in primary care.

<sup>†</sup>Clinicians include physicians, nurse practitioners, and physician assistants.

primary care and in the 6 states). Like Peterson et al, we define “practice” as a practice site. Similar to their findings, our data suggest that in 2012 few practicing primary care physicians (13%) were the only physicians at their practice sites (Table 1). This varied substantially by state, however, ranging from 7% to 8% in Utah and Washington, respectively, to 20% in Connecticut and Tennessee.

Although only 13% of practicing primary care physicians work at 1-physician practice sites, this statistic may mask the fact that in these 6 states, nearly half (46%) of practice sites delivering primary care have only 1 physician. When assessing the importance of solo practitioners, it is important to consider several factors: (1) the proportion of primary care physicians they represent; (2) the proportion of primary care practice sites that have only 1 physician; and (3) the proportion of the overall population they serve (though we do not have data to address this issue).

Even if solo practitioners are what Peterson et al<sup>1</sup> call an “endangered species,” 1-physician practice sites still represent a large proportion of primary care practices. This suggests that understanding the type of care delivered at small practice sites, the patients they serve, and particular barriers to improving care should be of interest to payers, patients, and policymakers. Such an understanding

could inform efforts to better support this important segment of the primary care workforce. It also suggests that payers, professional associations, government entities, and others who provide technical assistance to primary care practices will face the challenge of working with many small sites. Another challenge raised by the large number of small practices is how to build a robust health information exchange among providers.

If we consider 2-physician practice sites, an even larger share of practices are small. We expect that such small practice sites face many of the same challenges as 1-physician practices. Of primary care practice sites in the 6 states, 65% have 1 or 2 physicians (Table 1), and 24% of physicians are in such small practice sites (data not shown).

Our data allowed us to broaden the definition of practice site size to reflect the number of clinicians—including physicians, as well as NPs and PAs who can bill for serving patients. Defining practice size using the number of clinicians lowers the proportion in solo practice from 13% of physicians to 8% of clinicians, and the proportion of solo practices declines from 46% using the physician count to 34% using the clinician count. Over half (53%) of practices that provide primary care have 1 or 2 clinicians. The large variation across states that we found using the number of physicians

**Table 2. Characteristics of Practice Sites that Provide Primary Care by Size**

	Sites With 1 Clinician	Sites With 2 Clinicians	Sites With $\geq 3$ Clinicians
Community characteristics			
Medically underserved area (%)	22	21	18
Population living in rural area (%)	25	28	24
Median annual household income (\$)	53,465	51,658	52,821
Medicare beneficiary characteristics, 2011-2012			
Eligible for both Medicare and Medicaid (%)	27	26	24
Average HCC score	1.07	1.07	1.04
Average hospitalizations per person per year (n)	0.28	0.30	0.30
Average annual Medicare Part A and B expenditures (\$)	8,048	8,358	8,390
Participation in delivery system innovations			
Practices with at least 1 Medicare meaningful user in 2012 (%)	13	18	26
Practices with NCQA PCMH recognition in 2012 (%)	2	5	9

Data are based on author analysis of data from SK&A, Medicare enrollment and claims, National Committee for Quality Assurance (NCQA), Health Resources and Services Administration, Centers for Medicare & Medicaid Services, and Area Resource File. HCC, hierarchical condition category; PCMH, patient-centered medical home.

persists using clinician-based measures of practice site size. For the rest of this commentary, we define practice size using the number of clinicians who provide care in that site.

#### ***How Do the Patient and Community Characteristics of Small Primary Care Practices Compare With Those of Larger Practices?***

Peterson et al<sup>1</sup> wonder whether the vitality of small practices may have important implications for patient access, since small practices are more likely to be located in rural areas. We found only small differences in the proportion of small practice sites located in medically underserved areas (as defined by the Health Resources and Services Administration), however, with 22% of 1-clinician practices, 21% of 2-clinician practice sites, and 18% of larger practice sites located in medically underserved areas (Table 2). There was little difference in the percentage of the population in the practice's county located in rural areas or in the median household income of their counties. If we consider solo physicians (rather than clinicians), these differences are somewhat more pronounced, but still not remarkably large. For example, 24% of solo physicians are located in medically underserved areas, compared with 19% of 2-physician practices and 16% of larger practices (data not shown).

Similarly, the Medicare patients of small practice sites are not, on average, more ill or more

disadvantaged than the patients of larger sites. After linking the SK&A data to Medicare claims and enrollment data, across practice sites of different sizes we found little difference in the proportion of the practices' Medicare beneficiaries who are dually eligible for Medicaid (correlated with poverty), the average hierarchical condition category score (a measure of expected future costs based on chronic conditions a patient was treated for in the past and demographic characteristics), the number of hospitalizations, and annual expenditures in 2011 to 2012.

#### ***How Does Delivery System Innovation Vary by Practice Size?***

Our data support the suggestion by Peterson et al<sup>1</sup> that small practices face challenges adopting delivery system innovations. Only 13% of 1-clinician practice sites, compared with 18% of 2-clinician sites and 26% of larger sites, had  $\geq 1$  clinician who is a certified meaningful user of electronic health records under the Medicare program in 2012. Only 2% of 1-clinician practice sites had National Committee for Quality Assurance recognition as a patient-centered medical home in 2012, compared with 5% of 2-clinician sites and 9% of larger sites. However, these figures indicate that most larger practices also face such challenges.

## Discussion

Efforts to transform primary care must take into account that small practice sites represent a sizable share of primary care practices and may need more assistance undertaking transformation. Creative solutions might help small practices adopt delivery system innovations. For example, these practices could share consultants or staff who focus on care management, quality improvement, and health information technology with neighboring practices or as part of an accountable care organization. While practices of all sizes may need assistance, communities (eg, Vermont's Blueprint for Health), primary care clinician societies, the government, or public or private insurers could also tailor supports to help small practice sites adopt delivery system innovations.<sup>2</sup> For small practice sites managed by larger care systems, other care management resources may be available as well.<sup>3</sup>

### *Should Policies Support Solo and Small Practices?*

Whether policies should, over the long-term, promote the preservation of small practices depends in part on the location of these practices. It may be difficult for rural areas to support larger practice sites. Of course, larger health systems can operate small practice locations; whether such large systems are an efficient or more effective way to serve these communities is another policy question relevant to the preservation of small practices.

The value of preserving small practices also depends on their effectiveness. Peterson et al<sup>1</sup> cite some emerging evidence that small practices may provide better outcomes for patients than larger practices.<sup>4,5</sup> A review found little evidence of different efficiencies by practice size.<sup>6</sup> More evidence from larger studies, plus some understanding about the mechanisms through which size affects effi-

ciency, quality, cost, safety, access, and patient experience of care, are needed to draw solid conclusions.

Tests of the ability of small and large practices to transform when faced with substantial supports in initiatives like the Centers for Medicare & Medicaid Services–led Comprehensive Primary Care initiative will generate valuable lessons for efforts to improve primary care delivery. Understanding the role of practice size in transformation will be important for the Agency for Healthcare Research and Quality's authorized but still unfunded Primary Care Extension Program, as well as other public and private programs that aim to improve the delivery of primary care.

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