Published in final edited form as:

Am J Med Qual. 2020 ; 35(1): 16–22. doi:10.1177/1062860619844001.

Effects of Practice Turnover on Primary Care Quality Improvement Implementation

Andrea N. Baron, MPH¹, Jennifer R. Hemler, PhD², Shannon M. Sweeney, PhD², Tanisha Tate Woodson, MPH, PhD¹, Allison Cuthel, MPH³, Benjamin F. Crabtree, MA, PhD², Deborah J. Cohen, PhD¹

¹Oregon Health & Science University, Portland, OR

²Rutgers University, New Brunswick, NJ

³New York University, New York, NY

Abstract

Primary care practices often engage in quality improvement (QI) in order to stay current and meet quality benchmarks, but the extent to which turnover affects practices' QI ability is not well described. The authors examined qualitative data from practice staff and external facilitators participating in a large-scale QI initiative to understand the relationship between turnover and QI efforts. The examination found turnover can limit practices' ability to engage in QI activities in various ways. When a staff member leaves, remaining staff often absorb additional responsibilities, and QI momentum slows as new staff are trained or existing staff are reengaged. Turnover alters staff dynamics and can create barriers to constructive working relationships and team building. When key practice members leave, they can take with them institutional memory about QI purpose, processes, and long-term vision. Understanding how turnover affects QI may help practices, and those helping them with QI, manage the disruptive effects of turnover.

Keywords

turnover; quality improvement; primary care; disruption

Primary care practices have undergone significant change since the 1990s, when the Institute of Medicine released its report, *Crossing the Quality Chasm: A New Health System for the 21st Century*, highlighting gaps in the quality of care provided throughout the US health care system.¹ Over the ensuing years, primary care practices have faced a landscape of care delivery transformation, including the introduction of new quality standards and redesign models, programs to incent and evolve the use of electronic health record (EHR) technology, and initiatives such as the Patient-Centered Medical Home (PCMH),² the Physician Quality Reporting System, the Merit-based Incentive Payment System, and Advanced Alternative

Corresponding Author: Andrea Baron, MPH, Department of Family Medicine, Oregon Health & Science University, 3181 SW Sam Jackson Park Road, Portland, OR 97239. barona@ohsu.edu.

Declaration of Conflicting Interests

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Payment Models.^{3–6} These initiatives and others have engaged practices in making changes with the aim of improving the quality, efficiency, and cost of care.

At the same time there is evidence to suggest that there has been a steady presence of turbulence, specifically turnover, in primary care practices. Although nationwide primary care clinician and staff turnover rates are not available, research by the Department of Veteran Affairs reveals a 15% turnover rate for clinicians and other staff across its US primary care practices,⁷ and a study of physician and staff turnover in Ohio primary care practices reported an average turnover rate of 53% over a 2-year period.⁸ A recent study of primary care practices in Oklahoma found that 46% of its sample experienced physician or key staff turnover in the preceding year, and 23% experienced turnover for these positions during the study year.⁹ Turnover in primary care practices is problematic because it is linked to disruptions in clinic functioning by affecting patient satisfaction,¹⁰ care quality,¹¹ and financial solvency.^{12,13}

The current literature on turnover in the medical field primarily explores predictive factors, especially among clinicians, as a means for prevention,^{14–16} and the impacts of turnover on primary care generally.^{10–13} However, little is known about the effects of staff turnover on a practice's ability to engage in quality improvement (QI) activities, specifically the ways in which turnover can affect a practice's ability to implement QI activities and sustain practice changes made.

As national evaluators of EvidenceNOW,¹⁷ a largescale QI initiative aimed at improving preventive cardiovascular care and increasing practice capacity for QI implementation, the research team had the opportunity to observe how clinician and staff turnover affects the ability of small- to medium-sized practices to engage and participate in the work needed for QI. This analysis describes the effects of staff turnover on a practice's ability to engage in QI activities.

Methods

Setting

EvidenceNOW is an Agency for Healthcare Research and Quality (AHRQ)–funded initiative focused on helping primary care practices improve the delivery of the ABCS of cardiovascular disease prevention: aspirin in high-risk individuals, blood pressure control, cholesterol management, and smoking cessation. AHRQ funded 7 cooperatives composed of public and private health partnerships to deliver implementation strategies to support primary care practices in making these improvements.¹⁸ Cooperatives cover geographically dispersed regions (single or contiguous states) involving 12 states. Each cooperative designed its own intervention, but collectively the cooperatives employed approximately 150 practice facilitators (PFs)—external QI coaches—to provide support to ~250 small- to medium-sized practices (< 10 clinicians) (N = 1721 overall) to improve cardiovascular preventive care. AHRQ also funded an independent national evaluation called *Evaluating System Change to Advance Learning And Take Evidence to Scale* (ESCALATES) to rapidly evaluate and disseminate findings from this initiative.¹⁷ Cooperatives shared quarterly outcomes data (not used in the present analysis), and also collected and shared practice-level

surveys containing information on practice characteristics and capacity. ESCALATES also collected extensive qualitative data at the cooperative and practice levels before, during, and after implementation of the interventions, which began in 2016.

Data Collection

Qualitative.—Three types of qualitative data informed this study: (1) online diary entries; (2) Year 2 observational field notes and semistructured in-person interviews from PF site visits; and (3) Year 3 postintervention semistructured telephone interviews with PFs and practice members, followed by a small number of practice site visits with additional staff interviews.

The online diaries, developed by ESCALATES, were a web-based platform for cooperative members and the ESCALATES team to discuss intervention experiences in real time.¹⁹ The diaries were active from the beginning of the intervention until the end of active intervention implementation, approximately July 2015 to January 2018. Each cooperative had its own diary space, and access was limited to the cooperative and the ESCALATES team. From 14 to 41 members from each cooperative wrote about intervention successes and challenges on the online diaries, and shared information, strategies, and resources. Additionally, members from each cooperative were specifically asked to comment on instances and impact of turnover during the intervention. Posts were made at least biweekly, but often more frequently.

In Year 2 of the evaluation, from July 2016 to August 2017, ESCALATES team members conducted at least 1 visit to each cooperative, and shadowed PFs doing QI work in multiple practices. One to 4 ESCALATES members attended these visits; visits lasted 1 to 4 days. PFs were selected by cooperative leaders at ESCALATES' request to represent a range of experience and backgrounds and to showcase practices from differing geographic regions and with diverse patient populations. During these visits, ESCALATES researchers saw the work of PFs first hand, after which they recorded detailed observations in field notes, circulated to team members not present, and made clarifications as needed. During these visits team members also interviewed facilitators about their experiences in the EvidenceNOW intervention. All interviews were audio recorded, professionally transcribed, and reviewed for accuracy. These Year 2 site visits yielded 30 sets of field notes and individual interviews with 33 PFs; 16 additional PFs were interviewed in a group setting.

In Year 3 of the evaluation, from August 2017 to October 2018, after interventions were complete, ESCALATES team members conducted telephone interviews with a sample of PFs (N = 72) and corresponding practice staff members (N = 63) to learn about the practice experience of the intervention, including turnover or other potential disruptions, and the changes practices made. PFs and corresponding practice staff members were purposively selected from practices that changed 1 or more of the ABCS measures relative to others in their cooperative, in addition to ensuring practices varied on other characteristics such as location, ownership, size, and practice capacity scores. Again, all interviews were audio recorded, professionally transcribed, and reviewed for accuracy. All data collection and management was done in compliance with Oregon Health & Science's Institutional Review Board (IRB00011482).

Quantitative.—Quantitative data informing this study came from surveys administered to practices at baseline and again at the end of the intervention. Baseline surveys contained questions about practice characteristics, patient demographics, and data capacity. A question in the postintervention survey asked if the practice experienced any major changes during the intervention period. Response options included the following: “lost one or more clinicians” or “lost one or more office managers or head nurses” during the time period. Practice members could indicate “yes” or “no,” or check a box for “other” if appropriate. Surveys were completed by one practice member (usually an office manager or lead clinician). Cooperatives offered different modes for survey completion (phone, email, web) depending on practice needs, and most cooperatives offered small incentives for completing the surveys. Surveys were submitted to ESCA-LATES from each cooperative. Baseline surveys were received from N = 1495 practices, and postintervention surveys from N = 1096 practices.

Data Management and Analysis

The Qualitative team entered all interview, field note, and online diary data into Atlas.ti Version 7.0 (Atlas.ti Scientific Software Development GmbH, Berlin, Germany) for data management, coding, and data analysis.

Seven research analysts coded the qualitative data in stages, using a single broad code to capture all text relevant to turnover across the 7 cooperatives. A small workgroup of 4 analysts met regularly with senior advisors and used an immersion-crystallization approach²⁰ to analyze the output. Team members read coded data independently, and used meeting time to discuss and debate output and understand the effect of turnover on QI work. This group identified emergent themes and revisited those themes with each round of newly available coded data until saturation was reached.

Descriptive statistics were calculated from quantitative survey data.

Results

Practice characteristics and turnover rates are described in Table 1. Practices in the sample are small in size: 84% had 10 or fewer clinicians, and 24% were solo practices. More than one third of practices reported PCMH recognition, one third were part of an Accountable Care Organization, and around 30% had participated in payment or quality demonstration programs. Half reported receiving external incentives or payments based on clinical quality performance, adoption or use of information technology, or patient satisfaction (Table 1).

Although turnover varied across cooperatives for both clinicians and office managers/head nurses, 37.7% of EvidenceNOW practices overall reported clinician turnover during the intervention period, and 31.3% reported office manager or head nurse turnover. Turnover of either of these roles was experienced in 49.5% of practices.

Practice Staff Turnover Influenced the Ability of Practices to Engage in QI

Practice staff turnover influenced practices’ ability to engage in QI in multiple ways: (1) limiting capacity of remaining staff to work on QI, (2) straining staff dynamics, and (3)

leading to loss of institutional memory about QI work. These are interrelated influences that slowed momentum and engagement in QI activities, such as pulling and reporting data and doing patient outreach. These 3 findings as described by PFs and practice staff are further outlined in the following sections.

Limited Staff Capacity for QI Work.—Staffing shortages related to turnover limited the capacity of remaining practice staff to do work related to QI as they absorbed additional responsibilities, either temporarily or long term. This limited capacity resulted in both deprioritization of particular QI tasks and in fewer staff members— and types of staff— working on QI overall:

Our MAs do have some difficulty getting everything done with [blood pressure] because of staff turnover. Our lead MA is doing all she can, sending recall letters, taking [blood pressures] but when we are short staffed she doesn't have time to do this work. (Practice staff member, Cooperative 4, diary entry)

They want to do the QI thing, but they just don't have the resources. They don't have that many people that work there. Where there's like a high turnover rate that can be really difficult, because every time it's a new contact that you're working with almost so you don't really get anywhere. [...] That's a challenge, and I think they just don't have enough time. (PF, Cooperative 3, Year 2 interview)

Turnover slowed momentum of QI activities as practice staff turned their focus to acquiring tasks left behind by departed staff or to hiring replacement staff. As practice staff focused on the immediate daily needs of the practice, they had less bandwidth for QI meetings or making operational changes to improve quality. In some cases, limited staff capacity prompted practices to drop out of the QI intervention altogether.

Strained Staff Dynamics.—PFs and practice staff reported that staff felt decreased morale as they acquired additional work when covering an unfilled position. As employees left and new hires were brought on board, shifting interpersonal dynamics added stress to the practice environment and at times prevented trust building among new and existing staff:

They were averaging a loss of 10–15 support staff members per month in 2016. This has understandably impacted the culture of their clinical practice immensely with senior and management staff experiencing long-standing burnout, as well as creating a chasm between new staff and providers who have a hard time building trust within their teams for fear staff members leaving. (PF, Cooperative 5, dairy entry)

As noted in this example, practices with turnover experienced other relational dynamics, such as bifurcation between leadership and new staff that exacerbated burnout conditions. New staff were not fully embedded in workflows when clinicians could not trust staff to stay. For instance, “I think they had that fear of—oh, if we invest too much in [staff] or if we train them too much, it's like they're just gonna leave anyway. Because that's what was happening. That was hard” (PF, Cooperative 3, Year 3 interview). This dynamic made it difficult for practices to operate at full capacity and improve quality.

Institutional Memory Loss.—Turnover of any staff, but especially those in leadership or acting as practice champions, can create loss of institutional memory when knowledge is not transferred before departure. The loss of institutional memory resulted in practices with staff members who did not fully understand workflow goals, the tasks assigned to them, or how to navigate within the EHR.

[PF] shares that one of the clinics he works with just got a \$12 000 grant to get more EHR training. He offers to look into that for [the practice]. Perhaps they could apply for something similar. [Clinic Manager] says, “What we need is retraining,” and mentions that they’ve lost a lot of superusers who didn’t transfer knowledge before they left. (Cooperative 4, Year 2 observational field notes)

[Turnover] is a barrier. Their first office manager left on bad terms, so they’re missing a bunch of information, for example, for Meaningful Use. So if this practice was a practice where I wanted to use Meaningful Use as a carrot for them, I couldn’t, because they’re missing all this information, they don’t know how to log into the system. It’s become difficult for them to beat that. Then they brought someone else on who had little experience with QI and needed to be good with QI and it just wasn’t working out because of the lack of experience. (PF, Cooperative 3, Year 2 interview)

One strategy to address turnover was to hire temporary staff; however, their temporary status contributed to limited knowledge about processes such as proper EHR documentation. This affected practices’ ability to do QI, as these were essential basics for testing and making quality-improving changes. As one PF explained, “When you have locums, they don’t know the EHRs [and] they don’t know the measures. [...] CMS has 23 measures that clinicians are required to track—and that’s a lot to learn” (Cooperative 6, Year 2 observational field notes). Progress and momentum were slowed when key staff or QI contacts left, and institutional memory loss from turnover could necessitate retraining and reorienting new staff, ultimately delaying QI progress:

We went through a struggle with staffing for about a year and a half. That was really difficult. You’d feel like you just got someone trained and get going into a normal schedule and then they would either choose to leave or something wouldn’t work out. (Practice member, Cooperative 4, Year 3 interview)

I think all of my clinics have had staff changes throughout the project. This makes it very difficult to keep up the momentum of moving forward. This is especially challenging if the personnel that changed served as strong connection within the clinic. I have felt as though I was starting over several times. (PF, Cooperative 7, diary entry)

Temporary staff did not have knowledge of processes and procedures specific to the practice, including how to document in the practice’s specific EHR. In addition, departed staff sometimes took with them login capabilities to access data, leaving practices with the inability to pull QI reports for an extended period of time. These basic skills are necessary for other tests of change to happen, and to tell if improvements are being made.

Discussion

Primary care practices are undergoing care-improving changes within an evolving health care context, and for some practices this means participating in some kind of QI activity.^{21–25} Turnover is one of many impediments practices experience that limits their ability to engage in QI. Turnover needs to be understood and addressed because, as the present study shows, turnover influenced practices' ability to engage in QI; it slowed momentum for making quality-improving changes by limiting staff capacity, strained staff dynamics, and contributed to loss of institutional memory. In addition to affecting how the practice operates, these findings have important implications for other QI initiatives, especially programs with designated start and end dates for completing change activities. When there is turnover, work to improve quality is often thwarted and quality-improving behaviors are scaled back.

This study found that almost half of the practices engaged in EvidenceNOW experienced the turnover of either a clinician or office manager/head nurse during the intervention period. This rate of turnover is aligned with other studies.^{7–9} With more than 1700 practices, the EvidenceNOW data set may be the largest data set of practices in the United States and the closest there is to a national sample. Rates of turnover reported among EvidenceNOW practices suggest turnover may be a major disruption in the primary care setting that should be better tracked, understood, and addressed.

Given the current landscape of practice transformation efforts, it is unlikely that turnover rates will decrease in the short term.^{2,6,26} There is some evidence connecting rapid implementation of practice change initiatives and subsequent “change fatigue” to turnover,²⁷ and burnout—a driver of physician turnover^{13,28}—can be exacerbated by organizational change associated with practice transformation.^{29,30} Because of this, efforts to stabilize this disruption in primary care practices are needed, and understanding *how* turnover affects QI may help practices aptly plan for and prevent its unwanted affects. For example, practices could cross-train staff to create redundancies in key positions so that disruptions have less impact; properly document decisions and processes related to QI to preserve institutional knowledge; and create exit processes for departing staff that ensure knowledge is transferred to other staff.

Limitations

The findings of this study should be considered in light of a number of limitations. First, these data are more heavily weighted with the perspectives of PFs who implemented the QI activities. PF success is affected by practice turnover, and this has the potential to influence their perception of the magnitude of turnover and what they report. The data did not provide intimate reflections of practice members who, if given a chance, might sometimes feel that turnover provided more of an opportunity. Second, this study looks at turnover and its impact on QI during a timelimited QI initiative. This type of study creates boundaries to a practice's QI efforts that might not reflect QI efforts that occur more naturally in practices (in non-study contexts). This study is, therefore, not intended to be determinative, but to shed light on an important and understudied topic. Third, specific data were not available about the roles of staff who turned over in practices. It is possible that turnover in some staff

roles (eg, project champions) might have a greater impact on QI efforts than turnover in other roles; this is an important area for future research. Fourth, survey data were collected separately from practice QI activities, and provide a description of the turnover experienced in practices prior to and during the intervention period. The questions asked on the survey were general and cannot be tied specifically to QI activities.

Although current literature focuses on predictors of turnover as a lesson in prevention,^{31–33} this research focuses on the effects of turnover on QI work and can provide a lesson in managing disruptive events. Both are important, and become increasingly more so, as primary care practices focus their attention on quality-improving activities required for practice transformation.^{34–38} Future work is needed to further explore the relationship between turnover and practices' ability to improve clinical outcomes, and this study highlights primary care practices' need for strategies to mitigate and manage the disruptive effects of turnover when it occurs.

Funding

The authors disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: This work was supported by the Agency for Healthcare Research and Quality (Grant Number R01HS023940–01).

References

1. Institute of Medicine. Crossing the Quality Chasm: A New Health System for the 21st Century. Washington, DC: National Academies Press; 2001.
2. National Committee for Quality Assurance. Patientcentered medical home. <https://www.ncqa.org/programs/health-care-providers-practices/patient-centered-medical-home-pcmh/>. Accessed December 27, 2018.
3. Burke T The health information technology provisions in American Recovery and Reinvestment Act of 2009: implications for public health policy and practice. Public Health Rep. 2010;125:141–145. [PubMed: 20402207]
4. Goldstein MM. The health privacy provisions in the American Recovery and Reinvestment Act of 2009: implications for public health policy and practice. Public Health Rep. 2010;125:343–349. [PubMed: 20297763]
5. Chen LM, Epstein AM, Orav EJ, Filice CE, Samson LW, Joynt Maddox KE. Association of practice-level social and medical risk with performance in the Medicare physician value-based payment modifier program. JAMA. 2017;318:453–461. [PubMed: 28763549]
6. Department of Health & Human Services. Quality Payment Program. <https://qpp.cms.gov/about/qpp-overview>. Accessed December 27, 2018.
7. Weeks WB. US Department of Veterans Affairs primary care provider turnover and patient satisfaction. JAMA Intern Med. 2015;175:1870.
8. Ruhe M, Gotler RS, Goodwin MA, Strange KC. Physician and staff turnover in community primary care practice. J Ambul Care Manage. 2004;27:242–248. [PubMed: 15287214]
9. Mold JW, Walsh M, Chou AF, Homco JB. The alarming rate of major disruptive events in primary care practices in Oklahoma. Ann Fam Med. 2018;16(suppl 1):S52–S57. [PubMed: 29632226]
10. Plomondon ME, Magid DJ, Steiner JF, et al. Primary care provider turnover and quality in managed care organizations. Am J Manag Care. 2007;13:465–472. [PubMed: 17685827]
11. Reddy A, Pollack CE, Asch DA, Canamucio A, Werner RM. The effect of primary care provider turnover on patient experience of care and ambulatory quality of care. JAMA Intern Med. 2015;175:1157–1162. [PubMed: 25985320]
12. Buchbinder SB, Wilson M, Melick CF, Powe NR. Estimates of costs of primary care physician turnover. Am J Manag Care. 1999;5:1431–1438. [PubMed: 10662416]

13. Shanafelt T, Goh J, Sinsky C. The business case for investing in physician well-being. *JAMA Intern Med.* 2017;177:1826–1832. [PubMed: 28973070]
14. Beidas RS, Marcus S, Wolk CB, et al. A prospective examination of clinician and supervisor turnover within the context of implementation of evidence-based practices in publicly-funded mental health system. *Adm Policy Ment Health.* 2016;43:640–649. [PubMed: 26179469]
15. Buchbinder SB, Wilson M, Melick CF, Powe NR. Primary care physician job satisfaction and turnover. *Am J Manag Care.* 2001;7:701–713. [PubMed: 11464428]
16. Hall CB, Brazil K, Wakefield D, Lerer T, Tennen H. Organizational culture, job satisfaction, and clinician turnover in primary care. *J Prim Care Community Health.* 2010;1(1):29–39. [PubMed: 23804066]
17. Cohen DJ, Balasubramanian BA, Gordon L, et al. A national evaluation of a dissemination and implementation initiative to enhance primary care practice capacity and improve cardiovascular disease care: the ESCALATES study protocol. *Implement Sci.* 2016;11:86. [PubMed: 27358078]
18. Proctor EK, Powell BJ, McMillen JC. Implementation strategies: recommendations for specifying and reporting. *Implement Sci.* 2013;8:139. [PubMed: 24289295]
19. Cohen DJ, Leviton LC, Isaacson N, Tallia A, Crabtree BF. Online diaries for qualitative evaluation: gaining real-time insights. *Am J Eval.* 2006;27:163–184.
20. Crabtree BF, Miller WL. *Doing Qualitative Research.* 2nd ed Thousand Oaks, CA: Sage; 1999.
21. Chee TT, Ryan AM, Wasfy JH, Borden WB. Current state of value-based purchasing programs. *Circulation.* 2016;133:2197–2205. [PubMed: 27245648]
22. Robert Wood Johnson Foundation. Emerging primary care trends and implications for practice support programs. <http://forces4quality.org/node/11242.html>. Accessed December 27, 2018.
23. Harvey G, McCormack B, Kitson A, Lynch E, Titchen A. Designing and implementing two facilitation interventions within the “Facilitating Implementation of Research Evidence (FIRE)” study: a qualitative analysis from an external facilitators’ perspective. *Implement Sci.* 2018;13:141. [PubMed: 30442157]
24. Kiran T, Ramji N, Derocher MB, Girdhari R, Davie S, Lam-Antoniades M. Ten tips for advancing a culture of improvement in primary care [published online October 31, 2018]. *BMJ Qual Saf.* doi:10.1136/bmjqs-2018-008451
25. Putera I Redefining health: implication for value-based healthcare reform. *Cureus.* 2017;9(3):e1067. [PubMed: 28409068]
26. Centers for Medicare & Medicaid Services. Accountable Care Organizations (ACO). <https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/ACO/>. Accessed December 28, 2018.
27. Nutting PA, Miller WL, Crabtree BF, Jaen CR, Steward EE, Strange KC. Initial lessons from the first national demonstration project on practice transformation to a patientcentered medical home. *Ann Fam Med.* 2009;7:254–260. [PubMed: 19433844]
28. Willard-Grace R, Knox M, Huang B, Hammer H, Kivlahan C, Grumbach K. Burnout and health care workforce turnover. *Ann Fam Med.* 2009;17:36–41.
29. Meredith LS, Batorsky B, Cefalu M, et al. Long-term impact of evidence-based quality improvement for facilitating medical home implementation on primary care health professional morale. *BMC Fam Pract.* 2018;19:149. [PubMed: 30170541]
30. Meredith LS, Hackbarth Schmidt, Darling J, et al. Emotional exhaustion in primary care during early implementation of the VA’s medical home transformation: Patient-aligned Care Team (PACT). *Med Care.* 2015;53:253–260. [PubMed: 25675403]
31. Garner BR, Hunter BD. Predictors of staff turnover and turnover intentions within addiction treatment settings: change over time matters. *Subst Abuse.* 2014;8:63–71. [PubMed: 25336960]
32. Hoff T, Carabetta S, Collinson GE. Satisfaction, burnout, and turnover among nurse practitioners and physicians assistants: a review of the empirical literature. *Med Care Res Rev.* 2019;76:3–31. [PubMed: 28901205]
33. Nowak P, Holmes G, Murrow J. A model for reducing health care employee turnover. *J Hosp Mark Public Relations.* 2010;20(1):14–25. [PubMed: 20054733]
34. Deloitte. 2019 US and global health care industry outlook. <https://www2.deloitte.com/us/en/pages/life-sciences-and-health-care/articles/us-and-global-health-care-industry-trends-outlook.html>. Accessed on December 27, 2018.

35. Pollack CE, Armstrong K, Grande D. A view from the front line—physicians perspectives on the ACA repeal. *N Engl J Med*. 2017;376(6):e8. [PubMed: 28122190]
36. Centers for Medicare & Medicaid Services. Transforming Clinical Practice Initiative. <https://innovation.cms.gov/initiatives/transforming-clinical-practices/>. Accessed December 28, 2018.
37. The Commonwealth Fund, Henry J. Kaiser Family Foundation. Primary care providers' views of recent trends in health care delivery and payment. *Issue Brief (Commonw Fund)*. 2015;24:1–13. [PubMed: 26288866]
38. Vogenberg FR, Santilli J. Healthcare trends for 2018. *Am Health Drug Benefits*. 2018;11(1):48–54. [PubMed: 29692880]

Table 1.

EvidenceNOW Practice Characteristics (N = 1495).

	n(%)
Practice location ^a	
Urban	951 (63.61)
Suburban	107 (7.16)
Large town	202 (13.51)
Rural area	235 (15.72)
Missing	0 (0.0)
Number of clinicians (MD, DO, NP, PA)	
1 clinician	357 (23.88)
2 to 5 clinicians	699 (46.76)
6 to 10 clinicians	205 (13.71)
11 or more clinicians	159 (10.64)
Missing	75 (5.02)
Practice ownership	
Clinician-owned	609 (40.74)
Hospital/health system-owned	351 (23.48)
FQHC, RHC, IHS, Federal ^b	321 (21.47)
Academic	18 (1.2)
Other/none	145 (9.7)
Missing	51 (3.41)

Abbreviations: DO, doctor of osteopathy; MD, doctor of medicine; NP, nurse practitioner; PA, physician assistant.

^aLocation categories determined using Rural-Urban Commuting Area codes.

^bIncludes Federally Qualified Health Centers (FQHC), Rural Health Clinics (RHC), Indian Health Service (IHS) clinics, and Veterans Affairs, military, Department of Defense, or other federally owned practices.