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Implementing the patient-centered medical home in complex adaptive systems: Becoming a relationship-centered patient-centered medical home

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Abstract

Background—This study explores the implementation experience of nine primary care practices becoming patient-centered medical homes (PCMH) as part of the New Hampshire Citizens Health Initiative Multi-Stakeholder Medical Home Pilot.

Purpose—The purpose of this study is to apply complex adaptive systems theory and relationship-centered organizations theory to explore how nine diverse primary care practices in New Hampshire implemented the PCMH model and to offer insights for how primary care practices can move from a structural PCMH to a relationship-centered PCMH.

Methodology/Approach—Eighty-three interviews were conducted with administrative and clinical staff at the nine pilot practices, payers, and conveners of the pilot between November and December 2011. The interviews were transcribed, coded, and analyzed using both a priori and emergent themes.

Findings—Although there is value in the structural components of the PCMH (e.g., disease registries), these structures are not enough. Becoming a relationship-centered PCMH requires attention to reflection, sensemaking, learning, and collaboration. This can be facilitated by settings aside time for communication and relationship building through structured meetings about PCMH components as well as the implementation process itself. Moreover, team-based care offers a robust opportunity to move beyond the structures to focus on relationships and collaboration.

Practice Implications—(a) Recognize that PCMH implementation is not a linear process. (b) Implementing the PCMH from a structural perspective is not enough. Although the National Committee for Quality Assurance or other guidelines can offer guidance on the structural components of PCMH implementation, this should serve only as a starting point. (c) During implementation, set aside structured time for reflection and sensemaking. (d) Use team-based care as a cornerstone of transformation. Reflect on team structures and also interactions of the team members. Taking the time to reflect will facilitate greater sensemaking and learning and will ultimately help foster a relationship-centered PCMH.

Keywords

complex adaptive systems theory; organizational change; patient-centered medical home; primary care; relationship-centered organizations

The purpose of this study is to apply complex adaptive systems (CAS) theory and relationship-centered organizations theory to explore how nine diverse primary care practices in New Hampshire implemented the patient-centered medical home (PCMH) model and to offer insights on how primary care practices can move from a structural PCMH to a relationship-centered PCMH. This article draws on interview data across nine diverse primary care practices to show how practices focused on structural aspects and/or relational aspects, highlights where the lessons of CAS and relationship-centered organizations can provide insight, and offers concrete suggestions for practice managers on how to attend to the relational aspects of PCMHs in the process of implementation.

Many providers, payers, and policymakers are promoting or adopting the PCMH model to improve quality, slow spending growth, and enhance the functioning of primary care. Although there is yet to be one consistent operational PCMH definition, it is generally agreed upon that the PCMH aims to revitalize primary care, build on the Chronic Care Model, and provide incentives to primary care practices to coordinate care, enhance communication, reorient toward patient-centeredness, and improve quality through reimbursement that recognizes the provision of previously nonreimbursable services and, in some cases, rewards high performance (Davis, Schoenbaum, & Audet, 2005; Kilo & Wasson, 2010; O'Malley, Peikes, & Ginsburg, 2008; Rittenhouse, Shortell, & Fisher, 2009).

Research on the impact of the PCMH continues to emerge, providing largely mixed evidence on its impact on quality and costs (Christensen et al., 2013; Friedberg, Schneider, Rosenthal, Volpp, & Werner, 2014; Hoff, Weller, & DePuccio, 2012; Nielsen, Olayiwola, Grundy, & Grumbach, 2014; Paustian et al., 2014; Rosenthal et al., 2013). It is becoming increasingly apparent that all PCMH models do not look the same both in definition (Vest et al., 2010) and in implementation (Bitton et al., 2012; Hearld, Weech-Maldonado, & Asagbra, 2013; Hoff et al., 2012). Historically, national PCMH guidelines have focused primarily on structural aspects of PCMHs, such as patient tracking and registry functions, electronic prescribing, and patient portals (Rittenhouse & Shortell, 2009). However, the literature continues to show that implementing these features is not as easy as plug-and-play (Crabtree et al., 2011; Farmer et al., 2014; Hoff, 2010; Wise, Alexander, Green, Cohen, & Koster, 2011). Rather, implementation of PCMHs requires that primary care practices have a better understanding of complexity science and the role that relationships play in successful implementation (Crabtree et al., 2011; Jordan et al., 2009; Miller, Crabtree, Nutting, Stange, & Jaén, 2010) and more attention to the “soft” (i.e., relational) best practices (Hoff, 2013).

Theory/Conceptual Framework

Understanding health care organizations as CAS is a useful framework in health services research (Jordon, Lanham, Anderson, & McDaniel, 2010). “Complex” suggests diversity, “adaptive” implies the ability to change or learn from experience, and “system” is a set of interconnected agents (Begun, Zimmerman, & Dooley, 2003). Several scholars have applied the theory of CAS as a way to understand primary care practices (Crabtree et al., 2011; Ellis, 2010; Lanham et al., 2009; Miller, Crabtree, McDaniel, & Stange, 1998; Miller et al., 2010; Miller, McDaniel, Crabtree, & Stange, 2001). The key elements of CAS include (a) the presence of *agents* with unique interests and the capacity for learning; (b) interdependencies

between agents that foster *nonlinear interactions* and yield *emergent properties* (e.g., routines and patterns) through the process of *self-organization*; and (c) recognition that these processes occur in a specific context, allowing for *coevolution*, observed through changes in the agents, the organization, and the broader environment (Anderson, Crabtree, Steele, & McDaniel, 2005; Crabtree et al., 2011; Jordan et al., 2009; Lanham et al., 2009).

Relationships are at the core of successful interventions implemented within CAS (Jordan et al., 2009). Specifically, relationships between agents support ongoing learning and improvisation and are ultimately what fosters often unpredictable emergent properties resulting from an intervention (Jordan et al., 2009; Jordon et al., 2010; Lanham et al., 2009; Miller et al., 2010). Building relationships within a CAS is critical for cycles of reflection and sensemaking and the facilitation of continual learning through problem solving, knowledge sharing, conversation, and stories of change (Jordan et al., 2009; Miller et al., 2010; Safran, Miller, & Beckman, 2006). In addition, the presence of inquiry-centered leadership in CAS underscores asking questions, encouraging different viewpoints to be heard, and facilitating dialogues. Relationship-centered organizations also recognize that they operate within a dynamic local ecology and must attend to the needs of the community (Safran et al., 2006). Research suggests organizations that enable experimentation and flexibility (Miller et al., 2010; Rowe & Hogarth, 2005), emphasize sensemaking through conversation and relationships, have inquiry-centered leadership over the long term, and rely on action and reflection cycles as common practice have the opportunity to improve quality of care and organizational performance (Safran et al., 2006) and are better able to learn and successfully adopt interventions (Jordan et al., 2009).

Using CAS and relationship-centered organizations as guiding frameworks, this article illustrates two typologies for PCMH models. That is not to say that every PCMH fits neatly into one of these typologies, but rather that it can be thought of along a spectrum. These typologies include a relationship-centered PCMH (Miller & Cohen-Katz, 2010) and a structural PCMH. Miller and Cohen-Katz (2010) define the relationship-centered PCMH as characterized by collaborative care models and an awareness that health is both a process and a relationship. Hoff (2013) similarly offers insight into these distinctions describing “soft” and “hard” practices in the context of medical homes for older adult patients. Specifically, the “hard” practices are associated with structural interventions, formal policies, or protocols that are often recognized by national medical home standards and guidelines, whereas “soft” practices are more relational, such as knowing the patient and his/her family, demonstrating empathy, and attention to means of communication (Hoff, 2013). Although Hoff primarily discussed these “soft” practices relative to the staff–patient relationships, they also apply to relationships among staff, consistent with the relationship-centered PCMH. This article demonstrates how relational practices can apply to the process of PCMH implementation as well and offers concrete suggestions for how to move a practice from focusing on structures to emphasizing relationships.

Methods

This study is part of a broader evaluation of the New Hampshire Citizens Health Initiative Multi-Stakeholder Medical Home Pilot, a multipayer demonstration of the PCMH model in

nine primary care practices in New Hampshire. The pilot operated from July 2009 through December 2011. Site visits were completed at all pilot sites in November and December 2011. During the site visits, 79 in-depth qualitative interviews were conducted with a range of clinical and administrative staff. In addition, four interviews were conducted with representatives from participating payers and conveners of the pilot. The author engaged in previsit conversations and e-mail communications with a primary site contact, who identified key roles that participated in or led medical home transformation, administration, and/or delivery of patient care. This list was discussed with the author prior to the site visit, and adjustments were made to assure that the full range of roles and responsibilities were included among interviewees. Frequencies of role categories interviewed are detailed in Table 1. Interviewees provided written informed consent prior to participation in the interview. No participation incentives were provided. This study was approved by the Brandeis University Institutional Review Board.

A case study protocol was outlined prior to the start of the site visits to guide consistent data collection at each practice (Yin, 2009). This protocol detailed the purpose of the site visits, data collection procedures, questions to be asked, and an initial outline for a site level report. The case study questions formed the basis for a semistructured interview guide, adapted based on role. This interview guide was reviewed with pilot conveners and subject matter experts prior to use and adapted based on feedback. To understand how the PCMH model was implemented in each site, the interviews explored what the PCMH model looked like at each site (e.g., “What do you see as the primary elements of the PCMH at this practice?”) and how these changes were implemented (e.g., “Have you used any PCMH-related tools or guidelines when implementing the PCMH at this practice?”). The interview guide categories were drawn from the 2008 National Committee for Quality Assurance (NCQA) recognition standards, critiques of the NCQA tool, previous medical home literature, and recommended themes to assess for PCMH interventions and evaluations. On the basis of the critiques of the NCQA tool (Rittenhouse & Shortell, 2009), additional questions were asked about relationships with colleagues, relationships with patients, team-based care, and care coordination. Some of the questions asked to explore these domains included “How have your relationships with your colleagues within your practice changed as a result of implementing the PCMH?” and “Describe how care is typically coordinated at this practice for a patient with Type 2 diabetes.” Lastly, interviewees were asked about implementation challenges and successes (e.g., “Describe some of the challenges that you have encountered as you implemented the PCMH.”), impact on work (e.g., “How has the PCMH model changed your work processes?”), the role of leadership (e.g., “How would you describe the leaders in the implementation process?”), and sustainability of the model (e.g., “What will be the challenges in maintaining these practice changes going forward?”). Although the interviews yielded a rich data set covering a broad range of topics, this article primarily focuses on the findings from the questions related to characteristics of the PCMH models and the process of medical home transformation.

Organizational documents including information on the background of each practice, clinical protocols, quality improvement efforts, and other PCMH-related materials were collected at the site visit. In addition, the author participated in a tour of the practices to observe the physical layout. The primary data source for this analysis was interviews. The

interviews were transcribed, coded, and analyzed by the author. Codes were identified based on both a priori themes outlined in advance in the case study protocol (Yin, 2009) as well as emergent themes in the grounded theory tradition (Charmaz, 2006) to offer new insights into the implementation process. QSR NVivo qualitative analysis software supported the technical process of coding and analysis. Because the PCMH was a practice-level intervention, the primary unit of analysis was the practice. Individual site reports were created and provided to the author's primary contact at the practices for review and comment. This process increased the reliability of the author's synthesis of each site's PCMH initiative. These practice-level reports were used for further analysis and synthesis, together with the original data, to allow for cross-site comparisons of PCMH implementation processes, operationalization of components of the PCMH interventions underway at each practice, and to explore variations at the practice level.

Findings

Background on the Initiative

The New Hampshire Citizens Health Initiative Multi-Stakeholder Medical Home Pilot was initiated in January 2008 as a joint effort by the clinical community and payers in New Hampshire with the support of the University of New Hampshire, the Endowment for Health, and Governor John Lynch (New Hampshire Citizens Health Initiative, 2008). As a requirement for participation in the pilot, all sites were expected to obtain Level 1 recognition by the 2008 NCQA Physician Practice Connections–Patient-Centered Medical Home (PPC-PCMH) standards by July 1, 2009, the start date for payments to the pilot sites (New Hampshire Citizens Health Initiative, 2008). Ultimately, all sites achieved Level 3 by August 2010, with two thirds of the sites achieving Level 3 by September 2009. On average, each practice received a \$4-per-member-per-month payment from the four major commercial insurers in New Hampshire based on their membership. The nine pilot practices vary with respect to their size, ownership, patient population, location, and history. The pilot included three health centers, four hospital or health system-affiliated practices, and two independent practices. Practices were not provided with in-depth practice transformation support. Although there were opportunities for sharing across practices through monthly phone calls organized by the pilot convener, each practice enacted transformation independently and differently, including varying levels of attention to the many structural components (e.g., disease registries, teams, and EMR capabilities) as well as relational approaches such as building a team-based culture of care, setting aside time to meet, and prioritizing communication.

Structures Matter

The NCQA recognition process and the resulting implementation of several structural components of the PCMH model were seen as helpful to identify specific areas for practice change and ultimately improve patient care. For many practices, the NCQA recognition process provided a useful tool for identifying existing structures and targeting gaps. A practice administrator remarked that NCQA recognition “helped educate us into the components of the medical home and provided a gap analysis—we have all these things in our EMR, we’re missing this.” Similarly, a family physician suggested, “it was very

informative in that it kind of gave us a baseline, it gave us an idea of where we were.” Another administrator remarked, “sometimes what we were doing would have worked, but we tweaked it anyway.” Attention to these structures was seen as worthwhile. For example, a family physician described implementing disease registries:

You start seeing all those grey boxes showing up, and you sort of say I’m not as good as I thought I was.... How do I have diabetics that haven’t been seen in 12 months? How do they slip through the cracks, they should be seen every three months.... We had no process to capture these people.

Similarly, a physician at another practice reported on the value of disease registries:

Undoubtedly it has made care better—there’s absolutely no doubt in my mind that if you’re my patient and you have hypertension, I’m managing you more prospectively with a keener eye towards making sure your numbers are better. I have better systems in place to catch you amongst our system if you’re falling outside.

Thus, some of the structural features of the PCMH intervention (e.g., disease registries) were seen as useful mechanisms for improving patient care.

Structures Are Not Enough

Among the practices that focused primarily on the structural elements of the PCMH as required by the formal recognition process, they generally saw less value in PCMH transformation, for example, highlighting the overdocumentation to the detriment of patient care. On the other hand, for those practices that either already had many of the structures in place or viewed the transformation process as a means toward building a fundamentally different practice culture, implementing the components required for NCQA recognition was not enough. One administrator admitted:

...we became a Level 3, but in my opinion it was mostly because we had the infrastructure in place to be a medical home. I don’t think philosophically we were there for another six months.... [NCQA] was very focused on technology. Patient portal was a big thing, automated lab information, automated patient records that went from different sites of care and could follow the patient and what not—we had all that.

Similarly, an administrator at another practice commented:

But having that recognition doesn’t make you a medical home. It just says you do certain things a certain way. So, now what we’re trying to do is make people a true medical home or more like the future of family medicine in terms of the real team-based care—access, continuity, all those things.

This chasm between structure and culture was echoed by another administrator:

We have a very robust EMR, we already had a patient portal. Eighty percent of it was simply that. We had a lot of pieces in place already. The work really started after we got that certification in shifting the culture of the office. That was more difficult than I had anticipated and took longer than I anticipated.

The Importance of Leadership

Several participants remarked on the need for “buy-in,” “engagement,” and “flexibility” from all levels of the organization—senior leadership, physicians, and staff—in order to make this model successful. Buy-in from senior leadership can yield additional resources and help support the change process during financially challenging times, whereas buy-in from physicians and staff can foster momentum, new ideas, and a smoother transformation process. In addition, the quality of communication among leadership was highlighted as a critical feature of the implementation process. For example, a behavioral health leader explained:

So, I think it all comes down to open communication from the very beginning, and making sure everybody's on the same page, and that can take a lot of work at the beginning. Because the trust might not be there, the working relationship might not be there, so it takes a lot of work up front, and hopefully it will be a smoother running machine further down the road. I think in the beginning when we were sort of all thrown together it felt like as the leadership team, we didn't do that. We were sort of like OK, here we are. Now what do we do, we have to lead. And now I feel like we're...trying to figure out how to communicate better and different, and have those conversations, and build the trust.

Setting Aside Time for Reflection and Sensemaking

Practices varied with respect to the amount of time that was dedicated to talking about specific PCMH components, the transformation process, and the PCMH as a means for culture change. Among the practices that devoted clear time to these conversations, they reported that these meetings encouraged relationship building and fostered better understanding of each other's roles and practices, more opportunities for effective problem solving, and widespread empowerment. For example, at one practice, all the family physicians set aside time each week early in the transformation process to review guidelines for evidence-based care and decide on a common plan for treating patients with a given diagnosis. As a result, a family physician realized:

...we assumed we were doing things very similarly, and it turns out we weren't. So, our individual practice techniques, even things like choosing what medications we would use, and what parameters we were looking at, we were kind of all over the map in terms of when we would get different tests. I think we were also, we assumed that it was easy for the staff to run all of us, because we assumed that we all liked things similarly, and it turns out we didn't.

Another practice already had designated time set aside once a week for leadership and staff meetings and was able to take advantage of that allotted time for medical home transformation. An administrator at this practice recognized the importance of this time and the communication that it facilitated:

Talking all the time—lots and lots of meetings. We are privileged to have three hours on Wednesday mornings for meetings. So the pods, with their pod leaders meet every week. We have quality improvement teams that can meet every other week...the leaders are committed to the mission. The leaders who the other people

report to are committed, and are constantly teaching and then also holding people accountable...constantly, constantly talking about it at the org chart leader top, just because we have so many different kinds of leadership, at the org chart top, how are we doing, what are we seeing, what's really happening.

Still, a different practice used time previously designated for specific Quality Improvement (QI) activities as a time to engage multidisciplinary staff in a focus on PCMH transformation. A physician described how this empowered staff members:

One of my team coordinators...said at one of our medical home large group meetings, that it was really the first time she thought her voice was being listened to here. So to be able to have other people besides me come up with projects that need to be worked on, and then to have good ideas, you know, come up out of other members of the team, and then have them feel invested enough to work with each other on improving the product has really made a big difference.

Another mechanism for building opportunities for communication, reflection, and sensemaking was through huddles. One physician explained:

Having care team meetings, we called them huddles for a while, now we just meet, we don't really call them anything, but they're supposed to be huddling. We'd go through the day, these are the people who need extra stuff, these are the people who are behind on things. These are the people I want stuff done before I walk in the room...If that person says I think I have strep, I want that strep test done before I even get in there.

These huddles facilitated communication around coordinated patient care.

Bringing It All Together: Moving From Structures to Relationships With Team-Based Care

Team-based care provides a clear example of the difference between the structural and relational aspects of the PCMH. Practices differed with respect to their concept of a team. At one end of the spectrum, a team was a structural definition, with clear members of a team joined together by a color or letter. At the other end of the spectrum, a team embodied a significant cultural change characterized by strong relationships between team members and an emphasis on collaborative care. One practice viewed creating delineated team structures as a priority of transformation. A practice leader described restructuring the practice to create formal teams:

We did a lot of restructuring the first six months probably. Of, restructuring...who does what? ...We worked [on] developing the teams, because it was important to me with the medical home that we really have a team. So we restructured the triage nurses, so I'm not just triaging for everyone, but I'm now [Doc A] and [Doc B]'s patients so those are the ones that come to me. Same way with the schedulers—I'm scheduling for [Doc A] and [Doc B], so I get to know the patients more, I have more familiarity with their schedules, and with their needs, and how they run patients. So, the team got established, the separate teams.

However, some practices explicitly recognized that, although teams existed structurally, they were not functioning as a team. These practices emphasized relationship building within

their teams, supported by increased emphasis on communication, working together, and empowerment. An administrator recognized the disconnect:

We thought we had teams because we had different disciplines here—they weren't really talking to each other, but you know, it was pretty traditional care—it was good...but they weren't necessarily working together as a team.

The historic physician-centered approach to care delivery was also seen as a barrier to effective team-based care. A nurse leader described:

Just some physicians that may not embrace...or may not recognize what other staff members can do and how their staff members' expertise and knowledge can help with patient care, that doesn't just have to be the doctor doing everything...it's our responsibility as nurses to demonstrate and show what we can do.

To break down communication barriers and promote better understanding of role definitions, another provider at this practice described the importance of working together to meet patients' needs:

you have to give your team time to meet and talk about what's going well, what needs to be improved, and to think about how can we stretch—sort of the idea of it's everyone's job to get the patients' needs met...what's the best way to do that together, most effectively?

Similarly, a physician at another practice described how the communication among team members has improved relationships among staff and with patients:

The idea of a team was a change. Maybe on some small level we were doing that before, but the thought process of working as a team, was a change. The division of the practice into pods was a concept that was already in place.... However...you didn't work as a team.... We share a lot more than we did before, and it makes that transition of care that the patient experiences you know, when they talk to the nurse, the nurse knows who they are. When they pass that information on to us, we know who they are. And the physician assistants that we work with because we work very closely together, they know who they are. The communication's improved significantly.

The team approach was also seen as an opportunity to empower staff and foster a learning environment. A physician leader described the growing expectation for medical assistants as a member of the team:

Do not wait for an order. If the patient needs something done, do it. Do it because I trust that you are trained and have the judgment to do the right thing. If it wasn't the right thing, we'll learn from it. So, to take away that whole blame game, and right or wrong, other than were you doing what's in the best interest of the patient—if that's what you were doing it for, then it's not wrong. You could have done it better—but it's not wrong.

Coevolution With the Environment: The Case of Reimbursement

The theme of reimbursement was repeatedly raised as a critical barrier to seeing lasting and meaningful change as a result of investment in the medical home model. Several participants across all sites—both clinical and administrative—noted that the current emphasis on productivity through face-to-face visits was at odds with the goals of the medical home—including more care coordination through e-mails, phone calls, and other team-based care outside of the traditional visit. One medical director illustrated the dilemma:

We're expending tremendous resources to get the quality piece there, and...we can do it in a way that we don't have to have the patient coming in the door...[but] we're starving and we've got all these people in place, and they're doing all this stuff, and yet, our finance people and me as medical director too...are saying please people, get the patients in for visits—visits, visits, visits, we need visits. We're running at a loss right now this year, and we just told everybody to get people in for care, because that's how we get paid. So, we're dying for the payment reform piece to come.

This uncertainty with payment models made it difficult for practices to wholeheartedly embrace a fundamentally different approach to providing care to patients.

Discussion

Using a CAS lens helps practices to recognize that change is not linear, but rather unpredictable, which can enable practices to be more flexible and adaptable throughout the process of implementation (Rowe & Hogarth, 2005). Although the NCQA tool offers a more linear approach to change (e.g., identifying gaps and opportunities for improvement), a more flexible, relational approach might be better suited for lasting change. For these practices, the first step in the reflection process was the NCQA recognition process itself, which enabled more targeted transformation and improvement efforts. Although all of these practices started there as a means for structural transformation to a PCMH, a subset of practices noted that this was not enough to fully become a PCMH and instead used NCQA as merely a launching off point. In other words, the structural components are necessary but not sufficient to foster a true relationship-centered PCMH.

The process of moving from changing the structures to changing the culture of the practice required reframing the approach to implementation of these structures through constant conversation, relationship building, and trust. It is in this framework that understanding primary care practices as CAS is useful. As agents are engaged in this interdependent process of caring for a patient, they interact in nonlinear ways (i.e., through meetings and team building) yielding emergent properties, such as a culture of collaborative care. As these relational routines and patterns start to form a new way of thinking about team-based care (i.e., self-organization), the practice starts to look more like a relationship-centered PCMH. Lastly, the practices that are better able to do all of this within an uncertain payment environment can be thought of as effectively coevolving with their environment. In this context, a revised mental model for care delivery that emphasized collaboration can help

foster and sustain change, even in the wake of uncertainty (Rowe & Hogarth, 2005; Wise et al., 2011).

A critical piece of bringing about these relational dynamics was designating clear time (i.e., a structure) for people to build relationships. Specifically, the practices that were deliberate in setting aside time to meet to discuss PCMH components and the transformation process reported greater understanding of each other's roles and practice styles, more comfort speaking up, improved communication, and better relationships. Although the structure and participants across these PCMH-related meetings varied, the common feature was that time was specifically designated for participants to reflect, learn, and problem-solve around the PCMH itself and the implementation process. We know that, when there is not enough time for conversation, learning and sensemaking are impeded (Jordan et al., 2009). This opportunity for sensemaking and reflection facilitates learning and increases the likelihood that the gains from the intervention will be sustainable. In this sense, the use of a structure (e.g., a scheduled meeting or huddle) can facilitate the development of a relationship-centered PCMH.

In addition, team-based care was a primary area of transformation for many of the practices from both a structural and relational perspective. The practices that approached this transformation with a mental model that emphasized collaborative care, rather than physician-centric care, attributed more value to the PCMH model overall, compared to practices that only had team structures. Viewing the PCMH as an intrinsically valuable investment has been shown to be critical to motivate practice change (Wise et al., 2011). Moreover, consistent with other studies of medical home transformation, the traditional physician-centric primary care practice and corresponding mental models do not align well with the medical home model (Meyer, 2010; Nutting, Crabtree, & McDaniel, 2012; Nutting et al., 2010). This was particularly true for physicians who needed to rework their view of the traditional physician-patient relationship to reflect a team-based model of care, requiring more open interaction and sharing with other care providers (Nutting et al., 2010). As seen here, team-based care offers a ripe opportunity for enacting a relationship-centered PCMH, but it cannot be achieved unless value is attributed to a culture of collaborative care.

Limitations

This study is a pilot, composed of practices already moving toward the PCMH even without this pilot. So these lessons may not be generalizable to all practices undergoing medical home transformation. The site visits and interviews were conducted at one point in time, namely the end of the pilot. Thus, reporting on the process of change by participants was retrospective and did not allow the author to observe the changes enacted over time. Moreover, all the data collection and analysis were conducted by the author, limiting the opportunity for coding and interpretation comparisons. However, interviewing multiple people across diverse roles and providing site-level reports for verification and feedback helped to triangulate data, validate the findings, and provide a more comprehensive and accurate story of the change process.

Practice Implications

As we have learned from other interventions, PCMH adoption and implementation is not necessarily about fidelity to the model (Jordan et al., 2009) or the structural features of the intervention as defined here. Rather, using CAS as a lens for practice change can help primary care practices embarking on the PCMH journey be attentive to relational aspects of the model and foster sustainable improvements. For some practices, the process of medical home transformation itself brought about cycles of action and reflection, enabling sensemaking to occur and new organizational routines and processes to emerge (e.g., collaborative team-based care). The process of change experienced by the nine practices participating in this pilot offers many insights for medical home transformation going forward. Table 2 characterizes the structural and relational aspects of the three features of the PCMH illustrated by these data and offers some questions for practice managers to reflect on in order to implement a relationship-centered PCMH. This framework can be applied to additional PCMH structures as well.

Drawing on the insight presented in Table 2 and the broader discussion, we offer several implications for practices engaged in PCMH transformation: (a) Recognize that PCMH implementation is not a linear process. Checking off the boxes for formal recognition will not facilitate broad practice change or a relationship-centered PCMH. Moreover, the nonlinear and emergent process of reflection, sensemaking, and learning throughout implementation is critical. (b) Implementing the PCMH from a structural perspective is not enough. Although NCQA or other guidelines can offer guidance on the structural components of PCMH implementation, this should serve only as a starting point. (c) During implementation, set aside structured time for reflection and sensemaking. This time can serve a variety of purposes: such as fostering conversation and mutual understanding of how to implement a specific structural aspect of the PCMH; building relationships and trust among staff and leadership; enabling a shift in mental models for care delivery toward one that is more collaborative; and facilitating problem solving and learning across multiple roles. In these meetings, it is critical to pay attention to who is in the room, who is participating, and how people are communicating. Emphasis on respect and empowerment in this context will make these meetings more effective. (d) Use team-based care as a cornerstone of transformation. Reflect on the structures of the team and also the interactions of the team members. Consider how team members communicate, how uncertainties are handled, and if there are persistent power dynamics that impede collaboration. Taking the time to reflect will facilitate greater sensemaking and learning and ultimately foster more of a relationship-centered PCMH.

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Table 1

Frequency of interviewee roles across nine practices

Interviewee role ^a	Frequency
Physician	19
Nurse practitioner	6
Physician assistant	1
Nurse (LPN, RN)	17
Medical assistant	3
Nurse care coordinator	2
Navigator/health coach/referral coordinator	3
Behavioral health professional	5
Front desk staff/office manager	6
Director of clinical services	4
Practice manager	6
Quality/EHR staff	4
Top leadership (CEO/COO/CFO)	3
<i>Also clinical leader^b</i>	<i>19</i>
Payer representative/pilot convener	4
Total interviewees at practices	79
Total interviewees	83

^a These role categories are grouped to emphasize the primary role of the interviewee, recognizing that each practice defines and labels roles differently.

^b This category double counts roles, indicating physicians and nurses who also played a primary leadership role (e.g., medical director, nurse leader) in addition to clinical responsibilities.

Table 2

Moving from structures to relationships: Three PCMH components with opportunities for reflection, and sensemaking, and learning

PCMH feature	Structural	Relational	Takeaway
Teams	Who is on the team? How do we identify teams (i.e., A/B/C; green/blue/yellow)?	→ How do we work together as a team? How do we solve problems? How do we communicate?	The process of becoming a team is more than just a structure. It is the communication, the learning, and the sensemaking that happens between interdependent agents that enables the team to problem solve and create a system that is greater than the sum of its parts.
Meetings	A meeting is scheduled. (Examples of meetings: team huddles, QI sessions, staff meetings).	→ Who is invited to the meeting? Who speaks? Who sets the agenda? How do we communicate?	Setting aside dedicated time to devote to the process of conversation and sensemaking is critical to the implementation process. The voices that are heard at these meetings also matters. Greater participation across multiple levels of the team/organization will yield greater buy-in and better collective sensemaking.
Evidence-based care	Evidence-based protocols exist for specific conditions in the office.	→ How was the protocol developed? Who created the protocol? How do we solve implementation problems?	The very process of gathering people together to develop protocols will encourage better understanding of peer's approach to practice, facilitate greater communication, and also foster more standardized care practice wide. This also sets the stage for ongoing dialogue when problems arise or protocols need to be changed.