

The (Missed) Potential of the Patient-Centered Medical Home for Healthcare Disparities

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ABSTRACT

Purpose: We conducted an in-depth exploration how the transformation of primary care practices into patient-centered medical homes in the United States affects quality of care for vulnerable populations and disparities in care.

Methods: Using a semi-structured interview format, we interviewed 33 key actors involved in 6 patient-centered medical home pilots including initiatives in Colorado, Louisiana, Massachusetts, Pennsylvania, and Rhode Island.

Results: Disparities are not a priority in PCMH initiatives. However, at least implicitly they factor into the design of the pilots. Even though actors believe that the model has the potential to reduce disparities, the financing structure of safety-net practices and the lack of adjustment of quality metrics are identified as risks that counterbalance these benefits. While practices also try to address problems outside the immediate influence of healthcare, e.g. through community outreach, it is also seen as a problem, when providers are held accountable for tackling problems that have a larger social or political dimension.

Conclusions: Even though disparities are not a priority in the PCMH community, the way the model is designed and implemented can have important implications for the care of vulnerable populations.

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Introduction

There is wide consensus that for improving quality and reducing costs in healthcare, a high-performing primary care system plays a key role. In the United States, primary care is generally seen as weakly positioned compared to both specialty care and primary care in other healthcare systems (like the English NHS) (Macinko, Starfield and Shi, 2003; Rittenhouse, Shortell and Fisher, 2009; Sandy et al., 2009; Bates, 2010; Friedberg, Hussey and Schneider, 2010). In the last couple of years, however, a big transformative effort can be observed with the implementation of the patient-centered medical home model (PCMH). This concept put forward by the primary care professional organizations in 2007 (AAFP et al., 2007) aims to strengthen the classical functions of primary care through care management, inter-professional care teams, health information technology, and payment reform (Rittenhouse, Shortell and Fisher, 2009). Moreover, the patient-centered medical home includes a population perspective, holding physicians accountable to the quality of care they provide for a defined patient population.

The implementation of the patient-centered medical homes is based on mostly state-based initiatives which vary in size but generally have a pilot character. Almost every state in the United States has at least one patient-centered medical home initiative underway (Center for Medicare & Medicaid Innovation, 2013; National Committee for Quality Assurance, 2013). A standardization of these regional initiatives can be seen in the National Committee for Quality Assurance' Practice Recognition program for patient-centered medical homes. If practices demonstrate that they fulfil a number of (mostly structural) requirements, they receive recognition through the NCQA – a procedure that is used by most PCMH initiatives.

The focus of these initiatives is primarily to demonstrate overall quality improvements and cost savings. At this point, there is modest evidence that patient-centered medical homes improve quality of care and reduce emergency room visits while effects on costs are mixed

(Friedberg, Hussey and Schneider, 2010; Rosenthal et al., 2010; Hoff, Weller and DePuccio, 2012; Peikes et al., 2012; Jackson et al., 2013)

The patient-centered medical home shares many elements with other international performance management programs that aim to improve quality of care and care coordination through data, changed practice organization and new payment structures, e.g., the Quality and Outcomes Framework in the United Kingdom (Roland, 2004) or the disease-management programs in Germany (Stock et al., 2010). Scholars from the UK and the US have raised concerns that performance management systems may exacerbate disparities in particular if the income of providers in underprivileged communities declines due to lower quality scores and providers start to avoid patients with minority background or low socio-economic status (Bierman and Clark, 2007; Casalino et al., 2007). However, they also acknowledge that well-designed programs may be able to reduce inequalities, e.g. if absolute quality scores and relative improvement is rewarded, if quality measures are risk-adjusted or stratified, and if effects on disparities are part of the program evaluation (Bierman and Clark, 2007; Casalino et al., 2007).

Even though disparities¹ in healthcare and health outcomes are perceived as a substantial problem (IOM 2002), research has generally paid little attention to the question how patient-centered medical homes affect disparities or the quality of care for vulnerable populations (Homer 2009) or analyzed to what extent programs appear to be well-designed from a disparities perspective. Assessing the effect on disparities is of high relevance in the US where on top of the segregation of healthcare provision due to residential area, disparities arise from the fragmented funding structure. While 52% of Americans have a commercial insurance (usually through their employer), 33% receive health insurance from government

¹ According to the convention in American healthcare services research outcome differences (in the case of healthcare not due to differences in need) are called *disparities* in this paper, while in other contexts and disciplines the terms *inequalities* or *inequities* would be used in this context.

programs (Medicare for seniors and Medicaid for the poor), and a sizeable number of 15% of all Americans has no health insurance² (U.S. Census Bureau, 2012). Not only persons without insurance experience limited access but also Medicaid patients because the fees paid to physicians are much lower than under Medicare and private insurance (Berk and Schur, 1998). However, there is a system of so-called safety-net providers (federally qualified health centers) who are required to see anyone who consults them and their primary patient population primarily consists of Medicaid patients and the uninsured.

The aim of this study was to explore to what extent disparities were a concern in the conceptualization, implementation, and evaluation of patient-centered medical home pilots in different US states. We used a qualitative methodology to gather information on the views of different types of key actors in the US healthcare system (payers, providers, administrators, and academics) on the potential effects of primary care practice transformation for disparities and their suggestions for how the model can be improved in order to incorporate a disparities agenda.

Methods

The data basis for this study consists of thirty semi-structured interviews with key actors in six PCMH pilots including policymakers/ state representatives, providers, payer, project administrators or advisors, and evaluators. Interview partners were not randomly selected but purposefully chosen as actors who played an important role in the medical home projects and thus could provide an in-depth perspective of the pilot (e.g., practice leaders). The study also draws on three semi-structured interviews with experts in medical home

² The numbers do not add up to 100% because persons can have multiple forms of insurance. The purchase of insurance from the health insurance exchanges for the uninsured was not yet implemented at the time of data collection.

research and disparities. We developed a semi-structured interview guide to garner information on actor's experience with medical home transformation, the influence of disparities and vulnerable populations in planning, structuring, and evaluating the initiative as well as their general opinions on the potential, risks, and reform barriers with respect to addressing disparities in a primary care setting. Questions were framed as open-ended. Each interview lasted between 35 and 80 minutes. Interviews were conducted in person or by telephone between December 2012 and July 2013. All interviews were recorded after consent and transcribed. The study was reviewed by the Harvard School of Public Health Office of Regulatory Affairs & Research Compliance and granted an exemption under 45 CFR 46.101 (b) (2)

The selection of the six initiatives was based on a number of criteria. First, we selected initiatives that were ongoing for several years (starting dates between 2007 and 2009) so that respondents could share information on a longer transformation process. Second, even though representativeness was never the goal of this qualitative research design, we aimed to cover the social and healthcare system diversity of the US as much as possible and also involve pilots with a variety of payer and provider mixes (see table 1). On the state level, Massachusetts (North East) is among the richest states in the nation with the highest healthcare expenditure per capita but also the highest health insurance coverage rates. Together with Rhode Island, Massachusetts also has a comparatively high number of primary care physicians (per 100,000 populations). In contrast to that, Louisiana (South) is the poorest state in our sample with a high number of minorities and persons without health insurance but a low density of primary care physicians. Rhode Island and Pennsylvania (North East) represent the extremes in terms of state and initiative size: Rhode Island, with 1 million inhabitants the smallest state in the US, had (originally) 5 participating practices and Pennsylvania with 12.8 million inhabitants and 152 practices involved in the initiative.

Colorado (West) takes a middle position on most of the indicators – except that it has the lowest health expenditure per capita. Unique is also its high share of Hispanic population which represent more than one fifth of all persons in Colorado.

In terms of the nature of the medical home initiatives, Rhode Island, Pennsylvania, and Colorado are multi-payer initiatives meaning that different (commercial) payers provided funding for the initiatives. The providers in these pilots included either none or some federally qualified health centres. In contrast, the initiatives in Massachusetts, Louisiana, and the Safety-Net Initiative (which was rolled out simultaneously in Massachusetts, Colorado, and Pennsylvania) focused exclusively on safety-net practices and funds were based either on grants or payments from Medicaid.

We used the constant comparative method (Glaser, 1965) to classify key themes and sub-concepts and developed a comprehensive coding structure based on consensus between both authors which was then reapplied to code all transcripts. Beyond assessing what we identified as common themes for the full sample, our aim was to compare and analyze similarities within specific pilots or actor groups as well as differences between initiatives and different types of actors.

Results

Three major themes emerged from the comparative analysis of interview transcripts: (1) the role disparities played in the initiative, (2) the benefits and risks they see of the model for disparities reduction, and (3) the suggestions for how the model needs to be implemented when considering disparities.

(1) Vulnerable Populations in Current Medical Home Initiatives

When asked about the reasons why the pilot was initiated, most respondents said that the prominent goals were to save costs and to improve quality.

It was really about improving quality and reducing costs for everybody. (Massachusetts, 3).

Although almost all respondents believed that the model includes important elements to improve performance in primary care, some actors (in particular the health policy experts) pointed out that the most important aspect of the initiative(s) is that more resources are channeled towards primary care.

I mean the thing is we need primary care to work for us. Because specialists ain't going to do it... so this is one that can't be... I mean the medical home may morph into something but the idea that we need to support primary care is here (Expert, 18).

Primary care was supposed to be about access and care and sort of the bill that others have articulated but I think the capacity to deliver on those concepts has been sort of under financed and so I conceptualized the primary center medical home as investment in structural capacity to deliver on those thoughts about primary care. (Expert, 16).

In the Safety-Net Initiative and in the pilot in New Orleans (Louisiana) disparities and the care for vulnerable populations were named as the primary or at least an important reason for setting-up the initiative. Therefore, the programs focus exclusively on safety-net providers.

So um... so he gave us the funding and it was really designed to do a couple things. One was to open the doors for the uninsured and various... people had different motivations for wanting to see that happen... um... the second was to provide enhanced payment for the underinsured... Medicaid... Medicare (Louisiana, 39).

The whole idea that medical homes have the potential to reduce disparities was a key factor in our moving this thing forward. (Safety-Net Initiative, 5).

For the other four initiatives, most respondents declared that disparities were not part of the considerations that led to the set-up of the pilot.

“To be fair in neither case was disparities reduction a leading motivator for the creation of the initiative.” (Pennsylvania/Massachusetts, 6).

However, some respondents pointed out that the role of disparities was to some extent acknowledged in the design of the pilots particularly when safety-net practices were deliberately chosen to participate. Moreover, disparities and care for vulnerable populations emerged as a topic over the course of the initiatives and was discussed in learning collaboratives and meetings because improving care for these populations turned out to be important to achieve quality and costs goals.

I think that when practices were being chosen that figured in because there was a number of community health centers that were selected for exactly that reason (Pennsylvania, 33).

So that is four practices threw their hat into the ring with the community health center so that is the place with 60% uninsured and mostly Medicaid would figure out how to do it together... and the things that we put in place it has to work for them... and when we have a complicated patient how does the infrastructure we are putting here to help with medically complex patients help out with socially complex patients (Rhode Island, 25).

Even though disparities were mentioned as a key goal in the two initiatives, none of the evaluations looked at disparities or did any type of stratified analyses. Almost all respondents pointed out that technical difficulties precluded such analyses: (1) data on socioeconomic status or race are generally not available, (2) sample sizes are too small in the pilots for estimating such effects, (3) the structure of the pilot and the fragmentation of the providers leads to a situation where practices have very homogenous patient populations and so within-provider comparisons are not useful.

Despite those technical problems, the interviews also revealed that the need to demonstrate quality improvement and particularly cost savings to payers or the general health policy community, had pushed disparities further back on the agenda.

Yes. It became apparent through all of these conversations that for the insurance companies... cost was their primary thing. And at one point in time... one of them, I can't remember the name but I shouldn't name names anyway... one of the fellows said I don't care about quality I am worried about the bottom line... so it is pretty obvious what he was after... and so they are for profit insurance companies so... you can expect that. (Colorado, 37).

I guess I am a little less worried about the disparities in truth.... Over the quality the cost and the patient experience. Not because I think that it's easier to do, but just because so much of the success... the sustainability depends on the quality, cost, and the patient experience. (Safety-Net, 5).

(2) Risks and Benefits

According to the literature, performance management can both reduce and exacerbate disparities depending upon the implemented design. Most of the respondents were relatively optimistic in that the patient-centered medical home could help to decrease disparities. A smaller number of respondents (but almost all academics) did not believe that the PCMH will reduce disparities or even predicted a potential increase.

Benefits

Among the optimistic respondents, many features of the PCMH were seen as directly addressing the special needs and challenges vulnerable populations face such as providing patient-centered care, using care management and population outreach, the use of evidence-based guidelines, or using data to identify high-needs population.

I do largely because just the whole model itself and taking advantage of care managers who have been instructed in evidence-based guidelines, who have registries that have been created. They can now begin to go through the system and identify patients who may have gaps in their care and make sure those gaps are being filled. (Louisiana, 40).

So individuals who are economically challenged have even more trouble finding a way to navigate our system... so the potential of the medical home is to help...um... reduce disparities, improve the quality of care for people who are affected by the fragmentation in the quality of care. (Rhode Island, 10).

Risks – Between-provider differences and cross-financing

Two aspects in particular were voiced by the respondents who expected no or negative effects on disparities. First, considering that many of the disparities that vulnerable populations experience arise from the fact that the providers which they see have fewer resources and

capacities, several respondents feared or reported that safety-net clinics (could) have more trouble in implementing the PMCH and in improving patient outcomes.

I hope there is potential. One of the things that I have witnessed is that safety-net practices... um... can struggle more than private practices that are serving higher ranking populations... in terms of achieving the goals of quality, which is a sobering observation, because if private practices can generate improvement more rapidly than safety-net practices than in fact disparities could actually get larger. (Massachusetts/Pennsylvania, 6).

And we found just the opposite... That the primary care facilities that served the high risk populations across the states had more tools and capabilities than those that didn't... and most of this was mediated by the fact that the facilities, who were seeing those patients, were much bigger facilities than those at the advantaged populations. (Pennsylvania, 7).

Several respondents – including safety-net providers themselves – said that their disadvantages are in fact not based on missing structural capacities but in their ability to change patient outcomes for their population.

So the outcome measure are much more challenging for us, the performance measures where you know you have to screen people for depression or the tobacco cessation [sic] where you ask them, or you refer them into a program or you advise to quit; those are not that challenging and we can do those just as well as anybody else. (Rhode Island, 14).

When we look at the trends, it's flat. We can't figure out why. (Pennsylvania, 31).

As most pilots do not include all payers, certain practices also felt disadvantaged because they would receive the per-member-per-month payments only for the patients who are insured by the payers involved in the pilot but all interviewed practices offer the services to all their

patients. While most respondents raised this cross-financing structures as a problem and a potential risk for disparities, on person outlined that this can also be seen as an opportunity.

We love uninsured patients because we are able to have them sign a contract and offer them low cost services for 64 dollars... comparable to what they pay at the retail clinic... we can do that because we don't have the transactional costs of dealing with the emergency room... and because we have the patient centered medical home model already built, everyone benefits from it. An uninsured person has access to my nurse educator, our care coordination programs, our patient portal our expanded orders... the same way as someone who has formally enrolled with one of the insurers that we signed a contract with (Colorado, 34)

Risks – Quality Metrics

The second aspect that concerned many respondents with respect to disparities are the implications of comparing practices and providers based on quality metrics which was a central components in all of these pilots. Many respondents raised the point that quality metrics were not sufficiently accounting for the different patient mix of providers and that this might create wrong incentives for practices to avoid social disadvantaged patients or to manipulate data. Respondents were particularly concerned about this if quality metrics should be publicly reported or tied to pay-for-performance.

So without risk adjusting any of the data, we don't look as good. And that's a problem. (Rhode Island, 14).

Next year, if all the uninsured people who are out of the medical system are all the sudden in the system, then our quality metrics are going to go in the tank and we don't want to be penalized for people who need our services the most. So that is quite a big issue we have now (Rhode Island, 25).

But even aside from the financial implications, safety-net providers repeatedly voiced that the lack of risk-adjustment had a negative effect on their motivation for the transformation and their willingness to be compared to non-safety-net practices.

So, I guess this was a source of frustration with me... the problem with the lack of ability or even that much worry about the social determinants or the fact that we are taking care of a socially under privileged population that we are far more likely to look far less good. Learning collaborative after learning collaborative they would trot out these high performing practices and I would get so frustrated I would google them on my phone and then call their practice they were representing. I would say: "Hi I was just wondering if you could tell me what Medicaid you take? And they would say I'm sorry we don't accept Medicaid... and I would go back in and say: why is our practice that is taking care of 40% of the refugees, homeless... [...] why am I listening to this practice out in [...] who hasn't seen a Medicaid patient in years? (Pennsylvania, 31).

Quality and Equity

A controversy emerged also about the nature of the relationship of general quality improvement and disparities reduction. One part of the respondents argued that changing the care and the outcomes of the vulnerable groups is in itself crucial for achieving overall quality improvement because these groups currently receive the lowest quality of care.

But I also think that if we do not reduce disparities we will not improve the US health care system. The fact that the US health care system scores so poorly in comparison to international systems is largely driven by disparities. More than anything else... more than any other single factor." (Massachusetts, 24).

This group of respondents expected that trying to improve quality will help underprivileged persons automatically because they show the most room for improvement. But not all

respondents share this perception. In particular health policy experts doubt that the strategies that aim to improve overall quality such as the patient-centered medical home coincide with the measures that need to be undertaken for reducing disparities.

“I do think that there are natural tensions between strategies that may be best for overall care that may not address the disparities problem.” (Expert, 16).

(3) Integrating Disparities in the Medical Home Agenda

In the last theme, respondents provided their views on how the PCMH model needs to be transformed in order to provide optimal care for vulnerable population and tackle disparities.

Get data and measure disparities

Following the observation that the lack of data was the main technical barrier for including disparities in the evaluation of pilots, the most widely raised suggestion by respondents was to collect data on race/ethnicity and socio-economic status and to perform stratified analysis of quality and costs. The ability of data to demonstrate disparities in care to policymakers and providers were seen as a necessity to foster change towards a reduction of disparities.

So what that leads me to from a health quality reform perspective is provider level quality reporting. So I think that is what is really going to drive it. So when we are at the point where I can look at the level of care provided to a population, for all different neighborhoods, all different insurance types then I think we will be able to get a better perspective for these disparities (Rhode Island, 10)

Measuring them, publicizing the results and factoring it in to every quality improvement plan across both the payer and provider sides of the system. So that is all just that (Massachusetts, 24)

Tackle between-provider disparities

Many respondents also believed that disparities arise primarily from differences between providers and not from physicians treating minorities or low-SES persons differently. Providers who serve these populations, such as safety-net practices, were described as lacking financial resources, having not enough staff, and high staff turnover which creates a constant loss of organizational knowledge. As a result, respondents called for a redistribution of resources towards those practices.

A lot of people who suffer from disparities are of lower income and I think um the providers who serve them are financially more precarious their... leadership and management is less robust” (Massachusetts/Pennsylvania, 6)

Moreover, many respondents pointed out that the payment system would need to acknowledge more the extra resources which are necessary to provide care to vulnerable populations, e.g. to overcome language barriers or to address behavioral health needs.

“We need to ensure that there is parity... parity meaning that if you have a facility that is serving low income, multiethnic, multilingual resident population... it needs to have the resources to meet the needs of that population. [...] So when I speak of parity and equity I don't meant that you take a pie and divide it up into equal parts... it means that if you are hungrier than I am you should get more than I do” (Massachusetts, 12)

Adjust the quality metrics

Most respondents also saw a need in taking the patient-mix into account for the quality metrics. A recurring suggestion was also to report and reward improvements rather than mere performance but as became obvious in the discussion of the evaluation, the respondents do not know how to overcome the technical problems of such analyses.

I think the devil is in the details... you have to have some balance between actual performance and change. So you have to have practices starting in one place because if they are not in that place then pay for performance is problematic as a payment incentive. It is a good idea, but I think it is difficult to implement. (Massachusetts, 24).

This issue of being able to adjust for the population factors in quality metrics and measures is huge. ... and I hope places like Commonwealth and all these great places and brilliant people are working on this because it is huge. (Pennsylvania, 31).

Solutions outside of primary care

Finally, even though many respondents expressed the expectation that the PCMH can do something about disparities in care, many respondents also believed that the bulk of disparities in care and disparities in health outcomes even more are outside of the sphere of primary care.

In the realm of the healthcare system, respondents pointed out that the major barriers for vulnerable populations are insurance and access problems particularly to specialist care.

“I think the number one is providing everybody insurance... good insurance” (Expert, 18).

I feel like disparities are less in the community health centers because they... that’s who they see... that’s there population... I feel like there is less but I do feel like there is still some disparities based on... for example... our access to specialty care for the uninsured... Um... you know that’s a huge disparity in care... the other disparity is access to behavioral care and oral health. So and I think that all is related to funding and to the availability of providers and then you have the disparities in the rural areas where those type of providers aren’t always closely... you know they are not in the community. (Colorado/Safety-Net, 38).

Most respondents agree that what really drives disparities in the US is outside of the healthcare system and that effective strategies would need to tackle the social determinants of health. While some see opportunities to do this within the context of the PCMH by taking up community tasks or partnering with community organizations, other respondents thought that solving the disparity problem requires more global social and political solutions.

Because I tell ya... you know but also recognizing that the HIE [Health Information Exchange] all of this stuff just brings a whole new level of doing more... and the linkages to the social service system and all that work just brings a whole level of work addressing disparities and the social determinants of health... having all that wrapped up in one system um... and not the patient feeling like they have to go to thousand places or being referred but having a smooth handoff really helped um... access for populations of patients who need more intense services. (Louisiana, 42)

And I think practices themselves can re-organize and re-design to better support patients and you can get big wins there and I described some of those. I have been impressed in listening to our practices and at some point they get to what is the root cause of illness? And it is isn't something that we at primary care can address... the real issue here is unstable housing or food insecurity or violence or not having a safe neighborhood or the ability to exercise or foods is the true barrier to this patient and diabetes... so that concept is the sort of social determinants of health and how we think about, address, pay for, those services is really the next call... primary care can do a lot but it can't do everything. So there is this balance between funding for the medical system that can help with prevention... but there is also funding communities, education, development those sorts of things that are really critical components of prevention too. (Safety, 21).

Towards reducing inequalities... fundamentally its capitalism... America is going to have to come to grips with who we are as a nation. We have the... United States has the largest

difference between the highest and lowest quintile of health... so we shouldn't fool ourselves into thinking we can maintain this degree of financial disparity and maintain health... you know we are a disparate nation with a very big spread. We have this fundamental problem with the welfare system and people existing without jobs and it is so self-perpetuating. (Pennsylvania, 31).

Discussion

Summary

Disparities were a driver for only two of the six initiatives under study. Nevertheless many respondents reported that the improvement of care for vulnerable populations was explicitly or at least implicitly part of the pilot design. However, the need to demonstrate overall quality improvements and cost savings made disparities a background issue even for actors who define disparities as a priority. Disparities were not part of the evaluation in any of the pilots.

Respondents were generally optimistic about the impact of the PCMH on disparities and believed that many features of the model should provide disproportional benefits to vulnerable populations. However, respondents also saw risks mainly because safety-net practices seem to struggle more to achieve quality improvement and receive less resources. Moreover, many actors were concerned that quality metrics which are not adjusted for the social characteristics of the population will create perverse incentives for providers and penalize safety-net practices which cannot select their patient population.

Based on these experiences, the main suggestions for including a disparities agenda in PCMH transformations were to measure and report disparities, to redistribute money towards the safety-net providers, and to adjust quality metrics (even though it was unclear if this is technically feasible). Finally, primary care was seen as limited in dealing with disparities. Respondents argued that many problems providers of vulnerable populations encounter do not

result from the organization of primary care but are effects of the fragmented structure of the American healthcare system and the lack of welfare services. Some respondents reported ways in which practices can tackle these problems through community outreach and even saw an advantage in having primary care providers as the center for organizing welfare services for vulnerable populations. Other respondents, however, feared that primary care providers can get overburdened by these extra tasks for which other social and political solutions would be necessary.

Limitations

The study has several limitations. The selected pilots and the interviewed actors are not a representative sample of pilots and involved practices in the US, even though the design covered some of the varieties of PCMH transformations and contexts. The patient-centered medical home model is evolving, and our study presents a snapshot at a particular point in time. The study did not intend to measure the actual impact of the performance management in these pilots on disparities; instead we relied on key actors' accounts of these effects. Many respondents have an interest to present their pilots or patient-centered medical homes in a positive light. We have tried to reduce the impact of social desirability by ensuring anonymity to our respondents but also by surveying independent healthcare experts. While we need to expect a certain degree of self-serving presentations, the interviews show that respondents were generally very willing to share their failures, fears, and doubts.

Conclusion

Compared to other international efforts to implement performance management primarily through top-down programs, the United States approaches quality improvement in primary care through many local bottom-up initiatives. This fragmented approach has the clear advantage that it allows to tailor the program to the local needs and capacities. By involving

different actors and particularly clinicians in the planning and management of initiatives, e.g. in deciding upon the quality metrics, initiatives can also create commitment and mutual feelings of responsibility of payers and providers. Moreover, they give providers of vulnerable populations the opportunity to voice their particular problems and also to share their innovations and strategies.

In fact, the patient-centered medical home is seen by key actor groups in the US healthcare community to having the potential to disproportionately improve the quality of care and outcomes for vulnerable populations. However, the limited data on disparities, the organizational difficulties of safety-net practices, and the risks associated with unadjusted quality metrics are barriers towards realizing this potential or even increasing disparities. The respondents' experiences underlined the drawbacks identified in the performance management literature (Goddard, Mannion and Smith, 2000; Casalino et al., 2007). Moreover, holding safety-net providers accountable to care and health outcomes which are to a large extent driven by factors outside their sphere of influence can have unintended consequences on disparities.

In conclusion, this study shows that even though disparities are not a priority in the health policy debate around patient-centered medical homes in the US, many of the design decisions can have (unintended) consequences for the healthcare of vulnerable populations.

Table 1: Overview of the six patient-centered medical home initiatives

	<i>Massachusetts</i>	<i>Rhode Island</i>	<i>Pennsylvania</i>	<i>Louisiana</i>	<i>Colorado</i>	<i>Safety-Net</i>
State information						
Population (2013) ¹	6,692,824	1,051,511	12,773,801	4,625,470	5,268,367	in 5 states: Colorado, Massachusetts, Idaho, Oregon, and Pennsylvania
Median household income in \$, (average 2008-2012)	66,658	56,102	52,267	44,673	58,244	
Health expenditure per capita in \$ (2009) ²	9,278	8,309	7,730	6,795	5,994	
Primary care physicians per 100,000 population (2012) ³	65.7	66.6	49.7	39.0	51.4	
% of population Black/ African American (2013)	8.1	7.5	11.5	32.4	4.4	
% of population Hispanic (2013)	10.5	13.6	6.3	4.7	21.0	
% of population uninsured (Medicaid) (2012) ¹	4.1 (23.2)	12.3 (15.2)	12.0 (15.6)	18.3 (19.7)	13.7 (13.4)	
% of population in poverty (2012) ¹	11.9	13.7	13.7	19.9	13.7	
Pilot information						
Start/end date	2009-ongoing	2008-ongoing	2007-2011	2007-2010	2009-2012	2008-2013
Number of practices involved	46	5 (currently 36)	152	36	16	65
Payer structure	Medicaid (recently multipayer)	Multipayer	Multipayer incl.Medicaid	Federal grant	Multipayer	Grant
Payment	per-member-per month payments, NCQA payments, shared savings	per-member-per- month payments, small PFP, payment for care manager	shared savings in northeast region, NCQA payments	capitation	per-member-per- month payments	No payments to the practices
Safety-net practices (none, some, only)	only	some	some	only	none	only
Medicare demonstration	yes	yes	yes	yes	yes	/

Sources: ¹U.S. Census Bureau, ²Kaiser Family Foundation: State Facts, ³National Center for Health Statistics

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