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Patient experience at the time of practice transformation into Patient-Centered Medical Homes

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Abstract

Purpose: The Patient-Centered Medical Home (PCMH) is a model of primary care that is being promoted for its potential ability to improve patient-centeredness, improve quality and decrease costs. The effect of the PCMH on patient experience is not clear, with some reports suggesting that patient experience may worsen during transformation. We sought to measure patient experience at the time practices transform into PCMHs.

Methods: We conducted a cross-sectional survey of 419 adult patients who were cared for by 85 primary care physicians across 12 practices in the Hudson Valley region of New York State. We measured patient experience, using the 35 questions in the Clinician & Group – Consumer Assessment of Healthcare Providers and Systems (CG-CAHPS) – Adult Primary Care Questionnaire (plus 14 additional questions drawn from other survey instruments) and compared the results to national CG-CAHPS benchmarks.

Results: Patients' experience overall was fairly positive, with 79% giving their doctors a ranking of 9 or 10 on a 10-point scale, with 10 being the highest. Patients' experience in this sample was significantly more positive than the national benchmark on each of 6 subscales ($p \leq 0.05$). Patients were generally most satisfied with individual face-to-face encounters with their physicians and somewhat less satisfied with processes of care (such as receiving results from a test or receiving follow-up after discharge from the hospital).

Conclusions: This study suggests that medical home transformation does not adversely impact patient experience and identifies organizational processes of care that could potentially be improved with the patient-centered medical home.

Keywords

Chronic illness, clinical communication, clinical decision-making, clinical quality, doctor-patient relationship, patient-centered medical home, patient experience, patient satisfaction, person-centered medicine, practice transformation, primary care

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Introduction

The United States fares poorly in international comparisons of healthcare systems, in part due to low scores on patient-centeredness [1]. Several American organizations have called for fundamental restructuring of primary care, in part to improve patient-centeredness [2].

The proposed model of care, the "Patient-Centered Medical Home (PCMH)," is being promoted as a strategy for improving patient-centeredness, improving quality and decreasing cost [2]. The National Committee for Quality Assurance (NCQA) has defined the PCMH through a set of practice standards, which emphasize coordination of care and management of chronic disease over time [3]. This model has received widespread attention and is now being

implemented in nearly 100 demonstration projects across the U.S., including more than 25 in advanced stages [4]. It is also being used to test alternative models of reimbursement for primary care [5,6]. It can take many months for practices to transform into medical homes and, even after achieving NCQA recognition, most practices continue attempts to improve healthcare processes.

The effects of the PCMH model are not yet fully known [7]. More specifically, whether implementing the PCMH creates more “patient-centered” care is not known. There has been one national, randomized controlled trial of the PCMH model to date and that study found no improvement in overall patient experience during 2 years of follow-up [8]. In fact, there were reports that some aspects of the patient experience actually worsened during the process of practice transformation [9]. Those reports cited several potential reasons for why PCMH transformation might have worsened the patient experience: 1) the use of electronic health records (EHRs) as a part of the PCMH model may have disrupted patient-provider communications; 2) patients may have been confused by a team-based approach to care if they expected one-on-one care with a physician and 3) patients may have been disoriented by the changes taking place in the practice, not understanding their rationale [9].

We sought to measure patient experience at the time that practices transform into PCMHs. If patients are dissatisfied at the time of transformation, that could have multiple ramifications, including potentially causing patients to seek care elsewhere and potentially uncovering a flaw in the design of the PCMH model or its implementation.

Methods

Overview

We conducted a cross-sectional survey of patients receiving primary care in the Hudson Valley of New York. The Institutional Review Board of Weill Cornell Medical College approved the study.

Setting and Context

The Hudson Valley is comprised of 7 counties immediately north of New York City (Dutchess, Orange, Putnam, Rockland, Sullivan, Ulster and Westchester). This study took place in the context of an initiative led by THINC, a non-profit organization that convenes stakeholders to improve healthcare quality and efficiency in the Hudson Valley [10]. THINC convened 6 health plans and 1 large employer, who agreed to provide financial incentives for physicians to implement the PCMH model. Financial incentives ranged from \$2.00 to \$10.00 per member per month for achieving PCMH Level III, as defined by NCQA’s 2008 criteria [11].

Practices and Practice Transformation

PCMH transformation took place at 12 adult primary care practices (18 practice sites) and 1 pediatric primary care practice (3 practice sites). The physicians in these practices are members of the Taconic Independent Practice Association (IPA) [12]. Practice-based needs assessments began in January 2009 and actual transformation began in March 2009. Practices were assisted in their transformation by the Taconic IPA, as well as by 2 external consulting groups.

The lead physicians from each practice met at least monthly as a Medical Council to coordinate their efforts and share best practices. Practice transformation consisted of systematically reviewing the NCQA tool, documenting PCMH processes that were already in place and targeting and implementing those processes that were not initially in place that were also of interest to the practice. The 13 practices were permitted to vary in which aspects of the PCMH they implemented. We excluded the pediatric practice, because the patient experience tool (described below) was not applicable to a pediatric population.

All practices submitted their applications to NCQA and were awarded Level III recognition (the highest of 3 levels). The median submission date was December 2009 (range August 2009 – January 2010).

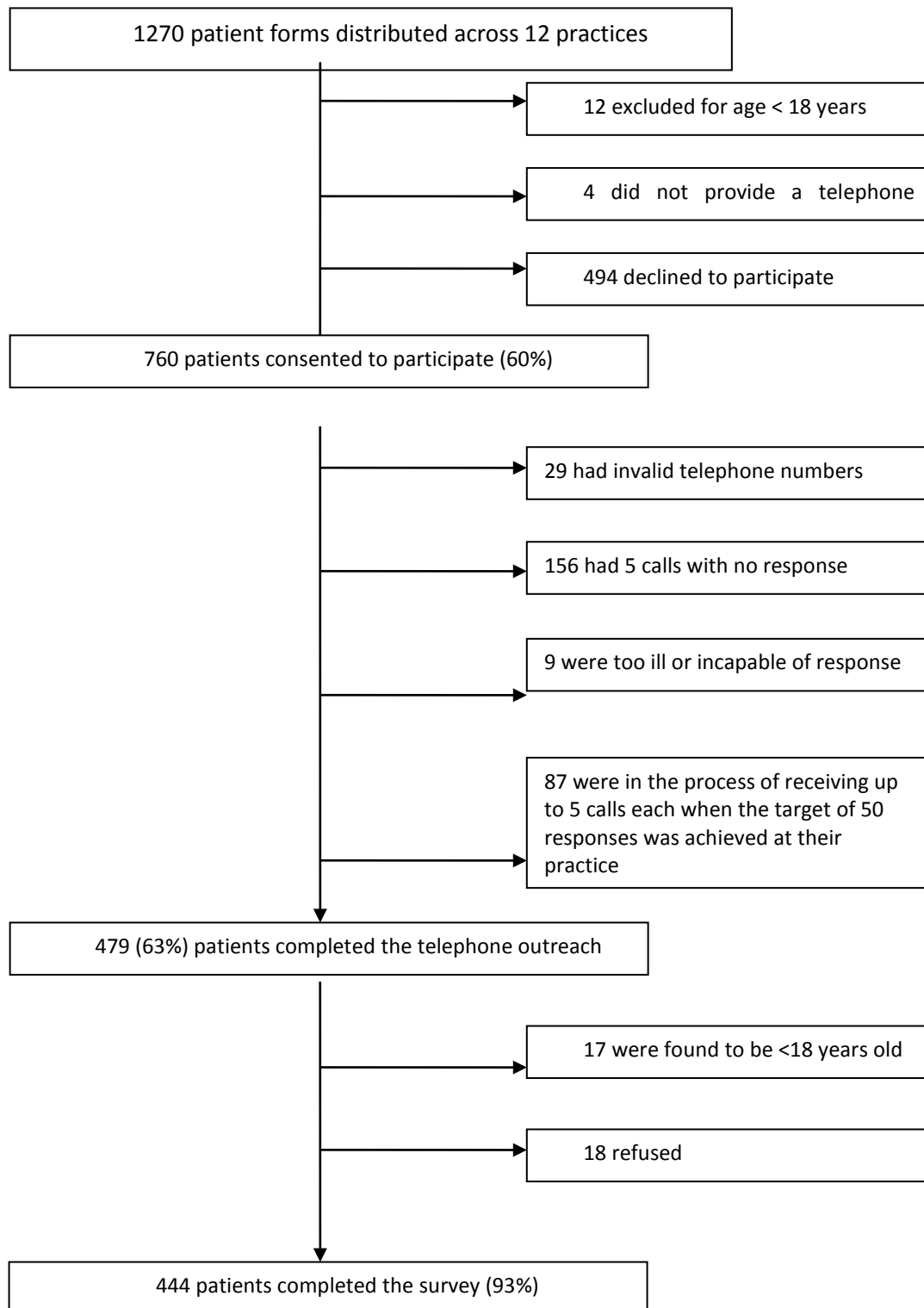
Measurement of Patient Experience

We measured patient experience, which is a measure of patient-centeredness that is broader than patient satisfaction and includes reports from patients on what they did or did not experience in their interactions with the healthcare system [13]. We based our survey tool on the 2007 Clinician & Group - Consumer Assessment of Healthcare Providers and Systems (CG-CAHPS) – Adult Primary Care Questionnaire [14]. We included the 35 questions from CG-CAHPS and added 14 additional questions, in order to address concepts included in the PCMH model that were not explicitly covered in the CG-CAHPS. These 14 questions were derived from questions in the Ambulatory Care Experiences Survey (ACES) [15], the American College of Physicians Center for Practice Innovation Clinician and Staff Survey (unpublished), the Commonwealth Fund Quality of Health Care Patient Survey [16] and the Commonwealth Fund International Health Policy Survey [17]. The final survey contained 49 questions.

Patient Recruitment

At the request of the Medical Council, we recruited patients for the study by approaching a consecutive sample in the waiting rooms of the practices. Patients in the adult practices were given a one-page information sheet in English (with the Spanish translation on the reverse side), which invited them to participate in the study. The information sheet described the study broadly as a patient experience survey and did not name the patient-centered medical home *per se*. Patients were offered a \$5 incentive

Figure 1 Derivation of patient sample



for participation. We provided each practice with the same fixed number of information sheets to distribute to consecutive patients. Patients who opted to participate provided their contact information and the name of their primary care doctor (to confirm receipt of primary care at one of the participating practices).

Survey Administration

The telephone survey was administered by the Cornell Survey Research Institute (SRI) from November 2009 to February 2010. This time period overlaps with the time of

Table 1 Characteristics of survey respondents who confirmed receipt of care from their primary care provider (n = 419)

Patient Characteristics	n (%)*
Gender, female	285 (68)
Age, years	
18 – 24	8 (2)
25 – 34	32 (8)
35 – 44	62 (15)
45 – 54	109 (26)
55 – 64	105 (25)
65 – 74	58 (14)
75 or older	44 (11)
Race, Hispanic Origin	47 (11)
Race, in non-mutually exclusive categories	
White	373 (91)
African American	38 (9)
Asian	13 (3)
Other	23 (6)
Education level:	
8 th grade or less	10 (2)
Some high school	18 (4)
High school graduate or GED	103 (25)
Some college or 2-year degree	108 (26)
4-year college graduate	87 (21)
More than 4-year college degree	92 (22)
Overall health:	
Excellent	59 (14)
Very Good	172 (41)
Good	114 (27)
Fair	60 (14)
Poor	12 (3)
Visited health provider ≥ 3 times for the same problem in the last 12 months	217 (52)
If yes, is this a condition that lasted ≥ 3 months?	205 (94)
Among those visiting a health care provider ≥ 3 times in the last 12 months, those reporting ever having been diagnosed with (non-mutually exclusive):	
Hypertension	109 (50)
Acid reflux/stomach ulcers/GERD	81 (38)
Arthritis/Degenerative Joint Disease	73 (34)
Depression	55 (25)
Diabetes	51 (24)
Asthma/Emphysema/COPD	46 (21)
Migraine headaches	36 (17)
Any cancer (other than skin)	30 (14)
Angina	28 (13)
Congestive Heart Failure	9 (4)

* Missing data: Age (N = 1), education level (N = 1), overall health (N = 2)

submission to NCQA and represents the final stages of PCMH transformation in these practices, which continued their quality improvement beyond the time of submission to NCQA.

Cornell SRI attempted to contact each patient up to 5 times. If they did not reach a patient after 5 attempts, the patient was removed from the potential respondent pool. Outreach to patients was stratified by practice; data collection stopped for a given practice if the target number of 50 completed surveys was reached.

Analysis

We used descriptive statistics to characterize the patients in the sample. We then applied analytical guidelines published by the national CG-CAHPS team [18] to aggregate survey responses into 7 non-mutually-exclusive domains: (i) access to care; (ii) communication and

relationships; (iii) disease management; (iv) doctor communication; (v) follow-up of test results; (vi) office staff & (vii) overall rating of the doctor. We calculated for each question the proportion of patients that gave the most favorable response, using the questions with 6-point scales. We then averaged this result across questions within each domain to yield the average proportion of patients who gave the most favorable response for that domain. We compared these domain scores to the scores from the preliminary National CG-CAHPS Database (n = 128, 030) [19], using two-sample tests of proportions.

In addition, we analyzed the data to determine areas of consensus among the patients in the Hudson Valley sample – both in terms of aspects of care received favorably and aspects of care that warranted improvement. We identified well-received aspects of care by selecting questions for which $\geq 85\%$ of patients responded with a 6 (on a 6-point scale) or with “Yes” (for Yes/No questions).

Table 2 Patient experience by domain, for the Hudson Valley (n = 419) and compared to national benchmarks

Domain*	Hudson Valley Survey Results	National Benchmark†	p-value
	Percent of Patients Selecting 9 or 10 on a 10-point Scale		
Overall Rating of Doctor	79	75	0.06
	Percent of Patients Reporting the Most Desirable Response on the Scale (such as "Always")		
Access to Care	63	55	<0.001
Communication & Relationships	84	74	<0.001
Disease Management	79	70	<0.001
Doctor Communication	87	77	<0.001
Follow-up of Test Results	77	73	0.05
Office Staff	74	64	<0.001

*Domains were created by combining surveying questions according to CG-CAHPS analytical and reporting guidelines [18].

†The national benchmark is derived from the Preliminary CG-CAHPS Clinician and Group Survey Database (N = 128, 030) [19].

We identified areas that warranted improvement by selecting questions for which ≥ 5% of patients responded with a 1 or 2 (on a 6-point scale) or with “No” (for Yes/No questions). These cutoffs were selected to yield 5-10 survey questions for each of the favorably received aspects of care and aspects of care needing improvement.

All data analyses were conducted with SAS version 9.2 (SAS Institute Inc., Cary, NC), except for the 2-sample tests of proportions, which were conducted using Stata/IC 10.1 (Stata Corp LP, College Station, TX).

Results

Of the 1270 patients to whom information sheets were distributed across the 12 practices, 760 (60%) provided their contact information for participation (Figure 1). Of those, 479 patients (63%) were reached by telephone. Of those, 444 patients (93%) completed the survey. Of those who completed the survey, 25 were excluded from the analysis, because they reported in the survey that either the doctor they saw that day was not their primary care doctor or that they had not been seen at least once in the last 12 months. Thus, the final sample size was 419. These patients were cared for by a total of 85 primary care physicians.

Of the respondents, two-thirds (68%) were female (Table 1). The median age category was 45-54 years. Most respondents (91%) were white. The median level of education attained was some college education or a 2-year degree. Approximately half of respondents (55%) rated their health as excellent or very good. Approximately half of respondents (52%) reported that they had visited a healthcare provider 3 times or more in the last 12 months for the same chronic health problem. Among those patients, the most common diagnoses (in non-mutually-exclusive categories) were: hypertension (50%),

gastroesophageal reflux disease (38%), arthritis (34%), depression (25%) and diabetes (24%).

We found that patients’ experience overall was fairly positive, with 79% giving their doctors a ranking of 9 or 10 on a 10-point scale, with 10 being the highest (Table 2). Patients’ experience in the other 6 domains was also fairly positive, with a majority (63-87%) of patients giving the most favorable response on the 6-point scale in each domain.

Overall, there was a trend toward the Hudson Valley patients’ experience being more favorable than the national benchmark (p=0.06, Table 2). Within each domain, experience was significantly more favorable than the national benchmark (p≤0.05). The magnitude of the absolute difference between the Hudson Valley and the national benchmark was 4 to 10 percentage points for each domain.

Patients generally agreed that the quality of communication and relationships was high (Table 3). Patients felt that they were as involved as they wanted to be in medical decisions, that their doctor showed respect for what they had to say, that their doctor provided easy-to-understand instructions, that their doctor listened carefully to them and that their doctor explained things in a way that was easy to understand.

Patients also identified areas for improvement in several domains: coordination of care, disease management, preventive care, communication and relationships and access to care (Table 4). One in 5 reported that they never or almost never received help coordinating care received from other doctors and places and 1 in 10 reported that they would rate the doctor’s office as “fair” or “poor” for how well they followed up with the patient after discharge from the hospital. One in 15 reported never or almost never receiving results from a blood test, x-ray or other test.

Table 3 The most well-received aspects of care: Survey questions for which >85% of respondents gave the most favorable rating

Survey question*	n	The most positive response and the percentage of patients who gave that response
Overall Experience		
When you visit this doctor, are you involved as much as you want to be in the decisions about your care and treatment?	416	96% said Yes†
Communication and Relationships		
In the last 12 months, how often did this doctor show respect for what you had to say?	418	93% said Always‡
In the last 12 months, how often did this doctor give you easy-to-understand instructions about taking care of these health problems or concerns?	385	89% said Always‡
In the last 12 months, how often did this doctor listen carefully to you?	419	89 % said Always‡
In the last 12 months, how often did this doctor explain things in a way that was easy to understand?	419	89% said Always‡

* Subheadings derive from our survey, which includes but is not limited to CG-CAHPS.

† Responses were dichotomous: Yes/No.

‡ Responses were on a 6-point scale from Always to Never.

Table 4 Aspects of care needing improvement: Survey questions for which >5% of respondents gave the most negative ratings

Survey question*	n	The most negative responses and the percentage of patients who gave that response
Access to Care		
In the last 12 months, how often did you see this doctor within 15 minutes of your appointment?	418	15% answered Never or Almost Never†
In the last 12 months, when you phoned this doctor's office during regular office hours, how often did you get an answer to your medical question that same day?	239	6% answered Never or Almost Never†
Communication & Relationships		
In the last 12 months, did this doctor talk with you about all of the different prescription medicines you are using including medicines prescribed by other doctors?	329	14% said No‡
Disease Management		
In the last 12 months, when this doctor ordered a blood test, x-ray or other test for you, how often did someone from this doctor's office follow up to give you those results?	367	7% answered Never or Almost Never†
Preventive Care		
In the last 12 months, did this doctor's office remind you to get preventive care that you were due to receive (for example, flu shot, cancer screening, mammogram, eye exam)?	415	23% said No‡
Coordination of Care		
How often does your regular doctor or someone in your regular doctor's practice help you coordinate the care you receive from other doctors and places?	376	21% answered Never or Almost Never†
How would you rate this doctor's office practice on how well they followed up with you after you were discharged from the hospital?	71	11% answered Fair or Poor§

* Subheadings derive from our survey, which includes but is not limited to CG-CAHPS.

† Responses were on a 6-point scale from Always to Never.

‡ Responses were dichotomous: Yes/No.

§ Responses were on a 5-point scale from Excellent to Poor.

Nearly 1 in 4 reported not receiving reminders for preventive services. Nearly 1 in 7 reported not being asked in the last 12 months about all of their prescription medications, including those prescribed by other doctors. Specifically, 1 in 7 reported never or almost never seeing their doctor within 15 minutes of the appointment time. One in 15 reported never or almost never getting an answer to a medical question on the same day they called during regular office hours.

Discussion

We found that patients had very positive experiences at the time of practice transformation into Patient-Centered Medical Homes. Their experiences were, in fact, more positive than national benchmarks. This could be explained by successful practices (with generally happy patients) self-selecting for medical home transformation. However, even if this were true, this study still provides evidence illustrating that the process of medical home transformation need not include patient dissatisfaction, which the previous literature – which also had self-selected practices – had suggested it might [9].

The patterns of patient experience in this study were similar to national trends [19], which supports the validity of the findings. For example, the domain of access of care received the lowest scores – compared to other domains – in both the Hudson Valley sample and the national sample. Similarly, the domain of doctor communication received the highest scores in both samples.

When we considered the results question by question, what emerged was a picture in which patients are satisfied with their face-to-face encounters with their doctors, but relatively dissatisfied with how the practices functioned. This is consistent with medical training for doctors, which emphasizes face-to-face encounters and provides relatively little education on optimal processes of care at the organizational level. The patient-centered medical home actually focuses on processes of care and thus may improve healthcare quality and efficiency. Thus, even while the overall experience in this sample was positive, the survey results – including the opportunities for improvement that patients identified – provide an important baseline for follow-up studies that will measure the impact of the patient-centered medical home over time.

Most evaluations of the patient-centered medical home have not yet published the effects of that transformation on patient experience [4]. As above, the National Demonstration Project found no effect on patient experience overall [8], with some reports of worsening of experience during transformation [9]. The patient experience literature in general has focused on: 1) survey development, including development of the CG-CAHPS, which was funded by the Agency for Healthcare Research and Quality and endorsed by the National Quality Forum [14]; 2) the reliability of physician-level reports for patient satisfaction [15,20,21]; 3) the relationship between clinical quality and patient satisfaction [22]; 4) organizational

predictors of patient satisfaction [23,24] and 5) evaluation of interventions designed to improve patient satisfaction, including novel interventions that involve financial incentives for physicians [25]. This study adds to the literature by providing new data on patient experience at the time of PCMH transformation and identifying patient-reported opportunities for improvement that actually align with the goals of the patient-centered medical home.

This study has several limitations. It was conducted in a single community in New York, which may limit generalizability. Consecutive recruitment occurred in the waiting rooms of medical practices, which could potentially introduce bias, compared to random sampling from lists of patients. However, this approach – of asking patients for permission to contact them – was preferred by the community's providers due to its high degree of patient-centeredness. This approach also yielded a 60% opt-in rate, which was higher than expected. This study is cross-sectional and does not provide data on patient experience prior to medical home transformation. This limitation does not detract, though, from the study's contribution of data which represent an absolute level of patients' satisfaction at the time of transformation.

Conclusion

Health policy experts have suggested that a “patient-centered medical home” is not “patient-centered” until patients say it is [26]. Indeed, NCQA's new 2011 criteria offer an additional distinction – beyond PCMH recognition – for measuring patient experience [27]. This study suggests that medical home transformation does not adversely impact patients. Rather, it suggests that measuring patient experience can yield insights into the strengths and weaknesses of given practices and shape ongoing, customized quality improvement initiatives within the framework of the medical home.

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The authors have no financial conflicts to disclose.

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