

The Effects of Primary Care Physician Visit Continuity on Patients' Experiences with Care

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BACKGROUND: Visit continuity is important to patients and valued by physicians. However, it is virtually impossible for primary care physicians (PCPs) to provide care during every paneled patient visit. It remains unclear whether PCP visit discontinuity can be planned in a way that is least disruptive to patients' experiences with care.

OBJECTIVE: This study aims to clarify whether visit continuity affects patients' experiences with primary care equally for all patients.

DESIGN: From January 2004 through March 2005, a large multispecialty practice in Massachusetts administered the Ambulatory Care Experience Survey (ACES) monthly to a random sample of patients visiting each of 145 PCPs. The analytic sample includes 14,835 patients with 2 or more primary care visits over the 6 months before being surveyed. Usual Provider Continuity (UPC), an administratively based measure of PCP visit continuity, was calculated for all respondents. Multilevel regression models that accounted for the clustering of patients within physicians modeled the relationship between UPC and each ACES measure. Interaction effects between UPC and gender, education, self-rated health, and PCP-patient relationship duration were tested.

RESULTS: Physician-patient interaction quality, including physician communication, knowledge of the patient, health promotion support, and organizational access were more strongly influenced by visit continuity among respondents in early stages of a PCP-patient relationship ($P < 0.01$) and with worse self-rated health ($P < 0.01$).

CONCLUSIONS: Improvements in physician-patient relationship quality can be achieved by targeting visit continuity improvement efforts to patients who benefit most, particularly those in early stages of a PCP-patient relationship and/or perceive their health as poor.

KEY WORDS: continuity of care; patient preferences; physician-patient relationship; primary care quality.

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BACKGROUND

The United States lags behind many other industrialized countries in developing and sustaining long-term physician-patient relationships.^{1,2} Many factors that contribute to sub-optimal performance are not easy to modify, such as changes in a patient's insurance coverage and physician or patient relocation. However, evidence suggests that care can be structured to promote high quality physician-patient relationships and prevent voluntary physician switching. Patients who see their primary care physician (PCP) for a high proportion of their primary care office visits are more likely to be satisfied with their care^{3,4}, receive appropriate preventive services⁵⁻⁹, exhibit more appropriate utilization of emergency and hospital services¹⁰⁻¹², and maintain relationships with their physician over time^{13,14}. Visit continuity is also highly valued by primary care physicians¹⁵, has potential to result in higher physician practice satisfaction¹⁶ and more efficient use of resources¹⁷.

However, it remains unclear whether visit continuity is equally beneficial to all patients or in all clinical situations^{18,19}. Recent evidence suggest that patients differ in how they value continuity, and these differences are associated with specific patient characteristics, including gender, education, health status, and the duration of the PCP-patient relationship²⁰⁻²⁴. Unfortunately, these studies have not clarified the conditions under which, and mechanisms by which the benefits of visit continuity accrue. This study aims to clarify whether visit continuity with PCPs has an equivalent effect on care experiences for all patients by examining whether the relationship between visit continuity and patients' experiences varies by gender, education, self-rated health, and the duration of the PCP-patient relationship. For example, we aim to understand whether patients in early stages of the PCP-patient relationship give more negative assessments of care when they experience visit discontinuity compared to patients in long-term PCP-patient relationships.

Scheduling constraints and physician availability make it virtually impossible for PCPs to personally provide care during all of their paneled patients' visits. Therefore, understanding whether visit continuity has varying effects on patients' primary care experiences based on patient characteristics can provide important information for effectively targeting visit continuity improvement efforts.

METHODS

This study draws on 68,479 patients from the practices of 145 physicians drawn from a large multispecialty physician orga-

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nization in Massachusetts. All physicians with Internal Medicine, family practice, or general medicine specialties, working a minimum of a 0.50 full time equivalent (FTE) and having a minimum of 50 paneled patient visits during the sampling period were included in the study.

Study Questionnaire

The study questionnaire used in this study is the Ambulatory Care Experiences Survey (ACES), a validated survey that measures patients' experiences with a specific, named PCP and that physician's practice²⁵. ACES produces 8 summary measures of patients' experiences across two domains: quality of physician-patient interaction (communication, knowledge of the patient, health promotion, and duration of the primary care relationship) and organizational features of care (organizational access, integration of care, clinical team, and office staff). The ACES questions and composite measures achieve physician-level reliability of at least 0.70 with samples of approximately 45 patients per physician²⁵. To facilitate the use of the survey for quality improvement, the multispecialty practice modified the survey's 12-month reference period for questions to 6 months. Item content for the ACES measures is summarized in [Appendix](#). As detailed elsewhere²⁵, Ambulatory Care Experiences Survey (ACES) summary scores range from 0 to 100 points, with higher scores indicating more favorable performance. Summary scores are computed for each respondent based on the unweighted average of responses to all items comprising the measure.

Sampling

In service of the organization's quality improvement objectives, a large annual survey sample followed by smaller monthly samples to monitor change in performance was desired. As a result, two distinct sampling procedures were used. Annual surveys were administered at the beginning of the year (January–March 2004, 2005) to a random sample of 120 patients per PCP who visited their PCP during the prior 6 months. For the remainder of the year (April–December 2004), surveys were administered monthly to a random sample of approximately 40 patients per physician who saw that PCP during the prior month. Patients were sampled no more than once during the calendar year. The data from these distinct patient samples were pooled to generate an aggregate sample for these analyses. Identical survey materials and data collection protocols were used for annual and monthly surveys. The survey invitation included a personal online code that gave respondents the option of completing the survey using the web. Previous analysis has demonstrated the absence of web survey mode effects for items on the ACES survey²⁶. A second invitation and questionnaire were sent to nonrespondents 2 weeks after the initial mailing. Each data collection effort proceeded over a period of approximately 6 weeks.

Administrative Data

For each survey respondent, detailed administrative data concerning all primary care visits during the 6 months preceding the return date of the patient's survey were obtained from the physician organization. Our recent study investigating the effect of primary care teams on the quality of physician-patient interactions and organization also uses these data⁴. Visit data included information about visits to all physicians,

physician assistants, nurse practitioners, registered nurses, and other nurses within Internal Medicine and Adult Urgent Care Departments at all 14 care sites within the organization. The visit data included an identifier of the patient's PCP-of-record at the time of each visit. This identifier was compared with the visit provider identifier, allowing us to classify each visit as a PCP or non-PCP visit. Administrative data maintained by the organization identify the PCP-of-record for each patient, and this information is updated if patients designate a new physician for that role. Six months of visit data were used to mirror the timeframe referred to in the patient survey.

Using these visit data, the Usual Provider Continuity (UPC)²⁷ index, a continuous measure representing the percentage of visits made to the PCP of all primary care office visits to physicians, nurse practitioners, physician's assistants, and registered nurses (# of PCP visits/# overall visits) was calculated for each respondent. Nurse visits for patients on Warfarin, which mainly consisted of routine blood draws, were excluded from the calculation. For the purpose of assessing respondent characteristics, patients were categorized into one of three groups: (1) high UPC (UPC=1.0), (2) moderate UPC ($0.50 \leq \text{UPC} < 1.0$), or (3) low UPC (UPC<0.50). For this descriptive analysis, *t* tests were used to compare continuous variables, and chi-square tests were used to compare dichotomous and categorical variables, using patients with high UPC as the reference group.

Analyses

A total of 27,213 completed surveys were received for an overall response rate of 40.3%, after undeliverable surveys and deceased patients were excluded from response rate calculations ($n=1,005$). Our analytic sample included 14,835 unique respondents (average per physician=102) with 2 or more primary care visits, at least 1 of which was with their PCP. To investigate the effects of visit continuity, it was necessary to restrict the analysis to patients with 2 or more primary care visits during the 6 months before being surveyed. As a result, patients with less than 2 visits were excluded ($n=11,980$). Other studies investigating the effects of visit continuity have imposed similar or stricter analytic sample restrictions^{4,28,29}. Respondents who indicated that the physician named in the survey was not their primary physician or failed to answer the physician confirmation item ($n=398$) were also excluded from the analytic sample.

Multilevel regression models were used to examine the effect of visit continuity on survey scale scores using a standardized continuous measure of UPC. These analyses used generalized linear latent and mixed models (GLLAMM) in STATA 8.0 to take account of the clustering of respondents within physicians using random effects³⁰. Estimates were obtained by maximum likelihood using adaptive Gaussian quadrature to approximate the likelihood function³¹. We included race, gender, self-rated health, overall primary care outpatient visits, and education as covariates in all regression models. All continuous variables were standardized so that coefficients from analyses were comparable. To test whether the effect of visit continuity on patients' assessments of care depended on patient characteristics, including gender, educational attainment, self-rated health, and PCP-patient relationship duration, we constructed 4 interaction terms representing the interaction between each of these characteristics and UPC. For educational attainment, a dichotomous variable indicating completion of high school was interacted with UPC. Interaction terms were introduced

Table 1. Respondent Characteristics

Characteristics	Overall Sample	Usual provider continuity (UPC)		
		Low UPC<0.50	Moderate 0.50≤UPC<1.0	High UPC=1.0
N	14,835	2,296	7,316	5,223
Demographics				
Male (%)	39.5	36.9‡	39.0*	41.3
Hispanic (%)	3.2	3.0	3.3	3.1
Race				
White (%)	84	86‡	85‡	81
Black (%)	8	8*	8‡	10
Asian (%)	5	3‡	4†	5
Other (%)	3	3	3	4
Education				
Less than high school (%)	7	6	7*	6
High school only (%)	22	23	22	22
Some college (%)	18	19*	18*	17
4-yr college graduate and beyond (%)	53	52†	52‡	56
PCP-Patient Relationship Duration				
Less than 6 months (%)	10	9†	9†	11
6 months–1 year (%)	9	8‡	9‡	11
1–2 years (%)	16	16	15	16
3–5 years (%)	24	25†	25‡	22
More than 5 years (%)	42	42	42	41
Utilization				
Overall visits (mean)	3.3 (2.2)	5.3 (3.7)‡	3.3 (1.8)‡	2.5 (0.9)
Visits to PCP (mean)	2.1 (1.2)	1.5 (1.0)‡	2.0 (1.4)‡	2.5 (0.9)
Number of providers seen (mean)	1.9 (1.0)	3.3 (1.1)‡	2.2 (0.5)‡	1.0 (0.0)
Health status				
Self-rated physical health (mean)	61.8 (24.4)	58.6 (25.2)‡	61.5 (24.2)‡	63.7 (24.2)

Results presented as percents reflect column percents

*P<0.05

†P<0.01

‡P<0.001 compared to high UPC

separately into regression models that controlled for patient characteristics and utilization. All significant interactions were then tested together in models to assess whether there was significant colinearity among the interaction terms and other variables. Interaction terms that did not retain statistical significance in the combined models were removed from final models.

RESULTS

Respondent Characteristics

The average UPC index score among respondents in the analytic sample was 0.69 (SD=0.26; range: 0.04–1.0). UPC index scores differed across several respondent characteris-

Table 2. The Differential Effects of PCP Visit Continuity on ACES Measures, Final Models

Model variables	Final models assessing the varying effects of visit continuity on ACES measures				
	Communication ¹	Knowledge of the patient ²	Health promotion support ³	Willingness to recommend PCP ⁴	Organizational access ⁵
N	13,262	13,234	13,096	13,183	13,245
Male	0.7 (0.1, 1.3)*	2.6 (1.9, 3.3)‡	2.8 (1.8, 3.9)‡	1.7 (1.0, 2.5)‡	1.1 (0.5, 1.7)†
White	2.4 (1.7, 3.1)‡	2.5 (1.6, 3.4)‡	-0.2 (-1.6, 1.1)	1.7 (0.8, 2.7)‡	3.2 (2.4, 4.1)‡
High school education	-2.5 (-3.6, -1.5)‡	-4.5 (-5.8, -3.2)‡	-5.0 (-7.0, -3.0)‡	-2.4 (-3.8, -1.0)‡	-3.0 (-4.3, -1.8)‡
PCP-Patient Relationship Duration	3.1 (2.4, 3.9)‡	6.7 (5.8, 7.7)‡	2.8 (2.2, 3.4)‡	4.3 (3.4, 5.3)‡	2.3 (1.5, 3.2)‡
Overall Visits	1.1 (0.8, 1.4)‡	2.0 (1.7, 2.3)‡	2.3 (1.8, 2.8)‡	1.2 (0.9, 1.6)‡	1.7 (1.4, 2.0)‡
Self-rated health	4.0 (3.3, 4.7)‡	4.5 (3.7, 5.4)‡	5.0 (3.7, 6.3)‡	3.2 (2.9, 3.6)‡	3.3 (2.5, 4.1)‡
UPC	3.1 (2.2, 4.7)‡	3.9 (2.8, 5.0)‡	4.4 (3.1, 5.7)‡	2.1 (1.3, 2.9)‡	3.3 (2.3, 4.3)‡
UPC*PCP–patient relationship duration	-1.3 (-2.2, -0.4)†	-1.6 (-2.7, -0.5)†	ns	-1.3 (-2.5, -0.1)*	-1.1 (-2.1, -0.1)*
UPC*self-rated health	-1.5 (-2.4, -0.5)†	-1.7 (-2.8, -0.5)†	-3.2 (-5.0, -1.4)‡	ns	-1.7 (-2.8, -0.6)†
Constant	92.8 (91.5, 94.0)‡	81.4 (79.7, 83.0)‡	87.7 (85.4, 90.1)‡	91.1 (89.5, 92.8)‡	82.1 (80.7, 83.5)‡

For continuous measures, regression coefficients represent the effect of a standard deviation change in the predictor on the 100-point survey measure. For dichotomous variables, regression coefficients represent the effect of the variable on the 100-point survey measure. Confidence intervals (95%) are presented in parentheses. Dependent Variable = ACES Measure (e.g., Communication, Knowledge of the Patient, Health Promotion Support, etc.)

PCP Primary care physician, ACES Ambulatory Care Experiences Survey, UPC Usual Provider Continuity (# visits to PCP/# overall visits), ns interaction term was not significant and therefore not included in the final model, 1, 2, 3, 4, 5 final model #

*P<0.05

†P<0.01

‡P<0.001

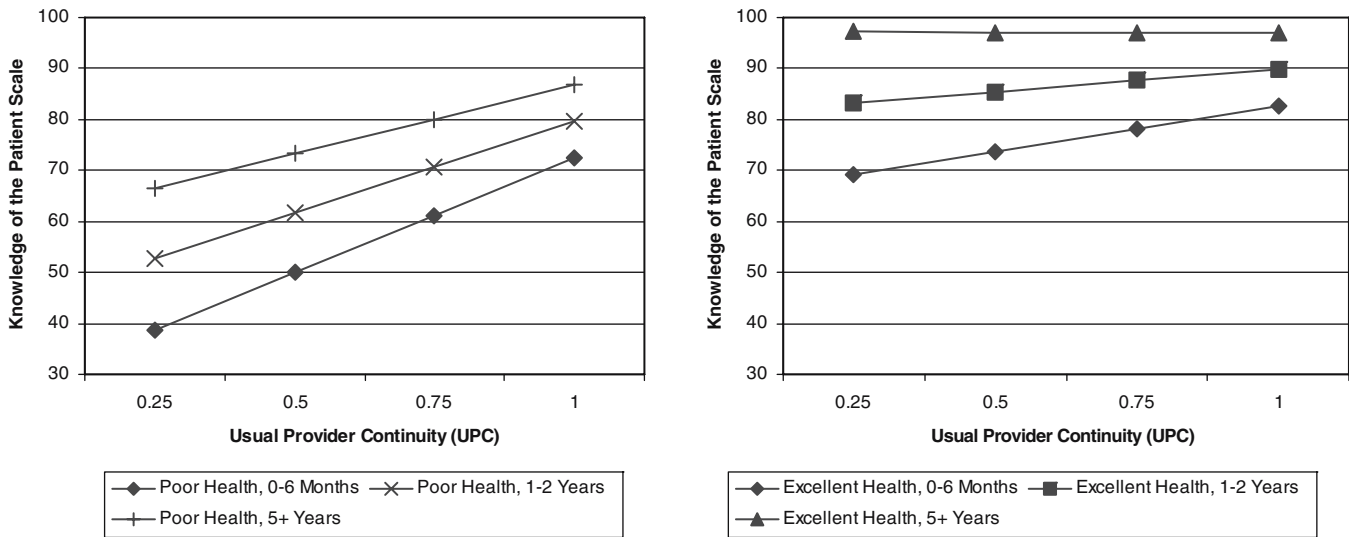


Figure 1. The effect of PCP visit continuity on physician knowledge of the patient: differences by self-rated health and pcp-patient relationship duration. Note: Scale scores are calculated for a white female with greater than a high school education and average overall visits during the 6 months preceding survey completion. PCP-patient relationship duration: less than 6 months (0-6 months), between 1 and 2 years (1-2 years), or 5 or more years (5+ years).

tics. (Table 1). Compared to patients with high UPC, patients with low and moderate UPC were more likely to be female, White, less educated, reported worse physical health (58.6 and 61.5 vs 63.7, $P<0.001$), had longer relationships with their PCP, and more primary care office visits during the 6 months preceding survey completion (5.3 and 3.3 vs 2.5, $P<0.001$). Differences in respondent characteristics supported the inclusion of these variables in multivariate analyses to better isolate the effect of visit continuity on patients' experiences with care.

strongly influenced by visit continuity for patients with shorter relationship duration with their PCP ($P<0.05$) and worse self-rated health ($P<0.01$; Table 2, Model 5).

The Differential Effects of PCP Visit Continuity on ACES Measures

Patients' assessment of physician-patient interaction quality, including physician communication, knowledge of the patient, health promotion support, and willingness to recommend the physician were more strongly influenced by visit continuity among patients with shorter PCP-patient relationship duration ($P<0.01$; Table 2, Models 1, 2, 4) and worse self-rated health ($P<0.01$; Table 2, Model 1-3). For example, visit continuity was unrelated to patients' assessments of the PCP's knowledge of the patient among respondents with more than 5 years PCP-patient relationship tenure and excellent self-rated health (Fig. 1). By contrast, among patients in early stages of the PCP-patient relationship and in poor health, the physician knowledge of the patient scale scores differed by 34 points among patients with low and high visit continuity (UPC=0.25 vs UPC=1.0). Visit discontinuity had a particularly strong association with patients' assessments of their physician's health promotion support among patients in poor health (Fig. 2). For example, assessments of health promotion support among patients in poor health differed by 38 points for low and high visit continuity (UPC=0.25 vs UPC=1.0). By contrast, assessments of health promotion support among respondents in excellent health were not affected by visit discontinuity. Of the organizational features of care, only respondent assessments of organizational access were more

DISCUSSION

This study yields several important insights about the influence of PCP visit continuity on patients' primary care experiences.

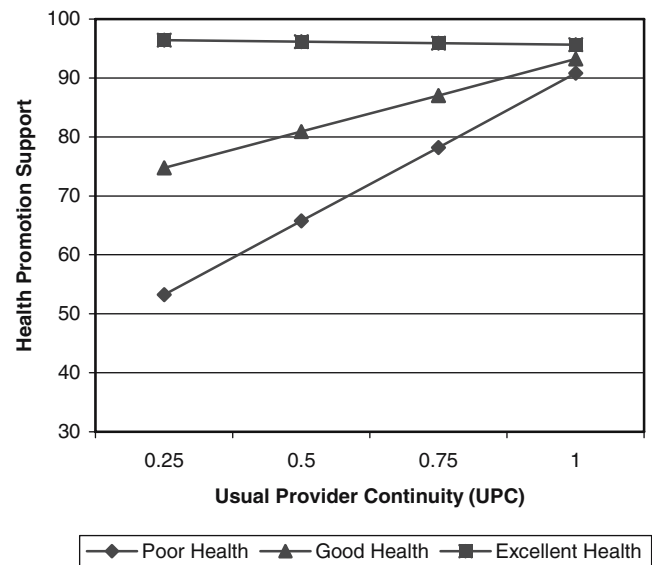


Figure 2. The effect of PCP visit continuity on physician health promotion support: differences by self-rated health. Note: Scale scores are calculated for a white female with greater than a high school education, a 3- to 5-year relationship with her PCP, and average overall visits during the 6 months preceding survey completion.

Respondent assessments of clinical interactions and organizational access were more strongly influenced by visit continuity among patients in earlier stages of the PCP–patient relationship and with lower self-rated health. We believe that three mechanisms could be operating in the relationship between visit continuity and PCP–patient relationship duration. First, other studies have shown that patients with long-term relationships with their PCP are more likely to trust that their physician has their best interest in mind^{32–34} and are generally more satisfied with the quality of care they receive^{35,36}. As a result, occasional visit discontinuity may not be as disruptive to these relationships. By contrast, patients with less experience with their PCP may have only begun to develop trust and confidence in their PCP. Consequently, these patients are more likely to perceive discontinuity as a distraction to the formation of a strong relationship. Second, patients with longer tenure may have become accustomed to some visit discontinuity over time, and patients dissatisfied by these same discontinuities may change their PCPs^{13,14}. Therefore, acclimation to system norms and selection effects could explain why patients with longer tenure are less affected by visit discontinuity. Third, patients with longer tenure with their PCP may experience different forms of discontinuity than other patients. For example, they may be more likely to experience planned forms of PCP visit discontinuity, e.g., diabetes care management with a nurse practitioner associate. As a result, they may be more likely to understand some forms of discontinuity as assets to their care, including seeing other clinicians with the expertise to help manage any chronic conditions. Consequently, visit discontinuity could be planned, purposeful, and not detrimental to the quality of the PCP–patient relationship. Existing measures of visit continuity do not differentiate between planned, clinically indicated discontinuity from unplanned discontinuity⁴. Therefore, survey-based measures assessing patient expectations for PCP visit continuity and the extent that discontinuity is planned and purposeful could help clarify our understanding of the mechanisms by which visit continuity affects physician–patient relationship quality and patients' experiences with care. Future studies should clarify the relative contribution of each mechanism.

Patients reporting worse health were also more likely to give more negative assessments of clinician–patient interactions and organizational access when they experienced visit discontinuity compared to patients reporting better health. Patients in poor health are more likely to experience visit discontinuity because they visit more frequently and often require support to improve their self-management skills, motivation, behavior change, and adherence to treatment, requiring the skills that midlevel clinicians generally acquire as part of their training. Our results underscore the challenges of incorporating team approaches for patients with chronic conditions and/or health promotion needs into primary care practice in ways that are not disruptive to physician–patient relationships. While we did not differentiate planned continuity from unorganized discontinuity, a recent study suggests that visit discontinuity with PCPs using team members does not result in better patient assessments of care relative to using non-team members⁴. However, results from that study also suggest that teams with a strong relationship focus offer excellent promise for promoting high quality primary care experiences. Practices that use primary care teams should examine their practices to ensure that patients requiring health promotion and disease management support also experience high quality PCP–patient relationships.

There are some limitations to this study. First, patients were not randomized into various levels of visit continuity, and therefore, causal inference is limited. However, survey responses clearly followed the period of visit activity ensuring the appropriate temporal ordering of the predictor and outcomes. Second, the sample includes patients from one large physician network in Massachusetts. Patient attitudes and preferences for visit continuity may not generalize to other physician networks with a different history. However, physician-level UPC scores ranged from 0.33 to 0.94, highlighting diversity in the orientation to visit continuity and team approaches to care across physician practices. Third, we chose to restrict the analysis of visit continuity to a 6-month window because it mirrored the reference period used in survey questions. Our results might not generalize to patients with infrequent utilization who experience discontinuity over a longer interval of time. Finally, we did not examine the technical quality of care received by patients. Evidence suggests that visit continuity might have a greater effect on outcomes for clinical tasks that require patient activation, including adherence to recommended treatment and behavior modification^{5,37,38}. By contrast, clinical tasks that can be accomplished through organized care systems and office practices, including the receipt of screening tests and other preventive services, might not be as sensitive to visit continuity^{8,39,40}.

In conclusion, our results suggest that focusing visit continuity improvement efforts on patients in early stages of the PCP–patient relationship could yield substantial improvements in physician–patient relationship quality. The experiences of patients with longer PCP–patient relationship duration appear to be less influenced by recent visit discontinuity, but it remains unclear whether sustained discontinuity over time would be detrimental for these relationships. The effect sizes of the relationship between visit continuity and patients' experiences with care found in this study are large and are likely to be clinically meaningful findings. The largest observed differences in physician-level ACES summary scores are much smaller than the effects of visit continuity found in this study. For example, the difference between the 95th and 5th percentile of physician-level communication scores is approximately 11.2 points. As a result, visit continuity could have considerable effect on outcomes of care that rely on high quality physician–patient relationships, including patient adherence to treatment recommendations^{37,41}. Our findings underscore the importance of establishing a strong PCP–patient relationship before team approaches, which necessarily involve visit discontinuity, are employed. Automated appointment booking systems could incorporate PCP–patient relationship duration as a parameter in appointment search sequences so that care for patients with shorter relationship tenure is primarily directed to PCPs. Practices not supported by such technology could modify practice by thoughtfully introducing team approaches and other forms of PCP discontinuity when both the patient and physician agree with the arrangement. Orientation clinics that introduce patients to primary care teams also have potential for effectively acclimating new patients to systems that use coordinated team approaches⁴². In the absence of large scale system reform that reduces the involuntary disruption of PCP–patient relationships related to insurance and provider contractual arrangements, visit continuity can be a powerful facilitator of high relationship quality and may actually increase the acceptability of team-based care once a strong relationship is established.

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Conflict of Interest Statement: None disclosed.

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APPENDIX

Table 3. Ambulatory Care Experiences Survey (ACES) Measures

Summary measure	Survey questions
Quality of physician-patient interaction	
Communication	In the last 6 months, how often... ... did your personal doctor explain things in a way that was easy to understand? ¹ ... did your personal doctor give you clear instructions about what to do to take care of the health problems or symptoms that were bothering you? ¹ ... did your personal doctor give you as much information about your condition and treatment as you wanted? ¹ ...was your personal doctor caring and kind? ¹ During your most recent visit with your personal doctor... ...did the doctor give you clear instructions about what to do to take care of the health problems or symptoms that were bothering you? ² ...did the doctor spend enough time with you? ²
Knowledge of the patient	How would you rate your personal doctor's knowledge of your medical history? ³ How would you rate your personal doctor's knowledge of you as a person, including values and beliefs that are important to you? ³ In the last 6 months... ...how often did you feel you could tell your personal doctor anything, even things you might not tell anyone else? ¹ ...how often did you feel that your personal doctor had all the information needed to correctly diagnose and treat your health problems? ¹
Health promotion support	In the last 6 months... ...did your personal doctor talk with you about specific things you could do to improve your health or prevent illness? ⁶ ...did your personal doctor give you the help you needed to make changes in your habits or lifestyle that would improve your health or prevent illness? ²
Willingness to Recommend Physician	Would you recommend this doctor to your family or friends? ⁴
Longitudinal continuity	How long has this person been your personal doctor? ⁵
Organizational features of care	
Organizational access	In the last 6 months... ...when you needed care for an illness or injury, how often did your personal doctor's office provide care as soon as you needed it? ¹ ...when you scheduled an appointment for a check-up or routine care, how often did you get an appointment as soon as you needed it? ¹ ...when you had a medical question and called your personal doctor's office during regular office hours, how often did a doctor or nurse call you back that same day? ¹ During your most recent visit with your personal doctor... ...were you kept informed about how long you would need to wait for your appointment to start? ²
Integration of care	In the last 6 months... ...when your personal doctor sent you for a blood test, x-ray or other test, did someone from the doctor's office follow-up to give you the test results? ⁷ ...how often did your personal doctor seem informed and up-to-date about the care you received from specialist doctors? ¹
Office staff	How would you rate the quality of specialists that your personal doctor sent you to in the last 6 months? ³
Clinical team	During your most recent visit, did staff at your personal doctor's office treat you with courtesy and respect? Are there nurses or other providers in your personal doctor's office who play an important role in your care? If YES, the following questions were asked: In the last 6 months... ...how often did these nurses or other providers in your personal doctor's office explain things in a way that is easy to understand? ¹ ...how often did you feel that these nurses or other providers in your personal doctor's office had all the information they needed to correctly diagnose and treat your health problems? ¹ ...how would you rate the coordination of your care between these nurses or other providers and your personal doctor? ³ ...how would you rate the quality of care provided to you by these nurses or other providers in your personal doctor's office? ³ Thinking about these nurses or other providers in your personal doctor's office, how would you rate their knowledge of you as a person, including values and beliefs that are important to you? ³

(1)5-point Likert scale: Never; Almost never; Sometimes; Usually; Almost Always; Always; (2) 3-point scale: No, definitely not; Yes, somewhat; Yes, definitely, (3) 6-point Likert scale: Very poor; Poor; Fair; Good; Very Good; Excellent; (4) 5-point scale: Definitely yes; Probably yes; Not sure; Probably not; Definitely not, (5) 5-point scale: Less than 6 months; Between 6 months to 1 year; 1 to 2 years; 3 to 5 years; More than 5 years, (6) 2-point scale: Yes; No, (7) 3-point scale: Yes, always; Yes, sometimes; No, Never

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