


Unmet Needs for Care and Medications, Cost as a Reason for Unmet Needs, and Unmet Needs as a Big Problem, due to Health-Care Provider (Dis)Continuity

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Abstract

Objective: Provider discontinuity is associated with poorer health-care outcomes compared to continuity in studies using retrospective reports of provider (dis)continuity. This study examined unmet needs for care and assessed cost as the reason for and the level of the problem resulting from unmet needs by provider (dis)continuity using longitudinal data. **Methods:** Pooled data on 10 714 working-age adults (aged 18-64) from the Medical Expenditure Panel Survey (panels 16 [2011-2012] and 17 [2012-2013]) were analyzed. Provider (dis)continuity was defined by 2 reports of having a health-care provider during the period. **Results:** Persons who lost providers were more likely to forego medical care and prescription medications, forego care due to cost, and report that delaying care was a big problem than their peers who experienced continuity. Persons who gained providers were more likely to delay dental care than those who always had, lost, or never had providers. **Conclusions:** Persons who experience discontinuity have poorer access to care than their peers who experience continuity. Public health initiatives should promote longitudinal relationships between persons and health-care providers.

Keywords

provider discontinuity, provider continuity, unmet needs for care, cost as barrier to care, unmet needs for care problems

Introduction

Strengthening patient-provider relationships has become a hallmark of efforts to improve patients' health-care experiences (1,2). Numerous studies have shown that security and trust develop when patients have long-term relationships with their providers (3-6). Known providers are also access points to the health-care system that translate into better management of health conditions (7,8) and higher uptake of preventive screenings (9-12).

Yet, little is known about the outcomes among persons who experience provider discontinuity resulting from, for example, provider retirement or patient preference, despite research showing that approximately 11% to 19% of adults experience discontinuity over a 12-month period (13,14). Conducted research shows that people who experience discontinuity have poorer health-care outcomes, including lower satisfaction with care and poorer communication with providers than their peers who experience continuity (13,15-17). Access to care is also problematic; provider discontinuity is associated with unmet needs for medical, specialty, and dental care as well as prescription medications (13,18).

Persons state that these unmet needs are highly problematic and often related to the costs of care (12,18-20).

The literature that exists on provider discontinuity is limited in a number of methodological ways. First, (dis)continuity has multiple definitions. Sometimes, discontinuity is defined as losing a provider; the experiences of those who gain providers are not well understood. Other research defines continuity as ongoing relationships between a person and a specific provider (5,6). Continuity has also been defined as having a provider versus a place from whom persons usually receive care (5,9). Second, much of this literature relies on retrospective reports of discontinuity, which can be biased based on current perceptions. Research

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that defines multiple ways of experiencing provider discontinuity (eg, gaining and losing providers) based on longitudinal reports of having providers is necessary to clarify the impact of provider discontinuity on access to health care.

The present research compares the access to care experiences of working-age adults who experience provider discontinuity with their peers who experience continuity over a 2-year period. Continuity is defined here temporally as having a provider at 2 points in time. The data do not allow us to assess relational continuity; therefore, persons who switch providers during the period are categorized as experiencing provider continuity. Access to care was selected as the outcome of interest to align with the goals of improving provider continuity (1) and the Healthy People 2020 aim to reduce unmet need (2). Specifically, this research examines the following research questions:

- (1) Do persons who experience provider discontinuity less frequently report unmet needs for health care when they have providers compared when they do not?
- (2) Do persons who experience provider discontinuity report more unmet needs for health care than their peers who experience continuity?
- (3) Do persons who experience provider discontinuity who have unmet needs for care cite cost as the reason and that unmet needs for care are highly problematic more frequently than their peers who experience continuity?

Methods

Data, Design, and Sample

The Medical Expenditure Panel Survey (MEPS) is conducted by the Agency for Healthcare Research and Quality (AHRQ). It contains data on a nationally representative sample of community-dwelling people in families who participated in the National Health Interview Survey (21). The MEPS queries all members of sampled families about their health, health-care experiences, and health behaviors during 5 waves of data collection during a 2-year period. Data are collected in continuously overlapping panels, such that one panel is entering the first year of data collection, while another is beginning their second year of collection. Interviews for the MEPS Household Component (MEPS-HC) are conducted using computer-assisted personal interviewing techniques.

The analyses presented here utilize data from panels 16 (2011-2012) and 17 (2012-2013). These panels were chosen because they are the most recent panels before the individual mandate of the Patient Protection and Affordable Care Act (PPACA) was implemented (22). Preliminary studies have shown that the PPACA has improved access to care, especially among previously uninsured groups (23,24). The tenuous position of the PPACA in the new presidential

administration necessitates analyses of health care outside of the major provisions of the law.

The analytic sample ($n = 10\,714$) was limited to adults who were between the ages of 18 and 64 (“working age adults”) during both waves 2 and 4 (when questions regarding provider (dis)continuity were asked) who responded to the survey themselves and who had valid data on all measures of interest. Data collection for waves 2 and 4 occur during the middle of years 1 and 2, respectively. Elders (>64 years old) were excluded because access to health insurance and health-care change once Americans reach the age 65. Measures were chosen to align with the Behavioral Model of Health Services Use (25). This research was excluded from review by the institutional review board of Tufts University because the MEPS is publicly available.

Provider (Dis)Continuity

Provider (dis)continuity was measured based on self-report of having a usual source of care, or a place or provider where the respondent goes when they are sick or need medical advice, during waves 2 and 4. People who reported having providers at both waves were coded as having provider continuity (“always having a provider”). Provider discontinuity was categorized based on reports of having a provider at one wave but not the other: having a provider at wave 2 but not at wave 4 was categorized as “losing a provider,” while having a provider at wave 4 but not at wave 2 was categorized as “gaining a provider.” Working-age adults who reported not having a provider at either wave were coded as “never having a provider.” People who reported that their provider was a hospital emergency department were coded as not having a provider at each wave.

Access to Care Outcomes

Unmet need for care was measured during waves 2 and 4 of the MEPS-HC through questions regarding foregoing and delaying care. Respondents were asked whether they were “unable to obtain” (1) “medical care, tests, or treatments,” (2) “dental care, tests, or treatments,” (3) or prescription medications that “they or a doctor believed necessary.”(21) A parallel set of questions asked about delays in receiving these 3 types of care.

The reason for unmet care needs was solicited from those who reported unmet needs. Most respondents reported that they “could not afford care” for each of the unmet need outcomes; responses were dichotomized as cost versus any other reason. Persons who reported unmet needs for care were also asked how much of a problem those unmet needs were; responses were dichotomized as “a big problem” or less than “a big problem” because relatively few respondents reported that their unmet needs were “a small problem” or “not a problem.”

Socioeconomic and Health Control Measures

Sex, race/ethnicity, and educational attainment were measured during wave 1. Age, employment status, marital status, self-rated health, and residence in a metropolitan statistical area were measured during wave 2. Health insurance and family size-adjusted poverty status were measured at the end of each calendar year. The MEPS gathers information on whether respondents had ever been diagnosed with the following chronic conditions during each survey wave: heart disease (coronary heart disease, angina, heart attack, other diagnosis), high blood pressure, stroke, emphysema, cancer, diabetes, arthritis, and asthma. A summary indicator of the presence of each condition for each year is available on the MEPS-HC. Respondents were coded as diagnosed with 0, 1, or ≥ 2 of these conditions during each year of the survey.

Statistical Analysis

Analyses were conducted in Stata (26) accounting for the data's complex sampling design and longitudinal weights of the panel data files. As recommended by AHRQ, the weights were divided by 2 to account for the pooling of data (21). Statistical significance was set at $P < .05$.

Percentages were calculated for the characteristics of the sample and for unmet need at waves 2 and 4 by provider (dis)continuity over time. Pearson χ^2 analyses compared within each time period across the (dis)continuity groups and within each (dis)continuity group across time. Logistic regressions model wave 4 outcomes on (dis)continuity group, wave 2 outcomes, and socioeconomic and health controls. Interactions between provider (dis)continuity and wave 2 outcomes were tested; they were not significant. Separate logistic regression models were calculated for adults who experienced each specific unmet need at wave 2 and those who did not to further assess the impact of previous unmet needs on current experiences. Forest plots show the adjusted odds ratios (AORs) and 95% confidence intervals (CIs) of the provider (dis)continuity groups compared to the group that experience provider continuity (the reference group) from these analyses.

Reason for and the problem rating of unmet need for care were assessed at wave 4 using Pearson χ^2 and logistic regression analyses by provider (dis)continuity. Regression controlled for socioeconomic and health measures. These results are presented as AORs and 95% CI.

Results

Nearly 19% of respondents in the longitudinally weighted sample experienced provider discontinuity—10.3% gained and 8.5% lost providers—during the study period (Table 1). The sample of working-age adults was diverse; most respondents had private health insurance during the calendar year (69.2%), were in families that were $>200\%$ of the federal poverty line (64.3%), were employed (75.7%), and had

Table 1. Longitudinally Weighted Characteristics of Working-Age Adults (18-64) in the Medical Expenditure Panel Survey (Panels 16 and 17) (n = 10,714).

	Total% (n)
Provider (Dis)continuity	
Never had provider	18.3 (2109)
Gained provider	10.3 (1195)
Lost provider	8.5 (947)
Always had provider	62.9 (6463)
Health insurance	
Any private	69.2 (6291)
Public only	12.5 (1960)
Uninsured	18.2 (2463)
Poverty status	
$<100\%$ FPL	16.8 (2536)
100% to $<200\%$ FPL	18.9 (2466)
200% to $<400\%$ FPL	30.2 (2971)
$\geq 400\%$ FPL	34.1 (2741)
Employed	75.7 (7666)
Education	
Less than high school	9.7 (1733)
High school graduate/GED	25.1 (3021)
More than high school	65.2 (5960)
Marital status	
Married	43.0 (4464)
Previously married	23.6 (2524)
Never married	33.4 (3726)
Residence in MSA	85.3 (9336)
Multiple chronic conditions	
No conditions	52.0 (5556)
1 condition	26.2 (2721)
≥ 2 conditions	21.8 (2437)
Self-rated health	
Fair/poor	12.9 (1691)
Good	27.5 (3188)
Very good/excellent	59.6 (5835)
Female	63.2 (7215)
Race/Ethnicity	
Hispanic	14.2 (2808)
White, non-Hispanic	65.5 (4492)
Black, non-Hispanic	13.2 (2476)
Other, non-Hispanic	7.1 (938)
Age ^a	
18-24	11.4 (1139)
25-34	22.9 (2617)
35-44	21.8 (2443)
45-54	24.8 (2568)
55-64	19.0 (1947)

Abbreviations: FPL, federal poverty line; MSA, metropolitan statistical area.

^aAge at wave 2.

attained more than high school education (65.2%). The sample was also healthy: 52% reported no chronic conditions and 59.6% reported their health as very good or excellent.

There were no significant differences in the frequency of unmet needs between waves 2 and 4 for any of the (dis)continuity groups (Table 2). At wave 2, people who always had providers less frequently reported foregoing medical care and prescription medications (3.4% for both) than

Table 2. Longitudinally Weighted Unmet Need Outcomes by Provider (Dis)Continuity Among Working-Age Adults (18-64) in the Medical Expenditure Panel Survey, Panels 16 and 17 (n = 10,714).^a

	Provider (Dis)Continuity				P Value
	Never Had Provider	Gained Provider	Lost Provider	Always Had Provider	
Unable to get needed medical care					
Wave 2	7.3 (159) ^e	6.8 (87) ^e	5.1 (45)	3.4 (224) ^{b,c}	.0000
Wave 4	6.2 (126) ^e	6.1 (68) ^e	7.5 (70) ^e	3.7 (225) ^{b,c,d}	.0000
Delayed in getting needed medical care					
Wave 2	5.5 (103)	6.5 (75)	4.9 (45)	5.3 (349)	.5272
Wave 4	5.4 (103)	6.2 (69)	5.7 (52)	5.9 (366)	.8695
Unable to get needed dental care					
Wave 2	9.9 (220) ^e	8.2 (98)	9.4 (78) ^e	6.6 (436) ^{b,d}	.0013
Wave 4	9.1 (188) ^e	8.4 (103) ^e	8.4 (83) ^e	6.0 (433) ^{b,c,d}	.0005
Delayed in getting needed dental care					
Wave 2	7.4 (137) ^e	7.1 (68)	7.1 (57)	5.7 (357) ^b	.1815
Wave 4	6.1 (121) ^c	8.3 (95) ^{b,d,e}	4.8 (50) ^c	5.9 (359) ^c	.0298
Unable to get needed prescription medications					
Wave 2	4.2 (92)	5.6 (65) ^e	4.9 (48)	3.4 (224) ^c	.0459
Wave 4	4.0 (93) ^e	3.9 (49)	5.9 (53) ^e	2.9 (204) ^{b,d}	.0008
Delayed in getting needed prescription medications					
Wave 2	3.2 (68) ^e	3.8 (46)	3.7 (32)	4.7 (288) ^b	.1111
Wave 4	3.8 (79)	4.0 (49)	4.5 (36)	4.9 (313)	.3760

^aThere were no significant differences between access to care outcomes between waves 2 and 4.

^bSignificantly different from “never had provider” ($P < .05$).

^cSignificantly different from “gained provider” ($P < .05$).

^dSignificantly different from “lost provider” ($P < .05$).

^eSignificantly different from “always had provider” ($P < .05$).

people who gained providers (6.8%, $P < .001$; 5.6%, $P = .01$, respectively). During wave 4, people who experienced provider discontinuity more frequently reported foregoing medical care (gained providers: 6.1%, $P = .001$; lost providers: 7.5%, $P < .001$) compared to people who always had providers (3.7%). People who lost (5.9%, $P < .001$) and never had (4.0%, $P = .04$) providers more frequently reported foregoing prescription medication than their peers who always had providers (2.9%). People who gained providers more frequently reported delaying dental care (8.3%) than those in each of the other (dis)continuity groups (lost providers: 4.8%, $P = .001$; always providers: 5.9%, $P = .01$; never providers: 6.1%, $P = .03$).

Compared to persons who always had providers and no unmet needs at wave 2, adults who lost (odds ratio [OR]: 2.1, 95% CI: 1.3-3.1; OR: 1.7, 95% CI: 1.0-2.7) or never had providers (OR: 1.6, 95% CI: 1.0-2.5; 1.6, 95% CI: 1.0-2.6; Figure 1) had higher odds of foregoing medical care and medications, respectively. Adults who gained providers and reported unmet needs during wave 2 were more likely to delay dental care than their peers who always (OR: 1.5, 95% CI: 1.1-2.0) or never had providers (OR: 1.6, 95% CI: 1.1-2.3) and lost providers (OR: 1.9, 95% CI: 1.2-3.0; Figure 2). Among working-age adults who reported unmet needs at wave 2, persons who lost providers were 4.1 (95% CI: 1.4-11.6) times more likely to report being unable to get prescription medications than their peers who experienced provider continuity.

Persons who lost providers more frequently reported that not receiving medical care resulted from the cost of care

compared to persons who always had providers (78.7% vs 44.8%; $P < .001$); multivariate results indicated that persons who lost providers were 3.7 (95% CI: 1.4-9.7) times more likely to forego care due to cost than their peers who experienced continuity (Table 3). Persons who never had providers were more likely to report unmet needs for medical care compared to those who gained (foregone medical care: OR: 4.1, 95% CI: 1.1-14.5; delay medical care: OR: 2.7, 95% CI: 1.1-7.0) and always had (forego medical care: OR: 4.1, 95% CI: 1.7-9.9; delay medical care: OR: 2.8, 95% CI: 1.2-6.5) providers.

Few differences were found between the discontinuity groups and the group that always had providers in rating their unmet needs for care as “a big problem.” Approximately 75% of persons who lost ($P = .009$) or never had ($P = .004$) providers reported that delaying medical care was a big problem compared to 52% of their peers who always had providers. Persons who lost providers were nearly 3 times more likely to state that delaying medical care (95% CI: 1.2-7.0) and dental care (95% CI: 1.2-6.6) was a big problem compared to their peers who experienced continuity.

Discussion

Utilizing longitudinal data on community-dwelling working-age Americans, this study examined access to care during a 2-year period by provider (dis)continuity. Echoing the findings of previous work (13,18), we found that provider discontinuity is associated with increased unmet needs for

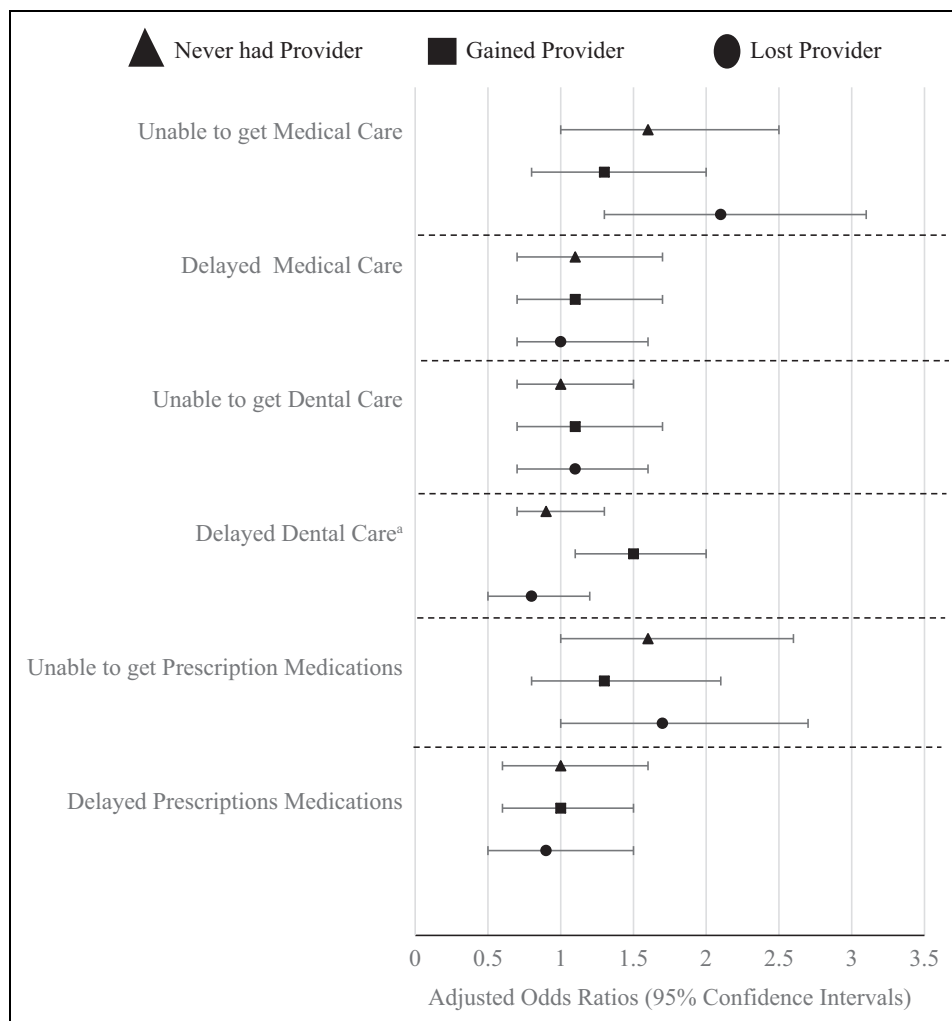


Figure 1. Adjusted odds ratios (95% CI) of unmet needs for care during wave 4 by provider (dis)continuity among working-age adults (18-64) who did not report unmet needs for care during wave 2, Medical Expenditure Panel Survey (Panels 16 and 17). ^aPersons who gained USC were 1.6 (95% CI: 1.1-2.3) times more likely than those who never had USC and 1.9 (95% CI: 1.2-3.0) times more likely than those who lost USC to delay dental care. Logistic regression of outcome at wave 4 on USC discontinuity, health insurance, poverty status, employment status, educational attainment, marital status, MSA residence, multiple chronic conditions, self-rated health, sex, race/ethnicity, and age among persons who did not reported unmet needs for care at wave 2. Reference category is provider continuity. Analyses were longitudinally weighted. CI, confidence interval; MSA, metropolitan statistical area.

health care. Discontinuity was especially detrimental among persons who did not reported unmet needs for care prior to gaining or losing providers. Somewhat surprisingly, the present study found few differences in cost as the reason for or unmet needs being a big problem across the provider (dis)continuity groups.

Working-age adults who lost providers were 2 to 4 times more likely to forego prescription medications and, those who did not previously report unmet needs for care, were 2 times more likely to forego medical care than their peers who experienced continuity. Persons who lost providers were 4 times more likely to report that their unmet needs were due to cost than those counterparts. That people who do not have providers are more likely to have ongoing unmet needs for care (13,18) and that those unmet needs are related to the cost of health care (19,20) is well supported by the

existing literature. However, people who lost providers were nearly 3 times more likely to report that unmet needs were a big problem compared to persons who experienced continuity. This is somewhat surprising given existing literature on the reasons that people report for not having providers; most adults who do not have providers, including 50% of those who experience discontinuity, report being rarely sick and not needing providers (12-14,27,28). Qualitative research should untangle the situations when people who experience discontinuity perceive themselves as needing care.

Additionally, there seemed to be an important distinction between persons who did and did not experience unmet needs before provider discontinuity. Persons who previously perceived themselves as being able to access all medical care they needed seemed to experience losing a provider as a barrier to future care. This was not evident

Table 3. Longitudinally Weighted Unmet Need Reasons and Problem at Wave 4 by Provider (Dis)Continuity Among Working-Age Adults (18-64) Who Reported Unmet Needs in the Medical Expenditure Panel Survey (Panels 16 and 17).^a

	Provider (Dis)Continuity				P Value
	Never Had Provider	Gained Provider	Lost Provider	Always Had Provider	
Unmet need for care due to cost					
Unable to get medical care (n = 488)					
% (n)	85.7 (113) ^{c,e}	62.8 (43) ^{b,e}	78.7 (58) ^d	44.8 (116) ^{b,c,d}	.0000
AOR (95% CI)	4.1 (1.7-9.9) ^{c,e}	1.0 (0.3-2.9) ^b	3.7 (1.4-9.7) ^e	(ref.)	
Delayed medical care (n = 590)					
% (n)	69.0 (81) ^{c,e}	46.6 (36) ^{b,e}	56.4 (32) ^e	29.1 (113) ^{b,c,d}	.0000
AOR (95% CI)	2.8 (1.2-6.5) ^{c,e}	1.0 (0.5-2.0) ^b	1.8 (0.7-4.6)	(ref.)	
Unable to get dental care (n = 807)					
% (n)	90.0 (176) ^e	87.2 (89)	83.9 (69)	77.6 (328) ^b	.0456
AOR (95% CI)	1.5 (0.6-4.0)	1.6 (0.7-3.8)	1.3 (0.5-3.1)	(ref.)	
Delayed dental care (n = 625)					
% (n)	76.9 (100) ^e	70.6 (72)	70.3 (37)	61.9 (220) ^b	.1013
AOR (95% CI)	1.4 (0.6-3.1)	1.3 (0.6-2.7)	1.7 (0.7-4.1)	(ref.)	
Unable to get prescription medications (n = 399)					
% (n)	86.8 (82) ^e	71.1 (34)	71.8 (42)	63.0 (132) ^b	.0247
AOR (95% CI)	1.9 (0.8-5.0)	0.8 (0.3-2.0)	1.2 (0.4-3.2)	(ref.)	
Delayed prescription medications (n = 477)					
% (n)	63.0 (58) ^e	63.6 (33) ^e	44.1 (22)	40.8 (138) ^{b,c}	.0211
AOR (95% CI)	1.4 (0.6-3.3)	1.8 (0.7-4.5)	1.2 (0.4-3.4)	(ref.)	
Unmet need for care was a big problem					
Unable to get medical care (n = 486)					
% (n)	67.4 (87)	64.4 (52)	72.9 (53)	67.0 (148)	.8738
AOR (95% CI)	1.6 (0.8-3.4)	1.0 (0.4-2.6)	1.6 (0.6-3.8)	(ref.)	
Delayed medical care (n = 588)					
% (n)	75.6 (82) ^e	63.0 (47)	75.3 (40) ^e	52.2 (208) ^{b,d}	.0033
AOR (95% CI)	2.4 (1.1-5.4) ^e	1.2 (0.5-2.9)	2.9 (1.2-7.0) ^e	(ref.)	
Unable to get dental care (n = 804)					
% (n)	61.7 (120) ^d	65.2 (71)	76.4 (64) ^b	65.1 (288)	.2775
AOR (95% CI)	1.1 (0.7-1.9)	1.1 (0.6-2.0)	1.9 (0.9-4.1)	(ref.)	
Delayed dental care (n = 625)					
% (n)	58.2 (79)	58.4 (62)	69.9 (37)	52.2 (198)	.2898
AOR (95% CI)	1.3 (0.6-2.7)	1.4 (0.7-2.7)	2.8 (1.2-6.6) ^e	(ref.)	
Unable to get prescription medications (n = 394)					
% (n)	79.8 (71)	79.0 (40)	83.4 (43)	77.3 (154)	.8778
AOR (95% CI)	0.8 (0.3-2.4)	0.9 (0.3-2.4)	2.0 (0.7-5.5)	(ref.)	
Delayed prescription medications (n = 474)					
% (n)	74.7 (62)	70.1 (35)	66.7 (26)	61.4 (199)	.4301
AOR (95% CI)	2.3 (0.9-5.6)	1.7 (0.6-4.6)	2.0 (0.7-6.2)	(ref.)	

Abbreviations: AOR, adjusted odds ratios; CI, confidence interval.

^aAOR (95% CI) from logistic regression controlling for health insurance, poverty status, employment status, educational attainment, marital status, MSA residence, multiple chronic conditions, self-rated health, sex, race/ethnicity, and age. Sample sizes vary due to the number of respondents who reported each type of unmet need for care. People who did not know or refused to give the reason or whether unmet needs for care were a big problem were excluded from these analyses.

^bSignificantly different from “never had provider” ($P < .05$).

^cSignificantly different from “gained provider” ($P < .05$).

^dSignificantly different from “lost provider” ($P < .05$).

^eSignificantly different from “always had provider” ($P < .05$).

for persons who previously reported unmet needs for care. Several factors may explain this difference. First, adults who previously reported unmet needs for care may already substitute care at urgent care or retail clinics until they are connected with a new provider (29,30). Second, losing a provider may actually be harmful for access to care among persons who already had unmet needs, but the data cannot

reflect this. The unmet need measures do not assess the quality or quantity of the care that is foregone. Therefore, persons with unmet needs who lose providers may experience worse unmet need after, compared to before, provider discontinuity. Future research should endeavor to more completely understand how people, especially those who experience unmet needs for care when they have providers,

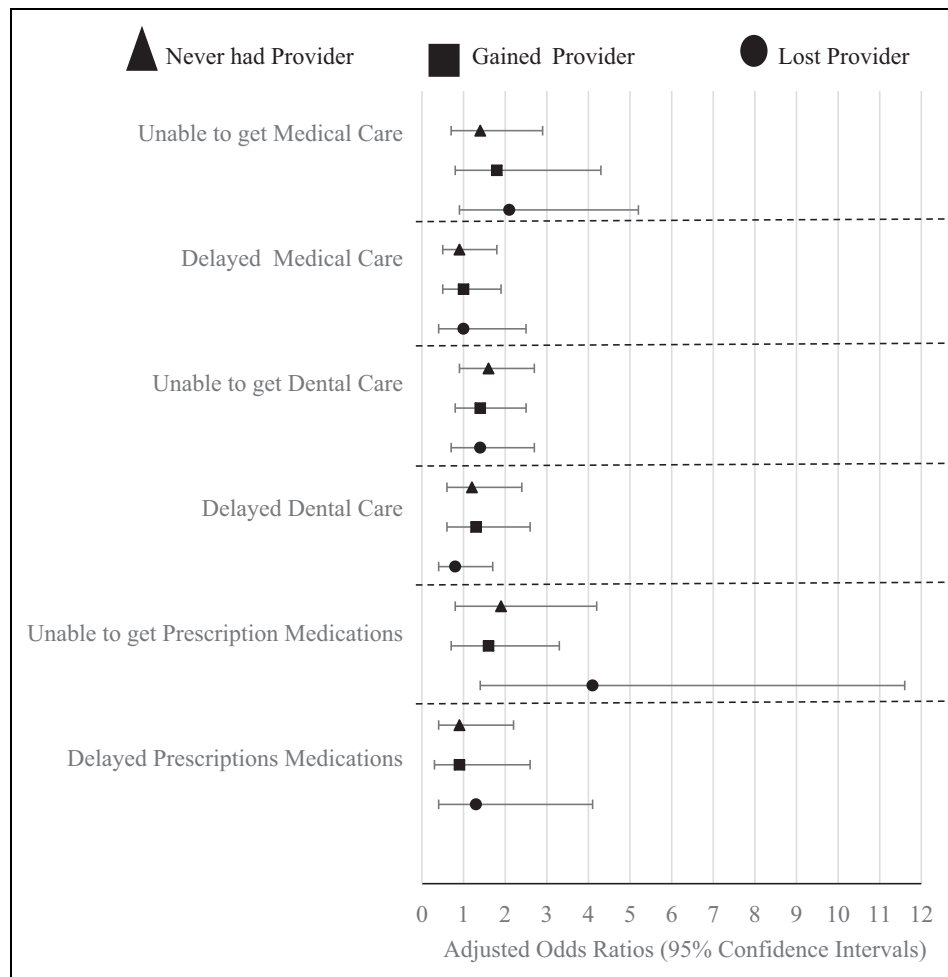


Figure 2. Adjusted odds ratios (95% CI) of unmet needs for care during wave 4 by provider (dis)continuity among working-age adults (18-64) who reported unmet needs for care during wave 2, Medical Expenditure Panel Survey (Panels 16 and 17). Logistic regression of outcome at wave 4 on USC discontinuity, health insurance, poverty status, employment status, educational attainment, marital status, MSA residence, multiple chronic conditions, self-rated health, sex, race/ethnicity, and age among persons who reported unmet needs for care at wave 2. Reference category is provider continuity. Analyses were longitudinally weighted. CI, confidence interval; MSA, metropolitan statistical area.

cope with health-care needs during periods of provider discontinuity.

Persons who gained providers and did not previously report unmet needs for dental care were more likely to report delaying dental care than their peers in each of the other (dis)continuity groups, similar to previous research (18). These differences were not reflected in the cost or problem rating analyses. These findings may reflect discord between persons' perceived need for and access to health care, even when access to care is nominally improved through having a provider. Previous research has found that gaining providers is associated with transitioning from uninsured to insured (13,14,18,27). Since dental coverage is distinct from medical coverage, persons who gain providers due to gains in health insurance may perceive themselves as being unable to access needed dental care because they did not simultaneously gain dental insurance. Improving access to dental insurance is currently a goal of Healthy People 2020 (2) and should

continue to be included in the Healthy People 2030 benchmarks currently being developed by the Secretary's Advisory Committee on National Health Promotion and Disease Prevention Objectives for 2030.

Healthy People 2020 aims to reduce unmet needs for medical and dental care and prescription medications (2). Only persons who experienced provider continuity met the targets for medical care (4.7%) and prescription medications (3.1%). As the findings of this and other research (31) show, simply gaining a provider does not immediately improve access to care. Policy makers and program designers should work together to enable persons to have long-term relationships with providers as one way to address the gap between public health goals and everyday patient experiences.

Finally, intriguing differences in reports of foregoing and delaying care were found here. Differences in each area of unmet needs were found between the (dis)continuity groups as either delaying or foregoing care; none of the outcomes

had significant differences in both delaying and foregoing care. Although measures of unmet needs for care have existed for many years (32), little is known about their validity, reliability, or psychometric properties (33). Many theories of illness and health care exist, but few include explicit propositions for delaying care (34); none include the possibility of foregoing care. It is possible that delaying care reflects hopefulness, as people see themselves as able to address their health needs at some point soon. Foregoing care, then, may result from hopelessness about receiving needed care. Investigating the conceptual underpinnings of unmet need measures should be undertaken to direct policy makers and program designers on the best options for addressing the potentially diverse processes underlying foregoing and delaying care.

Limitations

This research is limited in many ways. Current provider information was gathered at 2 points in time, while the unmet need questions summarize information from the 12 months prior to the survey wave. Because the dates of gaining or losing providers are not collected, it is not possible to match periods of discontinuity with access to care outcomes. Additionally, some persons may have been misclassified as experiencing (dis)continuity. For example, persons may have experienced relational discontinuity but were coded as experiencing continuity because they gained a new provider between waves when the provider questions were asked. Finally, the sample analyzed here has higher socioeconomic status than the general population of the United States (35). Future research should endeavor to better represent all Americans, especially in light of research showing that people who experience discontinuity have lower socioeconomic status than those who experience continuity (13,14,18).

In conclusion, persons who experience provider discontinuity have more unmet needs for care than their peers who experience continuity. Care costs play a role in some, but not all, unmet needs, while few differences in the magnitude of the problems resulting from foregoing or delaying care were found. Programs and policies to promote provider stability should be developed and implemented to address overall public health and health-care delivery goals.

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