The Quality of Primary Care Experienced by Health Center Patients

Leiyu Shi, DrPH, MBA, MPA, Lydie A. Lebrun-Harris, PhD, MPH, Sarika Rane Parasuraman, PhD, MPH, Jinsheng Zhu, MEc, and Quyen Ngo-Metzger, MD, MPH

Background: **We investigated the quality of the primary care experienced by health center (HC) patients and investigated whether race/ethnicity and insurance coverage were significantly associated with patients' experiences.**

Methods: **Cross-sectional data came from the 2009 Health Center Patient Survey. Outcomes included 10 measures of patients' experiences with primary care domains, including: (1) accessibility, (2) communication, (3) comprehensiveness, and (4) coordination of care.**

Results: **Patients who received care at HCs reported high-quality primary care, particularly regarding accessibility and communication. For example, more than 94% of patients reported that their HC location was convenient, and more than 94% reported that their provider adequately explained what they wanted to know. After adjusting for sociodemographic characteristics, few significant racial/ethnic and insurance-related disparities were observed. In the domains of comprehensiveness and coordination, insured patients generally had better experiences than uninsured patients. For instance, Medicaid-insured patients had higher odds of reporting that HC staff helped them arrange medical appointments at other health care settings than uninsured patients (odds ratio, 2.04; 95% confidence interval, 1.35–3.09).**

Conclusions: **As safety-net providers for vulnerable populations, HCs provide high-quality primary care and do not exhibit the extent of disparities that exist in other US health care settings. Continued efforts are necessary to address insurance-related disparities, particularly among uninsured patients. (J Am Board Fam Med 2013;26:768–777.)**

Keywords: **Ethnicity, Health Care Disparities, Health Insurance, Quality of Health Care, Race**

The Institute of Medicine defines quality of care as "the degree to which health services increase the likelihood of desired health outcomes and are consistent with current professional knowledge."[1] Quality of care may be further categorized into technical aspects and interpersonal aspects. Technical aspects of quality are those that capture the application of technology, medical tools, or delivery of care protocols by providers, whereas interpersonal aspects of quality are those describing interactions between a patient and either providers or

This article was externally peer reviewed.
Submitted 11 February 2013; revised 24 April 2013; accepted 15 May 2013.

From the Department of Health Policy and Management, Johns Hopkins Bloomberg School of Public Health, Baltimore, MD (LS); Johns Hopkins Primary Care Policy Center, Baltimore, MD (LS; SRP, JZ); the Office of Quality and Data, Bureau of Primary Health Care, Health Resources and Services Administration, U.S. Department of Health and Human Services, Rockville, MD (LAL-H, QN-M).

Current affiliation: Office of Planning, Analysis and Evaluation, Health Resources and Services Administration (LAL-H), and the U.S. Preventive Services Task Force Program, Agency for Healthcare Research and Quality (QN-M), U.S. Department of Health and Human Services, Rockville, MD.

Funding: The authors acknowledge the financial support for this study provided by the Health Resources and Services Administration (HRSA) of the U.S. Department of Health and Human Services (HHS) (Contract No. HHSH250200646022I).

Conflict of interest: none declared.

Disclaimer: The views expressed in this publication are solely the opinions of the authors and do not necessarily reflect the official policies of HHS, HRSA, or the Agency for Healthcare Research and Quality, nor does mention of the department or agency names imply endorsement by the U.S. government.

Corresponding author: Leiyu Shi, DrPH, MBA, MPA, Johns Hopkins Primary Care Policy Center, Department of Health Policy and Management, Johns Hopkins Bloomberg School of Public Health, 624 North Broadway, Hampton House Room 409, Baltimore, MD 21205 (E-mail: lshi@jhsph.edu).

the health care system. Recent research has emphasized the importance of measuring patients' self-reports and ratings of their health care experiences. Patient-centered quality measurement tools have been developed to capture these perspectives, the most notable of which is the Consumer Assessment of Health care Providers and Systems collection of surveys.[2,3] Studies have shown that positive patient experiences with the care and services they receive from providers and within health care settings are associated with several positive outcomes, including increased health care utilization, heightened compliance with prescribed treatment regimens, and fewer missed appointments.[4,5]

Primary care plays a critical role in the health and well-being of patients, setting a framework for health maintenance and early detection and treatment of disease.[6,7] In its landmark report, the Institute of Medicine listed several defining attributes of primary care, including accessibility, coordination, and comprehensiveness.[8] Accessibility refers to the degree to which a patient is able to access and use health services when a health problem must be addressed. Coordination describes care and services that operate seamlessly along a continuum through the health care system. Comprehensiveness refers to the role of primary care within the larger health system and indicates the ability of primary care settings to assist patients with related services. More recent efforts also highlight the significance of provider-patient communication in promoting high-quality, patient-centered care.[9]

The association between primary care, access to care, and health outcomes also has been well documented in the literature.[10,11] In particular, individuals who experience a lack of access to primary care are more likely to sustain serious morbidity from preventable conditions because of missed screening services (eg, hypertension, stroke) and to suffer from severe health or chronic conditions requiring hospitalizations or emergency care.[12,13] Health insurance has similarly been shown to be strongly associated with access to care.[14] Despite this knowledge, significant differences in access to quality primary care exist across groups. Being poor or belonging to a racial/ethnic minority is generally associated with having unmet health care needs, inferior access to primary care, and worse health outcomes.[15,16] Furthermore, those who are poor or lack health insurance are more likely to suffer higher rates of morbidity and mortality.[16] These disparities bring enormous economic and social consequences for the United States; thus, reducing or eliminating disparities in health and health care is a priority for the nation.[1,16]

Federally funded health centers (HCs) play an important role in addressing health disparities in the United States. Originating in the 1960s, HCs aim to provide comprehensive primary care and support services to people living in medically underserved areas.[17] HCs offer a wide range of services, including primary care services, mental/behavioral health care, dental care, and supportive services (eg, transportation, translation services, health education).[18,19] As of 2011, 1128 HCs with more than 8000 sites served more than 20 million patients across the nation. HCs typically provide care to underserved communities comprising patients who are predominantly poor, uninsured/underinsured, or racial/ethnic minorities. More than 90% of patients who seek care from HCs have incomes below 200% of the federal poverty level; more than 60% are racial/ethnic minorities, and nearly 40% are uninsured.[19]

It is critical to evaluate services in primary care settings that provide care for underserved or vulnerable populations, such as HCs, as well as to examine factors that exist in the relationship between primary care and health outcomes, to accomplish the nation's goal of reducing or eliminating disparities in health and health care. However, there have been few studies in HC settings investigating differences in the quality of the primary care experienced by patients with different insurance statuses or those of different racial/ethnic groups. The purpose of this study was to investigate the quality of the primary care experienced by patients attending an HC. In particular, this study (1) described the quality of the primary care experience from the perspective of patients attending an HC, (2) examined differences in the primary care experience among patients of different racial/ethnic groups and insurance coverages, and (3) investigated whether race/ethnicity or insurance coverage were significantly associated with patients' primary care experience after accounting for other covariates.

Methods

Data Source

This study employed a cross-sectional analysis using data from the 2009 Health Center Patient Sur-

Table 1. Dependent Measures of Accessibility, Communication, Comprehensiveness, and Coordination

Category	Measure	Variable
Accessibility	Have a usual source of care	Yes/more than one place vs. no
	Convenience of HC location	Excellent/very good/good vs. fair/poor
	Ability to be seen at HC	Excellent/very good/good vs. fair/poor
Communication	Provider listens to patient	Excellent/very good/good vs. fair/poor
	Provider explains what patient wants to know	Excellent/very good/good vs. fair/poor
	Provider gives good advice and treatment	Excellent/very good/good vs. fair/poor
Comprehensiveness	Staff assisted patient with application for government benefits	Yes vs. no
	Staff helped patient obtain transportation to medical appointments	Yes vs. no
	Staff helped patient obtain free medication	Yes vs. no
Coordination	Staff helped patient arrange medical appointments at other care settings	Yes vs. no

HC, health center.

vey, a nationally representative survey sponsored by the Health Resources and Services Administration. The 2009 Health Center Patient Survey has a probability sample of 4562 patients representing more than 16 million patients seen at HCs during 2009.

A complex, 3-stage sampling scheme was employed to ensure that the final set of survey responses was a nationally representative sample. First, eligible HCs were randomly selected from a larger sampling frame, and then eligible sites were selected from within each HC. Finally, eligible patients were selected from each HC site. Eligible patients were those who had at least one medical visit to an eligible HC site in the past 12 months. First-stage sampling was stratified by funding stream, HC size, US Census region, urban/rural location, and number of service sites per HC. The second stage selected up to 3 sites per HC. The third stage selected individual patients within service sites, and interviews were completed between September and December 2009. Computer-assisted personal interviews were conducted in English and Spanish and lasted about 50 minutes. After completing the interview, respondents received $25 in cash or as a gift card. Institutional review board approval was obtained from Research Triangle International, the organization in charge of data collection. Local institutional review board or other committee approvals were obtained where necessary.

Overall, 188 grantees were sampled with probability proportional to HC patient volume (91% response rate at the grantee level). The second stage selected up to 3 sites per grantee. Data were collected from a total of 432 sites (97% response rate at the site level). The third stage selected individual patients within service sites, and a consecutive sample was selected from patients who entered the site and consented to participate in the survey. Among 8275 patients initially invited to participate, 5965 (72%) consented to participate. Of these, 1323 (16%) were ineligible because they did not have a visit during the past year, and another 80 (1.0%) did not complete the interviews. A total of 4562 patients completed interviews. Thus, the response rate was 55% among patients initially identified, and the response rate was 98% among patients confirmed to be eligible.

Measures

The 10 outcome measures used in this study describe distinguishing attributes of primary care that capture the quality of patients' primary care experiences in the HC. All measures were coded as dichotomous variables. Patient-reported dependent measures included 3 measures of accessibility, 3 measures rating communication, 3 measures reporting comprehensiveness, and 1 measure reporting coordination. These measures are described in Table 1.

The comprehensiveness measures in particular are unique to HC settings; most private practices would not define comprehensiveness in the same way and would not typically provide these types of services. However, we included the measures here because they comprise types of "enabling services"

that are considered critical to ensuring access to quality services for the HC patient population.

The main independent variables were race/ethnicity and insurance status. Race/ethnicity was categorized into 5 groups: Hispanic, non-Hispanic white, non-Hispanic black, non-Hispanic Asian, and other. Insurance status was categorized into 5 groups: uninsured, Medicaid, Medicare, private insurance, and other public insurance, including, for example, military or other state-sponsored plans. Several additional covariates were included in the analysis: age, sex, marital status, employment status, education, language (ie, English fluency), and perceived health status.

Analysis

Descriptive statistics were first obtained for all patients attending an HC. Next, bivariate analyses were performed, comparing indicators of quality of primary care across racial/ethnic and insurance categories. Finally, multivariate logistic regressions were conducted to investigate the relationship between race/ethnicity and insurance coverage and quality of the primary care experience while controlling for the potential confounding effects of demographic and socioeconomic characteristics of the HC study sample. All statistical analyses accounted for the complex sampling design used in this study by incorporating weights as well as variables identifying strata. SAS statistical software version 9.1 (SAS, Inc., Cary, NC) was used to perform all statistical analyses in this study, and 2-tailed P values $\leq .05$ were considered to be statistically significant.

Results

Sociodemographic Characteristics of Patients at HCs

Table 2 shows the distribution of sociodemographic characteristics among the overall sample of patients at HCs. Weighted frequencies showed a greater proportion of female than male patients (59% female vs. 41% male). Non-Hispanic white respondents comprised the highest proportion of any racial/ethnic group, followed by Hispanic and non-Hispanic black respondents (38% non-Hispanic white, 32% Hispanic, 22% non-Hispanic black). Regarding insurance coverage, most patients at HCs were either uninsured or insured by Medicaid (37% uninsured, 33% Medicaid). About 10% of patients had Medicare, and another 10% had private insurance. Other public insurance plans collectively accounted for the final 10% of patients.

Table 2. Health Center Patient Characteristics (n = 4562)

Characteristics	
Mean age, years (SE)	34.15 (1.04)
Sex	
Male	1674 (40.56)
Female	2888 (59.44)
Race/ethnicity	
Hispanic	1976 (31.99)
Non-Hispanic white	1137 (37.79)
Non-Hispanic black	1114 (21.53)
Asian/other non-Hispanic	335 (8.70)
Insurance	
Uninsured	1751 (36.55)
Medicaid	1410 (32.53)
Medicare	489 (9.96)
Private	338 (9.98)
Other public	502 (10.99)
Marital status	
Married	1094 (28.91)
Not married	2920 (71.09)
Employment	
Employed	1252 (37.81)
Unemployed	2728 (62.19)
Education	
Less than high school	2240 (46.96)
High school or more	2023 (53.04)
English fluency	
Language other than English	1005 (17.13)
English	2458 (57.88)
Inapplicable	1084 (24.99)
Perceived health status	
Excellent/very good/good	2716 (67.66)
Fair/poor	1842 (32.34)

Data are counts (weighted percentages) unless otherwise indicated. Data are taken from the 2009 Health Center Patient Survey. Numbers may not add up to 100% because of missing data for certain variables.
SE, standard error.

Although more than half of patients reported English fluency, one fifth self-reported as not speaking English (58% English fluency vs. 17% no English fluency). Most patients at HCs felt they were in good health (68% excellent/very good/good perceived health status vs. 32% fair/poor perceived health status).

Race/Ethnicity and Quality of Care Experienced by Patients at HCs

Table 3 compares quality of primary care experienced by patients at HCs across the major racial/

Table 3. Quality of Primary Care Experienced by Health Center (HC) Patients by Race/Ethnicity

	Respondents (n = 4227)	Non-Hispanic White (n = 1,137)		Non-Hispanic Black (n = 1114)		Hispanic (n = 1976)		Asian/Other Non-Hispanic (n = 335)	
		Frequency	Weighted % (SE)	Frequency	Weighted % (SE)	Frequency	Weighted % (SE)	Frequency	Weighted % (SE)
Accessibility									
Have a usual source of care	3532	969	82.57 (3.23)	913	78.44 (4.84)	1627	81.44 (4.14)	280	86.85 (3.79)
Convenience of HC location	4061	1087	96.19 (1.33)	1076	96.60 (1.15)	1871	95.40 (1.08)	320	98.86 (0.47)
Ability to be seen by provider	3884	1053	92.57 (1.52)	1007	88.21 (2.21)	1799	91.03 (1.40)	311	91.56 (3.03)
Communication									
Provider listens to patient*	4080	1107	98.16 (0.75)	1061	96.42 (1.45)	1885	92.25 (2.11)	320	96.62 (1.86)
Provider explains what patient wants to know	4039	1096	97.52 (0.61)	1051	95.50 (1.50)	1866	94.41 (1.48)	315	95.68 (1.90)
Provider gives patient good advice and treatment	4045	1096	97.62 (0.63)	1062	97.71 (1.16)	1861	95.74 (1.03)	318	96.61 (1.77)
Comprehensiveness									
Staff helped patient apply for government benefits*	1126	269	21.44 (3.19)	255	17.30 (2.43)	592	29.42 (2.32)	104	29.77 (6.94)
Staff helped patient get transportation to medical appointment	680	157	6.49 (1.57)	249	11.29 (3.78)	266	10.81 (2.30)	92	11.04 (3.37)
Staff helped patient get free medication	1587	478	31.56 (2.67)	496	31.42 (2.88)	599	24.61 (2.99)	169	37.26 (6.44)
Coordination									
Staff helped patient arrange medical appointments at other care settings*	2043	635	52.18 (3.78)	575	49.04 (7.25)	819	36.16 (2.54)	199	54.29 (6.72)

Percentages and standard error (SE) based on weighted frequencies.
*$P < .01$.

ethnic groups. With regard to accessibility indicators, more than 95% of respondents from each racial/ethnic group reported convenient HC location. Furthermore, there were no statistically significant racial/ethnic differences in any of the 3 accessibility measures. Overall, patients positively rated their experiences with patient-provider communication, with more than 90% of respondents in each racial/ethnic group reporting that their providers gave adequate explanations and good advice and treatment. Slightly lower proportions of Hispanic patients reported that their provider listened to them (92%) compared with non-Hispanic white patients (98%), non-Hispanic Asian/other patients (97%), and non-Hispanic black patients (96%) ($P < .01$). Few racial/ethnic differences were observed with regard to the comprehensiveness of primary care offered at HCs, although a smaller proportion of non-Hispanic black patients reported that HC staff helped them apply for government benefits (17%) than non-Hispanic Asian/other patients (30%), Hispanic patients (29%) or non-Hispanic white patients (21%) ($P < .01$). In addition, racial/ethnic differences were observed with regard to coordination of care: a smaller proportion of Hispanic patients reported that HC staff helped them arrange medical appointments at other care settings (36%) compared with non-Hispanic Asian/other (54%), non-Hispanic white (52%), and non-Hispanic black patients (49%) ($P < .01$).

Insurance Status and Quality of Care Experienced by Patients at HCs

Table 4 compares the quality of primary care experienced by patients at HCs across the major insurance groups. No notable insurance-based differences were found with regard to communication. However, with regard to accessibility of care, a smaller proportion of uninsured patients and patients with other public insurance reported having a usual source of care (77% for both) compared with patients insured by Medicare (89%) or Medicaid (87%) or privately insured patients (86%) ($P < .05$). In addition, virtually all privately insured patients and 98% of Medicaid patients reported convenient HC location, a value slightly higher than uninsured patients, patients with other public insurance (95% for both), and patients insured by Medicare (94%) ($P < .05$). Notable differences also were observed with regard to the comprehensiveness of primary care provided at HCs. A higher proportion of patients insured by Medicaid and Medicare reported that HC staff helped them apply for government benefits (32% and 30%, respectively) compared with uninsured or privately insured patients (18% and 16%, respectively), with patients with other public insurance falling in between ($P < .001$). Regarding primary care coordination, a larger proportion of patients insured by Medicare reported that HC staff helped them arrange medical appointments at other care settings (68%), followed by privately insured patients and patients with other public insurance (52% for both), patients insured by Medicaid (48%), and uninsured patients (37%) ($P < .001$).

Logistic Regressions: Predictors of Primary Care Experience by Patients at HCs

Table 5 displays the results of multivariate logistic regressions performed to examine predictors of the quality of primary care experienced by patients at HCs. The analysis primarily focused on race/ethnicity and insurance status while adjusting for several sociodemographic and health status characteristics, including age, sex, marital status, employment status, educational level, English fluency, and perceived health status.

After controlling for these covariates, few racial/ethnic disparities were observed with regard to the quality of primary care among patients at HCs. Non-Hispanic black patients had lower odds of reporting the ability to be seen by a provider (odds ratio [OR], 0.52; 95% confidence interval [CI], 0.31–0.87), and Hispanic patients had lower odds of reporting that staff helped them arrange appointments elsewhere (OR, 0.55; 95% CI, 0.34–0.89), compared with non-Hispanic white patients. On the other hand, non-Hispanic Asian/other patients had higher odds of reporting convenient HC location (OR, 5.10; 95% CI, 1.39–18.74) and higher odds of reporting that staff helped them arrange appointments elsewhere (OR, 1.65; 95% CI, 1.02–2.67) compared with non-Hispanic white patients.

After controlling for sociodemographic and health status covariates, several significant insurance-related disparities were observed for the quality of primary care experience among patients at HCs in terms of comprehensiveness and coordination of care. Patients insured under Medicaid and Medicare had higher odds of reporting that HC staff helped them apply for government benefits

Table 4. Quality of Primary Care Experienced by Health Center (HC) Patients by Insurance Status

		Uninsured (n = 1751)		Medicaid (n = 1410)		Medicare (n = 489)		Private (n = 338)		Other Public (n = 502)	
	Respondents (n = 3499)	Frequency	Weighted % (SE)	Frequency	Weighted % (SE)	Frequency	Weighted % (SE)	Frequency	Weighted % (SE)	Frequency	Weighted % (SE)
Accessibility											
Have a usual source of care*	2884	1379	76.98 (3.04)	1221	86.54 (3.42)	434	88.61 (2.48)	284	85.76 (3.05)	426	76.79 (8.71)
Convenience of HC location*	3354	1670	94.77 (1.48)	1350	97.75 (0.91)	459	94.34 (1.70)	334	99.95 (0.04)	474	94.92 (1.86)
Ability to be seen by provider	3196	1608	90.95 (1.73)	1279	89.68 (1.93)	453	96.33 (1.27)	309	94.44 (2.16)	459	90.96 (3.19)
Communication											
Provider listens to patient	3356	1675	96.62 (1.15)	1357	96.50 (1.01)	470	98.15 (0.74)	324	96.55 (2.61)	479	90.43 (3.80)
Provider explains what patient wants to know	3319	1658	96.44 (0.97)	1340	95.91 (0.98)	467	97.24 (0.91)	321	96.54 (2.61)	475	97.35 (0.95)
Provider gives patient good advice and treatment	3324	1662	96.30 (1.06)	1338	97.46 (0.73)	467	96.65 (1.01)	324	98.91 (0.64)	477	97.89 (0.88)
Comprehensiveness											
Staff helped patient apply for government benefits†	903	375	17.66 (2.56)	486	31.69 (4.19)	128	29.72 (4.88)	42	15.66 (4.05)	172	23.77 (5.07)
Staff helped patient get transportation to medical appointment	554	275	8.73 (2.04)	254	10.59 (2.67)	106	11.87 (2.62)	25	4.92 (1.73)	98	8.33 (3.12)
Staff helped patient get free medication	1301	775	34.01 (3.40)	444	26.34 (2.24)	192	32.80 (4.12)	82	21.95 (3.50)	224	29.65 (4.98)
Coordination											
Staff helped patient arrange medical appointments at other care settings†	1597	743	37.11 (4.35)	677	47.52 (2.38)	326	67.51 (5.17)	177	51.96 (4.31)	271	51.82 (6.72)

Percentages and standard error (SE) based on weighted frequencies.
*$P < .05$.
†$P < .001$.

Table 5. Logistic Regressions: Predictors of Primary Care Experience by Health Center (HC) Patients

	Accessibility			Communication			Comprehensiveness			Coordination
	Have a Usual Source of Care	Convenience of HC Location	Ability to be Seen by Provider	Provider Listens to Patient	Provider Explains What Patient Wants to Know	Provider Gives Patient Good Advice and Treatment	Staff Helped Patient Apply For Government Benefits	Staff Helped Patient Get Transportation to Medical Appointment	Staff Helped Patient Get Free Medication	Staff Helped Patient Arrange Medical Appointments At Other Centers
Race/ethnicity										
Non-Hispanic white (ref)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Non-Hispanic black	0.65 (0.33–1.27)	1.01 (0.33–3.07)	0.52* (0.31–0.87)	0.88 (0.26–3.04)	1.12 (0.41–3.06)	1.86 (0.80–4.29)	0.77 (0.50–1.19)	2.09 (0.997–4.36)	1.19 (0.86–1.64)	0.79 (0.43–1.44)
Hispanic	0.65 (0.31–1.37)	0.87 (0.31–2.41)	1.09 (0.41–2.88)	0.38 (0.12–1.18)	0.53 (0.23–1.23)	0.94 (0.35–2.49)	1.35 (0.84–2.15)	1.82 (0.95–3.49)	0.95 (0.53–1.69)	0.55* (0.34–0.89)
Asian/other non-Hispanic	1.15 (0.61–2.15)	5.10* (1.39–18.74)	0.70 (0.27–1.78)	0.97 (0.31–3.07)	0.96 (0.35–2.61)	0.75 (0.17–3.31)	1.46 (0.77–2.74)	2.35 (0.998–5.52)	1.58 (0.83–3.00)	1.65* (1.02–2.67)
Insurance										
Uninsured (ref)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Medicaid	1.59 (0.79–3.19)	2.49 (0.65–9.62)	0.93 (0.44–1.96)	1.05 (0.31–3.51)	0.90 (0.33–2.46)	1.98 (0.73–5.40)	2.29‡ (1.46–3.57)	1.15 (0.63–2.10)	0.76 (0.47–1.21)	2.04‡ (1.35–3.09)
Medicare	1.75 (0.98–3.10)	0.99 (0.27–3.66)	2.30 (0.95–5.58)	0.77 (0.23–2.56)	1.03 (0.38–2.78)	1.27 (0.58–2.82)	1.89* (1.03–3.48)	1.20 (0.63–2.31)	0.67 (0.40–1.15)	2.40§ (1.29–4.44)
Private	1.69 (0.93–3.07)	—†	1.59 (0.61–4.13)	0.58 (0.08–4.07)	0.55 (0.11–2.80)	1.81 (0.45–7.27)	0.92 (0.39–2.18)	0.72 (0.32–1.60)	0.51* (0.29–0.92)	1.70* (1.06–2.73)
Other public	0.79 (0.30–1.80)	0.96 (0.39–2.40)	0.95 (0.47–1.96)	0.45 (0.12–1.66)	1.14 (0.44–2.92)	1.69 (0.58–4.95)	1.67 (0.98–2.83)	0.90 (0.37–2.10)	0.85 (0.54–1.33)	1.77* (1.00–3.14)
Age	1.03** (1.01–1.05)	1.03 (0.999–1.06)	1.04‡ (1.02–1.06)	1.05‡ (1.03–1.07)	1.02 (0.998–1.04)	1.02 (0.99–1.04)	1.00 (0.98–1.02)	0.99 (0.97–1.01)	1.01 (0.998–1.02)	1.02‡ (1.01–1.03)
Sex										
Male (ref)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Female	0.71 (0.41–1.23)	1.56 (0.64–3.79)	0.73 (0.41–1.31)	1.31 (0.47–3.63)	0.66 (0.28–1.60)	0.60 (0.31–1.17)	1.42 (0.93–2.16)	1.31 (0.73–2.34)	1.08 (0.80–1.46)	1.36 (0.98–1.90)
Marital status										
Not married (ref)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Married	0.85 (0.57–1.28)	0.77 (0.31–1.87)	0.66 (0.34–1.25)	1.37 (0.48–3.92)	2.56 (0.96–6.79)	1.40 (0.50–3.90)	0.99 (0.68–1.45)	0.76 (0.43–1.32)	1.06 (0.75–1.50)	0.91 (0.72–1.16)
Employment										
Unemployed (ref)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Employed	0.77 (0.48–1.21)	0.92 (0.43–1.98)	0.96 (0.52–1.75)	0.81 (0.32–2.03)	1.39 (0.70–2.78)	5.78‡ (2.41–13.87)	0.79 (0.52–1.20)	0.51 (0.23–1.14)	0.88 (0.62–1.23)	0.70 (0.49–1.001)
Education										
Less than high school (ref)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
High school or more	0.92 (0.62–1.38)	0.87 (0.35–2.19)	0.74 (0.44–1.24)	2.35 (0.94–5.88)	0.67 (0.28–1.61)	1.24 (0.62–2.50)	1.23 (0.82–1.83)	0.83 (0.49–1.39)	1.07 (0.73–1.56)	1.11 (0.78–1.58)
English fluency										
Language other than English (ref)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
English	0.38 (0.14–1.003)	0.61 (0.19–1.96)	1.04 (0.37–2.90)	1.33 (0.36–4.91)	1.91 (0.54–6.78)	1.78 (0.52–6.09)	0.85 (0.54–1.33)	0.94 (0.50–1.77)	1.48 (0.83–2.64)	0.84 (0.47–1.52)
Inapplicable	0.43 (0.17–1.09)	0.84 (0.28–2.51)	0.78 (0.34–1.78)	0.83 (0.27–2.58)	1.54 (0.46–5.14)	1.38 (0.43–4.48)	1.00 (0.63–1.61)	1.12 (0.48–2.64)	1.26 (0.66–2.40)	0.79 (0.43–1.43)
Perceived health status										
Fair/poor (ref)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Excellent/very good/good	1.33 (0.88–2.02)	3.96‡ (1.82–8.70)	2.17* (1.12–4.18)	1.50 (0.63–3.57)	1.65 (0.79–3.44)	2.25 (0.98–5.14)	0.74 (0.46–1.20)	0.66* (0.44–0.98)	0.72* (0.54–0.96)	0.88 (0.58–1.32)

Data are odds ratios (95% confidence intervals).
*$P < .05$.
† Data are suppressed (unstable estimate because of small sample size).
‡$P < .001$.
§$P < .01$.
Ref, reference category.

(OR, 2.29; 95% CI, 1.46–3.57 and OR, 1.89; 95% CI, 1.03–3.48, respectively) compared with uninsured patients. Privately insured patients had lower odds of reporting that staff helped them get free medication (OR, 0.51; 95% CI, 0.29–0.92). Finally, compared with uninsured patients, all other insurance groups had higher odds of reporting that staff helped them arrange appointments at other care settings.

Discussion

This study is one of the first to use patient survey data to examine the quality of care experienced by a nationally representative sample of patients at HCs. In general, patients at HCs reported high-quality primary care experiences, in particular with regard to measures capturing accessibility and communication. In other words, most patients at HCs were satisfied with their ability to access HC providers and services when needed and with the provider-patient communication experienced during health care visits.

Few racial/ethnic and insurance-related disparities were observed among patients at HCs, indicating that HCs provide high-quality primary care and do not exhibit the disparities that are so prevalent in other health care settings across the United States. However, uninsured patients reported less favorable primary care experiences than either privately or publicly insured patients, in particular in the domains of comprehensiveness and coordination. These findings suggest that continued efforts are necessary before health care disparities can be eliminated in HC settings. For example, additional outreach and assistance from HC staff in applying for government benefits could be provided for uninsured patients. Similar efforts could facilitate the coordination of care with other providers or settings in the community for uninsured patients, as needed.

There were several limitations with this study. First, analyses were limited to the included measures capturing quality of primary care, sociodemographic characteristics, and health status. Nevertheless, this study captured a number of important indicators that are known to be associated with health care disparities, such as those describing socioeconomic status and general perceived health status. Second, the cross-sectional design of this study limited our ability to make causal inferences about the effects of race/ethnicity or insurance status on the quality of primary care experienced. Third, the self-reported nature of responses captured by the patient survey may be subject to recall or response bias. Finally, this study examined the experiences with primary care, but did not examine the links with health outcomes. Future research is needed to investigate the relationship between distinguishing aspects of primary care and health outcomes in patients at HCs.

Despite these limitations, the findings in this study lend support to the critical role that HCs serve as safety-net providers for the nation's vulnerable populations. HCs provide a broad scope of high-quality primary care services to diverse communities. Thus, HCs can be considered an effective primary care model for addressing health and health care disparities and delivering quality care to those who need it most.

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