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Reducing Disparities in Access to Primary Care and Patient Satisfaction with Care: The Role of Health Centers

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Abstract: This paper examined disparities in access to and satisfaction with primary care among patients of different racial/ethnic groups and insurance coverage, in health centers and the nation overall. Data came from the 2009 Health Center Patient Survey and 2009 Medical Expenditure Panel Survey. Study outcomes included usual source of care, type of usual source of care, satisfaction with provider office hours, and satisfaction with overall care. Health center patients were more racially and ethnically diverse than national patients, and health center patients were more likely than national patients to be uninsured or publicly insured. No significant health care disparities in access to care existed among patients from different racial/ethnic and insurance groups among health centers, unlike low-income patients nationwide or the U.S. population in general. Additional focus on the uninsured, in health centers and other health care settings nationwide, is needed to enhance satisfaction with care among these patients.

Key words: Race/ethnicity, insurance, primary care, health centers, disparities.

Significant differences regarding access to care, quality of care, and health outcomes have been well-documented across different racial/ethnic and insurance groups in the United States (U.S.). In general, racial/ethnic minority status, low income, and lack of (or inadequate) health insurance coverage are associated with insufficient access to primary and preventive care.¹⁻⁴ Research suggests that more than 30% of direct medical expenditures are excess costs due to health disparities that create a sicker population.⁵

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Over a three-year period, the direct and indirect costs of health disparities have been estimated to total \$1.24 trillion.⁵ This figure accounts for years of healthy life lost, premature death, reduced ability to work, and an unnecessary burden on society and taxpayers. Due to these economic and social consequences of health care disparities for society, one of the nation's overarching goals for the past decade or so has been to reduce and ultimately eliminate disparities in health and health care.^{1,4,6-7}

The provision of primary care is particularly important because these services provide opportunities for reducing mortality and morbidity by ensuring early detection and treatment of disease and health problems.⁸⁻⁹ Yet accessing quality primary care is not easy for all Americans, particularly vulnerable populations such as racial/ethnic minorities and the uninsured. The federally supported health centers, also referred to as health centers (HCs), have been providing accessible and affordable health care services to individuals in the most resource-deprived communities since the 1960s.¹⁰ The fundamental features of HCs include: (a) location in or provision of services to high-need communities, which are designated as medically underserved areas or populations; (b) provision of primary care services and promotion of better access to care through supportive services (e.g., translation, transportation); and (c) provision of services with fees based on ability to pay.¹¹ The scope of HC services ranges from primary care services to dental care, mental health, and substance abuse services.¹²⁻¹³ A disproportionate number of HC patients are racial/ethnic minorities and uninsured patients from low-income, underserved communities. Based on 2010 data, about 93% of health center patients are below 200% of the federal poverty level, 62% are racial or ethnic minorities, and about 38% are uninsured.¹³ Thus, disadvantaged communities such as these greatly benefit from the ongoing federal support of HCs.

The purpose of this study was to compare the primary care experiences of HC patients with those of low-income patients nationwide. The objectives were: 1) to describe access to primary care and satisfaction with care by patients seen at HCs *versus* low-income patients nationally, and 2) to identify disparities in access and satisfaction among patients of different racial/ethnic groups and insurance coverage in both HCs and low-income patients nationally. Results of this study will provide evidence regarding racial/ethnic and insurance disparities that may still exist in access to primary care and satisfaction with care in HCs compared with the general U.S. population, and with other low-income patients nationwide in particular. Such comparisons are important in determining whether HCs are able to provide access to care and high-quality primary care for vulnerable populations, thus fulfilling their mission as safety-net providers to underserved Americans.

Methods

Data sources. We conducted cross-sectional analyses of two nationally representative surveys. For patients seen at HCs, we used the 2009 Health Center Patient Survey. The survey, sponsored by the Health Resources and Services Administration (HRSA), has a probability sample of 4,562 patients representing over 16 million health center patients seen during 2009 (RTI International. Bureau of Primary Health Care Patient Survey. Deliverable 14: Final Report, Volume I: Survey Methodology. Report to Health Resources

and Services Administration, 2010 [unpublished]). Respondents were selected through a three-stage process: first, HC grantees were randomly selected, second, eligible sites within each selected grantee, and finally eligible patients who had at least one visit to an eligible site in the past 12 months.

For patients seen in other health care settings, we used the 2009 Medical Expenditure Panel Survey (MEPS). The MEPS Household Component is a nationally representative survey of American families and individuals, conducted annually by the Agency for Healthcare Research and Quality since 1996.¹⁴ The survey employs an overlapping panel design, with data collected for each panel of households over a two-year period. The 2009 MEPS survey includes a sample of 34,920 patients. To reflect the design of the Health Center Patient Survey, only respondents with at least one physician visit during the past year were included in the analyses. Patients from all income groups were included in this sample of U.S. general patients. In order to identify a national sample comparable to the HC patient sample, we performed further analyses on a second comparison group of low-income patients from the MEPS (i.e., below 200% of the federal poverty level).

Measures. The outcome measures of interest were selected because they are commonly used indicators of access to primary care and satisfaction with care in health services research, and also because of their availability in both the Health Center Patient Survey and MEPS datasets. The four dependent measures included two access measures (self-reported usual source of care [USC], type of USC) and two patient satisfaction measures (satisfaction with office hours, satisfaction with overall care received).

The main independent variables of interest were race/ethnicity and type of insurance coverage. Respondents reported their own race and ethnicity, and categories included non-Hispanic White, non-Hispanic Black/African American, and Hispanic/Latino. (Data on other racial/ethnic groups are not included here due to small sample sizes in the HC patient survey.) Insurance categories included private insurance, public insurance (e.g., Medicaid, Medicare), and uninsured. Other covariates in the analyses included age, gender, education level, marital status, employment status, language, health status, and physical limitations. These were included because of their known association with primary care experiences.

Analysis. First, descriptive results of all measures for both HC and national patients were provided. Second, bivariate analyses were conducted to compare patients' primary care access and satisfaction by race/ethnicity and insurance coverage for HC, U.S. general, and U.S. low-income patients, respectively. Third, multivariate logistic regressions were performed to assess independent association of race/ethnicity and insurance coverage on primary care access and satisfaction controlling for patients' sociodemographic characteristics for both HC and national low-income patients (from the MEPS), respectively.

All analyses were conducted using SAS version 9.1¹⁵ and included statistical methods for accounting for the complex sampling design. Two-tailed *p*-values less than or equal to .05 were considered statistically significant.

Results

Sociodemographic characteristics among HC versus national patients. Table 1 compares the sociodemographic characteristics of HC patients with those of U.S. general patients. Compared with U.S. general patients, the sample of HC patients was more racially and ethnically diverse (43% Hispanic/Latino and 24% non-Hispanic Black/African American in HCs vs. 28% Hispanic/Latino and 20% non-Hispanic Black/African American in the U.S.). HC patients were also more often uninsured (39% versus 17%) or publicly insured (54% versus 27%), compared with the U.S. general patient sample ($p < .05$ based on chi-square test). Among other sociodemographic characteristics with notable differences, HC patients were more likely than national patients to be female, unmarried, have less than a high school education, not speak English, be in fair or poor health, and have physical limitations ($p < .05$ for all).

Sociodemographic characteristics among HC versus low-income national patients. Table 1 also compares characteristics of HC patients with those of U.S. low-income patients. The HC sample included the same proportion of non-Hispanic Black/African American patients as the U.S. low-income sample (about one-quarter for both) but included more Hispanic/Latino patients (43% versus 36%). Health center patients were more frequently uninsured than U.S. low-income patients (39% versus 13%), and slightly less often publicly insured (54% versus 58%). Health center patients were also more likely than low-income national patients to be unmarried and unemployed, to have less than a high school education, and to be in fair or poor health ($p < .05$ for all).

Race/ethnicity, access to primary care, and satisfaction with care. Table 2 compares primary care access and satisfaction across racial/ethnic groups for HC patients and low-income national patients. A smaller proportion of HC patients reported having a USC (82%), compared with the U.S. low-income population (86%). However, HC patients more frequently reported having a physician's office or HC as their USC, and they were more satisfied with the hours of operation and with the overall care received, compared to the U.S. low-income patient population. Similar results were obtained when HC patients were compared with the overall U.S. patient population (results not shown).

While we found no racial/ethnic disparities in access among HC patients, we found significant racial/ethnic differences among the U.S. low-income population, with non-Hispanic White patients reporting better access than either non-Hispanic Black/African American or Hispanic/Latino patients. While there were no racial/ethnic differences at the national level pertaining to satisfaction with hours of operation, U.S. low-income patients were still less likely to be satisfied than HC patients (37–39% for U.S. low-income patients vs. 94–98% for HC patients, depending on racial/ethnic group). Similar results were obtained when HC patients were compared with the overall U.S. patient population (results not shown).

Insurance status, access to primary care, and satisfaction with care. Table 3 compares primary care access and satisfaction across different insurance groups for HC patients and low-income national patients. Insurance disparities were observed among two of the four measures for HC patients (i.e., USC, satisfaction with overall care), whereas significant insurance-related differences existed for three of four measures among U.S. low-income patients. Moreover, the magnitude of those disparities was

Table 1.**COMPARISON OF HEALTH CENTER PATIENTS
AND NATIONAL PATIENTS^{a,b,c}**

	Health Center Patients	U.S. General Patients	U.S. Low-Income Patients
	Sample Freq (%)	Sample Freq (%)	Sample Freq (%)
Race/Ethnicity			
NH White	1136 (24.9)	13,988 (43.3)	2,732 (33.0)
NH Black/African American	1095 (24.0)	6,315 (19.5)	2,083 (25.1)
Hispanic/Latino	1973 (43.3)	9,183 (28.4)	2,970 (35.8)
NH Other	358 (7.9)	2,843 (8.8)	507 (6.1)
Health Insurance			
Private	338 (7.5)	18,094 (56.0)	2,475 (30.0)
Public	2,401 (53.5)	8,821 (27.3)	4,766 (57.5)
Uninsured	1751 (39.0)	5,414 (16.8)	1,051 (12.7)
Age (years)			
0 to 18	655 (14.4)	9,902 (30.7)	3,340 (40.3)
19 to 59	3,390 (74.3)	17,556 (54.4)	3,393 (41.0)
60 +	517 (11.3)	4,820 (14.9)	1,553 (18.7)
Gender			
Male	1,674 (36.7)	15,495 (47.9)	3,354 (40.5)
Female	2,888 (63.3)	16,834 (52.1)	4,938 (59.5)
Marital Status			
Married	1,094 (27.3)	12,132 (50.9)	2,050 (38.9)
Not Married	2,920 (72.8)	11,696 (49.1)	3,222 (61.1)
Employment Status			
Employed	1,252 (31.5)	15,610 (66.0)	2,238 (42.5)
Unemployed	2,728 (68.5)	8,059 (34.1)	3,025 (57.5)
Education			
Less Than High School	2,240 (52.6)	5,764 (18.0)	1,941 (23.5)
High School or Above	2,023 (47.5)	26,305 (82.0)	6,310 (76.5)
Language Spoken			
English	2,458 (71.0)	26,305 (82.0)	6,358 (76.7)
Other	1,005 (29.0)	5,764 (18.0)	1,934 (23.3)
Health Status			
Excellent/very good/good	2,716 (59.6)	28,646 (88.9)	6,683 (80.6)
Fair/poor	1,842 (40.4)	3,572 (11.1)	1,604 (19.4)
Physical Limitations			
Yes	215 (5.2)	450 (1.4)	249 (3.0)
No	3,917 (94.8)	31,671 (98.6)	7,975 (97.0)

^a For health center patients: Bureau of Primary Health Care (BPHC), Health Resources and Services Administration (HRSA). The 2009 Health Center Patient Survey. Rockville, MD: BPHC/HRSA, U.S. Department of Health and Human Services, 2011. For U.S. patients: Agency for Healthcare Research and Quality (AHRQ). 2009 Medical Expenditure Panel Survey: Household component. Rockville, MD: Agency for Healthcare Research and Quality, U.S. Department of Health and Human Services, 2010.

^b 2009 Health Center Patient Survey has a probability sample of 4,562 patients. 2009 MEPS has a probability sample of 34,920 patients.

^c All results are significantly different between health center and national patients ($p \leq 0.05$) based on Chi-square tests.

Sample Freq = Sample Frequency

NH = Non-Hispanic

Table 2.

**ACCESS TO PRIMARY CARE, SATISFACTION WITH CARE, AND RACE/ETHNICITY:
HEALTH CENTER VS. NATIONAL PATIENTS, % (SE)^a**

	Total, % (SE)		Health Center Patients, % (SE)			U.S. Low-Income Patients, % (SE)		
	Health Center Patients	U.S. Low-Income Patients	NH White	NH Black/African American	Hispanic/Latino	NH White	NH Black/African American	Hispanic/Latino
Have a USC	81.7 (2.6)	86.4 (0.6)	82.6 (3.2)	78.4 (4.9)	81.4 (4.2)	87.6* (0.9)	85.9 (1.4)	83.5 (1.0)
Physician's Office or Health Center as USC	94.5 (1.0)	81.2 (0.9)	93.0 (1.9)	95.6 (1.2)	95.7 (1.5)	87.7*** (1.0)	76.4 (2.0)	68.4 (1.8)
Satisfied with Hours of Operation	95.7 (0.7)	37.4 (1.4)	97.7* (0.7)	96.5 (1.3)	93.9 (1.5)	36.6 (1.9)	39.1 (2.4)	37.4 (3.1)
Satisfied with Overall Care Received	97.7 (0.5)	87.2 (0.7)	98.8 (0.4)	96.7 (1.4)	97.1 (0.9)	87.5 (1.0)	86.5 (1.4)	88.5 (1.1)

*p<.05, across racial/ethnic subpopulations for health center and U.S. low-income patients, respectively.

**p<.01, across racial/ethnic subpopulations for health center and U.S. low-income patients, respectively.

***p<.001, across racial/ethnic subpopulations for health center and U.S. low-income patients, respectively.

^aFor health center patients: Bureau of Primary Health Care (BPHC), Health Resources and Services Administration (HRSA). The 2009 Health Center Patient Survey. Rockville, MD: BPHC/HRSA, U.S. Department of Health and Human Services, 2011. For U.S. patients: Agency for Healthcare Research and Quality (AHRQ). 2009 Medical Expenditure Panel Survey: Household component. Rockville, MD: Agency for Healthcare Research and Quality, U.S. Department of Health and Human Services, 2010.

SE = Standard error

NH = Non-Hispanic

USC = Usual source of care

significantly greater among low-income patients than HC patients. For example, among HC patients, a smaller proportion of the uninsured had a USC (77%), compared with the privately insured (86%) or publicly insured (85%), a difference of 8–9 percentage points between insurance groups. In comparison, among national low-income patients, 67% of the uninsured had a USC compared with the privately insured (88%) or publicly insured (90%), a much larger gap between groups (21–23 percentage point difference). Similarly, compared with HC patients, significant insurance-related differences existed across all four measures among the general U.S. patient population (results not shown).

Multivariate logistic regressions: Predictors of access to primary care and satisfaction with care. Table 4 shows the results of multivariate logistic regressions examining the impact of race/ethnicity and insurance status on primary care access and satisfaction, for both HC and national low-income patients, respectively. The analyses adjusted for several covariates, including patients' age, gender, marital status, employment status, educational level, language, health status, and presence of physical limitations.

Table 3.

**ACCESS TO PRIMARY CARE, SATISFACTION WITH CARE,
AND INSURANCE STATUS: HEALTH CENTER VS. NATIONAL
PATIENTS, % (SE)^a**

	Health Center Patients, % (SE)			U.S. Low-Income Patients, % (SE)		
	Private	Public	Uninsured	Private	Public	Uninsured
Have a USC	85.8* (3.1)	84.9 (3.1)	77.0 (3.0)	87.8*** (0.9)	90.1 (0.8)	66.9 (2.2)
Physician's Office or Health Center as USC	93.1 (2.4)	94.5 (1.1)	95.6 (1.1)	85.1*** (1.3)	79.5 (1.2)	75.5 (2.4)
Satisfied with Hours of Operation	98.0 (0.9)	96.2 (0.9)	94.3 (1.5)	38.6 (2.1)	37.0 (1.7)	35.0 (3.1)
Satisfied with Overall Care Received	99.7* (0.1)	98.3 (0.5)	97.2 (1.0)	90.0*** (1.1)	86.4 (1.1)	80.9 (2.3)

* $p < .05$, across privately insured, publicly insured, and uninsured subpopulations for health center and U.S. low-income patients, respectively.

** $p < .01$, across privately insured, publicly insured, and uninsured subpopulations for health center and U.S. low-income patients, respectively.

*** $p < .001$, across privately insured, publicly insured, and uninsured subpopulations for health center and U.S. low-income patients, respectively.

^a For health center patients: Bureau of Primary Health Care (BPHC), Health Resources and Services Administration (HRSA). The 2009 Health Center Patient Survey. Rockville, MD: BPHC/HRSA, U.S. Department of Health and Human Services, 2011. For U.S. patients: Agency for Healthcare Research and Quality (AHRQ). 2009 Medical Expenditure Panel Survey: Household component. Rockville, MD: Agency for Healthcare Research and Quality, U.S. Department of Health and Human Services, 2010. SE = Standard error

USC = Usual source of care

Table 4.**MULTIVARIATE LOGISTIC REGRESSIONS: PREDICTORS OF ACCESS TO PRIMARY CARE AND SATISFACTION WITH CARE FOR HEALTH CENTER AND NATIONAL PATIENTS^{a,b}**

	Have a USC	Physician's Office or Health Center as USC	Satisfied with Hours of Operation	Satisfied with Overall Care Received
Health Center Patients: Odds Ratio (95% Confidence Interval)				
Race/Ethnicity				
NH-White (reference)	1.00	1.00	1.00	1.00
NH-Black/African American	0.63 (0.37–1.08)	1.44 (0.68–3.04)	0.66 (0.24–1.77)	0.66 (0.25–1.76)
Hispanic/Latino	0.61 (0.36–1.03)	0.79 (0.37–1.72)	0.75 (0.29–1.90)	0.76 (0.26–2.18)
Health Insurance				
Private (reference)	1.00	1.00	1.00	1.00
Public	0.74 (0.36–1.52)	1.33 (0.46–3.85)	0.97 (0.27–3.48)	0.47 (0.16–1.43)
Uninsured	0.57 (0.30–1.11)	1.91 (0.63–5.76)	0.84 (0.23–3.01)	0.29* (0.09–0.91)
c-statistic	0.559	0.611	0.576	0.603
U.S. Low-Income Patients: Odds Ratio (95% Confidence Interval)				
Race/Ethnicity				
NH-White (reference)	1.00	1.00	1.00	1.00
NH-Black/African American	1.05 (0.80–1.38)	0.48*** (0.36–0.64)	1.12 (0.89–1.41)	1.04 (0.78–1.40)
Hispanic/Latino	0.67* (0.49–0.92)	0.45*** (0.32–0.64)	1.02 (0.72–1.43)	1.04 (0.73–1.48)
Health Insurance				
Private (reference)	1.00	1.00	1.00	1.00
Public	0.83 (0.62–1.12)	0.72* (0.54–0.96)	1.11 (0.85–1.45)	0.80 (0.55–1.16)
Uninsured	0.35*** (0.26–0.47)	0.76 (0.54–1.08)	0.87 (0.64–1.18)	0.65* (0.43–0.97)
c-statistic	0.703	0.664	0.600	0.664

*p<.05
**p<.01
***p<.001

^a For health center patients: Bureau of Primary Health Care (BPHC), Health Resources and Services Administration (HRSA). The 2009 Health Center Patient Survey. Rockville, MD: BPHC/HRSA, U.S. Department of Health and Human Services, 2011. For U.S. patients: Agency for Healthcare Research and Quality (AHRQ). 2009 Medical Expenditure Panel Survey: Household component. Rockville, MD: Agency for Healthcare Research and Quality, U.S. Department of Health and Human Services, 2010.

^b Covariates include age, gender, marital status, employment, education, language, health status, and physical limitations.

USC = Usual source of care
NH = Non-Hispanic

For HC patients, after controlling for sociodemographic and health status covariates, no racial/ethnic disparities were noted in the primary care experience. There was only one significant insurance-based disparity: uninsured patients had lower odds of being satisfied with overall care received, compared with privately insured patients.

For national low-income patients from the MEPS, significant racial/ethnic and insurance-related disparities were noted in the primary care experience for three of the four measures even after controlling for sociodemographic and health status covariates. Minority patients had lower odds of reporting access to primary care than non-Hispanic White patients. Uninsured patients also had lower odds of reporting access to care and satisfaction with overall care, compared with privately insured patients.

Discussion

This is the first study comparing the primary care experiences of a nationally representative sample of HC patients with a nationally representative sample of low-income patients. Results of our study showed that HC patients were more racially and ethnically diverse than national patients and were more likely to be uninsured or publicly insured than national patients. These results demonstrate that HCs are successfully reaching vulnerable populations, particularly those at risk for health disparities.

This study also demonstrates that racial/ethnic and insurance-related disparities in access to primary care and satisfaction with care existed at the national level for the low-income U.S. population, even after accounting for sociodemographic and health status characteristics. The nature of the disparities found here are consistent with the directions typically reported in the literature: compared with non-Hispanic Whites, non-Hispanic Blacks/African Americans and Hispanics/Latinos were less likely to have access to primary care, as measured by reports of having a USC. In addition, uninsured patients were less likely to report having access to care and being satisfied with their care, relative to insured patients.

In contrast, HC patients reported comparable or better access to primary care and satisfaction with care, compared with U.S. low-income health care users, below 200% of the federal poverty level. This is a notable finding, given that HC patients are even more likely than other low-income patients across the U.S. to be disadvantaged, including greater proportions who are racial/ethnic minorities, uninsured, unemployed, have lower education, and in worse health. Among patients who have had access to a HC, there were no observed disparities in access to care by race/ethnicity or by health insurance status, suggesting that HCs are successfully providing access to primary care across all these demographic groups. However, among uninsured patients, both HC patients and low-income U.S. patients are less likely to be satisfied with the health care received. These results suggest that as safety-net providers for vulnerable populations, HCs provide access to primary care and demonstrate that health care disparities among racial/ethnic groups can be minimized; however, effort still must be focused on improving the patient experience, particularly for uninsured patients.

Health care disparities are minimized at HCs, relative to other providers in the U.S., indicating that HCs are performing a critical role in eliminating disparities in access to health care. Elimination of national disparities in access to care will depend

on broader adoption of the HC model of care, which includes comprehensive and preventive primary care, a focus on vulnerable populations such as minorities and the uninsured, consumer participation, enabling services, cultural and linguistic sensitivity, community partnership, and continuous quality improvement.

There were several limitations to this study. First, data were cross-sectional so conclusions cannot be made about the causal effect of race/ethnicity or insurance on primary care experiences. In addition, direct comparisons between the HC patient population and the national patient population were not possible because the data came from two separate sources. Furthermore, our indicators of primary care experience may confound the concepts of service use and need. However, we attempted to control for this concern by adding model covariates to capture general health status and functional limitations, which influence the need for health care services. Finally, our study identified racial/ethnic and insurance-related disparities but did not attempt to explain why they were more pervasive in national settings than among HCs. Future research could explore the mechanisms that HCs employ to successfully reduce and eliminate disparities, in order to develop a best-practices strategy for other health care providers that serve vulnerable populations. In addition, more research is needed to identify variations in the quality of primary care across HCs, and to determine which HC characteristics are associated with more positive patient care experiences.

Our findings have important implications for health services research and policy. Our study affirms the important role fulfilled by HCs in serving the nation's most vulnerable patients, including racial/ethnic minorities and uninsured or publicly insured patients. As cost-effective providers of primary and preventive care services, HCs have long been considered a crucial component of the interdisciplinary health care community. This study further demonstrates that they may also serve as a model of primary care delivery for mainstream providers who serve vulnerable populations. Additional focus on the uninsured, in both HC settings and other health care settings, is also needed and may serve to enhance the quality of care experienced by these patients.

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Notes

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