

# Sociodemographic Differences Associated with Utilization of Weekend Versus Weekday Primary Care Visits



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To the Editors:

Weekend and evening hour outpatient appointments may improve healthcare access for patients. A survey of general practice patients in the UK found that younger individuals, those who work full time, and those with mobility problems believed they would benefit from weekend availability.<sup>1</sup> Offering evening or weekend appointments for mammography screening led to increased follow-through rates in a randomized trial.<sup>2</sup> In addition, there is an association between practices offering weekend and evening hours with improved patient satisfaction and decreased healthcare costs.<sup>3, 4</sup> Although the availability of weekend appointments may be important for certain sociodemographic groups, little is known about the sociodemographic characteristics of patients who use weekend versus weekday primary care appointments in the USA.

To investigate the characteristics of patients seeking weekend outpatient primary care visits in the USA with an internal medicine or family medicine physician, we used the National Ambulatory Medical Care Survey, which includes sociodemographic data for 2006–2011, such as percentage below the poverty threshold, median household income, percentage of adults with a bachelor's degree or higher, and urban-rural classification, based on the patient's ZIP code of residence. In addition, data on patient race/ethnicity, geographic region, and Medicaid status are also available.

For each sociodemographic variable, we evaluated the relative utilization of weekday versus weekend appointments using chi-square tests. In addition, multivariate logistic regression was used to evaluate for factors associated with weekend visits. Statistical analyses were performed with R 3.6.1 (R Foundation). Survey weights were used for estimation of descriptive statistics. Since survey weights did not substantially influence the logistic regression parameter estimates, these were not used with the logistic regression model since inclusion of the survey weights results in inefficiency and loss of statistical power.<sup>5</sup> Observations with missing sociodemographic data were excluded from the analysis.

Institutional review board approval was not required for this study, since it uses de-identified data.

Overall, 2.0% of primary care visits occurred on the weekend. Patients utilizing weekend visits were more likely to live in wealthier areas (2.6% highest income quartile versus 1.7% lowest quartile,  $\chi^2 p < 0.01$ ) and areas with a higher percent of adults with a bachelor's degree or higher (2.2% highest quartile versus 1.8% in lowest quartile,  $\chi^2 p < 0.01$ ). Those living in large fringe metro (3.7%) and large central metro areas (2.1%) were more likely to utilize weekend visits than those living in small-metro (0.9%) or non-metro areas (0.7%) ( $\chi^2 p < 0.01$ ). Hispanic patients (2.4%) were proportionally more likely to utilize weekend visits compared to White (1.7%) and Black patients (1.8%) ( $\chi^2 p < 0.01$ ). There was no significant

**Table 1 Sociodemographic Factors of Patients at Primary Care Visits, Weekday Versus Weekend**

	Weekday	Weekend
Percent poverty in patient's ZIP code ( $\chi^2 p < 0.01$ )		
Less than 5%	97.7%	2.3%
5–10%	98.3%	1.7%
10–20%	98.4%	1.6%
20% or more	97.5%	2.5%
Race/ethnicity ( $\chi^2 p < 0.01$ )		
White	98.3%	1.7%
Black	98.2%	1.8%
Hispanic	97.6%	2.4%
Other	94.3%	5.7%
Median household income in patient's ZIP code ( $\chi^2 p < 0.01$ )		
Below \$32,793	98.3%	1.7%
\$32,794–\$40,626	98.4%	1.6%
\$40,627–\$52,387	98.3%	1.7%
\$52,388 or more	97.4%	2.6%
Percent of adults with bachelor's degrees or higher in patient's ZIP code ( $\chi^2 p < 0.01$ )		
Less than 13%	98.2%	1.8%
13–20%	98.2%	1.8%
20–32%	98.1%	1.9%
32% or more	97.8%	2.2%
Urban-rural classification of patient's ZIP code ( $\chi^2 p < 0.01$ )		
Large central metro (inner city)	97.9%	2.1%
Large fringe metro (suburban)	96.3%	3.7%
Medium metro	98.7%	1.3%
Small metro	99.1%	0.9%
Non-metro (micropolitan and non-core)	99.3%	0.7%
Expected source of payment is Medicaid or CHIP/SCHIP ( $\chi^2 p = 0.25$ )		
No	98.0%	2.0%
Yes	98.3%	1.7%
Type of office setting for visit ( $\chi^2 p < 0.01$ )		
Private solo or group practice	98.1%	1.9%
Free standing clinic/urgicenter (not part of hospital ED or outpatient department)	94.8%	5.2%
Community health center	99.2%	0.8%
Geographic region of practice ( $\chi^2 p < 0.01$ )		
Northeast	96.5%	3.5%
Midwest	98.0%	2.0%
South	98.6%	1.4%
West	98.5%	1.5%

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**Table 2 Association Between Weekend Visits and Sociodemographic Factors**

	Odds ratio for weekend visits	95% confidence interval
Race/ethnicity		
White	Ref	
Black	0.86	0.68–1.08
Hispanic	1.38	1.15–1.66
Other	1.67	1.33–2.09
Median household income in patient's ZIP code		
Below \$32,793	Ref	
\$32,794–\$40,626	0.89	0.72–1.10
\$40,627–\$52,387	0.88	0.71–1.09
\$52,388 or more	1.27	1.03–1.55
Urban-rural classification of patient's ZIP code		
Large central metro (inner city)	Ref	
Large fringe metro (suburban)	1.63	1.38–1.93
Medium metro	0.72	0.59–0.88
Small metro	0.52	0.37–0.73
Non-metro (micropolitan and non-core)	0.44	0.33–0.58
Expected source of payment is Medicaid or CHIP/SCHIP		
No	Ref	
Yes	0.89	0.74–1.07
Geographic region of practice		
Northeast	Ref	
Midwest	0.78	0.65–0.94
South	0.66	0.55–0.80
West	0.75	0.61–0.91

difference in the frequency of Medicaid insurance for weekday versus weekend visits (Table 1).

In multivariate logistic regression, compared to White individuals, Hispanic individuals (OR 1.38; 95% CI 1.15–1.66) were more likely to utilize weekend visits. Those who lived in medium metro (OR 0.72; 95% CI 0.59–0.88), small metro (OR 0.52; 95% CI 0.37–0.73), and non-metro areas (OR 0.44; 95% CI 0.33–0.58) were less likely to utilize weekend visits compared to those living in large central metro areas. Compared to those in the lowest income quartile, those in the highest quartile were more likely to utilize weekend visits (OR 1.27; 95% CI 1.03–1.55) (Table 2).

Although Hispanic patients and those living in wealthier or urban/suburban areas were more likely to utilize weekend visits, we did not identify substantial absolute differences in utilization between sociodemographic groups. However, the Patients' Perspectives on Health Care survey found that 46% of those who could not see their regular doctor when they needed care cited night or weekend access issues, suggesting weekend and evening clinics are important to many patients.<sup>6</sup> While at present patients utilizing weekend clinics largely mirror those in weekday clinics, thoughtful introduction of expanded hours may facilitate greater access across the healthcare spectrum.

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#### Compliance with Ethical Standards:

**Disclaimer:** The funding sources had no role in the design and conduct of the study; collection, management, analysis, and interpretation of the data; preparation, review, or approval of the manuscript; and decision to submit the manuscript for publication.

**Conflict of Interest:** Dr. Mostaghimi receives consulting fees from Pfizer, hims, and 3derm. He has equity in Lucid and hims and receives licensing fees from Pfizer. He is on the medical advisory board for hims. He is a clinical trial investigator for Incyte, Lilly, Aclaris, and Concert. The authors have no other conflicts of interest to disclose.

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