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Homeless Patients' Use of Urban Emergency Departments in the United States

Antoinette B. Coe, PharmD,

Leticia R. Moczygemba, PharmD, PhD,

Spencer E. Harpe, PharmD, PhD, MPH,

Sharon B. S. Gatewood, PharmD

Department of Pharmacotherapy and Outcomes Science, School of Pharmacy, Virginia Commonwealth University, Richmond, Virginia (Drs Coe, Moczygemba, and Gatewood); and Pharmacy Administration, Chicago College of Pharmacy, Midwestern University, Downers Grove, Illinois (Dr Harpe).

Abstract

Data from the 2009–2010 National Hospital Ambulatory Care Survey–Emergency Department were used to compare homeless patients' utilization of the urban emergency department (ED) in the United States with nonhomeless patients and to examine the relationship between homelessness and demographics and ED utilization measures. The weighted sample size was 200 645 347. A total of 1 302 256 patients (0.65%) were homeless. Homeless patients were significantly more likely to be older, male, have self-pay, have no charge/charity or other as payment type, arrive via ambulance, have a longer ED visit, and a past visit to the same ED in the last year.

Keywords

health care resource utilization; homeless; urban emergency department

Homelessness remains a substantial problem in the United States. The Annual Homeless Assessment Report, Part 1: Point-in Time Estimates of Homelessness, found that on a single night in January 2013, an estimated 610 042 people were homeless and living in both sheltered and unsheltered living conditions. Approximately 35% were considered to be unsheltered or living on the street, 64% were homeless as individuals versus in a family, and 17.9% were considered chronically homeless (US Department of Housing and Urban Development, November 2013b). Chronically homeless is defined as an individual or family that is homeless and lives in an emergency shelter, safe haven, or area not meant for human residence for at least 1 year or on at least 4 separate occasions in the last 3 years and has a head of the household with diagnosable substance abuse disorder, serious mental illness, developmental disability, posttraumatic stress disorder, cognitive impairment from

Correspondence: Antoinette B. Coe, PharmD, Department of Pharmacotherapy and Outcomes Science, School of Pharmacy, Virginia Commonwealth University, 410 N 12th St, PO Box 980533, Richmond, VA 23298 (abcoe@vcu.edu).

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a brain injury, or chronic physical illness or disability, including the cooccurrence of these conditions (US Department of Housing and Urban Development, n.d.).

From 2007 to 2010, the United States experienced a large economic downturn, including high rates of unemployment and foreclosures (Bennett et al., 2009). The Homeless Management Information System administrative database has information about characteristics, needs, and counts of people who use a homeless shelter or transitional housing during a 1-year period. When comparing usage during 2007–2012, the use of homeless shelters by families increased by 19.8% during 2007–2010 but decreased by 5.6% after 2010, whereas individual use decreased by 13% (US Department of Housing and Urban Development, 2013a). The number of persons in families entering shelter facilities from a stable housing situation increased by 38.5% during the 2007–2011 time frame (US Department of Housing and Urban Development, 2012).

Homeless individuals experience many health care–related challenges compared with the general population. In 2010, a high level of disease burden was seen in sheltered homeless adults, with approximately 26.2% having a serious mental illness, 34.7% with chronic substance abuse, and 3.9% with HIV/AIDS (US Department of Housing and Urban Development, 2011). Homeless individuals are likely to have both social and economic barriers (eg, social isolation and lack of health insurance) to accessing primary care services and have high rates of emergency department (ED) use (D'Amore et al., 2001; Mandelberg et al., 2000; O'Toole et al., 1999). In one study that examined health care utilization among homeless individuals, 32.2% of respondents received care in an ED in the prior year and 24.6% reported that they were unable to receive needed medical care (Kushel et al., 2001). In comparison, data collected from 6 months of the 2011 National Health Interview Survey indicate that 19.5% of adults aged 18 to 64 years in the United States received care in an ED in the past 12 months (Gindi et al., 2012). In addition, a community-based survey of homeless and marginally housed individuals found that 40.4% of respondents used an ED in the past year and 18.4% of respondents received outpatient care only in an ED (Kushel et al., 2002). A study that matched homeless individuals by age and gender with low-income housed individuals found that homeless individuals were approximately 8.5 times more likely to have an ED visit over a 4-year period (Hwang et al., 2013). Another study indicated that homeless patients were less likely to have access to a primary care physician or a regular clinic and have a higher number of ED visits and hospital admissions per year than a group of housed control patients. Homeless individuals also had higher odds of having tuberculosis, depression, alcoholism, schizophrenia or being HIV-positive, socially isolated, or an assault victim than non-homeless individuals (D'Amore et al., 2001). In addition, homeless patients admitted to the hospital have higher costs associated with their care than housed patients (Hwang et al., 2011).

Two studies examined data from the National Hospital Ambulatory Care Survey (NHAMCS)-ED component to describe visits made to the ED by homeless patients and provide nationally representative estimates. Oates et al. (2009) examined 2005 data for all EDs, whereas Ku et al. (2010) examined data for 2005 and 2006 for urban ED use alone. Both found that homeless patients were more likely to be older, male, uninsured, and arrive to the ED via ambulance (Ku et al., 2010; Oates et al., 2009). Oates et al. (2009) found

that homeless patients were more likely than nonhomeless patients to have more than 2 diagnostic tests. Ku et al. (2010) identified that homeless patients were more likely than non-homeless patients to be seen by an intern or resident, leave against medical advice or before being seen, and have a primary ED psychiatric or alcohol/other drug diagnosis.

The purpose of this study was to compare homeless patients' utilization of the urban ED in the United States with nonhomeless patients and to examine the relationship between homelessness and demographics, frequency of ED use, arrival to the ED by ambulance, waiting time to be seen, presence and number of diagnostic/screening services ordered or provided at visit, and length and type of ED visit. This study builds upon work by Ku et al. (2010) and Oates et al. (2009) by using 2009–2010 NHAMCS-ED data to produce nationally representative estimates after a significant economic downturn in the United States. It is hypothesized that homeless patients will have longer wait times, more frequent ED use, and arrive to the ED by ambulance more often than those who are not homeless.

METHODS

Design

This is a cross-sectional study of the ED component of the 2009–2010 NHAMCS-ED database. The NHAMCS is part of the National Health Care Surveys that measure health care utilization and is conducted by the National Center for Health Statistics, Centers for Disease Control and Prevention. The ED component collects data from samples of patient records selected from EDs of a national sample of US noninstitutional general and short-stay (average patient length of stay of <30 days) hospitals. Federal, institutional, military, Veterans Administration, or those hospitals with fewer than 6 staffed patient beds were excluded. The NHAMCS-ED database uses a 4-stage probability sampling design with samples of primary sampling units, hospitals within primary sampling units, emergency service areas within EDs, and patient visits within emergency service areas. In 2009, there were 34 942 and in 2010 there were 34 936 patient record forms collected (National Center for Health Statistics, 2009, 2010).

Urban ED status was determined by the NHAMCS-ED code of metropolitan (urban) or nonmetropolitan status. This was based on the hospitals' location and with the Metropolitan Statistical Area definition of the Bureau of the Census and the US Office of Management and Budget (National Center for Health Statistics, 2009, 2010). Non–Metropolitan Statistical Area hospitals were excluded from the study. Homeless status was determined by the NHAMCS-ED patient residence variable (homeless vs private residence). Those who indicated nursing home, other, unknown, or blank were excluded. Thus, patients were included if their patient residence was homeless or private residence and if they visited an urban ED.

Covariates included in this study were as follows: age (years), race (white vs black/African American), ethnicity (Hispanic or Latino vs not Hispanic or Latino), sex (male vs female), payment type (Medicare, Medicaid, or CHIP [Children's Health Insurance Program]/SCHIP [State Children's Health Insurance Program], no charge/charity, other, or self-pay), arrival to ED via ambulance (yes vs no), episode of care for this problem (initial visit vs follow-up

visit), seen in this ED within the last 72 hours (yes vs no), discharged from any hospital within the last 7 days (yes vs no), diagnostic/screening services ordered or provided at visit (yes vs no), total number of diagnostic/screening services ordered or provided, length of visit (minutes), waiting time to see an MD (doctor of medicine)/DO (doctor of osteopathy)/PA (physician assistant)/NP (nurse practitioner) (minutes), and number of past visits in this ED within the last 12 months. For the age variable, those with an age of 0 year were excluded. For the race variable, Asian, Native Hawaiian/Other Pacific Islander, American Indian/Alaska Native, more than 1 race, and blank were excluded because of small sample size. For the payment type variable, private insurance, worker's compensation, and unknown were excluded because of small sample size.

Data analysis

Descriptive statistics, bivariate analyses, and logistic regression were used to examine the relationship between demographics and ED use variables with homelessness. Nationally representative weights were applied to the estimates. The a priori significance level was $P < .05$. SAS for Windows version 9.3 (SAS Institute Inc, Cary, North Carolina) was used for data analysis.

RESULTS

The weighted sample size for this study was 200 645 347 patient visits. A total of 1 302 256 (0.65%) of the patient visits to urban EDs were homeless patients. A summary of the demographic and health care utilization variables and their bivariate relationships is provided in Table 1. The mean age of homeless patients with urban ED visits was 44.1 years (95% confidence interval [CI], 42.56–45.62) compared with 36.2 years for nonhomeless patients (95% CI, 35.40–37.02; $P < .001$). The majority of homeless patients were male (74.4%) versus only 44.5% of nonhomeless patients ($P < .001$). Method of payment was significantly different between homeless and non-homeless patients ($P < .001$). Homeless patients had higher proportions of self-pay, no charge/charity, or other and lower percentages of Medicare and Medicaid or CHIP/SCHIP as payment types. The mode of arrival to the ED was significantly different between homeless and non-homeless patients, with approximately 3 times more homeless patients arriving via ambulance (48.4% vs 15.4%; $P < .001$). Follow-up visits to the ED were approximately twice as common for homeless patients compared with nonhomeless patients (16.6% vs 7.6%; $P < .001$). Homeless patients were also more likely to be seen in this ED within the last 72 hours and discharged from any hospital within the last 7 days (11.0% vs 4.5% and 12.7% vs 4.4%, respectively; both Ps $< .001$). Homeless patients had approximately 3 times more ED visits in the past 12 months in the same ED (5.5 vs 1.6; $P < .001$). Length of visit in the ED was approximately double the time for homeless patients (398.0 minutes) compared with nonhomeless patients (211.4 minutes ($P < .001$)).

After adjusting for all predictor variables in the full logistic regression model, homeless patients using urban EDs in the United States had higher odds of being older (adjusted odds ratio [AOR] = 1.03; 95% CI, 1.010–1.041), male (AOR = 4.49; 95% CI; 2.651–7.590), and having payment types of self-pay (AOR = 1.99; 95% CI, 1.009–3.906), no charge/charity

(AOR = 9.35; 95% CI, 4.077–21.427), or other (AOR = 3.71; 95% CI, 1.286–10.709). Results from the logistic regression analysis are provided in Table 2. They also had higher odds of arriving to the ED via ambulance (AOR = 5.58; 95% CI, 3.087–10.067), having a longer length of ED visit (AOR = 1.002; 95% CI, 1.001–1.002), and having a higher number of past visits to the same ED in the last 12 months (AOR = 1.04; 95% CI, 1.016–1.058) than non-homeless patients. Race, ethnicity, Medicare payment type compared with Medicaid or CHIP/SCHIP, episode of care, seen in this ED within the last 72 hours, discharged from this hospital within the last 7 days, diagnostic/screening services ordered or provided at visit, total number of diagnostic/screening services ordered or provided, and waiting time to be see a provider were not associated with homeless status and urban ED visits in this study.

DISCUSSION

This study used 2009–2010 NHAMCS-ED data and adds to the results of previous studies using 2005 and 2006 data to characterize visits to the ED by homeless individuals (Ku et al., 2010; Oates et al., 2009). To our knowledge, this is the first study that uses 2009–2010 NHAMCS-ED data to examine homeless individuals' urban ED visits after the economic downturn in the United States.

In this study, homeless patients visiting an urban ED in the United States had a higher mean age of 44.1 years than the mean age of 36.2 years for nonhomeless patients, and increasing age was significantly associated with homelessness status in the multivariable analysis. The mean ages of the 2 groups of patients were similar to the analysis conducted using 2005 and 2006 NHAMCS-ED data. Oates et al. (2009) found that the mean age of homeless patients to be 41.09 years and the mean age of nonhomeless patients to be 35.70 years. Ku et al. (2010) found that the mean age of homeless patients to be 43.8 years and that of nonhomeless patients to be 36.0 years. However, in several other studies, homeless patients had a younger mean age than nonhomeless patients (D'Amore et al., 2001; Folsom et al., 2005; Hwang et al., 2011).

Male patients had approximately 4.49 times the odds of being homeless compared with female patients in this study (95% CI, 2.651–7.590). This result was higher than the odds ratio of 3.34 (95% CI, 2.33–4.78) from the analysis conducted using 2005 and 2006 NHAMCS-ED data (Ku et al., 2010). Several studies support that homeless patients are more likely to be male (D'Amore et al., 2001; Folsom et al., 2005; Hwang et al., 2011; Oates et al., 2009). In a study of more than 1500 homeless adults in Los Angeles County, it was found that males were less likely to have a regular source of care (Gallagher et al., 1997). Educating homeless individuals about available sources of and increasing access to primary care services may provide a means to decrease nonurgent ED use.

Homeless patients were significantly more likely than nonhomeless patients to arrive to the ED by ambulance, which is similar to that reported in previous studies (Ku et al., 2010; Oates et al., 2009). It is unclear from this study whether the increased use of ambulance services was due to acuity of patients' condition or lack of transportation to the ED. Meisel et al. (2011) analyzed NHAMCS-ED data from 2004 to 2006 and found that patients with Medicaid insurance or those who were uninsured were more likely to arrive to the ED via

ambulance than those with private insurance (AOR = 1.60; 95% CI, 1.37–1.86; and AOR = 1.43; 95% CI, 1.23–1.66, respectively). In addition, they found that male gender, older age, northeast region, urban EDs, and higher-acuity classification were associated with the use of ambulance transport to the ED (Meisel et al., 2011).

In our study, homeless patients were found to have a longer mean visit length in the ED than nonhomeless patients (398.0 minutes vs 211.4 minutes). However, the waiting time to see a health care professional (eg, physician, physician assistant, nurse practitioner) was not significantly different for homeless patients. One potential explanation is that higher rates of victimization are found in homeless patients and injuries may lead to a longer visit length related to treatment (Kushel et al., 2002). Another potential reason for a longer mean visit length may be related to transportation issues. As more homeless individuals were more likely to arrive at the ED via ambulance in this study, lack of transportation at time of discharge may be a concern.

The number of past visits to this ED within the last 12 months was significantly associated with homeless status in this study. The mean number of past visits in the last 12 months was approximately 3 times higher for homeless patients than for nonhomeless patients. In a community-based study of homeless persons, it was found that those with 4 or more visits to the ED were more likely to be homeless than those marginally housed, have Medicare or Medicaid insurance, have poor health status, be a crime victim, have a history of psychiatric hospitalization, have a medical comorbidity, be arrested, or have an alcohol/drug problem in the last 12 months (Kushel et al., 2002). In contrast, Medicare payment type was not significantly associated with homeless status in this study. However, self-pay, no charge/charity, and other were significantly associated with homeless status when using Medicaid or CHIP/SCHIP as a reference group.

The significantly higher number of yearly visits to the same ED for homeless than for nonhomeless patients in this study indicates a need to develop strategies to address inappropriate use of ED services while meeting the health care needs of homeless patients. One potential solution to decrease inappropriate ED visits is to increase homeless patients' access to care. One study found that homeless patients had significantly lower access to a primary care physician (7.5% vs 82%; $P < .01$) or a regular clinic (28% vs 83%; $P < .01$) than housed control patients (D'Amore et al., 2001). Han and Wells (2003) found that homeless patients with 2 or more visits to a Health Care for the Homeless center over a 6-month time frame had decreased odds of inappropriate ED visits (OR = 0.43; 95% CI, 0.19–0.90). Health Homes, a new, optional state Medicaid benefit created by the Affordable Care Act of 2010, provide multidisciplinary comprehensive care management and coordination for Medicaid patients with specific chronic conditions. The integration of primary, acute, behavioral health, and long-term services in a Health Home may provide the support a homeless individual needs to sustain housing; however, the future impact of Health Homes on chronic homelessness is unknown (National Alliance to End Homelessness, 2012). Although health care reform and Medicaid expansion suggest increased access to health care, ensuring that homeless patients are enrolled in Medicaid and engaging in services may be a challenge due to their mobility, being a hard-to-reach population, and comorbid disease states such as mental health and substance abuse issues (Nelson, 2012). In

addition, a projected shortage in the primary care workforce is a concern (Bodenheimer & Pham, 2010).

Specifically targeting frequent users of urban EDs is a method to address both health care costs and patient outcomes. A randomized trial of adult frequent ED users with psychosocial problems (eg, homelessness, medical care, substance abuse, mental health, or financial concerns) showed that long-term clinical case management provided by a psychiatric social worker and a health care team significantly reduced ED use and ED costs compared with usual care. The clinical case management included assessment, crisis intervention, supportive therapy, assistance in finding stable housing and income, referral to substance abuse services, and efforts to improve continuity of care in the community. The intervention group also had significantly lower levels of homelessness, problem alcohol use, lack of health insurance, and unmet basic financial needs than the control group (Shumway et al., 2008). A pilot study of intensive patient-centered case management by a multidisciplinary team was conducted in Medicaid adult patients at high risk for hospital readmission. When compared with the previous 12 months, study patients had decreased inpatient admissions with an average yearly Medicaid cost reduction of $16 588 per patient, decreased ED visits with an average yearly Medicaid cost reduction of $269 per patient, and a significant increase in outpatient clinic visits with an average yearly Medicaid cost increase of $474 per patient. Although the cost decreases were not significant in this pilot study, this may be associated with the small sample size (Raven et al., 2011). Interventions to decrease inappropriate use of the ED by homeless patients should be multifaceted and patient-centered to improve transitions of care. A study using a community-based participatory research approach provided recommendations to improve transitions of care from the hospital to homeless shelter (Greysen et al., 2012). Greysen et al. (2012) recommended that housing should be a health concern for hospital providers, communication should occur between hospitals and shelter providers, and safe transportation should be a part of discharge planning.

LIMITATIONS

A limitation of this study is the accuracy of the information in patients' medical record and data abstraction. A patient was coded as homeless if the patient's chart lists him or her as living on the street or if the current place of residence is a homeless shelter (National Center for Health Statistics, 2009, 2010). The housing status variable is a self-reported variable. It is possible that the patient may have listed a false address or the address of a friend or family member. Thus, the number of homeless patients in this study may be underestimated. In addition, NHAMCS-ED excluded federal, institutional, military, Veterans Administration, or those hospitals with fewer than 6 staffed patient beds and the authors excluded nonurban hospitals (National Center for Health Statistics, 2009, 2010). It is likely that these hospitals had homeless patients use their ED, if available. In addition, the data for NHAMCS-ED is at a patient visit level and it cannot be determined whether a patient is represented more than 1 time in the data set.

CONCLUSION

From 2009 to 2010, homeless patients who visited US urban EDs were significantly different from nonhomeless patients in their demographics, frequency, access, and pattern of ED use. Potential solutions to decrease health care costs associated with inappropriate urban ED use and to improve health-related outcomes in homeless patients may include increasing primary care access and intensive multidisciplinary care management services to ensure appropriate outpatient care transitions.

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Table 1.

Demographic Characteristics and Health Care Utilization Variables by Homeless Status of Individuals Using Urban EDs in the United States, 2009–2010 NHAMCS-ED

	Homeless				Nonhomeless				
	N	n[a] (%)	Mean	95% CI	N	n[a] (%)	Mean	95% CI	*P*
Total	518	1 302 (0.65)		0.52–0.78	54 395	199 343 (99.35)		99.22–99.48	
Age,[b] y	518		44.1	42.56–45.62	52 686		36.2	35.40–37.02	<.001
Race[b]									.944
White	278	786 (72.5)		65.48–79.60	32 968	123 790 (72.8)		69.17–76.47	
Black	152	298 (27.5)		20.40–34.52	12 981	46 207 (27.2)		23.53–30.83	
Ethnicity[b]									.760
Hispanic or Latino	64	183 (15.9)		10.94–20.87	8 067	29 004 (16.6)		13.33–19.94	
Not Hispanic or Latino	391	966 (84.1)		79.13–89.06	39 857	145 378 (83.4)		80.06–86.67	
Sex									<.001
Male	391	969 (74.4)		68.06–80.77	24 318	88 741 (44.5)		43.77–45.26	
Female	127	333 (25.6)		19.23–31.94	30 077	110 602 (55.5)		54.74–56.23	
Payment type[b]									<.001
Medicare	59	150 (13.6)		7.92–19.38	8 229	29 952 (24.5)		22.99–25.94	
Medicaid or CHIP/SCHIP	146	309 (28.0)		20.67–35.39	15 431	54 512 (44.5)		42.26–46.79	
Self-pay	138	426 (38.6)		30.78–46.51	8 155	31 120 (25.4)		23.69–27.14	
No charge/charity	40	92 (8.4)		4.19–12.55	537	2 839 (2.0)		1.16–2.74	
Other	44	125 (11.3)		4.70–17.91	1 160	4 457 (3.6)		2.70–4.58	
Ambulance arrival[b]									<.001
No	289	646 (51.6)		45.25–58.02	43 831	160 504 (84.6)		83.58–85.57	
Yes	210	605 (48.4)		41.98–54.75	8 076	29 276 (15.4)		14.43–16.42	
Episode of care[b]									<.001
Initial visit	373	958 (83.4)		78.36–88.53	45 988	171 609 (92.4)		91.68–93.11	
Follow-up visit	85	190 (16.6)		11.47–21.64	4 175	14 118 (7.6)		6.89–8.32	
Seen in this ED within the last 72 h[b]									<.001

	Homeless				Nonhomeless				
	N	n[a] (%)	Mean	95% CI	N	n[a] (%)	Mean	95% CI	*P*
No	399	955 (89.0)		84.20–93.73	44 466	161 454 (95.5)		95.16–95.86	
Yes	53	119 (11.0)		6.27–15.80	2 032	7 586 (4.5)		4.14–4.84	
Discharged from any hospital within the last 7 d[b]									<.001
No	325	719 (87.3)		80.33–94.28	32 223	114 492 (95.6)		95.01–96.24	
Yes	37	105 (12.7)		5.72–19.67	1 470	5 238 (4.4)		3.76–4.99	
Diagnostic/screening services ordered or provided at visit[b]									.063
Yes	313	817 (64.9)		59.33–70.37	37 361	137 676 (69.8)		68.21–71.45	
No	193	443 (35.1)		29.63–40.67	16 403	59 475 (30.2)		28.55–31.79	
Total number of diagnostic/screening services ordered or provided[b]	506		3.0	2.54–3.55	53 764		3.0	2.86–3.22	.994
Length of visit,[b] min	475		398.0	319.83–476.24	52 322		211.4	204.25–218.55	<.001
Waiting time to see MD/DO/PA/NP,[b] min	454		67.7	55.24–80.13	49 006		58.3	54.86–61.65	.124
Number of times patient has been seen in this ED within the last 12 mo[b]	395		5.5	3.84–7.08	35 702		1.6	1.44–1.75	<.001

Abbreviations: CHIP/SCHIP, Children's Health Insurance Program/State Children's Health Insurance Program; DO, Doctor of Osteopathy; ED, emergency department; MD, Doctor of Medicine; NHAMCS-ED, National Hospital Ambulatory Care Survey–Emergency Department; NP, nurse practitioner; PA, physician assistant.

[a]Nationally weighted number, rounded to nearest 1000.

[b]Number does not equal the total number due to missing responses.

Table 2.

Association Between Demographic and Health Care Utilization Variables and Homeless Status in Patients Using Urban EDs in the United States, 2009–2010 NHAMCS-ED

Variable	AOR[ab]	95% CI
Age	1.03	1.010–1.041
Race		
White	1.0	
Black	0.98	0.547–1.748
Ethnicity		
Not Hispanic or Latino	1.0	
Hispanic or Latino	1.15	0.636–2.089
Sex		
Female	1.0	
Male	4.49	2.651–7.590
Payment type		
Medicaid or CHIP/SCHIP	1.0	
Medicare	0.33	0.100–1.113
Self-pay	1.99	1.009–3.906
No charge/charity	9.35	4.077–21.427
Other	3.71	1.286–10.709
Ambulance arrival		
No	1.0	
Yes	5.58	3.087–10.067
Episode of care		
Initial visit for problem	1.0	
Follow-up visit for problem	1.68	0.774–3.642
Seen in this ED within the last 72 h		
No	1.0	
Yes	1.44	0.441–4.682
Discharged from any hospital within the last 7 d		
No	1.0	

Variable	AOR[ab]	95% CI
Yes	1.22	0.576–2.574
Diagnostic/screening services ordered or provided at visit		
Yes	1.0	
No	1.79	0.985–3.267
Total number of diagnostic/screening services ordered or provided	0.96	0.878–1.046
Waiting time to see MD/DO/PA/NP	1.00	0.998–1.001
Length of visit	1.002	1.001–1.002
Number of times patient has been seen in this ED within the last 12 mo	1.04	1.016–1.058

Abbreviations: AOR, adjusted odds ratio; CHIP/SCHIP, Children's Health Insurance Program/State Children's Health Insurance Program; DO, doctor of osteopathy; ED, emergency department; MD, doctor of medicine; NHAMCS-ED, National Hospital Ambulatory Care Survey–Emergency Department; NP, nurse practitioner; PA, physician assistant.

[a]N = 10 040, due to 44 873 observations deleted because of missing responses.

[b]Likelihood ratio for probability of being homeless: likelihood ratio χ^2 = 1 005 530.27. $P < .001$.