The Unmet Health Care Needs of Homeless Adults: A National Study

Travis P. Baggett, MD, MPH, James J. O'Connell, MD, Daniel E. Singer, MD, and Nancy A. Rigotti, MD

Objectives. We assessed the prevalence and predictors of past-year unmet needs for 5 types of health care services in a national sample of homeless adults.

Methods. We analyzed data from 966 adult respondents to the 2003 Health Care for the Homeless User Survey, a sample representing more than 436 000 individuals nationally. Using multivariable logistic regression, we determined the independent predictors of each type of unmet need.

Results. Seventy-three percent of the respondents reported at least one unmet health need, including an inability to obtain needed medical or surgical care (32%), prescription medications (36%), mental health care (21%), eyeglasses (41%), and dental care (41%). In multivariable analyses, significant predictors of unmet needs included food insufficiency, out-of-home placement as a minor, vision impairment, and lack of health insurance. Individuals who had been employed in the past year were more likely than those who had not to be uninsured and to have unmet needs for medical care and prescription medications.

Conclusions. This national sample of homeless adults reported substantial unmet needs for multiple types of health care. Expansion of health insurance may improve health care access for homeless adults, but addressing the unique challenges inherent to homelessness will also be required. (*Am J Public Health.* 2010;100:1326–1333. doi:10.2105/AJPH.2009.180109)

An estimated 2.3 to 3.5 million Americans experience homelessness each year.[1] The health problems of homeless people are broad and multidimensional, contributing to excess mortality.[2–7] Rates of acute and chronic medical illness are high, in many cases surpassing those of the general population.[8–15] More than half of homeless people have a history of mental illness, and the burden of drug and alcohol use is substantial.[8,9] Clinically significant dental problems have been identified in two thirds of homeless individuals,[8] and nearly 40% have functional vision impairments.[16]

Homeless people also experience poor access to health care,[17–21] leading to delayed clinical presentation,[12] increased reliance on emergency departments,[22] and higher rates of hospitalization,[23] often for preventable conditions.[24] Yet, the extent to which homeless adults are able to obtain health care across the spectrum of health needs just described is largely unknown. Existing knowledge is based primarily on studies of single cities[25,26] or single types of unmet need[21,27]; very few national surveys have adequately captured this difficult-to-reach population.

We used data from a unique national survey of homeless adults to determine the prevalence and predictors of unmet need for 5 types of health services, chosen to reflect multiple domains of health care access.[28] A comprehensive assessment of the unmet health care needs of homeless people can inform policy and practice decisions about how to better provide care to this vulnerable population.

METHODS

We conducted a secondary analysis of the 2003 Health Care for the Homeless (HCH) User Survey, the first nationally representative survey of individuals using clinical services provided by the federally funded HCH program. The HCH program serves more than 700 000 people annually through 205 grantees in all 50 states, the District of Columbia, and Puerto Rico.[29] The HCH User Survey was administered by Research Triangle Institute (RTI) International in collaboration with the Health Resources and Services Administration's Bureau of Primary Health Care.

Participants and Setting

A 3-stage sampling design was used to conduct the survey.[30] A geographically stratified probability-proportional-to-size (PPS) technique was used to sample 30 HCH grantees. Interviews were conducted in person by RTI field staff at a PPS sample of 79 clinic sites that were operated by the 30 grantees. The target population consisted of individuals receiving face-to-face services from an HCH provider. Individuals were eligible if they had received such services at least once in the year prior to the survey, given that the reference period for many of the questions was 12 months. Participants were selected consecutively with a goal of 33 interviews per grantee.

Of 1444 selected individuals, 11 were subsequently found to be ineligible, and 416 refused or did not complete the survey. The total number of completed interviews was 1017, yielding a response rate of 70%. We confined our analysis to the 966 respondents who were aged 18 years or older.

Conceptual Framework

The behavioral model for vulnerable populations was the conceptual framework for our analysis.[16] In this framework, realized access to health care can be viewed as a function of predisposing, enabling, and need factors. Predisposing factors are characteristics that influence a person's propensity for seeking health care services. Enabling factors are those that facilitate or impede health care access and use. Need factors are health conditions for which a person is likely to require care.

Outcomes

Our study outcomes were 5 past-year measures of unrealized access to health care, framed as having an unmet need for the following services: medical or surgical care,

prescription medications, mental health care or counseling, eyeglasses, and dental care. These measures were all assessed in similar ways, with questions generally phrased as follows: "During the past 12 months, was there a time when you wanted medical care or surgery but could not get it at that time?" Unmet needs represent important measures of health care access and are frequently used as outcome variables in health services research.[25–28,31–40]

Predisposing Factors

Predisposing variables included age (18–29 years, 30–44 years, 45 years or older), gender, self-reported race/ethnicity (categorized as White, non-Hispanic; Black, non-Hispanic; and Hispanic/other), marital status (married/partnered vs not married/partnered), educational attainment (high school diploma or higher vs less than high school), out-of-home placement as a minor (foster home, group home, or other institutional placement before 18 years of age), veteran status, number of homeless episodes at least 30 days in duration (dichotomized at the median, 0–1 vs 2 or more), past-year victimization (physical or sexual assault while homeless), and past-year problem alcohol use or illicit drug use.

Past-year problem alcohol use was defined as consuming 5 or more drinks on a single occasion in the preceding month,[41] consuming 3 or more drinks on a typical day of drinking in the preceding month,[42] or any past-year alcohol treatment. Past-year drug use was defined as any past-year use of illicit or nonprescribed controlled substances or any past-year drug treatment.

Enabling Factors

Enabling variables included usual source of care, insurance status, past-year employment, and food insufficiency. We defined a usual source of care as any single "place that you usually go when you are sick or you need advice about your health." Adults reporting no usual care source, multiple sources without a single predominant source, or an emergency department as a usual care source were classified as lacking a usual source of care. Types of insurance coverage were categorized as public, private, military/veterans, and other; insurance status was dichotomized as insured or uninsured in the multivariable analyses.

Past-year employment was defined as any work for pay in the preceding year. We considered this variable in the enabling domain because employment demands may not allow for medical visits. Food insufficiency was defined as "sometimes" or "often" not getting enough food to eat.[43–48]

Need Factors

Need variables consisted of the number of self-reported medical comorbidities (0, 1, 2 or more), including hypertension, diabetes, cardiovascular disease (coronary artery disease or stroke), obstructive lung disease (asthma or chronic obstructive pulmonary disease), HIV infection, cancer, liver disease, kidney disease, and arthritis or chronic joint pain.

Consistent with the behavioral model, mental illness was considered a need factor in predicting mental health care access and a predisposing variable with respect to all other components of unmet need.[16] Mental illness history was defined as any past inpatient or outpatient treatment of "emotional or mental problems."

We considered self-reported vision impairment as a need factor in the model examining receipt of eyeglasses and as an enabling factor in all other models given the potential impact of impaired vision on mobility, navigating health systems, and collecting health information.[49,50] Adults who reported trouble seeing, even while wearing glasses or contact lenses, were classified as having vision impairment. Past-year tooth or gum problem was analyzed as a need factor in the dental care model only.

Statistical Analysis

We used the χ^2 test to determine the unadjusted relationships between predictor and outcome variables. We then constructed 5 multivariable logistic regression models to determine the factors independently associated with each outcome measure of unmet need among all adults. Multivariable model covariates were chosen on the basis of clinical context and hypotheses generated from the behavioral model for vulnerable populations. Participants with missing data for a model variable were excluded from any analysis involving that variable. Item nonresponse was generally minimal (range=0%–3.6%; median=0.6%).

Because individuals with medical comorbidities may be at higher risk of needing medical care or prescription medications and experiencing complications when such needs are unmet, we conducted subgroup analyses among those with at least one medical condition, adjusted for the same set of confounders used in the original models. Similarly, we analyzed the outcome of unmet mental health care need for the entire study sample as well as for a composite subgroup of those with any history of mental illness, past-year illicit drug or problem alcohol use, or past-year victimization, given that such individuals may be more likely to require this service.[51,52]

In addition, we explored the correlates of lack of health insurance coverage because insurance has been shown to be an important determinant of access to care among homeless people.[21,53–55] Because employer-based health insurance remains the primary mode of coverage in the United States,[56] we examined the insurance patterns of respondents with any past-year employment to determine whether those engaging in work received health insurance benefits for doing so.

As a result of the complex sampling design of the survey, all analyses were performed on SAS-Callable SUDAAN version 10.0 (RTI, Research Triangle Park, NC). We used weights developed by RTI that incorporated sampling probability, survey nonresponse, and poststratification adjustment to reduce bias in the study estimates and better reflect the target population. Descriptive data are presented as unweighted numbers and weighted percentages. Results were considered significant at $P<.05$.

RESULTS

The characteristics of the 966 adult respondents to the HCH User Survey are shown in Table 1. The study sample was representative of more than 436 000 adult HCH clinic users nationally.

Predisposing, Enabling, and Need Factors

Fifty-eight percent of the respondents were male (Table 1). The median age of the sample was 41 years. Most participants were White (39%) or Black (38%) non-Hispanics. Nearly one fourth had a history of out-of-home

TABLE 1—Characteristics of the Study Sample (n=966): Health Care for the Homeless User Survey, 2003

	No. (Weighted %)[a]
Predisposing factors	
Age, y	
18–29	113 (18.3)
30–44	395 (50.3)
≥45	458 (31.5)
Male	591 (58.2)
Race/ethnicity	
White, non-Hispanic	334 (39.2)
Black, non-Hispanic	382 (38.1)
Hispanic/other	238 (21.4)
Veteran	119 (11.5)
Married/partnered	127 (14.3)
High school diploma or higher	580 (58.7)
Out-of-home placement as a minor[b]	204 (23.8)
No. of homeless episodes 30 d or more in duration	
0–1	447 (43.2)
≥2	498 (55.3)
Physical or sexual assault in past year	176 (20.1)
Substance abuse in past year	
Illicit drug use only	240 (25.1)
Problem alcohol use only	105 (9.0)
Both drug and alcohol use	276 (30.7)
Mental illness history	429 (47.6)
Enabling factors	
No usual source of care	63 (8.3)
Health insurance coverage[c]	
No health insurance	536 (59.5)
Public insurance	366 (34.3)
Private insurance	51 (4.7)
Military/veterans insurance	16 (1.2)
Other insurance	15 (1.8)
Employment in past year	485 (54.5)
Food insufficiency[d]	235 (25.4)
Vision impairment	302 (26.2)
Need factors	
No. of medical comorbidities[e]	
0	210 (22.2)
1	276 (31.2)
≥2	471 (45.9)
Dental problem in past year	332 (31.1)

[a]Presented as unweighted numbers and weighted percentages, via sampling weights provided by Research Triangle Institute International. Percentages may not sum to 100 as a result of rounding or item nonresponse.
[b]Defined as placement into foster care, a group home, or an institution before the age of 18 years.
[c]Percentage total exceeds 100 because respondents were allowed to specify more than 1 type of health insurance coverage.
[d]Defined as "sometimes" or "often" not getting enough food to eat.
[e]Medical comorbidities included hypertension, diabetes, cardiovascular disease (coronary artery disease or stroke), obstructive lung disease (asthma or chronic obstructive pulmonary disease), HIV infection, cancer, kidney disease, liver disease, and arthritis or chronic joint problems.

placement as a minor. One fifth reported past-year victimization while homeless.

Sixty percent of the respondents were uninsured. More than half reported any past-year employment. One fourth of the respondents had experienced food insufficiency.

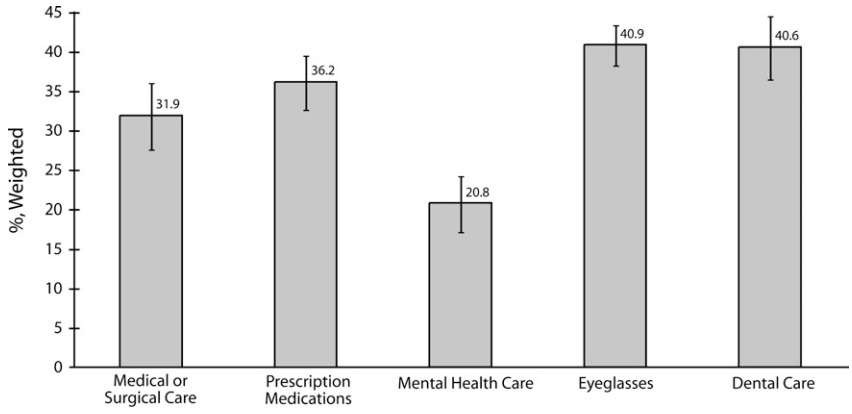
Forty-six percent of the participants reported 2 or more medical conditions. Almost half (48%) reported a history of treatment of mental illness. Twenty-six percent reported difficulty seeing, and more than 30% reported a past-year dental problem.

Unmet Health Care Needs

Overall, 32% (n=284) of the respondents reported an unmet need for medical or surgical care in the preceding year, 36% (n=335) reported an unmet need for prescription medications, 21% (n=219) reported an unmet need for mental health care or counseling, 41% (n=375) reported an unmet need for eyeglasses, and 41% (n=378) reported an unmet need for dental care (Figure 1). Seventy-three percent (n=685) reported at least 1 past-year unmet health care need, and 49% (n=457) reported 2 or more unmet needs. The most frequently cited reasons for each type of unmet need were inability to afford care and lack of health insurance coverage.

Medical or surgical care. Fifty-one percent of adults with a childhood history of out-of-home placement reported an unmet need for medical or surgical care, as compared with 26% of those without such a history ($P<.001$). Forty-six percent of respondents experiencing food insufficiency had an unmet need for care, whereas 27% without food insufficiency had such difficulty ($P=.001$). Any past-year employment ($P=.001$) and lack of insurance coverage ($P=.01$) were also significantly associated with this outcome in unadjusted analyses. Among those with one or more medical comorbidities, 36% had an unmet need for care. In the multivariable analysis, factors independently associated with having an unmet need for medical or surgical care in the preceding year included out-of-home placement as a minor, past-year employment, food insufficiency, lack of health insurance coverage, and presence of any medical comorbidities (Table 2).

Prescription medications. In the multivariable analysis, factors independently associated with



Note. Percentages were weighted with sampling weights provided by Research Triangle Institute International. Tick marks indicate the bounds of 1 standard error.

FIGURE 1—Prevalence of past-year unmet health care needs among homeless US adults (n=966): Health Care for the Homeless User Survey, 2003.

an unmet need for prescription medications included age, out-of-home placement as a minor, past-year victimization, past-year employment, food insufficiency, lack of health insurance coverage, and presence of 2 or more medical comorbidities (Table 2).

Mental health care. In the multivariable analysis, factors independently associated with an unmet need for mental health care included past-year victimization, food insufficiency, lack of a usual source of care, lack of health insurance coverage, mental illness history, and vision impairment (Table 2).

High-risk subgroup analyses. The overall pattern of results was unchanged when we confined the analyses of unmet need for medical or surgical care and prescription medications to those with at least one medical comorbidity (n=754; see the table available as an online supplement to this article at http://www.ajph.org). Out-of-home placement as a minor, past-year employment, food insufficiency, and lack of health insurance coverage remained important predictors of both outcomes. In the composite subgroup of individuals with a history of mental illness, past-year substance abuse, or past-year victimization (n=756), the predictors of unmet need for mental health care were very similar to those seen for the entire sample (see the table available as an online supplement to this article).

Eyeglasses and dental care. Unadjusted rates of unmet need for eyeglasses were higher among adults with a history of mental illness ($P<.001$), out-of-home placement as a minor ($P=.04$), or any past-year employment ($P=.03$). Among those with symptoms of vision impairment, 56% reported an unmet need for eyeglasses. Sixty percent of those with a past-year dental problem reported an unmet need for dental care.

In the multivariable models, lack of health insurance coverage was associated with an unmet need for eyeglasses (Table 2). Vision impairment predicted unmet needs for both eyeglasses and dental care.

Insurance patterns of workers. Adults with any past-year employment were significantly more likely to be uninsured than those who had not been employed (68% vs 49%; $P<.001$). In the multivariable analysis adjusted for all of the confounders previously discussed, any past-year employment was a significant independent predictor of lack of insurance coverage (adjusted odds ratio=2.05; 95% confidence interval=1.43, 2.94), and increasing duration of past-year employment was associated with increasing odds of lack of insurance coverage (Table 3). Respondents who had worked more than half of the preceding year were significantly less likely than were those who had not worked to have any type of public insurance (20% vs 43%; $P=.02$) and trended toward having lower rates of private insurance (2.8% vs 6.6%; $P=.14$); only 0.5% of these workers had employer-based health insurance, and 75% were uninsured.

DISCUSSION

This national sample of homeless adults reported substantial barriers to accessing multiple dimensions of health care. Nearly three quarters of the respondents had at least 1 past-year unmet health care need, and almost half had 2 or more unmet needs. Rates of unmet needs for specific services were 6 to 10 times higher than in the US general population.[39,57] Our findings appear similar to prior estimates of unmet health need among homeless populations,[21,25–27] although direct comparisons are limited by varying methodologies in terms of definitions and measurement of unmet need. Our findings may represent conservative estimates of the unmet health needs of homeless people, given that all participants had been seen in a clinic at least once in the preceding year.

The majority of respondents were uninsured, and this factor was independently associated with unmet needs for medical or surgical care, prescription medications, mental health care, and eyeglasses, but not dental care. This pattern of findings reflects the Medicaid coverage profile for adults in most states[58,59] and reinforces prior evidence that health insurance is a key determinant of access to care among both homeless[21,53–55] and housed[32,60–62] individuals.

Competing priorities represented substantial barriers to care as well. Food insufficiency was associated with impaired access to medical or surgical care, prescription medications, and mental health care. Although prior research has linked food insufficiency with higher rates of medical and mental illness,[46] our multivariable analyses demonstrated significant relationships with unmet needs that were independent of these comorbidities. Individuals experiencing food insufficiency may assign lower priority to health care in favor of directing personal resources toward the fulfillment of basic needs.[20,63,64]

We also found that past-year employment was associated with unmet needs for medical or surgical care and prescription medications. This result confirms the clinical observation that when employment is the sole source of income in the setting of poverty, patients often prioritize work over health care. Because work

TABLE 2—Factors Associated With Past-Year Unmet Need for Medical or Surgical Care, Prescription Medications, Mental Health Care, Eyeglasses, and Dental Care Among Homeless US Adults: Health Care for the Homeless User Survey, 2003

	Unmet Need for Medical or Surgical Care, AOR (95% CI)[a]	Unmet Need for Prescription Medications, AOR (95% CI)[a]	Unmet Need for Mental Health Care, AOR (95% CI)[a]	Unmet Need for Eyeglasses, AOR (95% CI)[a]	Unmet Need for Dental Care, AOR (95% CI)[a]
Predisposing factors					
Age, y					
18–29 (Ref)	1.00	1.00	1.00	1.00	1.00
30–44	1.04 (0.42, 2.57)	2.71* (1.20, 6.13)	1.61 (0.47, 5.53)	0.94 (0.51, 1.73)	1.21 (0.38, 3.87)
≥45	1.20 (0.58, 2.52)	2.80* (1.47, 5.34)	1.11 (0.38, 3.21)	1.66 (0.97, 2.84)	0.96 (0.34, 2.70)
Male	0.91 (0.34, 2.42)	0.86 (0.36, 2.03)	0.57 (0.32, 1.02)	0.60 (0.35, 1.03)	0.72 (0.47, 1.09)
Race/ethnicity					
White, non-Hispanic (Ref)	1.00	1.00	1.00	1.00	1.00
Black, non-Hispanic	0.90 (0.60, 1.35)	0.52 (0.25, 1.09)	1.28 (0.75, 2.20)	0.80 (0.45, 1.44)	1.38 (0.81, 2.34)
Hispanic/other	1.00 (0.47, 2.13)	0.61 (0.29, 1.30)	2.03* (1.17, 3.51)	0.63 (0.29, 1.36)	1.63 (0.77, 3.45)
Veteran	1.76* (1.14, 2.70)	0.74 (0.29, 1.85)	0.71 (0.22, 2.33)	2.00 (0.90, 4.44)	1.42 (0.85, 2.38)
Married/partnered	0.83 (0.43, 1.60)	0.78 (0.41, 1.48)	0.08* (0.02, 0.28)	1.13 (0.51, 2.47)	0.98 (0.49, 1.97)
High school diploma or higher	1.07 (0.52, 2.18)	1.06 (0.47, 2.40)	1.25 (0.59, 2.65)	0.58* (0.35, 0.95)	1.05 (0.62, 1.76)
Out-of-home placement as minor[b]	2.52* (1.80, 3.52)	1.71* (1.08, 2.73)	1.44 (0.77, 2.68)	1.10 (0.63, 1.91)	0.90 (0.54, 1.50)
Two or more homeless episodes at least 30 d in duration	0.92 (0.65, 1.29)	0.85 (0.49, 1.47)	0.95 (0.49, 1.83)	1.17 (0.70, 1.95)	1.26 (0.72, 2.20)
Physical/sexual assault in past year	0.91 (0.49, 1.67)	2.26* (1.44, 3.55)	1.97* (1.13, 3.42)	1.22 (0.78, 1.93)	0.77 (0.38, 1.54)
Substance abuse in past year	0.96 (0.40, 2.31)	1.06 (0.56, 2.01)	1.10 (0.68, 1.77)	1.26 (0.82, 1.96)	1.36 (0.76, 2.43)
Mental illness history	1.18 (0.51, 2.76)	1.79 (0.91, 3.51)	2.58* (1.27, 5.23)	1.83* (1.14, 2.93)	1.04 (0.53, 2.04)
Enabling factors					
No usual source of care	1.72 (0.98, 3.04)	2.16 (0.79, 5.88)	3.36* (1.92, 5.89)	0.89 (0.38, 2.07)	1.17 (0.47, 2.92)
Uninsured	1.75* (1.14, 2.69)	1.94* (1.26, 3.00)	2.03* (1.08, 3.82)	1.72* (1.10, 2.67)	1.08 (0.58, 1.99)
Employment in past year	1.70* (1.22, 2.37)	1.60* (1.09, 2.35)	0.84 (0.45, 1.57)	1.48 (0.87, 2.52)	1.22 (0.75, 2.00)
Food insufficiency[c]	2.06* (1.19, 3.57)	1.61* (1.04, 2.50)	1.55* (1.02, 2.38)	1.11 (0.58, 2.13)	1.06 (0.65, 1.72)
Vision impairment	1.11 (0.59, 2.09)	1.48 (0.86, 2.56)	2.17* (1.17, 4.01)	1.88* (1.16, 3.04)	1.81* (1.25, 2.63)
Need factors					
No. of medical comorbidities[d]					
0 (Ref)	1.00	1.00	1.00	1.00	1.00
1	2.22* (1.08, 4.52)	1.46 (0.88, 2.44)	1.57 (0.70, 3.56)	1.47 (0.93, 2.32)	1.07 (0.63, 1.83)
≥2	3.44* (1.61, 7.36)	2.82* (1.39, 5.73)	1.85 (0.61, 5.57)	1.63 (0.89, 2.97)	1.20 (0.57, 2.54)
Dental problem in past year	. . .	. . .	. . .	. . .	2.97* (1.89, 4.67)

Note. AOR = adjusted odds ratio; CI = confidence interval. Ellipses indicate that the factor was not applicable for that need.
[a]Adjusted for all of the variables presented, via multivariable logistic regression.
[b]Defined as placement into foster care, a group home, or an institution before the age of 18 years.
[c]Defined as "sometimes" or "often" not getting enough food to eat.
[d]Medical comorbidities included hypertension, diabetes, cardiovascular disease (coronary artery disease or stroke), obstructive lung disease (asthma or chronic obstructive pulmonary disease), HIV infection, cancer, kidney disease, liver disease, and arthritis or past-year chronic joint problems.
*$P < .05$.

engaged in by homeless individuals is often day labor or is intermittent in nature,[9] the hours may be unpredictable and the consequences for absence (i.e., termination or replacement) unacceptable. Furthermore, health insurance benefits are often not included with these low-wage jobs.[65–67] The 68% uninsured rate among past-year workers in our study was more than 3 times higher than was that for workers in the general population.[68] Those with any past-year employment were much more likely than were their unemployed counterparts to be uninsured, and the odds of lacking insurance increased with the duration of employment.

Rates of public insurance coverage were significantly lower among respondents with more extensive work histories than among nonworkers, probably reflecting a lesser degree of disability. This finding was not counterbalanced by higher rates of private insurance, and very few of these workers had employer-based coverage. Homeless workers may fall in a gap in which they do not qualify for publicly sponsored health benefits yet are unable to

TABLE 3—Adjusted odds ratios (AORs) for lack of health insurance coverage, by extent of past-year employment: 2003 Health Care for the Homeless User Survey.

	AOR (95% CI)
Duration of employment in the past year	
No employment (Ref)	1.00
1–3 mo	1.66 (1.01, 2.72)
4–6 mo	2.15 (1.26, 3.68)
≥7 mo	2.70 (1.37, 5.32)

Note. CI = confidence interval. Odds ratios were adjusted, via multivariable logistic regression, for age, gender, race/ethnicity, veteran status, marital status, education, out-of-home placement as a minor, number of homeless episodes, past-year victimization, past-year substance abuse, history of mental illness, usual source of care, food insufficiency, vision impairment, and medical comorbidities.

afford private health insurance if employer-based coverage is not provided.

Out-of-home placement as a minor conferred higher odds of having an unmet need for medical or surgical care and prescription medications in this study of homeless adults. Rates of homelessness, unemployment, mental illness, substance abuse, victimization, and lack of health insurance coverage are high among individuals with a history of foster care[69–75]; our findings remained significant even after adjustment for these confounders. The experience of out-of-home placement may be associated with several other risk factors for poor health and access to care, including adverse childhood experiences, high rates of incarceration, civic nonengagement, and poor life skill preparation, resulting in difficult community transitions.[71] Although federal funding for transitional assistance increased under the 1999 Foster Care Independence Act (HR 3443), evidence suggests that only 60% of eligible foster youths receive such services.[76]

Vision impairment was independently related to unmet needs for mental health care, eyeglasses, and dental care. Although the relationship with poor access to eyeglasses is probably explained in part by greater need for such services, we hypothesize that impaired vision also affects one's ability to navigate health systems and acquire health information.[49,50] This impairment may impose a greater barrier to accessing more ancillary services such as mental health care, vision care, and dental care, which often entail unique referral systems and less familiar facilities.

Limitations

Our study involved certain limitations. The data analyzed were cross sectional in nature, so causality cannot be definitively determined. All measures were self-reported and may be subject to multiple biases, particularly with respect to sensitive issues and stigmatized behaviors. We defined mental illness as having ever received treatment for emotional or mental problems, a definition similar to that used in other studies of homeless people.[22,77] To the extent that this definition identifies individuals who have previously accessed mental health care, the unmet need results for this variable may be biased toward the null and therefore represent a conservative estimate of effect. The survey was conducted among individuals with at least 1 prior visit to an HCH clinic site, so the findings may not be generalizable to the homeless population as a whole, particularly those who do not use HCH services.

In addition, our outcome measure of unmet need was based on a question format with some limitations. Although widely used, the question format of needing but being unable to obtain a given type of service is double barreled. Those with greater need for care are at increased risk of responding affirmatively to the question as compared with those with less or no perceived need. We addressed this limitation in 2 ways. First, we adjusted for need factors in our modeling strategy to ensure that significant predictors were not simply surrogate markers of increased need. Second, we performed subgroup analyses limited to those at high risk for requiring medical care, prescription medications, and mental health care and found that the results were very similar. Finally, because the study outcomes were relatively common (occurring among more than 10% of the respondents in each case), the adjusted odds ratios provide valid but potentially exaggerated measures of association in comparison with risk ratios, and the magnitude of findings should be interpreted accordingly.

Despite these limitations, this is the first national study of which we are aware to describe the multiple dimensions of unmet need for health care among homeless persons. Our findings reinforce prior research on the importance of health insurance in homeless populations, add to the growing literature on food insufficiency in a novel way, extend the principle of competing priorities to include employment, expand understanding of the sequelae of childhood out-of-home placement in homeless adults, and describe the contribution of low vision to poor health care access in the setting of homelessness.

Conclusions

We found high rates of unmet need for health care services in this national study of homeless adult clinic users. Unmet needs were most consistently related to being uninsured, but other factors appeared important as well, including out-of-home placement as a minor, food insufficiency, employment, and vision impairment. As currently structured, employer-based health insurance fails to reach the majority of homeless individuals who work, highlighting the need for an alternative source of affordable health coverage. Given the deficit of emergency food supplies,[78] provision of adequate food services to the poor should continue to be a public health priority. In addressing the root causes of homelessness, the child welfare system provides an important safety net for at-risk youth, but further attention to life skill preparation and community transition may be required to ensure better outcomes in this population.

From a practice perspective, health services compatible with work schedules and delivered in a flexible format will be required to best serve homeless people who rely on employment as a source of income. Finally, in moving toward a more comprehensive model of health care for homeless individuals, incorporating vision screening and services may alleviate the burden of this impairment, enhance functionality, and improve access to other dimensions of care. ■

About the Authors

Travis P. Baggett, Daniel E. Singer, and Nancy A. Rigotti are with the General Medicine Division, Massachusetts General Hospital, Boston, and the Department of Medicine, Harvard Medical School, Boston. James J. O'Connell is

with the Boston Health Care for the Homeless Program, Boston, and the General Medicine Division, Massachusetts General Hospital, Boston.

Correspondence should be sent to Travis P. Baggett, MD, Massachusetts General Hospital, 50 Staniford St, 9th Floor, Boston, MA 02114 (e-mail: tbaggett@partners.org). *Reprints can be ordered at http://www.ajph.org by clicking on the "Reprints/Eprints" link.*

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Contributors

T.P. Baggett participated in the study origination and design, analysis and interpretation of data, drafting and revision of the article, and approval of the final version. J.J. O'Connell participated in the study origination and design, revision of the article, and approval of the final version. D.E. Singer participated in the analysis and interpretation of data, revision of the article, and approval of the final version. N.A. Rigotti participated in the study origination and design, analysis and interpretation of data, revision of the article, and approval of the final version.

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Human Participant Protection

No protocol approval was needed for this study.

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