Self-Reported Comorbidities, Perceived Needs, and Sources for Usual Care for Older and Younger Homeless Adults

Brian Garibaldi, MD,¹ Alicia Conde-Martel, MD, MPH,² Thomas P. O'Toole, MD³

¹Johns Hopkins University, Baltimore, Md, USA; ²University Hospital of Gran Canaria Dr. Negrin, Las Palmas, Spain; ³Georgetown University School of Medicine, Washington, DC, USA.

BACKGROUND: While older individuals who are homeless tend to be in poorer health, it is less clear how they view their health care needs and whether their self-reported patterns for accessing health services differ from younger homeless counterparts.

METHODS: Cross-sectional, community-based survey of homeless adults in Pittsburgh and Philadelphia using face-to-face interviews from population proportionate sampling of sites and random sampling of subjects. Survey questions included physical and mental health comorbidities, self-reported health care, social services and personal needs, means of economic support, and sources for usual health care. For analysis purposes, respondents were grouped by age 18 to 49 years old and 50 years old or older.

RESULTS: Overall, 531 adults were interviewed, with 74 respondents 50 years old or older (13.9%). Older homeless persons were 3.6 times more likely to report a chronic medical condition, 2.8 times more likely to have health insurance, and 2.4 times more likely to be dependent on heroin than homeless persons less than 50 years old. However, they also tended to use shelter-based clinics and street outreach teams more commonly as their source of usual care (20.9% vs 10.6%, $P=.02$) and were significantly less likely to report a need for substance abuse treatment despite high rates of abuse.

CONCLUSION: Older homeless adults have a greater disease burden than their younger counterparts. However, it is unclear whether these needs are being appropriately identified and met. There is a need for specific and targeted outreach to connect them to appropriate services.

KEYWORDS: homeless; health care utilization; older; chronic medical conditions; substance abuse.

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It is estimated that between 14.8% and 28% of homeless adults are 50 years or older, and the number of older homeless adults will likely continue to rise as the general population ages.^{1,2} With the increasing number of older homeless persons, there has been growing interest in studying this cohort to better understand and anticipate their needs and develop specifically targeted interventions.²⁻⁹

The health risks of being homeless are well documented and include trauma, infestations, peripheral vascular disease, cellulitis, ulcers, frostbite, burns, and tuberculosis in addition to the general health problems encountered in nonhomeless populations.^{2,5,10-14} Older individuals who are homeless face additional problems including eye and dental problems, a high burden of chronic disease, sexual and physical abuse, and difficulty navigating health and social service systems.¹³ It is not surprising that older homeless adults tend to be in poorer physical and mental health than their domiciled age contemporaries

and younger homeless counterparts^{6,7,9} and to have higher age-specific mortality rates.¹⁵

However, it is less clear how older homeless persons view their health and health care needs and whether their self-reported pattern of accessing health services differs from younger homeless persons. In this paper, we present data from a 2-city community-based survey of homeless adults that compares self-reported physical and mental health comorbidities of older and younger homeless persons, their self-reported health care, social services and personal needs, means of economic support, and sources for usual care. This focus is important when considering the evolving needs and appropriate services for older homeless persons and how well the current system is addressing these needs.

METHODS

We conducted a cross-sectional, community-based survey of homeless adults in Pittsburgh and Philadelphia using face-to-face interviews over a 5-month period: April–August 1997. Approval from the Institutional Review Boards at the University of Pittsburgh and the University of Pennsylvania was obtained. The response rate was 93%, with no demographic differences noted in nonrespondents.

Study Population

Inclusion criteria were age greater than 18 years and homelessness for the majority of the previous 3 months. Upon completing the interview, participants received 5 dollars in cash or in bus tokens and a listing of area service providers.

Study Sites

Survey sites were clustered as follows: (1) unsheltered enclaves (abandoned buildings, cars, and outdoors) and congregate eating facilities; (2) emergency shelters; and (3) transitional housing or single room occupancy (SRO) dwellings to ensure representation by all sheltering-based subgroups of homeless persons. Sites within each cluster were selected with probabilities proportional to size (pps sampling) with either random or systematic individual recruitment at each selected site.

The selection of interviewees varied depending on the type of site and the number of people present at the time of the interview, using 1 of 4 selection plans. When only 1 subject was encountered, that person was approached and screened for eligibility. If there were less than 7 people at the site, the interviewer assigned each person with a number from 1 to 6 and a die was tossed to determine which person was to be

Address correspondence and requests for reprints to Dr. O'Toole: Georgetown University School of Medicine, NE111 Med Dent Building, 3900 Reservoir Rd. NW, Washington, DC 20057 (e-mail: Tpo6@georgetown.edu).

interviewed. For those sites with a sign-in list or where a list could be created, the interviewers were given a randomly assigned number that was used to select the person from the list to screen. Finally, for sites with no sign-in list and 7 or more individuals present, the interviewers selected a geographic marker and numbered the people using the same randomly assigned number to select the person for screening. To insure that a person was interviewed only once, a list of all previously interviewed participants with social security numbers and birth dates was distributed bi-monthly to the interviewers.

Survey Instrument

The National Technical Center (NTC) Telephone Substance Dependence Needs Assessment Questionnaire was used¹⁶ after being modified to accommodate face-to-face interviews and to include questions from previously administered questionnaires that were specific to homelessness.^{17,18} Definitions of substance abuse and dependence followed the Diagnostic Screening Manual (DSM)-III-R criteria.¹⁹ Respondents were asked to identify potential needs from a list of 18 categorical options. Sources for usual care were determined by self-reported responses to a specific question asking respondents to identify their source for care as either (1) an emergency department; (2) community- or hospital-based ambulatory care clinic; (3) shelter- or street-based homeless health care; or (4) none. Copies of the survey are available from the corresponding author.

The surveys were administered by 3 formerly homeless research assistants who received extensive pre- and midpoint training and who also participated in weekly debriefings. We intentionally recruited formerly homeless persons because of their familiarity with the environment and client situations and their ability to establish trust and elicit otherwise sensitive information. All interviews were audiotaped, with 10% randomly selected for review each week to ensure data integrity and interinterviewer consistency.

Methods of Analysis

Respondents were grouped by age, 18 to 49 years old and 50 years old or older, consistent with analytic approaches previously applied in homeless research.^{1,9,11} Differences between the 2 age groups were analyzed regarding demographic characteristics, means of getting money, self-reported comorbid conditions, important needs, and site of medical care. χ^2 analyses were used for categorical data, and all univariate comparisons are presented with the figures corresponding to the younger cohort first and older cohort second. For the multiple comparisons related previously, hypothesis testing was performed using the Bonferroni correction (the *P*-value divided by the total number of pairwise comparisons) to correct for the chance that in multiple comparisons the null hypothesis would be rejected in a few regions by chance. A multiple logistic regression model was also developed to determine independent factors associated with age. Variables with a statistically significant association in the univariate analysis using the Bonferroni correction were included in the model (health insurance, employment, chronic medical condition, cocaine abuse, heroin abuse, needing job skills, needing a job, needing income, and needing alcohol treatment). SPSS 10.0 and StatXact statistical software packages were used for analyses.

RESULTS

Demographic Characteristics

Overall, 531 adults were interviewed, with 74 respondents 50 years old or older (13.9%). Most participants in both the over and under 50 years of age groups were male, African American, with at least a 12th grade education and had been homeless less than 12 months (Table 1). Older homeless persons were significantly more likely to have health insurance and to be unemployed.

The most common self-reported source for income was from general relief/welfare, with no age-based difference among respondents. This was followed by working odd jobs and receiving money from family or friends, both of which were significantly less likely among those over age 50. Older respondents were more likely to report receiving income from social security and less likely to report income from stealing. There was no difference by age among those reporting panhandling and begging as a source of income (Table 2).

Self-Reported Comorbid Conditions

Homeless respondents over age 50 were significantly more likely to report a chronic medical condition (85.1% vs 55.6%, $P < .001$), 2 or more medical conditions (59.4% vs 27.8%; $P < .001$), or a mental health condition (74.0% vs 56.7%; $P = .005$). Among the top 3 medical conditions reported, older homeless respondents were significantly more likely to report having hypertension and arthritis or other musculoskeletal disorders, but comparable rates of chronic respiratory

Table 1. Demographic Characteristics

	<50-y-old (%), N=457	≥50-y-old (%), N=74	P Value
Gender			
Male (425)	79.0	86.5	.14
Female (106)	21.0	13.5	
Race			
White (77)	14.4	19.4	.39
African American (432)	85.6	80.6	
Education			
≥ 12th grade or GED (370)	70.4	66.2	.47
Marital status			
Single/Divorced/Widowed (509)	95.2	100	.05
Married (22)	4.8	0	
Duration homeless			
< 12 mo (324)	61.6	58.1	.57
> 12 mo (206)	38.4	41.9	
Health insurance			
Yes (320)	56.8	84.7	<.001*
Employment status			
Unemployed (355)	63.9	85.1	.001*
Veteran (129)	22.8	33.8	.04
Money spent monthly			
<\$250 (184)	32.8	45.9	.027
>\$250 (347)	67.2	54.1	
Arrested in last 12 mo (97)	19.5	10.8	.07

Comparisons were made with the use of a 95% confidence interval with a Bonferroni correction ($P < .005 = .05/10$) to adjust for the possibility that in multiple comparisons, the null hypothesis may be rejected by chance.

*Statistically significant using the Bonferroni correction.
GED, general education degree.

Table 2. Self-Reported Income Source

	< 50-y-old (%), N=457	≥ 50-y-old (%), N=74	P Value
Steady job (61)	12.5	5.4	.08
Odd jobs (164)	33.5	14.9	.001*
Social security/SSI (94)	13.8	41.9	<.001*
General relief/welfare (199)	37.6	36.5	.85
Friends/family (115)	23.9	8.1	.002*
Begging/panhandling (71)	14.2	8.1	.15
Hustling/stealing (84)	17.5	5.4	.008
Selling plasma (61)	11.8	9.5	.56

Comparisons were made with the use of a 95% confidence interval with a Bonferroni correction ($P < .0063 = 0.05/8$) to adjust for the possibility that in multiple comparisons, the null hypothesis may be rejected by chance.

*Statistically significant using the Bonferroni correction.
SSI, supplemental security income.

conditions, including asthma and chronic obstructive pulmonary disease. There was no significant difference between groups in the proportion reporting the top 3 mental health conditions (depression, anxiety disorder, and posttraumatic stress disorder) (Table 3).

There was also no significant difference in the numbers of individuals screening positive for abuse/dependence to alcohol or other drugs (73.0% vs 79.2%; $P = .23$). Older respondents were significantly more likely to abuse heroin alone or in combination with other substances (23.0% vs 9.6%; $P < .001$) but less likely to be abusing cocaine (25.7% vs 50.5%; $P < .001$).

Self-Reported Needs

The most common need reported among respondents both over and under age 50 was "housing assistance". "Physical health care" was the second most commonly cited need among

Table 3. Self-Reported Comorbid Conditions

	<50-y-old (%), N=457	≥ 50-y-old (%), N=74	P Value
Chronic medical conditions (315)	55.6	85.1	<.001*
Two or more medical conditions (170)	27.8	59.4	<.001*
Hypertension (133)	22.1	43.2	<.001*
Musculoskeletal disorders/ Arthritis (75)	12.0	27.0	<.001*
Emphysema/asthma (71)	12.7	17.6	.25
Psychiatric conditions (313)	56.7	74	.005
Two or more psychiatric conditions (155)	29.1	30.1	.86
Depression (210)	40.5	34.2	.31
Anxiety disorder (82)	14.9	18.9	.37
Posttraumatic stress disorder (65)	12.3	12.2	.98
Abuse/dependence of alcohol or drugs (416)	79.2	73.0	.23
Abuse/dependence of two or more drugs (including alcohol) (237)	59.1	42.6	.02
Alcohol only (101)	22.1	38.9	.007
Cocaine (250)	50.5	25.7	<.001*
Heroin (61)	9.6	23	.001*

Comparisons were made with the use of a 95% confidence interval with a Bonferroni correction ($P < .003 = 0.05/15$) to adjust for the possibility that in multiple comparisons, the null hypothesis may be rejected by chance.

*Statistically significant using the Bonferroni correction.

older homeless and the fifth most commonly reported need among under the age of 50 respondents (60.8% vs 59.5%; $P = .83$). "Having a steady income", "finding a job", and "improving one's job skills" were all rated less frequently by older homeless compared with those under age 50, who had cited each of these needs as important at rates higher than "physical health care." "Mental health care" was rated as important by almost 42% of respondents, with no difference based on age. Having a need for some form of substance abuse treatment was identified as important by significantly fewer over-50 homeless persons than those under age 50 (relapse treatment: 32.4% vs 51.4%, $P = .002$; alcohol treatment: 21.6% vs 43.5%, $P < .001$; and drug treatment: 32.4% vs 47.9%, $P = .01$) (Table 4).

Self-Reported Sites Where Respondents Seek Medical Care

Most respondents in both age groups reported community clinics as their source for usual care (64.2% vs 61.0%; $P = .63$). There was no difference in proportions reporting emergency departments and hospital-based clinics for usual care. However, more older respondents reported using shelter-based clinics and street outreach teams for their source of usual care compared with their younger counterparts (20.9% vs 10.6%, $P = .02$), although this did not reach significance after the Bonferroni correction (Table 5).

Independent Factors Associated with Older Homeless Adults

In the multiple logistic regression analysis considering independent variables associated with age, older homeless adults

Table 4. Self-Reported "Important" Needs

	<50-y-old (%), N=457	≥ 50-y-old (%), N=74	P Value
Physical health care (317)	59.5	60.8	.83
Mental health care (222)	41.8	41.9	.99
Family counseling (161)	32.2	18.9	.02
Housing assistance (484)	91.9	86.5	.19
Getting on public assistance (159)	31.8	18.9	.03
Learning how to manage money (289)	56	44.6	.06
Finding a job (350)	69.6	43.2	<.001*
Getting on SSI/SSDI (177)	32.8	36.5	.54
Getting veteran's benefits (83)	15.3	17.6	.62
Improving job skills (327)	65.9	35.1	<.001*
Legal assistance (174)	32.8	32.4	.95
Learning how to get along with people (188)	36.1	31.1	.40
Learning how to read and fill out forms (101)	19.5	16.2	.51
Learning how to protect yourself (145)	28.7	18.9	.08
Having steady income (404)	79.4	55.4	<.001*
Dealing with the Police (75)	15.5	5.4	.02
Relapse treatment (259)	51.4	32.4	.002*
Alcohol treatment (215)	43.5	21.6	<.001*
Drug treatment (243)	47.9	32.4	.01

Comparisons were made with the use of a 95% confidence interval with a Bonferroni correction ($P < .0026 = 0.05/19$) to adjust for the possibility that in multiple comparisons, the null hypothesis may be rejected by chance.

*Statistically significant using the Bonferroni correction.

SSI, supplemental security income; SSDI, social security disability income.

Table 5. Self-Reported Site of Medical Care

	<50-y-old (%), N=457	≥50-y-old (%), N=74	P Value
Community clinic	61	64.2	.63
Emergency room	14.4	7.5	.12
Hospital clinic	10.9	7.5	.40
Shelter-based clinic/street outreach team	10.6	20.9	.02

Comparisons were made with the use of a 95% confidence interval with a Bonferroni correction ($P < .013 = .05/4$) to adjust for the possibility that in multiple comparisons, the null hypothesis may be rejected by chance.

*Statistically significant using the Bonferroni correction.

were 3.6 times more likely to have a chronic medical condition (odds ratio (OR) 3.6; 95% confidence interval (CI): 1.75 to 7.38), 2.8 times more likely to have health insurance (OR 2.8; 95% CI: 1.34 to 5.80), and 2.4 times more likely to abuse heroin (OR 2.4; 95% CI: 1.19 to 4.98). They were significantly less likely to report needing to improve job skills (OR 0.5; 95% CI: 0.23 to 0.95) or to abuse cocaine (OR 0.4; 95% CI: 0.21 to 0.75).

DISCUSSION

Older homeless persons were over 3 and one half times more likely to have a chronic medical comorbidity, and health care was the second most frequently cited need following housing assistance. Older homeless were also almost 3 times more likely to have health insurance that would presumably facilitate better and easier access to the health care system. However, it was surprising that older homeless persons accessed shelter- and street-based outreach for their usual care at much higher rates that reached significance with the χ^2 analysis and approached significance after the Bonferroni correction when one would expect the trend to be in the opposite direction. These findings run counter to the assumption that health insurance alone is determining health access for older homeless adults, and suggests that other factors such as substance abuse, and capacity to navigate the system may be impacting when and where health care is sought.

The prevalence of medical and mental health conditions among older homeless persons is notable and underscores the importance of adequate health care outreach and readily available access to this cohort. These findings are also consistent with other reports in the literature that found an increase in the number of health problems among older homeless adults, both compared with their younger counterparts and age-matched individuals in the general population.^{3,6,7,9,14,20} The types of chronic health problems reported here, most notably hypertension, heart disease, hepatitis/cirrhosis, and diabetes, were also similar in nature to those reported in prior studies.^{5,6,7} The prevalence of psychiatric illness among older homeless persons in our survey was higher than previously reported; 74% of respondents over the age of 50 reported a psychiatric problem, which was also significantly higher than among younger homeless persons. In a metaanalysis of several studies, 22% of homeless men and 29% of homeless women were found to be suffering from major psychiatric disorders,²¹ with lower rates of mental illness reported among older homeless populations.⁵⁻⁷ The self-reported nature of our findings could possibly explain this as an over-reporting bias; however,

the stigma associated with reporting a mental health condition would typically direct this bias in the opposite direction.

With 85% of those homeless persons over age 50 reporting a chronic medical problem, it is unclear whether the 61% reporting "physical health care" as an important need is too high or too low. We do not know, based on these data, whether respondents view this as a "met" or "unmet" need. The higher rates of health insurance in our cohort of older homeless would suggest that the need is being addressed in traditional health care settings. However, if this were the case, we would have expected to see greater proportions reporting community- and hospital-based clinics as sources for their care and instead, 21% of older homeless respondents reported a shelter-based or street outreach source for usual medical care. This suggests that for some older homeless in our sample, this is a need that could perhaps be "better" met. However, without actual data on health service utilization, it is not possible to determine this fully. In the literature, Cohen and Sotolovsky found that older homeless adults were almost 3 times as likely as age contemporaries to be hospitalized and to report 3 to 4 times the number of physical symptoms; yet, 55% reported their health as excellent or good for someone of their age group.^{9,22} Gelberg found a similar attitude in her study of homeless adults in Los Angeles. Despite suffering from more illnesses, older homeless adults in her study population were no more likely than their younger counterparts to seek outpatient medical care.⁷ Hwang and colleagues looked at 558 homeless adults in Boston and found that in the year before their death, 27% of individuals did not have any contact with the health care system except during the circumstances leading to their death. Older homeless adults were especially unlikely to seek such care. Each decade increase in age was associated with a 20% decrease in the likelihood of health care contact in the year before death.²³

It is also possible that the high rate of alcohol and heroin use among older homeless adults, which, for heroin use, was significantly higher than their younger counterparts, and the much lower reported need for substance abuse services reflect poor insight and difficulty accessing or navigating the health system. This would also explain why fewer respondents cited health care as a need relative to the degree of self-reported comorbidity and why nontraditional and informal sites for medical care were accessed at higher rates in this cohort. In a study of health services utilization, Stein and colleagues found that alcohol but not drug abuse predicted less utilization of outpatient medical services.²⁴ However, in a similar study of health service use, Gallagher and colleagues did not find either chronic mental illness or chronic substance abuse to be related to having a source of regular health care.²⁵ Regardless of the cause or effect of this disconnect between rates of alcohol and drug abuse and self-reported need for services, these findings highlight the need for greater outreach and efforts to engage this population in substance abuse treatment programs specifically suited for homeless persons.

One possible framework for explaining these findings is the Behavioral Model for Vulnerable Populations, which groups factors associated with health service utilization as predisposing, enabling, or needs oriented.²⁶ Despite having more predisposing factors for seeking health care (i.e. increased age), as well as more need-oriented factors (i.e. higher rates of physical or mental illness) and enabling factors (i.e. a higher level of health insurance) than younger homeless persons, those homeless persons over age 50 also face a number

of barriers to obtaining care that may override the demand, need, or resources available for accessing health care services. Gallagher and colleagues found that homeless individuals with health insurance were no more likely to seek care than those without insurance, suggesting that this may not be as influential a factor as in other domiciled settings.²⁵ Gelberg and colleagues reported "competing priorities" among homeless persons, such as meeting the daily needs for food, shelter, and safety, can deprioritize health services.²⁷ The higher burden of physical and mental illness among older homeless persons may make it more difficult to meet those sustenance needs, causing a paradoxical shift in their priorities away from seeking health care. Abdul-Hamid found that elderly homeless in London have a greater need for help with self-care, making daily subsistence a more challenging task.²⁸ Social support networks of a homeless person have been positively associated with health services utilization,¹⁷ and older homeless may also have fewer social support networks in place or available to them, as suggested by the smaller proportion reporting financial support from family or friends.

There are specific policy and service recommendations supported by these data. Older homeless adults have specific physical, mental, and substance abuse needs at rates exceeding younger homeless persons. There is a need for specific, targeted, and ongoing outreach, particularly to those with underlying substance abuse needs who are treatment adverse, to connect them to appropriate services. This should include multidisciplinary shelter- and street-based teams that include substance abuse and mental health counselors and services that include both medical care and social services/entitlement assistance. It should also include the capacity to integrate street- and shelter-based care with that provided in better-equipped settings. The accelerated morbidity and mortality among older homeless persons underscore the importance and need for these types of targeted interventions.

This study has several notable limitations that need to be considered. First, our data were self-reported and subject to recall bias. Second, we are unable to report on actual utilization, satisfaction with care received, or perceived barriers to care. This prevents us from commenting beyond inference on how well or poorly the system is providing care for older homeless persons. Finally, the data were obtained from an urban homeless population and cannot be generalized to suburban or rural settings.

In summary, initiatives aimed at improving physical and mental health care to older homeless persons must consider not only the multitude of needs that this population has but also the complexity of interpersonal and systemic barriers to effective treatment. Effective interventions must include shelter-based and community outreach in order to reach the individuals who may be at the greatest risk.

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