

TABLE 2—Processes Used by Health Care for the Homeless (HCH) Clinics to Identify Consumers With Veteran Status: United States, 2012

Identification Process Survey Question	n (%)
Does your health center identify consumers experiencing homelessness who are veterans, either in your intake assessment or elsewhere? (n = 100)	
Yes	98 (98.0)
No	2 (2.0)
How do you identify these consumers? (n = 92)	
Question asked by staff person during intake	58 (63.0)
Question completed by consumer on intake form	23 (25.0)
Procedure varies by staff person or provider	8 (8.7)
Other	3 (3.3)
How is your question phrased that seeks to identify veteran status? ^a (n = 54)	
Are you a veteran? Yes or no	34 (63.0)
Have you ever been in the military?	2 (3.7)
Have you ever served in the military?	8 (14.8)
Military history?	2 (3.7)
Series of questions (e.g., veteran status, branch of military, dates of service, discharge status, past use of VA)	3 (5.6)
Do you have VA privileges?	1 (1.8)
Other	4 (7.4)
If a consumer identifies as a veteran, how does this affect the services or resources offered to this individual? (Check all that apply) (n = 94)	
No veteran-specific resources or services are offered	23 (24.5)
Link consumer to veteran-specific services within your HCH clinic	11 (11.7)
Link consumer to veteran-specific services in your community	56 (59.6)
Refer consumer to the VA Medical Center	43 (45.7)
Help consumer apply for VA benefits	24 (25.5)
Employ trauma-informed care or military cultural competence	5 (5.3)
Other	19 (20.2)

Note. VA = Veterans Affairs.

^aThis question was open ended. Responses were open coded to identify the question phrasings used by HCH clinics.

Comparing Homeless Smokers to Economically Disadvantaged Domiciled Smokers

Michael S. Businelle, PhD, Erica L. Cuate, MPH, Anshula Kesh, MPH, Insiya B. Poonawalla, MS, and Darla E. Kendzor, PhD

We compared characteristics of homeless smokers and economically disadvantaged domiciled smokers (Dallas, TX; August 2011–November 2012). Although findings indicated similar smoking characteristics across samples, homeless smokers (n = 57) were exposed to more smokers and reported lower motivation to quit, lower self-efficacy for quitting, more days with mental health problems, and greater exposure to numerous stressors than domiciled smokers (n = 110). The sample groups reported similar scores on measures of affect, perceived stress, and interpersonal resources. Results may inform novel cessation interventions for homeless smokers. (*Am J Public Health*. 2013;103:S218–S221. doi:10.2105/AJPH.2013.301336)

Homeless individuals in the United States¹ have higher rates of disease, shorter life expectancy, and disproportionately higher health care costs than domiciled, socioeconomically disadvantaged individuals.^{2–5} A primary cause of these disparities is that smoking prevalence among homeless individuals (70% of whom smoke)^{6–8} is twice as high as that among those living in poverty (34.7% of whom smoke⁹). Numerous studies have indicated that many variables typical of low socioeconomic status (SES) and homelessness (e.g., low education, low income, high financial strain, unemployment) are associated with a reduced likelihood of smoking cessation.^{10–13} However, few studies have specifically examined psychosocial and smoking characteristics of homeless

4. US Department of Labor, Women's Bureau. Trauma-informed care for women veterans experiencing homelessness. 2011. Available at: <http://www.dol.gov/wb/trauma/WBTraumaGuide2011.pdf>. Accessed March 16, 2012.

5. National Association of Community Health Centers, Atlas Research. Collaboration with rural community health centers, VISN 5, task 4: final report. 2011. Available at: http://www.ruralhealth.va.gov/docs/publications/2011_6_30_NACHC_Final_Report.pdf. Accessed April 18, 2012.

6. Buchholz JR, Malte CA, Calsyn DA, et al. Associations of housing status with substance abuse treatment and service use outcomes among veterans. *Psychiatr Serv*. 2010;61(7):698–706.

7. O'Toole TP, Conde-Martel A, Gibbon JL, Hanusa BH, Fine MJ. Health care of homeless veterans. *J Gen Intern Med*. 2003;18(11):929–933.

8. Kuhn J, Nakashima J. The seventeenth annual progress report: Community Homelessness Assessment, Local Education and Networking Group (CHALENG) for veterans, fiscal year (FY) 2010—services for homeless veterans assessment and coordination. 2011. Available at: http://www.va.gov/HOMELESS/docs/chaleng/CHALENG_Report_Seventeenth_Annual.pdf. Accessed March 4, 2012.

9. Balshem H, Christensen V, Tuepker A. A critical review of the literature regarding homelessness among veterans. 2011. Available at: <http://www.hsrd.research.va.gov/publications/esp/homelessness.cfm#UM-IuazNmSo>. Accessed December 5, 2011.

10. Mental Health Services. Military screening questions. Available at: http://www.mentalhealth.va.gov/communityproviders/docs/Military_Service_Screening.pdf. Accessed March 4, 2012.

smokers. The purpose of the current study was to compare homeless smokers with domiciled, socioeconomically disadvantaged smokers to highlight additional obstacles specific to homeless smokers that may need to be addressed during smoking cessation interventions.

METHODS

Participants included in the current analyses were recruited into 1 of 2 studies at tobacco cessation clinics in the Dallas, Texas, metropolitan area between August 2011 and November 2012. Inclusion criteria were being aged 18 years or older, a reading level higher than 6th grade (assessed via the Rapid Estimate of Adult Literacy in Medicine),¹⁴ smoking 5 cigarettes or more per day, carbon monoxide level of 8 parts per million or more at baseline, willing to quit smoking within 7 days, and ability to attend 6 weekly assessment sessions. The domiciled sample was recruited from a Dallas safety-net hospital smoking cessation clinic and the homeless sample was recruited from the smoking cessation clinic at a Dallas homeless shelter.

In the homeless sample, only those who resided in the transitional shelter were eligible.

All participants completed measures of sociodemographic and smoking characteristics (Table 1). In addition, participants completed measures of subjective social status,¹⁵ nicotine dependence,¹⁶ affect and perceived stress,^{17,18} mental health,^{19–21} negative experiences or exposure to threat or harm,^{22–25} interpersonal resources,^{26–30} and self-efficacy or motivation for smoking cessation (Table 2; Castro et al., unpublished data, 2012).³¹ We conducted analyses of group differences (i.e., homeless vs domiciled samples) using χ^2 or analysis of variance.

RESULTS

Homeless participants (n = 57) were more likely to be male, younger, single, uninsured, and unemployed than domiciled participants (n = 110; Table 1). In addition, domiciled smokers placed themselves on higher rungs of the community and US subjective social status ladders.¹⁵ Although smoking

characteristics were similar across samples, homeless smokers reported daily exposure to substantially more smokers than did domiciled smokers (Table 1).

The homeless and domiciled samples were similar on measures of recent affect, current symptoms of depression, perceived stress, and alcohol abuse (Table 2). However, the homeless sample reported more recent days with mental health problems, greater depression diagnosis prevalence, higher levels of discrimination, higher scores on the Urban Life Stress Scale, more fear, more mistrust of others, and lower social cohesion and trust than did the domiciled sample (Table 2). The sample groups scored similarly on measures of loneliness, general self-efficacy, dispositional optimism, social support, and social isolation (Table 2). Finally, the homeless sample was less motivated to quit smoking and reported lower confidence in maintaining abstinence than did the domiciled sample (Table 2).

DISCUSSION

Study results indicate that, compared with low-SES domiciled smokers, homeless smokers may have more mental health problems, be surrounded by more smokers, be exposed to substantially more stressors and discrimination, and have lower motivation and self-efficacy for quitting. Each of these variables may play a role in the extremely high prevalence of smoking among homeless individuals and the low smoking cessation rate in this population. These differences may suggest that homeless smokers seeking treatment may not respond to cessation interventions specifically developed for domiciled low-SES smokers. Study findings also demonstrate that homeless smokers possess psychosocial resources comparable to those of socioeconomically disadvantaged domiciled smokers. Thus, homeless individuals may have effective coping mechanisms that may be used to increase successful smoking cessation if tapped in novel smoking cessation interventions.

Findings highlight many variables that may be targeted in future cessation programs specifically tailored to the needs of homeless smokers, and results may be used to support changes in tobacco use policies at shelters. For example, creating smoke-free zones or disallowing smoking altogether on shelter

TABLE 1—Demographic and Smoking Characteristics of the Sample Participants: Dallas, TX, August 2011–November 2012

Characteristic	Homeless Smokers (n = 57), Mean (SD) or %	Domiciled Smokers (n = 110), Mean (SD) or %	P
Demographic			
Age, y	50.0 (7.7)	52.6 (7.2)	.03
Gender, male	66.7	43.6	.005
Race, Black	55.4	65.5	.205
Married or partnered	35.1	55.5	.013
Education, y	12.4 (2.0)	12.1 (1.9)	.258
Reading level ¹⁴	61.9 (4.9)	60.8 (5.8)	.229
Employed at least part time	5.3	17.3	.03
Family income < \$12 000/y	96.3	58.3	< .001
Not insured, % yes	87.7	55.5	< .001
Community social status ladder ¹⁵	4.3 (2.5)	5.6 (2.2)	.001
US social status ladder ¹⁵	3.3 (2.3)	4.3 (2.0)	.005
Smoking			
Cigarettes/d	18.3 (10.5)	17.0 (8.5)	.375
Years smoking	29.3 (10.7)	31.6 (9.5)	.161
Lifetime quit attempts lasting at least 24 h	4.2 (3.3)	4.1 (3.3)	.772
No. of smokers exposed to each d	42.9 (29.1)	3.5 (4.1)	< .001
Heaviness of Smoking Index ¹⁶	2.9 (1.5)	3.1 (1.2)	.401

TABLE 2—Comparison of Homeless and Domiciled Smoker Samples: Dallas, TX, August 2011–November 2012

Variable	Homeless Smokers (n = 57), Mean (SD) or %	Domiciled Smokers (n = 110), Mean (SD) or %	P
Affect and perceived stress			
PANAS—Negative Affect ¹⁷	18.0 (6.6)	19.5 (8.0)	.233
PANAS—Positive Affect ¹⁷	31.2 (10.5)	29.2 (9.4)	.22
Perceived Stress Scale ¹⁸	6.1 (3.4)	6.3 (3.3)	.618
Mental health			
PHQ Alcohol Dependence ²⁰	17.5	17.3	.965
Depression diagnosis history	80.7	50.9	<.001
BRFSS no. of days with mental health problems ²¹	11.5 (10.5)	8.0 (9.8)	.035
CES-D ⁹	15.7 (10.3)	16.0 (11.1)	.879
Negative experiences and exposure to threat or harm			
Detroit Discrimination Scale ²⁵	31.5 (13.4)	19.5 (10.0)	<.001
Urban Life Stress Scale ²⁴	48.4 (11.1)	43.2 (11.8)	.006
Social Cohesion and Trust Scale ²³	14.2 (2.3)	15.6 (2.7)	.001
Fear Scale ²²	1.7 (0.8)	1.5 (0.6)	.027
Mistrust Scale ²²	1.9 (0.7)	1.6 (0.6)	.002
Reserve capacity			
Loneliness ²⁸	5.3 (2.0)	5.2 (1.9)	.713
General Self-Efficacy Scale ²⁶	34.1 (6.1)	33.8 (5.8)	.738
Revised Life Orientation Test ³⁰	13.8 (4.4)	14.5 (4.1)	.362
ISEL ²⁷			
Appraisal scale	12.4 (3.1)	12.5 (2.9)	.87
Belonging scale	12.5 (2.9)	12.2 (3.1)	.523
Tangible support scale	12.3 (3.0)	12.3 (3.0)	.077
Lubben Social Network Scale ²⁹	12.1 (7.3)	13.7 (6.3)	.122
Self-efficacy/motivation for quitting			
Self-efficacy and motivation for quitting: TSAMS Motivation for Quitting ^a	20.9 (4.4)	22.2 (3.9)	.047
Self-efficacy for quitting ³¹			
Positive affect and social situations	2.2 (0.9)	2.7 (0.8)	<.001
Negative affect situations	2.1 (0.9)	2.3 (0.9)	.069
Habit and craving situations	2.3 (0.9)	2.8 (0.8)	.001

Note. BRFSS = Behavioral Risk Factor Surveillance System; CES-D = Center for Epidemiological Studies—Depression scale; ISEL = Interpersonal Support Evaluation List; PANAS = Positive and Negative Affect Schedule; PHQ = Patient Health Questionnaire; TSAMS = Texas Smoking Abstinence Motivation Scale.

^aCastro et al., unpublished data, 2012.

grounds may reduce continued exposure to other smokers, thus addressing a known barrier to successful smoking cessation.^{32,33} This policy is consistent with recommendations from the Break Free Alliance Expert Panel.³⁴

Study limitations include the use of small regional samples seeking cessation treatment, which may limit generalizability and analysis power, reliance on self-report, and our comparison of 2 different populations of smokers.

Although these limitations are significant, we believe that this type of comparison is warranted because of the dearth of knowledge regarding the potential causes for the high smoking prevalence and the low smoking cessation rate among homeless individuals. Novel smoking cessation interventions that address specific barriers experienced by homeless smokers should be developed. These tailored interventions may have an enormous impact on the health and life

expectancy of this underserved and vulnerable population. ■

About the Authors

Michael S. Businelle, Erica L. Cuate, Anshula Kesh, Insiya B. Poonawalla, and Darla E. Kendzor are with the University of Texas Health Science Center at Houston, School of Public Health, Dallas. Michael S. Businelle and Darla E. Kendzor are also with the UT Southwestern Harold C. Simmons Comprehensive Cancer Center, Population Science and Cancer Control Program, Dallas.

Correspondence should be sent to Michael S. Businelle, PhD, University of Texas School of Public Health, Dallas Regional Campus, 6011 Harry Hines Boulevard, V8.112, Dallas, TX 75390-9128 (e-mail: michael.businelle@utsouthwestern.edu). Reprints can be ordered at <http://www.ajph.org> by clicking the "Reprints" link.

This article was accepted March 7, 2013.

Contributors

M. S. Businelle and D. E. Kendzor designed the parent studies and led data analyses and article preparation. E. L. Cuate, A. Kesh, and I. B. Poonawalla led data collection and helped to draft the article. All authors have read and approved the final version of the article.

Acknowledgments

Funding for this research was provided by the University of Texas School of Public Health. Data analysis and article preparation were additionally supported by grants from the American Cancer Society to M. S. Businelle (MRSGT-12-114-01-CPPB) and D. E. Kendzor (MRSGT-10-104-01-CPHPS).

We thank the staffs at the Bridge Homeless Assistance Center and Parkland Health and Hospital System, Dallas, TX, for their work and support throughout the data collection portion of this project. In addition, we thank Jay Dunn (Bridge CEO) and Neil Phillips (Bridge smoking cessation program coordinator and counselor) for their efforts that enabled this research.

Human Participant Protection

This study was approved by the institutional review boards at the University of Texas School of Public Health and the University of Texas Southwestern Medical Center.

References

1. US Department of Housing and Urban Development. Homeless emergency assistance and rapid transition to housing: defining "homeless." *Fed Regist*. 2011;76(233):75994–76019.
2. Barrow SM, Herman DB, Cordova P, Struening EL. Mortality among homeless shelter residents in New York City. *Am J Public Health*. 1999;89(4):529–534.
3. Hwang SW, Wilkins R, Tjepkema M, O'Campo PJ, Dunn JR. Mortality among residents of shelters, rooming houses, and hotels in Canada: 11 year follow-up study. *BMJ*. 2009;339:b4036.
4. Weinreb L, Goldberg R, Perloff J. Health characteristics and medical service use patterns of sheltered

homeless and low-income housed mothers. *J Gen Intern Med*. 1998;13(6):389–397.

5. Buck DS, Brown CA, Mortensen K, Riggs JW, Franzini L. Comparing homeless and domiciled patients' utilization of the Harris County Texas public hospital system. *J Health Care Poor Underserved*. 2012;23(4):1660–1670.
6. Arnsten JH, Reid K, Bierer M, Rigotti N. Smoking behavior and interest in quitting among homeless smokers. *Addict Behav*. 2004;29(6):1155–1161.
7. Butler J, Okuyemi KS, Jean S, Nazir N, Ahluwalia JS, Resnicow K. Smoking characteristics of a homeless population. *Subst Abus*. 2002;23(4):223–231.
8. Hwang SW, Henderson MJ. *Health Care Utilization in Homeless People: Translating Research into Policy and Practice*. Rockville, MD: Agency for Healthcare Research and Quality; 2010. Working Paper No. 10002.
9. Barbeau EM, Krieger N, Soobader M. Working class matters: Socioeconomic disadvantage, race/ethnicity, gender, and smoking in NHIS 2000. *Am J Public Health*. 2004;94(2):269–278.
10. Businelle MS, Kendzor DE, Costello TJ, et al. Mechanisms linking socioeconomic status to smoking cessation: a structural equation modeling approach. *Health Psychol*. 2010;29(3):262–273.
11. Kendzor DE, Businelle MS, Costello TJ, et al. Financial strain and smoking cessation among racially/ethnically diverse smokers. *Am J Public Health*. 2010;100(4):702–706.
12. Siahpush M, Carlin JB. Financial stress, smoking cessation and relapse: results from a prospective study of an Australian national sample. *Addiction*. 2006;101(1):121–127.
13. Fernández E, Schiaffino A, Borrell C, et al. Social class, education, and smoking cessation: long-term follow-up of patients treated at a smoking cessation unit. *Nicotine Tob Res*. 2006;8(1):29–36.
14. Davis TC, Crouch MA, Long SW, et al. Rapid assessment of literacy levels of adult primary care patients. *Fam Med*. 1991;23(6):433–435.
15. Adler NE, Stewart J. The MacArthur scale of subjective social status. Available at: <http://www.macses.ucsf.edu/Research/Psychosocial/subjective.php>. Accessed December 20, 2012.
16. Kozlowski LT, Porter CQ, Orleans CT, Pope MA, Heatherton T. Predicting smoking cessation with self-reported measures of nicotine dependence: FTQ, FTND, and HSI. *Drug Alcohol Depend*. 1994;34(3):211–216.
17. Watson D, Clark LA, Tellegen A. Development and validation of brief measures of positive and negative affect: The PANAS scales. *J Pers Soc Psychol*. 1988;54(6):1063–1070.
18. Cohen S, Kamarck T, Mermelstein R. A global measure of perceived stress. *J Health Soc Behav*. 1983;24(4):385–396.
19. Radloff LS. The CES-D scale: a self-report depression scale for research in the general population. *Appl Psychol Meas*. 1977;1(3):385–401.
20. Spitzer RL, Kroenke K, Williams JB. Validation and utility of a self-report version of PRIME-MD: the PHQ Primary Care Study. Primary care evaluation of mental

disorders. Patient Health Questionnaire. *JAMA*. 1999;282(18):1737–1744.

21. Centers for Disease Control and Prevention. *Behavioral Risk Factor Surveillance System Survey Data*. Atlanta, GA: US Department of Health and Human Services; 2009.
22. Ross CE, Jang SJ. Neighborhood disorder, fear, and mistrust: the buffering role of social ties with neighbors. *Am J Community Psychol*. 2000;28(4):401–420.
23. Sampson RJ, Raudenbush SW, Felton E. Neighborhoods and violent crime: a multilevel study of collective efficacy. *Science*. 1997;277(5328):918–924.
24. Jaffee KD, Liu GC, Canty-Mitchell J, Qi RA, Austin J, Swigonski N. Race, urban community stressors, and behavioral and emotional problems of children with special health care needs. *Psychiatr Serv*. 2005;56(1):63–69.
25. Taylor TR, Kamarck TW, Shiffman S. Validation of the Detroit Area Study Discrimination Scale in a community sample of older African American adults: the Pittsburgh healthy heart project. *Int J Behav Med*. 2004;11(2):88–94.
26. Chen G, Gully SM, Eden D. Validation of a new general self-efficacy scale. *Organizational Res Methods*. 2001;4(1):62–83.
27. Cohen S, Hoberman HM. Positive events and social supports as buffers of life change stress. *J Appl Soc Psychol*. 1983;13(2):99–125.
28. Hughes ME, Waite LJ, Hawkey LC, Cacioppo JT. A short scale for measuring loneliness in large surveys: results from two population-based studies. *Res Aging*. 2004;26(6):655–672.
29. Lubben J, Blozik E, Gillmann G, et al. Performance of an abbreviated version of the Lubben Social Network Scale among three European community-dwelling older adult populations. *Gerontologist*. 2006;46(4):503–513.
30. Scheier MF, Carver CS, Bridges MW. Distinguishing optimism from neuroticism (and trait anxiety, self-mastery, and self-esteem): a reevaluation of the Life Orientation Test. *J Pers Soc Psychol*. 1994;67(6):1063–1078.
31. Velicer WF, Diclemele CC, Rossi JS, Prochaska JO. Relapse situations and self-efficacy: an integrative model. *Addict Behav*. 1990;15(3):271–283.
32. Zhou X, Nonnemaker J, Sherrill B, Gilson AW, Coste F, West R. Attempts to quit smoking and relapse: factors associated with success or failure from the ATTEMPT cohort study. *Addict Behav*. 2009;34(4):365–373.
33. Shiffman S, Paty JA, Gnys M, Kassel JA, Hickcox M. First lapses to smoking: Within-subjects analysis of real-time reports. *J Consult Clin Psychol*. 1996;64(2):366–379.
34. Porter J, Houston L, Anderson RH, Maryman K. Addressing tobacco use in homeless populations: recommendations of an expert panel. *Health Promot Pract*. 2011;12(6 suppl 2):144S–151S.

Resource-Limited, Collaborative Pilot Intervention for Chronically Homeless, Alcohol-Dependent Frequent Emergency Department Users

Ryan P. McCormack, MD, Lily F. Hoffman, MS, Stephen P. Wall, MD, MSc, MAEd, and Lewis R. Goldfrank, MD

We introduced case management and homeless outreach to chronically homeless, alcohol-dependent, frequent emergency department (ED) visitors using existing resources. We assessed the difference in differences of ED visits 6 months pre- and postintervention using a prospective, nonequivalent control group trial. Secondary outcomes included changes in hospitalizations and housing. The differences in differences between intervention and prospective patients and retrospective controls were -12.1 (95% CI = $-22.1, -2.0$) and -12.8 (95% CI = $-26.1, 0.6$) for ED visits and -8.5 (95% CI = $-22.8, 5.8$) and -19.0 (95% CI = $-34.3, -3.6$) for inpatient days, respectively. Eighteen participants accepted shelter; no controls were housed. Through intervention, ED use decreased and housing was achieved. (*Am J Public Health*. 2013;103:S221–S224. doi:10.2105/AJPH.2013.301373)

Chronically homeless and alcohol-dependent patients are overrepresented among frequent emergency department (ED) users and account for disproportionate health care visits and costs.^{1–22} Interventions that address their complex psychosocial issues through case management, supportive housing, or both