



Cash Benefits are Associated with Lower Risk Behavior Among the Homeless and Marginally Housed in San Francisco

Elise D. Riley, Andrew R. Moss, Richard A. Clark,
Sandra L. Monk, and David R. Bangsberg

ABSTRACT *To address the widespread debate about the role of public assistance to the urban poor, the authors determined characteristics of individuals receiving cash assistance and explored the link between cash subsidies and risk behavior. From 1999 to 2000, a representative sample of homeless and marginally housed (HMH) adults living in San Francisco was recruited and interviewed about subsidies, shelter, jail, and drug use. Among 1,156 adults, 87% were ever homeless, 22% currently injected drugs, and 14% were HIV positive. Sixty percent of participants reported that most of their income came from subsidies [mostly subsidized (MS)]. The MS had lower odds of receiving any income from selling drugs or trading sex. Adjusting for HIV infection, the MS had higher odds of sleeping in a hotel [odds ratio (OR)=2.39] or shelter (OR=1.61) compared to the street. The MS had lower odds of injection drug use (OR=0.69) and recent incarceration (OR=0.77). Among San Francisco's homeless, being MS was positively associated with having shelter and negatively associated with injection drug use and incarceration. These data suggest that government subsidies are associated with positive health behaviors among the urban poor.*

KEYWORDS *Homeless, Public assistance, Urban poor.*

INTRODUCTION

Homelessness, a condition associated with poor health,¹⁻⁴ has continued to rise sharply over the past 20 years in many major US cities.⁵⁻⁸ Likewise, the number of people receiving public assistance, using food pantries, and staying in homeless shelters has increased dramatically,^{7,8} which has provoked public debate on the role of subsidies among the poor. In considering this role, some studies have postulated that increases in drug use, psychiatric symptoms, and death at the beginning of the month are due to receiving subsidies.^{9,10} However, it is unclear whether the individuals who receive subsidies are the same individuals who experience these increases. Other studies linked receipt of subsidies to individuals and reported that subsidies were not associated with more days of drug use,^{11,12} but were associated with better quality of life.¹²

Drs. Riley, Moss, and Bangsberg are with the University of California, San Francisco General Hospital, Epidemiology and Prevention Interventions Center, San Francisco, California; and Mr. Clark and Ms. Monk are with the University of California, San Francisco General Hospital, Department of Epidemiology and Biostatistics, San Francisco, California.

Correspondence and reprints: Elise Riley, PhD, University of California at San Francisco, UCSF Box 1347, Epidemiology and Prevention Interventions Center, SFGH Building 90, 5th Floor, San Francisco, CA 94110. (E-mail: eriley@epi-center.ucsf.edu)

There is still widespread debate about the role of subsidies to the poor, particularly in urban areas where the poor and homeless are visible. Although reductions in subsidies are celebrated in Maryland (Washington Post, April 8, 2002), criticisms of inadequate subsidies are made in Washington, DC (Washington Post, November 14, 2002), controversial treatment of recipient rights have been debated in Chicago (Chicago Tribune, June 11, 1999), and fairness in deciding recipients has been called into question in California (New York Times, December 16, 2002). Prior to its implementation San Francisco debated the legality of Proposition N and redirected money to services, which decreased the amount of cash subsidies to the homeless (*San Francisco Examiner*, June 6, 2003).

Some suggest that limiting the amount of discretionary income from cash subsidies may decrease negative health outcomes like the number of drug-related deaths,¹⁰ yet others contend that discontinuing payments could increase activities like trading sex for money, trading prescription drugs for street drugs, panhandling, and stealing.¹³ Few studies have considered these issues. Moreover, studies that consider large representative samples, rather than nongeneralizable or institutional samples, and that are able to link subsidies information to individuals are even fewer.

We sought to characterize individuals receiving subsidies [General Assistance (GA), Supplemental Security Income (SSI), Social Security Disability Insurance (SSDI), and aid to families with dependent children (AFDC)] and compare them to individuals who were not receiving subsidies among San Francisco's homeless and marginally housed. We compared housing status, drug use, and incarceration between individuals who received most of their income in the form of government subsidies and those who did not. This comparison took place within a representative sample of HIV-infected homeless and marginally housed (HMH) individuals living in San Francisco between 1999 and 2000. We hypothesized that the odds of using drugs and being sheltered would be higher among the mostly subsidized.

METHODS

During the period January 1999 to April 2000, a mobile outreach team recruited HMH individuals. In an attempt to recruit a representative and reproducible sample of adults transitioning in and out of homelessness (sleeping most nights on the street or in a shelter) and marginal housing (sleeping in low-rent hotels) in San Francisco, service-delivery methods^{14,15} were used to approach individuals at all large homeless shelters, free food programs providing more than 100 meals per day and a random sample of low-income hotels in three neighborhoods of the city selected with probability proportionate to size.

Participants underwent a consent procedure, an HIV test and an interview regarding socioecodemographic characteristics, drug use, and history of incarceration. Trained interviewers administered questionnaires, and participants were reimbursed \$15. This protocol was conducted with the approval of the University of California, San Francisco, Committee on Human Research, holding the Multiple Project Assurance of Compliance with DHHS Regulations for Protection of Human Research Subjects.

The purpose of the described recruitment activities was to enroll HMH individuals into a study regarding HIV treatment. This study used data on income, health, and risk to (1) characterize individuals receiving cash subsidies and (2) compare the

odds of sleeping most nights on the street, drug use, and incarceration between mostly subsidized (MS) and non-MS individuals. The dependent variable, MS, was defined as receiving at least 50% of a person's total income from SSI, SSDI, AFDC, or GA. We considered possible confounding by gender, age, ethnicity, education, marital status, and HIV status. The age variable was made dichotomous by categorizing at the population median, and current drug use was defined as having snorted, smoked or injected heroin, cocaine, crack, or speed in the past 30 days. Incarceration was assessed for the previous year.

Data were cross-sectional in nature, thus associations were estimated using odds ratios and confidence intervals to determine the magnitude of effect as well as the amount of variability in each estimate. Inferences were based on simultaneous adjustment for independent variables using multiple logistic regression in which a backward stepwise approach was used. Independent variables were deleted from the logistic regression model if they did not contribute to the overall fit of the model. Goodness of fit was determined by log likelihood ratios.

RESULTS

Among 1,156 adults interviewed, 25% were female, 59% were non-white, and the median age was 42 years. Eighty-seven percent of respondents reported a history of homelessness, and when asked where respondents slept the previous night, 8% reported that they had slept on the street, 28% reported that they had slept in a shelter, and 58% reported that they had slept in single-room-occupancy (SRO) low-rent hotel. Of those paying to live in a SRO, 36% reported at least one current roommate. Median number of years living in San Francisco as an adult was 14 for the mostly subsidized (MS) and 10 for the non-MS (Wilcoxon rank sum test $P=0.015$). Almost 30% of respondents had been in jail or prison during the prior year, 35% used noninjectable drugs, and 22% reported current injection drug use. Fourteen percent of the population tested positive for HIV antibody.

Among individuals who received any money from legal employment (20% of the total population), the total median monthly income was \$920 (\$600 from employment). Those receiving social security (non-SSI and non-SSDI) or Veteran's benefits (7%) reported a median total monthly income of \$642. Fourteen percent of the population engaged in panhandling, selling drugs and/or trading sex from which the median monthly income was \$150. Government subsidies were received by 69% of participants and 60% of the population was mostly subsidized (MS) (Table 1). The median total monthly income among the MS was \$619 and the median total monthly income among the non-MS was \$700 (Wilcoxon rank sum test $P<0.01$).

Considering illegal sources of income, the MS had significantly lower odds of receiving any money from panhandling (OR=0.61, CI=0.43–0.87), selling drugs (OR=0.28, CI=0.16–0.47), and trading sex (OR=0.35, CI=0.20–0.61) during the prior 30 days. There were no differences by subsidy group in selling food stamps.

In unadjusted analysis, the MS had significantly lower odds of incarceration during the past year (Table 2). Conversely, the MS had higher odds of testing HIV positive. Likewise, the MS had higher odds of sleeping in a shelter or hotel during the previous night compared to sleeping on the street. While the association between subsidies and ethnicity was not statistically significant, the odds of being mostly subsidized were almost 20% lower for non-white individuals (Table 2). The odds of injection drug use did not significantly differ by subsidy status in unadjusted analysis; however after controlling for HIV infection, the MS had significantly

TABLE 1. Sources of income (N = 1,556)

Source	Any income received [n (%)]
Employment	301 (19.3)
Sell used items	205 (13.2)
SSI or SSDI	515 (33.1)
General Assistance	549 (35.3)
Aid to Families with Dependent Children	11 (0.7)
Social Security (not SSI or SSDI)	77 (4.9)
Veteran's Benefits	45 (2.9)
Get money from friends	238 (15.3)
Get money from family	150 (9.6)
Sell food stamps	139 (8.9)
Panhandle	136 (8.7)
Sell drugs	65 (4.2)
Trade sex	56 (3.6)
At least two illegal activities	17 (1.1)

SSDI, Social Security Disability Insurance; SSI, Supplemental Security Income.

lower odds of current injection drug use. This was the only drug use characteristic that contributed to the fit of the final model.

Among individuals receiving any money from subsidies, linear regression indicated an inverse correlation between the amount of cash subsidy received and risky behavior. As income from subsidies increased, the odds of current drug use decreased ($P=0.004$), the odds of sleeping on the street decreased, ($P<0.001$) and the odds of incarceration decreased ($P<0.001$).

Considering high-risk behaviors among current drug users only, the MS had significantly lower odds of injection drug use (OR=0.68, CI=0.50–0.93). Restricted to current injection drug users only, the MS had 57% lower odds of injecting one or more times daily (OR=0.43, CI=0.28–0.68), and 37% lower odds of giving/lending a used needle to another person during the past 12 months (OR=0.63, CI=0.41–0.97). Injecting with a previously used needle did not significantly differ by subsidy group.

DISCUSSION

San Francisco's HMH are long-term residents, most of whom transition in and out of homelessness through low-rent SRO hotels and many of whom have been incarcerated during the past year. Less than 10% of San Francisco's HMH engage in panhandling, less than 5% sell drugs or trade sex, and about 1% engage in more than one illegal activity. Almost 70% of this population receives cash subsidies, the vast majority of which is mostly subsidized (MS). The MS were over 60% more likely to be sheltered and 30% less likely to inject drugs than individuals who were not mostly subsidized. These results support the hypothesis that being subsidized is associated with being sheltered. Contrary to the hypothesis that being mostly subsidized is positively associated with drug use, we found no significant associations between MS and snorting or smoking heroin, cocaine, or speed. Surprisingly, we found that the MS had significantly lower odds of injection drug use. Discretionary income from cash subsidies is not associated with risky behavior.

TABLE 2. Associations between being mostly subsidized and respondent characteristics

Characteristic	Mostly subsidized (n = 927)	Not mostly subsidized (n = 629)	Unadjusted odds ratio (95% CI)	Adjusted odds ratio* (95% CI)
Female sex	230 (24.8%)	148 (23.5%)	1.06 (0.84–1.35)	
Age >40	465 (50.2%)	301 (47.9%)	1.10 (0.90–1.34)	
Non-white ethnicity	528 (57.0%)	379 (60.3%)	0.81 (0.66–1.00)	
High school graduate	657 (70.9%)	441 (70.1%)	0.97 (0.77–1.21)	
Married	57 (6.1%)	54 (8.6%)	0.68 (0.46–1.00)	
Slept last night				
On the street	53 (5.7%)	77 (12.2%)	1.00	
Shelter	235 (25.4%)	194 (30.8%)	1.76 (1.18–2.62)	1.61 (1.07–2.46)
Private residence	22 (2.4%)	20 (3.2%)	1.60 (0.79–3.21)	1.41 (0.67–2.96)
Hotel	595 (64.2%)	302 (48.0%)	2.86 (1.96–4.17)	2.39 (1.61–3.56)
Currently snorts cocaine	20 (2.2%)	12 (1.9%)	1.13 (0.56–2.30)	
Currently smokes crack	300 (32.4%)	225 (35.8%)	0.86 (0.69–1.06)	
Currently snorts heroin	19 (2.0%)	18 (2.9%)	0.71 (0.37–1.35)	
Currently smokes heroin	11 (1.2%)	14 (2.2%)	0.53 (0.24–1.15)	
Current injection drug user	197 (21.3%)	141 (22.3%)	0.93 (0.73–1.19)	0.69 (0.52–0.91)
Incarcerated during the past 12 months	245 (26.4%)	213 (33.9%)	0.70 (0.56–0.87)	0.77 (0.61–0.98)
Tested positive for HIV antibody	174 (20.0%)	37 (5.9%)	3.77 (2.60–5.46)	3.63 (2.46–5.35)

*Variables included in the final model.

Those who were MS had lower odds of panhandling, selling drugs, and trading sex for money. The association between MS and each illegal activity were in the same direction and may suggest that disabilities qualifying individuals for subsidies render them less capable of illegal activity. Alternatively, this consistency may suggest that subsidies facilitate financial security and allow the urban poor to avoid illegal activity. The fact that MS had lower odds of incarceration supports the latter.

The MS were 23% less likely to have been incarcerated during the past year. Whether incarceration causes individuals to lose their subsidies or subsidies allow individuals to avoid illegal activity is unclear and deserves more attention. If additional income reduces incarceration, state and federal governments could experience a financial net gain through subsidies programs.

Compared to living on the street, the MS were more likely to be sheltered. These data are consistent with those of similar studies that found to be housing and cash subsidies to be associated with stable housing¹⁶⁻¹⁸ and that a lack of money or entitlements was a major barrier to securing stable housing and also predicted worse self-perceived health.¹⁹ The link between subsidies and shelter is central to well being as homelessness has been correlated with less use of health services and poorer health status, as well as poorer quality of life.¹⁻⁴ Moreover, unstable housing can seriously compromise the chance for addiction recovery,²⁰ and may inhibit adherence to complicated medication regimens among the HIV infected.²¹

There were no significant associations between using noninjectable drugs and MS status. However, the MS had lower odds of injection drug use. Additionally, among injection drug users, the MS had lower odds of daily injection and engaging in high-risk drug use activities. These associations may suggest that high frequency drug use presents barriers to accessing subsidies, rendering high frequency users less likely to receive subsidies. Alternately, these associations may suggest that subsidies facilitate more contact with the health care system or case managers, thus influencing subsidized drug users to decrease risky behavior. In either case, our findings regarding drug use and subsidies are inconsistent with those reported by Phillips et al. in that the latter reported an increase in the number of drug-use-related deaths at the beginning of each month and suggested that these deaths were linked to subsidies.¹⁰ Differences between studies are likely due to differences in types of data and analyses employed. Phillips et al. used population data to assess patterns among people who died, whereas this study used individual data to assess patterns among the living. Future studies that are able to offer both types of information and determine the relative benefit or detriment of subsidies would offer an improved overall assessment.

As a cross sectional study, the significant associations found between MS and being sheltered, not injecting drugs and not being incarcerated during the past year should not be deemed as causal. It is currently unclear whether subsidies facilitate less risky behavior, or conversely, whether those who are less risky at baseline are better able to procure public assistance. Such definitive studies regarding the effects of subsidies on risk behavior will be those that consider individuals who are eligible for subsidies, recruit participants on the basis of who is subsidized and who is not, and follow individuals over time to determine whether risk behavior changes as subsidies status change. Such studies could consider the question of whether losing subsidies would increase the risk of becoming homeless or relapsing into drug use. Although it was not possible to make temporal associations in this study, we were able to build on the ideas of previously conducted ecological studies by linking individuals to both subsidies and possible life exposures, which allowed us to account for individual variability.

The results presented here are consistent with those from recent studies in a large multi-site cohort study of people affected by the elimination of SSI to those diagnosed with drug addiction or alcoholism. The SSI study group reported that (1) termination of subsidies had no subsequent effect on levels of drug use,²² (2) individuals who lost benefits were significantly less likely than those who requalified for SSI to receive any medical or mental health care,²³ (3) failure to replace lost cash benefits resulted in an increase in property and drug crime,²⁴ and (4) material hardships were over 60% more likely among those who lost SSI benefits.²⁵ While the SSI study group focused on drug and alcohol users over a 2-year period and the current study focuses on the HMH at one point in time, the overlap and consistency suggests that subsidies may facilitate positive health behaviors.

A limitation of this study is that there exist a variety of conditions, which render individuals eligible for public assistance but for which we were unable to make analytic adjustment, thus residual confounding is likely. The study was, however, able to avoid a possible bias from systematic over-representation of MS drug users, which may have resulted from drug use making individuals eligible for SSI. Data for this study were collected in 1999 and 2000, well after a 1996 law was passed stating that drug addiction no longer conferred eligibility for SSI (Public Law 104-121, enacted March 29, 1996). Another limitation is that data presented are self-reported. It is possible that drug use and incarceration were underreported; however, reporting risky behavior to a research interviewer did not place participants in danger of losing subsidies, thus substantial systematic differences between MS and non-MS were unlikely. A main strength of this study was the ability to recruit a large and representative sample of the urban poor among whom we found variability in ethnicity, housing status, health, health services use, drug use, and subsidies. Linking individuals to their subsidies status and to the aforementioned exposures allowed us to determine directly measures of association and to provide information to guide further investigation.

Debates continue throughout the United States on the role of cash subsidies to the poor. Our data do not support the hypothesis that more expendable income from cash subsidies leads to more risky behavior. Rather, our data suggest that cash subsidies are associated with less risky behavior. However, this is a cross sectional study. Many of the previously conducted studies regarding subsidies have been ecological and cross-sectional in nature as well, and those that have reported longitudinal data have specifically focused on addicted populations. The question of causation still stands: among the indigent, which comes first, subsidies, or lower-risk behaviors? We suggest that deciding whether cash subsidies facilitate lower risk behavior or whether those with lower risk behavior are better able to secure subsidies is an important public health endeavor, one that should be undertaken before subsidies are changed among individuals who are currently less likely to engage in risky behavior.

ACKNOWLEDGEMENT

The authors thank REACH staff as well as REACH participants for making the study possible. This study was supported by MH RO1 54907 and The Doris Duke Charitable Foundation.

REFERENCES

1. Smith MY, Rapkin BD, Winkel G, Springer C, Chhabra R, Feldman IS. Housing status and health care service utilization among low-income persons with HIV/AIDS. *J Gen Intern Med.* 2000;15:731-738.
2. O'Toole TP, Gibbon JL, Hanusa BH, Fine MJ. Utilization of health care services among subgroups of urban homeless and housed poor. *J Health Polit Policy Law.* 1999;24:91-114.
3. Lam JA, Rosenheck RA. Correlates of improvement in quality of life among homeless persons with serious mental illness. *Psychiatr Serv.* 2000;51:116-118.
4. Lehman AF, Kernan E, DeForge BR, Dixon L. Effects of homelessness on the quality of life of persons with severe mental illness. *Psychiatr Serv.* 1995;46:922-926.
5. Burt M. Causes of the growth of homelessness during the 1980s. *Understanding Homelessness: New Policy and Research Perspectives.* Washington, DC: Fannie Mae Foundation; 1997.
6. *Homelessness in America: Unabated and Increasing.* Washington, DC: National Coalition for the Homeless; 1997.
7. *A New Look at Homelessness in America.* Washington, DC: Urban Institute; 2000.
8. Sanchez R. Exasperated cities move to curb or expel the homeless. *Washington Post.* Nov. 19, 2002: A1.
9. Shaner A, Eckman TA, Roberts LJ, et al. Disability income, cocaine use, and repeated hospitalization among schizophrenic cocaine abusers—a government-sponsored revolving door? *N Engl J Med.* 1995;333:777-783.
10. Phillips DP, Christenfeld N, Ryan NM. An increase in the number of deaths in the United States in the first week of the month—an association with substance abuse and other causes of death. *N Engl J Med.* 1999;341:93-98.
11. Frisman LK, Rosenheck R. The relationship of public support payments to substance abuse among homeless veterans with mental illness. *Psychiatr Serv.* 1997;48:792-795.
12. Rosenheck RA, Dausey DJ, Frisman L, Kaspro W. Outcomes after initial receipt of social security benefits among homeless veterans with mental illness. *Psychiatr Serv.* 2000;51:1549-1554.
13. Geller JL. Disability payments among schizophrenic cocaine abusers. *N Engl J Med.* 1996;334:664-665.
14. Burnam MA, Koegel P. Methodology for obtaining a representative sample of homeless persons: the Los Angeles Skid Row Study. *Eval Rev.* 1988;12:117-152.
15. Robertson M, Tulsy JP, Clark RA, Long HL, Moss AR. HIV seroprevalence among homeless and marginally housed women in San Francisco *Am J Public Health.* 2004; 94: 1207-1217.
16. Shinn M. Family homelessness: state or trait? *Am J Community Psychol.* 1997;25:755-769.
17. Shinn M, Weitzman BC, Stojanovic D, et al. Predictors of homelessness among families in New York City: from shelter request to housing stability. *Am J Public Health.* 1998;88:1651-1657.
18. Bassuk EL, Buckner JC, Weinreb LF, et al. Homelessness in female-headed families: childhood and adult risk and protective factors. *Am J Public Health.* 1997;87:241-248.
19. Bonuck KA, Drucker E. Housing issues of persons with AIDS. *J Urban Health.* 1998;75:170-183.
20. Herman M, Galanter M, Lifshutz H. Combined substance abuse and psychiatric disorders in homeless and domiciled patients. *Am J Drug Alcohol Abuse.* 1991;17: 415-422.
21. Bonuck KA. Housing needs of persons with HIV and AIDS in New York State. *J Health Soc Policy.* 2001;13:61-73.
22. Speiglmán R, Norris J, Kappagoda S, Green R, Martinovich Z. SSI receipt and alcohol and other drug use among former SSI DA&A beneficiaries. *Contemp Drug Probl.* 2003;30:291-333.

23. Podus D, Barron N, Chang E, Watkins K, Guydish J, Anglin MD. Medical and mental health services utilization among requalified and former drug addiction and alcoholism recipients of SSI. *Contemp Drug Probl.* 2003;30:365–390.
24. Swartz J, Martinovich Z, Goldstein P. An analysis of the criminogenic effects of terminating the Supplemental Security Income impairment category for drug addiction and alcoholism. *Contemp Drug Probl.* 2003;30:391–424.
25. Norris J, Scott R, Speigman R, Green R. Homelessness, hunger and material hardship among those who lost SSI. *Contemp Drug Probl.* 2003;30:241–273.