

## Collateral damage in the war on drugs: HIV risk behaviors among injection drug users

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### Abstract

**Objective:** To determine whether two key War on Drugs policies, the criminalization of syringes and the disqualification of drug users from the Supplemental Security Income (SSI) program, are associated with injection-related human immunodeficiency virus (HIV) risk behaviors among injection drug users (IDUs). **Methods:** IDUs were interviewed regarding HIV risk behaviors, drug use, and criminal activities in six San Francisco Bay Area communities in 1996 and followed through 1997 ( $n = 1257$ ). Multivariate analysis was conducted to examine the association between concern about arrest while carrying drug paraphernalia and injection-related risk behaviors. Regarding SSI, respondents were interviewed before (1996) and after (1997) drug and alcohol addicts were disqualified from SSI ( $n = 88$ ). Bivariate analysis was conducted comparing IDUs who lost SSI benefits with those who retained benefits. **Results:** Among our study sample, 32% of IDUs reported being concerned about possible arrest while carrying drug paraphernalia. In multivariate analysis, concerned IDUs were over one-and-a-half times more likely to share syringes than IDUs not concerned (adjusted odds ratio = 1.74; 95% confidence interval = 1.24, 2.44). Regarding SSI, 60% (53/88) of baseline SSI recipients had lost benefits by their follow-up interview. IDUs who lost benefits were more likely to participate in illegal activities (48 vs. 27%;  $P < 0.05$ ), more likely to share syringes (17 vs. 0%;  $P < 0.05$ ) and injected drugs on average more (43.8 vs. 36.4 per month;  $P < 0.03$ ) than those who retained benefits. **Conclusions:** These data suggest that War on Drugs policies which deny injection equipment and federal income support to IDUs also increase their risk for HIV infection, and should be reconsidered. © 1999 Elsevier Science B.V. All rights reserved.

**Keywords:** Substance use; HIV; War on Drugs; Drug paraphernalia; SSI

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## 1. Introduction

Since the early eighties, the United States government has engaged in a costly and expansive 'War on Drugs.' Domestically, the War on Drugs has resulted in the United States incarcerating a higher percentage of its citizens than any other country, substantially expanding police powers at all levels of government, and simultaneously reducing civil liberties at a cost of some \$300 billion in state and federal funds over the last 15 years (Skolnick, 1994).

The War on Drugs has operated under the basic premise of 'punish to deter' (Reuter, 1992; Tonry, 1995; Bertram et al., 1996). That is, 'fear of punishment will act as a deterrent by raising the risks of drug use and will thus lead to less use and abuse' (Bertram et al., 1996: 26). Inspired by the War on Drugs, penalties have increased dramatically for possession and sales of illicit drugs (Caulkins et al., 1997); and drug use or reported drug use has become grounds for loss of employment, denial of education, housing, welfare assistance, seizure of children by the state, and confiscation of property (Wisotsky, 1992; Bertram et al., 1996; Miller, 1996; Gray, 1998). Yet, these intended consequences of the War on Drugs have failed to eliminate the drug problem in the United States according to most observers (Wisotsky and Szasz, 1990; Kleiman, 1992; Tonry, 1995; Bennett et al., 1996; Bertram et al., 1996).

There is also a whole range of unintended consequences of the War on Drugs (Tullis, 1995; Bertram et al., 1996). These unintended consequences include, law enforcement corruption at home and abroad (Carter, 1990; Andreas, 1993), increased spread of infectious diseases here (Skolnick, 1992) and elsewhere (Des Jarlais et al., 1992), and a demeaning of democratic processes throughout the world (Nadelmann, 1988; Miller,

1996). Among the most significant unintended consequences of the War on Drugs is the international and national spread of drug injection-related human immunodeficiency virus (HIV).

Internationally, the War on Drugs interdiction efforts have led to the refinement of narcotics in source countries which in turn has led to the availability of water-soluble forms of heroin and cocaine (Des Jarlais et al., 1992). The introduction of injection drug use has quickly followed this development in drug-producing countries like China, India, Myanmar, and Thailand where sterile syringes are not widely available. Widespread syringe sharing has followed and all of these countries now face significant drug injection-related HIV epidemics (Naik et al., 1991; Stimson, 1994; Wright et al., 1994). This scenario of drug refinement, injection drug use, scarcity of sterile injection equipment for illicit drug use, and HIV transmission is now being played out in South America. In Columbia, the first case of acquired immune deficiency syndromes (AIDS) attributable to injection drug use was reported in January, 1995. This case followed the introduction of water soluble, 'low quality remainders' of cocaine and heroin from the drug refinement process to local drug using populations (Miguez et al., 1997). Since 1995, 33 AIDS cases have been attributed to injection drug use in Columbia (Miguez et al., 1997).

In the United States, a substantial and on-going HIV/AIDS epidemic due to injection drug use is well underway. Nearly a third of adult and over half of pediatric AIDS cases are associated with drug injection in the United States (CDC, 1997). According to one estimate, as many new HIV infections are attributable to injection drug use as to unprotected male to male sex (Holmberg, 1996). Drug injection-related risks include shared use of needles and syringes, and other

injection supplies (e.g. cookers, filters, and mix/rinse water) (Heimer et al., 1992; Myers et al., 1993; Heimer et al., 1996b; Shah et al., 1996), and injection practices related to the processes of dividing drug solution, such as frontloading and backloading (Grund et al., 1990; Samuels et al., 1991; Jose et al., 1993; Grund et al., 1996; Stark et al., 1996). Exploring the relationship between War on Drugs policies and syringe and injection supply sharing among injection drug users (IDUs) is the focus of this paper.

## 2. The war on drugs and HIV risk among injection drug users

There are a variety of ways that the War on Drugs may lead to increased HIV risk among IDUs. Drug prohibition in and of itself contributes significantly to making injection drug use risky by driving drug users underground where they are reluctant to seek health care in instance of overdoses and abscesses, are more likely to use shooting galleries (which have been repeatedly associated with HIV infection among IDUs), and are harder to reach with infectious disease prevention interventions (Conviser and Rutledge, 1989). On the other hand, drug prohibition, by itself, is not incompatible with reducing injection-related HIV risk among IDUs as evidenced in the United Kingdom (Stimson, 1995). In the United Kingdom, drug use is addressed primarily as a public health problem, emphasizing drug treatment rather than arrest while maintaining the prohibition against illicit substance use generally. In the United States, however, drug control strategy has taken a ‘punish to deter’ approach. Several authors have suggested that the punish to deter approach has facilitated the spread of HIV among populations of IDUs (Conviser and Rutledge, 1989;

Bertram et al., 1996; Day, 1997; Nadelmann, 1998). However, with the important exception of studies examining the impact of law enforcement on syringe exchange programs (SEPs) (Heimer et al., 1996a; Bluthenthal et al., 1997) and the prohibition of federal funding for SEPs (Lurie and Drucker, 1997), little evidence has been presented associating specific War on Drug policies with HIV risk among IDUs. In this paper, we examine the impact of drug paraphernalia laws and disqualifying IDUs from Supplemental Security Income (SSI) program on HIV risk.

### 2.1. Drug paraphernalia laws

Among the earliest War on Drugs initiatives was the criminalization of drug paraphernalia such as water pipes (‘bongs’), rolling paper, ‘roach’ clips, and syringes. Criminalization of drug paraphernalia occurred against the backdrop of a growing retail market for equipment which ‘may be used to introduce illicit substances into the body’ (Gostin and Lazzarini, 1997: 625).

Manufacture, distribution, sale, possession, and advertising of such devices were prohibited through the propagation of the Drug Enforcement Agency (DEA) authored Model Drug Paraphernalia Act (MDPA) of 1979. Within a few years drug paraphernalia laws had been adopted in 47 states and the District of Columbia (Gostin and Lazzarini, 1997). These state laws made the possession and/or distribution of drug paraphernalia, such as syringes, illegal if intended for the purpose of using illicit drugs.

These laws represent an obstacle to IDUs using their own syringes and injection supplies by depriving them of easy access to these materials. Furthermore, the enforcement of these laws may lead to arrest, citation, and confiscation of injection equipment. IDUs concerned about being stopped or ar-

rested while carrying drug paraphernalia may not have their own injection equipment available to them when injecting. As a result they may share syringes and injection supplies. Qualitative studies have consistently reported that IDUs are reluctant to carry their own syringes due to fear of arrest for violating state laws against possession of syringes (Feldman and Biernacki, 1988; Waldorf et al., 1990; Zule, 1992; Booth et al., 1993; Koester, 1994; Bluthenthal and Watters, 1995; Bourgois et al., 1997). In one early ethnographic study, for instance, a female heroin addict was quoted as saying, "I would rather get AIDS than go to jail" (Feldman and Biernacki, 1988). An 1992 quantitative study of IDUs and syringe accessibility found that 55% of IDUs were concerned about possible arrest due to drug paraphernalia laws (Gleghorn et al., 1995). Another study found that 65% of IDUs interviewed reported not carrying syringes due to fear of arrest (Grund et al., 1995). And when Grund and colleagues examined drug-related arrests in their study community, they found that over a fourth of drug-related arrests included drug paraphernalia charges. However, this study did not relate either the police arrests data or the self-report data from IDUs to subsequent injection-related infectious disease risk behaviors. Only one study of which we are aware has quantitatively documented an association between concern about arrest while carrying drug paraphernalia and injection-related risk behaviors among IDUs (Bluthenthal et al., in press).

## *2.2. Supplemental security income and the War on Drugs*

A decade after criminalizing syringes, the War on Drugs entered what some have called its 'zero tolerance' phase (Baum, 1996). The domestic impact of this phase was not only

mandatory minimum sentences for individuals convicted of minor drug offences, but also the enactment of various civil penalties against individuals convicted of drug offences. These civil penalties were expressed as 'user-accountability measures' and written into the federal anti-drug legislation of 1989 (Baum, 1996; Bertram et al., 1996). User-accountability measures called for individuals convicted of drug-related offences to be evicted from public housing, and denied federal benefits for home and student loans, grants for higher education, and government contracts and grants. Inspired in part by this approach, federal income supports for individuals disabled by drug and alcohol addictions would eventually be ended. But first, the fact that drug and alcohol addicts were receiving federal income supports had to come to light.

In 1989, SSI was a little known and little used federal income support program for the permanently disabled, blind children and adults, and extremely low-income persons 65 years of age and older (specifically, < \$2,000 annual income in 1996). Enrollees were provided with a federal monthly stipend of \$470 in 1996. States could supplement this federal grant, although in 1995 only 16 states did so (Barber, 1996). SSI enrollment also automatically qualified beneficiaries for Medicaid in most states. Alcohol addiction and drug addiction were both qualifying disabilities; and in fact, some recipients were classified as both.

Between 1989 and 1995, the number of SSI beneficiaries classified as drug addicts and/or alcoholics (DAA), increased from 16 100 to 130 924 (Barber, 1996). During the same period, the number of recipients of SSI enrolled for drug addiction alone grew from 5210 to 61 569. Almost all current recipients of DAA are single heads of households (96.7%), who report no other income (69.2%). Unlike blind

and disabled SSI beneficiaries, DAA enrollees are more likely to be between the ages of 30 and 59 years (86.9% vs. 46.6%), male (67.9% vs. 46.0%), African American (40.4 vs. 28.0%), and less likely to be permanently disabled (3.9 vs. 16.3%), according to SSI records (Barber, 1996).

In states significantly impacted by substance abuse like California and Illinois, SSI became a reliable way of moving such individuals off state funded programs and onto federal rolls (Reuter and MacCoun, 1996). For instance, in Michigan the elimination of the state funded general assistance program was followed by a substantial increase in SSI enrollment (Walsh, 1994). At the end of 1995, six states (California, Illinois, Michigan, New York, Ohio, and Tennessee) contained 60% of all DAA recipients, yet these states comprised only 33% of the U.S. population. Thus, at a time when federal funding for public assistance was decreasing and responsibility for the poor was devolving to the states, the SSI program became ‘the back door of the welfare state’ (Wright, 1995).

In a climate of zero tolerance for drug use, it was only a matter of time before the dramatic expansion of the SSI program received national attention. In 1991, a federal report concluded that many DAA recipients were using their grants to buy drugs and alcohol (Office of Inspector General, 1991). A flurry of press reports, mostly in 1994, further undergirded the notion that substance abusers were using government money to purchase drugs for personal consumption, distribution, or both (Dorgan, 1993; Fitzgerald, 1994; Rust, 1994; Satel, 1994; Seligman, 1994; Walsh, 1994; Weaver, 1994). Clinical observations (Satel, 1995) and at least one study found that SSI enrollment was associated with higher rates of drug use (Shaner et al., 1995). Program

changes became inevitable and took the following form.

In 1996, the ‘Senior Citizens Freedom to Work Act’ (public law no. 104-121, enacted March 29, 1996) required SSI recipients who qualified for disability benefits due in part to alcohol or drug addiction to reapply or automatically lose benefits as of January 1, 1997. On July 1, 1996, SSI DAA recipients were sent letters informing them of the rule change and offering them the option of reapplying within 30 days. Those failing to meet this deadline had benefits terminated as of January 1, 1997. Those reapplying who did not have another qualifying disability were also terminated from the program. According to one press report, by January 1998, some 65% of SSI DAA recipients had lost their benefits, including Medicaid enrollment (Wetzstein, 1998). In the context of the drug war and welfare reform, removing substance users from the SSI program was politically irresistible. But at what cost?

To determine the impact of criminal penalties on HIV risk among IDUs, we examine the relationship between drug paraphernalia laws and injection-related HIV risk behaviors. To explore the impact of civil sanctions related to the War on Drugs, we examine preliminary data from an on-going study of the impact of disqualifying drug and alcohol addicts from SSI on HIV risk among IDUs.

### 3. Methods

As part of a dynamic cohort study of HIV risk among IDUs, data was collected in six neighborhoods in the San Francisco Bay Area during the second half of 1996 and first half of 1997. To examine the impact of drug paraphernalia laws on syringe and supply sharing among IDUs, cross-sectional

data collected in 1996 was used ( $n = 1257$ ). To examine the impact of loss of SSI benefits on IDUs, respondents reporting SSI enrollment in 1996 were followed-up in 1997 ( $n = 88$  at follow-up).

### 3.1. *Study procedures*

Using targeted sampling methods, project staff recruited subjects from street-settings and through word of mouth in the IDU community (Watters and Biernacki, 1989; Bluthenthal and Watters, 1995). Follow-up for the SSI study was accomplished through outreach and mailed notification of follow-up interview. Eligibility criteria for study participation included physical evidence of recent drug injection as verified by study personnel or previous participation in the study and at least 18 years of age.

After obtaining informed consent, respondents were interviewed using a standard quantitative questionnaire by trained study personnel. The questionnaire included items regarding current and past drug use, sexual practices and preferences, medical history, knowledge and beliefs about HIV/AIDS, arrest history, and utilization of HIV prevention services including syringe exchange. Respondents also received HIV antibody testing with pre- and post-test counseling. For HIV serology, blood samples were drawn from study respondents by trained and experienced phlebotomists. Study procedures were the same at baseline and follow-up interviews. Respondents received a small monetary stipend for each interview and results counseling session that they attended.

### 3.2. *Drug paraphernalia variables and statistical methods*

Study participants were asked if they had

ever been stopped by a law enforcement official while carrying drug paraphernalia. If they responded yes to this question, they were then asked what kind of drug paraphernalia they were carrying, and what happened (e.g. arrested, drug paraphernalia confiscated, cited and released, nothing). To assess concern with potential arrest while carrying drug paraphernalia, respondents were asked the following question, 'Are you currently concerned about being stopped, cited or arrested while carrying drug paraphernalia'. Those responding 'yes' were classified as being concerned about being arrested with drug paraphernalia. To assess syringe sharing, we classified respondents who reported having used a syringe that had previously been used by someone else in the past 30 days as having shared syringes. Respondents who reported sharing either cookers, cotton, or mix/rinse water with someone else in the 30 days prior to interview were classified as having shared injection supplies.

Bivariate relationships were examined for concern about being arrested while carrying drug paraphernalia using the chi square test of proportions. Logistic regression analysis was used to determine the association between concern about drug paraphernalia laws and injection-related risk behaviors while controlling for potential confounders. Confounding variables were selected based on factors identified as related to infectious disease risk in previous studies and variables that were significant in bivariate analysis. The final model only contains variables that significantly changed the relationship between concern with arrest and infectious disease risk. These variables included age, race/ethnicity, city of recruitment, homelessness, SEP use, HIV status, and steady sex partner is an IDU.

### 3.3. *Supplemental security income variables and statistical methods*

Since 1987, the Urban Health Study has asked respondents if they are currently receiving SSI benefits. Beginning in fall 1996, we added additional questions to collect baseline information on income, employment, and criminal activity for purposes of measuring whether these items changed at follow-up in the spring of 1997. At the follow-up interview, we also asked respondents to report whether they had lost their SSI benefits or if they retained benefits through reclassification to another disabling ailment before January 1997. Other factors of interest included participation in illegal activities, illegal income, arrest, injection-related risk behaviors, homelessness, medical insurance, and drug use.

Since this data collection is on-going, we have only preliminary data available for analysis at this time. Bivariate analysis was performed on current and former SSI recipients captured for follow-up interview as of the first half of 1997. Significant differences between those who retained and those who lost benefits were examined using the chi square test of proportions. Statistical Software, Version 6.12 (Cary, NC) was used to perform all statistical analyses.

## 4. Results

### 4.1. *Drug paraphernalia laws and HIV risk*

Socio-demographic characteristics of the 1257 IDUs in our study sample were as follows: 61% were African American; 27% were white; 7% were Hispanic; and 5% were other race/ethnicity; 34% were female; and 54% were between the ages of 40 and 49 years. In terms of drug use, 81% of respondents had injected heroin and 53% smoked crack co-

caine in the 30 days prior to interview.

We found that 404 (32%) of study participants were concerned about arrest while carrying drug paraphernalia (Table 1). In bivariate analysis, concern about arrest was higher among white IDUs than African American IDUs, and higher among men than women. Not surprisingly, homeless IDUs were more likely to be concerned about arrest related to drug paraphernalia. Most importantly, IDUs who were concerned about arrest while carrying drug paraphernalia were more likely to share syringes (23.1 vs. 12.4%) and injection supplies (57.6 vs. 36.2%) than those not concerned.

To examine the possible impact of concern about arrest on injection-related risk behaviors while controlling for possible confounders, we constructed multivariate logistic regression models of syringe and injection supply sharing. We found that those IDUs concerned about being arrested while carrying drug paraphernalia were over one-and-a-half times more likely to share syringes (adjusted odds ratio [AOR] = 1.74; 95% confidence interval [CI] = 1.24, 2.44), and over two times as likely to share injection supplies (AOR = 2.08; 95% CI = 1.61, 2.69) as other IDUs. In both models, we controlled for potential confounders including age, race/ethnicity, city of recruitment, homelessness, SEP use, having a steady sex partner who is an IDU, and HIV status.

### 4.2. *Supplemental security income disqualification, HIV risk and drug use*

Socio-demographic characteristics of the study sample by 1997 SSI status are presented in Table 2. Disqualified IDUs were more likely to have completed high school or attained their equivalence degree and more likely to be currently homeless as compared to those who retained SSI benefits.

In terms of injection-related risk behaviors and criminal activities (Table 3), bivariate analysis revealed significant differences in both areas of behavior. Among former SSI recipients, 16.7% reported sharing syringes in the past 30 days as compared to 0% among current SSI enrollees. In addition, respondents who lost their benefits were more likely to report participation in illegal activities in the past 30 days than those who retained benefits (48.1 vs. 26.5%). Finally, we also observed significant differences in mean frequency of injection in the past 30 days (not shown in table). Former SSI recipients injected 43.8 ( $\pm$  68.2) times per month as compared to those who retained benefits who injected 36.4 times per month ( $\pm$  47.2;  $P = 0.03$ ).

## 5. Discussion

The War on Drugs strategy for reducing and preventing drug use is based on the premise of ‘punish to deter’. In practice, this premise has extended beyond punishing individuals and groups convicted of drug use and trafficking, to include individuals possessing items related to drug use, people who live with drug users, and individuals who through testing, admission, or supposition are determined to be drug users. Taken together these policies have various unintended impacts. Our data suggest that the ‘punish to deter’ approach as it relates to drug paraphernalia and eligibility for public assistance has created harm for drug users without reducing their drug use.

Table 1

Factors associated with being concerned about arrest while carrying drug paraphernalia among IDUs in the San Francisco Bay Area, second half of 1996

	Concerned about arrest (%) ( <i>n</i> = 404)	Not concerned about arrest (%) ( <i>n</i> = 853)	<i>P</i> =
Race/ethnicity			0.011
African American	55.0	64.6	
White	31.9	24.7	
Hispanic	8.2	6.1	
Other	4.9	4.6	
Gender			0.036
Male	70.1	64.1	
Female	29.9	35.9	
HIV status			0.019
Negative	91.4	86.8	
Positive	8.6	13.2	
Consider self homeless	40.0	26.9	0.001
Jailed in last 5 years	68.6	50.2	0.001
Injected heroin use <sup>a</sup>	84.9	79.2	0.015
Injected cocaine use <sup>a</sup>	24.0	14.3	0.001
Shared syringe <sup>a</sup>	23.1	12.4	0.001
Shared injection supplies <sup>a</sup>	57.6	36.2	0.001

<sup>a</sup> in the last 30 days.

Table 2  
Socio-demographic characteristics of DAA recipients by 1997 benefit status ( $n = 88$ )

Characteristic	Lost benefits [ $n = 54, n (\%)$ ]	Retained benefits [ $n = 34, n (\%)$ ]
Male	35 (64.8)	23 (67.6)
Race/ethnicity		
African American	43 (79.6)	25 (73.5)
White	8 (14.8)	4 (11.8)
Hispanic	3 (5.6)	2 (5.9)
Other	0 (0.0)	3 (8.8)
Age		
<40 years of age	5 (9.3)	4 (11.8)
40–49 years of age	31 (57.4)	19 (55.9)
50 years of age or older	18 (33.3)	11 (32.3)
Completed high school	40 (74.1)	19 (57.6)
Recruited in San Francisco	20 (37.0)	15 (44.1)
Homeless	12 (22.2)	4 (11.8)

Drug paraphernalia laws exist in 47 states and represent a nation-wide obstacle to combating HIV among IDUs. We found that

injection-related risk behaviors are associated with the fear of arrest while carrying syringes. Ethnographic reports have found that IDUs will go to considerable effort to avoid possible arrest while carrying drug paraphernalia, including hiding syringes in semi-public places (i.e. bushes and abandoned buildings), having other IDUs hold syringes for them, flushing syringes down toilets, and injecting with previously used syringes (Feldman and Biernacki, 1988; Bluthenthal and Watters, 1995; Grund et al., 1995). One interpretation of our data is that drug paraphernalia laws deter IDUs from carrying their own injection equipment and as a result, they engage in syringe and injection supply sharing. Given that drug paraphernalia laws are widespread in the United States, we suspect that the association of concern about being arrested while carrying drug paraphernalia and infectious disease risk behaviors also exist in similar communities with high concentrations of injection drug use.

We also found that disqualifying drug users from public income supports may very well increase drug use among IDUs. These preliminary data do not allow us to draw a causal associations between loss of SSI benefits and HIV risk, illegal activities, or homelessness. Future analysis of these data, including all follow-up data, will speak more directly to these issues. However, these data

Table 3  
Thirty day self-reports of HIV risk behaviors and criminal activity among DAA recipients by 1997 benefits status ( $n = 88$ )

HIV risk behaviors and criminal activities	Lost benefits [ $n = 54, n (\%)$ ]	Retained benefits [ $n = 34, n (\%)$ ]
Any syringe sharing*	9 (16.7)	0 (0.0)
Any injection supply sharing	21 (38.9)	8 (23.5)
Any participation in illegal activities**	26 (48.1)	9 (26.5)
Any illegal income	17 (32.7)	8 (24.2)

\* Fishers Exact,  $P < 0.05$ .

\*\* Mantel–Haenszel  $\chi^2$ ,  $P < 0.05$ .

do suggest that IDUs removed from SSI DAA were at increased risk for HIV, and far from reducing illegal activities and drug use, disqualifying drug addicts from SSI may increase these behaviors. These findings are in conformity with other studies that examined the relationship between drug use and federal income supports. For instance, in a study of homeless mentally disordered veterans, no relationship between substance use and receiving SSI was found (Frisman and Rosenheck, 1997). In a ten-city-study of drug procurement practices among out-of-treatment drug users, infrequent drug users were disproportionately enrolled in SSI (Needle and Mills, 1994). In multivariate analysis of our own 1995 cross-sectional sample, we found that SSI recipients were less likely to be homeless (AOR = 0.50; 95% CI = 0.36; 0.68), to report illegal income (AOR = 0.48; 95% CI = 0.36, 0.66), and were over two-and-a-half times more likely to be in drug treatment (AOR = 2.68; 95% CI = 1.93, 3.74) than those not receiving SSI (Kral et al., 1997).

Providing income support to individuals thought likely to divert that money to the purchase of illicit substances will continue to elicit criticism. The empirical evidence presented here and elsewhere relating to drug use, criminal activity, and stability, however, suggest the value of this practice. The Drug War, along with the current climate of welfare reform, discourages consideration of the benefits of providing income supports to IDUs. The cost may well be an increase in the spread of blood-borne infectious diseases.

'Punish to deter' further impacts risk behaviors among IDUs by preventing the implementation of a variety of programs and policies which are likely to prevent HIV. A short list of policies which are not being implemented due to the influence of the Drug War includes federally funded SEPs (Lurie and Drucker, 1997), treatment on demand

for substance users (Reuter, 1992), and the use of incentives as a means for reducing both infectious disease risk and drug use (Shaner et al., 1997).

These findings should be weighed against the various limitations of our study. Refusal rates were impossible to determine since much of the refusal took place informally, outside of research settings. Further, our sampling strategy did not permit the random selection of study participants and thus the generalizability of these findings beyond our sample is limited. For instance, 54% of our respondents were between the ages of 40 and 49 years. In contrast, national samples of drug injectors (Friedman et al., 1995), IDUs and crack smokers (Kral et al., 1998), and in-treatment populations (Battjes et al., 1994) have reported mean ages in the 30–39 year range. In addition, we relied on self-reported information on infectious disease risk behaviors. Self-report data is subject to recall biases, psychological functioning, impairment due to intoxication, and social desirability. We have guarded against recall biases by relying on recent (in the past 30 days) measures for syringe sharing and injection supply sharing (Schutz et al., 1994). Further, we routinely exclude potential subjects if they are too intoxicated to complete the interview, counseling, and HIV testing procedures. Other studies have found that although social desirability may have an impact on studies among IDUs, it rarely impacts outcome variables in multivariate analysis (Latkin et al., 1993). In addition, good test-retest reliability has been found for the infectious disease risk behaviors and measures used in our study (Dowling-Guyer et al., 1994; Needle et al., 1995). Nonetheless, confirmatory studies are necessary, as are other studies designed to look more directly at the relationships between law enforcement practices and policy changes and behavior risk among IDUs.

We have examined the impact of two Drug War inspired policies and found that they contribute to the spread of HIV and other blood-borne diseases among IDUs by depriving them of clean, unused injection supplies in one case, and potentially, health care, housing, drug treatment, and stability in the other. These policies, designed to reduce drug use among both casual and long-term drug users, have not succeeded. They do appear to increase the risk for HIV transmission among IDUs and as such, must be reconsidered in light of our national infectious disease prevention goals.

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### References

- Andreas P. Profits, poverty and illegality: the logic of drug corruption. *NACLA Report on the Americas* 1993;27:22–9.
- Barber SL. Supplemental security income recipients for whom the alcoholism and drug addiction provisions apply (DAA recipients): December 1995. Washington D.C.: Office of Program Benefits, Social Security Administration, 1996.
- Battjes RJ, Pickens RW, Haverkos HW, Sloboda Z. HIV risk factors among injecting drug users in five cities. *AIDS* 1994;8:681–7.
- Baum D. *Smoke and Mirrors: The War on Drugs and the Politics of Failure*. Boston: Little, Brown and Company, 1996.
- Bennett WJ, DiIulio JJ, Walters JP. *Body count, moral poverty... and how to win America's war against crime and drugs*. New York: Simon and Schuster, 1996.
- Bertram E, Blackman M, Sharpe K, Andreas P. *Drug War Politics: The Price of Denial*. Berkeley, CA: University of California Press, 1996.
- Bluthenthal RN, Kral AH, Erringer EA, Edlin BR. Drug paraphernalia laws and injection-related infectious disease risk among drug injectors. *J. Drug Issues* (in press).
- Bluthenthal RN, Kral AH, Lorvick J, Watters JK. Impact of law enforcement on syringe exchange programs: a look at Oakland and San Francisco. *Med Anthropol* 1997;18:61–83.
- Bluthenthal RN, Watters JK. Multimethod research: from targeted sampling to HIV risk behaviors. In: Lambert EY, Ashery RS, Needle RH, editors. *Qualitative Methods in the Prevention of Drug Abuse and HIV Research*, 212–230. Rockville, MD: National Institute on Drug Abuse, 1995.
- Booth RE, Koester SK, Reichardt CS, Brewster JT. Quantitative and qualitative methods to assess behavioral change among injection drug users. *Drugs Soc* 1993;7:161–83.
- Bourgeois P, Lettiere M, Quesada J. Social misery and the sanctions of substance abuse: confronting HIV risk among homeless heroin addicts in San Francisco. *Social Problems* 1997;44:155–73.
- Carter DL. Drug-related corruption of police officers: a contemporary typology. *J Crim Justice* 1990;18:85–98.
- Caulkins JP, Rydell CP, Schwabe WL, Chiesa J. *Mandatory Minimum Drug Sentences: Throwing Away the Key or the Taxpayers Money?* Santa Monica, CA: Rand Corporation, 1997.
- Centers for Disease Control and Prevention. *HIV/AIDS Surveillance Report*. Atlanta, GA: Public Health Service, 1997.
- Conviser R, Rutledge JH. Can public policies limit the spread of HIV among IV drug users? *J Drug Issues* 1989;19:113–28.
- Day D. *Health Emergency 1997: The Spread of Drug-Related AIDS among African Americans and Latinos*. Princeton, NJ: Dogwood Center, 1997.
- Des Jarlais DC, Friedman SR, Choopanya K, Vanichsen S, Ward TP. International epidemiology of HIV and AIDS among injecting drug users. *AIDS* 1992;6:1053–68.

- Dorgan M. Addicts feed habits with U.S. hand outs. *San Jose Mercury News*. December 19, 1993.
- Dowling-Guyer S, Johnson ME, Fisher DG, et al. Reliability of drug users self-reported HIV risk behaviors and validity of self-reported recent drug use. *Assessment* 1994;1:383–92.
- Feldman HW, Biernacki P. The ethnography of needle sharing among intravenous drug users and implications for public policies and intervention strategies. In: Battjes RJ, Pickens RW, editors. *Needle Sharing among Intravenous Drug Abusers: National and International Perspectives*, 28–39. Rockville, MD: National Institute on Drug Abuse, 1988.
- Fitzgerald R. America's shocking disability scam. In: *Reader's Digest*. August, 1994, p. 105.
- Friedman SR, Jose B, Deren S, Des Jarlais DC, Neaigus A. Risk factors for human immunodeficiency virus seroconversion among out-of-treatment drug injectors in high and low seroprevalence cities. *Am J Epidemiol* 1995;142:864–74.
- Frisman LK, Rosenheck R. The relationship of public support payments to substance abuse among homeless veterans with mental illness. *Psychiat Services* 1997;48:792–5.
- Office of Inspector General. *Social Security Polices Concerning Drug Addicts and Alcoholics*. Washington, D.C.: US Department of Health and Human Services, 1991.
- Gleghorn AA, Jones TS, Doherty MC, Celentano DD, Vlahov D. Acquisition and use of needles and syringes by injecting drug users in Baltimore, Maryland. *J Acq Immune Defic Synd Human Retrovirol* 1995;10:97–103.
- Gostin LO, Lazzarini Z. Prevention of HIV/AIDS among injection drug users: the theory and science of public health and criminal justice approaches to disease prevention. *Emory Law J* 1997;46:587–696.
- Gray M. *Drug Crazy: How We Got Into This Mess & How We Can Get Out*. New York, NY: Random House, 1998.
- Grund J-PC, Kaplan CD, Adriaans NFP, Blanken P, Huisman J. The limitations of the concept of needle-sharing: The practice of front-loading (letter). *AIDS* 1990;4:819–821.
- Grund J-PC, Heckathorn DD, Broadhead RS, Anthony DL. Eastern Connecticut, IDUs purchase syringes from pharmacies but don't carry syringes. (letter). *J Acq Immune Defic Synd Human Retrovirol* 1995;10:104–105.
- Grund J-PC, Friedman SR, Stern LS, Jose B, Neaigus A, Curtis R, Des Jarlais DC. Syringe-mediated drug sharing among injecting drug users: patterns, social context, and implications for transmission of blood-borne pathogens. *Social Sci Med* 1996;42:691–703.
- Heimer R, Bluthenthal RN, Singer M, Khoshnood K. Structural impediments to operational syringe-exchange programs. *AIDS Public Policy J* 1996a; 11:169–184.
- Heimer R, Khoshnood K, Jariwala-Freeman B, Duncan B, Harima Y. Hepatitis in used syringes: the limits of sensitivity of techniques to detect HBV DNA, HCV RNA, and antibodies to HB core and HCV antigens. *J Infect Dis* 1996b;173:997–1000.
- Heimer R, Myers SS, Cadman EC, Kaplan EH. Detection by polymerase chain reaction of human immunodeficiency virus type 1 proviral DNA sequences in needles of injecting drug users. *J Infect Dis* 1992;165:781–2.
- Holmberg S. The estimated prevalence and incidence of HIV in 96 large US metropolitan areas. *Am J Pub Health* 1996;86:642–54.
- Jose B, Friedman SR, Neaigus A, Curtis R, Grund J-PC, Goldstein MF, Ward T, Des Jarlais DC. Syringe-mediated drug sharing (backloading): a new risk factor for HIV among injecting drug users. *AIDS* 1993;7:1653–1660.
- Kleiman MAR. *Against Excess: Drug Policy for Results*. New York, N.Y.: Basic Books, 1992.
- Koester SK. Copping, running, and paraphernalia laws: contextual variables and needle risk behaviors among injection drug users in Denver. *Human Org* 1994;53:287–95.
- Kral AH, Bluthenthal RN, Booth RE, Watters JK. HIV seroprevalence among street-recruited injecting drug and crack cocaine users in 16 U.S. municipalities. *Am J Publ Health* 1998;88:108–13.
- Kral AH, Lorvick J, Bluthenthal RN. Impact of withdrawal of SSI disability benefits for injection drug users in the San Francisco Bay Area. In: *Seventh International Conference on the Reduction of Drug Related Harm*. Paris, France, 1997.
- Latkin CA, Vlahov D, Anthony JC. Socially desirable responding and self-reported HIV infection risk behaviors among intravenous drug users. *Addiction* 1993;88:517–26.
- Lurie P, Drucker E. An opportunity lost: HIV infections associated with lack of a national needle-exchange programme in the USA. *Lancet* 1997;349:604–8.
- Miguez MJ, Page JB, Baum MK. Illegal drug use and HIV-1 infection in Columbia (letter). *The Lancet* 1997;350:1635.
- Miller RL. *Drug Warriors and Their Prey: From Police Power to Police State*. New York, NY: Praeger, 1996.

- Myers SS, Heimer R, Liu D, Henrard D. HIV DNA and antibodies in syringes from injecting drug users: a comparison of detection techniques. *AIDS* 1993;7:925–31.
- Nadelman EA. U.S. policy: a bad export. *Foreign Policy* 1988;70:83–108.
- Nadelmann EA. Commonsense drug policy. *Foreign Affairs* 1998;77:111–26.
- Naik TN, Sarkar S, Singh HL, Bhunia SC, Singh YI, Singh PK, Pal SC. Intravenous drug users—a new high-risk group for HIV infection in India. *AIDS* 1991;5:117–8.
- Needle RH, Mills AR. *Drug Procurement Practices of the Out-of-Treatment Chronic Drug Abuser*. Rockville, MD: National Institute on Drug Abuse, 1994.
- Needle RN, Fisher DG, Weatherby NL, et al. Reliability of self-reported HIV risk behaviors of drug users. *Psychol Addict Behav* 1995;9:242–50.
- Reuter P. Hawks ascendant: the punitive trend of American drug policy. *Daedalus* 1992;121:15–52.
- Reuter P, MacCoun RJ. Harm reduction and social policy: should addicts be paid? *Drug Alcohol Rev* 1996;15:225–30.
- Rust M. Social security scam: Uncle Sam as enabler. In: *Insight*, April 11, 1994, p. 7.
- Samuels JF, Vlahov D, Anthony JC, Solomon L, Celementano DD. The practice of ‘frontloading’ among intravenous drug users: association with HIV-antibody (letter). *AIDS* 1991;5:343.
- Satel SL. Hooked: Addicts on welfare. *New Republic*. May 30, 1994.
- Satel SL. When disability benefits make patients sicker. *New England J Med* 1995;333:794–6.
- Schutz CG, Vlahov D, Anthony JC, Graham NMH. Comparison of self-reported injection frequencies for past 30 days and 6 months among intravenous drug users. *J Clin Epidemiol* 1994;47:191–5.
- Seligman D. The SSI follies. *Fortune*, June 13, 1994, pp. 151.
- Shah SM, Shapshak P, Rivers JE, Stewart RV, Weatherby NL, Xin K, Page JB, Chitwood DD, Mash DC, Vlahov D, McCoy CB. Detection of HIV-1 DNA in needle/syringes, paraphernalia, and washes from shooting galleries in Miami: a preliminary laboratory report. *J Acq Immune Defic Synd Hum Retrovirol* 1996;11:301–306.
- Shaner A, Eckman TC, Roberts LJ, Wilkins JN, Tucker DE, Tsuang JW, Mintz J. Disability income, cocaine use, and repeated hospitalization among schizophrenic cocaine abusers: A government-sponsored revolving door? *New England J Med* 1995;333:777–83.
- Shaner A, Roberts LJ, Eckman TA, Tucker DE, Tsuang JW, Wilkins JN, Mintz J. Monetary reinforcement of abstinence from cocaine among mentally ill patients with cocaine dependence. *Psychiat Serv* 1997;48:807–10.
- Skolnick AA. Some experts suggest that the nations ‘war on drugs’ is helping tuberculosis stage a deadly comeback. *J Med Am Assoc* 1992;268:3178–9.
- Skolnick AA. Collateral Casualties’ climb in drug war. *J Am Med Assoc* 1994;271:1636–9.
- Stark K, Muller R, Bienzle U, Guggennoos-Holzmann I. Frontloading: a risk factor for HIV and hepatitis C virus infection among injecting drug users in Berlin. *AIDS* 1996;10:311–7.
- Stimson GV. Reconstruction of subregional diffusion of HIV infection among injecting drug users in southeast Asia: implications for early intervention (letter). *AIDS* 1994;8:1630–2.
- Stimson GV. AIDS and injecting drug use in the United Kingdom, 1987–1993: the policy response and the prevention of the epidemic. *Social Sci Med* 1995;41:699–716.
- Tonry M. *Malign Neglect: Race, Crime, and Punishment in America*. New York, NY: Oxford University Press, 1995.
- Tullis FL. *Unintended Consequences: Illegal Drugs and Drug Policies in Nine Counties*. Boulder, CO: L. Rienner, 1995.
- Waldorf D, Reinerman C, Murphy S. Needle sharing, shooting galleries, and AIDS risks among intravenous drug users in San Francisco: Criminal justice and public health policy. *Crim Justice Policy Rev* 1990;3:321–43.
- Walsh E. A partisan agenda for cutting the roles of government, labor. *Washington Post*. October 8, 1994.
- Watters JK, Biernacki P. Targeted sampling: options for the study of hidden populations. *Social Problems* 1989;36:416–30.
- Weaver CL. Welfare reform is likely to leave this monster intact. In: *Wall Street Journal*, April 6, 1994.
- Wetzstein C. SSI reforms drive drug users, drunks to faith-based welfare. *Insight on the News*, 1998, January 26, pp. 42–43.
- Wisotsky S. *A Society of Suspects: The War on Drugs and Civil Liberties*. Policy Analysis no. 180. Washington, D.C.: Cato Institute, 1992.
- Wisotsky S, Szasz T. *Beyond the War on Drugs: Overcoming a Failed Public Policy*. Buffalo, N.Y.: Prometheus Books, 1990.

- Wright CM. The supplemental security income program: the welfare state's black hole. In: USA Today Magazine. November, 1995, pp. 14–17.
- Wright NH, Vanichseni S, Akarasewi P, Wasi C, Choopanya K. Was the 1988 HIV epidemic among Bangkok's injecting drug users a common source outbreak. *AIDS* 1994;8:529–532.
- Zule W. Risk and reciprocity: HIV and the injection drug user. *J Psychoact Drugs* 1992;24:243–9.