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Drugscares and the Role of Place and Space in Injection Drug Use-Related HIV Risk Environments

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Abstract

Although considerable research has been conducted to identify the behavioural characteristics that predispose individuals to inject drugs or become infected with HIV via injection drug use, much less research has been conducted on structural and policy determinants, cultural norms, stigma, and ecological factors which may affect drug use risk behaviour, users' networks and HIV rates associated with drug use across geographic areas. For programme planners, whether official or grassroots, an understanding of place-based characteristics can help better identify risk environments to injection drug use-related HIV, and determine how to facilitate actions regarding public policy and harm reduction to aid in the reduction of risk. As such, we consider in this commentary the importance of geographic place and the socio-spatial and political processes related to place that may help determine where IDU-related HIV risk environments occur.

Keywords

drugscares; place; HIV; risk environments; injection drug use; socio-spatial

There is a politics to daily life and that politics is spatial, since struggles over identity and meaning are almost always struggles over place and space.

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Background

The Joint United Nations Programme on HIV/AIDS (2006) reports HIV transmission via injection drug use is advancing rapidly in many countries. The sharing of contaminated needles and injection equipment is the primary route of HIV transmission in Eastern Europe and Central Asia, where it accounts for more than 80% of all HIV cases. According to the UNAIDS 2006 report, Indonesia is also experiencing a rapid increase in IDU-related HIV infections, rising from less than 1% of all infections before 2000 to 40% today. In China, nearly half of those living with the HIV infection are believed to have been infected through injection drug use (State Council HIV/AIDS Working Committee Office/UN Theme Group on HIV/AIDS in China, 2004). In Iran, IDUs make up 64% of persons with HIV (Ohiri et

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al., 2006), in Vietnam injection drug-related transmission has grown from 9% in 1996 to over 30% in 2003 (UNAIDS/WHO, 2006), and 33% of HIV infection in Thailand results from injection drug use (Thailand Health Profile, 2001–2004). Such increases are important because once HIV enters a community of injecting drug users (IDUs) the infection can rapidly progress into the rest of the population if an appropriate response is not implemented in the early stages of the epidemic. Yet, despite the significant role that IDUs play with regard to the spread of HIV, coverage of HIV prevention among this population is at best 5% across the globe (UNAIDS/WHO, 2006).

Although countries report increases in IDU-related HIV infection, country-level data doesn't paint the most accurate picture of these areas. The difference in prevalence between regions within both China and Vietnam, maps a more nuanced epidemic. For example, Des Jarlais et al. (2005) conducted cross-sectional surveys of IDUs in five sites in Lang Son Province, Vietnam and three sites in Ning Ming County, Guangxi Province, China. The survey results showed significant regional and cross-border differences: overall baseline seroprevalence among IDUs ranged from 46% in Lang Son Province to 17% in Ning Ming County (D.C. Des Jarlais, personal communication 09/28/07). The study concluded that successful prevention efforts would be better facilitated by a more detailed understanding of the spread of injection drug use and transmission of HIV among IDUs within smaller geographic units and across borders.

In the U.S., differences in HIV prevalence among IDUs by region and metropolitan statistical areas (MSAs) reflect local place characteristics. Since the beginning of the HIV epidemic among IDUs in the U.S., the Western region has historically remained low in prevalence, while the New York City metropolitan area has been viewed as the epicenter of the epidemic in the Northeast region.

Previous research (Holmberg, 1996; Friedman et al., 2004; Brady et al., In press) indicates that HIV epidemics among IDUs are highly localized and that we can analyze epidemics as occurring independently in different cities. For example, in 96 large U.S. MSAs, the number of IDUs per 10,000 persons aged 15–64 years varied from 30 to 348 (median 106.6; interquartile range 78–162) in 1992 and from 37 to 336 (median 96.1; interquartile range 67–134) in 2002. Similarly, public health responses to HIV among IDUs have been highly localized and geographically uneven; for example, some localities have set up syringe exchange programmes (SEPs), while others have not (Tempalski et al., 2007a). Thus, harm reduction practices for IDUs have not been implemented in many areas in the U.S. and across the globe.

Considering how the epidemic and the responses to it differ across geographic space and time, it is essential to understand how place-based processes affect risk environments, as well as create safe spaces in the reduction of harm among IDUs. Our purpose here then is to emphasize the importance of incorporating geographic place into analyses of HIV risk environments among IDUs. We report on a growing body of research considering the importance of place as a determinant of HIV risk environment among drug users; we further consider place in its relation to creating safe spaces; and lastly, we discuss recommendations for future research.

Health and Place

For the purposes of this discussion, *place* is expressed by social and cultural theorists, such as, the French philosopher Henri Lefebvre, as an axis of meaning(s) and experience(s) forming the basis for social interaction (Cresswell, 2004; Kearns and Joseph, 1993; Lefebvre, 1991; Malpas, 1999). As such, *place* provides a basis for the study of social, political and economic interactions and relations over particular geographic spaces (Kearns

and Joseph, 1993; Sibley, 1995; Soja, 1980). Within the context of health and HIV-IDU risk environments, “*place* is regarded as the set of social, political, economic and geographic relationships that create a spatial context in which responses to IDU-related HIV can be structured” (Tempalski, 2007b, pg. 2).

It is well-established in geographic research that health, ill-health and disease vary across geographic location (Smallman-Raynor and Cliff, 1990; Smallman-Raynor et al., 1992; Cliff et al., 1993). As such, geographers have studied the diffusion of diseases and ecological conditions over time and space, and in recent years HIV has been a focus of such research. Szwarcwald et al. (2000) showed that poverty in Rio de Janeiro was related to later infant mortality and to the spatial spread of AIDS among women in low-income neighborhoods. Gould (1993), and Bastos and Barcellos (1995) studied AIDS diffusion, and Wallace et al. (1997) studied links between HIV and urban poverty and inequality. Bastos et al. (1999) described how unsafe injecting practices of IDUs in most industrialized areas of Brazil contributed to the diffusion of malaria to malaria-free regions and its implications of the co-infection of malaria and HIV. Both Hurley et al. (1997) and MacDonald et al. (2000) examined the time progression of HIV prevalence among IDUs in cities with and without syringe exchanges. Their research found syringe exchange to be negatively associated with HIV prevalence rates.

There is a long tradition of comparative research in geography, sociology and public health, in which units of analysis are geographic areas and dependent variables are either health outcomes or measures of health-promoting programs. A variety of studies examine relationships over time showing statistical associations of MSAs or neighbourhood-level characteristics like income inequality, poverty and mortality (Kaplan et al., 1996; Kennedy et al., 1996; Lynch et al., 1998), arrests related to illegal drugs (Hsing, 1996), drug use and initial cocaine usage (Bell et al., 1998; Petronis & Anthony, 2003), addiction to opioids (Brugal et al., 1993), tuberculosis, and AIDS (Wallace and Wallace, 1998), and HIV infection associated with drug use (Laktin et al., 2005; Maas et al., 2007; Ciccarone & Bourgois, 2003).

Additional research by (Diez-Roux, 2000; Kawachi and Berkman, 2003) has shown that individuals’ behaviour, health and ill-health may be influenced by the social, political and economic context in which they live; with neighbourhood characteristics being related to preterm birth (Ahern et al., 2003) and individual tobacco smoking (Duncan et al., 1999). O’Campo et al., (1997) showed that neighbourhoods experiencing more social and economic deprivation had a higher risk of low birthweight babies.

Although considerable research has been conducted to identify the individual behavioural characteristics that predispose one to inject drugs or become infected with HIV via injection drug use, much less research has been conducted on structural and policy determinants, cultural norms, stigma, and ecological factors which may affect drug use risk behaviour, users’ networks and HIV rates associated with drug use within geographic areas. For programme planners, whether official or grassroots, an understanding of place-based characteristics can help better identify risk environments to injection drug use-related HIV, and determine how to facilitate local and community actions regarding public policy and harm reduction to aid in the reduction of risk. As such, we consider in this commentary the importance of geographic place and the socio-spatial and political processes related to place that may help determine where HIV risk environments occur.

Place as a determinant of HIV risk environment among drug users

Investigations on the role of place and health outcomes for IDUs include research on what has been termed the “risk environment.” Studies by Rhodes have determined that social

situations, structures, and places (e.g., local drug market conditions, public injecting, community policing, and shooting galleries) external to individual decision making, can contribute to IDU risk (Rhodes et al., 2006a; Rhodes et al., 2006b; Rhodes et al., 2003).

Rhodes et al. (2005) write about the social production of HIV risk among IDUs and factors that shape HIV. Inclusive in their definition of the HIV risk environment is “space,” that is, “as the space, whether social or physical, in which a variety of factors exogenous to the individual interact to increase vulnerability to HIV” (pg. 1026). Such risk environments include the interplay of trade and population movement, shooting galleries, the politics and policing of public injecting, prisons and criminal justice system, law enforcement, social norms and networks, social capital, social suffering and socio-political economy, and social and political conflict. Rhodes et al. (2005) clearly indicate the need for an increased emphasis on the role of geographic place as a determinant for HIV risk environments and the implementation of place-based public health initiatives, such as harm reduction efforts, policy and action.

Research undertaken by Maas et al. (2007) evaluated neighbourhood ecological factors associated with drug use risk and HIV, investigating geographic residence as a predictor for HIV infection among a cohort of IDUs in Vancouver’s Downtown Eastside. This study examined local place characteristics (e.g., gender, age, local housing conditions), factors associated with drug use (e.g., syringe sharing, bingeing, and frequency of injection and drug type), and structural factors. Study results indicated that geographic place of residence was independently associated with HIV infection among IDUs.

Similar research by Laktin et al. (2005) examined how local neighbourhood characteristics in Baltimore, specifically social disorder, lead to the transmission of HIV infection among urban IDUs. This study hypothesized that social disorder (as a stressor) leads to greater indicators for depression, which in turn leads to a greater frequency of drug use and unsafe drug use risk behaviour. Local indicators of social disorder included drug selling, vandalism, burglary, robbery and assault. Additional indicators included environmental factors such as housing conditions. Results showed that depressive symptoms were directly related with injection risk behaviour and indirectly associated to injection risk behaviour through frequency of injection. This study depicts how research on place at the local level can identify high drug-using risk environments.

Incorporating geographic place into social network analyses involving IDUs can enhance research on local pathogen transmission patterns and assist public health efforts to develop targeted intervention programmes. Wylie and colleagues (2007) found that IDUs most central to their network engaged in risky injection practices, in the locations where the highest prevalence rates occurred. Using social network analysis, this research showed how specific hotels within the locality of Winnipeg, Canada played a key role in the injection drug scene generating opportunities for the transmission of blood-borne pathogens. Within the hotel network, some IDUs injected at only one hotel while others injected at multiple hotels; the latter group functioned as “spatial bridges” linking relatively distinct hotel networks where risk environments may occur.

Structural factors such as income inequality, the percent of the population living in poverty, and the presence of laws against over-the-counter sales of syringes have been identified as predictors of higher IDU population density and HIV infection rates in MSAs in 1993 by Friedman and colleagues (2001a). This research has important implications with regard to the geographic distribution of risk and harm. First, it suggests that socioeconomic policies affecting income distribution and poverty rates might also affect IDU prevalence and rates of HIV among IDUs. These may also affect other emerging infections and risk environments

for disease. Secondly, given that HIV can have serious socio-political and economic consequences, significant epidemiologic consideration must be an important component of local, state or national policy and economic debate (Friedman et al., 2001a).

Other researchers have found that aggressive police tactics may lead IDUs to engage in hurried injection behaviours, to share syringes more often, and/or to inject in high-risk environments (Bluthenthal et al., 1999a; Bluthenthal et al., 1999b; Cooper et al., 2005a; Maher and Dixon, 1999; Rhodes et al., 2006b). Differential rates of legal repressiveness (hard drug arrests, police employees per capita, and corrections expenditures per capita) were associated with varying degrees of HIV-prevalence rates among injectors in particular areas in the U.S (Friedman et al., 2006).

The research by Tempalski et al. (2007c) examined socio-cultural and political processes that help shape community and institutional resistance toward establishing and maintaining SEPs. Overarching themes that this research considered were structural constraints, such as drug paraphernalia and syringe prescription laws, the harassment of drug users by local police officials, the inaction of state and local government actors, and socio-spatial issues associated with the stigmatisation of drug users within neighbourhoods and local business districts. The authors concluded that the local stigmatisation of drug users combined with national and state policies were key place-processes affecting the location and implementation of SEPs.

These studies indicate that place-based research is essential in understanding the risk environment in which drug injection occurs. In addition these studies show that the social, cultural and political characteristics of different cities are likely to affect risk environments, patterns of drug use, HIV prevalence levels and the types of structural interventions that are implemented in that particular locality (Grund et al., 1993; Tempalski et al., 2007a).

Research on geographic place thus, shape social, political and economic processes which give rise to a “myriad of spatialities” (Hubbard et al., 2004; pg. 6). As Hubbard et al. contends, “places and social relations within and between these processes are the results of particular arrangements of power” (pg. 6). It is these linkages which structure how “resources and harms” are geographically distributed across vulnerable populations (Tempalski, 2007b, pg 2). As such, it is the interrelatedness of place and society that shape and inform our thinking about how these processes correspond to drug injectors’ health, resulting inequalities and risk environments IDUs are exposed to (Cooper, 2003).

Drugscapes as geographies of containment and exclusion

Low-income urban areas in the U.S. are popularly understood as places where drug use and the drug trade flourishes. These “drugscapes,” areas of cities with problems imagined to be created by the drug use and drug trade, are places more saliently produced by social isolation and under-development, where certain patterns of drug use are more likely to occur. Research on place depicts spatial variation as both an outcome of, and integral part to the production of, social difference and isolation. The production of difference occurs through boundary imposition and spatial separation, which facilitates the maintenance of social boundaries by reifying perceived difference. Geographers define this dynamic as the socio-spatial construction of difference; a construct produced by society and reproduced through the imposition of borders that distinguish the norm from the *other*.

When spatial boundaries do not appear to exist against undesirable social elements, geographies of containment are created, enforced and reinforced to maintain social difference. As Foucault (1965) and Gilman (1988) suggest, the power to define what it means to be “mentally ill” or “diseased” has led to the separation and isolation of different

groups in difference ways at different times. This concept is inherently spatial. That is, the constructs that render the *other* different, immoral, or dangerous can be implemented spatially so physical distance helps safeguard social and moral distance.

The research of Dear et al. (1997), Wilton (2000) and Takahashi (1998) on the social construction of difference looked at the existence of “hierarchies” of different client groups (i.e., vulnerable populations) with injection drug users being fairly near the bottom in terms of social tolerance. A number of factors come into play in explaining this, including the perceived “dangerousness” of the population, the moral (and legal) transgression constituted by drug use, and the belief that people are to blame for their own predicament (Tempalski et al., 2007c).

As the demographics of incarceration demonstrate, exclusionary processes are at work determining who is represented, identified, and punished as a “drug-user.” Those arrested for illegal substance possession and use are overwhelmingly the poor, the uneducated, the homeless, the mentally ill, and disproportionately African American (Day, 1995; Well et al., 2001).

For example, the consequences of illicit drug use can be differentially distributed amongst unequally positioned drug users in the U.S. (Cooper et al., 2005b; Cooper et al., 2007). These socio-spatial divisions are clearly depicted by societal perception of the inner-city Black drug user as compared to that of the more affluent White suburban drug user. As a number of research and national reports have reported, Whites are equally or more likely to use drugs than are Blacks, despite common misperceptions to the contrary. Sixty-six percent of young White adults are of the age of 18–25 year olds, but comprise 70% of drug users in that age range, whereas Blacks are 13.5% of persons in that age cohort, and only 13% of young adult drug users (NIDA, 2004; Rhymes; 2006; Wallace, 1999). However, of the 250,900 state prison inmates serving time for drug offenses in 2004, 53.05% were black, and 25.83% were white (Harrison et al., 2006).

Such current punitive policies initiated by the “war on drugs” are harmful in terms of deepening the spatial divisions of race, inequality, and class in the United States. Since the domestic criminalization efforts in the early twentieth century, the drug war has been one of the social processes that have misplaced blame from the neoliberal economies onto the drug-using individual for a range of social ills, such as violence, crime, disease, and urban decay (Musto, 1999). Paul Farmer argues that blaming the victim is “central in the mainstream of contemporary American social thought, and its ideas pervade our most crucial assumptions so thoroughly that they are hardly noticed. The multi-problem poor, it is claimed, suffer the psychological effects of impoverishment and the deviant value system of the lower classes; consequently though unwittingly they cause their own troubles” (Farmer, 1992; pg. 258). This thinking is found throughout the culture of poverty literature, as in Harrell and Peterson’s (1992; pg. 67) claim that “underclass behaviours” are more important to “isolation” than geographic location.

This social process constitutes its own geography, both in physical space and in social space. Cooper and colleagues (2007) for example, considered the relationship of two 1990 dimensions of racial residential segregation (isolation and concentration) with 1998 injection drug use prevalence among Black adult residents of 93 MSAs. The study showed that as the isolation index increased by 0.50, injection drug use prevalence among Black adults increased by 23% and concluded that residential isolation is positively related to Black injection drug use prevalence in MSAs. Thus, the geography of fear associated with “drugscares” increases the public’s tendency to “isolate” and “stigmatize” drug users as well as harm reduction services intended to help drug users (Tempalski et al., 2007c).

Place can also serve to constitute exclusionary processes through the pursuit of “territoriality”, understood by Sack as, “a spatial strategy to affect, influence, or control resources or people, by controlling geography areas” by removing and excluding those seen as troublesome (Sack, 1986, pg. 3). Steve Herbert (1997), in *Policing Space*, examines why and how police exercise territoriality, and observed that the primary concern of police is not law breaking activity per se, but public order. Public order is framed more as winning the battle of controlling public space, as the creation of ordered public spaces is seen as essential to the economic and social health of American cities. This emphasis on public order is supported by what is commonly called “community policing.”

The theoretical inspiration for community policing, Kelling and Wilson’s 1982 article *Broken Windows*, promulgated a still unproven theory that serious crime flourishes in areas in which minor disorderly public behaviour goes unchecked. The removal of disorderly individuals from public space, then, is seen as the key to neighbourhood viability. Achieving public order is not framed as law enforcement activity per se, but as winning the battle of wresting public space from undesirable individuals through new “civility laws.” The broad sweep of these civility laws enables and forces police to decide what laws to enforce when. In this model, police exercise increased discretionary powers as to whom they search and question based on where they are and whether or not that person is seen as contributing to public disorder.

In the United States, the National Drug Policy model has long been characterised by the rhetoric of drug wars. The harsh Rockefeller drug laws established in 1973 and “broken window” policing strategies employed by the New York City police department have become models on which cities with entirely different dynamics, such as Seattle, base similar policies. The majority of studies that touch upon urban political economy to understand drugs use New York City as the point of analysis. Likewise, the news and entertainment media defined drug problems nationally by the drug problems facing New York and Los Angeles. The crack cocaine trade in the mid-1980s was primarily centered in New York, Miami, and Los Angeles, yet harsh laws and paramilitary forces were enacted throughout the country in response. The emergence of crack had a particularly dramatic impact both on particular urban landscapes, and in the imaginary inner-city landscapes of popular culture. For example, although less than one-half of one percent of the Seattle population ever used crack, Seattle drug policy was at least partly driven by the problems with crack cocaine in New York (Egan, 1999).

Studies have shown that these spatially-situated policies have ramifications on drug injectors’ abilities to practice harm reduction, thereby increasing risk of HIV transmission via unsafe injection practices (e.g., hurried injection, sharing injection equipment, public injecting) (Bluthenthal et al., 1999a; Cooper et al., 2005a; Rhodes et al., 2006b). Structural policies have impeded the creation or function of syringe exchange, even in states allowing syringe possession. Fearing arrest, many injectors frequently hesitate to carry syringes (Bluthenthal et al., 1997). Cooper (2003) compared changes in hospitalization rates for injection-related infections in 27 New York City police precincts before and after drug crackdowns. Results indicated that infection rates remained stable after the crackdowns, despite falling rates of injection drug use in NYC, suggesting a higher rate of infection among those still injecting. The unintended consequences of actions, such as increased policing, increased the risk environment and further “imperil the health of drug injectors” as suggested by Copper (2003, pg. 6–7) and (Aitken et al., 2002; Bourgois et al., 1997).

Spatial boundaries of stigma and services

This spatial stigma can extend beyond the devaluation of individuals and groups and become embodied in the location of services used and frequented by clients, particularly when associated with drug use and HIV/AIDS. In a number of U.S. cities, notably Seattle, Washington, this was made visible in the designation of “socio-spatial” boundaries for two of the groups blamed for HIV/AIDS: convicted prostitutes and injection drug users. For example, in 1991, Seattle, Washington established the “Stay Out of Drug Areas” (SODA) programme, mapping out large areas of the city of Seattle from which convicted drug offenders are excluded while under probation or parole, assigning “intent” to drug offenders for just being in a “drug area.”

These areas were identified by precinct captains as places “where the level of drug trafficking and associated crimes have had a substantial negative impact on the local communities involved” through an informal process of consulting with merchants’ associations, community councils, and neighborhood organizations (Fleissner et al., 1991). The Seattle Police Department did not analyze crime statistics spatially for narcotics arrests. As a result, the evidence of what constitutes a “drug area” is anecdotal, or based on complaints. The idea that Seattle had a geographically-limited “drug area” exemplifies the stigmatisation of a neighbourhood as a “drugscape.”

Given that SODA orders covered quite large sections of the city, especially parts where low-income housing or services are located, exceptions are allowed when travelling to or from: a place of residence therein, a place of employment, social services providers, government offices, school, or attorney’s offices. If found within a SODA zone, police may determine whether or not a defendant has ill intent, and should be put back in jail and have their probation or parole revoked (Anderson, 1991). Because there is no need for probable cause for arrest, SODA serves to extend discretionary policing powers. Once arrested for a SODA violation, the court need only establish a “preponderance of guilt,” as in a fifty-one percent likelihood of guilt rather than proving guilt “beyond a reasonable doubt.” Syringe exchange providers report that SODA orders have been particularly problematic for their clients, since it is not an appointment-driven service (McQuie, 2000).

A parallel policy has been enacted for the last year in the area of Los Angeles known as “skid row.” People released from jail or prison on drug charges are in some cases issued stay-away orders with maps of the skid row area they are not allowed to transgress. It is unlikely that in either city, these geographical solutions have much effect on drug use and sales in general. One effect these spatial solutions do have, however, is to make it more difficult for health workers to reach these populations, and for these populations to reach health workers and services. Most services for IDUs are drop-in and informal, designed to be as flexible as possible. However, the new geography of exclusion in Los Angeles’ skid row corresponded with a one-third drop in the clientele normally seen by Homeless Health Care of Los Angeles syringe exchange (James Hundley, personal communication 4/13/07). Presumably the benefits of disease prevention among these IDUs have also dropped by a third.

Throughout much of the European Union, Australia, Canada, and New Zealand, users of heroin and other injection drugs have ready legal access to sterile syringes. However, in the U.S., “not in my backyard” (NIMBY) tactics and socio-political policies, such as the war on drugs, have fueled stigma-related attitudes toward services for injectors (Tempalski, et al., 2007c; Shaw, 2006). As a result, many local and state officials have refused to implement or fund harm reduction services, in particular SEPs, and in some cases substitution treatment like methadone maintenance (Des Jarlais, 2000; Tempalski, et al., 2007c). The resulting

inaction by the U.S. government for funding of these much needed programmes has motivated many community and AIDS activists from different political groups to challenge the treatment and marginalisation of IDUs, and provide those critical services in either a voluntary or underfunded capacity.

Discussion: Public policy and safe spaces

Punitive drug policies that affect risk environments and users' health in the U.S. stand in sharp contrast to those countries where harm reduction programmes, such as safe injection spaces, have been implemented. While globally many cities during the 1980s and 1990s reported a rise in illicit drug use, within a period of a few years, most of the European Union had developed preventive measures to minimise the consequences of drug injection and risk environments. The Netherlands, Switzerland and Germany and other European member states developed comprehensive programmes that combined law enforcement, harm reduction strategies, and HIV/AIDS prevention initiatives and education. In general, these strategies involve a high level of coordination between health care providers, police, and the judicial system. Most include SEPs, unrestricted access to sterile syringes in pharmacies, free access to HIV treatment for drug users and substitution therapy (Wiessing, 2000).

The most noteworthy, however, were safe injection facilities (SIFs). Evidence indicates SIFs are uniquely effective in sustaining contact with the most marginalised and chaotic users who inject drugs in public places. These users are at the greatest risk for disease and death, and are also the least likely to engage directly in a traditional abstinence-based health services (Kerr, 2000; Rhodes et al., 2006b; Wood et al., 2007). Evidence indicates that SIFs can reduce drug overdose deaths; minimize risks for abscesses, bacterial infections and endocarditis; minimise the risk of HIV, hepatitis C and hepatitis B transmission; and increase referral to drug treatment and other health services, while improving public order (Broadhead et al., 2002; Wood et al., 2004; Wood et al., 2007). It has been twenty-five years since the first SIFs opened in Europe, and they remain an essential part of an effective harm reduction strategy. Currently, there are approximately 65 SIFs in 40 cities world-wide (Reynolds, 2007).

In contrast, the U.S. response to illicit drug use has embodied forms of institutional repression and social exclusion of drug users based on several factors, including: “the political “war on drugs”; stigma (i.e., view drug use and users as “criminals” and “junkies”); and the harassment by law enforcement as a result of a legal and policy framework with regard to drug paraphernalia and syringe laws” (Tempalski et al., 2007c, pg.11–12). Although studies in the U.S. on harm reduction efforts indicate the importance of integrating different levels of social and policy support for harm reduction services into the community, and that such support should be specifically designed to meet the needs of subpopulations of IDUs (e.g., sex workers, men who have sex with men (MSM), and ethnic minorities) (Bluthenthal, et al., 2004; Burris et al., 2002; Singer, 2000), such integration of actions will not occur to any large degree on a state or national level until the U.S. federal ban on funding for syringe exchange services (that has been in place since 1988) is lifted. Consequently, support for these types of harm reduction actions occur locally and are embedded in local place-based characteristics.

Future directions

We emphasize the importance of incorporating geographic place into analyses of HIV risk environments among IDUs as understanding place-based processes can contribute to research on risk environments and harm reduction action. Further, understanding the sources and differences of risk across and within geographic areas may help us develop effective social interventions and public policy aimed at drug injectors' health. If, for example, we

knew within a locality whether HIV prevalence or incidence is a function of structural policies such as over-the-counter-syringe laws (Friedman et al., 2001a; 2001b), syringe exchange (Des Jarlais et al., 1996; Hurley et al., 1997; MacDonald et al., 2000), urban “desertification” (Wallace, 1990), or community policing practices (Cooper et al., 2003; Friedman et al., 2006) such policies might be modified to minimise risk of transmission of blood-borne diseases and reduce harm among injection drug users.

Aside from describing the characteristics of at risk populations, place-based research can locate precisely places of potential risk environments, social vulnerability and where structural interventions are urgently needed. Clearly, national and state policies affect local-area characteristics and impact local-area responses to health issues and social problems. Research on this topic has been limited (Nathanson, 1996). More research of this type is urgently needed to find ways to augment the level to which science-based HIV prevention responses such as HIV education, outreach, syringe exchange, and drug abuse treatment are implemented (NIH, 1997; Des Jarlais and Friedman, 1998; U.S. General Accounting Office, 1993). Research devoted to structural and policy determinants of HIV risk environments among IDUs across geographies is lacking and needed. A geographic analysis is essential in investigating social, economic, and policy characteristics that shape both risk environments and blood-borne epidemics in order to lay the basis for policy or structural interventions.

Future research on how place-based factors shape the risk environment might address some of the following questions: (1) How have policing programmes of geographic containment and exclusion affected the health and well-being of injection drug users?; (2) What have been some of the successful strategies advocates and service providers have employed to retain services and inclusion in designated “drugscapes” subject to these exclusionary polices?; (3) How have socio-spatial and political factors undermined outreach and harm reduction efforts (even where they exist), limiting their scope and impact?; (4) How do some IDUs remain healthy and safe from harm within particular localities while others do not given the realities of structural policies in particular places?; (5) How can we (as service providers, harm reduction advocates and researchers) work toward developing local levels of social and policy support and integration within specific places to provide safe injection environments and reduce harm?

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