

HIV PERSPECTIVES AFTER 25 YEARS

Structural Interventions: Concepts, Challenges and Opportunities for Research

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ABSTRACT *Structural interventions refer to public health interventions that promote health by altering the structural context within which health is produced and reproduced. They draw on concepts from multiple disciplines, including public health, psychiatry, and psychology, in which attention to interventions is common, and sociology and political economy, where structure is a familiar, if contested, concept. This has meant that even as discussions of structural interventions bring together researchers from various fields, they can get stalled in debates over definitions. In this paper, we seek to move these discussions forward by highlighting a number of critical issues raised by structural interventions, and the subsequent implications of these for research.*

KEYWORDS *HIV prevention, Structural interventions*

Structural interventions refer to public health interventions that promote health by altering the structural context within which health is produced and reproduced. Although not necessarily a new idea, they have only relatively recently received attention as a strategy for HIV/AIDS prevention. In this paper, we extend the discussion of structural interventions (SI) in HIV/AIDS prevention (see special issue of *AIDS*, Volume 14 Supp 1, 2000, for an extensive discussion of SIs in HIV/AIDS, and *CAPS Fact Sheet* on SIs¹) by highlighting a number of critical issues they raise, and the subsequent implications of these for research.

RELATING STRUCTURAL INTERVENTIONS AND STRUCTURAL DETERMINANTS: IN SEARCH OF THEORY

Structural interventions differ from many public health interventions in that they locate, often implicitly, the cause of public health problems in contextual or environmental factors that influence risk behavior, or other determinants of infection or morbidity, rather than in characteristics of individuals who engage in risk behaviors. For example, a structural approach to preventing heart disease might emphasize the expense of health foods relative to the low cost of fast food and other high-fat foods and suggest either subsidization of healthy foods to make them more

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affordable or taxation of unhealthy foods to make them less so, in order to influence individual consumption.² Or, a structural approach might focus on regulations or support of technologies for lowering or removing fat from these foods so that changes in individual behaviors would not be necessary. An intervention that focused on individuals, on the other hand, might work to inform people about the consequences of consumption of fatty or healthy foods so as to influence their choices. One common individual-level strategy for challenging problems defined in terms of individual risk-taking, then, is education and information dissemination. In contrast, structural interventions presume a certain degree of social causation of public health problems and attempt to change product-content or social, economic, political or physical environments that shape and constrain health behaviors or otherwise affect outcomes. Individual-focused approaches assume that the relationship between individuals and society is one in which individuals have considerable autonomy to make and act on their choices, but structural approaches view individual agency as constrained or shaped by structures.

While structural interventions related to HIV/AIDS imply an attribution of the causes of HIV/AIDS in the social production of sexual and drug use risk, and analyses of the social production of HIV-related risk imply SI as a prevention strategy, it is not common for the two discussions to be explicitly linked. In general, there is considerable research in such fields as social epidemiology, sociology, and anthropology focused on the social determinants of health.³⁻⁵ Recently, Rhodes and colleagues have provided a similar, extensive review of the social production of HIV risk among drug users.^{6,8} Often, such analyses conclude with relatively broad warnings that prevention efforts must take into account the structural sources of risk, or that prevention must be addressed as part of a broader effort to end social inequality or to promote social change. Some of the work of Friedman and colleagues stands in exception to this, including early work that does not use the terminology of SI but discusses both social causation and social intervention^{1,9-13} as well as a more recent paper by Hankins, Friedman, and others that analyzes the relationship between wars and HIV risk and identifies specific interventions (some of which are structural in nature) for addressing HIV risk in the context of war.¹⁴

Link and Phelan¹⁵ represent one of the clearest examples of the social determinants perspective removed from any discussion of specific interventions, but clearly with implications for structural interventions. They offer a theory of fundamental cause in which they argue that to truly understand health and disease it is necessary to identify their fundamental causes, not the behavioral or proximate risk factors that serve as the typical focus of research. In their view, proximate causes are merely the particular mechanisms through which more fundamental causes operate and as such, they will change over time, while the influence of fundamental causes will persist. Addressing these proximate causes will do little, in the long term, to eliminate disease and promote health. Instead, they argue that it is necessary to confront fundamental causes themselves. And, for Link and Phelan, it is differences in socioeconomic status that are defined as the fundamental cause of health and the "sociological imagination" where the solution to health problems rests.¹⁶ As compelling as their argument may be, however, for those who seek concrete strategies for promoting health, including HIV prevention strategies, such conclusions can sound "pie in the sky" and beyond the realm of what is possible to accomplish through public health interventions. Moreover, even from a sociological standpoint such a conclusion can be unsatisfying, for it begs a bigger question, namely, from what do differences in socio-economic status derive? To this, sociological theories offer

numerous competing answers, ranging from those focusing on individual differences in human capital, to those focusing on structures of capitalism, patriarchy and/or racism. Each of these theories, in turn, suggests different approaches to eliminating socio-economic status differences. The theory of fundamental cause, then, is only a partial theory that does not necessarily assist in identifying appropriate interventions for addressing health problems, including HIV/AIDS.

In contrast, the structural interventions literature, which is more frequently the domain of public health than the social sciences, often takes interventions as its starting point, either analyzing the impact of specific structural interventions on HIV risk¹⁷⁻²¹ or deriving a framework, usually one that is multi-level, for categorizing structural interventions.²²⁻²⁵ The interventions it identifies cannot be called “pie-in-the-sky” because they have been implemented. But unlike the social determinants literature, which can suggest a range of interventions that may or may not have been tried, this approach is biased in its emphasis on interventions that have been implemented and described in the published literature. In addition, its focus on the more proximate causes of risk can mean that it neglects interventions that may not be obviously associated with HIV risk, but still may have an impact on it. For example, Bluthenthal and colleagues have found that changes in welfare policy may be associated with increased HIV risk among injection drug users. In their research 60% of more than 1,200 injection drug users in a San Francisco study lost their Supplemental Security Income benefits when rules were changed to disallow Social Security Administration disability based on alcoholism or drug addiction.²⁶ Injection drug users who lost benefits were more likely than those who retained benefits to participate in illegal activities, share syringes, and inject drugs. They conclude that policies denying income support to IDUs increased their risk for HIV infection. Welfare policy may not typically be viewed as HIV-related, but Bluthenthal’s work suggests otherwise.²⁶ Most important, the structural interventions literature does not always offer a theoretically based definition of structural or lead to a broader theoretical understanding of structural interventions or how they are linked to structural determinants of health, although some have made efforts to link interventions and determinants.^{13,27-29}

Why does any of this matter? It matters because the most effective interventions are likely to be those that successfully challenge the causes of risk and disease transmission, and the strongest understanding of cause derives from sound theory. Such an understanding also can increase the ability to predict the consequences of any particular interventions, minimizing the likelihood of unintended adverse outcomes or at least anticipating what such outcomes are likely to be. Also, individual-focused interventions are costly in terms of staff time and limited in terms of reach¹ and few studies estimate their impact beyond a relatively short period of time. Structural interventions, particularly those based on sound theory, have the potential to impact on many, and to contribute to change that is longer lasting. This need for sound theory, however, must be balanced by an effort to identify feasible, sustainable, and practical interventions.

UNPACKING THE INTERVENTION IN STRUCTURAL INTERVENTIONS

A brief word on the concept of intervention is also in order here. “Intervention” generally implies action taken by outsiders (often read experts). It is important to

recognize a broader understanding of interventions, however, because those at risk of HIV have taken actions on their own behalf, even before public health experts were advocating for such changes.³⁰ Junkie unions and sex worker collectivization have been effective strategies for reducing HIV risk and transmission.⁹⁻¹² Indeed, community mobilization strategies are some of the most effective known for addressing HIV risk among sex workers.³¹⁻³⁴ Collectivization represents a structural intervention in itself, because through mobilizing themselves, marginalized groups alter the structures of power that keep them oppressed. It also has been an important strategy for demanding structural interventions. In some instances, drug users themselves have pushed for such structural interventions as needle exchange. And sex worker collectives have pushed for such things as changes in credit policy to make it possible for them to save money, and for establishment of schools for their children.

Intervention also implies an action taken purposefully to address a particular risk or disease. But sometimes, structural interventions to address one problem (that may relate to health or not) have impacts on HIV related risk behaviors, and can be implemented in other settings as HIV prevention interventions. Given that the availability of alcohol has been found to be associated with risky sexual behavior,³⁵ it is likely that structural interventions to reduce its availability and subsequent consumption are a good example of this, as may be alternative to incarceration programs that, in keeping prisoners out of jail and exposed to the range of risks associated with incarceration and re-entry, may impact on HIV risk.³⁶ The former is an example of a health intervention while the latter is not. Similarly, the initiation of the first syringe exchange in Amsterdam, which altered the structure of syringe access for IDUs, was done (at user initiative) in response to a hepatitis B epidemic—but clearly had implications for preventing HIV as well.³⁷ Subsequently, syringe exchange has become an important HIV prevention intervention for drug users.

The example of needle exchange raises two other important issues relating to interventions. First, with structural interventions, it is often the structural changes that occur in order to make it possible to implement a program that comprise the structural intervention as much as it is the program itself. Furthermore, once a program is in place, additional structural interventions may be necessary to expand its availability, acceptability, and accessibility,²⁸ as well as to ensure its sustainability. Thus, while needle exchange programs alter the structure of syringe availability and of service provision for drug users, they often require legislative or policy change before they can be implemented. Drug treatment programs represent another example of this. Addressing HIV risk in drug users through the provision of drug treatment is a recognized strategy that goes beyond teaching individual skills to drug users. As important as the programs themselves are the structural interventions required to ensure that they are available to a large number of drug users.

Relatedly, while traditional individual-based interventions can be implemented relatively easily, particularly if a willing collaborator is found, this is not generally possible with structural interventions, which often require major changes in law, policy, procedures, or complex social processes. The implementation of structural interventions, then, often involves struggle, consensus building, or conflict resolution. The 100% condom programs in Cambodia and Thailand exemplify the massive multisectoral collaboration that structural interventions require.³⁸⁻⁴¹ In his description of the response to HIV in Thailand, Phoolcharoen describes the critical roles played by government (including the divisions of social services, public

health, STD clinics, economics, culture, military, education), the media, sex workers, researchers/scientists, sex establishment owners, people living with HIV/AIDS, financial industry and international agencies.³⁹

FOUR IMPORTANT TYPES OF SIs IN HIV PREVENTION

There are many different examples of structural interventions for HIV prevention.^{17,19,20,22,23,31,33,37,42,43} In this section, we consider four types of SIs that represent relatively new approaches, or existing approaches gaining new prominence, and some of the issues they raise for HIV prevention.

Community Mobilization We have referred several times to community mobilization as a structural intervention (for example, it alters relations of power between marginalized and dominant groups) that can in turn, be used to advocate for other structural interventions, for example, in the form of legal and policy changes. Typically, such mobilization strategies involve a combination of activities, including raising consciousness among the marginalized group about their rights and strategies for demanding them, engaging in advocacy with stakeholders and power brokers (e.g., police, pimps, politicians) who exercise varying degrees of control over the group, and identifying and challenging barriers to prevention behaviors (e.g., illiteracy, lack of availability of condoms or syringes, etc.). While community mobilization strategies are not new, they may gain new prominence by recent activities in India. As indicated above, it was in Calcutta's red light Sonagachi district where one of the most renowned community mobilization strategies helped to reduce the HIV prevalence among female, brothel-based sex workers.³¹⁻³³ Since then, research has been mixed with respect to the replicability of this approach.⁴⁴⁻⁴⁶ But in 2003, the Bill and Melinda Gates Foundation launched a new initiative-Avahan-whereby \$200 million has been committed to HIV prevention in India in the six states with the highest HIV prevalence.⁴⁷ A key component of Avahan is a community mobilization strategy based on that used by Sonagachi sex workers. Rather than treating sex workers as the beneficiaries of prevention programs, the Sonagachi Project emphasized their representation and active participation in all aspects of the program. Although the program often begins at the initiation of an outside nongovernmental organization (NGO) or similar organization, the ultimate goal is for the entire intervention to be run by sex workers themselves, at all levels-eliminating the need for the NGO.³³

Over the next 3 to 5 years, then, efforts will be made to implement this approach across a range of locations in India and among a diverse group of sex worker populations. Depending on the results of ongoing analyses and evaluations of the approach, this activity could have considerable implications for community mobilization strategies in HIV prevention globally.

Integration of HIV Services The institutional service delivery system is another locus of structural interventions that is achieving a momentum in HIV/AIDS prevention and care. In most parts of the world, STI, family planning, and reproductive health services are offered separately, with little or no integration. Family planning services primarily target married women of reproductive age, while HIV services primarily target men at high risk of HIV infection and emphasize treatment rather than prevention. This parallel service delivery infrastructure, fostered by historically separate organization of services and funding tracks, results

in services with a narrow focus.⁴⁸ In the wake of the HIV/AIDS pandemic, there has been a repositioning of family planning services in an effort to make services more accessible and to reach a wider audience. In sub-Saharan Africa, for example, there have been initiatives to co-locate HIV/STI, voluntary counseling and testing (VCT) and prevention of mother-to-child transmission (PMTCT) into family planning services, VCT and infant feeding counseling services into clinic- and community-based Maternal and Child Health Services, and antiretroviral therapy into PMTCT programs and district hospitals.^{49–51} Structural interventions that integrate HIV into family planning services are more common than those that incorporate reproductive health into HIV care services. Recently, there has been a push to integrate contraceptive and antiretroviral services in Africa.⁵² Other initiatives attempt to expand HIV care services for drug users to address their needs for Hepatitis C services, including integrating HCV screening into HIV testing and outreach programs and in HIV care specialty clinics and developing hospital-based hepatitis clinics.^{53,54}

Integrating HIV care and reproductive health services potentially can increase the availability and use of both types of services. Strategies for effective service integration and the impact of such integration on reproductive health outcomes, such as preventing HIV transmission to infected partners or re-infection of infected partners and unintended pregnancy are unknown. The work of Ickovics and colleagues has shown that an innovative group prenatal care intervention that integrates a range of services, including HIV prevention, into prenatal care offered in community health clinics can reduce the incidence of low birth weight babies among expectant mothers in the clinics.⁵⁵ Whether this service integration approach impacts on HIV prevention among this vulnerable group is still being analyzed, but preliminary analysis does suggest that it can make HIV prevention more effective and available to young women.⁵⁶ Similarly, a review conducted by O'Reilly and colleagues of initiatives that integrate STI prevention services within Maternal Child Health/family planning services reported improved providers' attitudes, counseling skills, and ability to deliver quality family planning services.⁵⁷

Most descriptions of service integration do not use the language of structural interventions, and many are found not in peer-reviewed journals, but in reports and literature from non-governmental organizations and agencies. While this type of structural intervention can have an important role to play in HIV prevention, more research is needed on its impacts on HIV-related outcomes, as well as on its implications for service provision, including such questions as: Does it overburden staff by asking them to take on new activities or a larger caseload? Does it provide adequate training for staff in the delivery of additional services? Does integration compromise the quality of services? Are the priorities of HIV prevention ever at odds with other service priorities?

Contingent Funding One recognized type of structural intervention to influence public health are incentive or contingent funding policies, which make receipt of federal or state funds contingent on implementing laws or policies seen to promote public health (p. S14).²⁸ For example, a 1984 federal law required states to either pass laws raising the drinking age to 21, or lose a portion of their federal highway funds. In HIV prevention, contingent funding could be used to boost HIV prevention, by, for example, requiring that HIV impact statements be included in community redevelopment or policing projects before funds are released,¹³ or, as the State of

Connecticut is considering, by providing incentives to Board's of Education to adopt comprehensive sex education programs in the schools.⁵⁸ But this approach can also be used to implement policies that contradict HIV prevention goals. So-called “gag rules,” which prohibit foreign NGOs from qualifying for US family planning assistance if they provide abortion services or “lobby” on abortion, even if they do so with their own funds, have been imposed in some form or another, off and on, since the Reagan administration.²⁴ According to recent testimony of Planned Parenthood, “The global gag rule has had a disastrous effect on women’s health around the world... forc[ing] family planning organizations to close clinics and cut services and supplies, leaving many women in the developing world without reproductive health care and at greater risk of HIV/AIDS.”⁵⁹ Senator Barbara Boxer’s April 2005 amendment to the State Department Reauthorization Bill, which prohibits the US from imposing restrictions on foreign organizations that would be unacceptable if imposed on U.S. organizations and protects the ability of foreign health care providers to offer medical services that are legal in their own countries, represents a structural intervention aimed at eliminating the “gag rule.”

Two other more recent examples of the contingent funding approach include 1) a threat issued by the US government in February 2005 to cut funding to the UN Office on Drugs and Crime (UNODC) (the US government is the organization’s biggest donor) unless the agency assured that it would not support harm reduction, including needle exchange programs and substitution treatment^{60–62} and 2) legislation that prohibits US government funds from going to any group or organization that does not have a policy “explicitly opposing prostitution and sex trafficking,” which has been applied to foreign organizations since 2003 and recently was proposed to extend to US HIV/AIDS organizations seeking funding to provide services in other countries.⁶³ Given that needle exchange programs have been found to be one of the most effective HIV prevention strategies for injection drug users,^{64–67} the US government’s threat to restrict funds to UNODC clearly represents a policy with the potential to seriously restrict the availability of syringes globally. Further, with regard to the second example of recent contingent funding initiatives relating to prostitution, although the government has withdrawn the proposed extension to US-based organizations of its policy relating to sex work, the policy still applies to most of the organizations receiving US funding to address AIDS and trafficking.⁶⁸ Additionally, while the policy does not restrict organizations from providing condoms and antiretroviral drugs to sex workers,⁶³ it is likely to be interpreted as excluding one of the most effective interventions for addressing HIV risk in sex workers—community mobilization (see above)—that is embodied in the Sonagachi model. This is because, among other things, the Sonagachi approach is based on the three principles of respect, reliance, and recognition—respect for sex work and persons engaged in sex work, reliance on them to run the program, and recognition of their professional and human rights.³³ “Rehabilitation” is expressly not among the “R” words. Indeed, a key principle of this model is that of recognizing prostitution as an occupation and HIV prevention as an occupational right.³³

It is unclear exactly what purpose these contingent funding policies are meant to serve, and there has been no systematic research analyzing their impacts in general or on HIV prevention activities or HIV-related outcomes in particular. Anecdotal evidence certainly implies, however, that they contradict HIV prevention goals. Among other things, this is important in light of the service integration strategy

discussed above. Integrating HIV prevention into family planning and reproductive health services at the very same time these services are under siege or are being restricted in their scope by contingent funding policies may be problematic. It appears then, that an important area for intervention on behalf of HIV prevention, particularly globally, may be to seek the elimination of these specific contingent funding policies.

Economic and Educational Interventions There are numerous reasons to believe that reduced HIV/AIDS risks and the sexual empowerment of women and girls can be enhanced through educational and economic interventions. In 2001, Hallman's^{69(p2)} study of young South Africans demonstrated that "relative economic disadvantage" significantly increases the likelihood of a variety of unsafe sexual behaviors, and there are greater negative effects on girls than boys. Other recent work has shown that economic independence and negotiating power are the strongest predictors of condom use.⁷⁰

How can improved economic status impact on women's HIV risks? According to Mahmud's⁷¹ review, economic interventions such as micro-credit programs work to promote women's household bargaining power. Holvoet⁷² found, similarly, that women who receive loans specifically in women's lending groups and who are thereby allowed to have a separate account participate more in household decision-making regarding how money will be spent. Such shifts in intrahousehold power relations and decision making may in turn provide women a basis on which to demand safer sexual practices from their husbands.

Micro-credit and other programs aimed at improving women's economic status also may increase their autonomy by extending their influence beyond the domestic realm and reducing their economic dependency on male partners. For example, Larance⁷³ argues that in providing women increased access to public spaces and the accompanying opportunity to strengthen their non-family networks, micro-finance programs help to increase women's social capital. A survey of women in southwestern Uganda found that those women who work in the markets, a position that offers them access to cash and a forum in which it is appropriate to be assertive, have high levels of independence, mobility and social interaction, which may or may not affect their HIV related risk.⁷⁴ Interventions that boost individual economic status have been shown to improve health outcomes by shifting relationships of power and offering income opportunities outside of the sex industry.^{27,42,75}

Interventions aimed at providing educational opportunities to girls may operate in a similar manner to reduce HIV/AIDS risks. National level educational status has been found to be strongly associated with condom use.⁷⁰ The elimination of school fees also may contribute to reductions in the incidence of HIV/AIDS.^{76,77} Since the early 1990s, The Sema Pattana Cheewit Project in Thailand has provided very low-income girls with scholarships to cover their educational and personal costs so that they can attend secondary school.⁴² Related projects provide scholarships for higher levels of education and work to change attitudes about prostitution while promoting education and vocational training for girls.⁴² An evaluation of these programs, published by UNAIDS in 1999, found that girls who participated in them were likely to continue their education. While health outcomes have not been collected, the assumption of the programs is that girls who stay in school have less probability of becoming sex workers.⁴² Clearly, these findings have relevance beyond the risk of women becoming sex workers.

Future Structural Interventions Research

There are at least three general areas of needed empirical and analytical research relating to structural interventions: analyses of the structural determinants of HIV risk and transmission with clear links to interventions aimed at addressing them, analyses of the impacts of structural interventions, and systematic examinations of the implementation of structural interventions. Each of these, in turn, has additional implications for research.

Although a considerable amount is known about the structural factors associated with HIV risk and transmission, these factors are not static; they manifest themselves in different ways under different circumstances and in different contexts. Additional research on structural factors and their implications for HIV prevention interventions remain important. Especially necessary are studies that move beyond some of the traditional factors such as syringe and condom availability to consider systems, structures, and processes that have been less frequently examined in relation to HIV prevention. One priority area in this regard is that of understanding how, in the United States, the criminal justice system, policing, and drug policy promote HIV risk and may contribute to the disproportionate burden of HIV among race/ethnic minorities.^{25,36} Another priority area involves the questions of how war and transition (e.g., in South Africa, Russia, Eastern Europe, Central Asia, and Indonesia) may influence HIV risk and, in turn, of how to intervene to reduce this risk.^{6,7,13,14}

Empirical studies of the impact of existing and new structural interventions on HIV risk and transmission are also needed. Such research, however, presents a number of challenges. Indeed, one of the features that makes structural interventions so potentially powerful from an HIV prevention standpoint, the scale on which they occur (for example legal or policy change), can also make them difficult to assess. Randomized controlled trials represent the gold standard in intervention studies, but if they are difficult to design with individual-based interventions, they are even more so for structural interventions.¹¹ Structural interventions can apply to entire populations, making randomization impossible. Even if they don't apply to all, their implementation is often beyond the control of particular researchers, so instead of developing randomized controlled trials, they often must rely on natural experiments, assessing the impact of an intervention but without the ability to dictate where and with whom it has been implemented. With natural experiments, furthermore, it can be difficult to conduct a baseline assessment (it is relatively rare to be able to anticipate a natural experiment prior to intervention implementation) for the purposes of assessing change over time.

The question of outcome measures is also an important one in assessing the impact of structural interventions. In the case of individual-focused interventions, behavior change is most often the outcome of interest. Behavioral change is often the target of structural interventions as well, but with structural interventions, focused on addressing contextual sources of risk, and depending to some extent on the scale of the intervention, it may be costly to gather data at the structural as well as the individual level and difficult to demonstrate that observed behavioral changes result from structural interventions. On the other hand, given that the primary focus of many SI is on changing the context of risk and transmission, behavior change is no more important as an outcome than changes in structures and context. Yet demonstrating structural change is challenging in its own right, for structural level data can be difficult to collect and analyze.

Study design and measurement are not the only issues to consider in assessing the impact of SIs. As with interventions targeted to individuals, it is important to consider, or even anticipate, the potential unintended consequences of these interventions. For example, interventions that help women gain economic independence by providing loans to start their own business may lead them to pull their daughters out of school to help with the work,⁷⁸ which may, in turn, impact the risk of their daughters.

A third critical area for SI research is that of intervention implementation. As indicated above, the implementation of SI often involves struggle, conflicting interests, and consensus building. For example, research on needle exchange has provided ample evidence of its value as an HIV prevention intervention, and yet there are considerable barriers to implementation of syringe exchange programs, not the least of which is a US policy prohibiting the use of federal funds in support of syringe exchange. In syringe exchange⁷⁹ as well as with SI more generally, it is important to address such questions as: Under what conditions are structural interventions likely to be implemented? What factors increase the likelihood of implementation? What factors reduce the likelihood of implementation? How can consensus be created in support of controversial structural interventions and what makes these interventions controversial to begin with? An example of such research is provided by Tempalski et al.^{80,81} who have shown the importance of political factors in determining which metropolitan areas in the US do and do not have syringe exchanges and the number of syringes they distribute per injector. Finally, studies examining the question of whose interests are served by current policies and structures can be critical to developing an understanding both of the context of risk and of how proponents can successfully implement structural interventions to address that context.

CONCLUSIONS

In seeking to address the social and structural sources of HIV risk, SIs provide a powerful approach to HIV prevention. Depending to some extent on the scope and scale of the particular SI, they can have broad impacts beyond HIV prevention; because they can promote individual behavioral change while targeting structures, their impacts may be felt at multiple levels. SIs can also be highly sustainable when rooted in laws and policies or when integrated into other essential services, although, at the same time, they can be vulnerable to political and interest group struggles. While there is no one SI that can address all of the many and varied sources of HIV risk and transmission and SIs are not meant to replace individual-based interventions, they can significantly advance HIV prevention goals and deserve wider research and implementation.

ACKNOWLEDGEMENTS

Blankenship's work on this paper was supported by Yale University's Center for Interdisciplinary Research on AIDS (CIRA), through a grant from the National Institute of Mental Health, (P30 MH 62294, to Michael Merson, MD). Friedman's work was supported by P30 DA11041 (Center for Drug Use and HIV Research), R01 DA13336 (Community Vulnerability and Response to IDU-Related HIV), R01

DA13128 (Networks, Norms and HIV Risk among Youth), and R01 MH62280 (Local Context, Social-control Action, and HIV Risk). Dworkin's work was supported by a center grant from the National Institute of Mental Health to the HIV Center for Clinical and Behavioral Studies at NY State Psychiatric Institute and Columbia University (P30-MH43520; Principal Investigator: Anke A. Ehrhardt, PhD), and a training grant from the National Institute of Mental Health (T32 MH19139 Behavioral Sciences Research in HIV Infection; Principal Investigator, Anke A. Ehrhardt, PhD). Mantell's work was supported by a center grant from the National Institute of Mental Health to the HIV Center for Clinical and Behavioral Studies at the NY State Psychiatric Institute and Columbia University (P30-MH43520; Principal Investigator: Anke A. Ehrhardt, PhD).

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