

Commentary

The ‘risk environment’: a framework for understanding and reducing drug-related harm

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Abstract

Public discourses on health increasingly emphasise the environment. While harm reduction has developed in parallel with the new public health movement, and both seek to encourage risk reduction by promoting individual and community action as well as environmental change, there remains an over reliance on individualistic modes of behaviour change. This commentary offers the concept of the ‘risk environment’ as a potentially useful framework for understanding and reducing drug-related harm, especially HIV infection associated with drug injection. It is argued that a shift in focus towards the ‘risk environment’ as a unit of analysis and change helps to overcome the limits of individualism characterising most HIV prevention interventions as well as to appreciate how drug-related harm intersects with health and vulnerability more generally. This in turn raises the importance of ‘non-drug’ and ‘non-health’ interventions for harm reduction and the facilitation of alliances between harm reduction and other social movements oriented to tackling vulnerability as a means of promoting public health. © 2002 Published by Elsevier Science Ireland Ltd.

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The new public health and harm reduction

The new public health movement of the 1980s coincided with the emergence of HIV infection and AIDS in many countries. The movement was heralded as a shift beyond bio-medical understandings towards a new understanding which encompassed the social and environmental influences on health (Ashton & Seymour, 1988). The new public health advocates the need to balance individual and collective action as a means of facilitating changes in individual and population health (WHO, 1986). It also advocates the need to create the environmental conditions conducive to reducing inequalities in health, and connects with wider calls for a paradigm shift towards ecological approaches within public health and epidemiology more generally (Susser & Susser, 1996; Diez-Roux, 1998). The rhetoric of the new public health implied a shift from previously individualistic modes of self-survival towards social and environmental change.

The World Health Organization endorsed principles of the new public health movement are contained within the *Ottawa Charter for Health Promotion* (WHO, 1986). The five principles are: developing individual personal and social skills; re-orientating health services toward improving access, availability, and use; facilitating and strengthening community participation and collective action; creating local environments that are conducive to individual and community health; and, lastly, creating public policies supportive of health. Taken together, risk reduction is an inter-sectoral and multi-level activity encouraging individual, community, policy, and environmental change.

The principles of the new public health are one and the same as the principles of effective harm reduction. The new public health and harm reduction are *parallel social movements*. Not only do they coincide historically, they coincide conceptually. More than this, harm reduction has been held up as a model of the new public health movement. The international evidence for this is that the cities or countries with most success in controlling, averting or reversing HIV epidemics among injecting drug users have adopted interventions in keep-

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ing with the principles of effective public health (Ball, 1998). These intervention approaches are well-established and include responses which are *rapid* and *pragmatic*, *community-based* and *community-level*, and which develop *user-friendly* and *low threshold* services (Stimson, 1995; Ball, 1998; Des Jarlais, Hagan & Friedman, 1995).

Practical examples of harm reduction interventions in keeping with these new public health principles include: outreach (Wiebel et al., 1996; Coyle, Needle & Normand, 1998; Broadhead, Heckathorn & Weakhern, 1998; Latkin, Mandell, Vlahov, Oziemkowska & Celentano, 1996); peer, social network, and group interventions (Neaigus, 1998); community development interventions (Friedman & O'Reilly, 1997); legal access to sterile injecting equipment (Des Jarlais, Marmor & Paone, 1996; Des Jarlais, Perlis & Friedman, 1998; Hurley, Jolley & Kaldor, 1997; Taussig, Weinstein, Burris & Jones, 2000); low threshold drug treatment, including methadone substitution therapy (Farrell, Ward, Mattick, Hall, Stimson & Des Jarlais, 1994; Drucker, Lurie, Wodak & Alcabes, 1998); and public policies supportive of such initiatives (Ball, 1998; Stimson, 1995; Lurie & Drucker, 1997; Strathdee et al., 1998; Drucker, 1999). Harm reduction in the time of AIDS is arguably one of the best documented examples of a new public health movement.

Limits: the individuation of risk reduction

But there are limits. And it is some of the limits inherent within the new public health and harm reduction movements which drive this particular commentary and its focus on the 'risk environment' as a potentially useful framework for reinvigorating and sustaining effective harm reduction praxis.

Despite rhetoric about the environmental determinants of health and the alleviation of health inequality, the primary focus of harm reduction intervention, especially in western industrialised nations, centres on individual risk behaviour change. In theoretical terms, 'rational decision-making' and 'reasoned action' theories dominate (Diclemente & Peterson, 1994; Kippax & Crawford, 1993). Emanating from the psychological concepts of health-beliefs (Becker, 1974) and self-efficacy (Bandura, 1977), these theories promote a conception of risk as a product of cognitive health-beliefs and reasoned risk assessment (Fishbein, Middlestadt & Hitchcock, 1994). Such theorising assumes an overly 'calculative' and 'context-free' vision of risk decision-making, neglecting to capture how risks and their perception are context-dependent (Rhodes, 1997a; Bloor, 1995). At its crudest, individual action and decision-making theories assume a shared, even single, rationality of risk avoidance, wherein rational behaviour is viewed as synonymous with risk avoidance.

Viewed as 'risk averse' (Douglas, 1992), individuals wilfully engaging in risk behaviour may be depicted as dysfunctional or irrational. Viewed as 'risk aware', they may also be blamed (Crawford, 1994). The individuation of risk reduction and responsibility fails to capture the contradictory and situated pressures of risk decision-making and obscures power inequalities in risk negotiation (which may relate to gender, ethnicity or other material factors) (Bourgois, Lettiere & Quesada, 1997; Friedman, Jose & Stepherson, 1998). Further, undue emphasis on the individual overlooks an appreciation of how formations of 'risk' and 'harm' are embedded within *socially constructed* discourses of risk and morality (Lupton, 1993). An over-reliance on risk factor rather than ecological approaches in epidemiology and a relative power imbalance in favour of the epidemiological rather than ethnographic in social science, only exacerbates this situation.

Contradictions for new public health and harm reduction

These limits of individualism are evident even in settings promoted within the harm reduction literature as 'model' examples of a new public health approach. One such example is the United Kingdom. Oft cited as a case example of harm reduction best practice, evidence associates the rapid development of pragmatic and user-friendly harm reduction interventions with an aversion of HIV epidemics among IDUs (Stimson, 1995). In the UK, the pragmatics of risk reduction won over primary drugs prevention in the first decade of AIDS, with government sanctioned syringe exchange and outreach forming cornerstones in a harm reduction oriented drug policy since 1987 (Stimson, 1995). The rhetoric of these times was characterised by a commitment to 'community-based' and 'low-threshold' intervention coinciding with an increased general emphasis on consumer choice and a structural shift towards a free market approach to delivering health services. Accordingly—and entirely in keeping with the tenets of reasoned action theories—the 'new' public health oriented drug policies in the UK in the mid-1980s entertained an image of the drug user as a 'health conscious' citizen capable of 'rational decision-making' in keeping with publicly recommended 'risk avoidance'.

This may have suggested a discursive shift from previous policies with a tendency for characterising drug users as slave to their addictions, as incapable of 'rational' or 'reasoned' decisions, and as 'caring for little but their next injection' (Stimson, 1995). However, a critical reading of this period in UK drug policy highlights some limits in the extent to which a 'new' public health approach was achieved. HIV prevention oriented discourses spoke of health consumers rather than addicts and promoted the self-regulation of harms

as more important than drug treatment, but to a large extent the new public health movement was offering 'new words' to an 'old tune' (Stimson & Lart, 1990). Even in the UK it must be recognised that the harm reduction policies and interventions developed in the first decade of AIDS offered a very weak form of public health in 'new' public health terms.

Outreach epitomised these contradictions (Rhodes, 1993, 1994). Though capturing the imagination as a liberal, street credible, and even egalitarian practice, it often lacked any clear community-action focus. In general, outreach in the UK comprised *one-to-one focused* interventions, which sought to encourage *individual* behaviour change. It tended to work in the community, rarely with the community (Stimson, Eaton, Rhodes & Power, 1994). While model examples of community or collective action projects exist (Jose, Friedman & Neaigus, 1996; Wiebel, 1996; Kumar, Mudakiar & Daniels, 1998; Jana et al., 1998), there are few such UK examples (Hunter, Ward & Power, 1997). Only a minority of UK community projects employ former or current drug users (Hartnoll, Rhodes & Jones, 1990). Few projects actively seek to bring about changes in community norms or the immediate micro social environment, and few seek to work with wider community development initiatives (Rhodes & Stimson, 1998). There is little meaningful investment or support for drug user self help and consumer interest groups. Many community projects seem content to offer 'clients' a form of welfare protectionism. Community action is one of the most quoted principles of the new public health movement, yet claims to notions of community action may mask a continued reliance on individually oriented models of change in practice (Rhodes, 1997b). Rarer still, is evidence of investment in interventions actively promoting political action as a means of ensuring that governing institutions maintain and advance public health oriented drug policies.

This is not to deny the major impact that the development of public health oriented drug policies have had in averting epidemics of HIV in the UK (Stimson, 1995), but rather, emphasises how a culture of self-survival can serve to blur the social and environmental bases of risk as well as opportunities for community, environmental and structural change. It raises the interesting question of what a fully-fledged new public health approach to harm reduction would look like if applied.

Scope: the relevance of risk environment for harm reduction

The importance of understanding the risk environment is only recently acknowledged as is an appreciation of how interventions might create 'enabling

environments' for harm reduction (Rhodes, Stimson, Crofts, Ball, Dehne, Khodakevich, 1999; Des Jarlais, 2000) and HIV prevention (Tawil, Verster & O'Reilly, 1997; Barnett, Whiteside & Khodakevich, 2000; Sumartojo & Laga, 2000; Hawkins, 2001). An obvious observation is that HIV prevention and harm reduction interventions do not operate under laboratory conditions. They are *social interventions*, subject to the relativity of risk and to variations in population behaviour in different social, cultural, economic, legal, policy, and political environments. The relative success of individual, community and policy interventions are shaped by the risk environments in which they occur. Of obvious importance, therefore, is an understanding of how environmental conditions, and different risk environments, shape the introduction (or not) of harm reduction policies and responses as well as their implementation and impact.

We know that the local risk environment can limit the potential impact of HIV prevention interventions. The outbreak of HIV infection among IDUs in 1997 in Vancouver despite the presence of a high volume syringe exchange and years of low and stable HIV prevalence provides an incisive example of how an understanding of micro social environment can maximise an appreciation of intervention limits as well as offer opportunities for overcoming such obstacles to maximise intervention efficacy (Strathdee, Patrick & Currie, 1997). Vancouver exemplified a set of environmental conditions later referred to as a 'recipe for an epidemic' (O'Shaughnessy, Montaner, Strathdee & Schechter, 1998). There was a marked shift in local drug availability from heroin to cocaine, which necessitated more frequent injection. At the same time, Vancouver's drug using community was concentrated within a 12 block radius where single room occupancy hotels that charged 'exit fees' at night were the main site of housing, socialisation and needle sharing. Meanwhile, the city's efforts at harm reduction were primarily limited to syringe exchange with virtually no drug treatment. Syringe programme cutbacks led to disruptions in coverage and the lack of available HIV testing and counselling which delayed identification of the outbreak.

Similarly, in Kathmandu, continued low HIV prevalence (under 2%) over some years was associated with the early introduction of HIV prevention (Peak, Rana, Maharajan, Jolley & Crofts, 1995), and yet in 1998, evidence pointed to a rapid increase to approximately 45% HIV prevalence among IDUs (Gurubacharya, Gurubacharya & Bakundole, 1998; Crofts, Peak, Rana & Rhodes, 2002). Evidence in Kathmandu shows the importance of HIV prevention coverage, with approximately 50 000 needles and syringes distributed annually to IDUs in the context of an estimated 1.6 million sets required in order to eliminate needle sharing, assuming

that the estimated number of IDUs use the same needle and syringe five times (Crofts et al., 2002). Crucially, a number of environmental factors were found to influence coverage as well as patterns of risk reduction. Transitions towards buprenorphine injection may sustain higher levels of sharing and coincided with changes in law enforcement practices which increased the penalties of possession for 'brown sugar' heroin and increased levels of policing and arrest (Crofts et al., 2002). It is no longer safe to assume that the presence of needle and syringe exchange alone is necessarily 'enough' (Strathdee et al., 1997) and 'perfectly effective' (Drucker et al., 1998) in preventing HIV epidemics under all environmental conditions.

The critical importance of environmental determinants becomes even more obvious when the macro policy and economic environment is viewed as a structural dimension of HIV prevention (Des Jarlais, 2000; Taussig et al., 2000). This has become tragically clear in countries such as Russia and Ukraine where rapid social and political change has combined with economic dislocation to produce an environment extremely susceptible to rapid HIV spread yet extremely vulnerable in its capacity to respond (Barnett et al., 2000; Rhodes, Ball, Stimson, Kobysheva, Fitch & Pokrovsky, 1999). As in some African countries, not only are the pre-conditions for rapid epidemic spread shaped by a constellation of social, economic and political factors, but infectious disease epidemics in turn exacerbate such environmental vulnerabilities, and thus also, the capacity of the environment to mobilise effective social, economic or political responses. The epidemic risk environment in Russia, for example, is not only produced by policy and legal obstacles to the development of low-threshold harm reduction services (Federal laws, passed in 1998, explicitly ban methadone substitution treatment; Oblast interpretations of whether syringe exchange constitutes the promotion of drug use vary; police harassment of drug users is reportedly common; HIV prevention coverage is woefully inadequate), but also by the social and economic environment which limits intervention development capacity (almost all of the 40 or so syringe exchanges in the Federation are funded primarily from international rather than local resources). While effective harm reduction has proven possible in settings where there are a host of social and political environmental factors stacked against such an activity and the development of syringe exchange in the context of Federal restrictions provides an example (Watters, 1996; Lurie & Drucker, 1997; Bastos & Strathdee, 2000)—the examples of Vancouver, Kathmandu, Russia and Ukraine underscore the need to acknowledge that risk and response are *relative* phenomena, to varying extent *situationally and structurally dependent* on the environments in which they occur.

But more than its self-evident practical importance, the concept of risk environment has *political* promise. Shifting the unit of analysis and agent of change from individuals, and individual risk behaviour, to environments, shifts how we think about *responsibility for harm*—from constituting individuals alone as responsible for their behaviour to tackling the socio-political situations and structures in which individuals find themselves. Neo-liberal western societies are arguably the worst for victim-blaming, despite claims to the contrary and having developed elaborate forms of citizenship rights and responsibilities (Peterson, 1997). The individuation of risk reduction persists even in those settings reportedly most progressive in their pursuance of 'new' public health oriented drug policies. A risk environment and enabling approach seeks to work against victim-blaming.

A harm reduction praxis founded on a risk environment framework illuminates the parallels in how social contexts influence health and vulnerability in general as well as drug-related harms in particular. This inevitably leads to a consideration of non-drug and non-health specific factors in harm reduction, and in turn, points to the importance of what might be described as 'non health oriented interventions' in harm reduction. Shifts in housing policy, for example, may have harm reduction impact (Pearson, 1987), as have a variety of micro-economic, employment and other community development initiatives (Hawkins, 2000; Blankenship, Bray & Merson, 2000). This is politically important for two reasons. First, it mainstreams drugs and harm reduction as part of wider social movements in public health. This raises the possibilities for broadening the scope for political alliances lobbying for social and environmental change (Friedman, Southwell, Bueno, Paone, Byrne & Crofts, 2001; Hunt, 2001). And second, it shifts the locus and politics of change from issues of drug use to wider issues of health vulnerability and human rights (Mann, Gostin & Gruskin, 1999; Ezard, 2001).

Defining and delineating the risk environment

A focus on the risk environment encourages us to think about the social situations and places in which harm is produced and reduced. We can define the risk environment as the space—whether social or physical—in which a variety of factors interact to increase the chances of drug-related harm. Within this broad definition, there is the need to delineate the environmental factors associated with harm production and reduction. This underpins the relatively simple model of risk environment presented below. As shown in Fig. 1, at its crudest, a model of the risk environment may comprise two key dimensions: *types of environment*; and

level of environmental influence. Research within the harm reduction field emphasises four ideal types of environment—physical; social; economic; and policy—and two ideal levels of environmental influence—micro and macro.

Micro and macro risk environments

Recent micro risk environment research has suggested that risk perception and behaviour is a product of an interplay including perceived social norms, rules and values (Friedman et al., 1987; Latkin, 1996); the nature and structure of IDU social relationships and social networks (Latkin, Mandell & Vlahov, 1994; Latkin et al., 1996; Friedman et al., 1997; Neaigus, 1998); peer group and social influence (Wiebel et al., 1996; Broadhead et al., 1998); the immediate social settings in which drugs are used (Ouellet, Jimenez & Johnson, 1991; Wiebel, 1996); and the local neighbourhood and context in which IDUs live (Koester, 1994; Bourgois, 1998).

Increasingly also, there is interest in researching the macro risk environment, including the public and legal context of risk management; the economic, gender and ethnic inequalities associated with risk production and reduction; and the cultural organisation of risk and harm. Drawing on an established tradition of work on the 'political economy' of health (Doyle, 1979), research has highlighted the uneven distribution of harm according to material, as well as social inequalities (Bourgois et al., 1997; Friedman et al., 1998; Singer, 1998; Carlson, 1996). As noted earlier, macro analyses of legal and policy environment clearly emphasise syringe distribution and exchange, and national and state laws regulating syringe distribution, as key structural determinants of HIV transmission and prevention (Hurley et al., 1997; Des Jarlais, 2000; Taussig et al., 2000). Additionally, macro public health, drug, welfare and economic policies, and related public discourses, are found to shape the micro social relations of risk and risk resistance as well as individual drug user practices (Grund, Stern, Kaplan, Adriaans & Drucker, 1992; Bourgois, 1998).

An example: the physical environment

Taken together it becomes possible to unpack how different levels of environmental influence (micro/

macro) intersect with distinct types of environment (social; economic; physical; policy). Let us take the physical environment as an example. There is a growing appreciation of how the physical environment influences harm. As with research mapping HIV transmission associated with trade routes in African countries (Lacerda et al., 1997; Nzyuko et al., 1997), studies have demonstrated how drug-related trade and transport networks impact on HIV transmission among IDUs (Beyrer, Razak, Lisam, Chen, Lui & Yu, 2000). Recent work, for example, has associated co-infection of malaria and HIV among IDUs, and in particular, a recent outbreak of malaria in Sao Paulo state, with injecting drug use along the main cocaine trafficking routes in Brazil (Bastos, Barcellos, Lowndes, & Friedman, 1999), and HIV transmission with the heroin trafficking routes along highway seven in Nghe An Province in Vietnam (Griffiths, 2000). Similarly, in Manipur, the distribution of IDU and HIV was associated with its main trading road (Sarkar et al., 1994). The rapid diffusion of IDU and associated HIV transmission in Russia and Ukraine has also been related to the globalisation of trade and transport links at a macro level as well as to particular geographic economic, migration and tourist areas (Dehne, Khodakevich, Hamers & Schwartlander, 1999; Rhodes et al., 1999). In a similar fashion, within the geographically proximal countries of China, Burma, Thailand and Vietnam, the macro diffusion of injecting drug use and HIV has been associated with cross border migration (in turn related to increased economic linkage influenced by the relaxation of economic policies), as well as with particular geographic focal points of HIV epidemic and dispersal, such as prisons, refugee camps and trade areas (Crofts, Reid & Deany, 1998; Reynolds, 1995; Beyrer et al., 2000).

Using a combination of qualitative and molecular data, the work of Chris Beyrer is particularly incisive with respect to plotting the interplay between macro and micro physical environments (Beyrer et al., 2000). Mapping associations with transmission of specific HIV clades and the overland drug trafficking routes between Burma and Manipur, and between Burma and Yuanan province, he concludes that HIV transmission among IDUs in Manipur was facilitated by the tendency for users to travel to Mandalay in Burma (where HIV prevalence among IDUs is among the highest ever reported) in order to meet dealers where the drug was

	Micro environment	Macro environment
Physical environment		
Social environment		
Economic environment		
Policy environment		

Fig. 1. A simple model of risk environment

cheaper, as well as by their tendency, once there, to self-test the drug often sharing or using previously used injecting equipment.



Photograph of John Renard, Odessa, Ukraine, 1997.

The physical environment may, therefore, help create and sustain the micro social relations of risk. For instance, when undertaking observational work in a dealing area known as Palmero in Odessa, Ukraine, we were interested in how the immediate physical environment in which drug use and dealing occurred intersected with wider social and physical factors influencing drug-related harm (Rhodes & Fitch, 1997). The immediate physical environment (as captured by the photographer John Renard above) comprised open land, a meeting point, between state and private housing, where drug dealing took place often furtively and where drug injecting took place in the absence of running water via 'front-loading' the drug solution directly from a dealer's donor syringe or via the purchase of a ready-filled syringe (Rhodes et al. 1999). A lack of running water has consequences for risk reduction, as does the distribution of drug solutions via front-loading and ready-filled syringes. Each of these drug distribution practices were to some extent shaped by the immediate physical environment as well as by: the geographic separation of drug production and distribution sites; ease of drug transport; ease of drug measurement; and time urgency when making the transaction from distribution to injection for fear of police intervention (Rhodes et al. 1999).

Intersecting environments

Micro and macro levels of influence intersect across different types of environment in inextricable ways. The distinctions between 'macro' and 'micro', and between 'physical', 'economic', 'social' and 'policy' forms of environment are to a large extent phoney divides, serving an heuristic or analytical purpose and necessarily clouding the depiction of situated social realities of risk. The work of the ethnographer Larry Ouellet, for example, illustrates how distinct *physical* shooting gallery environ-

ments in Chicago at once constitute distinct *social* environments with respect to the rules and norms regulating injecting drug use and sharing practices (Ouellet et al., 1991). And as noted above in the examples of Vietnam and China or Russia and Ukraine, shifts in the *economic* environment and in economic policy are inextricably connected to shifts in the *social* environment and in how the *physical* environment also plays a role (Griffiths, 2000; Beyrer et al., 2000; Barnett et al., 2000). Ethnographic work highlights very well the interplay and inseparability of macro and micro relations. One example includes how state enforcement practices, such as paraphernalia laws, shape micro enforcement and drug injecting practices, resulting for example, in the discouragement of drug users from keeping syringes in their possession and thus facilitating them to share (Grund et al., 1992; Koester, 1994; Rhodes et al., 2002).

Susceptibility and vulnerability

In addition to types of environment and levels of environmental influence, we can consider two types of environmental factors which assist in understanding the *mechanisms* of how environments structure risk. The first are *susceptibility factors*, defined as factors which 'determine the rate at which an epidemic is propagated' (Barnett et al., 2000). The second are *vulnerability factors*, which are the 'features of a social or economic entity that make it more or less likely that excess morbidity and mortality associated with disease will have deleterious impacts upon that unit' (Barnett et al., 2000). In the context of HIV prevention, whereas susceptibility is the chance of becoming infected, vulnerability is the degree to which the epidemic has an adverse effect on the capacity to respond. Taken together, 'a society, community or group might be described as *susceptible* to infection by a disease but *vulnerable* to its effects' (Barnett et al., 2000).

Taking the example of HIV associated with drug injecting in Russia and Ukraine, a number of macro susceptibility factors emerge as important, including the rapid diffusion of injection drug use, the expansion of trade and communication networks, the rapid rise in sexually transmitted and other communicable diseases, and declines in health and life expectancy, as do a number of micro susceptibility factors, including modes of drug production and distribution (Rhodes, Stimson & Ball, 2001). Not only do macro health transitions increase the chances of epidemic harm occurring, in combination with major economic dislocation and a lack of public health infrastructure, they highlight vulnerability in response. Recent reports attribute much of the increase in disease in Russia and Ukraine to cuts in government spending on health (World Bank, 1997; UNICEF, 1999). As a consequence, there is inadequate funding for HIV prevention and inadequate HIV pre-

vention coverage. This situation of vulnerability is exacerbated by the policy and legal environment which can limit the capacity of HIV prevention responses at Federal, Oblast and local levels (Grund, 2001). The delineation of susceptibility and vulnerability factors seeks to appreciate the environmental factors which exacerbate and pre-condition an environment to risk (Ezard, 2001).

Conclusion: from risk environments to enabling environments

If the primary determinants of harm are economic and social, then the remedies must also be economic and social (Marmot, 1998). A 'risk environment approach' seeks to understand the environmental determinants of harm as a means to creating 'enabling environments' for harm reduction. A risk environment approach to harm reduction seeks to connect with wider calls for a paradigm shift in public health from behavioural to ecological approaches (Susser & Susser, 1996; Diez-Roux, 1998). It seeks to shift both the *responsibility for harm* and the *focus for change* from individuals alone to the social situations and structures in which individuals find themselves. In calling for a risk environment approach to understanding and reducing drug-related harm, this commentary points to four main conclusions.

First, a risk environment approach is useful, because, it seeks to offer a comprehensive approach to risk reduction in keeping with 'new' public health strategies designed to bring about a combination of individual, community and environmental change. Understanding the risk environment helps us identify the *limits* as well as *opportunities* afforded by proven-to-be-effective HIV prevention interventions, such as syringe exchange, in *different environmental conditions*. It also helps us understand the conditions which make an environment *susceptible* to drug-related harm as well as *vulnerable* to its effects. A risk environment approach, therefore, not only assists in *explaining* the conditions giving rise to harm (such as environments conducive to rapid HIV spread) but also assists in *predicting*, and thus also, *preventing* them. Crucially, a risk environment approach seeks to maximise risk reduction at the *community level*. If, for example, the coverage of a syringe exchange is inhibited by a variety of situational and structural factors (such as policing practices influencing syringe exchange use or regulatory practices governing syringe distribution), then a priority for an enabling environment approach is the removal of such situational and structural obstacles. A risk environment and enabling approach, therefore, views interventions designed to bring about situational or structural change as both *polythetic* (systematically removing, in a step-

wise fashion, the environmental obstacles to maximising harm reduction effect, such as lobbying for changes in police practices) as well as *monothetic* (introducing, in a single initiative, situational or structural interventions which maximise harm reduction effect at the community level, such as introducing Federal laws enabling mass coverage of syringe distribution).

Second, in the context of an increased interest in ecological approaches to public health, it is useful to define the key tenets of a risk environment approach. This commentary offers a basic definition of the risk environment as the space—whether social or physical—in which a variety of factors interact to increase the chances of drug-related harm. A basic framework of the risk environment was also proffered, delineating ideal *types of environment* (physical, social, economic, policy), *levels of environmental influence* (micro, macro) and *mechanisms of environmental influence* (susceptibility and vulnerability). Taken together, this suggests a basic analytic guide to unpacking the key dimensions of a risk environment. The next steps are to operationalise the model for research and intervention purposes, ideally developing the tools for systematically unpacking and comparing the variety of environmental factors operating across different types of environment and levels of environmental influence.

Third, a risk environment approach is practically useful in so far as it leads to situational and structural interventions which create an 'enabling environment' for harm reduction. Environmental interventions are distinct from behavioural interventions, because they encompass any innovation with a potential harm reduction impact which works by *altering the environment* (Blankenship et al., 2000), and because they seek to maximise harm reduction effect at the *community* (rather than individual) level (Des Jarlais, 2000). As noted above, an enabling environment approach may proceed polythetically or monothetically. While outcomes evaluation of an enabling environment approach will concentrate on the extent to which environmental interventions maximise harm reduction coverage and impact at the community level, process evaluation of specific environmental interventions will focus on how and whether they are successful in bringing about, whether incrementally or fundamentally, situational and structural change.

Last, an environmental approach highlights the parallels and connections in how context influences *health and vulnerability in general* as well as drug-related harm specifically. A further critical feature of a risk environment and enabling approach is that it points to the importance of what might be described as '*non-drug*' and '*non-health*' interventions for harm reduction. This begins to shift the focus of change from issues of drug use specifically to wider issues of vulnerability, and in turn, human rights. Vulnerability to drug-related harm

is closely associated with social, material and health inequalities more generally. Since an enabling environment approach seeks to alleviate the situational and structural conditions of risk and vulnerability it is essentially at once a human rights approach to the alleviation of harm. It actively seeks to make visible the connections between inequalities in general and drug-related harms in particular since this is a necessary step in fostering structural and environmental change. This, in turn, offers a broader vision for intervention than that conventionally constituted 'harm reduction'. For example, an enabling approach to harm reduction will not only seek to maximise the coverage and impact of syringe distribution at the community level, but it will also recognise the importance of collective action, self-organisation, policy lobbying, micro-economic and poverty alleviation initiatives among populations vulnerable to drug use.

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