

HIV/AIDS AND DRUG USE—THE GLOBAL SITUATION

July 7, 2002, 9.00–13.00

Global Research Network on HIV Prevention
in Drug-Using Populations

in association with the

XIV International AIDS Conference
Barcelona, Spain



AGENDA

9:00–9:15 **Introduction of the GRN**—Donald Sutherland, M.D.
Health Canada, Ottawa, Ontario, Canada

9:15–9:30 **Introduction to the Meeting**

The Changing Global Context of HIV/AIDS and Drug Use

Bernhard Schwartländer, M.D.
World Health Organization, Geneva, Switzerland

9:30–10:15 **Panel 1: HIV and Drug Use—The Global Situation**

Introduction: Carol Jenkins, Ph.D., Chair
USAID, Phnom Penh, Cambodia

The Real Threat: The War on Terrorism and the HIV Epidemic

Tariq Zafar
Nai Zindagi, Islamabad, Pakistan

*Impact of New Drugs and Different Routes of Administration
in Global HIV/AIDS Epidemic*

Fábio Mesquita, M.D., Ph.D.
City of São Paulo Health Department, São Paulo, Brazil

Discussion

10:15–11:15 **Panel 2: Injecting Drug Use as a Major Multiplier of HIV Infection to the General Population**

Introduction: Alex Wodak, M.D., F.R.A.C.P.
St. Vincent's Hospital Sydney, Darlinghurst, New South Wales, Australia

Modeling HIV Transmission in the Russian Federation

Nicholas C. Grassly, Ph.D., M.Sc.
Imperial College Faculty of Medicine, St. Mary's Hospital, London, England, UK

Reviewing the Evidence of IDU Epidemics

Moruf Adelekan, M.D., F.M.C.Psych., F.W.A.C.P., M.R.C.Psych.
United Nations International Drug Control Programme, Vienna, Austria

*Examples of Extensive Secondary HIV Spread from Injection Drug Users (IDUs)
to the General Population*

Judit Honti, M.D.
Central–Eastern European Harm Reduction Network, Szeged, Hungary

Discussant: Steffanie A. Strathdee, Ph.D.

Johns Hopkins University School of Public Health, Baltimore, Maryland, USA

11:15–11:30 Break

11:30–12:30 Panel 3: Evidence for Action

Introduction: Andrew Ball, M.B.B.S., Chair
World Health Organization, Geneva, Switzerland

Drug Dependence Treatment for HIV Prevention

Michael Farrell, M.B., M.R.C. Psych.
National Addiction Centre for Alcohol and Substance Abuse, London, England, UK

Community-Based Outreach HIV Prevention for Injection Drug Users: A Review of Evidence-Based Findings

Richard H. Needle, Ph.D., M.P.H.
Centers for Disease Control and Prevention, Atlanta, Georgia, USA

Effectiveness of Needle and Syringe Programs

Alex Wodak, M.D., F.R.A.C.P.
St. Vincent's Hospital Sydney, Darlinghurst, New South Wales, Australia

Discussant: Catherine Hankins, M.D., M.Sc., C.C.F.P., F.R.C.P.C.
McGill University AIDS Centre, Montréal, Québec, Canada

12:30–13:00 Summary of the Meeting

The IDUs-AIDS Epidemic: Its Role in South Europe and Its Coverage at the XIV International AIDS Conference

Jordi Casabona, M.D., Ph.D., M.P.H.
Centre for Epidemiological Studies on HIV/AIDS in Catalonia (CEESCAT), Hospital Universitari Germans Trias i Pujol, Barcelona, Spain

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ABSTRACTS

The Changing Global Context of HIV/AIDS and Drug Use

Bernhard Schwartländer, M.D.

Over the past 20 years, injection drug use has played an important role in the unfurling of HIV epidemics in many countries. Whereas great importance has been given to monitoring and documenting the course of HIV/AIDS epidemics, with a focus on epidemiological indicators, less attention has been paid to assessing and monitoring the context within which such epidemics occur.

Just as HIV/AIDS epidemics among injection drug users (IDUs) are dynamic, often changing over short periods of time, the context within which these epidemics occur can also change rapidly and dramatically. We have seen explosive HIV epidemics among IDUs emerging first in North America, then in Western Europe, then in Asia and Latin America, and most dramatically in Central Europe and the former Soviet republics. In recent years, injection drug use, and associated HIV infection, is being reported from countries where this phenomenon was unknown just 5 years ago, including in parts of North and Sub-Saharan Africa, the Middle East, and Asia. In analyzing these situations, we are able to understand some of the factors, particularly structural and contextual factors, that influence epidemic dynamics among IDUs. Furthermore, we are able to consider how countries have responded over time, learning from experience and often having to address very sensitive and complex issues.

The unprecedented scale and impact of the pandemic has forced governments to change their attitudes and ways of doing business. Over time we have learned that techniques for HIV prevention among IDUs (e.g., needle and syringe programs, opioid agonist pharmacotherapy, and peer outreach) are highly effective and that it is possible to implement HIV/AIDS treatment and care on a wide scale. These effective prevention and treatment interventions are now being supported by government commitments (e.g., the United Nations General Assembly Special Session on HIV/AIDS Declaration of Commitment) and resources (e.g., The Global Fund to Fight AIDS, TB and Malaria), which provide us with the opportunity to take programs to a scale necessary to have an impact on the pandemic. The Global Research Network (GRN) needs to be responsive to the changing contexts within which HIV epidemics occur, so that it can provide the most relevant and timely research and evidence to guide global action. This presentation will address how GRN may direct its work to meet this challenge and how the World Health Organization may support these efforts.

PANEL 1: HIV AND DRUG USE—THE GLOBAL SITUATION

The Real Threat: The War on Terrorism and the HIV Epidemic

Tariq Zafar

Pakistan has the highest number of heroin users in the world—estimated at more than 3 million. All of the heroin consumed in Pakistan comes across the border from Afghanistan, which produces more than 70 percent of the world's opium and is the only supplier of heroin for consumers in Pakistan. Because of the low cost and easy availability of heroin, more than 97 percent of the drug users in Pakistan inhale (chase or smoke) heroin.

HIV prevalence among drug users in Pakistan is still way below 1 percent, whereas hepatitis C is as high as 89 percent, primarily because of the high incidence of needle and syringe sharing.

The author is associated with Pakistan's largest harm-reduction program for street drug users in five cities. Post 9/11 data show a significant shift from smoking or chasing heroin to injecting heroin and injectable pharmaceuticals among street drug users in four major Pakistani cities.

This sudden shift is attributed to the armed conflict in Afghanistan and to strict border patrolling of the 2000-km Afghan-Pakistan border, which has interrupted supplies of heroin to Pakistan, resulting in higher prices and lower quality. The shift to injecting heroin or pharmaceuticals is a response to short supplies. Street doctors note that because of heightened policing for terrorists and resulting fear among IDUs about injecting in public places, underground shooting galleries have emerged, and needle sharing has increased threefold.

This sudden shift could have long-lasting, disastrous results and could close the narrow window of opportunity Pakistan has to maintain low levels of HIV among this high-risk group. The context in which this shift is taking place is of equal importance and needs to be understood.

Only 4 percent of drug users in Pakistan claim to know the ways in which HIV/AIDS can be transmitted. The already overburdened and under-resourced drug harm- and demand-reduction programs in the country now also have to deal with drug use by Afghan refugees, who are far more likely than Pakistani drug users to inject and share injecting equipment. In addition, a high incidence of donating blood for monetary reimbursements has been reported, and it is known that blood screening for blood-borne diseases in the region falls short of basic World Health Organization standards. We also know that more than 50 percent are married and sexually active and that the use of condoms is negligible.

All evidence reflects that if this shift continues, we immediately need to increase prevention efforts and meet harm-reduction needs, or very soon we will see a HIV/AIDS epidemic in Pakistan that will also shift across the border into Afghanistan. At this point, more information is required, and research can play an important role in "pre-warning" and helping to advocate and mobilize resources for appropriate interventions.

The full impact of 9/11 could cost many more lives from HIV in Southwest Asia (if heroin chasers switch to injecting) than have already died. A saying in Africa is that there are five sorts of natural disasters—fire, flood, earthquake, famine, and governments. Let us not deny the real threat of a natural disaster in this case.

Impact of New Drugs and Different Routes of Administration in Global HIV/AIDS Epidemic

Fábio Mesquita, M.D., Ph.D., and Karl-Lorenz Dehne, M.D., Ph.D., M.P.H.

OBJECTIVE: To describe health consequences of changing drug use patterns and new routes of drug administration.

METHODS: Data on drug use trends and patterns provide an important context for understanding the health consequences of drug use. Rapid changes in drug trafficking routes and methods of drug dealing also affect the spread of HIV and other blood-borne infections, other drug-related morbidity, overdoses, and mortality. We examined reports of changes in drug use patterns and the health impact of such changes worldwide.

RESULTS: The introduction of new drugs and routes of drug administration can have a direct effect on the nature and extent of drug-related health consequences. In Brazil, the change from injecting cocaine for smoked cocaine was helpful in the control of HIV and hepatitis B and C transmission. On the other hand, in Asia, the transition from smoked opium to injectable heroin increased markedly after controlled opium availability was restricted in countries as diverse as India, Pakistan,

and Iran. Further research is needed to improve our understanding of the relationships not only of changing patterns of drug use and drug-related spread of HIV/AIDS and other health consequences, but also of that between drug dealers and traffickers, as well as levels of drug purity and supply.

CONCLUSIONS: Public health officials need to monitor dynamic changes in drug use and HIV to respond rapidly and effectively to changes in these twin epidemics. Rapid assessment and response to epidemiological changes in drug use and risks for HIV can inform the development of adaptive, effective interventions to reduce the spread of HIV and other health consequences in drug-using populations. We also need to identify how local law enforcement authorities, policymakers, and public health officials can work together to influence social change and policy toward drug treatment programs and interventions to prevent HIV and other health consequences in drug-using populations.

PANEL 2: INJECTING DRUG USE AS A MAJOR MULTIPLIER OF HIV INFECTION TO THE GENERAL POPULATION

Introduction

Alex Wodak, M.D., F.R.A.C.P.

HIV has spread swiftly and extensively among injection drug users (IDUs) in some countries but only slowly in others. In some countries where HIV has spread extensively among IDUs, it has then spread swiftly and extensively to the general population. But this has not happened or has not been documented to the same extent in some other countries. As the quality and quantity of available data vary considerably, confidence in conclusions about the extent of secondary spread varies from quite tentative to categorical. The extent of potential secondary spread in a city, state, province, or nation is a critical question for clinicians, program staff, and policymakers. Modeling of epidemics has helped to fill in some gaps and suggest certain determinants of further spread from drug users to general populations. These examples have been drawn from large populations in areas in Asia, Central and Eastern Europe, and the former Soviet Union.

Participants will give examples of some areas where spread has or has not occurred rapidly among IDUs and some areas where extensive secondary spread has occurred to a greater or lesser extent. At this time, it is not possible to exclude the possibility that extensive and rapid spread of HIV will occur among and then from IDUs. Effective measures to prevent or control HIV epidemics have been known since the early 1990s (explicit peer-based education, sterile needle and syringe utilization programs, attractive and available drug treatment—especially substitution treatment—and community development of IDUs) but are rarely implemented in time and to sufficient scale. Also, HIV prevention for IDUs is far more effective if implemented early in the course of an epidemic. Policymakers need to consider the potential for generalized epidemics from IDUs when deciding whether or not to implement HIV prevention for this population.

Modeling HIV Transmission in the Russian Federation

Nicholas C. Grassly, Sviatoslav Plavinski, and Geoff P. Garnett

The HIV epidemic in the Russian Federation has been characterized by a series of outbreaks among vulnerable populations of injection drug users (IDUs). As the epidemic has progressed, the number of HIV cases among heterosexuals who report no injection drug use has increased. Mathematical models can be used to explore the relative importance of sexual and needle-borne transmission of HIV among IDUs and in the wider population. Using data on drug injecting and sexual behaviour among IDUs, sex workers, and the general population from several locations in Russia, we examine the dynamics of HIV transmission in a mathematical model of a hypothetical Russian population. In

agreement with empirical data from the United States, the model reveals the increasing importance of sexual transmission relative to needle-borne transmission as the epidemic progresses among IDUs. Conversely, frequency of injection and rates of needle sharing are shown to be a significant determinant of HIV prevalence among non-IDUs. These results indicate the importance of safe sex messages as an integral part of harm-reduction programs among IDUs, and the benefits of effective harm reduction for the wider population.

Reviewing the Evidence of IDU Epidemics

Moruf Adelekan, M.D., F.M.C.Psych., F.W.A.C.P.; M.R.C.Psych.

BACKGROUND AND OBJECTIVES: There is a dearth of reliable data on the number of injection drug users (IDUs) and the prevalence of HIV among IDUs in many countries of the world. However, in some countries, useful data exist on HIV epidemics among IDUs, the associated risk factors, and effective interventions. This paper reviews the evidence of HIV epidemics among IDUs globally and recommends ways of addressing the gaps in data, knowledge, and interventions.

METHODS: A review of the research literature on HIV epidemics among IDUs was conducted from the late 1970s to date.

RESULTS: The evidence suggests that the injection of illicit drugs, especially opiates, cocaine, and amphetamines, has become a worldwide epidemic, perhaps affecting about 10 million people across the globe, most of them young people between the ages of 15 and 30 in more than 130 countries. Furthermore, rapid spread of HIV among IDUs was reported in New York City (USA) in 1979, followed by similar reports from Edinburgh (UK), Bangkok (Thailand), Ho Chi Minh City (Vietnam), Santos (Brazil), Odessa (Ukraine), Svetlogorsk (Belarus), Moscow and Irkutsk (Russian Federation), and lately in Narva (Estonia). Similar reports have emerged from China, Malaysia, southern Europe, and parts of Latin America and some North African and Middle Eastern countries (e.g., Libya). In addition to high-risk injecting, unsafe sexual practices have been reported among IDUs, which has exacerbated the scope and magnitude of the HIV epidemic. However, there is optimism for slowing, curtailing, or even reversing the epidemic, as has been shown in some countries—such as Australia, the United Kingdom, and Brazil—through the implementation of effective public health interventions.

CONCLUSIONS: Rapid spread of HIV has occurred and continues to occur among IDUs in different countries and regions throughout the world. In order to curtail the further spread of new infections among IDUs, and from IDUs to the general population, additional efforts are needed to assess the extent of the problem and respond with effective public health interventions.

Examples of Extensive Secondary HIV Spread from Injection Drug Users (IDUs) to the General Population

Judit Honti, M.D.

BACKGROUND AND OBJECTIVES: In some countries, HIV epidemics among injection drug users (IDUs) have been followed by extensive HIV spread to the general population. This presentation identifies localities in developing countries where such epidemics have occurred and describes some of the micro- and macro-level characteristics of the localities that are relevant to understanding the epidemic.

METHODS: Definitions of the HIV epidemic among IDUs and the general population will be provided, including some of the limitations of applying them. Methodologies for understanding and predicting the dynamic spread of HIV were developed in the Western World, using epidemiological data from the general population and from high-risk groups; surveillance data about sexual risk

behaviours, sexual health, and other characteristics of IDUs and high-risk groups as bridge populations that can spread HIV to the general population; data from molecular epidemiologic studies; macro-level data about the social, economic, political, and cultural characteristics of the locality; and simulations and modeling of the HIV epidemic.

RESULTS: In Asian countries, such as Thailand, Myanmar, and India (particularly Manipur Province), a rapid HIV spread among IDUs was followed by a generalized epidemic among smaller risk groups within the population. Studies of sexual risk behaviour among IDUs and bridge populations, and data from molecular epidemiological studies suggest that the generalized spread of HIV may originate from the epidemic within IDUs. In certain countries of the former Soviet Union, the diffusion of injecting drug use behaviours has been followed by a rapid spread of HIV among injectors. In the Ukraine, certain regions of the Russian Federation, and in cities such as Svetlogorsk, Belarus, generalized HIV epidemics have closely followed an initial epidemic within IDUs. However, surveillance data are limited for describing the magnitude and rates of spread of these local-area epidemics and for characterizing IDUs, sex workers, and other subgroups at risk. Data are also needed about macro-level risks (e.g., rapid social, environmental, and political changes; migration; and resource-poor conditions) and how these factors can affect the spread of HIV.

CONCLUSIONS: Further research is needed to understand the characteristics of localities experiencing recent and rapid increases in HIV infections among IDUs. Because of unsafe injecting drug practices, IDUs within these localities can be pivotal for spreading the HIV infection to lower risk individuals with whom they have unprotected sex. In addition, studies are needed to identify the characteristics of bridge populations that transmit the HIV infection to others within the general population. Such data, combined with data on macro-level characteristics of the region (e.g., social, economic, political, and public health factors), can help us to predict the potential secondary spread of HIV and to respond with targeted and timely HIV prevention interventions.

PANEL 3: EVIDENCE FOR ACTION

Drug Dependence Treatment for HIV Prevention

Michael Farrell, Robert Ali, Linda Gowing, Emilis Subata, Marta Torrens, Manit Srisurapanont, Mauricio de Lima, Walter Ling, John Marsden

This project involves a systematic review of drug treatment interventions to determine the overall role and leverage of treatment in the prevention of the spread of HIV infection. Currently, the spread of HIV among injection drug users (IDUs) in some parts of the world leads to an urgent need for further prevention strategies.

Researchers have identified a large amount of literature on the benefits of methadone and other opiate substitution treatments but only a smaller amount of literature on the empirical grounds for preventing the spread of HIV. All forms of treatment are being reviewed following a systematic match search of the literature. To achieve a broad balance, further work that has been conducted in a range of non-English speaking countries is sought to ensure that the review is comprehensive. In addition, some of the national examples of successful containment of HIV in IDUs after an outbreak of infection will be reviewed. The work is now nearing completion. Recent trends in global developments on methamphetamine and other psychostimulants also will be considered. The evidence of impact on seroincidence, seroprevalence, injecting behaviour, injecting type risk behaviour, and drug use behaviour will be reviewed and summarized.

The overall message of this review is that treatment combined with a broader range of social and prevention strategies is a powerful tool for preventing the spread of HIV among IDUs.

Community-Based Outreach HIV Prevention for Injection Drug Users: A Review of Evidence-Based Findings

Richard H. Needle, Ph.D., M.P.H.

OBJECTIVES: This presentation reviews the evolving evidence-based findings on the effects of community-based outreach related to prevention of HIV among injection drug users (IDUs). The paper addresses three interrelated empirical questions: Is outreach an effective strategy for reaching IDUs and providing them with the means for behaviour change? Do a significant proportion of IDUs receiving outreach-based interventions reduce their HIV risk behaviours? Are changes in risk behaviours associated with a lower rate of new HIV infections among IDUs? Evaluative criteria are used to appraise the strength of the cumulative evidence from observational and quasi-experimental studies on the effectiveness of community-based outreach in preventing HIV in injection drug-using populations.

BACKGROUND: Since the beginning of the HIV epidemic, community-based outreach has been the most feasible and potentially most effective public health strategy to reach and enable “hidden” populations of drug users to change their behaviours and reduce their risks for acquiring and transmitting HIV. Community-based outreach has been introduced when multiperson reuse of injection equipment is highly prevalent and where sterile needle and syringe programming for IDUs have not been viable options. More than a decade of research on the effectiveness of community-based outreach in preventing HIV among drug-using populations has been reported in the literature. However, most of this research was conducted in the late 1980s and early 1990s and in developed countries or those with a low HIV incidence, before the patterns of epidemic spread of HIV among drug users shifted to South and Southeast Asia, Central and Eastern Europe, and the Newly Independent States.

FINDINGS: In general, published studies and reviews on the effectiveness of community-based outreach to prevent HIV among drug users have been limited to experiences from selected developed countries. There are regional and country-level differences in the ability to reach and assess at-risk drug-using populations. In many countries, a large gap exists between the numbers of IDUs who want or can benefit from outreach services and the number of IDUs who actually receive such services. The cumulative evidence from these studies indicates that outreach-based HIV interventions have been effective in reaching injection and non-IDUs and enabling them to reduce their risk behaviours and avert HIV transmission. Community-based outreach is one of the key components of a comprehensive HIV prevention program that can help to prevent the transmission of HIV in drug-using populations.

Effectiveness of Needle and Syringe Programs

Alex Wodak, M.D., F.R.A.C.P.

Needle or syringe exchange programs (SEPs) have high biological plausibility because HIV infection results from sharing of contaminated injecting equipment. SEPs can reduce the circulation time of contaminated injecting equipment within a community. Many studies have compared injection drug users (IDUs) who attend SEPs with others who do not attend these programs. These studies have generally found lower risk behaviour, lower HIV seroprevalence, and lower HIV seroincidence among IDUs attending such programs. However, selection bias could be an explanatory factor in these findings.

Using conservative assumptions, modeling studies have estimated marked reductions in HIV infection among IDUs. Ecological studies have reported that increases in HIV seroprevalence were significantly lower in cities where SEPs existed compared with cities where these programs did not

exist. However, other, as yet unidentified factors could explain these findings. Only a few studies have found that IDUs attending SEPs had higher risk behaviours and higher HIV seroprevalence than those not attending such programs. Selection bias was found to account for these findings.

There is a striking consistency of findings in studies evaluating the effects of SEPs. With rare exceptions, studies have reported that SEPs reduced HIV infection and the size of this effect has been large. Research on estimates of the impact of SEPs at the population level has concluded that many HIV infections can be prevented at low cost and considerable financial savings. Conclusions about SEPs have been based on a large number of studies with different designs carried out in numerous countries with diverse characteristics. Several comprehensive and rigorous reviews have concluded that SEPs reduce HIV infection among IDUs and do not increase injecting drug use. Some studies have reported additional benefits, including a reduction in other blood-borne infections and increased referral of IDUs to treatment and other services. The cost of averting an HIV infection by SEPs and the cost per life year saved have also been found to be low. In conclusion, SEPs reduce HIV infection among IDUs cost-effectively and without increasing injection drug use.