HIV/AIDS and injecting drug use: Information, education and communication

Peter Aggleton*, Paul Jenkins, Anne Malcolm

Thomas Coram Research Unit, Institute of Education, University of London, 27–28 Woburn Square, London WC1H 0AA, UK

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Abstract

Information, education and communication (IEC) has an important role to play in HIV/AIDS prevention and harm reduction among injecting drug users and their sexual partners. This paper reviews what is known about the effects of IEC within this context. It distinguishes between six types of individual level intervention in which IEC has a role to play (mass reach interventions, outreach work, harm minimisation, drug cessation/treatment programmes, voluntary and confidential counselling and testing, and risk reduction counselling) and two different styles of structural intervention (structural and environmental outreach work to tackle the structured vulnerabilities associated with HIV/AIDS). Though the evidence base is weak, evidence relating to IEC’s contribution and effects in each of these fields is reviewed. Overall, and by itself, IEC can do little more than raise levels of knowledge, awareness and understanding; however, when combined with other measures, including service provision and a supportive social environment, more positive and sustainable effects can be achieved.

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Introduction

The number of countries reporting HIV infection among injecting drug users (IDUs) continues to rise. Developing countries, in general, and countries in transition, in particular, are highly vulnerable to drug misuse and its associated risks, which places a heavy burden on already fragile health and social infrastructures. In the Russian Federation and adjacent countries in Eastern Europe, and in several countries in Asia—there has been, or there is, the potential for major outbreaks of HIV among IDUs (UNAIDS and WHO, 2003).

A wide range of interventions have been used to reduce HIV-related risks among IDUs. They include needle and syringe exchange programmes, various forms of outreach work, voluntary counselling and testing (VCT), peer-led education, treatment programmes, and substitution maintenance therapy for opioid dependence. Significantly, there is a large and growing body of evidence, mainly but not exclusively from developed countries, to suggest that IDUs can and will change their behaviour to reduce their own risk of HIV infection, and to a lesser extent the risk to others (Stimson & Donoghoe, 1997). This is encouraging to those working in the field of HIV prevention.

Yet despite such advance, many questions remain to be answered. Central among these are those relating to the utility and effectiveness of information, education and communication (IEC) interventions—either by themselves or in combination with other approaches. IEC programmes need to be evaluated on two levels, both in terms of their outcome (does an intervention influence behaviour?) and process (how an intervention works and assists in developing and refining programmes). Studies also need to be undertaken which compare the effectiveness of intervention with and without certain IEC components. While the gold standard in evaluation study designs is the randomised control trial, ethical constraints and practical considerations such as attributing effectiveness to a particular intervention may make this impossible. Nevertheless, it is possible to use non-design criteria to assess the evidence and infer causation from observational studies (Wodak & Cooney, in press, published in this supplement).
This paper reviews much of the relevant evidence, focusing on programmes and activities in which IEC has been used as a means of HIV prevention among IDUs.

**Methodology**

Searches on IEC approaches to HIV prevention among IDUs were conducted using Index Medicus/Medline and Gateway. Keywords used and their variants were: injecting drug users, HIV prevention, effectiveness, information, education, and communication. Additionally, a comprehensive literature review was undertaken on IEC approaches to HIV prevention among IDUs at a specialist library in the United Kingdom (Drugscope). Hand searches of key journals complemented the more formal database searches. An expert panel convened by the World Health Organization (WHO), including members from a range of developed and developing countries, assisted in the process of identifying appropriate ‘grey’ literature from within their regions.

**Principles for success**

Three factors have long been known to be necessary for successful HIV prevention—good quality information/education, appropriate health services and a supportive societal environment (Mann, 1993). Alone, any one of these factors is unlikely to be sufficient; together, however, they establish a formula for success. Among IDUs, effective HIV prevention activities tend to have several components (Burrows, 2001; see Fig. 1 for an example). These include providing information/education on how to prevent transmission, a variety of means to prevent transmission (e.g. sterile needles and syringes, bleach and condoms), a supportive peer environment, and access to health, welfare and other services. Also crucial is the active involvement of IDUs themselves: in situation and needs assessment, in programme development and delivery, and in monitoring and evaluation (Ball & Crofts, 2001).

In principle, IEC has an important role to play in HIV prevention, though it should be combined with other approaches if it is to prove effective. There are many different IEC strategies, including the provision of information about HIV/AIDS-related risks through posters, pamphlets, newsletters, videos, face-to-face work, and radio and television broadcasts.

**Levels of intervention**

**Individual level approaches**

Much of the international literature on IEC approaches to HIV prevention focuses on change at the individual level, exploring how individual IDUs and their partners (either sexual or injecting) can be persuaded to reduce or eliminate known risk-related behaviours and/or embrace safer practices.

Mass reach information and education programmes have been widely used to promote behaviour change, either within the general population or with a more targeted audience. They include population-based communication approaches warning of the risks of injecting drugs, information campaigns and other interventions to educate hidden or hard to reach populations.

Amongst the two most frequently used forms of outreach intervention among IDUs are community outreach work and peer-based approaches. While community outreach work usually aims to take health education messages into communities and mobilise IDUs to bring about individual level risk reduction, peer-based approaches have been used to educate IDUs about HIV-related risks and risk reduction options.

An IEC approach can also be used in harm reduction and drug cessation/treatment programmes. IEC has been used to educate IDUs about HIV/AIDS-related risks and to provide training either in basic skills or in the skills required for harm reduction, such as accessing clean syringes and needles, safer injecting methods, etc.

Voluntary counselling and testing programmes have also used IEC to effect changes in HIV/AIDS-related risk behaviour among drug users. Information and education can be used to increase IDUs’ awareness of, and access to, clinics and testing sites where VCT can be obtained.

Risk reduction counselling uses interpersonal communication to help IDUs clarify their feelings and thinking to
are rarely effective in directly reducing drug use or bringing related risk behaviour as a result of an IEC initiative as to determine whether people have changed their HIV/AIDS-related risk behaviour. The situation is even more complex when it comes to trying to determine the causal link of such campaigns in the United States. These were criticised for using messages and approaches, which the literature suggests are likely to be ineffective, including the use of shock tactics and simplistic messages. Importantly, there is evidence that such initiatives reinforced the anti-drugs feelings of those who were already opposed to illicit drug use, but offered little to those with different attitudes and experiences.

Controversy exists concerning the use of fear in the drug prevention field. While Leventhal (1965, 1970) and Dyr (1988) have suggested that fear messages can produce beneficial effects, other researchers (e.g. Sternthal & Craig, 1974; Tripp & Davenport, 1988) have concluded that such methods can be counter-productive. Audiences may simply avoid or rationalise away frightening communications. Importantly, there is evidence that such initiatives reinforced the anti-drugs feelings of those who were already opposed to illicit drug use, but offered little to those with different attitudes and experiences (Strasburger, 1989).

Several large-scale fear-based mass media drugs prevention campaigns in the 1980s attracted ambivalent or negative responses. They included the United Kingdom Department of Health’s campaign ‘Heroin Screws You Up’. In a subsequent evaluation, Rhodes (1990) concluded that ‘the campaign had inadvertently’ fostered and reinforced negative attitudes and beliefs about heroin misuse’. Moreover, there was a failure to acknowledge that, for certain IDUs, the use of heroin may be safely managed without resulting in poor mental or physical health.

The 1980s saw the launch of major ‘Just Say No’ campaigns in the United States. These were criticised for using messages and approaches, which the literature suggests are likely to be ineffective, including the use of shock tactics and simplistic messages. Importantly, there is evidence that such initiatives reinforced the anti-drugs feelings of those who were already opposed to illicit drug use, but offered little to those with different attitudes and experiences (Strasburger, 1989).

Overall, a number of elements are necessary if mass reach media-based interventions are to be effective. These include: an emphasis on the positive benefits of changing behaviour; stressing short-term effects and benefits, which are likely to have more of an impact than stressing longer term outcomes (Backer, Rogers, & Sopory, 1992); language, vocabulary and mode of address are important in ensuring success (Burrows, 2001); multi-faceted and integrated interventions, in which mass media advertising is complemented by in-school programmes and other activities, have been found to...
to be particularly effective in producing health behaviour change (Backer et al., 1992; Perry, Kelder, Murray, & Klepp, 1992). It is important, however, to take into account the different circumstances and needs of particular population groups. Lack of audience segmentation is one of the main reasons why health promotion initiatives, involving the use of national mass reach media, have often been ineffective (Frain, 1986). The example in Fig. 2 demonstrates that targeting different population groups with different messages can be effective.

Audio–visual media have been used both as a means of prevention and to promote harm reduction among those who inject (Martin et al., 1990). Several studies have reported the successful use of videotaped recordings to educate IDUs on how to clean injecting equipment using bleach (Booth & Watters, 1994; Hoffman, Klein, Clark, Boyd, & Rodriguez, 1996; McCoy, Dodds, & Nolan, 1990). Media such as leaflets, ‘buttons’, calling cards and information packs have also been used to promote HIV/AIDS-related risk reduction (e.g. Mainliners, 2000). However, few of these types of interventions have been evaluated.

Outreach interventions

Research on social influence highlights the power of the media in generating awareness, and the importance of interpersonal sources as triggers for the adoption of new behaviours (Arrosson & Gonzales, 1990). For this reason, outreach interventions have been heavily promoted in relation to risk reduction for HIV prevention. The IEC component of outreach activity usually aims to take health education messages into the community to mobilise IDUs and their networks to take action to reduce HIV-related risks (Fig. 3).

Outreach programmes have been used to provide HIV prevention information, and to establish links with services such as drug treatment, HIV counselling and testing, medical care and social services. These programmes also often provide materials for reducing risk behaviours such as clean syringes, bleach for cleaning used syringes and condoms for safer sex. Many have employed ex-IDUs as peer outreach workers. Outreach interventions have been found to be particularly effective both in reaching IDUs who have never been in contact with services and in reducing HIV risk behaviours (Abdul-Quader, Des Jarlais, & Tross, 1992; Center for Disease Control, 1993; Neaigus, Sufian, & Friedman, 1990; Weibel, Jimenez, & Johnson, 1993).

A review found that outreach work could be successful in reducing baseline drug-related behaviours among IDUs (Coyle, Needle, & Normand, 1998). However, while outreach interventions produced significant changes in injecting risk behaviour, they led to much smaller changes in sexual risk behaviour (Kumar, Mudaliar, & Daniels, 1998).

While some community focused IEC initiatives have utilised professional outreach workers, others have used ‘peer-driven intervention’ to secure their goals. Here, peers provide information, generate peer support and utilise the culture of the target group to effect and sustain changes in behaviour (Burrows, 2001; Kinder, 1995). Several studies point to the success of such an approach among IDUs (Hangzo et al., 1997; McCalman, 1994).

Evaluations strongly suggest that, with guidance and nominal incentives, IDUs can play a more extensive role in community outreach efforts than traditional models often allow (Broadhead et al., 1998). Peers often have an advantage in
that they are more likely to be able to engage with other peers, reinforce safer injecting and sexual practices, and link IDUs with services. Peer-driven interventions, in particular, can reach a larger and more diverse set of IDUs, doing so at a lower cost. For example, in shooting galleries in Ho Chi Minh City and Hanoi, Vietnam, professional injectors have been trained to implement risk reduction interventions during different stages of the drug preparation and injecting processes, including interventions targeting the use of shared needles and communal ‘drug pots’ (Power, 1994).

IEC in harm reduction and drug treatment/cessation programmes

Several studies suggest that the inclusion of IEC within a harm reduction programme can have a significant impact on HIV-related risk behaviour. In the Ukraine, for example, IEC materials increased the use of condoms, decreased the reported number of sexual partners and promoted harm reduction through the use of sterile injecting equipment (Gagarkin & Vanenkova, 2000). The role of IEC in facilitating the work of needle and syringe exchange programmes has also been documented (Burrows, 2001). (See also example in Fig. 4.)

IEC approaches can also be used to alert IDUs to the existence of treatment facilities and programmes, including those for substitution maintenance therapy. Posters and leaflets may be made available in places where IDUs are likely to meet, as well as in general health service facilities. Television and radio ‘spots’ and commercials can advertise the existence of treatment services and facilities. Unfortunately, few of these approaches have been systematically evaluated and the results published.

Once enrolled in treatment programmes, IEC programmes and interventions may be part of the package of measures offered (De Relegi, Weber, & Torquato, 1990; Hart, Woodward, & Carvell, 1989). Glaser (1993) has described five broad types of treatment modality. The psychological and socio-cultural modalities of treatment are those most likely to use IEC in order to promote understanding and involvement. In the course of this review, however, no studies that had undertaken an evaluation of the IEC component of such work were found.

Access to HIV testing and counselling

Voluntary counselling and testing seeks to effect changes in HIV-related risk behaviour among many population groups including IDUs. Gibson, McCusker, and Chesney (1998) reviewed 19 studies involving VCT and found substantial reductions in both injecting-related and sexual risk behaviours. Moreover, among IDUs knowledge of HIV antibody status has been shown to facilitate short-term risk reduction (Colon, Robles, Marrero, Reyes, & Sahai, 1996). However, evidence for longer term change is less conclusive (MacGowan et al., 1997; Marlink & Foss, 1987), with Skrondal, Eskid, and Thorvaldesen (2000) reporting on a cohort of asymptomatic HIV-positive individuals that IDUs were among those least likely to use condoms following diagnosis.

Risk reduction counselling

Counselling approaches that encourage active decision-making among IDUs have been shown to be effective in producing sustained behaviour change (Kotranski et al., 1998). However, the IEC component of such counselling remains to be evaluated.

Many resource-constrained settings cannot afford to have dedicated drug or HIV counsellors. In these contexts, peer counsellors may be effective in delivering relevant and affordable information and education to hard to reach IDUs (Ball & Crofts, 2001). Again, the effectiveness of such work has not been evaluated.

Structural approaches

Structural and environmental outreach work

Combining individual level and structural interventions including the community mobilisation of IDUs and the creation of safer environments is effective in HIV prevention (Ball & Crofts, 2001; Wodak & Des Jarlais, 1993). The development of safer community structures can include establishing IDU organisations. Drug user organisations can take the lead in community advocacy, give useful advice to health departments and be credible providers of information to IDUs (Abdul-Quader, Des Jarlais, Chatterjee, Hickey, & Friedman, 1999).
Efforts to shape the group norms of IDUs can lead to increased and consistent HIV awareness and safer drug-related behaviours (Friedman et al., 1992). Network intervention techniques, including using group sessions to reinforce behaviour change, have been used to promote risk reduction among IDUs. Studies have shown that IDUs involved in network interventions modify their risk behaviours more substantially than do IDUs who receive an individually focused intervention (Latkin, Mandell, Vlahov, Oziemkowska, & Celentano, 1996). Involving IDUs in the design and implementation of interventions may result in increased ownership and effectiveness of the programme and can, in itself, be considered a 'meta-structural' intervention (Des Jarlais, 2000).

Interventions using media advocacy (Wallack & Scandra, 1991) or 'unpaid publicity’ to generate coverage of an issue by the media have been used to lobby for policy change (Reid, Killoran, McNeill, & Chambers, 1995). These can generate public interest or controversy leading to pressure being put on policy-makers. They can also enlist support for lobbying by key community and opinion leaders (Murray & Douglas, 1988; Reid et al., 1995; Wylie & Casswell, 1992). In the United States, media advocacy has been used to persuade television companies to incorporate messages about drug use soap opera story lines (Montgomery, 1990), although the effectiveness of such work remains to be evaluated.

Finally, opinion concerning the use of celebrities is mixed.

Structured inequalities and their effects

Like many activities, drug injecting is a gendered practice with different consequences for women and men (Klee, 1996; NIDA, 2001). While generalisation is dangerous, available evidence suggests that drug use is more stigmatising for women than for men (Lex, 1991). The twin stigmas of drug dependence and injecting, often in association with sex work, can make female IDUs one of the hardest to reach populations. Perhaps as a result of stigma, female IDUs are more likely than men to have a drug-using partner in their primary sexual relationship (Barnard, 1993; White, Phillips, Mulready, & Cupitt, 1993). Women’s vulnerability can also be enhanced by virtue of the fact that male IDUs not infrequently prefer non-using partners to drug-using ones (Cohen, Hauer, Wofy, 1989; Des Jarlais, 1992; Klee, Faugier, Hayes, Boulton, & Morris, 1990).

Poverty and race intersect with gender to make poor women from minority or heavily discriminated against communities particularly vulnerable. Panda et al. (2000) found that in Calcutta, India, 45% of wives of socially marginal men who injected were found to be HIV-positive. Several studies have attempted to use IEC to address these and other concerns. One option is to encourage both partners to discuss safer sex and safer drug use options (Barnard, 1993; Miller, 1991).

An alternative strategy is to bring together vulnerable women for discussion of appropriate strategies for health protection. This has been tried with some success with condom use (Schilling, El-Bassel, Schinke, Gordon, & Nichols, 1991). In this study, 91 female methadone users were randomly assigned to either an information-only control group or a skills-building intervention. The intervention consisted of five sessions of small group activities involving the identification of the women’s own high risk sexual behaviours and the negative associations of condoms. Women then practiced skills which involved asking partners to use condoms. Compared with the control group, intervention group respondents reported initiating discussion of sexual issues with their partners more frequently, feeling more comfortable talking with them about safer sex and using and carrying condoms more frequently. A key feature of this approach involved women themselves acting as peer leaders in the development and delivery of the intervention (cf. Mondanaro, 1987; Rossi & Touze, 1994).

Important issues have been raised in relation to women’s access to treatment and harm reduction services (Brunea et al., 2001; Powers & Penn, 1990; Tross, Abdul-Quader, Simons, Sanchez, & Silvert, 1993). Frequently such services are not operated in a ‘women friendly’ manner. IEC has a potentially important role to play in promoting awareness of what services are on offer and in facilitating access.

Issues of culture and race impact on illicit drug use by different ethnic communities and need to be taken into account when developing IEC interventions. Streetwize Communications in Australia has worked actively to address such concerns in their written materials and literature. Their work highlights the importance of linguistic and cultural sensitivity. For example, when working with Aboriginal and Torres Strait Islander communities, it was found important to avoid using phrases such as ‘avoid sharing needles and syringes’, since in koori/nunga cultures ‘sharing’ is seen as a positive cultural practice. Instead, phrase like ‘Don’t use someone else’s needle . . . ’ were used (Skelton, 2000). (See also the example in Fig. 5.)

There is clear evidence from Canada and the United States that people of colour and minority ethnic communities are vulnerable both to injecting drug use and HIV/AIDS. Icard, Schilling, El-Basel, and Young (1992) have suggested that among people of colour in the USA, sexual minorities are disproportionately affected. Future IEC interventions will need to take into account the complex cultural, economic, and social factors involved, and the need to develop racially and ethnically sensitive resources.

In Australia, the United Kingdom and the United States as well as many European countries, gay and bisexual men were among the first to be affected by HIV and in many industrialised nations the majority of AIDS cases still occur among these groups. While many HIV interventions have been developed in response to the needs of gay and bisexual men, relatively few IEC interventions targeted at gay-identified IDUs exist, and of those, few have been evaluated. Blasting? was an education resource developed as part of a broader health education communication campaign, Let’s Face it Together, consisting of posters, postcards and...
advertisements placed in gay newspapers, addressing issues of HIV prevention in the gay community in Sydney, Australia. The campaign was an important step in acknowledging that injecting was, for some gay men, a preferred means of consuming recreational drugs. Denial of the practice and its association with negative \textquoteleft junkie\textquoteleft stereotypes, created a context in which risk reduction practices were not addressed. This campaign aimed to bring injecting drug practices out into the \textquoteleft open\textquoteleft.

The \textit{Five Gyms Study} in London, United Kingdom (Bolding, Sherr, Maguire, \\& Elford, 1999) investigated the injecting and sexual risk behaviours of gay men who use anabolic steroids or other fitness-enhancing substances. It has been estimated that about two-thirds of men using anabolic steroids in London inject (Korkia \\& Stimson, 1997). Bolding and co-workers found that, although one in ten gay men surveyed reported being an IDU, none reported sharing needles. However, steroid use was associated with higher levels of unprotected anal intercourse and the study recommended the development of targeted information and education interventions to address this issue.

Generalisability and sustainability

What are the implications of the above for global efforts to tackle HIV/AIDS among IDUs? Can successful approaches be brought to scale in resource poor contexts? Although there is only a small body of literature on the effectiveness of IEC approaches for IDUs in developed countries, much has been estimated that about two-thirds of men using anabolic steroids in London inject (Korkia \& Stimson, 1997)). Bolding and co-workers found that, although one in ten gay men surveyed reported being an IDU, none reported sharing needles. However, steroid use was associated with higher levels of unprotected anal intercourse and the study recommended the development of targeted information and education interventions to address this issue.

Conclusions

Over the last two decades, work with IDUs suggests that a \textquoteleft package\textquoteleft of measures is needed to bring about successful HIV prevention. IEC interventions are one component of such an approach. They hold the potential to sensitise both the general population and IDUs to the potential risks associated with injecting, to the means available for safer injecting and sex, to the availability of VCT facilities, to drug dependence and anti-retroviral treatment, and care options.

IEC approaches also have an important role to play in outreach work including peer-led education programmes. Information about HIV/AIDS-related risks and ways of reducing risk and minimising harm may be made available through leaflets and booklets, as well as by word of mouth. In some circumstances, audio–visual media has been used to good effect such as in programmes to teach IDUs how to sterilise and clean injecting equipment.

Beyond this, however, IEC can be used to establish a policy climate supportive of working with IDUs and sensitive to the most effective approaches. It can do this through advocacy with politicians and political decision-makers, religious leaders and community groups. \textquoteleft Unpaid publicity\textquoteleft and media advocacy can help create a climate in which HIV prevention implemented in developed countries (Ball, 1998; Narain, Jha, Lal, \& Salunke, 1994).

While mass reach population-based materials focusing on the dangers of injecting drug use and identifying the links between injecting drug use and HIV/AIDS have been produced; more targeted materials tend to be less common, perhaps because of the assumption that focused interventions may appear to condone what are illegal activities in most countries. However, IEC approaches can successfully reach members of marginalised groups and there is evidence that simple, well-designed IEC materials may be as effective as those with high production costs (Ball \& Crofts, 2001).

While IEC interventions may be feasible in many resource-constrained countries, it is unlikely that explicit HIV prevention messages targeted at IDUs will be socially acceptable in all communities. Such messages may encounter opposition from the general public similar to that expressed in relation to safer-sex messages for young people, sex workers and men who have sex with men (MSM). Language differences, the inappropriate use of terminology, illiteracy, learning difficulties and the diversity of drug-using practice set further limitations on the use of mass reach (and even some targeted) IEC approaches.

Several studies have looked at the cost-effectiveness of HIV prevention interventions, including those directed towards IDUs (Richter, Brandleau, \& Owens, 1999; Schrappe \& Lauterbach, 1998; Vickerman \& Watts, 2000). However, more research is needed to investigate the cost-effectiveness of IEC activities both on their own and as part of structured HIV prevention programmes.

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issues among IDUs can be tackled. IEC interventions such as these, operating at a structural level, can prepare the ground for focused interventions around IDUs and their needs.

IEC approaches should not be regarded as a panacea or implemented in a vacuum. In order to be effective, IEC approaches (whether free standing or in combination with other work) require clear and realistic goals. They need to use language that is both credible and familiar, addressing sex- and drug-related differences as well as injecting-related concerns. Networks of peers have an important role to play in spreading messages and supporting individuals in adopting risk reduction practices.

In order to engage with the structured inequalities that render some groups of IDUs more vulnerable than others, IEC programming should always be ‘fine tuned’ so as to meet the needs of different communities of drug users. Messages and approaches should be broken down to include actions aimed at groups differentiated on the basis of gender, sexuality, ethnicity, age and social class, among other variables. The direct involvement of drug users themselves in designing IEC materials and approaches is critical for ensuring that messages are appropriate to and well accepted by the target audience.

Finally, more explicit recognition should be given to the role of IEC in preparing the way for a range of programmes and interventions that are known to work in relation to HIV prevention. These can help policy-makers, opinion formers, religious leaders and community members develop a more realistic understanding of IDUs and their needs. They can also result in the overall desegmentation of injecting drug use, which is an important pre-requisite for service use.

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