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Assessing HIV prevention among injecting drug users in European Community countries: A review

Summary

By Septemer 30th 1991, 19579 cases of AIDS among injecting drug users had been reported in Europe. HIV seroprevalence rates among drug injectors vary from less than 5% in some cities, to over 50% in others. Since the estimated number of drug injectors in Europe is between 750000 and 1000000, HIV is a considerable threat to drug injectors, their sex partners and their off-spring, affecting large numbers of citizens in the European region. This paper gives an overview of the magnitude of the drugs/AIDS problem in the European region, and the concrete measures that have been taken to prevent HIV infection among drug users. Data from the evaluation of methadone programmes, needle and syringe exchange schemes and data on sexual behaviour change of drug users are critically reviewed. Limitations of the methods used for the evaluation of prevention activities are also discussed. Based on all the material reviewed, the main conclusions are the following:

– AIDS is a greater threat to public health than problem drug use,
– more accurate and reliable evaluation methods need to be utilized at European Community level,
– a combination of prevention measures should be used in ordet to reduce the further spread of HIV infection among injecting drug users.

Injecting drug use is the second most important exposure category for HIV infection in the European Community, and in 1992 will become the first one. However, starting in the second half of the '80s, a series of prevention activities has been implemented in different countries in order to reduce the spread of HIV infection among injecting drug users (IDUs). The aim of our study was to assess to what extent the preventive strategies implemented at a national level have been effective in determining behavioural change and/or modifications in HIV trends in IDUs. To this purpose, contact persons in the different countries of the European Community were required to send information on specific topics related to HIV trends, prevention and evaluation in IDUs. A review of the available national programme documentation was also carried out. This paper reports the main findings of our study.

Drug use and HIV infection: the extent of the problem

The magnitude of the drug problem

From the data available it is only possible to estimate the number of injecting drug users (IDUs) in the European Community. How ever, World Health Organization Geneva estimates a number of IDUs ranging from 750000 to 1 million in the whole of Europe[1,2]. Injecting drug use is widespread in Western Europe (particularly in Mediterranean countries), but is also becoming a relevant problem in some East-European countries. In almost all European Countries, heroin is by far the most common drug of addiction (89% of all notifications in the U.K., 80–90% of IDUs in France, 75% in Ireland, 70–80% in Federal Republic of Germany). In addition to heroin, other opiate type drugs (e.g. Dipipanone, Dextromoramide, Methadone) or barbiturates are usually used. In Sweden, however, the majority of IDUs have amphetamine as their main drug of injection, and only a small percentage injects mainly heroin. Finally some countries report an increasing use of cocaine.

The characteristics of IDUs are changing over the time. Most IDUs

Country	Estim. n° of drug users	% of injecting drug users	Age	Ratio male/ female	Drugs used	References
Belgium	10 000 – 15 000		30 – 34 years	2 : 1	Mainly heroin	Personal communications (S. Todts)
Denmark	5000 – 7000 of which 3 – 5000 in Copenhagen		30 – 40 years		Heroin, amphetamine and tranquillizers	41
Finland	NO INFORMATION RECEIVED					
France	8000 – 10 000		50 % 18 – 24 yrs 50 % more 24 yrs	3 : 1	Heroin 90 %, buprenorphine	23 – 24
Germany	50 000 – 80 000	90%	20 – 35 years mean age 28 years	2 : 1	Mainly heroin (70 – 80 %)	45
Greece	40 000		53 % are 22 to 28 years old		Heroin, multi drugs, cocaine	Personal communication (G. Papaevangelou)
Ireland	NO DATA AVAILABLE ON THIS TOPIC					
Italy	130 000 – 170 000		mean age 27 years	4 : 1	Mainly heroin	Personal communication (G. Rezza)
Luxemburg	1200 (registered 668)		39 % 20 – 24 yrs	4 : 1	Mainly heroin, multiple drugs	Personal communication (Hansen Koenig)
Netherlands	20 000 of which 7000 in Amster dam (3000 IDUs)	40 % injects 60 % chases the dragoon	mean age 30.1 yrs in 1987	70 – 90 %	Heroin, cocaine and minor tranquilizers	11
Norway	4000 – 6000					8
Portugal	36 000 in Lisbon region	85 % of heroin users			85 % uses heroin	9
Spain	80 000 – 100 000		mean age 25.4 yrs	4 : 1	Heroin 97 %, cocaine 1.7 %	Personal communication (L. De La Fuente)
Sweden	10 000 – 14 000	7500 – 10 000 injects			83 % uses amphetamine I.V. 17 % uses heroin I.V.	43
Switzerland	25 000	probably mostly injectors in the street 25 yrs	median 30 yrs range 16 – 49 years	65 % male 35 % female	Heroin and cocaine	IUMSP, Lausanne
United Kingdom	75 000 – 150 000	geographic variations from 30 % to 80 %	mean age 28 yrs (London)	3 : 1	Heroin (89 % of all new notification)	25

Table 1. *Demographic data of IDUs in EC and COST countries.*

in Europe are in the agegroup 20–35. However, in some European countries, the mean age of IDUs is increasing. This phenomenon is particularly evident in the Netherlands. The male:female ratio is usually greater than 1, and in countries such as Italy may be as high as 4:1 (Table 1).

The magnitude of the AIDS/HIV problem among drug users

The total number of AIDS cases reported in European Community and COST Countries was 60 485 up to September 30, 1991 (Table 2). Of these, 19 579 (about 30%) were reported as IDUs and 1089 (2%) as homosexual drug users. Considering that a high proportion of AIDS cases due to heterosexual contact or vertical transmission (paediatric cases) are related to injecting drug use, we can state that more than a third of AIDS cases reported in Europe are linked to the drug problem. Therefore, we except that injecting drug use will become a major transmission category for AIDS in Europe in 1992. There are great variations in the proportion of AIDS cases reported in IDUs in different countries, ranging from 2–3% of the total number of cases in some countries (Belgium, Denmark, Finland, UK, etc.) to over 60% in others (Italy, Spain). However, France, Italy and Spain accounted for almost 90% of the number of AIDS cases among IDUs in Europe.

It is known that AIDS cases represent only a part of the total number of people infected with HIV, and that they reflect the past spread of HIV infection. In fact, the latency period of fullblown AIDS may be very long. Prevalence and seroconversion rates of HIV are more useful in monitoring the current spread of HIV infection (Table 3). Repreated cross-sectional studies are useful to assess the trend of HIV infection over the years, and are relatively cheap and easy to

Country	Tot. n° of AIDS cases	Aids cases in IDUs	% of tot.	AIDS cases in Homo/bi IDU	% of tot.	Paediatric cases from IDUs	AIDS cases and incidence rate per million population	Total Population
Belgium	977	43	4	7	1	61	98.6	9 000 000
Denmark	870	44	5	9	1	9	170.5	5 100 000
Finland	94	1	1	0	0	0	18.8	5 000 000
France	16 552	3438	21	301	2	210	291.9	56 700 000
Germany	6968	870	13	50	1	34	87.6	79 500 000
Greece	528	21	4	4	1	5	52.2	10 100 000
Ireland	215	78	36	7	3	7	61.4	3 500 000
Italy	10 584	6962	66	280	3	184	183.4	57 700 000
Luxemburg	41	5	12	0	0	0	102.5	400 000
Netherlands	1857	150	8	20	1	7	123.8	15 000 000
Norway	237	27	11	3	1	1	55.1	4 300 000
Portugal	746	100	13	0	0	5	71.7	10 400 000
Spain	10 101	6494	64	286	3	190	259	39 000 000
Sweden	617	32	5	4	1	4	71.7	8 600 000
Switzerland	2086	755	36	39	2	28	306.7	6 800 000
United Kingdom	5065	223	4	79	2	36	88	57 500 000
Total	60 485	19 579		1089		765		

Source: WHO Collaborating centre on AIDS – Paris – 30 September 1991

Table 2. *Cumulative AIDS cases related to IDUs in EC and COST countries.*

Country	Scroprevalence (% of HIV+, year, n° of tested)	Incidence rate	References
Belgium	4.5% in Flanders in 1990 8.4% in Brussels & Wallonia in 1986		Personal communication (S. Todts)
Denmark	18% in 1985–1986		41
Finland	NO INFORMATION RECEIVED		
France	5–40% with regional variations (Lorraine Reg. 15%; Paris Reg. 50%)		23, 24
Germany	20% (22.1% in females and 19.1% in males) in 1988–1989		45
Greece	1.1% in 1989 (263 IDUs)		Personal communication (G. Papaevangelou)
Ireland	NO DATA AVAILABLE ON THIS TOPIC		
Italy	7.6–54.9% in 1985–1986 (11 000 IDUs)	8.9% (1985–1987) 5.3% (1987–1989) in Rome	Unpublished data (G. Rezza)
Luxemburg	< 33% in 1990	Stable	Personal communication (Hansen Koenig)
Netherlands	33.2% in 1986 30.3% in 1987 27.8% in 1988 (Amsterdam, 531 IDUs)	11.9% (1986) 4.8% (1987) 4.1% (1988)	4
Norway	5–8%		8
Portugal	5.1% in 1989 (966 IDUs) 0.1% HIV 2 in 1989		56
Spain	69.1% in 1989 in Madrid (382 IDUs)	11.9%	57–58
Sweden	13% in Stockholm 1% in Malmo and Gothenburg regions	1% (1987–1988)	43
Switzerland	22% in 1989 in Geneva (154 IDUs)		
United Kingdom	53% in Edinburgh 8% in the rest of U.K.		25

Table 3. *HIV/AIDS prevalence and incidence in EC and COST countries.*

perform. Several cross-sectional studies have been conducted in different European cities. The findings of these studies have shown large geographic variations in HIV seroprevalence, not only in different countries, but also in the same country among different regions/cities. HIV seroprevalence was less than 5% in London and Glasgow, but over 50% in Milan, Barcelona, Edinburgh. In other cities like Amsterdam or Rome the prevalence rate is 30–40%. There are also variations related to socio-economical factors. In Switzerland the mean prevalence rate is around 25%. Among socially integrated groups the rate is around 1% whereas amongst marginalised groups the rate is around 50%. Studies on seroconversion rates unfortunately involve only small numbers of IDUs in few countries, making it impossible to demonstrate a relationship between prevention measures and the incidence of HIV infection. Incidence studies on seronegative IDUs (implying long-term follow-up designs) are more expensive and difficult to perform, and show problems related to recruitment (selection bias) and drop-out rate. Only a few incidence studies have been conducted so far in Europe. The incidence of seroconversion was 1% in Stockholm in 1987–1988, but about 7% in Milan in the same period. The incidence rate decreased from 12% in 1986 to 5% in 1987 and to 3% in 1988 in Amsterdam, and from 9% (1985–1987) to 5% (1987–1989) in Rome. In cities like Rome and Amsterdam, the prevalence of HIV infection remained stable over the years with a moderate rate of new infections.

HIV prevention strategies for IDUs

The extent of HIV/AIDS problem, together with the awareness that

there are not, at present, effective vaccines or therapies to fight the disease, necessitate a preventive approach. It is also well known that IDUs represent, in most of the European countries, one of the categories at highest risk of contracting AIDS. Taking into consideration that heterosexual and perinatal transmission from IV drug users is also becoming a serious problem, it can be understood why there is so much concern among public health authorities and political leaders.

Almost all countries have established drug/AIDS policies and have adopted various preventive measures in order to limit the spread of the epidemic. Health education campaigns for the general population were carried out in all European countries and in some countries there have been community-based projects specifically targeted to IDUs.

Various intervention projects will be described:

- Information campaigns, HIV testing and counselling.
- AIDS prevention through outreach programmes.
- Promoting safer sex.
- Methadone substitution programmes.
- Needle and syringe exchange schemes.
- Special measures for prisoners.

Information campaigns

Since the beginning of the AIDS epidemic, health education and information campaigns have been the first measures taken in an attempt to control the spread of the disease. However, even if general information campaigns are necessary and useful, most scientists believe that community-based projects and/or individual approaches are more effective in determining behavioural change in IDUs.

In many countries, advertisements, special leaflets and brochures have been developed for IV drug users by various organizations and have been utilized in several national information campaigns. Where evaluation of the programmes has been carried out, it shows that knowledge about HIV infection among IDUs is quite high but it is not clear if they are changing their behaviours, especially those related to sexual practices. The general impression is that there are no major improvements. In many countries helplines for drug users, giving information on AIDS, are also available.

HIV testing and counselling

One of the most important interventions from an epidemiological point of view, is HIV screening. It is an indispensable tool to know the prevalence and the incidence of the infection and as a matter of fact, the test has been offered to IDUs in most of the countries, on a voluntary basis.

Voluntary HIV testing has been offered to drug users in Italy since 1985. In a study carried out in 1987, the attitudes of drug users who knew they were seropositive were compared with those who were seronegative or those who were no tested. Behavioural changes in both drug use and sexual lifestyle were significantly more common in seropositive drug injectors than in seronegative subjects. The authors said that the knowledge of positive serological status induced an additional 20–25% of the subjects to modify risk practices[3].

The Dutch experience with voluntary HIV testing among drug addicts involves a longitudinal study that started in 1985 in Amsterdam[4]. Data from this study, show that seroprevalence among new intakes has remained stable since 1986 and HIV incidence has decreased amon a follow-up group. Another interesting finding that fully concurs with the findings of the Italian study, is that drug users who were tested and found seropositive reported a significantly higher level of condom use than participants who were negative or did not want to know the results. On the other hand, another study carried out in Amsterdam[5] in the period December 1985 to April 1988 among 263 IDUs, recruited at six methadone outposts and at the weekly sexually transmitted diseases clinic, reported that a decease in needle sharing occurred to the same extent regardless of knowledge of serostatus. In studies carried out in Switzerland in 1987 among 37 IDUs from different regions and in 1990 among 207 drug users undergoing treatment, it is possible to ascertain that 90% to 95% of those interviewed had undergone an HIV test and the hypothesis that emerged is that once the decision to undergo the test is taken, the risk is accepted and the person is ready, if he or she will disclose the seropositivity, to adopt preventive behaviour. In contrast, seronegatives, through repeated tests, feel assured that they can continue with risky behaviour. This has not been verified in further studies done in 1989 and 1990 (IUMSP). In Sweden, HIV-testing has been widely used as a standard measure in the care of IDUs. The majority of them have been tested; the percentage ranges between 90% and 70%[6,7]. In Norway, about 75% of the IDU population have been tested at least once, while 50% have been tested twice or more. An interesting observation made by the Norwegians is that the more risky behaviour a person engages in, the more likely he or she is to have taken one or more tests[8].

A survey carried out in Germany showed that 9% of persons with HIV positive results stated that they had injected more drugs more frequently since they had known about the results. In Denmark, on the contrary, the frequency of HIV testing in the population according to sex, age, risk-group is unknown.

It is also unknown how many of the HIV positive persons are also IDUs[9].

Another important finding, common to all the evaluations, is the role of counselling, before and after the test. The need to prepare the individual for the test result has been pointed out by the Dutch and Swiss experiences. The IDUs have exactly the same emotional reactions (grief, fear, denial, escape) as others when they hear that they are seropositive. Therefore, it is evident that post-test counselling is necessary in order to reduce the shock of the result, clarify the difference between seropositivity and disease, to answer all the other questions that the patient might raise and to give him or her the means to react to this new situation.

In Portugal, prevention among IDUs is essentially carried out in the centres that work with them: information is given and an educational approach is made whenever a blood sample is taken, counselling is available and therapists are aware of their educational role. Data available from the Centro das Taipas in Lisbon, show that in a sample of 91 drug users, almost 50% did not share syringes or needles and another 32% were changing their behaviour in that direction. 38.9% of them had safe sex and 67.8% had no sexual partner or only one partner in the last three months, although they did not understand this behaviour as AIDS prevention[10]. In Norway[8] and in the Netherlands[11,12,13,14], in health education, the main emphasis is on person to person contact. Counselling and advice about safer behaviour are given to IDUs by the staff working with them, using leaflets, posters, cartoons and audiovisuals as teaching aids.

Although, in almost every country HIV testing has been made available for IDUs, on a voluntary basis and mainly free of charge, further evaluation of this activity has not been undertaken.

AIDS prevention through outreach programmes

In various international meetings of experts in the AIDS and drug fields, as well as meetings of political leaders, the necessity of promoting outreach activities has been stressed. Outreach activities directed toward drug users are effective in reaching the "unreached", in teaching drug users "survival skills" and attracting drug users into more formal modes of treatment. In a paper prepared for the European Region of the WHO, the Amsterdam Municipal Health Service provided an overview of AIDS related outreach among drug users in the European Region[15,16]. Information was collected from over 50 outreach projects in 10 different European countries. Based on the collected information, the following points were stressed:

- The majority of outreach projects provide basic assistance in the form of:
- condom provision
- clean needle and syringe provision or exchange
- referrals, crisis interventions, providing counselling and advice
- AIDS education takes a prominent role. Generally this is done through the provision of condoms and clean injecting material, the dissemination of educational material, referrals to HIV-test sites and counselling.
- "Bridge-building" is an essential part of outreach work. Operating in the drugscene and contacting many drug users and these agencies. Through personal contact with service suppliers, outreach workers try to encourage them to give aid to drug users.
- Variations were found between various outreach projects in terms of:
  - the use of volunteers
  - the use of (ex) drug users
  - the use of drop-in centres
  - "peripatetic" versus streetwork.

The use of volunteers was found to be cheaper but very time-consuming because of the need for supervision. Some projects have very positive experience with using (ex) drug users and stipulate the advantage of having better access to the drugscene. Most projects indicate that extra attention needs to be given to the risk of (ex) drug staff members relapsing into problematic drug use.

Drop-in centres were considered to be highly useful in building up networks of drug users, although the risk of neglecting actual streetwork was mentioned in situations where the centre is open too many hours a day.

"Peripatetic" work refers to activities organized in other agencies (such as police stations, hospitals etc.), whilst "streetwork" is a more traditional method of outreach work and actually takes place in the drugscene itself.

- Problems relating to outreach work were also described. In countries where authorities have only recently allocated extra money for outreach activities, the projects are mostly small and still in an intial phase. In such situations, outreach workers spend a lot of time in justifying their existence, finding the right mode to operate and securing funds for continuation of the work.

A lack of services in the given area was also seen as problematic. Outreach workers were put in a situation where they had to prioritize requests from clients and were faced with agencies reluctant to provide care for drug users.

Problems with the police were mentioned as well. In some situations, actions by the police were seen as counterproductive to AIDS prevention measures (police actions against prostitutes, confiscation of needles, dispersion of the drugscence by police raids etc.).

– Since most outreach activities are still in their initial phase, proper evaluation of these projects was recommended. Information from such evaluations should serve as feedback for the aims, objectives and strategies of the project.
Based on the above information, it can be concluded that in many European countries, outreach activities among drug users are increasingly seen as valuable instruments to contact drug users and assist them in refraining from AIDS related risks.

Promoting safer sex

At an international workshop organized by the Dutch STD Foundation in May 1989, a group of 20 international experts on Aids prevention among drug users, discussed the area of "promoting safer sex among injecting drug users"[17]. In their report they concluded that "the level of condom use among injecting drug users is still low (although higher than in the general population) and that education programs affect the level of knowledge, yet, still lack impact on actual behaviour". Various obstacles in adressing drug users about safer sex were mentioned, such as political, moral and religious issues, resistance among the staff to discuss this topic with their clients and the fact that many drug users don't see safer sex as a high priority since most of their energy is spent on short term "survival" activities.
In Berlin, West Germany, in December 1987 a contact cafe called "Olga" was installed for addicted prostitutes. The cafe is close to the drugscene and opens between 17.00 and 23.00. The centre has an open atmosphere, where clients can feel welcomed by the staff. "Olga" provides medical and legal assistance and condoms (about 1000 per month). About 20 to 30 women visit the centre daily, whilst a total of about 100 addicted prostitutes are in contact with the centre. Two streetworkers are attached to "Olga" as well[18].
In Utrecht, The Netherlands, a similar project to "Olga" has been operational since 1986. Every night between 20.30 and 1.30 a bus is parked in an area where street prostitutes are active[19]. A recent booklet on "tips for safe sex" contains the answers of 28 prostitutes who sent in their reaction to a competition about "condom negotiations with your client". The project also made a flyer for clients of prostitutes. This flyer was a photocopy of a 50 guilder bill with the text "a minimum price for maximum safety". Finally, the project hired professionals to teach about various topics. To emphasize the fact that prostitution is a "real job", a physiotherapist was hired to teach the prostitutes proper techniques and to advise them about an ergonomic body posture during their work. In Zurich, the Lila Bus is a mobile drop in centre for women prostitutes which is situated in a quarter frequented by prostitutes and their clients. In this bus, which is open every night from 21.00 to 07.00, drug using prostitutes can rest, shower, eat and drink, get clean syringes and condoms.
In various projects, the workers accompany the clients to pharmacies where they buy condoms. In so doing, it is hoped that embarrassment will be overcome. In some projects, workers show clients how to use a condom by using a banana. That such practical skill trainings is still needed, can be supported by the large number of condoms which burst due to improper use. Other projects try to eroticise safer sex by pointing out sex techniques other than copulation and by teaching techniques on how the application of a condom can be an attractive part of sexual activity.

Problems in promoting safer sex

Sex is a sensitive topic and does not lend itself easily to public discussion. Many workers in the drug field feel reluctant to discuss openly safer sex with their clients. Nevertheless, safer sex has become a vital issue for many drug injectors. In some countries, part of the embarrassment among the workers has been overcome through training sessions. However, a video, shown in waiting rooms of Amsterdam methadone programmes, with a very explicit safe sex message, was rejected by the clients and some staff members. Some of the clients said that "this is pornography, why don't you show that to prostitutes?", whilst the staff felt that showing the video was too disruptive to the ongoing activities in the methadone programme. Sometimes, police regulations can be counterproductive to safer sex education. In areas where prostitution is prohibited, the police may disperse the "prostitution scene", resulting in an inability of AIDS educators to reach the drug injecting prostitutes and their clients. The most extreme example of a situation where the police frustrated the AIDS interventions of outreach workers was a city where the police were using the possession of condoms as evidence for illegal prostitution[19].
Another problem in promoting safer sex is the use of cocaine and crack. Especially if it is used within heroin, cocaine/crack can lead to a higher level of sexual activity. In areas with a high HIV-seroprevalence (for example New York City) relations were found between AIDS infections and cocaine/crack use. Since appropriate treatment for cocaine/crack use is still lacking and cocaine/crack users generally do not see their use as problematic, it is difficult to get in touch with cocaine/crack users and educate them about safer sex. The same applies to the use of Ecstasy.
Finally, safer sex among drug users should be mentioned in the light of their sexual contact with non-injectors. These non-injecting sex parameters are not reached by the drug helping agencies and depend

for their information on campaigns aimed at the general public. Sometimes, these sex partners don't even know that their partner is (was) injecting. In Utrecht a league of clients of prostitutes is giving AIDS education to other clients. Though on a small scale, this approach is successful.
In Denmark, special initatives regarding female prostitution have not, up to now, been considered necessary, since a study has shown that, even though there are relatively many HIV positive IDUs who are prostitutes (78%), sex with customers most often involves using condoms[9]. In Portugal, IDU prostitutes have not yet been reached by any special programme. In Amsterdam, they have established a special V.D. clinic where condoms are distributed free, a separate consulting hour and an inpatient crisis centre is available for addicted prostitutes. Again, specialized female field workers make contact with street prostitutes at night[20,5].

Methadone substitution programmes

In the AIDS era substitution programmes represent not only a drug detoxification treatment, but they are also considered useful in contacting and keeping in touch with IDUs.
With regard to methadone programmes, there are great differences in approach among European countries owing to the different drug policies implemented. Hence, we can see on the one hand, more liberal countries, such as the Netherlands[21], where the so-called "low threshold" methadone programmes are available, and on the other hand, countries such as Norway[8], where they are not available at all and in between, countries where pilot projects are being tested (e.g. Germany[22], France[23,24]) or have recently been introduced (e.g. Austria). The aims of methadone programmes are:

- to contact heroin users;
- to stabilize heroin users;
- to detoxify and treat heroin users.

In some European countries "low-threshold" methadone programmes are available. In the Netherlands these programmes have been widely utilized and are complemented by AIDS information and needle/syringe exchange and condom distribution. Usually, there are preconditions for participation in these projects, such as: regular contact with a physician (at least once every three months), introduction into the central methadone register, no take home dosages.
In countries in which a restrictive policy has been implemented (e.g. Norway and West Germany) and substitution programmes are not widely available, methadone is, however, offered to IDUs with severe HIV infection as part of the general medical treatment. In other countries in which methadone is not commonly used (e.g. France), pilot projects are now ongoing but lead to detoxification only. In some countries (e.g. Denmark), the participation in long term methadone treatment has been made easier. In the Municipality of Copenhagen, an increase in the number of persons under methadone treatment has been registered. At the end of 1982 the number of persons in treatment was 269 whereas at 30/6/89 it was 1131. The same progress has been noticed in other parts of the country. In the UK, although methadone substitution has always been a clinical option, clinical opinion has now shifted to increased use of longer term methadone prescription[25]. This has been done in order to encourage drug users into treatment and to maintain contact and compliance. In certain areas, use of diamorphine or injectable methadone preparations has been introduced, according to the patient's needs.

Needle and syringe exchange schemes

Considering that the first objective of prevention strategies is the prevention of primary and secondary infection, and that it is not realistic to have as the only objective the war on drugs per se, making injecting paraphernalia easily accessible to IDUs is one of the strategies proposed by several scientists and policy makers in different countries in order to stop the AIDS epidemic. Therefore, most European Countries have implemented either needle/syringe exchange schemes or changed the legislation making the provison of syringes by pharmacies possible without medical prescription[26–41]. The availability of syringes may be improved by removing legal restrictions, implementing needle exchange schemes or syringe distribution programmes, or utilizing vending machines. Needle exchange schemes were started in Amsterdam in 1984, and now in the Netherlands they have been implemented in 40 Municipalities. At the outset, approximately 1000 needles and syringes were exchanged weekly. In 1985, more institutions participated in the exchange system. In 1986, needle and syringe exchange was made available on the methadone buses as well. In 1989 approximately 820000 needles and syringes were exchanged at 11 different locations[5]. It is important to evaluate the success of needle exchange schemes by monitoring the exchange rate. In Amsterdam, in 1987, the return rate was about 70%, and after consultation, the director of the Municipal Health service decided that all the exchange schemes had to operate on a "one for one" basis. This act, combined with an improvement of the exchange equipment, led to an increase in the exchange rate to over

94% [26]. In the UK, up to September 1989, there were over 100 needle exchange projects and more were planned. They provide advice on harm minimisation, safer sex, condoms and some of them also offer pre and post-test counselling and HIV antibody testing [40]. The Swiss Health Authorities identified some issues determining unsafe behaviours among IDUs such as the lack of sterile equipment availability in particular situations (nights, week-ends, prisons, etc.), the priority given – by IDUs – to the procurement of drugs and not of injecting paraphernalia, and the personal attitude of IDUs. Political problems remain and make such programs very difficult to implement especially in the French part of the country.

However, most of these problems could not be overcome by needle exchange schemes per se, but the conclusion is that the IDUs are able to adopt preventive measures against the HIV risk. Behaviour change is best facilitated by these projects near to the drugscene. Furthermore, the easy access to sterile injection material in appropriate places is a valuable and an effective preventive measure, and the intervention programmes do not constitute, in any case, an encouragement to drug use. In France, according to data available, since May 1987 the liberalization of syringe sale has taken place and they can now be bought freely, without medical prescription. This measure was taken on an experimental basis for 2 years, but since August 1989 it has been made permanent, after the demonstration by two evaluation studies of a positive effect on addict's behaviour. In addition, two areas which are most affected by the drug problem will be the subject of trial programmes for syringe exchange.

In countries such as Denmark and Norway, although syringe and needle availability is good and they can be obtained quite freely, some initiatives have been taken. In the Municipality of Copenhagen syringes and needles have been supplied from chemists shops free of charge since 1987, and at the end of 1988, about 20000 sets, each one consisting of 2 syringes and needles, were distributed per month [9]. In addition a syringe and needle vending machine was installed, together with special bins for used injection paraphernalia. However, since the needles are not given out on an exchange basis and an increased number of needles was found in public places in Copenhagen, some debate is going on [41]. From the analysis of available data, some conclusions can be drawn on syringe and needle exchange systems:

- they do not lead to an increase in individual drug use;
- they help to contact addicts outside the methadone programmes and attract drug injectors who have never had any previous contact with treatment services.
- syringe/needle vending machines are not as effective as syringe/needle exchange systems which also provide an opportunity for person to person health education and family planning (condom distribution etc.).

Special measures for prisoners

Since IDUs represent a high percentage of people admitted to prison (up to 40% in some countries), several countries have adopted special measures targeted to this risk group. People in jail are known to continue injecting drugs. In Austria, where the prevalence of seropositivity among prison inmates has been found constant since 1985 at around 86%, information campaigns for prisoners and for prison staff, have been carried out since 1985 [42]. All IDUs and other persons at risk, are given the opportunity to be tested on a voluntary basis and counselling by drug treatment or AIDS agency personnel is offered. It is also possible, if the sentence is less than 6 months, to continue methadone substitution treatment started before imprisonment. In Norway, condoms are available free of charge in prison, there is a health information system which gives information about syringe cleaning with bleach (which is available) and there are support groups for HIV positive inmates [8]. In Sweden, about one hundred coordination projects have been initiated, involving social welfare services and the prison and probation systems [43]. In Denmark, the distribution of brochures providing information on how to clean syringes and needles (free of HIV) using water, has been planned [9]. In Portugal, where 15% of all prisoners are in prison because of crimes related to drugs, there are no special programmes for them. No condom or syringe/needle distribution is carried out [10]. HIV testing is available on a voluntary basis. In the UK an AIDS video teaching pack has been made available for prison staff, and a separate video for prisoners. In some areas, drug agencies have successfully provided education and counselling to people in prisoners. In some areas, drug agencies have successfully provided education and counselling to people in prison. In Spain, those in charge of penitentiary institutions have started massive information campaigns, including methods for syringe and needle desinfection, and have offered access to diagnosis of infectious diseases (Hepatitis B, TB, syphilis and HIV infection) and immunization against Hepatitis B. In Switzerland, an average of 10–15% of prisoners are seropositive. The preventive measures adopted consist of information for prisoners through the distribution of information materials and through individual counselling, information for the staff of the prison, HIV test and condom availability. Since 1974 a method of

quick detoxification with methadone (10 days) has been adopted in the prison at Geneva, while maintenance treatments are not available. In the period 1980 to 1987, 1602 detoxification treatments were undertaken, over a total number of 17824 admissions, i.e. 9%. As regards women, 14.8% received the treatment[44]. In Germany, IDUs in prison are offered the opportunity to be tested for HIV, and AIDS counselling is offered as well. IDUs use the needles of diabetics or needles stolen from the prison clinic or smuggled into prison. Most imprisoned IDUs share needles. Therefore, many prison staff are discussing implementing bleach programmes[45].

The outcome of HIV prevention

Behavioural studies, and in particular "knowledge, attitude, behaviour and practice" (KABP) surveys are used to asses the different steps in the process of behavioural change. Regarding knowledge, IDUs are usually as informed as the general population about transmission modalities of the AIDS virus. However, there is a gap between the level of information and the attitude to behavioural change of IDUs.

Data from behavioural surveys are available from several European countries (Italy, Germany, Sweden, the Netherlands and Switzerland), but unfortunately they have little reliability and are difficult to compare since the methodology and the instruments used for data collection were not standardized (Table 4 and 5). In fact, apart from the differences in the choice and the size of the samples (IDUs detained and arrested in Sweden[6,7], IDUs attending services in Italy[46], all subgroups of IDUs in the German study etc.) there are great differences in how the questions are posed and the answers analyzed.

So, for example, in Germany[45] a multicentre study was carried out among 630 IDUs based on structured interviews including over 300 questions, in order to assess the behaviour changes in response to AIDS. In the Italian study under review, a simple standard questionnaire with 15 items was administered to 189 individuals who participated in a programme consisting of an audiovisual presentation, pre/post testing and individual counselling. In the evaluation of the Swiss prevention strategy, various studies amongst drug users have been conducted. These studies used such methodologies as standardised questionnaires, semi structured interviews and direct observations. Again, the two Dutch studies, ove 450 drug users were interviewed and blood sera taken in the period 1986–1987 whereas 148 IDUs were interviewed utilizing a standardized questionnaire and no blood samples were taken in the summer of 1987, to assess specifically the impact of the needle/syringe exchange programme. In Sweden[6,7], a study consisting of two parts, one on detained and the other on arrested drug users was carried out and the total number of participants was 1152. An interview, physical examination and blood tests followed for each participant.

All studies report that seropositives reduced their syringe sharing habits more than seronegatives. In addition, those seropositive still sharing syringes seem to have adopted socially responsible behaviour (they were the last in order when sharing needles). As regards sexual behaviour, it seems that only slight changes took place, IDUs being very reluctant to use condoms. The Germany and Swiss surveys agree in stating that it is easier for many IDUs to reduce the number of sexual partners or to have an exclusive partner rather than to use condoms.

At last, methodological limitations should be kept in mind. The surveys themselfes may play a role in changing the behaviour, or orienting in a particular direction the answers, of the interviewees. Furthermore, individuals enrolled in prevention projects may feel forced to hide behaviours that are not consistent with the project objectives. However, "hard" data, such as incidence and prevalence rates of HIV infection, are also difficult to interpret and may be influenced by a series of different variables (e.g. baseline HIV seroprevalence, saturation effect, local policy towards HIV testing, etc.).

The effects of methadone on the spread of HIV

Studies conducted in the U.S., have shown a sharp decrease in injecting as well as needle sharing among IDUs ion methadone treatment. Interestingly, demographic data hardly had any influence on the positive outcome. Much more, a high dosage of methadone and the type of methadone programme and the attitude of the staff turned out to influence the cessation of injecting and needle sharing[47]. However, only few experiences have been done in Europe. The Amsterdam low threshold methadone programme contacts over 50% of the IDUs yearly and integrates AIDS prevention measures, such as needle exchange, condom distribution and information campaigns into the methadone programme. Although various studies have been made in Amsterdam regarding AIDS and drugs, no study so far has been conducted which specifically looked into the relationship between AIDS and methadone. One of the few European studies in this area has been conducted in Sweden by Blix et al.[48]. In the high threshold methadone programme, they were not able to trace any sero-conversion over a substantial period of time.

Country	Sample structure	Sample size	Objective of the study	Behaviour changes Needle sharing	Sexual behaviour	References
Germany	All IDUs subgroups: IDUs inpatients, out-patients, Justice, private & public scene	630	To gather inf. on differential risk of HIV inf. and assess behaviour changes. To estimate HIV prevalence	76% of HIV+ and 56% of HIV – reported change of needle sharing habits 20% of HIV+ never share needles in the last half year	48.2% (71.1% of HIV+ and 47.6 of HIV–) reported changes in sexual behaviour 12% (21% of HIV+ and 9.8% of HIV–) always use condoms, while 61% reported no change	45
Italy 1987	IDUs attending a drug dependency unit in Verona	189	To assess the impact of educational intervention	before int. after int. 34.7 of whole pop. 12.3% 34.7% of HIV+ 9.5% 34.7% of HIV– 13.5% reported needle sharing	before int. after int. 38.6% of whole pop. 32.9% 62% of HIV+ 52% 32% of HIV– 25% reported engaging in at risk sex Ave. % of at risk encounters in which condom was used Whole pop. 48.7% 70.2% HIV+ 54.3% 77.3% HIV– 43% 63%	46
Nether-lands 1987	IDUs recruited at 11 "exchange locations", where exchange was not possible	148	To assess the impact of the needle/syringe exchange programme	"exchangers" 9% "non exchangers" 22% sharing needles in the last month		26
Portugal	IDUs attending the Centro das Taipas (Lisbona)	91		50% did not share syringes, 32% reported changing behaviour	38.9 had safe sex, 67.8% had no sex partners or only 1 in the last three months	9
Sweden 1987	IDUs detained and arrested	1152	To estimate HIV prevalence among IDUs and to describe risk behaviour	1987 1988 15% of whole pop. 27% 16% of HIV– and 26% 39% of HIV+ 41% never share needles	1987 1988 74% of whole pop. 70% 78% of HIV– 74% 44% of HIV+ 35% never use condoms	6–7
Switzerland 1987	IDUs from different regions in contact with health workers	37	To assess the impact of Stop Sida campaign	before the campaign after 81% of IDUs 26% still share needles	25% of HIV– and 40.5% of HIV+ reported using condoms	59

Table 4. *KABP survey among IDUs in EC and COST countries.*

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The researchers conclude that methadone may provide good protection against HIV infection.
In a study carried out in Verona, Italy [49] on 189 IDUs who participated in an education intervention, it was reported that not only do significantly fewer persons share needles while in continuous methadone treatment, but that those who do share needles while in continuous treatment do so on an average of 1.7 occasions per patient during the previous three months, compared with 6 occasions per patient for those not in continuous treatment. This would seem to support the hypothesis that a patient in continuous treatment with methadone injects less because he/she is less exposed to the situation in which needles might be shared. One could also imagine that a patient in methadone treatment who does inject does so with much less urgency and therefore, might be able to plan and provide for the procurement of a clean syringe. The study notices also that IDUs in continuous methadone treatment are also those most exposed to the AIDS prevention message even before entering the programme.

Evidence for the effectiveness of syringe exchange

In an excellent overview article, Stimson looked at the effectiveness of syringe exchange.
The need for anonymity and unobtrusiveness, the fact that they are new and other methodological problems, means that most syringe exchange schemes have not been evaluated.
The three criteria used so far are:
– The ability of syringe exchange schemes to attract and retain clients.
– Changes in risk behaviour of both injecting and sexual practices.
– HIV prevalence rates among clients.

In the UK 2500 clients were reached by 15 agencies in 9 months [51]. Of these, one third had never been in contact with helping agencies; a further one third were not, at the time, in such contact. In Amsterdam in 1989, 820 syringes were distributed. On an estimate of 2800 injectors this average out to 250 syringes per head, per year. 75% of clients had been in methadone programmes in the last 5 years. The UK experience shows a high turnover of clients. The reasons included positive (e.g. cessation of injecting) and negative ones (e.g. death, imprisonment). The UK and Amsterdam evidence seems to suggest a failure to reach young injectors and in the UK, women. Lack of confidentiality was also cited in UK and Rotterdam [50] as reasons for non attendance at schemes. Evidence from the UK suggests that high risk injectors are not being attracted to schemes. In the UK, clients who attented SES reported a reduction in sharing, over three month period, from 34% to 27%. Overall, 79% showed a lower level risk behaviour. In Amsterdam, Hartgers et al. [51] reported that the risk level of injectors attending schemes was much lower than that of non-exchangers. Of the "exchangers", only 10% reported needle sharing in the last month, while this was 23% for the "non-exchangers". They concluded that exchange schemes did lower the risk of sharing but did not lead to an increase in injecting. In Sweden, a study in Lund showed that of a sample of 80 injectors who attended the project regularly, 80% no longer shared compared with 40% two years earlier [52]. In Switzerland the ZIPP-AIDS project has distributed 1.4 million syringes in 1989.
In summary, despite the limitations of research design the results from different countries are sufficiently similar and provide reasonable evidence that injectors who attend syringe exchanges report desirable changes in risk behaviour. The results support the argument that drug injectors can be helped to make changes in their behaviour which could be of cumulative importance in reducing the spread of HIV. However, as stated by G. Stimson, the short term changes are small and whether they are sufficient in magnitude and time to have this impact remains to be seen [53].

Data on changes in sexual behaviour

Though changes in needle sharing have been reported widely, with regard to sexual practices "there is less room for optimism". In the UK study, Stimson noted that the difficulty of talking to clients about sexual behaviour at SES was the same in 1989 as in 1987. However, some clients did report changes in sexual behaviour in terms of numbers of partners and the selection of non-injecting partners. Condom use seems to have declined [54]. In the evaluation of the "injecting equipment exchanges schemes" in England and Scotland questions about sexual behaviour were asked as well. One hundred and forty-one injectors who attended the needle exchange were interviewed twice. There was an overall decline in the numbers who were sexually active (77% 1st interview, 69% 2nd interview). Among the sexually active subjects, there was a slight decrease in the percentage reporting multiple sexual partners (33% 1st interview, 30% 2nd interview). In the same group, there was an increase in the number reporting having a sexual partner who did not inject drugs (46% 1st interview, 55% 2nd interview), while there was a decrease in condom use (38% 1st interview, 31% 2nd interview)".
In Geneva, 44% of the IDUs interviewed reported to use condoms with their regular partner, 62% with causal partners. These pro-

portions are similar for the general population, and for people over thirty and for those who are infected with HIV the proportions are even higher.

Data from a study on "AIDS related knowledge, attitude and behaviour among clients of methadone programmes", indicate that a relatively large proportion of the clients are sexual inactive: 44% of 110 clients interviewed in the summer of 1989, reported no sexual contact in the month preceding the interview. 52% of the inteviewed clients had a regular partner. In this group, 23% used condoms (5 "sometimes" and 8 "always"). 10 clients knew that they were seropositive. This group reported that they "always" used condoms in sexual contacts with irregular partners.

These data indicate that the level of condom use among IDUs is still low (although higher than in the general population) and that education programs effect the level of knowledge, but still lack impact on actual behaviour[55].

Conclusions

The common belief that drug injectors are incapable of or uninterested in changing their behaviours and that they do not care if they spread infection to the general population, is not confirmed by the results of the surveys. On the contrary, it appears that they are as concerned as anybody to minimise the risk of HIV infection to themselves and to the general population. This is true mainly for injecting behaviour, whereas for sexual behaviour there is more resistance to change, reflecting the reluctance of the general population to use condoms and practise safer sex. We can say that health education campaigns have somehow reached their goal, even though a great deal still needs to be done.

Sample structure	Sample size	Objective of the study	Behaviour changes Needle sharing		References
United Kingdom					
Regular illicit drug users in and out of treatment	127	to investigate	Nº 127		
	70 of which were the "agency group" people in touch with services in the preceding year, 57 "non agency group" (non in touch with services)	injecting and needle sharing patterns and the impact of concern about AIDS upon these behaviours		Agency group	Non agency group
			12: never injected	Nº 115	60
			14: stopped injecting	Stopped injecting 14%	10%
			9: because of AIDS concern	Stopped sharing 51%	29%
			5: for other reasons	Still sharing 35%	61%
			48: still injecting		
			21: because of AIDS concern		
			27: for other reasons		
			37: still injecting, reduced sharing		
			37: because of AIDS concern		
			16: still injecting and sharing no behavioural change		

Table 5. *KABP survey among IDUs in EEC and COST countries.*

However, one thing to keep in mind is the importance of attitudes towards the client group: if they find in the facilities' staff a friendly, non judgemental approach, if they are treated as responsible persons and provided with accurate information, compliance increases and they are able to avoid risk behaviours. Again, the transmission of the information through person to person contact and a situation of continuous contact with some kinds of health services or health workers seems much more effective than the information being given through the mass media.

From studies reviewed, it has been shown in fact that preventive measures which take account of the views of and involve the target groups, in this case drug users, are more successful than those which do not.

Mass media and public information campaigns are of limited value, especially if used in isolation. They are more likely to be successful where they contain useful, practical information to enable drug users to change their behaviour rather than merely presenting a negative message warning of consequences of not changing behaviour.

Syringe availability plays an important role in reducing risk behaviours by drug injectors. Furthermore, more consideration needs to be given to the potential of prescribing as a prevention tool. Low threshold prescribing has a role in attracting IDUs into services, in stabilising sometimes chaotic lifestyles and therefore preventing the spread of HIV. Safer sex messages should be routinary included in the prevention activities addressed to IDUs.

More effort is required in the active promotion of the services which exist to make them more accessible and to increase the uptake. Outreach work is strongly needed in order to contact the hidden sector of IDUs.

The threat of AIDS is a greater threat to public health than drug use in se, and there is no single solution to the problem but rather a combination of measures. Those which are available should be used in combination taking into account that different populations have different needs.

Zusammenfassung

Evaluation der AIDS-Prävention bei intravenös Drogenkonsumierenden in den Ländern der europäischen Gemeinschaft: Ein Überblick

Am 30. September 1991 wurden mehr als 19 579 AIDS-Fälle unter den Drogenkonsumenten, die ihren Stoff spritzen, gemeldet. Die Prävalenz der HIV-Infektion bei ihnen schwankt zwischen weniger als 5% in gewissen Städten und über 50% in anderen. In Anbetracht der Tatsache, dass die Anzahl der Konsumenten, die ihren Stoff intravenös konsumieren, auf zwischen 750 000 und einer Million geschätzt wird, stellt HIV eine beträchtliche Gefahr für sie wie für ihre Sexualpartner und möglichen Nachkommen dar und berührt somit eine grosse Zahl von Europäern. Dieser Artikel gibt einen Überblick über die Grössenordnung des Problemkreises Drogen und AIDS in Europa und über die konkreten Massnahmen, die ergriffen wurden, um der HIV-Infektion bei Drogenkonsumenten vorzubeugen. Diskutiert werden kritisch Daten, die aus der Evaluation von Methadonprogrammen, Programmen zum Spritzenumtausch stammen und anderen Daten die sich auf Änderungen des sexuellen Verhaltens beziehen, sowie die Einschränkungen der Methoden, die zur Evaluation der präventiven Anstrengungen dienen. Hauptsächlichste Schlüsse auf der Basis dieses Materials sind:

- *AIDS ist eine grössere Gefahr für die öffentliche Gesundheit als Drogenkonsum.*
- *Auf europäischem Niveau müssen genauere und zuverlässigere Methoden zur Evaluation verwendet werden,*
- *Verschiedene Präventionsmassnahmen müssen kombiniert werden, um die weitere AIDS-Verbreitung unter Drogenabhängigen zu vermindern.*

Résumé

Evaluation de la prévention du SIDA auprès de consommateurs de drogue par injection dans les pays de la Communauté Européenne: Une revue

Au 30 Septembre 1991, plus de 19579 cas de SIDA parmi les consommateurs de drogues par injection avaient été rapportés. La prévalence de l'infection par le VIH parmi eux varie de moins de 5% dans certaines villes à plus de 50% dans d'autres. Comme on estime à 750000 à un million le nombre de consommateurs de drogues par injection en Europe, le VIH représente une menace considérable pour eux, ainsi que pour leurs partenaires sexuels et leur descendance, affectant ainsi un grand nombre de citoyens dans la région européenne. Cet article donne un aperçu de la magnitude du problème «drogue et SIDA» en Europe et des mesures concrètes qui ont été prises pour prévenir l'infection par le VIH chez les consommateurs de drogues. Des données provenant de l'évaluation de programmes de méthadone, de programmes d'échange de seringues et d'autres concernant les changements de comportement sexuel des toxicomanes sont discutées, de même que les limitations des méthodes employées pour l'évaluation des activités de prévention. Les principales conclusions qui émanent de cette revue sont les suivantes:

- *le SIDA représente un danger plus grand pour la santé publique que l'usage de drogues,*
- *il est nécessaire d'utiliser, à l'échelon européen, des méthodes d'évaluations plus adéquates et plus fiables,*
- *diverses mesures de prévention devraient être combinées pour réduire la poursuite de la diffusion de l'infection par le VIH parmi les consommateurs de drogue.*

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