Background

There is considerable evidence that needle/syringe (N/S) exchange provision has helped to control HIV transmission among injecting drug users (IDUs). Recent research has also shown that prescribed methadone reduces the frequency of injecting and sharing among methadone recipients (Hutchinson et al, 2000). Nevertheless, the indications are that current interventions may be reducing, but are not controlling, the spread of hepatitis C infection (HCV). Forty-five per cent (209/463) of Glasgow injectors who had commenced injecting after the introduction of needle exchange services were found to be HCV positive (Taylor et al, 2000). A further study in 2001/2002 found that among those who had been injecting for less than two years (i.e since 1999), 37% (55/147) tested HCV positive (Taylor et al, unpublished data).

From these findings it is apparent that more effective ways to prevent HCV infection need to be developed. Studies to date, however, have not allowed the reporting of the specific practices which may place the IDU at risk of HCV acquisition. Needle sharing is a key factor in HCV transmission. Approximately one third of injectors continue to share needles and syringes and this habit may be increasing (Taylor et al, 2001). The sharing of filters, water and spoons have also been implicated in the spread of HCV infection (Hagan et al, 2001). However, we do not yet know enough about the actual injection preparation methods which may influence transmission e.g. the types of filters used, frequency of re-use of filters, water or spoons, the possible exchange of body fluids through sharing of tourniquets, swabs, etc. This information is essential to inform the development of effective interventions.

Accordingly, funding was provided by the Effective Interventions Unit through the Scottish Executive’s Drug Misuse Research Programme to undertake an in-depth observational study of the injecting practices of IDUs in Glasgow.

This summary provides a brief overview of the study and its findings. The full report is available from the Effective Interventions Unit.

Aim

The aim of the study was to examine the injecting practices of Scottish injecting drug users to a degree of detail not previously achieved in the UK. The specific focus was practices that could potentially facilitate the transmission of HCV infection. Risk practices other than the direct sharing of needles and syringes were of special interest as these are not so well understood.

Methodology

The primary means of data collection was direct observation using a video camera to record injecting events in IDUs’ own settings. The study sought to explore how IDUs prepare and administer their injections and what happens immediately afterwards.

Recorded data were augmented with researchers’ field notes. These provided a record of the circumstances surrounding each injecting event. Additionally, taped interviews were conducted with the majority of participants. All interviews took the form of an informal conversation loosely based around the issues raised in the study objectives.

Recruitment and field work took place over a seventeen-week period from the first week of January 2003 to the first week of May 2003. Respondents were recruited using a targeted snowballing technique which provided a range of injectors at different stages of their injecting careers.
Results

A total of 30 IDUs were recruited to the study. Injecting careers ranged from 2 weeks to 21 years. Almost three-quarters of the sample (n=22) were male. Twenty-five (25) lived in their own or partner’s home and five were homeless. Eight participants had a sexual partner who was also an IDU. The majority of respondents (n=26) injected heroin only. Two IDUs injected heroin and cocaine and two injected cocaine only. Half (n=15) of the study group were not in treatment during the data collection period, 14 respondents were receiving methadone treatment and one participant had a short stay in a residential rehabilitation unit.

The 30 members of the study group were recorded injecting on 48 separate occasions. Within these 48 events, drugs were prepared for injecting a total of 65 times and a total of 103 injections were administered. Twenty-two of the 48 recorded events and 47 of the 65 preparation episodes involved two or more IDUs injecting together.

The results showed that there are multiple ways in which IDUs put themselves at risk of HCV transmission during the injecting process.

- **Sharing of injecting equipment**

To become infected with HCV, an individual must come in contact with the blood of an infected person. The most common route of HCV transmission is injecting drug use. The most obvious route of HCV transmission is for an IDU to inject with a N/S previously used by another potentially infected injector. However, only one such incident (1/103 injections) of direct sharing occurred in this study. The indirect sharing of potentially infected N/S and the sharing of other potentially infected injecting paraphernalia, however, was more common.

Participants in the study invariably injected with their own, or what they regarded as their own, N/S. Just over half of the injection episodes (54/103) involved the use of new, sterile N/S. The potential for transmission arose in the episodes (49/103) in which participants injected with previously used N/S. Apart from the one IDU who was seen to inject with another’s N/S, the participants in the other 48 injection episodes believed that their pre-used needles had been used only by themselves. Some participants, however, admitted that they have may have used another person’s N/S by mistake. This could happen in two ways. Firstly, cohabiting IDUs often stored their used N/S next to each other’s and then had difficulty in distinguishing one from another. Another way in which N/S could be confused was where two or more people were injecting together, put their N/S down next to each other’s and then could not tell which was theirs.

The utilisation of a pre-used N/S in the preparation or drawing up of drug solute for more than one injector was another way in which needles/syringes were shared indirectly. It was common to prepare drugs in one batch for all participants, this being the most efficient way to divide drugs bought with pooled resources. In more than three-quarters (38/47) of the preparation episodes involving two or more IDUs one batch of drug solute was prepared to be divided among the group. On 14 occasions a pre-used N/S drew the solution up first. Although the needle does not come into direct contact with another IDU in such circumstances, it potentially could contaminate any or all of the other injecting paraphernalia or drug solution.

In 44 of the 47 preparation episodes involving more than one IDU, cookers, filters and water were shared among participants.

The majority of cookers (n=46) used in the 65 preparation episodes were visibly unclean. Twenty-five (25/46) of these episodes involved two or more participants sharing the same previously used cooker. Only 13 (13/65) episodes involved a cooker which was cleaned in front of the researchers; five (5/13) of these were then shared. In two episodes the cooker was visibly clean from the outset and shared between two participants. In four cases the cleanliness of the cooker could not be discerned.
In seven (7/65) episodes the water used to dissolve the drug was not fresh. On these occasions the water used to prepare the drug solute had been used previously to clean needles and was thus potentially contaminated. In two episodes, previously opened bottled water was used and in four episodes the source of the water was unknown. In three episodes the participant used no water, the drug was dissolved using ‘Jif’ lemon juice alone. On all other occasions fresh tap water, freshly boiled or fresh bottled water was used.

Flush water, used to rinse out N/S injection, was another potential source of infection. Seventy-one (71) of the 103 administration episodes involved participants flushing their N/S with the same water used in the preparation process. Forty-nine (49/71) of these episodes involved two or more participants sharing the same flush water. This would not necessarily be a risk behaviour if the flushed N/S were then disposed of. However, of the 82 needles used in the 103 administration episodes, only 25 (25/82) were disposed into a cin bin. The remainder were stored in a variety of places for use at another time. Storage in a cin bin did not guarantee that such needles would not be re-used. Researchers witnessed N/S extracted from cin bins on several occasions.

Blood-to-skin contact is generally regarded as a low transmission risk, but in circumstances where this happens frequently or where skin is broken, this can increase this risk. IDUs were seen placing bloody fingers on another’s injection site on nine occasions and leaving bloodied tissues or cotton wool on tables and other surfaces on four occasions.

- **Risk behaviours for infections other than blood borne viruses**

While the main aim of the study was to identify risk behaviours for HCV, many of the behaviours recorded also have potential for the development of bacterial infections. The level of hygiene was generally low. In only one (1/103) injection administration did a participant wash their hands prior to injecting. A swab was used to clean the injection site prior to injection in only 20 (20/103) occasions. On no occasion was the preparation surface wiped before use and on 15 (15/65) the surface was visibly unclean. Of the 57 filters used in the preparation episodes, none were disposed of and eight were kept in closed containers highly conducive to the development of anaerobic bacteria.

- **Social environment and harm reduction**

Most of the study participants were aware of blood borne viruses (BBVs) and how they were transmitted. However, the circumstances of their lives and drug habits often acted as obstacles to the practice of safe injecting. Many of the risks — preparing drugs communally, storing used filters and spoons — arose out of the need to ensure that they received the maximum amount of drug possible. This included the 14 participants who were receiving methadone at the time of the study but still required to “top-up” with heroin.

Even for those who fully understood how to prevent contamination of equipment and drug solute from blood, the processes of preparation and injecting were riddled with pressures which may result in sub-optimal practices. For example, when IDUs injected together the controlling person was usually, although not always, the one who had supplied the drug. Those not in control may need to compromise their desire to inject safely because they do not have the same leverage as the controller in the ways that drugs are prepared and injected.

Most participants maintained that despite greater awareness of the consequences of unsafe injecting they would still engage in risky practices in certain scenarios. Many said they would use or consider using another IDU's previously used N/S if: a) they were experiencing severe withdrawals or b) they did not have a needle/syringe of their own. Other factors shaping an individual's injecting practices included naivety, bereavement, laziness, tendency towards short-term thinking and homelessness. Homelessness could lead to the practice of outdoor injecting. Those who inject outdoors have no access to running water, cannot stock up on sterile injecting equipment, and do not have the luxury of being able to take their time in the preparation process.
In summary, harm reduction messages have to compete with other often more pressing concerns.

**Implications for policy and practice**

The findings of this study have implications for policy and harm reduction services.

- It is important that IDUs have the potential to use a sterile N/S for each injecting episode. Recent changes have been made to allow needle exchange facilities in Scotland to give out a greater number of sterile needles/syringes. These changes should help to some extent. However, the need for IDUs to have 24-hour access to needles/syringes must also be addressed. This could be done either through increasing the number of services providing 24-hour access, or by making clean equipment available through other means such as vending machines.

- In situations where IDUs are injecting in the company of other IDUs, they need better ways of distinguishing each other’s equipment. This could be done easily if, for example, the commonly used fixed 1ml needle/syringe were produced in different colours.

- IDUs need more information about the ways in which injecting equipment can become contaminated in the process of drug preparation. This could be achieved through a training video, posters and leaflets demonstrating risk practices, and by developing health promotion materials which emphasise the need for hygienic practices.

- Policy-makers should consider whether the provision of safe injecting rooms would help to address some of the particular needs of those injectors who have to inject outdoors.

- Just under half of the sample were receiving methadone treatment but were still injecting. Elsewhere, methadone maintenance therapy has been shown to reduce, but not eliminate, the practice of injecting (Hutchinson et al, 2000). Inadequacy of dose may be a factor influencing the continuation of injecting.

**References**


