

Chapter 2

Drug-Related Infectious Diseases

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2.1 Introduction

As in other European countries, the advent of HIV/AIDS and the connection made between its spread and injecting drug use, can be seen to have played a key role in influencing the development of drug-related policy and services in Ireland (Butler, 1991; O'Gorman, 1998). Prior to the early 1990s, abstinence was seen as the most acceptable goal for Irish drug-treatment programmes. However, the early 1990s saw a move toward greater use of harm-reduction strategies and the expansion of substitution and needle exchange programmes in Irish drug-treatment services. The 1991 Government Strategy to Prevent Drug Misuse confirmed both the shift in treatment philosophy from one based solely on abstinence to one that included a harm-reduction strategy, and the central role the advent of HIV had played in this policy shift:

Insofar as HIV infection is concerned, of the 1,049 cases identified, 582 (or 57%) are drug misuse related. ... It is clear from the foregoing that the prevention of transmission of HIV virus in this country must include strategies developed to deal with the drug misuse problem. ...These strategies must be community based, client orientated and, given the serious nature of the problem, of necessity, innovative. They must include emphasis on outreach programmes involving counselling, methadone maintenance and needle exchange. Advice on risk reduction services generally must form an essential part of any such strategies to minimise the spread of the disease [HIV/AIDS]; (*Government Strategy to Prevent Drug Misuse*, 1991: 7).

Furthermore, while the two reports produced by the Ministerial Task Force to Reduce the Demand for Drugs (1996, 1997) continued to reiterate the ultimate aim of all treatment programmes as abstinence, harm-minimisation strategies,

specifically aimed at preventing the spread of HIV (i.e. substitution and needle exchange programmes), became a central feature of drug-treatment services. The second report of the Task Force argued that it had developed 'a strong philosophy of harm reduction and treatment of the consequences of drug abuse - stabilisation, methadone maintenance, detoxification, rehabilitation and re-integration' (Ministerial Task Force to Reduce the Demand for Drugs, 1997: 7).

TABLE 2.1

While HIV/AIDS in 1985-1999, HIV Positive Cases by Risk Category, that was at the centre of drug policy development in Ireland, other diseases, in particular hepatitis C, are attracting an increasing amount of attention from those working

Year	IDUs	Homosexual Sex	Heterosexual Sex	Risk Unspecified	Other	TOTAL
2.2	Prevalence of HIV, HBV and HCV among Drug Users (%)	n (%)	n (%)	n (%)	n (%)	n (%)
2.3	Determinants of Drug-Related Infectious Diseases					
1985**	221 (60.9)	39 (10.7)	0	103 (28.4)		363 (100.0)
2.4	Consequences of Drug-Related Infectious Diseases					
1986	New Developments and Uptake of (Preventive/Harm Reduction) Case					
1987	72 (49.7)	21 (14.5)	26 (17.9)	26 (17.9)		145 (100.0)
1988	58 (50.4)	17 (14.8)	20 (17.4)	20 (17.4)		115 (100.0)
1989	57 (49.1)	33 (28.5)	0	26 (22.4)		116 (100.0)
2.2	Prevalence of HIV, HBV and HCV among Drug Users					
1991	34 (36.9)	27 (29.4)	25 (27.2)	6 (6.5)		92 (100.0)
1992	82 (40.8)	58 (28.9)	50 (24.9)	11 (5.5)		201 (100.1)
1993	52 (38.0)	48 (35.0)	21 (15.3)	16 (11.7)		137 (100.0)
1994	20 (23.8)	31 (36.5)	22 (25.9)	12 (14.1)		85 (100.0)
1995	14 (20.9)	33 (49.3)	30 (43.0)	9 (9.9)		91 (100.1)
1996	20 (18.9)	41 (38.7)	27 (25.5)	18 (17.0)		106 (100.1)
1997	21 (17.7)	37 (31.1)	40 (33.6)	21 (17.7)		119 (100.1)
1998	26 (19.1)	37 (27.2)	47 (34.6)	26 (19.1)		136 (100.0)
1999	31 (23.0)	40 (29.9)	59 (43.2)	20 (14.9)		150 (100.0)
Total	913 (41.6)	498 (22.7)	412 (18.8)	372 (17.0)		2,195 (100.1)

among particular cohorts of drug users.
Source: Department of Health and Children.

* IDUs = Intravenous drug users.

** Cumulative figure for 1982-5.

Routine Data on HIV Testing

In Ireland, at the time of writing, the Department of Health and Children, in collaboration with the Virus Reference Laboratory, based in University College, Dublin, produces statistics on HIV-positive tests, which are published every six months. The figures relating to HIV tests are broken down according to risk category. There are a number of risk categories identified in relation to HIV infection, including injecting drug use, homosexual sex and haemophiliac contact. Therefore, it is possible to get a breakdown of the number of positive HIV cases attributable to injecting drug use in a given year. However, there are a number of limitations to this data source that should be noted:

- it is limited to the tested population. Nothing can be inferred for those drug users who have not been tested;
- it is not possible to identify non-injecting drug users within the data set;
- no socio-demographic data are collected on those who are tested;
- there is only a limited geographical breakdown available;
- a gender breakdown has only been made available since 1997; and
- both risk behaviours (e.g. injecting drug use) and test locations (e.g. prison) are used as categories. This makes the data somewhat unclear. For example, it is not known through what risk activity those tested in the prison setting became infected with HIV.

Despite these limitations, this data source provides the best information with which to examine the epidemiological profile of HIV in Ireland over the past decade and a half.

The cumulative figures for the positive cases of HIV from the start of data collection in 1982 up until 1985, show that just over 60 per cent (n=221) of all positive cases (n=363) were attributed to injecting drug use (see Table 2.1). Since 1985, injecting drug use has continued to be one of the main risk categories, accounting for 41.6 per cent of the cumulative number of positive cases up until 31 December 1999 (see Table 2.1). Two possible explanations have been given by O'Gorman (1999) for the high proportion of intravenous drug users in the known HIV-positive population. She argues that the culture of injecting drug use that existed among drug users in Ireland during the 1980s, at a time when both information on safe injecting practices and access to clean injecting equipment were limited,¹ resulted in the rapid transmission of HIV among the injecting

¹ The first needle exchange programme in Dublin was established in 1989.

population. Secondly, she argues, the injecting drug-using population may be more likely to have been tested for HIV through their contact with drug-treatment services than those individuals who may be at risk of infection through other routes, e.g. heterosexual sex (O'Gorman, 1999: 6).

The proportion of positive cases attributed to the intravenous drug user category generally decreased from 1992 through to 1998. In 1994, for the first time, intravenous drug use accounted for fewer new positive cases than the 'homosexual sex' or 'heterosexual sex/risk unspecified' categories (see Table 2.1). In fact, the proportion of positive HIV tests attributed to intravenous drug use fell from 49.1 per cent in 1989, to a low of 17.7 per cent in 1997 (see Table 2.1). It is suggested that the reduction, both proportionately and in absolute numbers, over this period may be attributed, at least in part, to the expansion of services aimed at reducing the spread of HIV among injecting drug users, i.e. substitution and needle exchange programmes. In an analysis of the trends up until 1998 the National AIDS Strategy Committee comments that:

Epidemiological surveillance of HIV would indicate that in recent years the overall incidence of HIV among intravenous drug users is reducing. While we must be wary of drawing major conclusions from short term changes in infection patterns service providers are optimistic that this trend is as a result of the intervention through a combination of substitution therapy with methadone and needle exchange service (National AIDS Strategy Committee, 2000: 63).

Table 2.2
Ireland 1997-1999, HIV Seropositive Intravenous Drug Users, by Gender.
Numbers and Percentages.

Year	Male n %	Female n %	Total n %
1997	18 (85.7)	3 (14.3)	21 (100)
1998	16 (81.5)	10 (38.5)	26 (100)
1999	35 (50.7)	34 (49.3)	69 (100)

Despite the apparent reduction in the proportion of positive cases attributed to injecting drug use, figures from 1999 show a substantial increase in the number of positive cases attributed to injecting drug use. Between 1998 and 1999 the total number of new cases of HIV increased from 136 to 209. Furthermore, the number of new positive cases attributed to injecting drug use increased from 26 of the total new cases (n=136) in 1998, to 69 of the new cases (n=209) in 1999. Therefore, proportionately, injecting drug use as a risk category increased from accounting for 19.1 per cent of new HIV-positive cases within this data source in 1998, to 33 per cent in 1999. This is the highest annual proportion of new positive cases attributed to injecting drug use since 1993.

Anecdotal evidence suggests a couple of explanations for the increase in the number of positive cases attributable to injecting drug use during 1999. Firstly, leading on from the Protocol for the Prescribing of Methadone, issued by the Department of Health (1993), guidelines were developed for general practitioners prescribing methadone within the general-practice setting and for pharmacists in their dispensing of methadone. Following the completion and evaluation of a pilot programme, the Report of the Methadone Treatment Services Review Group made a number of recommendations on tightening control on both the prescribing and dispensing of methadone, in accordance

with the 1993 protocol (Department of Health, 1997). Consequently, the Misuse of Drugs (Supervision of Prescription and Supply of Methadone) Regulations were drawn up in 1998. The regulations aim to create a more controlled environment for the prescribing and dispensing of methadone. Within this context, all those who were receiving methadone in Ireland were integrated into a structured programme. Furthermore, drug users were integrated into a structured programme-setting, where there is an active policy of carrying out virology (blood test) in relation to HIV and hepatitis. It is suggested that this may have resulted in an increase in the number of injecting drug users being tested for HIV and, in turn, an increase in the number of positive cases being attributed to injecting drug use during 1999. Secondly, it has been suggested anecdotally that perceptions may be beginning to change among the drug-using population in relation to HIV. It is argued that the availability of new treatment, i.e. Highly Active Anti-Retroviral Treatment (HAART), and the visibility of individuals in the community for whom treatment has been effective, has encouraged people to come forward for testing so that they can avail of treatment if necessary.

HIV among Prisoners

As mentioned above, within the Department of Health and Children's reporting system on HIV-positive tests, those who are tested in prison are categorised according to the testing location, i.e. prison. Although the proportion of positive cases from the testing location category of prison which are attributable to injecting drug use is not known, anecdotal evidence suggests that most of those being tested have a history of injecting drug use. Since 1989, a total of thirty-nine new positive cases have been attributed to 'prisoners', thirteen of whom tested positive in 1999. The use of both risk categories and testing locations in the Department of Health and Children's reporting system does not allow for any conclusions to be drawn as to the significance of these figures in relation to the injecting drug-using population. It is important that the risk category of these cases be clarified.

HIV and Gender

Gender is the only socio-demographic data collected from those who are tested for HIV by the Department of Health and Children. Gender has been reported since 1997. An examination of the figures by gender suggests a possible change in the profile of those who are testing positive for HIV in Ireland (see Table 2.2). In 1997, females only accounted for three of the twenty-one new positive cases

attributed to injecting drug use. In 1998 this had increased to ten of the twenty-six positive cases among injecting drug users, and in 1999 it had increased further to account for thirty-four of the sixty-nine positive cases. Speaking in percentage terms, women have increased from representing 14.3 per cent of the positive tests among injecting drug users in 1997, to 38 per cent in 1998, to 49 per cent in 1999. Owing to the lack of information on gender prior to 1997, it is not possible to explore trends over a more extended period of time. Anecdotal evidence suggests that these figures may reflect a real increase in the number of female, injecting drug-users who are becoming infected with HIV. However, it is also suggested that these women may be becoming infected through their sexual behaviour rather than their injecting drug use. Once identified as an injecting drug user, however, their infection will tend to be attributed to their injecting drug-using behaviour. Anecdotal evidence also suggests that a growing number of women may be attending for testing in order to be able to minimise the risk of infection to their baby were they to become pregnant.

Author	Study Period	Sample Source	Self Report/ Test	Serum/ Saliva	Sample Size	% Infected of Those Tested
Long et al., (2000)	1999	Committal Prisoners n=593	Test	Saliva	IDUs 4 (n=173)	IDUs 5.8%
Allwright et al., (1999)	1998	Irish Prisoners n= 1,178	Test	Saliva	IDUs (n=509)	IDUs 3.5%
Smyth et al., (1998)	1992-1997	Drug Treatment Centre n=735	Test	Serum	IDUs (n=600)	IDUs 1.2%
Source: Department of Health and Children. Dorman et. al., (1997)	1992	Drug Treatment Centre & Non Treatment	Test	Serum and saliva	IDUs (n=180)	IDUs 8.4%
Special Studies on HIV Prevalence						
A number of special studies have been carried out, which have explored the prevalence of HIV among cohorts of drug users in a range of study locations. The studies include drug users located in the community, drug-treatment centres, needle exchange programmes and prisons. A summary of the research findings on the prevalence of HIV infection among particular cohorts of drug users is presented in Table 2.3 below.						
O'Kelly et al. (1996)	1984-1995	IDUs in community n=82	Test	Serum	IDUs (n=66)	IDUs 65%
(1994)	1994	Needle Exchange	Test	Saliva	IDUs (n=81)	IDUs 14.8%

One of the first studies of drug use in Dublin began in 1985, when O'Kelly & Bury (1996) identified a cohort of known intravenous drug users in an inner city area. The prevalence of HIV infection among this group was monitored over the next decade. In 1991, 57.3 per cent of the total cohort (n=82) were known to be HIV positive; by 1994, 64.6 per cent of the cohort had tested positive for HIV. In

total, eighteen of those who had tested positive by 1994 had died. O'Kelly & Bury (1996) argue that the high prevalence rate of HIV among this cohort reflects the context in which their intravenous drug use developed. They argue that 'the uncontrolled use of injected drugs and the sharing of scarce equipment were commonplace at the time; the true impact of these practices is now clear in terms of the spread of HIV infection among the young people who lived there' (O'Kelly & Bury, 1996: 114). Another study, carried out in Dublin with a cohort who had begun injecting during the same period, found similar rates of HIV prevalence. Williams, Mullan, O'Connor & Kinsella (1990) found that, of a cohort of sixty-nine individuals on a methadone maintenance programme, 70 per cent were HIV positive.

These high prevalence rates of HIV were not found in the Dublin-based studies subsequent to those of O'Kelly & Bury (1996) and Williams *et al.* (1990). Johnson *et al.* (1994) found that in 1991, 14.8 per cent of a sample recruited from a needle exchange programme were HIV positive. The Dorman, Keenan, Schuttler, Merry & O'Connor (1997) study, carried out in 1992 in the context of a World Health Organisation multi-national research initiative, found that 8.4 per cent of a sample of 180 injecting drug users, recruited from both in and out of treatment, were HIV positive. In contrast, the research findings on the prevalence of Hepatitis B infection among particular cohorts of drug users (Barry, Bradley, Long & Thornton, 1999) found a prevalence rate for HIV of only 1.2 per cent. This is low in contrast to an estimated 8 per cent prevalence rate (based on laboratory reports) among injectors attending Eastern

Numbers and Percentages

Author	Study Period	Sample Source	Report Test	Serum/Saliva	Size Tested	% Infected of Those Tested
Barry, Bradley, Long & Thornton (1999)	1997	Eastern Health Board methadone clinics	Serum	Saliva	100	1.2
Long <i>et al.</i> (2000)	1999	Committal Prisoners	Test	Saliva	171	0.5
Allwright <i>et al.</i> (1999)	1998	Irish Prison Population	Test	Saliva	509	0.9
Smyth <i>et al.</i> (1998)	1992	Drug treatment Centre	Test	Serum	76	3.5

prisoners who reported no history of injecting drug use, the infection rates were 0.5 per cent among the committal population (Long *et al.*, 2000) and 0.9 per cent within the general prison population (Allwright *et al.*, 1999). In an environment where injecting drug use is on-going, and in the absence of any provision for clean injecting equipment, the risk for the spread of infection within this population is high.

In summary, injecting drug use continues to be one of the main risk categories to which HIV-positive cases are attributed each year. Despite the rate of new HIV-positive cases attributed to injecting drug use plateauing in the early and mid-1990s, recent figures suggest that there is an upward trend in the number of new HIV-positive cases among Irish drug users. The information available on those testing positive for HIV remains limited. Analysis of the figures highlights the need for more information, in particular of a socio-demographic and behavioural nature, to facilitate comprehensive epidemiological analysis of the trends.

Table 2.3. Ireland 1994-1999. Summary of Research Findings on the Prevalence of HIV Infection among Particular Cohorts of Drug Users.

² 'Committal prisoners are prisoners who have been admitted to the prison within the preceding 48 hours, accused or guilty of a new crime, excluding those on temporary release or transferred from another prison. The committal population includes individuals entering on remand, following sentence, committed as a result of a bench warrant and non-nationals without valid documentation' (Long et al., 2000: 2).

³ All those incarcerated irrespective of their committal status.

⁴ IDUs: Injecting drug users

2.2.2 Hepatitis B

There is very little information in Ireland on the prevalence and incidence of hepatitis B among both the general population and the injecting drug-using population. While data are collected on the number of positive tests carried out for hepatitis B infection during particular cohorts of drug users, data are collected and, therefore, those infected through drug use cannot be identified.

TABLE 2.5
Hepatitis B Infection During Particular Cohorts of Drug Users
Numbers and Percentages

Author	Testing Period	Sample Source	Self Report Test	Serum/Saliva	Sample Size Tested	% Infected of Those Tested
The Smyth <i>et al.</i> , (1998)	1993-1996	Drug Treatment Centre n=353	Test	Serum	IDUs (n=353)	IDUs 52.1%
Smyth <i>et al.</i> , (1999b)	1997	Drug Treatment Centre n=84	Self-report	n/a	IDUs (n=84)	IDUs 89%
Smyth <i>et al.</i> , (1998)	1992-1997	Drug Treatment Centre n=735	Test	Serum	IDUs (n=733)	IDUs 61.8%
Smyth <i>et al.</i> , (1995)	1992-1993	Drug Treatment Centre n=272	Test	Serum	IDUs (n=272)	IDUs 84%

IDUs = Intravenous drug users.

2.2.3 Hepatitis C

In Ireland, there is no routine data collection in the area of hepatitis C. However, there have been a number of special studies carried out among samples of drug users in a variety of study settings (see Table 2.5).

The first study of hepatitis C infection among injecting drug-users was carried out between August 1992 and August 1993 by Smyth, Keenan, Dorman & O'Connor (1995). The study sample was identified through a treatment centre, where all new attenders and re-attenders who presented during the study period and who reported a history of injecting drug use were encouraged to take part. In total, 272 injecting drug-users took part and a prevalence rate of 84 per cent for infection with hepatitis C was found. Among those injectors who had been injecting for between six months and two years inclusive, the prevalence rate was 70 per cent. Among those with an injecting history of longer than two years, the prevalence rate was 95 per cent. Furthermore, there was a significant gender difference in relation to infection: of the 194 males, 156 (80%) tested positive, whereas 73 of the 78 females (94%) were positive.

Further studies were carried out by Smyth et al. (1998) and Smyth, Keenan & O'Connor (1999a), which examined the prevalence of hepatitis C infection among in-treatment populations. Consecutive new attenders at a treatment service, who attended between July 1993 and December 1996, were approached to take part in the study. In all, a sample of 353 injecting drug-users who reported an injecting history of less than twenty-five months were recruited. Overall, a prevalence rate of 52.1 per cent was recorded in this sample. In an extension of this study cohort, Smyth et al. (1998) later found that of 733 consecutive new attenders between September 1992 and September 1997 at the same treatment centre, 61.8 per cent were hepatitis C positive.

In two prison studies, which have been discussed in previous sections, the prevalence of hepatitis C among prisoners was explored (Allwright et al., 1999; Long et al., 2000). The prevalence of hepatitis C infection was found to be high within this population. Allwright et al. (1999) found that among 509 prisoners with a history of injecting drug use, 81.3 per cent tested positive for hepatitis C. In contrast, only 3.7 per cent of those prisoners who did not report a history of injecting drug use had tested positive for hepatitis C. A follow-up study of the committal prisoner population (Long et al., 2000) found that, of 173 prisoners

with a history of injecting drug use, 71.7 per cent were hepatitis C positive. Only 1.4 per cent of those prisoners who reported that they had no history of injecting drug use tested positive for hepatitis C.

While it is not possible from the available data to analyse infection trends over time, it would appear from the studies available that hepatitis C infection has been prevalent among Irish injecting drug-users over the past decade. Anecdotal evidence suggests that the relative ease with which hepatitis C can be spread through injecting drug use, and a lack of knowledge among users about hepatitis C and the associated risks, have all contributed to its spread. In summary, the

prevalence rate for hepatitis C infection has been found to be consistently high within the drug-using population over the past decade.

2.2.4 Summary

The most comprehensive data available on drug-related infectious diseases in Ireland are for HIV. While the number of new, positive tested cases for HIV, which were attributable to injecting drug use, appeared to stabilise in the mid-1990s, figures for 1999 show an increase in the number of cases. For both hepatitis B and C, analysis is dependent solely on data from special studies. Despite the absence of comprehensive data it appears from the evidence available that hepatitis C continues to be highly prevalent among Irish injecting drug users. Overall, it would appear from the data available that drug-related infectious diseases continue to be a concern in relation to Irish injecting drug users. Furthermore, this highlights the need for more comprehensive data collection in the area of all drug-related infectious diseases in order to monitor changes in the trends over time.

2. 3 Determinants of Drug-Related Infectious Diseases

This section addresses some of the determinants of drug-related infectious diseases in the Irish context. It examines research that has looked at the risk behaviours engaged in by Irish drug users, both in relation to their injecting drug use and their sexual behaviour. Furthermore, it explores the data available on both the health-related consequences and the wider social consequences of drug-related infectious diseases.

2.3.1 Injecting Risk Behaviour

Once the link between the spread of HIV and injecting drug use was established in the mid-1980s, the risk behaviours engaged in by the injecting drug-using population became a focus of research. In the Irish context, studies on the injecting risk behaviour of drug users have spanned the last decade. During this period the provision of harm-reduction strategies has expanded from being available through a small number of programmes to a small number of drug users, to more widespread availability, to a significant number of programmes catering for a significant number of drug users. This section first describes the findings of research related to the risk behaviours of the general injecting population, and then second describes the findings relating to three sub-groups

of particular interest - young injectors, female injectors and injecting drug users in prison.

Injecting Drug Users in General

Research carried out by Johnson et al. (1994) in 1991, among a sample of attendees at a Dublin needle exchange, found that 52.6 per cent of respondents reported that they had not shared equipment during the preceding twenty-eight days, while over 34.2 per cent had shared with two or more other people. A study carried out a year later, in 1992 (Dorman et al., 1997), among a sample (n=185) of injecting drug users both in and out of treatment, found that 55.7 per cent of the sample had shared and 61.6 per cent had lent injecting equipment in the previous six months.

Despite the expansion of harm-reduction strategies since the two studies described above (Johnson et al., 1994; Dorman et al., 1997) were carried out, more recent research has found that Irish drug users continue to engage in risky injecting behaviour. In a study of those attending a needle exchange programme, Cox & Lawless (2000) found that 59 per cent of the sample who had a history of injecting drug use (n=1,323) reported sharing injecting equipment at some stage in their injecting drug-using career. Furthermore, 29 per cent of these respondents reported sharing recently (i.e. in the previous four weeks). Among the 29 per cent who reported sharing recently, 17 per cent had lent their injecting equipment, 50 per cent had borrowed it and 33 per cent had done both. Data from the National Drug Treatment Reporting System (NDTRS), operated by the Drug Misuse Research Division of the Health Research Board, offers further evidence that Irish drug users continue to engage in injecting risk behaviours. In 1998, 575 out of first-treatment contacts (n=1,625) reported that they had ever injected a drug, and 45.6 per cent of these reported that they had ever shared injecting equipment. Furthermore, 352 of this sample reported that they were currently injecting (i.e. within the last month), and 26 per cent (n=94) of these reported that they were currently sharing injecting equipment (i.e. within the last month).

Young Injectors

In a study specifically aimed at exploring the risk behaviours engaged in by a sample of young injectors (n=485), i.e. those under the age of 25, Cassin, Geoghegan & Cox (1998) found a significant proportion regularly engaged in injecting risk behaviours. Compared with a cohort of older injectors (n=285), i.e. those over the age of 25, who were attending the same service, younger clients were found to be significantly more likely to have reported both lending and

borrowing used needles and syringes in the four weeks prior to first contact with the syringe exchange programme. Furthermore, 64.3 per cent of the younger cohort reported that they had shared injecting paraphernalia (i.e. spoons and filters) in the four weeks prior to contacting the service, compared to only 43.8 per cent of the older cohort.

Female Injectors

Female drug users have been studied specifically in relation to their injecting risk behaviours. Cox & Lawless (2000) found that among a cohort of needle-exchange clients, women (n=304) were significantly more likely than men (n=1,000) to report sharing injecting equipment with their sexual partner and to share injecting paraphernalia with other injecting drug users. While 53 per cent of men reported that they had shared injecting paraphernalia, 63 per cent of females reported that they did so. The gender difference was more acute in relation to sharing injecting equipment with a sexual partner: 13 per cent of men compared to 37 per cent of women reported that they did so. However, this was directly related to the fact that 68 per cent of women reported that they had a sexual partner who was an injecting drug user, compared to just 24 per cent of men. Cox & Lawless (2000) argue that the greater personal involvement of women with other drug users has consequences in terms of health-related problems and risk behaviour. The social opportunities created by living in close proximity with other injecting drug users creates an environment in which risk behaviour flourishes (Cox & Lawless, 2000).

Injecting Drug Users in Prison

To date, Irish prisoners do not have access to clean injecting equipment and only a very limited number have access to a methadone maintenance programme in the prison setting. This implies that, where injecting drug use occurs in the prison, it may be particularly risky in relation to the spread of drug-related infectious diseases.

O'Mahony's (1997) study in a Dublin prison found that 42 per cent (n=45) of a sample of 108 prisoners had used heroin while in prison serving their current sentence. Of these forty-five, thirty-seven had engaged in intravenous use. One-sixth of those reporting a history of drug use had tested positive for HIV, while a quarter had never been tested. In addition, half these drug users said they had tested positive for at least one form of hepatitis. O'Mahony described as

'alarming' (O'Mahony, 1997: 107) the finding that, of those who reported having tested positive for HIV, 60 per cent had engaged in needle sharing since being notified of their positive status. An earlier study, based on data gathered between 1987 and 1991, found that during this period, 168 known HIV-positive prisoners had spent time in Mountjoy Prison in Dublin. A study of a sub-sample of these HIV-positive individuals, selected on a random basis, found that 94 per cent had engaged in drug use within the prison, suggesting a potential spread of HIV to uninfected prisoners (Murphy, Gaffney, Carey, Dooley & Mulcahy, 1992).

A more recent study of HIV and hepatitis B/C prevalence among prisoners investigated the sharing of injecting equipment in the prison setting (Allwright et al., 1999). As may be expected in an environment where there is no formal access to injecting equipment, it was found that injecting drug users were more likely to share injecting equipment while in prison than when they were in the community. Of injecting drug users, 58 per cent reported that they had shared all injecting equipment (i.e. needles, syringes, filters, spoons) while in prison, compared to 37 per cent who reported sharing in the month prior to being incarcerated. Furthermore, of those injecting drug users who had shared injecting equipment inside the prison, 89.1 per cent had tested positive for hepatitis C.

2.3.2 Sexual Risk Behaviour

In 1985 Irish family planning legislation was amended to allow for the sale of condoms to people over the age of 18 without a prescription from a range of named outlets. The sale of condoms was not deregulated in Ireland until 1993, when the law was changed to make condoms available for sale through outlets other than pharmacies. This change in the law was principally in response to public health concerns in relation to HIV/AIDS, and the law referred to condoms as infection preventers rather than as pregnancy preventers (Prendiville & Smith, 1993). Condoms are sold from a wide range of sources, including vending machines. Furthermore, condoms are distributed freely to groups considered to be at high risk of infection, including injecting drug users. Despite the wide availability of condoms, research carried out among drug users suggests that they continue to engage in sexual risk behaviours which may facilitate the spread of HIV and other infectious diseases.

A study of first-time attenders at the Eastern Regional Health Authority needle exchange programmes from 1990 to 1997 found that only 55 per cent of first-time

attenders (n=5,152) reported using a condom during sexual encounters in the previous year (Mullen & Barry, 1998). A study of drug-using women working in prostitution (n=77) (O'Neill & O'Connor, 1999), 83 per cent of whom reported injecting drugs in the previous month, found that while 92 per cent 'always' used condoms with clients for vaginal sex, only 15 per cent 'always' used condoms with their partners for vaginal sex. Furthermore, while none reported 'never' using condoms with clients for vaginal sex, 52 per cent reported that they 'never' used condoms with partners for vaginal sex. There were similar findings in research carried out with a cohort of clients attending a syringe exchange programme (n=1,309). It was found that 25 per cent of those who reported having no regular sexual partner reported 'never' using condoms, whereas 41 per cent of clients who reported having a regular sexual partner (n=865) reported 'never' using condoms. It has been argued that the reluctance to use condoms within long-term or steady sexual relationships can be particularly problematic; this has been argued both in the context of the drug-using population (Cox & Lawless, 2000) and the general population (Mahon, Conlon & Dillon, 1998).

2.3.3 Summary

In summary, this section highlights the extent to which Irish drug users continue to engage in behaviours conducive to the spread of drug-related infectious diseases, both through their injecting drug use and their sexual activity. Despite the expansion of harm-reduction strategies since the early 1990s, Irish drug-users continue to engage in these risk behaviours. The findings of studies carried out in the early 1990s in relation to risk behaviours may be explained by a lack of appropriate service provision and a lack of knowledge among both service providers and users of the risks involved in sharing. However, the more recent study findings show that these patterns of risk behaviour continue to exist despite the presence of appropriate services. Section 2.5 presents the research findings on whether the introduction of harm-reduction strategies have had an impact on drug users' risk behaviours.

TABLE 2.6
Ireland 1982-1999. AIDS Cases and Deaths by Risk Category.
Numbers

Risk Category	1982-1992		1993		1994		1995		1996		1997		1998		1999	
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
Intravenous Drug Use Related*	142	61	43	21	22	27	25	27	34	17	10	1	12	8	16	7
Homo/Bisexual Haemophiliacs/ Heterosexuals	109	45	13	14	27	11	16	11	34	16	12	3	13	9	13	5
Others	52	27	12	9	18	6	13	8	11	1	8	2	14	4	11	5
Undetermined	5	3	0	0	0	0	1	0	0	0	2	1	2	0	1	0
Total	308	136	68	44	67	44	55	46	79	34	32	7	41	21	41	17

Source: Department of Health and Children / Virus Reference Laboratory.

*Includes categories 'intravenous drug users', 'homo-bisexual/intravenous drug users' and 'babies born to intravenous drug users'.

2.4 Consequences of Drug-Related Infectious Diseases

The consequences of drug-related infectious diseases have not received significant attention in the Irish literature. This chapter explores the data available on both the health-related consequences and the wider social consequences of drug-related infectious diseases.

2.4.1 Health-Related Consequences

The most obvious consequences of HIV and hepatitis B and C infection are the impact these diseases have on the individual's health. There are no data available on the number of drug users who develop chronic hepatitis C infection or require care for hepatitis B infection. The only data collected on the health consequences of drug-related infectious diseases are those on AIDS-related cases and deaths. Since recording began in 1982 and up until 31 December 1999, there have been 691 AIDS cases reported in Ireland, and 349 AIDS-related deaths (see Table 2.6). In 1999 there were 41 new AIDS-related cases recorded. Intravenous drug users continue to represent one of the main risk categories recorded in this data source. In 1999 intravenous drug users accounted for 39 per cent of new AIDS cases, and 41 per cent of the year's AIDS-related deaths.

Another area of concern is the extent to which HIV/AIDS is passed on from mother to baby. From January 1986 to December 1999, a total of 172 HIV-positive cases were attributed to the category 'children at risk', representing 7.84 per cent of the total HIV-positive cases reported over the period (Department of Health and Children). However, this category does not indicate the route of infection and it is therefore not known to what extent HIV among these children is attributable to maternal injecting drug use. However, the statistics collected on AIDS cases and deaths indicate where a child's infection is attributable to maternal drug use. In total, from 1982 to 1999 fourteen children born to drug users were recorded as AIDS cases; this represents 2 per cent of the total 691 cases recorded up to 31 December 1999. Furthermore, there were eight AIDS-related deaths among children of injecting drug users recorded in the same time period, which accounts for 2.3 per cent of the total 349 deaths recorded up to 31 December 1999.

In summary, little is known about the health-related consequences of drug-

related infectious diseases in Ireland. While there have been improvements in

treatment procedures, particularly in the area of HIV, coping with the impact of

the high prevalence rate of hepatitis C infection will present a particular challenge to service providers.

2.4.2 Social Consequences

The close link between social deprivation and problematic drug use in Ireland has meant that those affected by drug-related infectious diseases are generally from areas characterised by high levels of social deprivation. Individuals who may be considered socially excluded may therefore suffer further exclusion as a result of being affected by a drug-related infectious disease. In this context, it is important that the wider social consequences of drug-related infectious diseases be considered. However, little research has been carried out in this field, either on individuals infected, their families or the community at large.

As part of a wider study on heroin use in Dublin's inner city, McCarthy & McCarthy (1997) surveyed twenty-six opiate users and eighteen families in which there was a drug-using member. Among both groups, drug-related infectious diseases were raised as an issue of concern. A number of respondents reported that they had to cope with either their own or a family member's infection and its effects. Particularly acute were the concerns expressed by individuals in families where another member was HIV positive. Twenty-eight of the respondents from the family cohort reported that they had a family member who was HIV positive or living with AIDS. One mother reported that four of her children had died from AIDS-related illnesses between 1989 and 1995 (McCarthy & McCarthy, 1997: 58). It was also found, however, that none of the respondents who lived with a person who was infected with HIV had availed of any formal support services for themselves in relation to HIV/AIDS issues.

O'Gorman (1999) carried out a qualitative study of the experiences of both people directly infected by HIV and also those whose lives were affected by HIV, i.e. the parents, partners, children and siblings of people who were HIV positive. In total, members of nineteen families participated in the study - twenty-six adults and seven children who had been diagnosed HIV positive, and a further twenty-nine adults and fifty-four children who were affected by HIV/AIDS. This study highlights the complex nature of the problems faced by both those infected with and those affected by HIV/AIDS. The problems identified include the trauma involved in being diagnosed; informing other family members (e.g. partners, children), who may be at risk of infection; caring for a child who is HIV positive, when the parent is also HIV positive; complying with treatment

regimes; and coping with an AIDS-related death. O'Gorman (1999) argues that in the absence of adequate public information campaigns, HIV and AIDS continue to be widely viewed within Irish society with 'prejudice, fear and ignorance' (O'Gorman, 1999: 55). Consequently, those infected with the disease and their families have to live with the added strain of coping with the stigma and secrecy that surrounds HIV.

In summary, as in other European countries, the consequences of drug-related diseases in Ireland are multi-faceted. While they encompass consequences on the health and general well-being of the infected individual, they also impact on the infected individual's family and wider community. The wider social consequences of drug-related infectious diseases have been largely neglected in the Irish context and are in need of further attention.

2.5 New Developments and Uptake of Prevention/Harm Reduction and Care

As mentioned in previous sections, harm-reduction strategies play a key role in the provision of services for drug users in Ireland. Both needle exchange programmes and those based on substitution treatment were expanded in an attempt to curb the spread of HIV among injecting drug users. More recently, there has been an increased focus on the role these services play in preventing the spread of other drug-related infectious diseases, i.e. hepatitis B and C. This section gives an overview of the harm-reduction services available to Irish injecting drug users, which aim to prevent the spread of drug-related infectious diseases among this population. Furthermore, the section gives a brief overview of those services that provide care for those already infected. The following areas of service provision will be addressed:

2.5.1 Harm Reduction Programmes

2.5.2 Testing and Treatment

2.5.3 Hepatitis C Vaccination

2.5.1 Harm Reduction Programmes

A number of harm-reduction strategies have been developed, which specifically aim to prevent the spread of HIV and other drug-related infectious diseases among injecting drug users in Ireland. However, the impact of these programmes on infection rates among injecting drug users are unclear. Smyth et al. (1999a) attempted to explore the impact of these programmes on the spread of hepatitis C by carrying out tests for hepatitis C among a cohort of drug users. The cohort included those who had begun their injecting drug use before and after the expansion of harm-reduction programmes in Ireland. Smyth et al. (1999a) argue that the findings suggest that those injecting drug users who began their injecting drug use after the introduction of harm-reduction strategies, demonstrated a reduced risk of hepatitis C infection. However, Smyth et al. (1999a) emphasise that it was not possible to control for other factors that may explain the decline in the hepatitis C infection rate, such as a possible reduction in overall injecting frequency among more recent injectors.

In this section three specific harm reduction services will be briefly overviewed, and any research findings in relation to the impact they may have had on the spread of drug-related infectious diseases presented. The services that will be covered in this section are:

- Information and Education Programmes
- Needle Exchange Programmes
- Substitution Programmes

Information and Education Programmes

Information on drug-related infectious diseases is made available to drug users through a number of sources. Leaflets containing information on what these diseases are and how they are spread are available to drug users from a number of locations, including drug treatment centres, health centres, drop-in centres and voluntary organisations. An information booklet dealing specifically with hepatitis C has recently been produced, which is directly aimed at informing drug users and their families about the disease (Keating, 2000). Furthermore, there have been a limited number of education programmes aimed at informing drug users directly about drug-related infectious diseases and the associated risks. In 1996 the Health Promotion Unit of the Department of Health and Children produced guidelines for effective HIV/AIDS education (Department of Health, 1996). An example of an education programme aimed directly at drug

users was established by the Probation and Welfare Service in Mountjoy Prison, Dublin. This Drug Awareness Programme is a four-week programme consisting of one session per week. The principal aim is to educate participants about their drug use and the associated risks. It is aimed at all prisoners with a history of drug use, including those who have ceased their drug use and those who are continuing to use in the prison setting. Included in this programme is a session on HIV and hepatitis.

While education and dissemination of information about drug-related infectious diseases and the associated risks have been an important component in Ireland's prevention strategy, the effectiveness of information dissemination and the impact of such information on risk behaviour is unclear. Prior to the development of the Probation and Welfare Service's Drug Awareness Programme in Mountjoy Prison, an award-winning booklet and video, containing information for prisoners on HIV discrimination, infection and prevention, were produced and were supposedly available to all prisoners. However, a study carried out, based on focus-group interviews with prisoners and former prisoners, found that HIV-positive individuals in the focus groups had seen neither of these materials (O'Brien & Stevens, 1997). Furthermore, as will be discussed in more detail below, Smyth et al. (1999b) found that even where injecting drug users may be attending a treatment service and may have regular contact with health professionals, this does not necessarily result in the drug user developing a better understanding of hepatitis C and the related risk behaviours. Bourke (1998) also found that, in a cohort (n=66) of young injecting heroin users (aged 15 to 22 years) attending services, 'whilst most understood the significance of sharing needles few were aware that sharing barrels, spoons and filters put them at risk' (Bourke, 1998: 4).

It would appear from the evidence available that information is not always passed on to injecting drug users in an effective manner. Despite the existence of education and information materials as part of the prevention strategy in the area of drug-related infectious diseases, it would appear that there is a need for this information and education to be delivered in a more effective manner.

Needle Exchange Programmes

The first needle exchange programme in Ireland was established in 1989. Since then the service has been expanded to include approximately twelve sites. All the sites are located in the Eastern Regional Health Authority (ERHA) area,⁵ which includes Dublin City and surrounding areas. Three types of programmes exist:

- The Merchant's Quay Project is a voluntary organisation, which, among other services, provides a needle exchange programme.
- A mobile clinic, which provides low-threshold services to drug users, including a needle exchange and a low dosage methadone programme. This clinic services four areas in Dublin City and the surrounding suburbs on a Monday to Friday basis.
- The remaining programmes are all in statutory services run by the ERHA. These are located in health centres and drug-treatment centres around the city.

A one-for-one exchange of needles is aimed for by all needle exchange services. However, there is flexibility in order to ensure the service is client-friendly. The mean number of needles given out to injecting drug users at first attendance at ERHA exchange programmes is 4.0 (Mullen & Barry, 1998). Overall, the ERHA programmes estimate that approximately 60-70 per cent of needles are returned to its exchange programmes. For 'first-time' clients at the Merchant's Quay Project, the number of syringes and needles given is normally two barrels and six needles (or six microfines) (Cox & Lawless, 2000). In 1998 a total of 16,509 syringes were dispensed by the Merchant's Quay Project through its exchange programme (Cox & Lawless, 2000).

While there has been an expansion in the number of needle exchange programmes available to Irish drug users, a need for further expansion has been identified. An external review of drug services in the Eastern Health Board (EHB) area, has described needle exchange provision in Dublin as 'patchy and not very comprehensive' (Farrell, Gerarda & Marsden, 2000: 13). While it is recognised that community resistance may impact on the expansion of these services, it is argued that there needs to be a wider geographical distribution of these services. Pharmacies have been suggested as a potential source for clean injecting equipment for injecting drug users.

⁵ Formerly the Eastern Health Board (EHB).

While there are no restrictions on pharmacies in relation to selling injecting equipment in Ireland, anecdotal evidence suggests that, in practice, this rarely happens. Currently there is no central policy or programme under which pharmacists provide needles to injecting drug users. The Pharmaceutical Society of Ireland has stated that it supports 'the principle of needle and syringe exchange. Its members are ready and willing to provide such a service as part of a comprehensive national needle and syringe exchange network' (McDermott, 1999).

In an evaluation of the Merchant's Quay Project's syringe exchange programme, it was found that it had had a positive impact on reducing the incidence of injecting risk behaviours among clients. Clients were questioned about their risk behaviour when they first attended the service and then again after three months. Within this period it was found that there was a 76 per cent reduction in the numbers reporting lending injecting equipment and a 71 per cent reduction in the numbers reporting borrowing injecting equipment (Cox & Lawless, 2000: 69).

Substitution Programmes

Substitution programmes currently account for the majority of treatment programmes available to injecting drug users in Ireland. At the end of August 2000 there were 4,813 clients receiving substitution treatment in Ireland. The service is provided in a range of settings including addiction centres, satellite clinics and from general practitioners in their own surgeries. It is assumed that by providing a substitute opiate (i.e. methadone), and monitoring illicit drug use through urinalysis, participation on a substitution programme will reduce the illicit opiate intake of a client and, in turn, their injecting drug use. However, a secondary function of substitution programmes in relation to preventing the spread of drug-related infectious diseases is the dissemination of information to clients about HIV and hepatitis and associated risk behaviour.

Williams et al. (1990) carried out a study with sixty-nine clients of a methadone maintenance treatment programme to investigate the extent of 'at-risk' behaviour for HIV transmission among those known to be sero-positive, and to measure the degree of positive change in their risk behaviour. It is important to note that this study was carried out in 1988, prior to the introduction of needle exchange programmes by the health board. Of those who were HIV positive

(n=48), 63 per cent admitted that they had continued to share injecting equipment since getting a positive test result. However, when comparing their reported pre-test activities, the findings were deemed to be encouraging. Prior to being tested, 98 per cent reported that they had shared injecting equipment, compared to 63 per cent after testing.

More recently, in 1997, Smyth et al. (1999b) carried out a study of knowledge regarding hepatitis C among a sample of injecting drug users (n=84) in a treatment setting in Dublin. Included in the sample were individuals who were on a methadone maintenance programme and those who were on a short-term detoxification programme. The researchers' basic hypothesis was that those injecting drug users with increased contact with medical services would demonstrate better understanding of hepatitis C and associated risk behaviours, i.e. a 'dose-response' type effect. This hypothesis was not confirmed. Seventy-three of the sample recognised the four main infection routes, i.e. injecting drug use, sex, transfusion and vertical. However, only 44 per cent recognised activities with no associated risk, i.e. injecting without sharing, smoking heroin, and kissing. Smyth et al. (1999b) express concern about the finding that substantial minorities believe that there is a risk of exposure even when not sharing injecting paraphernalia. They argue that perceived personal vulnerability to infections such as hepatitis C is likely to be a factor in leading individuals to avoid practising unsafe injecting behaviour. Where this vulnerability is diminished by false beliefs about already having been exposed to infection, when actually engaging in 'safe' practices, then the preparedness to share injecting equipment may well increase.

In summary, while section 2.2 showed that a significant proportion of Irish injecting drug users continue to engage in injecting risk behaviours, it would appear from this section that harm-reduction strategies have had some positive impact on injecting drug users' risk behaviours. While there is a need to improve the delivery of some services, the findings suggest that infection rates would be higher in the absence of the current harm reduction strategies.

2.5.2 Testing and Treatment

Testing

Testing for hepatitis and HIV is offered to all those entering treatment and is encouraged by low-threshold services such as needle exchange programmes. In

these settings clients are given test results and may be offered referral to treatment where appropriate. The actual proportion of injecting drug users who have been tested for either hepatitis or HIV remains unknown. A study of HIV and hepatitis B and C prevalence among the prison population (Allwright et al., 1999) found that of 509 prisoners with a history of injecting drug use, 59.3 per cent reported that they had been tested for hepatitis C, 49.6 per cent for hepatitis B and 65 per cent for HIV. In the Cox & Lawless (2000) study of needle exchange attenders, 49 per cent reported that they had been tested for HIV. It has also been found that young injecting drug users (below the age of 25) are significantly less likely to have been tested for either HIV or hepatitis than the older cohort (Cassin et al., 1998). While the specific nature of these study populations needs to be considered, these figures suggest that a significant proportion of drug users have not been tested for the various drug-related infectious diseases.

Treatment

The provision of treatment for those infected with both HIV and hepatitis C is a key aspect of drug-related infectious diseases. Treatment programmes for both HIV and hepatitis C are available free of charge in Ireland. While it is not essential for drug users to be referred by drug treatment clinics for HIV and hepatitis C treatment, this is the route generally followed.

Highly Active Anti-Retroviral Treatment (HAART) is available free of charge to drug users through referral to genito-urinary medicine (GUM) and infectious-disease clinics in Ireland. There are four clinics that provide HAART, three based in Dublin, the fourth in southern Ireland in Cork. The selection of patients for HAART is based on internationally-recommended medical criteria, and the motivation of the individual to undergo the treatment. A drug user generally has to be stable on a substitution programme before he/she will be accepted on to a HAART programme. This is due to problems of compliance with the treatment regime and concerns about the risks of prescribing HAART to those who are continuing to engage in illicit drug use.

Treatment for hepatitis C is also available to drug users where its provision is deemed appropriate. Guidelines have been developed for selecting suitable candidates for hepatitis C treatment. It is generally agreed among service providers that a potential client should be 'drug stable' (i.e. free from street opiates and injecting drug use) for a minimum of a year prior to starting treatment and that they should not be drinking alcohol (Keating, 2000). As with

HAART, it is argued that an individual needs to be drug stable in order to maximise the chances of compliance with the treatment regime involved for hepatitis C. Therefore, while a person with a history of injecting drug use may access treatment for hepatitis C, an active injecting drug user may not.

2.5.3 Hepatitis B Vaccination

Hepatitis B vaccination is available free of charge to all injecting drug users through the drug services and, where the individual is entitled to free medical care, through their general practitioner. However, anecdotal evidence suggests there is a lack of knowledge among drug users about hepatitis B in general, and about the availability of a vaccination. Furthermore, anecdotal evidence suggests that not all service providers are offering drug users the hepatitis B vaccination. While the total proportion of injecting drug users who are vaccinated against hepatitis B is not known, special studies have found that a relatively low proportion report having received a vaccination. A study of those clients attending the Merchant's Quay Project found that only 19 per cent of clients reported having been vaccinated for hepatitis B (Cox & Lawless, 2000). Furthermore, a study of HIV and hepatitis B and C prevalence among committal prisoners (Long et al., 2000) found that of 175 prisoners with a history of injecting drug use, only 23 per cent (n=41) reported that they had been fully vaccinated for hepatitis B. There is also a need to ensure that drug users who begin a course of the hepatitis B vaccination complete the three injections. In their study of HIV and hepatitis B and C prevalence among the prison population, Allwright et al. (1999) found that while 300 respondents reported that they had been vaccinated against hepatitis B, only 184 had completed the three doses.

2.6 Conclusion

There appears to be on-going evidence that a significant proportion of Irish drug users may be infected with at least one drug-related infectious disease. However, analysis of the situation remains restricted in the absence of comprehensive routine data collection in the field. It would also appear that while harm-reduction programmes have played a role in containing the spread of drug-related infectious diseases to some extent, a significant proportion of Irish injecting drug users are continuing to engage in risky behaviours. It would appear that there is a need for more comprehensive education and information

dissemination strategies targeted at drug users, and in particular young injectors. Furthermore, there is a need for a more effective delivery of testing services and, in particular, hepatitis B vaccination to drug users.

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