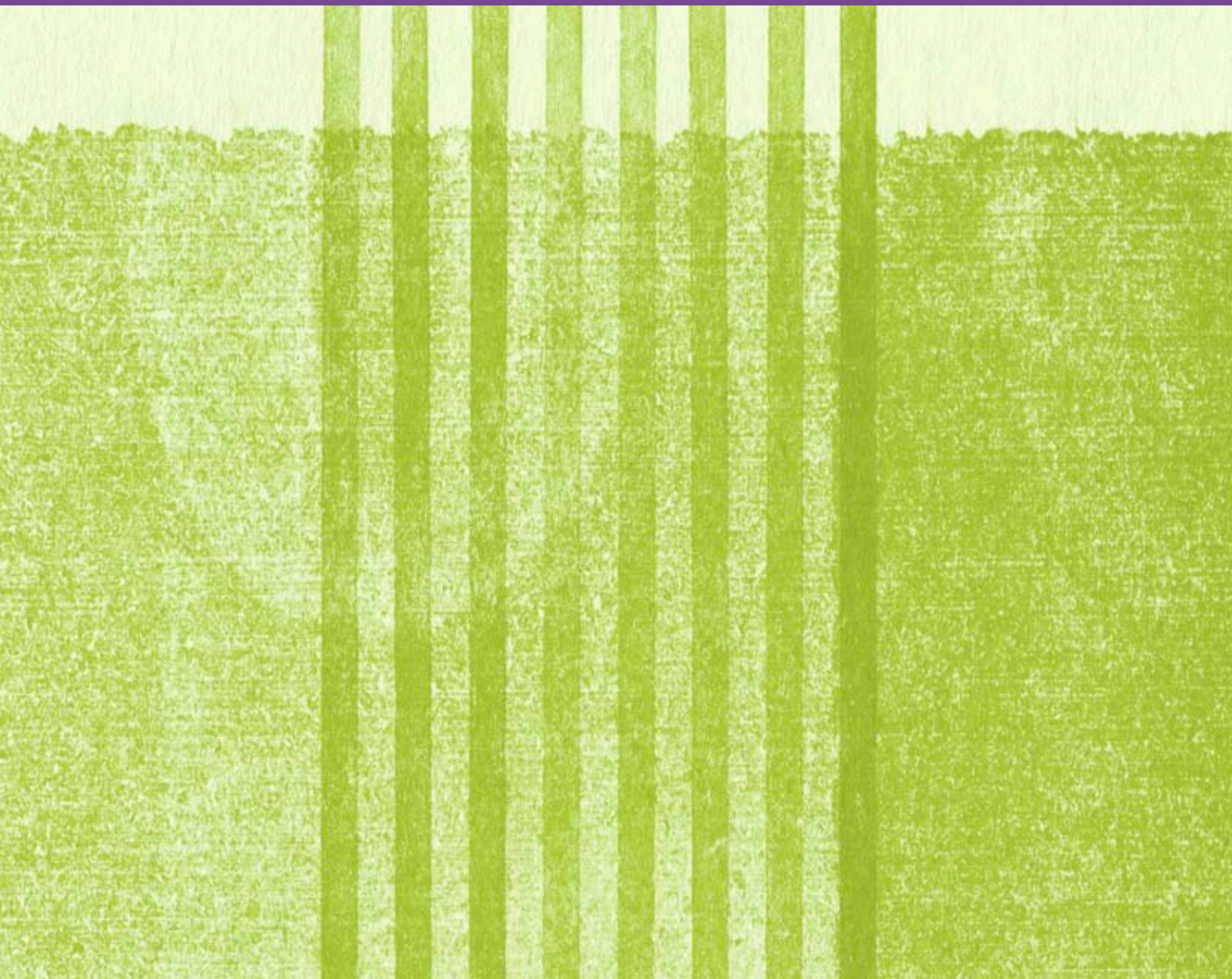
NACD
National Advisory Committee on Drugs

National Drugs Strategy Team

Needle Exchange Provision in Ireland



Needle Exchange Provision in Ireland

The Context, Current Levels of Service Provision and Recommendations

A Joint Report by
the National Drugs Strategy Team
and National Advisory Committee on Drugs

For the Inter-Departmental Group on Drugs

November 2008

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BACKGROUND

This document was prepared at the request of Minister of State Pat Carey TD, at the joint Inter-Departmental Group (IDG) – National Drugs Strategy Team (NDST) meeting held on 13th September 2007. It emerged out of concerns from the Voluntary Drug Sector about the need for additional needle exchange services to match the increases in injecting drug use nationally.

A working group, chaired by Sean Cassin, composed of Gemma Cox (NACD), Joe Doyle (HSE), Tony Geoghegan (Voluntary – MQI), Anna May Harkin (DOHC), Colin Hehir (DEHLG), Patricia O'Connor (NDST), Janet Robinson (Researcher, HRB and ADRU) and Caitriona Brady (Senior Outreach Worker, HSE) was established to review the current position in relation to needle exchange provision in Ireland and assess how the relevant NDS recommendations should be progressed as we enter the last year of the National Drugs Strategy. The work of the sub-group was also significantly informed by the NACD paper 'Blood borne infections among current (injecting) drug users in Ireland' prepared by Dr Gemma Cox; the HRB overview of 'Blood-borne viral infections among injecting drug users in Ireland, 1995 to 2005' by Dr Jean Long and an unpublished overview of harm reduction services by the HRB. An earlier version of this document (presented to IDG) contained a section on 'Estimating current levels of need for needle exchange services' which had unpublished data provided by the HRB, NACD, HSE and MQI. These data provide the background and context for the assessment of needle exchange provision in Ireland. However, as the data were unpublished they have been removed from this document.

1. INTRODUCTION

Injecting drug users represent a high-risk group for blood-borne viral infections, including human immunodeficiency virus (HIV), Hepatitis B (HBV) and Hepatitis C (HCV). Transmission of HIV through injecting drug use was recognised early in the epidemic, in the 1980s. The advent of HIV infection has been associated with a process of change in Irish drug policy characterised by a greater emphasis on public health pragmatism. The most notable shift was from a singular emphasis on the prevention of drug use *per se* towards the prevention of harms, in particular HIV infection, associated with injecting drug use. The establishment of needle exchanges, offering new for used syringes, was the most tangible public expression of these new developments, underlying the view that the danger of the spread of HIV from injecting drug users into the general population was a greater threat to the nation's health than the dangers of drug use itself.

Needle exchange programmes are health promotion interventions for injecting drug users. They offer an anonymous and accessible (or 'low-threshold') harm reduction service, which recognises that in the short-term it may not be possible to eradicate drug use. Consequently, needle exchange programmes aim to reduce the negative effects of drug use without necessarily reducing the level of drug use. Their main objectives are: (1) to reduce the prevalence of blood-borne viruses through the provision of sterile injecting equipment, (2) to educate service users about the risks associated with injecting drug use (e.g. sharing drug taking paraphernalia, overdose) and unsafe sexual practices and (3) to engage with injecting drug users and refer into treatment services.

The relatively low incidence and prevalence of HIV among injecting drug users in Ireland may in part be ascribed to the country's public health approach, in particular the introduction of needle exchanges and the increased availability of prescribed methadone. In Ireland, the Department of Health and Children and the Virus Reference Laboratory produced statistics of the HIV-positive tests for the period of 1982 to 1995 (Dillon and O'Brien, 2001). They suggested that the establishment of needle exchange services facilitated the reduction of the prevalence of HIV among injecting drug users. Between 1982 and 1985, they reported that 60% of injecting drug users were HIV positive and this dropped to 17.7% in 1997. However, there was an increase to 33% in 1999. The prevalence of HCV infection among injecting drug users is high; approximately seven in ten injecting drug users in treatment in Ireland test positive for the antibodies to HCV. The health consequences of HCV are serious and potentially fatal. Initial infection produces symptoms that are mild or nonexistent. Unlike other forms of hepatitis, HCV rarely resolves completely, **chronic infection occurs in 80 to 85 per cent of cases** and cirrhosis may develop in as many as 20 per cent of those with chronic infection. The mean period between infection with the virus and its consequences is long. The available evidence indicates a low up-take of HCV screening and follow-up assessment among injecting drug users in Ireland, and poor compliance with the treatment regime. Given its high incidence and prevalence, the complications associated with chronic HCV infection will impact on the morbidity and mortality of injecting drug users in Ireland for the foreseeable future.

The diffusion of heroin use across the country, the persistent injecting culture within networks of Irish heroin users, the increased availability and use of cocaine and crack (by opiate users in particular) and their associated risks, reflect evolving patterns of drug use and risk. These trends raise questions about the appropriateness of service responses and emphasise the urgent need to enhance measures to prevent the transmission of blood-borne viruses among injecting drug users in Ireland. In this regard, comprehensive national needle exchange coverage is identified as an evidence-based strategy.
This document summarises what is known about blood-borne infections among injecting drug users in Ireland. It provides a timely assessment of needle exchange provision in the context of the review during 2008 of the National Drugs Strategy, specifically Actions 62 and 63 relating to expansion of provision of needle exchange in order to ensure wider geographical availability and piloting community pharmacy needle exchange. The emerging recommendations are aimed at improving needle exchange coverage and enhancing service delivery as a way of reducing rates of new HCV and HIV infection and also reducing the burden of liver disease in the community.

2. BLOOD-BORNE INFECTIONS AMONG INJECTING DRUG USERS

Drug-related infectious diseases among injecting drug users are key public health problems arising from drug use. HIV, HBV and HCV are three blood-borne viruses that can be acquired through injecting drugs. These viruses are transmitted between injecting drug users who share injecting paraphernalia and/or practise unsafe sex. The unsafe disposal of injecting paraphernalia in public places has the potential to transmit these viruses to the general population.

An extensive review of blood-borne viral infection among drug users in Ireland has been published by the Health Research Board (Long, 2006). Based largely on the aforementioned document, this chapter provides an up-to-date summary of what is known about the prevalence, incidence, and risk factors associated with these infections among injecting drug users in Ireland.

2.1. HIV/AIDS: What We Know

HIV is not a notifiable disease in Ireland. However, voluntary testing for antibodies to HIV has been available in Ireland since 1985; risk factor status (e.g. injecting drug use) is also recorded. Since 2001 newly diagnosed HIV cases are reported directly to the Health Protection Surveillance Centre (HPSC) through a case-based reporting system, which provides disaggregated data on all new HIV positive cases. The HPSC collates these data on a six monthly basis.

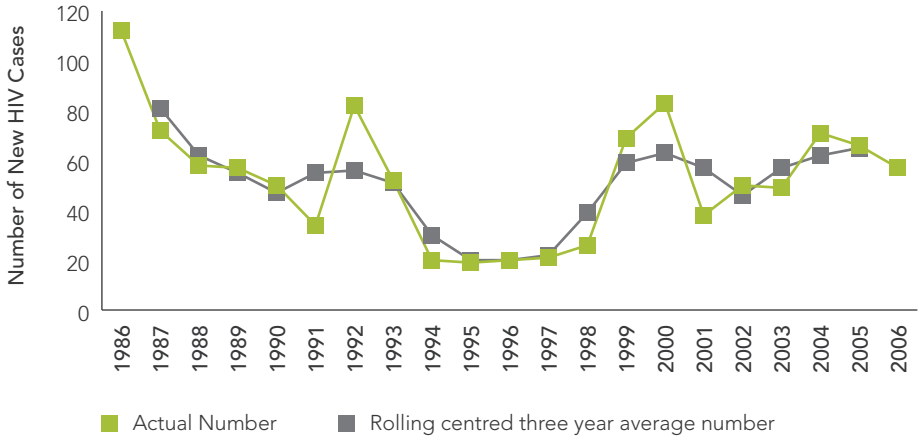
Prevalence of HIV infection among injecting drug users varies from 1% to 17% depending on the study cohort. The more recent studies indicate that one in ten injecting drug users are infected with HIV. By the end of 2006 there were 4,419 diagnosed HIV cases in Ireland, of which an estimated 30% (1,327) were probably infected through injecting drug use. **Figure 1** presents the number of new cases of HIV among injecting drug users, by year of diagnosis, reported in Ireland; data from 1982 to 1985 were excluded from the figure as these four years were combined in the source records. **Figure 1** is based on data reported to the Department of Health and Children, the National Disease Surveillance Centre and its successor, the HPSC. There was a fall in the number of HIV cases among injecting drug users between 1994 and 1998, with about 20 cases per year compared to about 50 cases each year in the preceding six years. In 1999, there was a sharp increase in the number of cases among injecting drug users, which continued into 2000, with 69 and 83 new cases respectively. Between 2001 and 2003 there was a decline in the number of new injector cases (38, 50 and 49 respectively) when compared to 2000 but the number was higher than in 1998. In 2004, once again, there was an increase (to 71 cases) in the number infected through injecting drug use compared to the preceding three years. In 2006 there were 57 cases infected through injecting drug use. It was difficult to interpret the trend due to the relatively small numbers diagnosed each year, so a smoother curve (grey plot line in **Figure 1**) was calculated using a rolling centred three-year average. This curve presents an increase in the annual number of HIV cases in 1999; this higher number of cases was sustained between 2000 and 2006. This indicates a true increase in the number of cases.

Age (Smyth *et al*. 1998; Allwright *et al*. 2000; Long *et al*. 2001), injecting practices (Long *et al*. 2001; Johnson *et al*. 1994), length of injecting history (Smyth *et al*. 1998) and sexual practices (Allwright *et al*. 2000) are associated with HIV status. Research also suggests that the risk of HIV infection is associated with area of residence (Clarke *et al*. 2001) and may be linked to cocaine use (Long *et al*. 2006).

In Ireland, HIV screening is conducted at drug treatment services and in the prison health service (Long, 2006). The evidence suggests that take-up of testing at drug treatment centres is good. By 2001 it was estimated that 86% of clients attending drug treatment services within the HSE South Western area had been tested for anti-HIV antibodies (Grogan *et al*. 2005). HIV treatment, a combination of highly active antiretroviral therapies commonly referred to as HAART, is available to injecting drug users through genito-urinary medical units and infectious diseases clinics in Ireland. Research in 2000 suggests that

a significant proportion of former/current injectors suitable for treatment are not receiving treatment (Clarke *et al.* 2001). Compliance with HAART is associated with regular attendance at methadone treatment (Clarke & Mulcahy, 2000; Clarke *et al.* 2002).

Figure 1. **Actual number and rolling average number of new cases of HIV among injecting drug users, by year of diagnosis, reported in Ireland, 1986 to 2006**



Source: Drugnet Ireland, Issue 23:15.

2.2. HBV: What We Know

Hepatitis B is a notifiable disease under the Infectious Diseases Regulations 1981. An amendment to the regulations implemented in 2004 introduced case definitions and mandatory laboratory reporting, and differentiations between notifications of acute Hepatitis B and chronic Hepatitis B for the first time. Departments of Public Health, in conjunction with HPSC, introduced enhanced surveillance of acute cases of Hepatitis B from January 2005. Some enhanced forms are also received for chronic cases (HPSC, 2006).

The prevalence of Hepatitis B virus infection in Ireland is low (<1%) (O'Connell *et al.* 2000). However, infection is more prevalent in certain high-risk populations. Recent studies suggest that just one in five injecting drug users in treatment have ever been infected with Hepatitis B. Approximately 2% are chronic cases (Long, 2006). Up to the end of 2004 the notification system for Hepatitis B did not categorise cases by risk groups or differentiate between new and previously diagnosed cases. Age, injecting practices and sexual practices are linked to Hepatitis B status (Allwright *et al.* 2000; Long *et al.* 2001). The HPSC has collected risk factor data since 2005. In 2006, very few cases reported risk factor data and no respondent reported injecting drug use as their main risk factor.

Hepatitis B is a vaccine-preventable disease, and the current policy in Ireland is to target identifiable risk groups for vaccination (including injecting drug users, prisoners and homeless people). The vaccine (a series of three injections, with a booster) is available to all injecting drug users receiving drug treatment, but it is not necessarily free to those attending general practice (Long, 2006). The coverage of Hepatitis B vaccination for injecting drug users in Ireland is not monitored on a continuous basis. Research suggests that the uptake and completion rate of Hepatitis B vaccination is much higher in the HSE South Western area (56%) and in Drug Treatment Centre Board (86%) cohorts for the period 2001 to 2003 than for those reported in prisons (between 10% and 29%) or in general practice (between 26% and 31%) in Ireland between 1998 and 2001 (Long, 2006). There is no published data on the coverage of Hepatitis B vaccine among injecting drug users outside the HSE Eastern Region.

2.3. HCV: What We Know

Hepatitis C is a blood-borne virus with potentially devastating hepatic complications. Most cases of acute Hepatitis C are asymptomatic, with fewer than 25% being clinically apparent. When Hepatitis C is transmitted, acute Hepatitis C with severe symptoms is rare. Nevertheless, the long-term burden of acute Hepatitis C is significant due to the high rate of chronic infection (HCV-RNA positive in 80% to 100% of cases) and chronic hepatitis (elevated serum ALT concentration in 60% to 80%). While approximately 20% of acutely infected people will clear the virus and recover, up to 80% will develop chronic illness. Approximately 20% to 30% of those chronically infected will develop cirrhosis and a proportion of these will develop hepatocellular carcinoma.

In the Western world, drug users, in particular injecting drug users, are at greatest risk of HCV infection. Given the high incidence and prevalence, the complications of chronic Hepatitis C virus infection will impact on the morbidity and mortality of this at-risk population. Although therapy is available for HCV infection the uptake of treatment is low.

Up until 2004, Hepatitis C was not a notifiable disease in its own right (cases could be notified as 'viral hepatitis type unspecified') and there was no national surveillance system to monitor the number of new diagnosis of infection in the general population. Since then it has been included in the list of notifiable diseases. There is no figure available on the prevalence of Hepatitis C in the general population (Brennan *et al*. 2004). Prevalence estimates among injecting drug users attending community-based drug services range from 54% (Smyth *et al*. 2000) to 84% (Smyth *et al*. 1995). Estimates for prison inmates and entrants are 81% (Allwright *et al*. 2000) and 72% (Long *et al*. 2001) respectively. Approximately seven in every ten injecting drug users receiving drug treatment test positive for antibodies to the Hepatitis C virus (Long, 2006). Risk factor data have not been routinely collected, therefore it is not possible to determine the proportion infected through injecting drug use. Enhanced surveillance fields were added to the system in February 2007 to capture data on routes of transmission. Data have been retrospectively entered from the 1st January 2007.

In 2004, there were 1,136 cases of Hepatitis C notified to the HPSC (compared to 85 cases of 'viral hepatitis, type unspecified' in the preceding year) and this increased in 2005 to 1,439 notifications (HPSC, 2005). Data for 2006 shows a 15% decrease in the number of notifications of Hepatitis C for that year (1,218 cases) (HPSC, 2007). However, figures for 2007 indicate an increase in the first two quarters (347 cases in Q1 and 410 cases Q2) on the previous year (276 cases Q1 and 307 cases Q2). However, the HPSC point out that fluctuations occur from quarter to quarter and this increase may be due to reporting practices (HPSC 2007). The profile of new cases is in line with the profile of injecting drug users that is young, more likely to be male and living in the Eastern region.

Injecting drug use (Allwright *et al*. 2000; Long *et al*. 2001; Healy *et al*. 2000), length of time injecting (Smyth *et al*. 1998; Allwright *et al*. 2000; Brennan *et al*. 2004), frequency of injecting (Allwright *et al*. 2000; Smyth *et al*. 2005), needle sharing and having a prison history (Allwright *et al*. 2000) are associated with HCV status. In the international literature some incidence studies reported younger age as being a risk factor, others report older age (Van Beeki *et al*. 1998). However, the latter is strongly confounded with the duration of the injecting career and this is arguably a greater independent risk factor than age for anti-HCV seroconversion. International research has also found that polydrug use, in particular the combined use of heroin and cocaine, is a risk factor (Van Beeki *et al*. 1998; Villano *et al*. 1997).

There are six HCV genotypes, which can be further categorised according to subtypes. Genotype 1 and 3 are the most common in Ireland (Keating *et al*. 2005; Conroy *et al*. 2003). Most studies indicate that genotype 1 (a and b) is most resistant to treatment. The best available current treatment for chronic Hepatitis C is peginterferon alpha 2b plus ribavirin which leads to an overall sustained response rate in over 54% of all patients. The sustained response rates are much better for individuals infected with non-type 1 genotype of the hepatitis C virus at 80%. Addiction services provide advice, information and routine screening for antibodies with follow-up PRC testing and referral to the acute hospital specialist hepatology services (of which there are seven in Ireland) when necessary. Research illustrates low uptake of screening and follow-up assessment among drug users (O'Connell *et al*. 2000; McMahon *et al*. 1998) and prisoners (Long *et al*. 2003) in Ireland.

2.4. Differences in HIV and HCV Prevalence Rates

In Ireland, the incidence of HIV has remained relatively low compared to that of Hepatitis C, though the numbers of new cases of HIV has increased over the last ten years. This is in part due to the country's public health approach with implementation of preventative measures, including methadone maintenance and needle exchange. But that still raises the question – how can the discrepancy between the low incidence of HIV infection and the high incidence of HCV be explained? Ashton (2003a) argues that the challenge posed by Hepatitis C arises from a combination of the 'robustness, infectivity and prevalence' of the virus. HCV lasts much longer than HIV in blood; moreover very little blood is needed to spread it (Croft *et al*. 1999). As a result it is more easily spread through sharing other injecting paraphernalia (e.g. filters, spoons etc) as well as needles and syringes[1]. The high transmission efficiency of HCV may explain why individuals who did not report a history of sharing needles/syringes may contract the virus through indirect sharing (e.g. injecting paraphernalia) and back-loading (i.e. sharing out drugs by drawing up the drug into a syringe, then transferring a portion of the solution into a second syringe belonging to another injector) which is an established risk factor (Thorpe, 2000). Consequently, there are higher HCV prevalence rates among injecting drug users in Ireland (and in other countries) than HIV, which in turn increases the likelihood of HCV infection. If it is taken that the prevalence of HIV among injecting drug users is one in ten, and the prevalence of HCV is seven in ten – in this environment, if an injecting drug user shares equipment with someone else, the possibility that this equipment is infected with HCV is considerably greater than infection with HIV. Hagan *et al.* (2000) estimate that HCV spreads through an injecting population 10-100 times more rapidly than HIV. While the more people an injecting drug user shares with, the greater the chance of HCV infection (Chetwynd *et al*. 1995; Denis *et al*. 2000) infrequent injectors are also at substantial risk of HCV infection. For example, Denis *et al*. (2000) found that injecting infrequently was no protection against HCV. Occasional injectors are less likely to have their own injecting equipment and consequently they more often reuse those belonging to other people. As a result the protection afforded by fewer injections is counteracted by the fact that each injection is more likely to involve a syringe, spoon or filter which might be contaminated (Ashton, 2003a).

1. *Croft* et al*'s (2000) analysis of equipment used by HCV infected injectors showed that the virus had contaminated 7 out of 10 syringes and swabs, and between 25-40% of filters, spoons and water samples.*

2.5. Co-Infection: What We Know

In Ireland, there is little published data on prevalence of co-infection with HIV and/or Hepatitis B or C among injecting drug users (Long, 2006). The prevalence of co-infection with HIV and HCV differs markedly depending on the HIV risk groups and the geographical location. In some western European countries the prevalence of co-infection with HIV and HCV among injecting drug users is as high as 70%. In the UK, approximately 1% of injecting drug users are co-infected with HCV and HIV. International literature indicates that Hepatitis C infection among HIV positive individuals increases the risk of progression to AIDS and death, while HIV infection among individuals with Hepatitis C accelerates liver disease. These individuals require specific treatment management by a team of experts in infectious disease and hepatology.

Similarly, co-infection with HIV and TB worsens the prognosis for an individual and increases the risk of mortality. In addition, treatment for people who are co-infected with HIV and TB is more complicated due to drug interaction between HIV antiretroviral treatment (HAART) and TB medication. It is recommended that when possible, TB be treated first, before introducing HIV antiviral treatment. In addition, due to the possible complications it is essential that practitioners who have training and knowledge in both TB and HIV care, manage the treatment.

2.6. Responses to Blood-Borne Infections Among Injecting Drug Users

The relatively high incidence and prevalence of HCV infection among injecting drug users in Ireland has not gone unnoticed. Some of the most notable responses are summarised below.

2.6.1. Research

A large body of Irish research has been amassed examining the incidence, prevalence, and implications of HCV and other blood-borne infections among drug users. Moreover, Dr. Walter Cullen of The School of Medicine and Medical Science at UCD and colleagues are currently conducting a study on *'Barriers to and enablers of HCV screening and treatment among current and former injecting drug users in Ireland: a qualitative study of two perspectives'*. The aim of the research is twofold: firstly, to examine the reasons why some people at risk of HCV do not want investigation or treatment and why others do and secondly, to identify actions that would increase the number of people who want testing, investigation and treatment for HCV. The findings will provide important insights and valuable information to ensure health and social care services provide Hepatitis C care that meets the population needs.

2.6.2. HSE Regional Hepatitis C Strategy

The (unpublished) HSE Regional Hepatitis C Strategy, developed in partnership with the voluntary (NGOs), community and statutory sectors, set out key recommendations to improve the effectiveness of prevention, treatment and surveillance and to promote good practice in an attempt to address this public health challenge. The strategy recognised that the response to HCV cannot operate in isolation and that integrated networks involving all the key stakeholders need to be developed across the region so that co-ordinated high-quality services can be provided to all those who are affected by HCV. The Report's key recommendations fall under the themes outlined below.

Surveillance/Research: The Strategy recognised that surveillance data are essential to inform the further development of both Hepatitis C prevention and treatment strategies. To this end a number of recommendations were identified around developing an enhanced surveillance system for notified cases of HCV including: (i) improving the quality of data collected (ii) systematically incorporating risk factor data into surveillance system (iii) additional staffing to carry enhanced surveillance (iv) rolling-out the HCV Nurse Liaison model currently in operation in the HSE Northern area (v) implementing the recommendations of Dublin Area HCV in General Practice Initiative Report (2004) to address the lack of guidelines and standardisation in general practice and (vi) to undertake a study using mathematical models to synthesise data on the epidemiology and natural history of HCV in order to estimate incidence, prevalence and projected future trends in the long term sequelae of HCV infection.

Prevention/Education: The Strategy identified two main approaches to reducing the number of people becoming infected with HCV through injecting drug use: implement strategies that reduce the actual amount of drug injecting within the population and implement strategies to make injecting drug use safer. Recommendations include: (i) developing interventions to delay/prevent transition from smoking to injecting (ii) using peer education to discourage injectors from initiating others into injecting (iii) enhancing and extending drug treatment services (iv) improving and standardising information leaflets on safer injecting practices (v) giving consideration to alternative means of education (vi) promoting needle exchange in a pharmacy setting and (vii) considering the provision of secondary exchanges.

Treatment access, delivery and adherence: In an effort to improve access to HCV screening and adherence to treatment the Strategy recommendations included: (i) educational programmes and materials (ii) introduce peer support networks to encourage access to diagnosis and treatment (iii) develop a framework for working with prisoners (iv) if a person is refused Hepatitis C treatment because of lifestyle factors there should be a review process available to them once they address these issues with a view to facilitating future treatment (v) establish appropriate collaboration between different agencies both statutory and voluntary (vi) explore a shared-care arrangement between hepatologists, infectious disease consultants, addiction psychiatrists and general practitioners (vii) enhance the role of general practitioners in the provision of HCV care and (vii) explore the possibility of dispensing HCV treatment by directly observed therapy (DOT) to enhance adherence.

Funding has not been made available for the implementation of this comprehensive, albeit regional, Hepatitis C strategy. Moreover, implementation has been further delayed pending the outcome of the Working Group convened to explore the establishment of a National Hepatitis C Strategy. This national strategy is due to be published in 2008, and unlike the Regional Strategy, it is not solely concerned with injecting drug users.

2.6.3. Monitoring / Surveillance

As outlined, the HPSC has made a number of improvements to the monitoring/surveillance of blood-borne infections in the general population, and among injecting drug users. In addition, a National Hepatitis C Database was established by the HPSC to gather information on an ongoing basis on people infected with Hepatitis C (HPSC, 2007). The database documents details on individuals who acquired the virus though blood or blood products, e.g. women infected through anti-D immunoglobulin, recipients of blood transfusions, and people with haemophilia. Individuals who contract HCV through injecting drug use are not included. The HSE Regional Strategy reported that the Department of Public Health (Trinity College) is collaborating with drug service providers in the HSE Eastern Region to set up a database of HCV among drug users, however this has run aground. It was intended that this database

would provide information on the number of injecting drug users who have tested positive and the interventions provided, determine referral patterns for assessment among drug users, identify reasons for non-referral, follow-up patients who have been referred into treatment, and evaluate responses of services to HCV in drug users.

2.6.4. Education / Harm Reduction Strategies

A number of HCV specific harm reduction strategies have also been developed in Ireland, for example:

- In 2007, Merchants Quay Ireland with Progression Routes/Saol, Ana Liffey Drug Project, UISCE and the HSE Northern Area Outreach Team produced a Safer Injecting Guide and posters specifically targeting injecting cocaine users.
- Ballyfermot Advance Project supported by the Local Drug Task Force ran a Hepatitis C Awareness Campaign (2007) and produced three information booklets targeting active drug users, ex-drug users and GPs.
- An In-reach Hepatitis C Nurse has been contracted from St James's Hospital to Mountjoy Prison to provide treatments to prisoners infected with HCV. It is hoped to expand this service to other sites.
- In addition the NIC/SIC Task Forces support projects in Dublin Aids Alliance, ACET and Community Response that focus on HIV/HCV education/support/training.

2.7. Summary

The relatively high estimated incidence and prevalence of HCV among injecting drug users in Ireland suggests that the transmission of blood-borne viral infections must be more adequately addressed. While the expansion of methadone provision and the implementation of other harm reduction services have had an impact on HIV transmission rates, a wide range of comprehensive interventions is needed to reduce the risk of HCV infection, in particular among injecting drug users in Ireland. Ashton (2003a) argues that needle exchange plays a critical role in containing HCV, in part due to the lack of alternatives. There is no vaccine for HCV; post-infection treatment can reverse the disease, however uptake is low among injecting drug users and sexual spread and mother-to-child transmission is rare (Ashton, 2003a). Methadone programmes while effective in reducing HIV (Hartel *et al*. 1998), have yet to be shown to significantly curb HCV (Croft *et al*. 1997). Moreover, usually drug users enter these programmes too late to prevent infection (Ashton, 2003a). Consequently needle exchanges, which attract a large number of injecting drug users, are seen as playing a vital role in curbing the transmission of blood-borne viruses by increasing awareness, reducing levels of equipment sharing, and reducing the incidence of undiagnosed infections. The crucial role of needle exchange in this regard has been acknowledged in the HSE Regional Hepatitis C Strategy. However, needle exchange cannot reverse the spread on its own or without support (Ashton, 2003a; Croft *et al*. 2000). It is only one of a range of services that must be provided, and its effectiveness will in part depend on the availability of treatment and other ancillary services to which to refer individuals (Ashton, 2003b).

3. NEEDLE EXCHANGE PROGRAMMES

Needle exchange programmes are defined as a

> *'philosophical and practical development of strategies so that the outcomes of drug use are as safe as is situationally possible. It involves the provision of factual information, education, skills and the development of attitude change, in order that the consequences of drug use for the users, the community and the culture have minimal negative impact'* (Watson, 1991: 14).

The first needle exchange programmes (NEPs) began to emerge across Europe (starting in Amsterdam) in the early 1980s as a strategy to address the rapidly increasing rates of HIV (and other blood-borne viral infections) among injecting drug users. Harm reduction is a concept that has influenced the development of needle exchanges to varying degrees. It implies a respect for the choices people make, even unhealthy choices such as injecting drugs. Sometimes harm reduction has been posited in opposition to approaches that emphasise drug treatment and abstinence, rather than viewing harm reduction, as the name implies, as graded levels of interventions to decrease the harm caused by drug use.

This chapter provides an overview of the various models of needle exchange programmes in operation internationally and in Ireland. The literature on the effectiveness of needle exchange (by setting) is briefly reviewed.

3.1. What is Needle Exchange?

Needle exchange programmes aim to provide access to and encourage the utilisation of sterile needles, syringes and other paraphernalia among injecting drug users. The main objectives are to;

(1) Reduce the prevalence of blood-borne viruses;

(2) Educate service users about the risks associated with injecting drug use (e.g. sharing drug taking paraphernalia, overdose) and unsafe sexual practices and

(3) Engage with injecting drug users and refer into treatment services.

Normally a needle exchange programme will issue a 'health pack' to each person on each visit. This consists of different size needles and syringes to match the types of drugs being used, e.g. drugs made from crushed tablets require a wider needle than for cooked heroin. Sterile swabs, sterile water, injecting paraphernalia (cookers, filters), tourniquets, citric, safe return containers (sharps bins), sterile dressings, condoms, lubricant and spermicidal can also be provided. Other services offered can include: education and pre and post test counselling for HIV and HCV; drug advice and counselling; referral for HIV and HCV testing; HBV vaccination; abscess and wound care; injecting workshops; referral to drug treatment; overdose prevention training; complementary therapies; social, financial and legal advice. A recent innovation includes the provision of different coloured barrels to prevent inadvertent sharing among friends or couples (these are currently distributed through some needle exchanges in Dublin). Most needle exchange programmes in Ireland offer a range of equipment suited to the needs and preferences of the individual drug user.

3.2. Models of Operation

The structure and operation of needle exchange programmes differ widely depending on local conditions, funding and staffing levels. Moreover, there are different models of operating needle exchange, which can facilitate economic and geographical factors affecting drug user take-up of these services.

Centre-Based Needle Exchanges: The fixed-site or centre based needle exchange programmes are the most common; they operate either as a dedicated exchange or within a service providing a range of interventions and treatment options. The strengths of the centre-based exchanges are that the services are capable of providing a comprehensive range of harm reduction interventions (i.e. education about harm minimisation strategies, on-site testing, counselling, key working, care for minor infections, e.g. wound dressing) and they facilitate the distribution and disposal of injecting paraphernalia. Irish, European and Australian research has found that limitations of this delivery model include restricted opening hours and geographical access to the services (EMCDDA, 2007; Griesbach *et al*. 2006; Moore *et al*. 2004; Reilly, 1990).

Determining the location of a centre based needle exchange is an important first step to developing effective service delivery. The distance injecting drug users are willing to travel to obtain sterile injecting equipment has been identified as an important factor in this regard (Rockwell *et al*. 1999; Welton *et al*. 2004). Rockwell *et al*. (1999) found that injecting drug users who lived within a 10 minutes walk of a New York needle exchange were almost 3 times more likely to use such services. This is in part due to the nature of addiction, and the urgent focus on obtaining and taking drugs, so proximity to, and accessibility of needle exchanges encourages attendance (Monterroso *et al*. 2000). In the UK there is an underlying premise that needle exchanges should be within five miles of all residents, if they are to be accessible (NTA, 2007). However, it is recognised that this is merely a guide and is in practice unrealistic in large urban areas and among more dispersed populations in rural settings. Proximity is not an issue when an exchange is located within a small area of injecting drug users, but adequate coverage at the right time may be, which can be addressed through the diversification of needle exchange outlets (to include vending machines, pharmacies, mobile units, and hospital A & E departments).

Outreach Needle Exchanges/Mobile Buses: The most economical form of needle exchange is that of a home visit by appointment with a trained outreach worker. Frequently referred to as 'backpacking' this outreach model is both economically and geographically effective, and can meet the discrete needs of the individual user. Limitations of this model include a restricted service, safety of staff and the fact that home visits may be considered potentially intrusive by clients (Strike *et al*. 2006). A variation on this outreach model is the use of a mobile bus, which can act as a drop-in facility for drug users. This type of outreach service can be provided in areas where drug users congregate and/or sell drugs. However, limitations include insufficient space for face-to-face interaction with clients, the provision of harm reduction advice, referral into drug treatment, on-site pre- and post-counselling for testing for blood-borne viruses and the cost of and maintaining the vehicle (Strike *et al*. 2006). The outreach model of needle exchange is a more accessible and convenient service for clients, compared to centre-based needle exchange.

Pharmacy-Based Needle Exchanges: In a number of countries community-based pharmacies distribute sterile injecting equipment. Pharmacy-based needle exchanges are available in eleven European jurisdictions (Belgium, Denmark, Spain, France, the Netherlands, Portugal, Slovenia, England, Wales, Northern Ireland and Scotland) (EMCDDA, 2007). In the UK, pharmacy-based needle exchanges on average distribute more syringes per client per visit than other needle exchange services (NTA, 2007). Due to the widespread availability of community-based pharmacies, providing exchanges within these services improves the accessibility and availability of sterile injecting equipment and harm reduction information. Also, by having extended opening hours, pharmacy-based needle exchanges are more convenient for the service user (Henman *et al.*, 1998). However, problems encountered with this model include inadequate staff training and support, low return rates, staff concerns (e.g. shop lifting, intoxicated clients, impact on business) and reluctance

by some to provide such a service. Like the outreach provision, the limitations associated with this model include insufficient space for face-to-face interaction with clients and the provision of harm reduction advice, referral into drug treatment and on-site pre- and post-counselling for testing for blood-borne viruses (Strike *et al*. 2006).

Vending Machines: Ten European countries (Denmark, Germany, France, Italy, Luxembourg, Hungary, Netherlands, Austria, Slovenia and Norway) (EMCDDA, 2007) distribute sterile injecting equipment through vending machines that mechanically dispense new needles/syringes. In addition, a pilot vending machine has been introduced in Wales; in this instance individuals use tokens provided by local treatment services to access clean injecting equipment and the accompanying 'sharps bins' are emptied by the Ambulance Service. The benefits of vending machines are that they provide a cost-effective, convenient out-of-hours service (Henman *et al*. 1998). Limitations include the difficulty for individuals to maintain anonymity when machines are in a public space and the fact that no other harm reduction services can be provided (harm reduction advice, referral into drug treatment and on-site pre- and post-counselling for testing for blood-borne viruses) (Strike *et al*. 2006).

Non-Specialist Drug Service Needle-Exchanges: In some jurisdictions needle exchanges are provided in non-specialist drug services frequently accessed by injecting drug users, including hospital A& E departments, police stations (custody suites), hostels/emergency accommodation and primary care clinics.

Peer-Based Outreach: This model of needle exchange provision, also referred to as secondary exchange or peer exchange, operates much like other forms of needle exchange service delivery. However, clients, rather than staff, provide the direct service to their peers. It is an organic process, building on existing social networks and community norms of reciprocity; with or without this formal label, many injecting drug users assist others in their network to access needle exchange and other needs. Peer-based outreach is considered beneficial in reaching diverse groups of injecting drug users including those most at risk of HIV. Limitations include the expense associated with training/supervising peers, the possibility of conflicting identity as peer worker and member of a network of injecting drug users, and the possible violation of worker/client boundaries (Strike *et al*. 2006).

Prison Based-Needle Exchanges: The need for an effective response to HIV and HCV transmission through injecting drug use in prison is highlighted by the high transmission rates of HCV among the prison population (Allwright *et al*. 1999; Long *et al*. 2001). A controversial response has been the implementation of needle exchange programmes in prison. To date six countries (Switzerland, Germany, Spain, Moldova, Kyrgyzstan & Belarus) provide prison based needle-exchanges. These programmes were typically initiated on a pilot basis and later expanded. While the initial pilots for prison needle exchanges were usually in small prisons (e.g. the Swiss pilot was in a prison with 75 inmates) subsequent implementation of these programmes has been in prisons with populations as large as 1,600 (Soto de Real Prison in Madrid). Different methods of syringe distribution are used within the prison setting: vending machines, hand-to-hand distribution by health-care staff or external drugs workers and via prisoners trained as peer outreach workers (Lines, 2004). Objections to needle exchange in prison relate to fears of increased violence, the potential use of syringes as weapons, increased consumption of drugs, and an increase in first time injectors. Moreover, it could be perceived as condoning drug use and weakening the abstinence message.

Safer Injecting Rooms/Consumption Rooms: A developing model of needle exchange is by operating safer injecting rooms with medical supervision, as a further example of fixed site needle exchange. These are indoor facilities where drug users are permitted to self-administer drugs intravenously under supervision and with access to a wide range of sterile equipment. There are currently over 70 Safer Injecting Rooms in the EU and Norway (40 in the Netherlands, 25 in Germany, six in Spain and one each in Luxembourg and Norway).

3.3. Effectiveness of Needle Exchange Programmes

The available evidence on the effectiveness of needle exchanges is summarised under the three main objectives of these services. It is important to note that while evaluations of the effectiveness of needle exchanges have been carried out since these programmes were first implemented in the 1980s, the difficulty in conducting a strictly randomised controlled trial to evaluate a public health intervention such as needle exchange programmes cannot be overstated. All the potential sources of bias are impossible to control because of the overwhelming ethical and logistical problems. That said, the US National Academy of Sciences' Institute of Medicine stated

> *'To reject needle exchange programmes based on limitations of the design of single studies, ignores both the preponderance and pattern of the evidence and is both poor scientific judgment and bad public health policy …the possibility of being able to carry out the definitive study…does not necessarily preclude the possibility of making confident scientific judgment'* (WHO, 2004:5).

There is a paucity of research in Ireland on the effectiveness of needle exchanges programmes. To date there have only been two published studies on needle exchange programmes in the country. Cox & Lawless (2000) and Cox *et al.* (2000) evaluated the short-term effectiveness of Merchants Quay Ireland's Health Promotion Unit (needle exchange programme). Data were collected from all new service users accessing the needle exchange between May 1997 and October 1998 and subsequent follow-up data were collected three months after initial contact with the service (or as soon as possible thereafter). During the study period 1,337 new clients accessed the needle exchange: 28% (n=370) of these first visit clients represented to the service three months later and completed a follow-up interview. Quinn's (2007) study was concerned with The Bray Health Promotion Clinic: nine stakeholders involved either directly or indirectly with the service and two service users were interviewed. In addition, the National Advisory Committee on Drugs (NACD) commissioned a review of national and international harm reduction research in 2002 as part of its responsibility under Action 100 of the National Drugs Strategy. This document reviews the international and national evidence on the effectiveness of needle exchange (Moore *et al.* 2004).

3.3.1. Do Needle Exchanges Reduce the Prevalence of Blood-Borne Viruses?

The effectiveness of needle exchange programmes in the prevention of HIV is now well established. International research shows that the prevalence of HIV infection among needle exchange attendees has been found to be less than non-attendees (Bley *et al.* 1991; Hagan *et al.* 1995). Low seroconversion rates have also been reported among single samples of needle exchange attendees (Hart *et al.* 1989; Des Jarlais *et al.* 1994). There is some evidence that needle exchanges have partial effects on the incidence of HBV, although this is weak (Hagan *et al.* 1995). However, HCV poses a challenge to the evidence on the effectiveness of needle exchange and its ability to control HCV infection. High rates of HCV have been noted among injectors in many countries where needle exchanges operate

(including Ireland) and where HIV prevalence rates are low (Mansson *et al*. 2000; Ashton 2003b). As discussed previously, this may be related to the relative efficiency of transmission of Hepatitis C compared with HIV and/or to the widespread prevalence of HCV prior to needle exchanges opening. Although it can be assumed that without these measures the spread of the infection would have been worse (Ashton, 2003a), much more ambitious strategies that aim to eliminate even occasional high risk behaviour are required to prevent HCV transmission.

3.3.2. Do Needle Exchanges Educate Users About Risks?

The effectiveness of needle exchanges as educational interventions can be measured by assessing whether clients' risk-taking behaviours have been modified. In theory, the availability of injecting equipment through the needle exchange mechanism should reduce the amount of used equipment circulating in the injecting population, thus decreasing the likelihood of sharing (circulation theory) (Kaplan & Heinmer, 1994). Evidence from national (Cox *et al*. 2000: Cox & Lawless, 2000) and international research supports this argument.

For example, the proportion of injectors who share in areas where clean injecting equipment is available has been found to be lower than in areas where there is restricted access to sterile equipment (Calsyn *et al*. 1991). More detailed studies involving needle exchange attendees lend weight to the argument that needle exchange attendance is associated with a reduction in sharing. Longitudinal comparative research in the UK (Donoghoe *et al*. 1989; Keene *et al*. 1993) and the Netherlands (Hartger *et al*. 1989) suggests that needle exchange attendees will reduce sharing more than non-attendees. In addition, cross-sectional studies comparing needle exchange attendees with non-attendees reached similar conclusions; needle exchange attendees were less likely to share when compared with non-attendees (Durante *et al*. 1995; Firscher & Elliott, 1993). Finally, studies involving samples of needle exchange attendees where baseline and post-entry measures are taken also support the argument that needle exchanges reduce levels of borrowing and lending of used injecting equipment (Cox & Lawless, 2000; Paone *et al*. 1995; Hart *et al*. 1989).

The evaluation of the Merchants Quay project needle exchange service suggested that the levels of lending and borrowing used injecting equipment were significantly reduced within three months of attending the service (Cox & Lawless, 2000). Similarly, a study of a number of needle exchange services in England and Scotland (Donoghoe *et al*. 1989) found that 79% of respondents maintained or adopted lower levels of sharing throughout the course of the research. These findings are strengthened by a review of 42 studies which also suggested that access to sterile injecting equipment and the provision of safer injecting information is effective in reducing risk-taking behaviours (Gibson *et al*. 2001). However, Cox *et al*. (2000) reported that drug users had misconceptions about safe injecting practices and despite needle exchange interventions they continued to share other injecting paraphernalia (e.g. spoons used to prepare heroin for injecting). Moreover, Des Jarlais *et al*. (1989) noted that the availability of sterile equipment is not the only factor requiring consideration. They reported that the social norm of sharing among networks of injecting drug users is likely to be resistant to change despite interventions. Therefore, while most evidence does support the effectiveness of needle exchanges in reducing risk behaviour, there are other issues which may impede their effectiveness. As a possible solution to this, it has been suggested that an alternative model for changing risk behaviours is through peer-based outreach, rather than traditional outreach by drugs workers (Madray & Van Hulst, 2000).

Injecting drug users are also at risk of HIV infection through risky sexual behaviour as well as through contaminated injecting paraphernalia (Kral *et al*. 2001). Sexual risks, including multiple partners, sex work and unprotected sex are common among injecting drug users. A significant minority of female

injecting drug users engage in sex work (Cox *et al*. 2006; Rhodes *et al*. 1993). In addition, a high proportion of injecting drug using women have sexual partners who are injecting drug users (Cox & Lawless, 2000; Stewart *et al*. 2003), increasing their risk of having an infected sexual partner. Moreover, research has shown that there is association between injecting drug users who have a (steady) injecting drug user partner and non-condom use (Bogart *et al*. 2005; Weiss *et al*. 1993) and continued syringe/needle sharing (Bluthenthal *et al*. 2000). At the same time, injecting drug using men often have sexual partners who are non-injectors and who also could be placed at risk of becoming infected.

Injecting drug users' sexual behaviour is intimately tied to their substance use (Bogart *et al*. 2005). Both injecting and non-injecting drug users who report being 'high' when having sex are less likely to use condoms (Falck *et al*. 1997). Some drugs have more of an influence on sexual risk then others, most notably amphetamine (Molitor *et al*. 1999) and cocaine (Somlai *et al*. 2003; Booth *et al*. 1995; Hudgins *et al*. 1995). Educating drug users about the sexual risks associated with the transmission of HIV and other sexually transmitted infections is an important component of harm reduction services. Generally speaking needle exchange programmes were established with a primary focus on encouraging safer injecting and sexual practices and, in more recent years, have been focused primarily on injecting practices. Because of the focus on drug use issues, not all needle exchange staff have sufficient knowledge and experience in addressing sexual risk behaviour with clients (Strike *et al*. 2006). Perhaps for this reason, HIV prevention interventions have had negligible effects on injecting drug users' sexual risk (Bogart *et al*. 2005; Neaigus, 1998) especially regarding unprotected sex with steady partners (Rietmeijer *et al*. 1996). It is very difficult to change risk taking within the context of sexual partnerships (Suh *et al*. 1997), and needle exchange programmes do not specifically intervene on the steady sexual partnerships between injecting drug users (Bluthenthal *et al*. 2000).

3.3.3. Do Needle Exchanges Engage with Users and Refer into Treatment?

Needle exchange programmes are guided by the principle of harm reduction and are characterised as a humanistic response to problem drug users (Riley & O'Hare, 2000). Service providers operate these programmes in a friendly and non-judgemental manner and work to develop trust and gain clients' confidence. A number of research studies described this approach as being fundamental for needle exchange services to be effective (Allman *et al*. 2007; Mullen & Barry, 1999; Henman *et al*. 1998). The necessity for a harm reduction approach is evident when the consequence of a criminalisation approach to problematic drug users is considered. Such an approach serves to marginalise the user from health services and does not facilitate the reduction of harm for the drug user.

> *'A criminal approach to illicit drug use leads to aggressive attitudes towards drug users and forces them underground, thus hindering their access to Health Service outlets. It is consequently extremely difficult for drug users to obtain health information and assistance. Harm reduction strategies in a street context show that the drug user's right to access publicly provided services should be approached as an integral issue in drug policy'* (Nigro *et al*. 2000: 300).

Therefore, needle exchange programmes facilitate problem drug users' (re)engagement with health care services. Moreover, several studies have reported that needle exchange services are effective in achieving their long-term objective of operating as referral venues for addiction treatment services (Moore *et al*. 2004; Kuo *et al*. 2003; Heinmer, 1998).

3.3.4. Effectiveness of Needle Exchange by Setting

There is a large body of evidence supporting effectiveness of pharmacy based needle exchanges (Clarke *et al.* 2001; Gibson *et al.* 2001; Cotton-Oldenburg *et al.* 2001; Lurie *et al.* 1998; Singer *et al.* 1998; Singer *et al.* 1997). The literature also suggests that mobile or van-based needle exchanges are very effective in attaching different types of injecting drug users. For example, Riley *et al.* (2000) compared attendees at a mobile van-based exchange with attendees at a pharmacy-based exchange. The mobile unit attracted twice as many high-frequency injectors; they were also younger, more likely to engage in sex work, injected more frequently on the street, and were less likely to be in drug treatment.

Similarly, research suggests that vending machines are able to attract a group of injecting drug users that are not reached by site or centre-based needle exchange programmes (Obadia *et al.* 1999; Moatti *et al.* 2001). Individuals using vending machines tended to be younger, less likely to use other exchange programmes, less likely to have contact with health care systems, and less likely to be in methadone treatment when compared with individuals using centre and pharmacy-based exchange. Moreover, Obadia *et al.* (1999) found no evidence that the presence of vending machines encourage youth to transition into injecting drug use. Moatti *et al.* (2001) concluded that vending machines were a useful adjunct to centre-based and pharmacy exchanges for covering the needs of injecting drug users for sterile injecting equipment in a single city.

Some evaluations have also been carried out of peer-base outreach or secondary syringe exchange. This method of syringe distribution was considered to be very convenient by recipients of the service (Voytek *et al.* 2003) and effective in reaching a population of homeless young adult injectors at high risk of HIV infection (Sears *et al.* 2001). Advantages include the fact that they allow for coverage of a large geographical area; they keep operational cost low; and they provide syringes to clients who may not want to or cannot use fixed site programmes. Limitations include the fact that they are not as conducive as fixed sites to providing a wide range of ancillary services and those who receive services in this way may not derive as much counselling and referral services as direct exchanges from outreach workers or drugs workers.

There have been numerous studies and evaluations of safer injecting facilities or consumption rooms. Although these studies have limited outcomes the results suggest that safer injecting facilities are feasible to operate, acceptable to the target group, contribute to some reduction in drug overdose, reduce the injecting risk behaviour and improve clients' health (Broadhead *et al.* 2003; Dolan *et al.* 2000; EMCDDA, 2004; Kimber *et al.* 2003).

Dolan *et al.* (2003) reviewed the available literature on prison-based needle exchanges. They reported that there have been six evaluations of prison needle exchange programmes and all have been favourable. Positive outcomes included decreased or stabilised drug use over time and a dramatic reduction in the sharing of used needles/syringes. Importantly, no new cases of HIV, Hepatitis B or Hepatitis C transmission were observed. The evaluations also found no reports of serious unintended negative events, such as initiation of injection or the use of needles as weapons. Staff attitudes were generally positive but response rates to these surveys varied. Overall, this review indicated that prison needle exchange programmes are feasible and do provide benefit in the reduction of risk behaviour and the transmission of blood-borne infection without any unintended negative consequences. Stover & Nelles (2003) review of the literature on needle exchange in prisons supports this. They conclude that results of these programme evaluations did not support fears that commonly arise in the start-up of implementation of needle exchange programmes. Syringe distribution was not followed by an increase in drug use or injecting drug use. Syringes were not misused, and disposal of used syringes was uncomplicated. Based on these experiences, Stover & Nelles (2003) concluded that within a prison setting harm reduction measures,

including needle exchange, were not only feasible but efficient. Despite these positive results, needle exchange in prison is far from generally accepted. However, a decree by the Spanish Government in 2001 that all prisons in the country are required to provide drug users with sterile injection equipment may lead to a breakthrough of this harm reduction measure in the future (Stover & Nelles, 2003).

Overall, the World Health Organisation's (2004) international evaluation of the effectiveness of needle exchange for the prevention of HIV at a global level and in different contexts and settings concluded that there is compelling evidence that increasing the availability and utilisation of injecting equipment reduces HIV infection substantially. It also shows that needle exchange programmes are cost-effective, have worthwhile benefits in addition to reducing HIV infection and that there is a lack of convincing evidence of any major unintended negative consequences.

3.4. The Complexity of the Issue

It must, however, be remembered that simply making sterile syringes/needles and other paraphernalia available through needle exchange does not in itself transform high risk injectors into low risk. While liberal supplies of sterile injecting equipment improve coverage and eliminate *some* of the reasons for sharing (Bluthenthal *et al*. 2007a; 2007b) individual, social and environmental factors influence the likelihood of such risk behaviour occurring, and in turn the relative effectiveness of needle exchange.

Drug use is a social activity, and it is within the context of local social networks of users that risk behaviour often occurs. What from the outside is perceived as being 'risk behaviour' may to members of the social network serve to symbolise and maintain social ties on which individual network members are dependent (Rhodes, 1997). Social etiquette, reciprocation and the display of trust may require individuals to share drugs and injecting equipment (Rhodes, 2001). Needle exchanges specifically target the individual, but the social nature of 'sharing' highlights the importance of working with networks of injectors to influence group norms. Moreover, research has shown that networks of drug users tend to jointly develop risky practices and also to reduce risk together through example, influence and changing social norms (Ashton, 2003a). A number of innovative advances have been made in this regard including the provision of secondary exchanges. In the Netherlands, Australia (Loxley, 2000) and New Zealand (Kemp *et al*. 2004) drug users' groups commonly not only do secondary exchanges 'in the field' but themselves manage exchanges. Moreover, some risk-generating factors are personal. Experience such as sexual abuse, suicide attempts and depression have been associated with continued sharing of injecting equipment, despite the presence of needle exchanges (Strathdee *et al*. 1997).

Aston (2003b), reviewed case studies where needle exchanges failed to reduce risk with a view to identifying conditions that promote success. He identified a number of recurring issues that limited the impact of needle exchanges. These included policies at a service level (including lack of resources, restricted equipment supply, in particular strict one-for-one exchanges), the drug treatment environment (lack of programmes for young people and cocaine users, lengthy waiting-lists, poor referral procedures), changing drug trends (an upsurge in cocaine or amphetamine injecting, polydrug use) and other risk-generating environments (including deprivation, poor housing and lack of access to medical services).

3.5. Summary

The structure and operation of needle exchange programmes vary widely according to local conditions, funding and staffing levels. Although the range of services differs at each exchange, at a general level needle exchange programmes offer an impressive array of services (including sterile injecting equipment, sterile wipes, injecting paraphernalia, wound care, condoms, lubricants, education and counselling for HIV and HCV, drug advice and counselling etc). Worldwide, the research supports the effectiveness of needle exchanges across settings. A substantial number of drug injectors have been attracted to these programmes and have been provided with a range of services which cannot be suitably offered by other health services (Elliott, 1998). Needle exchange programmes have also made some contributions to continued low, or reduced spread of HIV among the injecting population in many jurisdictions and, as the evidence suggests, have probably helped those who attend to maintain low levels of risk behaviour, most notably reduced levels of sharing. However, the evidence suggests that needle exchanges have not been as effective in controlling the spread of HCV infection. Nonetheless, among established drug services, needle exchanges attract a large number of drug injectors (Ashton, 2003a) and play a vital role in promoting risk reduction, and in screening and referring individuals into HCV treatment. Traditionally needle exchange programmes are primarily based upon a model of health intervention, which is essentially individual-centred and not one that deals with groups or communities of injecting drug users. In some instances social factors may prevent further behavioural change among injectors, and as such needle exchanges may have failed to make significant headway in motivating social change. Needle exchange programmes have adapted and evolved to address this need, and the role of outreach work, peer education and secondary exchanges has become crucial in attracting and maintaining contact with 'hidden injectors'. That is not to say that the more traditional centre-based exchanges should be closed (Elliott, 1999) rather both fixed site and outreach (including secondary exchanges) should work together to provide a more comprehensive response to injecting-related risk behaviour and blood-borne viral transmission.

4. NEEDLE EXCHANGE PROVISION IN IRELAND

Since the establishment of the first needle exchange in Ireland in 1989 (Butler & Mayock, 2005) Irish drug policy has actively pursued a strategy of harm reduction for injecting drug users by providing both needle exchange programmes and methadone maintenance. However, additional efforts to prevent new infections among injecting drug users through the continuation, expansion and improvement of harm reduction services, in particular needle exchanges are required. An external review of drug services in the former Eastern Health Board described needle exchange provision as 'patchy and not very comprehensive' (Farrell *et al*. 2000). The NACD report by Moore *et al*. (2004) reviewing harm reduction services in Ireland, reiterated the need to improve access to sterile injecting equipment by extending opening hours and introducing complementary exchange programmes. This chapter provides a review of needle exchange availability in Ireland, as a first step towards improving the coverage and quality of service provision.

4.1. Needle Exchange and the National Drugs Strategy

The National Drugs Strategy (NDS) document *Building on Experience 2001-2008* recognises needle exchange as a central part of a harm reduction strategy. Furthermore, it states that many participants in the consultation process identified the lack of adequate needle exchanges as a major cause for concern, viz;

> *'It is important that a significant reduction in the reported level of injecting drug misuse and the rates of sharing injecting equipment is achieved. These are essential elements of containing the spread of HIV and Hepatitis etc among injecting drug misusers and should also contribute to a decline in the prevalence of these diseases amongst the non-using population'* (pg. 104).

This reduction, the NDS states, will be facilitated by continued efforts to ensure easy access to sterile injecting equipment through the development of needle exchange facilities.

Both the National Drugs Strategy 2001-2008 and the National AIDS Strategy 2000 identified the development of partnerships as an effective means of working with marginalised groups such as drug misusers. Both Strategies have also noted the importance – and effectiveness – of outreach programmes for drug users who may not be linked in with mainstream services.

The Mid-Term Review of the National Drugs Strategy 2001-2008 (NDS, 2005) acknowledges that while some progress has been made in this area, high priority should be given to actions related to harm reduction approaches (including needle exchanges) "in light of increases in the incidence of Hepatitis C and the ongoing prevalence of HIV". The Steering Group recommended that Action 62 (HSE led) be replaced as follows;

> '*The provision of needle exchange and related harm reduction services should be expanded in order to ensure wider geographic availability and availability at evenings and weekends, concentrating at first on areas of highest need.'*

In addition, as previously outlined, Action 63 (HSE led) of the NDS specifies

> '*To pursue with the relevant agencies, as a matter of priority, the setting up of a Pilot Community Pharmacy Needle and Syringe Exchange Programme in the EHRA area, and in the event of a successful evaluation, the programme to be extended where required.'*

This action was pursued but did not progress due to Industrial Relations and other issues.

4.2. Models of Needle Exchange Operation in Ireland

Centre Based/Outreach Needle Exchange: Most needle exchanges are currently centre or fixed site based, however a number of outreach models are in operation including mobile units.

Pharmacy-Based Needle Exchanges: At present needle exchange services are not provided by pharmacies. This need was clearly identified in the NDS 2001-2008 under Action 63 (HSE led) which states:

> *'To pursue with the relevant agencies, as a matter of priority, the setting up of a Pilot Community Pharmacy Needle and Syringe Exchange Programme in the ERHA area, and in the event of a successful evaluation, the programme to be extended where required'.*

Given this top-level policy agreement that a pilot scheme should go ahead in the Eastern Regional Health Authority Area (ERHA), Bourke (2005) undertook a study to examine the status of policy implementation thus far. The results of a postal survey indicated that a small percentage (5.8%) of pharmacies supply needles/syringes to injecting drug users on an *ad hoc* basis. Bourke found that 41% of surveyed pharmacists indicated a willingness to become involved in community based needle exchanges; those currently involved in the methadone scheme and/or those who provide needle exchanges on an *ad hoc* basis were most likely to be in favour of such schemes. While pharmacies were generally sympathetic to drug misusers, many were cautious about getting involved in such a scheme, due to a perceived lack of support for providing such a service. In this regard, Bourke concluded that the issue of security of pharmacies, the personal safety of staff, and the remuneration for services are likely to prove to be the most intractable concerns. Moreover, Bourke concluded that it is unlikely that a formal needle exchange scheme will be established in the area in the near future. The main barriers identified were the terms and conditions of pharmacies' involvement in the Drugs/AIDS Services. Successful resolution of this issue would, according to Bourke (2005), require fundamental infrastructural redefinition of Community Care and Drugs/AIDS services. As a way forward Bourke proposed that;

> *'Pharmacy-based needle exchange be re-imagined in the total context of pharmacy services… Pharmacies already supply needles for a number of patient cohorts. This positioning of needle exchange pharmacy services in this wider context may well serve to reduce resistance to its introduction not only from the public and politicians but also from pharmacies themselves'* (Bourke, 2005).

Vending Machines: There are currently no vending machines distributing sterile injecting equipment in Ireland. However, the provision of such a service was first recommended by Cox & Lawless (2000) and later by Moore *et al.* (2004) as a means of ensuring 24 hour access and unrestricted availability of sterile injecting equipment.

Non-Specialist Drug Service Needle Exchange: Similarly, there are few non-specialist drugs services providing formal needle exchanges, although recommendations to expand services in this regard were made in the aforementioned MQI report (Cox & Lawless, 2000). That said two homeless hostels provide needle exchanges to residents in Dublin. Firstly, the Simon Community Harcourt Hostel initially facilitated the provision of exchanges by Outreach workers from the HSE up until October 2007, when the service ceased to be staffed by HSE due to the Simon Community training their own staff to deliver needle exchange. Secondly, HSE Outreach workers provide needle exchanges in the Clancy Hostel, two days a week.

Prison-based Needle Exchange: Currently there are no prison-based needle exchanges in Ireland. Over the last number of years much progress has been achieved in the provision of care to drug users in the prison setting. Services such as drug treatment, prescribing of methadone, access to nursing and counselling services have recently been introduced as part of the Irish Prison Service (IPS) Drug Policy.

Ancillary to these developments, other measures have also been introduced to reduce supply and access to drugs such as enhanced security screening, including the introduction of passive drug detection dogs and other security responses. Notwithstanding all these excellent developments, drug users continue to be a large proportion of the prison inmate population and the reality is that they continue to use drugs when these drugs are available to them.

This fact continues to present ethical and legal dilemmas to Government and to those working in the IPS. Although it is known to the IPS that drug users continue to inject whilst in prison and that the health risk of contracting blood-borne viruses remains highest for this sub-group of the drug using population, the IPS is guided by its current drug policy which does not include controlled needle exchange as one of its strategies.

The Irish research clearly indicates that drug users are sero converting to HIV and/or Hepatitis C whilst in prison. Ireland has one of the highest prevalence rates for Hepatitis C in Europe as stated previously. The IPS rightly has concerns about how best to manage the welfare of its staff and other inmates were needle exchange to be available within the prison. The time has arrived for Ireland to consider how it can address these ethical and legal dilemmas so as to improve the health, safety and welfare of all persons working or residing in the prison.

Safer Injecting Rooms/Consumption Rooms: The National Drugs Strategy 2001-2008 referred to the issue of heroin prescribing and/or injecting rooms. Given Ireland's international obligations in this regard, the Review Group stated it

> *'does not consider that the introduction of such forms of treatment are warranted at this time. However, the situation should be kept under review and the results of research, both national and international, should be monitored.'*

Subsequently, the NACD 'Review of Harm Reduction approaches in Ireland and evidence from the international Literature' (Moore *et al*. 2004) concluded that "the introduction of supervised drug consumption rooms would require changes in national legislation and careful consideration of the impact of such strategies in reference to international treaties".

O'Shea (2007) carried out a study investigating the policy implications of introducing safer injecting facilities in Ireland. Interviews were carried out with injecting drug users, service providers and policy makers. While drug users and front-line service providers were all in favour of such facilities, others were cautious and expressed reservations. According to O'Shea;

> *'The views expressed acknowledged that the introduction of SIFs in the current political climate would be controversial, could create resistance from the general public, and would demand a very significant policy shift on the part of government.'* (O'Shea, 2007:84).

While there are not insurmountable barriers, O'Shea concluded that such a policy shift may be a 'bridge too far' in the current political climate, and the necessary policy shift is most likely to arise from service providers initiating change from the bottom up. Experts[2] in the Research Steering Group of a Rapid Needs Assessment study conducted by MQI on behalf of the Homeless Agency (O'Sullivan, 2007) recommended that *"a Safer injecting room should be set up on a pilot basis to maximise harm reduction among drug-users including those who use drugs in public spaces"*.

It is important to reiterate that there are legislative implications to the introduction of safer injecting rooms and that there is a high risk that such facilities will be susceptible to legal challenges. In some jurisdictions (e.g. Sydney and Vancouver) these facilities have a formal legal base. For example, in Sydney an amendment was made to the Drug Misuse and Trafficking Act 1985 to enable the licensing and operation of a safer injecting facility for a trial period of 18 months; this trial period was subsequently extended by primary legislation. Conversely in Canada, under the Controlled Drugs and Substances Act 1996, the Minister can apply for exceptions in the legislation if it is considered 'necessary for a medical or scientific purpose or is otherwise in the public interest'. An application for such an exemption was made to launch a safer injecting facility as a 'pilot research project' (Fortson, 2006). It is clear that the decision to introduce these facilities in both jurisdictions was not taken lightly, and the governments had to be mindful of the United Nations Drug Control Conventions. To date there has been no analysis of the legal implications of introducing such facilities in Ireland, the necessary legislative amendments and the overall feasibility of making these amendments.

Ireland, like most other countries, does not have safe injecting rooms. Taken against the background of published Government policies, there is an inherent contradiction between introducing a facility providing for safe injecting on the one hand and mainstream Government policy in relation to drug prevention and supply reduction on the other.

4.3. Current Provision of Needle Exchange in Ireland

In Ireland, under the Health Act 2004, the Health Service Executive (HSE) is responsible for the management and delivery of health and personal social services. The HSE, therefore, has statutory responsibility for the provision of drug treatment services, including harm reduction interventions, and discharges this responsibility in conjunction with the voluntary/community sectors, where appropriate.

The current distribution of needle exchange services across Ireland is presented in this section. For the purpose of this report the available information is presented by Regional Drug Task Force (RDTF) area, which also takes into account coverage at Local Drug Task Force (LDTF) level.

A summary of needle exchange provision in Ireland by RDTF area is presented in **Table 1**, which also gives the geographical areas covered. It is not currently possible to present the information by RDTF and LDTF area separately. This table shows that **needle exchange programmes are currently available in four RDTF areas**. It should be noted, however, that in three of these RDTF areas, namely the East Coast, South West and Northern Area, there is a concentration of Local Drug Task Forces (13), viz those areas identified in the 1997-2000 period as most affected by opiate misuse. Two are located

2. *The Garda and Dublin City Council representatives on the steering group did not lend their support to the Recommendation.*

within the East Coast RDTF area (Bray and Dun Laoghaire/Rathdown), six are located within the South West RDTF area (Clondalkin, Ballyfermot, Tallaght, Canal Communities, Dublin 12 and South Inner City) and five are located within the Northern Area RDTF (Ballymun, Blanchardstown, Finglas/Cabra, North Inner City, and Dublin North East). Needle Exchange provision has been developed in specific LDTF areas as follows:

- **Eleven LDTFs have needle exchange services** (Dun Laoghaire/Rathdown, Clondalkin, Finglas/Cabra, Blanchardstown, South Inner City, Ballyfermot, Ballymun, North Inner City, Bray, Dublin North East, and Tallaght).
- **Two LDTFs – Dublin 12 and Canal Communities LDTF** – have jointly developed a harm reduction policy project (including needle exchange) in conjunction with the HSE.
- **There is no needle exchange coverage in one LDTF** – Cork City.

The Table shows that in the four RDTFs areas with services the East Coast RDTF operates both fixed site and outreach services through either mobile units or home visits. The majority of service provision in the South West RDTF comprises of fixed sites, however Kildare and West Wicklow are serviced by home visits. The Northern Area RDTF operates fixed site exchanges throughout the region, while the Mid-Western RDTF area operates both a fixed site and outreach service, through backpacking in public places or home visits.

There **are currently no needle/syringe-exchange services in six RDTF areas** but some areas have developed/are developing plans to implement such services namely:

- The **Western RDTF** area is in the process of developing a fixed site exchange and outreach services through either backpacking in public places or home visits.
- The **North Eastern RDTF** area is in the process of developing a mobile unit.
- The **Midlands RDTF** submitted a proposal to the NDST for the provision of harm reduction services through an outreach provision. This has been approved in principle as a pilot study to assess the potential to develop needle exchange in a family and community based context.
- The **South East RDTF** is in the process of discussing the development of services.
- The **North West RDTF**, together with the HSE Drug and Alcohol service, is currently investigating the need for needle exchange services.
- There are no official needle exchange programmes available in the **Southern RDTF**.

Table 1. **National Availability of Needle Exchange Services by Regional Drug Task Force Area**[3]

East Coast RDTF: Dun Laoghaire, Rathdown and Wicklow	**3 fixed-site needle exchanges:** Operation hours range from one to five hours, one day per week in each fixed site.
	2 specialist needle exchange for sex workers (fixed-site & mobile).
	4 areas covered by outreach services through either mobile units or home visits each area is serviced for four to five hours, one day per week.
South West RDTF: South Dublin City, South Dublin, Kildare and West Wicklow	**9 fixed site needle exchanges:** Operation hours range from one to three hours, one/two days per week. Merchants Quay Ireland operates a fixed site exchange Monday to Friday, 10:00-16:30.
	1 mobile Unit: Monday to Friday one hour a day.
	1 specialist needle exchange for homeless people: Simon Homeless Hostel.
	Home visits or 'backpacking' service is available by appointment in Kildare and West Wicklow.
Northern RDTF: North Dublin City and Fingal	**8 fixed site** exchanges most are operated in community health centres for two hours per week. In Blanchardstown one service operates in two locations from Monday to Friday, for between eight to eleven hours.
	1 specialist service for sex workers operates one evening a week.
	I specialist needle exchange for homeless people: Clancy Hostel.
Mid Western RDTF: Clare, Limerick and North Tipperary	**1 fixed site needle exchange** in Limerick City one day per week, for two hours.
	Outreach services through backpacking in public places & home visits available throughout the region, no fixed day or time.
Western RDTF: Galway, Mayo and Roscommon	**No service available:** The HSE is in the process of developing a mobile unit that will operate for half a day in each county.
North Eastern RDTF: East Cavan, Louth, Meath & Monaghan	**No service available:** In the process of developing mobile unit.
Midlands RDTF: Laois, Longford, Offaly and Westmeath	**No service available:** Awaiting approval for mobile unit.
South East RDTF: Carlow, Kilkenny, South Tipperary, Waterford &Wexford	**No service available:** Discussing development of services.
Southern RDTF: Cork and Kerry	**No services available.**
North West RDTF: Donegal, Leitrim, Sligo and West Cavan	**No service available:** HSE and RDTF investigating need.

3. *Janet Robinson, HRB, personal communication 2008.*

As previously stated, the majority of needle exchange programmes in Ireland were established by, and operate under the auspices of the HSE Drug and Alcohol Services. In addition, a number of needle exchanges were established and are operated by the voluntary sector with HSE resource support. The largest of these services is provided by Merchants Quay Ireland, the busiest exchange nationally catering for an average of 150 to 170 clients per day. The county of origin of attending clients is recorded and individuals have presented to MQI needle exchange from Antrim, Armagh, Cork, Donegal, Dublin (City and County), Kerry, Kildare, Kilkenny, Laois, Longford, Louth, Mayo, Meath, Offaly, Wicklow, and Westmeath. CARP, a Voluntary drug project, in Killinarden, Tallaght, operates and resources its needle exchange independently.

Table 2 presents the available data on the number of needle exchange encounters for the year 2007, by setting, RDTF and LDTF areas. It is important to note that the data do not equate to the number of individuals seen, as people can present more than once or present and not receive an exchange. Similarly it does not equate to the number of syringes/needles distributed, as in an encounter more than one needle/syringe is usually give out.

Table 2. **Number of Needle-Exchange Encounters by Site and Regional Drug Task Force Area for 2007**

East Coast Area‡	**Bray**	Fixed Site	3
		Mobile	721
	Dundrum	Fixed site – Health Centre	215
		Mobile	3
	Baggot St	Specialist Fixed site – sex workers	36
		Specialist Mobile – sex workers	527
	Dun Laoghaire	Mobile	719
	Sallynoggin	Fixed site	127
	Arklow	Mobile	563
South West Area	**Ballyfermot**	Fixed site – Aisling	240
		Fixed site – Health Centre	444
	Tallaght	Fixed site – Aengus	84
		Fixed site – JADD	468
		Fixed site – CARP	1,488
	Clondalkin	Fixed site – CASP	119
	Inchicore	Fixed site – Health Centre	327
	Rialto	Fixed site – CDT	288
	Inner City	Mobile	708
		Specialist – Simon Homeless Hostel	156†
		Fixed site – Merchants Quay	34,094*
	Kildare (area)	Backpacking	610

Table 2. **Number of Needle-Exchange Encounters by Site and Regional Drug Task Force Area for 2007** *(continued)*

Northern Area	**Ballymun**	Fixed site – Health Centre	797
	Blessington St.	Specialist – Homeless	125
	Blanchardstown	Fixed site – Mountsview/Blakestown CDT	414
		Fixed site – Corduff	74
		Fixed site – Hartstown/Huntstown CDT	354
	Darndale	Fixed site	322
	Howth	Fixed site	435
	Inner City	Fixed site – Northstrand HC	414
		Fixed site – Summerhill HC	339
		Specialist Chrysalis – sex workers	12
	Finglas	Fixed site-Wellmount HC	230
Mid-Western	**Limerick**	Fixed site	193
		Backpacking	16

NB: Shaded cells indicate LDTF area.

‡ *The National Drug Treatment Board – Trinity Court – also provides needle exchange on an individual client basis.*

† *Data relates to the first three-quarters of 2007 January-September; as of October 2007 HSE have not been delivering the service, due to Simon training their own staff to deliver Needle Exchange.*

** The figure provided is an approximation. MQI implemented a new data monitoring/collection system, consequently data on the numbers of needle exchange 'encounters' are only available for the last five months of 2007 – August to December – when 14,206 encounters were recorded. The average number of encounter a month over this time period was 2,841 – which would suggest approximately 34,094 'encounters' in the calendar year 2007.*

4.4. Clinical Governance

In the delivery of any efficient healthcare system it is essential that quality services are provided; where quality is defined as 'doing the right things, for the right people, at the right time and doing them right first time' (Donaldson & Gray, 1998). This can be conceptualised within a clinical governance framework, whereby

> *'…organisations are accountable for continuously improving the quality of their services and safeguarding high standards of care by creating an environment in which excellence in clinical care will flourish'* (Donaldson, 1998)

This clinical governance framework offers an integrated approach to quality of care that focuses not only on the process of care, but on clinical decision making and customer satisfaction. As such it is an organisational and systems wide approach. Within such a framework evidence-based decision-making and care guidelines play an integral part. According to the European Foundation for Quality Management, clinical governance operates a fit between culture, accountability and effectiveness in order to provide quality patient/client care through people and processes thereby obtaining results.

A clinical governance framework contains a number of domains including clinical audit, patient safety, consent, policies and procedures. In areas of this report where service development and enhancement is required, this should take place within the Clinical Governance Framework. Thus issues such as facilities, training and competency of staff, obtaining consent and providing a range of services across disciplines are all considered and not treated in isolation. This is of particular importance to the HSE. Whilst the community and voluntary sector operate a different management system, the guiding principles of whole organisation approaches are relevant.

The National Treatment Agency in the UK is currently developing a clinical governance framework for the delivery of drug treatment and service providers within all sections (e.g. statutory, voluntary criminal justice system).

4.5. Best Practice for Needle Exchange Provision

The large body of literature concerned with evaluating the effectiveness of needle exchange programmes has informed the development of 'Best Practice' guidelines for the implementation and delivery of these services in many jurisdictions (e.g. Strike *et al*. 2006; Turning Point, 2006; UKHRA, 2006; Ashton, 2004d; WHO, 2004; NTA, 2002; NTA, 2003). These best practice guidelines usually take the form of a series of detailed recommendations for service planning, design and delivery based on the available evidence. They are ultimately a tool to transfer knowledge informed by research to ensure the development and delivery of efficient and effective services. The National Institute for Health and Clinical Excellence (N.I.C.E) in the UK are currently developing best practice guidance for commissioner and providers of needle exchange programmes.

Best practice should be located within the clinical governance framework of the HSE which considered quality control, training, resources and effectiveness. There are no single, concise published 'Best Practice' guidelines for the implementation and delivery of needle exchange programmes (or other harm reduction interventions) in Ireland. While it is beyond the scope of this document to provide such guidelines, some of the key components of best practice will be addressed in this section, most notably staff training, and policies and procedures on the delivery of needle exchange programmes.

4.5.1. Staff Training

Staffing greatly influences the effectiveness of needle exchange programmes (WHO, 2005). Staff who are approachable, knowledgeable, experienced with street-life, friendly, non-judgmental, non-directive and helpful are likely to be able to develop and sustain rapport with clients and the community (Strike *et al*. 2006). In addition to the personal skills of the staff, training and supervision are vital to ensure the effective delivery of a service. Important components of staff training include (Strike *et al*. 2006);

- Purpose of the programme
- Target populations
- Risk behaviour for transmission of BBV
- Capacity to consent
- Mental health assessment
- Safer sex, injecting and drug use practices
- Job responsibilities
- Interpersonal boundaries and
- First aid.

Moore *et al.* (2004) in their review of harm reduction services in Ireland, reported that there is no published information available profiling the group of staff delivering these services, indicating what access they have to ongoing education and training and recording their concerns and difficulties in operating harm reduction services. A recent study by Robinson (2007) provides an insight into the development and operation of a needle exchange service in one former health board area. The study identifies a number of issues that are associated with these processes from the service providers' perspective. The development of the service was characterised by a number of practical factors including staff training.

At present there is no national standardised training for needle exchange workers in Ireland, consequently it can be expected that staff qualifications and competencies will vary within and across services. Some initiatives have however been developed. Merchants Quay Ireland has developed and delivers level five FETAC accredited training for all its drug workers, including those involved in needle exchange provision; the HSE provides level five FETAC training, and are currently developing level six training. Good practice involves in-depth initial training for needle exchange providers, and continual on-going training, support and supervision (Griesbach *et al.* 2006; Moore *et al.* 2004).

Any training provided to workers in needle exchange in Ireland is by and large limited to those voluntary and HSE staff directly engaged in the provision of needle exchange services. Consequently there are a range of professions not directly, or currently, involved in needle exchange provision that would benefit from an understanding of the service so as to enhance their knowledge of injecting practices, risks, and onward referral. Moreover, the provision of such training would facilitate the expansion of needle exchange services. Most notable among these professions are pharmacists, gardaí, prison staff, homeless service providers and individuals working with other risk groups.

4.5.2. Policies and Procedures

Needle exchange programmes consist of many different services and supports. Written policies and procedures are essential to ensure that managers, staff and clients all know who does what, when, how and why. What follows is a brief summary of the key policies/procedures that are central to any needle exchange to ensure best practice in service delivery.

Policies on needle distribution/returns: Some needle exchanges may put a limit on the number of syringes or health packs that they give out at any one time. Alternatively, a limit may be put on the quantity given out at first visit, increasing with subsequent visits. If a client is known to a service, or resides in a rural area, they may receive more syringes. Syringe distribution may be related to the number of returns. Returning used injecting equipment may be a condition of receiving sterile equipment. Alternatively some exchanges may operate a strict one-for-one policy. Some services may distribute portable 'sharps bins' to clients to facilitate the safe return of used injecting equipment.

Best practice recommends that sterile injecting equipment should be distributed in a sufficient quantity based on the client's current injecting practices and as requested, without limits on numbers provided (Strike *et al*. 2006). Strict one-for-one exchange does not in itself have to be a problem if exchanges do not unduly limit supplies and go to users (e.g. backpacking), rather than making users come to services carrying used injecting equipment (Ashton, 2003d). Policies on needle distribution/ returns need to be linked in with policies on safe disposal of injecting equipment.

Policies on distribution of other injecting paraphernalia: Needle exchanges can also provide a range of injecting related paraphernalia in addition to sterile needles/syringes. Best practice recommends that filters, stericups (used to prepare heroin for injecting) citric acid, sterile water, sterile alcohol swabs, and tourniquets and foil (to encourage injectors to revert to smoking heroin) must be provided (Strike *et al*. 2006). Not providing these materials, may send an implicit message that re-using them is acceptable (Ashton, 2003d).

Policies on secondary/peer distribution: Some services may have policies on (or either informally encourage or discourage) secondary or peer distribution, of sterile injecting equipment. Best practice is to provide a range of models of needle exchange delivery to maximised accessibility and to involve injecting drug users in the design and delivery of services (Strike *et al*. 2006; NTA, 2007). However, it is important to reiterate that appropriate client training should be provided when advocating secondary distribution.

Distribution of materials needed to practise safer sex: Correct and consistent use of condoms for all penetrative sexual acts has been proven to help reduce the sexual transmission of HIV and other infections (Strike *et al*. 2006). However, Cox & Lawless (2000) reported that only 35% of followed-up injecting drug users at Merchants Quay needle exchange always used a condom. Moreover, national and international research highlights low levels of condom use among injecting drug users with regular sexual partners. HIV and other sexually transmitted diseases are also found in menstrual blood and in vaginal and anal secretions of people living with these infections.

Policies on under 18s: In line with best practice all services should have a written policy on the provision of injecting equipment to young people. The Report of the Working Group on Treatment of Under 18 year olds presenting to Treatment Services with Serious Drug Problems (2005) states that needle exchange services for under 18 year olds is essential for young people given the risk inherent in needle sharing. However, it is noted that 'such services should only take place where possible in the context of a broad treatment regime'. Merchants Quay Ireland, voluntary service, and the HSE have written policies on needle exchange for clients under 18 years. Accordingly, needle exchanges are available to young people between 16 and 18 years (in the absence of parental consent) following an assessment by appropriately trained (i.e. capacity to consent) Health Board Outreach Staff. In cases where there is doubt about a service user's suitability for an exchange, the Consultant Psychiatrist is contacted. Needle exchange for young people under 16 years is not provided without parental consent (HSE, SWA, 2004).

Individual risk assessment and review of client needs: In line with best practice (NTA, 2007) an initial assessment of new clients presenting for a needle exchange should be carried out. This client assessment information is important for a number of reasons; to monitor individuals' health status behaviour; to monitor levels of client engagement with the service by documenting whether the harm reduction strategies are effective in reducing risk behaviour; to monitor and track trends in drug use – thus ensuring appropriate service responses to individual client needs. Ideally such an assessment should include discussions on sharing needles/syringes, sharing paraphernalia, disposal of used equipment, overdose risk, safer injecting techniques, injecting hygiene, vein care, sexual risk, alternatives to injecting, testing for BBVs, HBV vaccination, referral, current involvement in treatment, health status, and GP registration. It is important that a risk assessment addressing individualised harm minimisation advice is carried out on the clients first, as many may not be in a position to receive such advice from other services and a large proportion of needle exchange attendees present infrequently (Ashton, 2003b). Moreover, client reviews should be systematically carried out and individuals actively targeted and referred into treatment (Ashton, 2003d). Currently, when a client first presents at a needle exchange in Ireland the staff record a variety of information (including number of years injecting/smoking, the type of drug(s) being used, shared injecting equipment in last year, condom use last year, number of sexual partners in previous year and whether they practise safe sex), (Robinson, 2007).

Data collection/monitoring: The documentation of service users and service providers is vital to ensuring that the service is meeting the needs of the client group (Paone *et al.* 1995; Robinson, 2007). It is in line with best practice that a centrally-held data monitoring system for needle exchange be in place (NTA, 2007). This would provide vital information for planning and service development. Such a system would require the collection of data on client characteristics (e.g. drugs injected, sharing behaviour, BBV status, HCV status) and data on service activity (e.g. number of needles given, number returned, other services received). The aforementioned client assessment data are not always stored on a centrally-held data system. When a client accesses a needle exchange in Ireland, point-in-time information on the type and mode of drug taking, equipment sharing, condom use, methadone treatment status, and needle/syringe distribution and returns is usually manually recorded. Again these data are not always held centrally.

Collection and safe disposal of injecting equipment: Used injecting equipment discarded in the community poses a risk of injury to the general population. Moreover strict one-for-one exchange policies have often been implemented out of concern that otherwise used equipment would be dangerously discarded, thereby threatening community safety. Consequently, the safe disposal of used needles/syringes is an important strategy for reducing the amount of discarded equipment in the community, and the transmission of blood-borne viruses.

Action 69 of the National Drugs Strategy included the following action to be delivered jointly between the HSE and LAs namely:

> *'To develop and implement proposals for the collection and safe disposal of injecting equipment, in order to ensure the wider community is not exposed to the dangers associated with unsafe disposal'.*

A working group consisting of representatives of Regional Health Authorities, Health Boards, Local Authorities, the National Drugs Strategy Team, the Department of the Environment, Heritage and Local Government and the Women's Health Project was established in December 2002 to oversee the implementation of this action. The various approaches to dealing with issues surrounding the disposal of injecting equipment were outlined and discussed. As a result of these discussions, the need for a protocol was recognised. The working group, over the course of a number of meetings, prepared a protocol covering the issue of needle disposal.

Training was provided by the HSE to local authority staff in the Dublin and Wicklow regions. This covered a range of topics surrounding the health and safety issues faced by local authority staff in dealing with contaminated waste (i.e. needles and syringes), the use of 'sharps bins', protective clothing and procedures to reduce the risk of injury, and how to handle a needle-stick injury.

A policy document was developed on foot of the meetings. Formal policies have been adopted by South Dublin County Council, Fingal County Council and Dublin City Council, and are being finalised by Wicklow County Council, Bray Town Council and Dun Laoghaire/Rathdown County Council. These documents are available upon request.

Where contaminated waste is found on private property, an Garda Síochána is responsible for any criminal proceedings which may follow; however some confusion exists regarding where responsibility for dealing with such waste lies. Where contaminated waste is found on public property it is the responsibility of local authorities to deal with the issue. Within local authorities, responsibility for dealing with contaminated waste is divided along the following lines:

- Open spaces = Parks/Environment divisions
- Local authority estates = Estate Management divisions
- Roadways = Environment/Litter divisions

When contaminated waste is found in rural areas, it tends to be around bottle banks or as a result of illegal dumping. The above delineations determine where responsibility for dealing with the waste lies.

In addition to the aforementioned, it is important that other measures are put in place to allow for the safe disposal of used injecting equipment including distributing portable 'sharps bins' to injectors, home pick-ups (by outreach workers), locating safe disposal bins in premises such as public toilets and hostels. Any expansion of needle exchange services will potentially impact on local authority service provision.

4.6. Summary

The absence of national, regional and local estimates of the number of injecting drug users poses challenges to planning service delivery. That said, the available data sources reviewed in this chapter, in particular the National Drug Treatment Reporting System, and the Central Treatment List, clearly indicate that there are (networks of) injecting drug users in all RDTF areas.

The review of the current provision of needle exchange in Ireland clearly highlights the fact that despite the identification of service needs and the inclusion of specific actions in the NDS on development of services, provision is still largely concentrated in local drug task force areas with inadequate coverage at a national level despite the evidence of drug misuse throughout Ireland evidenced by the four sources in section 4.3.

The fact remains that needle exchange programmes are currently provided in only four of the ten Regional Drug Task Force Areas and these are concentrated in the LDTF geographical areas. Within the six RDTF areas with no needle exchange coverage, only three are in the process of developing such services (Western RDTF, North Eastern RDTF, and Midlands RDTF). Of some concern is the fact that only one of these areas (Western RDTF) proposes to implement a fixed-site or centre-based exchange, despite the evidence clearly indicating that centre-based needle exchanges provide the most comprehensive range of services. While Outreach and mobile needle exchanges have proved to be highly effective, ideally they should operate in conjunction with the more traditional centre-based exchanges. At a local drug task force level, i.e. those areas with the most concentrated opiate usage and evidence of growing cocaine usage, the fact that 13 provide needle exchanges in no way indicates adequate coverage within these areas. It is important that sterile injecting equipment is available at the right place, at the right time. None of these areas provides 24-hour access to sterile injecting equipment, and none provides weekend coverage. However, one positive development has been the targeting of homeless injecting drug users by the Homeless Agency and its service providers and also the provision of needle exchange to sex workers by specialist services.

Research from the UK clearly indicates that a combination of needle exchange facilities, with pharmacy and outreach exchange services complementing centre-based specialist services, maximises accessibility and available of injecting equipment (NTA, 2007). However, it is important to reiterate that international evidence shows that the distribution of sterile injecting equipment is not enough in itself to control blood-borne infections (in particular HCV), rather it should be considered as part of a wider system which includes a range of other complementary measures. Moreover needle exchanges have a role to play in this regard, through developing their services and facilitating access to HCV screening, harm reduction advice and referral into treatment.

This review of needle exchange services highlights the need to develop best practice guidelines on needle exchange in Ireland, to ensure effective planning, management and delivery of services coupled with training for community, statutory and voluntary staff and other professions to ensure consistency across all services. In addition, an audit of services and on-going surveillance data are essential in order to monitor needle exchange activity and to allow for estimations of coverage of syringe distribution.

5. RECOMMENDATIONS

Needle Exchange Coverage

Increase the provision of high quality needle exchange services with satisfactory coverage across all LDTF and RDTF areas to ensure sufficient distribution of injecting equipment to prevent the sharing of injecting equipment. Priority should be given to the six identified RDTF regions with no needle exchanges. These services should provide;

- Easy access to needle exchange services to ensure that injectors have access to sufficient sterile injecting equipment for each injection.
- Injecting-related paraphernalia in addition to sterile needles and syringes (sterile alcohol swabs, sharps bins, citric acid, sterile water, spoons, filters, stericups, foil etc).
- Information and education on safer injecting practices, on avoiding injecting site infection, on the prevention of BBV's and on the safe disposal of used equipment.
- Easy access to other services, such as immunisation, health checks, diagnostic tests and referral into drug treatment.

Responsibility: HSE in partnership with the RDTFs/LDTFs

Collection and Safe Disposal of Injecting Equipment

- DEHLG to examine the impact on local authority service provision of increased levels of needle exchange services and make recommendations.

Responsibility: DEHLG

Models of Operation

In order to ensure an adequate and appropriate range of needle exchange services the provision of a mixed economy of facilities should be provided across all LDTF and RDTF areas. To this end

- Where possible centre-based or fixed site needle exchange should be provided to ensure the delivery of a comprehensive range of services.
- Outreach models of needle exchange should be expanded, including mobile services where appropriate.
- The introduction of the pilot pharmacy based needle exchange programme called for in Action 63 of the NDS should be negotiated.
- The use of a vending machine as a means of distributing sterile injecting equipment should be piloted (in an appropriate inner city site) as a method of ensuring 24-hour access to sterile injecting equipment.

- A secondary (or peer-based) needle exchange scheme should be developed and piloted in a targeted area with an established network of injecting drug users.
- Non-specialist drug services should be encouraged to provide needle exchanges (e.g. homeless hostels, A & E departments).

All the above options should operate in accordance with good practice guidelines and in accordance with agreed clinical governance standards. The various needle exchange pathways should be proofed to ensure that they are in compliance with the roll out of the Primary Care Teams and Social Care Networks within the HSE and are fully embedded in an integrated care model.

Responsibility: HSE in partnership with the RDTFs/LDTFs

Blood-Borne Virus Prevention and Other Harm Reduction Interventions

Given the limited effectiveness of needle exchange programmes in impacting on HCV transmission the provision of on-site specialised BBV interventions should be expanded within these services. To this end

- Referral into appropriate service for HBV immunisation and HCV screening should be provided.
- The role of HCV screening as a harm reduction intervention needs to be developed, given the opportunity it presents to educate/inform on safer drug and alcohol using practices. HCV specific harm reduction models should be developed based on best practice. Recent evidence supports the impact of counselling-based brief interventions, including peer-based interventions, in reduction of HCV risk.
- Overdose prevention information/training provided to all clients.
- Access to primary care.
- Referral into drug treatment.
- Strategies to stop drug users moving from smoking to injecting. Outreach work should be seen as more than needle exchange and should distribute foil and pipes.

Responsibility: HSE in partnership with the RDTFs/LDTFs

The IDG should convene a small expert group involving the NDST, the IPS, HRB, HSE, NACD, D/CRGA and the DJELR to consider the ethical and legal dilemmas and report to the IDG by December 2008 as to how they might best be addressed in the New Drugs Strategy.

Responsibility: IPS, DJELR

Sexual Health

Needle exchange programmes provide an opportunity for sexual risk reduction interventions. To be effective in this regard sexual risk needs to be openly and explicitly addressed.
To this end harm reduction interventions need to;

- Ensure provision of male and female condoms, and lubricants.
- Address negative attitudes towards condom use and misconceptions of sexual risk with a steady partner.
- Provide information on contraceptive alternatives to condoms.
- Develop strategies of working with couples to de-stigmatise condom use.

Responsibility: HSE

Quality Control

A comprehensive survey/audit should be carried out to investigate the nature, quality, policies and procedures of needle exchange services in Ireland. This should;

- Identify the number, range and coverage of services that provide needle exchange and harm reduction services.
- Gather data on needle exchange activity, clients and distribution of sterile injecting equipment and other paraphernalia, as well as data on returns of used injecting equipment.
- Examine aspects of planning and managing the provision of needle exchange programmes.
- Explore service users' views on services provided and barriers to use.
- Lead to the implementation of standardised 'Best Practice Guidelines' for the planning, implementation and delivery of needle exchange programmes in Ireland.

Responsibility: HRB and HSE

Training

Training is essential to ensure consistency across staff members. To this end

- Development of best practice guidelines is required. On-going training for staff must be provided to ensure that all staff have the opportunity to learn about new innovations, different approaches, new information about BB infections and treatment, as well as changes in types and patterns of drug use.

- Focused training on the BBV should be provided to those front line workers delivering the exchange services.
- Needle exchange staff should be provided with training on safer sex negotiations skills, condom demonstrations, and on the psychosocial impact of living with HIV/AIDS and other BBVs.
- Support and supervision through occupational counselling should be provided to all front-line staff (include outreach workers).

Responsibility: HSE National Addiction Training Programme

Research

It is important that gaps in our knowledge and information be filled by ongoing research. To this end;

- An investigation of interventions to delay injecting and to cease injecting among problem drug users.
- A survey should be carried out to determine the prevalence of HCV infection among all drug users, including needle-exchange attendees.

Responsibility: NACD, HRB

Monitoring/Surveillance

The establishment of a national needle exchange database should be an integral part of this service provision. This system must be able to interface with existing data collection and collation systems currently in existence within the addiction services. It should also be cognisant of the continuing role of the Primary Care Network and Social Care Networks within the HSE. Ideally this system should record the following information for each client accessing a needle exchange;

- Demographic profile (including age, gender, ethnicity, area of residence etc).
- Risk taking behaviours (unsafe injecting and sexual practices).
- Needle/syringe distribution and returns.
- Harm reduction interventions provided.
- Referral into drug treatment or social services.

Responsibility: HRB-HSE

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