

# Multi-Drug Injecting in Manchester

[ A survey of 100 injecting drug users attending  
Lifeline Needle Exchange Scheme in 2006 ]

[ Full Report ]

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## Abstract

In order to assess the level of injecting-related risk and harm among injecting drug users (IDUs) in Manchester in North-West England, a representative sample of 100 clients of Lifeline Needle Exchange Scheme (NES) was surveyed in February 2006. The typical respondent was male, aged 35 years, unemployed, unqualified, and homeless (eight in ten), and had about three dozen convictions and a dozen prison sentences.

Half reported long-term health problems, and a quarter reported present mental disorders (notably depression). Most clients attended the NES daily or weekly, and about half were receiving drug treatment. The main injecting risks, exhibited by a third or more, involved lack of hygiene, poor techniques, indirect sharing, and re-using needles, along with groin injecting and public injecting – though only one in nine reported direct past-month needle-sharing.

In addition, four in five respondents were multi-injectors of heroin with crack (speedballs), typically daily or near-daily; and almost a quarter reported recently injecting in shooting galleries. HCV infection was reported by a third (half of those tested), though the HIV rate remained low (1-2%); and about half reported vein/tissue damage (such as abscesses).

Homeless IDUs were significantly more likely than those with their own homes to inject speedballs; to inject in derelict houses and public places; and to report HCV infection. Speedball injectors were more likely to inject daily than heroin-only injectors, and spent significantly more on drugs, including heroin.

It was concluded that the Lifeline NES was generally effective, but could further improve its performance by: targeting specific interventions at younger, homeless and speedballing clients; by developing its services and products to reduce a broader range of drug-related risks and harms; and by improving its monitoring to incorporate better-quality demographic and drug-taking data. General recommendations for drug services and research on drug injecting are also presented.



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## Contents

<b>Abstract</b> . . . . .	i
<b>Contents</b> . . . . .	ii
<b>List of tables and charts</b> . . . . .	iv
<b>Acknowledgements etc</b> . . . . .	v
<b>Executive Summary</b> . . . . .	1
<b>General Summary</b> . . . . .	5
<b>1. Introduction</b> . . . . .	15
1.1 Trends in injecting-related risks and harms . . . . .	15
1.1.1 National trends in risk behaviour and infectious diseases among IDUs . . . . .	15
1.1.2 Trends in risk behaviour and infectious diseases among IDUs in North-West . . . . .	17
1.2 Background and rationale of study . . . . .	20
<b>2. Methods</b> . . . . .	22
2.1 Design . . . . .	22
2.2 Sampling . . . . .	23
2.3 Data collection . . . . .	24
2.3.1 Procedure . . . . .	24
2.3.2 Research instrument and materials . . . . .	24
2.3.3 Validity and reliability . . . . .	26
2.3.4 Ethics . . . . .	28
2.4 Data processing . . . . .	28
2.4.1 Data preparation . . . . .	28
2.4.2 Statistical analysis . . . . .	28
<b>3. Findings</b> . . . . .	31
3.1 Main findings . . . . .	31
3.1.1 Demographics . . . . .	31
3.1.2 Crime . . . . .	33
3.1.3 Health & health services . . . . .	33
3.1.4 Sexual behaviour . . . . .	34
3.1.5 Needle exchange . . . . .	34
3.1.6 General drug use . . . . .	37
3.1.7 Injecting drug use . . . . .	39
3.2 Statistical analysis of key variables . . . . .	48
3.2.1 Comparison of housed with homeless respondents . . . . .	48
3.2.2 Comparison of speedballers with heroin-only injectors . . . . .	52
<b>4. Discussion</b> . . . . .	54
4.1 Needle exchange: the overview . . . . .	54
4.1.1 Making and maintaining contact . . . . .	54
4.1.2 Delivering services . . . . .	57
4.1.3 Changing risk behaviour . . . . .	59
4.1.4 Reducing harmful consequences . . . . .	62
4.1.5 Commentary . . . . .	63

## Contents (continued)

4.2 Homelessness: down and out of it . . . . .	64
4.2.1 The prevalence of homelessness in Manchester – general and drug-related . . . . .	65
4.2.2 Relationship between drug use, homelessness and other factors . . . . .	67
4.2.3 Official responses to drug use and homelessness . . . . .	70
4.3 Speedballing: the upshot . . . . .	72
4.3.1 Multi-drug injecting . . . . .	72
4.3.2 Reasons for crack injecting and speedballing . . . . .	73
4.3.3 Speedballing around the UK . . . . .	74
4.3.4 Speedballing in Manchester and North-West England . . . . .	76
4.4 Implications and recommendations . . . . .	78
4.4.1 Recommendations for drug policy and drug services . . . . .	80
4.4.2 Recommendations for research and monitoring . . . . .	88
4.5 Summary of conclusions and recommendations . . . . .	89
<b>References</b> . . . . .	<b>95</b>
<b>Appendices</b> . . . . .	<b>101</b>
A. Trends in needle-sharing and infectious diseases among IDUs in UK & North-West	
B. Survey questionnaire for clients of Lifeline Needle Exchange Scheme, Manchester	
C. Trends in the numbers and characteristics of Manchester NES clients, 2000-2006	
D. A Speedball Wake-Up Call	

“You feel the white first, sharpening your mind, boosting your energy, along with that orgasmic surge of pleasure – then within half a minute the brown kicks in, softening the razor edges of the crack, and soothing your overcharging brain. Your body stops aching, your mind stops hurting, and for a few brief heavenly minutes things are more than just shit or alright. The two drugs go together like men and women, yin and yang... Why is speedballing the only thing that makes me feel good if all its doing is killing me?”

35 year old homeless man, Lifeline Needle Exchange, Manchester, February 2006.

## List of Tables & Charts in Main Report

	Page
<b>Table</b>	
1 The proportion of respondents and all Needle Exchange clients in 7 age-bands . . . . .	31
2 Lifetime and past-month use of Needle Exchange services . . . . .	35
3 Past-month frequency of product utilisation at Needle Exchange Scheme . . . . .	36
4 Equipment pick-up on typical past-month visit to Needle Exchange Scheme . . . . .	36
5 Frequency/prevalence of past-month non-injecting drug use . . . . .	38
6 Average weekly spending (£) on drugs in past month . . . . .	38
7 Frequency and prevalence of past-month injecting drug use . . . . .	41
8 Prevalence of use of three methods of injecting . . . . .	42
9 Frequency of safer injecting actions (preparation, administration & completion)	43
10 Frequency of injecting in four types of location . . . . .	44
11 Levels of poly-drug injecting . . . . .	45
12 Frequency of past-year injecting mistakes/accidents . . . . .	47
13 Viral infections: proportions reporting different test statuses . . . . .	47
14 Bacterial infections: proportions reporting different infection time-periods . . . . .	47
15 Physical damage: proportions reporting different time-periods of damage . . . . .	48
16 Significant differences between housed and homeless respondents . . . . .	50
17 Significant differences between speedballers and heroin-only injectors . . . . .	53
18 Number of rough sleepers in districts of Greater Manchester, 1998-2005 . . . . .	66
<b>Chart</b>	
1 Annual incidence of HIV in IDUs in Gr. Manchester & NW region, 1996-2005 . . . . .	19
2 The proportion of housed, temporary-homeless and roofless respondents . . . . .	32
3 The number who started injecting in each 5-year period between 1980 and 2006 . . . . .	41
4 The number who started speedballing in each 2-year period from 1990 to 2006 . . . . .	46
5 The annual purity of crack-cocaine in England & Wales - based on maximum and minimum quarterly purities of police seizures in each year from 1992 to 2004 . . . . .	79

## List of Tables in Appendices

A1 Annual rate of past-month needle-sharing among IDUs in UK, 1991-2005 . . . . .	101
A2 Annual incidence of HIV-infected IDUs in UK, 1985-2005 . . . . .	103
A3 Annual rate of HIV among IDUs in UK, 1990-2005 . . . . .	104
A4 Annual rate of HBV & HCV among IDUs in England & Wales, 1990-2005 . . . . .	105
A5 Bacterial infections (and related deaths) among IDUs in UK, 1994-2005 . . . . .	106
A6 Annual rate of past-month needle-sharing among injecting PDUs in the North-West and Manchester – national monitoring, 1996-2001 . . . . .	107
A7 Annual rate of needle-sharing among injecting PDUs in the North-West, Greater Manchester and districts – local monitoring, 1995-2000 . . . . .	108
A8 Annual number of HIV cases among IDUs in North-West, 1989-2006 . . . . .	109
A9 Annual number of HIV cases among IDUs in Greater Manchester, 1989-2005 . . . . .	110
A10 Rates of HIV, HBV, HCV & needle-sharing in North-West IDUs, 1991-2004 . . . . .	111
C1 Lifeline NES: quarterly number of visits and clients (all & new), 2000-2006 . . . . .	131
C2 Lifeline NES: annual number of clients and annual contact rate, 2000-2006 . . . . .	132
C3 Lifeline NES: percentage of clients in key demographic groups, 2000-2006 . . . . .	132
C4 Lifeline NES: percentage of new clients in key demographic groups, 2000-2006 . . . . .	133
C5 Lifeline NES compared with five other Manchester NESs, 2003-2005 (NDEC)	134

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## Abbreviations used in this report

### Diseases & health problems

AIDS	Acquired Immune Deficiency Syndrome
BBI	Blood Borne Infection (viral/bacterial/fungal)
BBV	Blood Borne Virus (esp. HIV, HBV, HCV)
DVT	Deep Vein Thrombosis
HAV	Hepatitis A Virus
HBV	Hepatitis B Virus
HCV	Hepatitis C Virus
HIV	Human Immuno-deficiency Virus
STI	Sexually Transmitted Infection

### Injecting concepts

IDU	Injecting Drug User
IV	IntraVenous (IM = IntraMuscular)

### Statistical abbreviations:

SD standard deviation      \* less than 0.5%      .. not available

### Organisations & programmes

DA(A)T	Drug (& Alcohol) Action Team
DDU	Drug Dependency Unit/Clinic (aka CDT)
DIP	Drug Intervention Programme
HPA	Health Promotion Agency
NDTMS	National Drug Treatment Monitoring System [DMD: Drug Misuse Database]
NES	Needle/syringe Exchange Scheme
NTA	National Treatment Agency
PCT	Primary Care Trust
SHA	Strategic Health Authority
UAPMP	Unlinked Anonymous Prevalence Monitoring Programme (BBVs)

## Multi-Drug Injecting in Manchester

A survey of 100 injecting drug users at Lifeline Needle Exchange Scheme in 2006

Dr. Russell Newcombe, Lifeline, Manchester; June 2007

### Executive summary

An assessment of official statistics revealed that needle-sharing rates and levels of HIV and HCV among IDUs in the North West have recently risen to record levels, and that the North-West has the highest rates of injecting-related HBV and HCV in the UK. In order to investigate the factors underlying these trends, quota-sampling was used to recruit 100 drug injecting clients of Lifeline Needle Exchange Scheme (NES) in Manchester. Respondents were paid £10 to complete a structured questionnaire in February 2006. About nine in ten were male and White, almost all were unemployed, and their mean age was 35 years. Eight in ten were homeless, of whom about half were temporary homeless, and almost half were roofless (rough sleepers). Non-response was almost zero, and the sample was broadly representative of the source population. The average respondent had 36 convictions, and 11 prison sentences totalling about seven years. Half reported long-term health problems (notably HCV), about a quarter reported present physical health problems (notably flesh/vein damage), and a quarter reported mental health problems (notably depression). One in 20 had sold sex, and one in 15 had contracted STIs (notably gonorrhoea). Present drug treatment was reported by just over half, who were prescribed a mean daily dose of 60 mg of methadone.

The mean duration of NES attendance was just over four years, and most respondents attended daily (almost a third) or weekly (almost half), with equipment loans typically lasting five days. In addition to needle exchange, respondents used an average of two of the other 10 services, notably advice/information (a third). Of 10 products available, the mean number utilised was about six - notably filters, swabs, and citric acid powder (nine in ten), followed by water ampoules and sterile cups (eight in ten), with just over half indicating sharps-boxes and needle clippers. The mean number of syringes picked up on an average visit was about 30, including about 25 of the 1-ml 'diabetic' syringes. The average estimated return rate was around 70%.

Also, four in ten reported recent (past-month) use of other needle exchanges. Nearly all respondents were satisfied with the service, with the 'things' they liked most being the friendly, helpful staff.

Tobacco smoking was reported by nine in ten respondents, and alcohol use by just over half. The mean age of first drug use was about 16 years, usually involving cannabis or heroin. The most common forms of past-month non-injecting drug use were smoking crack and smoking cannabis (by two-thirds each), followed by swallowing methadone and smoking heroin (by over half). Total mean weekly spending on drugs was £440, including £213 on heroin and £198 on crack. The main source for funding drug use was state benefits (two-thirds), followed by shoplifting (four in ten), and begging (four in ten).

The main reason for starting to inject was peer influence (over a third), while the main reason for present injecting was dependence (four in ten). Two-thirds indicated that most or all of their friends injected drugs (typically eight friends). Past-month injecting was reported by over nine in ten for heroin, and eight in ten for crack. Almost three-quarters reported regular (daily or near-daily) injecting of heroin, and almost two-thirds for crack. The mean age of first injecting was 21 years, typically heroin (at 23 years) or amphetamine (at 19 years). The mean duration of injecting was about 14 years. The mean number of injections per day was about four overall, and five among daily injectors. The mean amount injected in a typical 'shot' was £12 worth of heroin, or £13 worth of crack. Overall, 99% were IV injectors, and just one respondent was a primary ID/IM injector. The main two injecting sites, each mentioned by over four in ten respondents, were the arms and the groin. The mean time taken to inject was five minutes. Respondents were asked if they regularly (usually or always) carried out 18 'safer injecting' (SI) actions across three stages of injecting. Eight in ten reported doing five of them (mostly preparation actions), over two-thirds reported doing another five (mostly preparation actions too), about a third to a half reported six more (mostly administration actions), and less than a fifth reported the remaining

two actions. In short, SI actions in the preparation stage were typically carried out by the vast majority of respondents, while half or fewer typically carried out the SI actions in the administration stage. One in five reported having been injected by other people in the past month, and one in eight reported injecting other people (typically about two friends in each case). Almost half admitted to recently re-using their own syringes. Past-month 'sharing' of syringe barrels/needles was reported by one in nine, including 9% who injected with other people's used syringes (averaging six times with two people), and 3% who passed on used syringes to others to inject with – while recent sharing of paraphernalia (spoons/cups, filters, and/or water) was reported by half.

The most common locations for drug injecting were respondents' own homes/rooms (six in ten) and public places (half), followed by squats/derelict houses (four in ten) and other people's homes (a third). Use of shooting galleries was reported by almost a quarter, with the typical case visiting an average of four shooting galleries over the past month, on a weekly basis. Poly-drug injecting was reported by almost nine in ten respondents, and multi-drug injecting was reported by eight in ten – all but one of whom were speedballing (injecting heroin and crack together in one shot). Speedballing was carried out daily by two-thirds (55% of sample), and weekly by almost a third (36% of sample). The mean daily number of speedball injections was about three overall, and about four among daily injectors – though the heaviest speedball users were shooting up 8 to 16 each day. The modal amount of drugs put into a speedball injection was one £10 bag of heroin (73%) and one £10 bag of crack (68%). The mean duration of speedballing was about five years – almost nine in ten speedballers reported starting the habit between 1998 and 2005. Overall, over two-thirds of respondents reported that most or all of their injecting friends/associates were presently into speedballing.

Of about five kinds of injecting mistakes/accidents in the past year, over half each reported having a 'bad hit' or hitting an artery, about a third reported hitting a major nerve, about one in five reported overdosing, and one in 15 reported seizures – typically with a less than monthly frequency for all five problems. The proportion of respondents reporting that they tested positive for each of three injecting-related viruses was 1% for HIV, HAV and HBV (2% among those tested). By contrast, 32% of respondents were HCV positive (48% among those tested). Vaccination was

reported by 56% for HAV, and 73% for HBV. Lifetime rates of bacterial infection were zero for severe systemic sepsis and GAS bacteraemia, around 5% for tetanus and septicaemia, and just 2% for wound botulism. Only two types were reported over the past year – tetanus (4%) and septicaemia (1%) – and none in the last month. Of four types of physical damage, abscesses and collapsed veins were reported by about four in ten, ulcers/sores by a quarter, and gangrene by 5%. Recent experience of the first three types of damage was reported by around one in five in the past year, and by 5-10% in the past month.

Several significant differences were found between respondents with their own homes and homeless respondents – and within the latter group, between temporary-homeless and roofless respondents. Homeless respondents were about 1.5 times more likely than housed respondents to be male and unemployed, and had fewer under-18 children. They were also much less likely to report long-term health problems, and rated themselves as happier. Also, compared with roofless respondents, housed and temporary-homeless respondents reported twice as many treatment episodes, a higher rate of present treatment, and greater satisfaction with treatment. Regarding needle exchange, homeless respondents were more frequent attenders and more regular users of citric powder than respondents with their own homes, with roofless respondents being the most frequent attenders overall. Homeless respondents' weekly spending on heroin and cocaine was at least two times greater than for housed respondents, and they were also more likely to report drug-related shoplifting – while begging was about twice as common among housed and roofless respondents, compared with temporary-homeless respondents. Also, compared with temporary-homeless respondents, roofless respondents reported higher levels of spending on heroin and drug-related shoplifting.

Levels of daily injecting, crack injecting, and speedball injecting were about 1.5 to two times higher among homeless respondents compared with those with their own homes. Roofless respondents were at least four times more likely than housed and temporary-homeless respondents to have injected drugs in squats/derelict houses and public places, but were almost seven times less likely to have injected drugs in their own residence. Lastly, compared with housed respondents, homeless respondents were almost four times more likely to be HCV-positive, though knew a lower mean number of HIV-positive IDUs. In addition, there



were three significant correlations between duration of homelessness (in months) and other variables - including a negative correlation with self-rated happiness, and positive correlations with daily dose of prescribed methadone among those in treatment, and with the number of shooting galleries among those who used them. In short, the longer someone had been homeless, the more unhappy they were, the greater the dose of methadone they were prescribed, and the greater the number of shooting galleries they had visited.

Several significant differences were also found between speedball injectors and heroin-only injectors. Compared with heroin-only injectors, speedball injectors were four years younger, had almost three times as many convictions, and were around twice as likely to be male, and twice as likely to be homeless (i.e. most compared with about half) - but were three times less likely to report having a regular sexual partner. Also, compared with heroin-only injectors, speedball injectors took almost five times as many needles per visit, notably 1-inch orange needles, and were also more likely to regularly pick up two products (citric acid powder and swabs), but were much less likely to make use of the information/advice service.

Turning to drug use, compared with heroin-only injectors, speedballers were over twice as likely to report recent crack smoking, and spent almost five times as much on drugs (about £500 weekly, compared with £110) – notably heroin and crack. Speedball injectors were also over three times more likely to be daily injectors compared with heroin-only injectors (about two-thirds compared with a fifth), were about five times more likely to re-use their own used syringe needles/barrels, and were much more likely to inject drugs in squats/derelict houses (just over half, compared with no heroin-only injectors). Also, compared with speedball injectors, heroin-only injectors reported knowing more people who were HIV-positive - both overall, and among IDUs. Lastly, the daily number of speedball injections among speedballers was positively correlated with spending on both heroin and crack, the typical dose of crack put into a speedball injection, and the duration of imprisonment.

## Conclusions

Conclusions were presented under three headings: needle exchange, homelessness, and speedballing. It was concluded that the Lifeline NES was generally effective on four evaluation indicators: making contact with up to two-thirds of local IDUs (with six

times as many clients as the average NES); achieving acceptable levels of service delivery (including a high rate of needle exchange); reducing levels of many risky injecting behaviours (notably reducing needle-sharing to about 10%); and achieving key harm-reduction objectives (notably keeping HIV around 1%). Compared with other needle exchange services in Britain, the Lifeline NES performed well on all indicators - indeed, almost all respondents indicated satisfaction with the service. However, compared with national trends, Manchester IDUs had much higher rates of public injecting and shooting gallery use, as well as relatively high levels of vein/tissue damage and HCV. But their most distinguishing characteristics involved accommodation status and multi-drug injecting.

About eight in ten Lifeline NES clients were homeless, including over half who were temporary homeless, and almost half who were roofless (rough sleepers). It was estimated that there were about 650 to 1,130 roofless IDUs in Manchester in 2006, including about 230 to 400 roofless NES clients. This contrasted with Manchester City Council's estimate of seven rough sleepers in 2005. The source of this disparity can be traced to MCC's invalid and unreliable method for estimating the prevalence of rough sleepers, based on counting roofless people observed in public places on one night of the year and other dubious procedures. British research shows that around a third to two-thirds of homeless people now use drugs, including a quarter to a half who are dependent on opioids and/or cocaine, and around a third who inject drugs. Conversely, the available evidence suggests that about a tenth to a third of drug users are homeless – rising to around half of IDUs. Statistical analysis of the present survey findings suggested that there was a complex relationship between homelessness, drug injecting practices, and various psycho-social factors - notably mental and physical health, offending, imprisonment, and social deprivation/exclusion. Five salient pathways into homelessness were identified from the research evidence: drug use, relationship problems, imprisonment, leaving other institutions, and, being an asylum seeker or refugee.

National policy toward homelessness has undergone considerable development over the past five years, starting with the 2002 Homelessness Act, which required LAs to devise local homelessness strategies by March 2005. The Homelessness & Housing Support Directorate was also set up in 2002, to coordinate national policy on homelessness. By 2006, homelessness prevention was being carried

out by almost all LAs, and in March 2007, the government launched its new package of measures to reduce youth homelessness, including a National Youth Homelessness Scheme, an advisory committee of formerly homeless young people, regional centres of excellence, a National Homelessness Advice Service, and a project to transform youth hostels into work-related learning centres. Specific policies to tackle homelessness among drug users have also been developed. It was concluded that if we are to evaluate the effectiveness of these policies and interventions in preventing and tackling homelessness among drug users, then LAs need to develop more valid and reliable methods for estimating the prevalence of local levels of homelessness.

About eight in ten NES clients were into speedballing - the simultaneous injection of heroin with crack-cocaine. The main reason for speedballing appears to be the massive surge in dopamine produced by injecting the two drugs together, a synergistic effect which raises dopamine in the brain to ten times normal levels – compared with nearly double when heroin is injected alone, and quadruple when crack/cocaine is injected alone. The present wave of illicit speedballing began around 1990, distinguished by a switch to injecting crack, instead of cocaine powder, with heroin. Rates of speedballing among British IDUs climbed from less than 1% prior to 1990, to around 20%-40% by 2006 (an estimated 40-80,000 people). Research also suggests that the highest regional prevalence of speedballing among IDUs is in the North-West, with estimates ranging from about a quarter in some areas to three-quarters in Manchester. Indeed, it was estimated that 615 to 750 of the 854 NES clients in the first quarter of 2006 were speedballers, and that there was a total community prevalence of about 1,600 speedballers in Manchester in 2005. The typical speedballer had started the habit about five years earlier, and, compared with heroin-only injectors, was more likely to be male, single and homeless. Recent research also confirmed the present survey's findings that speedballing is associated with significantly higher levels of risky behaviour - including heavier drug consumption, frequent injecting, groin injecting, public injecting, using excess citric acid, re-using syringes, and poor injecting techniques – and drug-related harm, notably higher rates of infectious diseases and greater vein/tissue damage. It was concluded that drugs research has neglected the growth of speedballing, and therefore that multi-drug use needs to become a core variable in researchers' data-collection instruments and drug agencies'

monitoring systems if our knowledge of the nature and extent of speedballing is to be improved.

## Recommendations

Recommendations were organised into six groups, with four focused on needle exchange schemes, and one each on treatment and research. First, needle exchange purchasers and providers should continue to develop the accessibility and availability of services, by providing a range of generic and specialist agencies, and by continuing the 'user-friendly' style of service delivery. Second, NESs and other drug agencies should provide information on safer injecting to IDU clients through multiple delivery channels, with a particular focus on 12 issues: safe locations, washing hands, clean space, injecting technique, vein-raising, dissolving agents, equipment cleaning, choosing sites, syringe flushing, site hygiene, managing health problems, and non-injectable methods of drug use. Third, NESs should consider providing additional products, notably sterile wipes/gels, injecting mats/boards, syringe markers, butane lighters, tourniquets, and wound-care materials (plasters, ointments, etc.). Consideration should also be given to providing multi-item injecting kits and pro-smoking/sniffing devices. Fourth, NESs should consider a range of service improvements, including appropriate medical technology (eg. Vein Finder), drug consumption rooms, drug product quality-control facilities, and overdose prevention measures (notably take-home naloxone). It was also recommended that treatment agencies should consider offering a wider range of prescribing options, including diamorphine maintenance for heroin addicts and substitute stimulants for crack users – in oral, injectable and smokable forms. The final recommendation was for more research to be conducted into the aetiology, epidemiology, and social psychology of injecting drug use – as well as related harm-reduction interventions. Urgent tasks include disentangling the multiple variables associated with drug injecting and homelessness, in order to identify common cause-effect pathways; producing valid and reliable estimates of the prevalence of various injecting behaviours and homelessness; carrying out more ethnographic research into drug injecting practices and lifestyles, notably speedballing, public injecting, and groin injecting; improving routine monitoring of clients' characteristics and service uptake, particularly multi-injecting and accommodation status; and establishing a consensual framework for evaluating the effectiveness of needle exchange and other harm-reduction interventions.

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Dr. Russell Newcombe, Lifeline, Manchester; June 2007

### General Summary

#### Background

By the end of 2005, there was growing evidence of a rise in injecting-related risks (notably needle sharing) and harmful consequences (notably blood-borne infections) among injecting drug users (IDUs), both nationally and in the North West region. In areas of England & Wales outside London, the HPA reported a six-fold rise in the rate of HIV among IDUs from one in 500 (0.2%) in 2002, to one in 83 (1.2%) in 2005 - the highest level ever recorded. Local official statistics also showed that the incidence of HIV among IDUs recently reached record levels, peaking at 22 in the North West in 2005 (the highest number since 1990), and at 11 in Greater Manchester in 2004 (compared with three in 2003, and zero in 2003). Also, since the late 1990s, the North West region has reported the highest regional levels of HBV and HCV among IDUs in the UK.

#### Methods

In order to urgently provide some insight into the nature and causes of these trends, 100 drug injecting clients of Lifeline Needle Exchange Scheme (NES) in Manchester city were surveyed with a structured questionnaire in February 2006 - representing a 12% sample of the total number of clients attending in the first quarter of 2006 (854). Primary questions were about injecting behaviour (notably needle-sharing, multi-drug injecting and injecting locations), and injecting consequences (including BBIs and physical damage). Two other key sections of questions were those on demographics (eg. accommodation status) and needle exchange (evaluative questions). Some secondary questions were also asked about health and crime. Responses were measured primarily by multi-item and numerical response formats, with some rating scale and open-ended formats. Statistical analyses, based on parametric and non-parametric tests, were focused on the effects of two key variables: accommodation status (homeless and housed respondents), and multi-drug injecting status (speedballers and heroin-only injectors).

The near-zero non-response rate, along with comparisons with the source population on

key characteristics (age, sex, race and area of residence), confirmed that the sample was broadly representative of all NES clients (except steroid injectors, who were excluded from the study). Clients aged under 30 years were slightly under-represented, as were clients who lived outside of Manchester and Salford. Homeless clients may also have been over-represented - probably because they were more frequent attenders than housed respondents (see below), and the survey was conducted within a short (two-week) period. New clients were also under-represented.

#### Demographics

The typical respondent was male (89%), White (91%), unemployed, i.e. on jobseeker's allowance or incapacity benefit (97%), and resident in Manchester city (88%), with a mean age of 35 years. Just over half had children aged under 18 years (an average of about two), though only 3% had co-resident children. Academic qualifications were reported by 28%, including 15% who reported their highest qualification as GCSE/O-Levels, and 6% A-Levels. Also, just 19% reported living in their own home, compared with 80% who reported being homeless - including 43% living in temporary or insecure accommodation, and 37% who were roofless (rough sleepers). Around two-thirds of those with their own homes lived in council/housing authority flats. It was estimated, with 95% confidence, that between 615 and 750 of the 854 IDUs attending the NES in the first quarter of 2006 were homeless, and that between 230 and 400 were roofless (rough sleepers). Temporary homeless respondents included those living in hostels (13%), other people's homes (12%), bed & breakfast hotels (10%), and squats (5%). The mean duration of homelessness was 44 months, and the mean duration of rough sleeping was 29 months. The main causes of homelessness were reported to be drug use (36%), divorce/relationship breakdown (28%), imprisonment (18%), and family/ parental problems (12%). Six in ten homeless respondents believed that homelessness had worsened their drug problems, while almost three in ten felt they were about the same, and just one in ten stated that it had improved their drug problems.

#### Crime

Respondents' mean number of criminal convictions was 36, including an average of one drug conviction. Imprisonment was reported by 88%, with the average ex-convict reporting about 11 prison sentences totalling 86 months. Their last prison sentence averaged 12 months, and was usually for theft (34%), shoplifting (15%), burglary (11%), robbery (11%), or

drug trafficking (10%).

## Health & health services

Long-term health problems were reported by half of the sample - notably hepatitis-C (22%), DVT (8%), asthma (7%), and depression/mood disorder (5%). Almost a quarter (23%) reported present physical health problems – notably flesh wounds such as abscesses and sores (9%), circulatory/blood problems (6%), and respiratory disorders (6%). Regarding self-reported body weight, six in ten respondents saw themselves as underweight (18% very, 42% quite), a third as normal weight, and just 6% as quite overweight - with none indicating very overweight. The mean number of daily meals over the past month was reported to be 1.4, with the main responses being one meal (47%) or two meals (33%). Present mental health problems were reported by 27% - notably depression (19%), schizophrenia (6%), and bipolar disorder (4%). One in three respondents indicated that they had received treatment for mental health problems, and one in five were presently being prescribed drugs to treat mental disorder - including anti-depressants (10%), anti-psychotics (7%), and benzodiazepines (3%). Past-month happiness was rated on a 5-point scale, with the mean rating being the mid-point of three – based on just over four in ten who indicated unhappy (very 12%, quite 30%), just under four in ten who indicated happy (quite 33%, very 3%), and two in ten who indicated neither happy or unhappy (21%).

Just under half (44%) stated that they had received free food from agencies for the homeless during the past month – almost two-thirds (28% of sample) on some days, and over a third (16%) on most days. Four in five respondents were registered with a GP - including 54% who had seen a GP in the last month, 22% in the past year, and 3% over a year ago. Over three-quarters (78%) reported having received treatment for drug problems, averaging just over three episodes per treatment client. Present drug treatment was reported by just over half (54%) - including 14% from GPs, and 40% from drug clinics (DDUs/CDTs). Of these, 78% indicated that their treatment was voluntary, and 22% compulsory (i.e. DTTO/DIP). The mean duration of current treatment episodes was 32 months. All 54 treatment clients were being prescribed drugs – notably oral methadone (51%), at a mean daily dose of 60 mg (with the vast majority reporting a maintenance regime). Satisfaction with present drug treatment was rated on a 5-point scale, and the mean rating was 3.8 - based on two in ten who were unsatisfied (9% very, 11% quite), over seven in ten who were

satisfied (42% quite, 31% very), and less than one in ten who were neither satisfied or unsatisfied (7%). Lastly, about one in six (16%) stated that they had received help for drug problems in the past month from other agencies or professionals, particularly CDTs – notably the Bridge (4%), Stockport CDT (2%), and probation officers (2%). Almost one in five respondents were 'dual diagnosis' cases – being in treatment for both drug dependence and mental disorder.

## Sexual behaviour

The mean lifetime number of sexual partners was 26 (mode 10), and 30% indicated that they had a regular sexual partner. Of these, about two-thirds lived with their partner, about a third had an injecting partner, and nine in ten reported past-month sex with their partner – of whom 70% reported never using condoms, and 15% stated they always did. Overall, 9% of respondents reported past month casual sex, with a mean of about two people. Of these, 44% reported never using condoms, and 33% stated that they always did. Overall, 5% of respondents admitted that they had ever sold sex (1% past month, 2% past year, and 2% over a year ago). In addition, two of the 30 respondents with regular partners stated that their partner had sold sex – one in the past month, and one over a year ago. The lifetime prevalence of sexually transmitted infections (STIs) was 7% (all over a year ago) - notably gonorrhoea (4%) and genital warts (2%). Lastly, 45% of respondents stated that they knew people who were HIV-positive, with the mean number being 2.6. Of these, almost two-thirds indicated that they knew HIV-positive injecting drug users (a mean of 2.2).

## Needle exchange

The mean duration of attendance at the Needle Exchange Scheme was 51 months. Frequency of attendance was reported to be weekly by almost half (29% some days of week, 15% most days of week), daily by almost a third (18% once a day, 12% twice or more a day), and monthly by one in five (19%). The mean number of days covered by a typical equipment pick-up was about five days – though almost half indicated one or two days. The mean number of services used by respondents was 2.7 – about a quarter of the 11 services listed. Excluding needle exchange, which had been used by all respondents, 60% had used other services at the agency, notably advice/information (32%), HBV testing (22%), health check-ups (21%), referrals (18%), HCV testing (17%), wound care (16%), HBV vaccination (13%), HIV testing (10%), HAV vaccination (9%), and home detox (4%). The most popular service over the previous

month was needle exchange (93%), followed by health check-ups (14%), advice/information (22%), and referrals (10%). The mean number of products utilised by respondents was 5.6 – just over half of the ten products available. The most popular products overall, used by more than three-quarters, were filters (92%), swabs (90%), citric acid powder (89%), water ampoules (81%), and sterile cups (75%) – with just over half picking up sharps boxes (57%) and needle clippers (55%), and just over a quarter picking up tourniquets (30%), vitamin-C powder (26%), and condoms (26%). Regular use of products (usually or always) was typically 10-15% lower, though their rank order reflected those for overall use.

The mean number of complete syringes picked up on the typical visit was about 30, including about 25 1-ml (diabetic) syringes. The 1-ml syringe was clearly the most popular equipment (picked up by 86%), followed by the 1-inch orange needle (18%), the 1-inch blue needle (15%), the 2-ml barrel (11%), and the 5/8-inch needle (9%). The five other items were each used by fewer than 4% of respondents. In short, most respondents were of two types: those who picked up around 30 1-ml syringes per visit; and those who picked up combinations of 5/8-inch or 1-inch needles with 2-ml barrels, in sets of 10 to 20. The average estimated return rate for used equipment over the past month was 60% (mean) to 70% (median) – slightly lower than the official equipment return rate for all NES clients in the first quarter of 2006 (76%). However, this sample average masks two polarised sub-groups – that is, a third reported a 100% return rate, while, at the other extreme, just over a quarter reported a return rate of less than 10%. But the main reasons for not returning used equipment to the Lifeline NES were disposing of it in sharps bins in hostels, other agencies or friends' places (35%), and keeping it in a sharps box at home until full (19%) – though 15% stated that they sometimes gave their used equipment to others to use, and 15% stated that they were just lazy or irresponsible. The main places for disposing of unreturned equipment were sharps-bins in hostels or friends' places (35%); inside cans/ bottles in garbage bins at home (17%), and other needle exchange agencies (15%). Other sources of clean injecting equipment over the past month were reported by about four in ten respondents, notably pharmacies (12%) and other needle exchange schemes (20%). Over four in ten respondents admitted exchanging equipment for other people in the past month (32% sometimes, 7% usually and 4% always). Among these respondents, the main reasons given were to help friends who were too busy or

unable to attend the NES (41%), to ensure that used equipment was not left lying around (24%), and to help lazy/persistent (24%).

Respondents rated their satisfaction with the services at the NES on a 5-point scale, and the mean rating was 4.7 – based mainly on 96% who indicated satisfied (very 80%, quite 16%), and just 3% who indicated very unsatisfied. Asked what they liked most about the agency, the most common responses were helpful staff (36%), friendly staff (33%), non-judgmental staff (14%), and good advice (14%). Conversely, just 6% reported disliking something about the agency – notably the lack of a toilet (3%). Lastly, 20% made suggestions for improving the NES, notably opening on Sundays (3%), and providing an injecting room (2%).

### General drug use

Nine in ten respondents reported tobacco smoking (81% daily, 11% weekly), while just over half reported alcohol use (14% daily, 20% weekly, and 21% monthly). The mean amount consumed on the last drinking occasion was reported to be 15 standard units of alcohol (which most reported was their usual amount). Most respondents reported four types of past-month non-injectable drug use, namely smoking crack (67%), smoking cannabis (65%), swallowing methadone (59%) and smoking heroin (55%) – with a substantial minority reporting oral tranquilliser use (27%) and cocaine sniffing (20%). The most common types of daily non-injecting drug use were oral methadone use (43%), crack smoking (26%) and heroin smoking (26%). The mean age of first use of illegal drugs was about 16 years – 54% reported using cannabis first (at mean age of 14 years), 22% reported using heroin first (at 21 years), and 11% reported using amphetamines first (at 17 years). Mean weekly spending on drugs over the previous month was £440, including £213 on heroin and £198 on crack. The three most commonly purchased drugs over the past month were heroin (92%, mean weekly spending £224), crack (77%, £249), and cannabis (34%, £24) – with fewer than 6% purchasing any other drug. The mean number of sources for funding drug use was 2.4, notably state benefits (71%), shoplifting (44%), and begging (39%) – though other sources included borrowing (15%), selling the Big Issue (14%), other theft (11%), and partners/relatives (11%). Lastly, almost half (47%) believed that the possession of one or more drugs should be decriminalised, notably cannabis (45%), heroin (14%), all drugs (11%), cocaine (5%), and amphetamine (2%). The main reasons given for decriminalisation were that cannabis is relatively

harmless compared to other drugs (11%), because it would reduce crime among addicts (6%), and human rights/civil liberties (4%).

### Causes of injecting

The main reasons given for starting to inject drugs were peer influence (37%), coping with depression and anxiety (14%), bereavement (10%), and because injecting provides a better effect than smoking (9%). The main reasons given for present injecting drug use were dependence/habit (41%), because injecting was better/cheaper than smoking (14%), boredom (9%), pleasure/intoxication (6%), and homelessness (6%). Two-thirds indicated that most of their friends injected drugs (all 50%, three-quarters 18%), with the mean number of injecting friends being eight.

### Injecting behaviour

These findings are reported under six headings: products, patterns, amounts, methods, contexts, and mixtures. The prevalence of drug injecting was 100% in the past month, and 93% in the past week, and typically involved two drugs: heroin (95%, 90%) and/or crack (84%, 79%); but also cocaine (10%, 8%) and amphetamine (5%, 4%). It was estimated, with 95% confidence, that the rate of heroin injecting among all needle exchange clients was between 91% and 99%, while the rate of crack injecting among all clients was between 77% and 92%. The typical deals purchased were £10 bags of heroin (83%) and £10 bags of crack (76%). The mean age at which respondents first injected drugs was 21 years. Almost all reported injecting one of two drugs first – heroin (56%, mean age 23 years) or amphetamine (41%, mean age 19 years). The mean duration of injecting was 14 years.

Over the previous month, 63% injected daily, 12% injected most days of the week (near-daily), 18% injected some days of the week, and 7% injected less than once a week. In short, three-quarters were regular (daily or near-daily) injectors – including 72% who were regular heroin injectors, and 64% who were regular crack injectors. Fewer than one in ten regularly injected other drugs – either cocaine (6%) or amphetamines (3%). The mean number of injections per day was reported to be 3.9, and 4.7 among daily injectors. While a clear majority (80%) injected between one and six times per day, at the other extreme the most frequent injectors (9%) injected between eight and 16 times each day. The typical amount of drugs put into one shot was one £10 bag, both for heroin (73%) and crack (63%). The mean amount injected in a typical 'shot' was £12 worth of heroin, or £13 worth of crack.

Almost all respondents (94%) reported usually or always injecting by the intravenous (IV) method, and just 7% reported injecting by intradermal (ID) and/or intramuscular (IM) methods – all but one (6%) sometimes only (i.e. just one respondent was a primary IM/ID injector). The two most popular past-month injecting sites were the arms/hands (43%) and the groin (42%), followed by the legs/feet (21%). Two notable sub-groups were groin-only injectors (36%) and limb-only injectors (47%). The mean time taken to inject (from insertion to removal of needle) was about five minutes. Those taking longer than two minutes to inject (60%) were asked why they took so long – 87% indicated that they had difficulty in finding a vein, and 11% indicated poor injecting technique.

Respondents were also asked how frequently they carried out each of 18 'safer injecting' actions, organised according to three stages of injecting (nine preparation, six administration, and three completion actions). The five most common actions carried out regularly (usually or always) were indicated by more than eight in ten, and included four preparatory actions (heating and stirring the solution, getting a new syringe, filtering the mixture, and squirting out air bubbles) and one completing action (clearing away paraphernalia). About two-thirds to three-quarters of respondents indicated five more regular actions, again including four preparatory actions (cleaning injection site, using sterile water, mixing citric/Vitamin-C powder into the solution, and not licking the needle) and one completing action (putting used syringe into a sharps-box). About a third to a half of respondents reported six other regular actions, including one preparatory action (washing hands) and five of the six administration actions (using a tourniquet, inserting needle into vein within one minute, not flushing blood in/out of the barrel, completing injection within two minutes, and putting pressure on the site after needle removal). Lastly, the remaining two actions were indicated by a minority: the administration action of warming veins (one in five), and the completing action of putting a plaster on the injection site (one in seven). However, since using tourniquets and warming veins are (a) alternate actions, and (b) not relevant to non-limb injectors, the prevalence of regularly performing either or both actions among limb-only injectors was calculated. It was found to be 68%, which raises the ranking of the 'raising veins' alternate action-pair to the second level of prevalence (half to two-thirds). Also, 9% indicated that they had used substances other than citric acid or Vitamin-C to dissolve drugs over the past month (mostly sometimes), typically

lemon or vinegar.

One in five respondents reported having been injected by a mean of 1.7 other people over the past month, including 16% by friends, and 3% by partners. The three main reasons were that they were having difficulty injecting themselves (7%), their only usable vein was in their neck (4%), and because their friend/partner was much better at injecting (4%). Conversely, about one in eight indicated that they had injected a mean of 1.8 other people over the past month, including 11% who injected friends, and 2% who injected their partners. Two reasons were given for injecting others with drugs: they could not inject themselves as well as the respondent could do it (10%), and/or they were too shaky from drug withdrawals to inject (2%). Almost half (44%) reported that they had re-used their own syringe barrels/needles over the past month (38% sometimes, 6% regularly). The two main reasons were running out of new needles/barrels (63%), and because the needle exchange scheme was shut (25%).

Overall, 11% reported past-month 'sharing' of syringe barrels/needles, including 9% who injected with syringes needles/barrels already used by someone else, and 3% who passed on their used syringes to friends/associates to inject with. Among the former group, the mean number of past-month injections with used syringes was six, and the mean number of people they had received used syringes from was 1.6. Two-thirds of these nine respondents stated that they always cleaned injecting equipment before using it, while a third stated that they never or only sometimes did. The main reasons given for injecting with used syringes were running out of new/clean needles (all), because the needle exchange was closed (almost half), and because they had only been used by their partner (almost half). Injecting with used syringes within an hour of them being used by someone else was reported by 4% (almost half). Lastly, past-month sharing of injecting paraphernalia was reported by half of respondents - including spoons/stericups (45%), filters (43%), and glasses/water (44%).

The most common locations for drug injecting were respondents' own homes/rooms (63%) and public places (53%), followed by squats/derelict houses (43%) and other people's homes (32%). Most respondents injected in only one of these four locations. But just 2% of respondents reported injecting drugs in prison on their last sentence. Also, almost a quarter (23%) indicated past-month

injecting in shooting galleries ('a place where lots of people go to inject drugs') - with the typical case visiting an average of about four shooting galleries on a weekly basis (the average number of injectors reported in shooting galleries was eight). Just one respondent admitted injecting with used equipment in shooting galleries.

Poly-drug injecting was indicated by almost nine in ten respondents over the past month - typically two drugs, almost invariably heroin and crack (about three-quarters). Past-month injecting of three drugs (i.e. cocaine or amphetamine, in addition to heroin and crack) was reported by about one in 12 respondents, and just one respondent had injected four drugs. Lastly, one in eight respondents reported injecting only one drug over the past month (3% amphetamine, 9% heroin). Past-month multi-drug injecting was reported by 81% - heroin with crack in all but one case (amphetamine with ecstasy). Four of these respondents also regularly injected heroin with cocaine. In short, speedballing (injecting heroin and crack/cocaine together) was the main practice among 80% of the sample, and 99% of multi-drug injectors. It was estimated, with 95% confidence, that the rate of past-month speedballing among all needle exchange clients was between 72% and 88%.

Focusing on the 80 recent (past-month) speedballers, frequency of speedball injections was reported to be daily by two-thirds (55% of sample), and weekly by almost a third (36% of sample). The mean number of speedball injections was 3.3 overall, and 4.2 among daily injectors - though the top 10% heaviest speedballers were having between eight and 16 shots per day. The modal amount of drugs put into a speedball injection was one £10 bag of heroin (73%) and one £10 bag of crack (68%). The mean amount of drugs put into speedball injections was about £11 worth of heroin with £13 worth of crack. Almost nine in ten speedballers reported starting the habit between 1998 and 2005, with the median year being 2001. The mean duration of speedballing among those with the habit was about five years, i.e. the mean age of first speedball injection was about 30 years (five years younger than the mean age). Lastly, all respondents were asked what proportion of their injecting friends/associates were presently into speedballing, and over two-thirds indicated all (57%) or three-quarters (13%), about one in ten each indicated half, a quarter, or none.

## Injecting consequences

Four types of injecting-related health consequences were assessed: mistakes/accidents, bacterial infections, viral infections, and physical damage. Of five injecting mistakes/accidents, between a third and a half of respondents reported three of them over the past year – notably having a ‘bad hit’ (54%), hitting an artery (50%), and hitting a major nerve (35%). But the typical frequency of experiencing these three problems was less than monthly – only about one in ten reported these three problems in the past month. Also, about one in five respondents (18%) reported overdosing in the past year (just 2% in the past month), while 6% reported seizures (3% in the past month). The proportion of respondents reporting that they had tested positive for each of three injecting-related viruses was 1% for HIV, HAV and HBV - though the infection rates among those tested (around half in each case) were each about 2%. By contrast, almost a third (32%) of respondents were HCV positive overall – but levels rose to almost half (48%) among the two-thirds who had been tested for HCV. Vaccination was reported by 56% for HAV, and 73% for HBV.

The proportions reporting five types of injecting-related bacterial infection were zero for severe systemic sepsis and GAS bacteraemia, around 5% for tetanus and septicaemia, and just 2% for wound botulism. Only two types of bacterial infection were reported over the past year: tetanus (4%) and septicaemia (1%); while none were reported in the last month. Of four types of injecting-related physical damage, three were reported by about a quarter to a half: abscesses (44%), collapsed veins (39%), and ulcers/sores (24%). Experience of these three types of damage was reported by around one in five in the past year, and by 5-10% in the past month. In short, about half of all cases of abscesses and collapsed veins were reported in the past year, compared with about four-fifths of cases of ulcers/sores. The remaining condition – gangrene - was reported by 5% (3% in the past year).

## Comparisons of homeless and housed respondents

Two types of comparison involving homelessness were statistically tested: a 2-way comparison of all homeless people with those living in their own homes (chi-square and t-tests); and a 3-way comparison of temporary homeless, roofless, and housed respondents (chi-square and 1-way ANOVA). A total of 25 variables, organised into six groups, exhibited significant differences for one or both comparisons. First, compared with respondents with their own

homes, homeless respondents were about 1.5 times more likely to be male (95% compared with 68%) and unemployed rather than on incapacity benefit (75% compared with 47%). Within the homeless group, roofless respondents also had more under-18 children than temporary-homeless respondents (2.2 compared with 1.4); and reported eating a smaller number of daily meals (1.1 compared with 1.7). Unexpectedly, homeless respondents were also much less likely than housed respondents to report long-term health problems (43% compared with 74%), and rated themselves as happier on a 5-point scale (3.0 compared with 2.4).

Second, roofless respondents reported lower levels of three drug treatment variables compared with either housed or temporary-homeless respondents. That is, compared with temporary-homeless respondents, roofless respondents were less likely to be in present drug treatment (50% compared with 82%), and reported lower satisfaction with treatment (3.0 compared with 4.0 on a 5-point scale). Similarly, compared with housed respondents, roofless respondents reported a lower number of treatment episodes (1.9 compared with 4.6).

Third, regarding needle exchange, homeless respondents differed significantly from respondents with their own homes in five main ways: they were much more likely to pick up citric acid powder regularly (84% compared with 58%), over six times more likely to take 2-ml barrels (32% compared with 6%), three times more likely to be daily attenders (34% compared with 11%), half as likely to be monthly attenders, and reported that their equipment loans lasted for about half as long (a mean of 4 days, compared with about nine days for housed respondents). These four effects also held for the 3-way comparison on accommodation status, with the single source of the effect in each case being the difference between roofless and housed respondents. In short, homeless respondents were more frequent attenders and more regular users of citric powder and 2-ml barrels than respondents with their own homes, with these effects being attributable to roofless respondents (rather than temporary-homeless respondents) in most cases.

Fourth, turning to general drug use, weekly spending on two drugs was at least two times greater among homeless respondents compared with housed respondents – namely, heroin (£238 compared with £117) and cocaine (£18 compared with zero). Homeless respondents were also half as likely as housed respondents to report past-month



oral tranquilliser use (23% compared with 47%), and almost three times more likely to report shoplifting as a source of funding for drug use (49% compared with 17%). Two of these four effects also held for the 3-way comparison on accommodation status, and were based on the same single source in each case – that is, compared with housed respondents, roofless respondents reported spending over twice as much per week on heroin (£282 compared with £117), and were almost four times more likely to report drug-related shoplifting (61% compared with 17%). Also, there was a significant overall difference between the three groups in drug-related begging, based largely on the difference between roofless respondents (53%) and temporary-homeless respondents (26%).

Fifth, levels of various injecting behaviours were about 1.5 to two times higher among homeless respondents compared with those with their own homes – including injecting speedballs (96% compared with 69%), injecting crack (90% compared with 63%), and daily injecting (71% compared with 33%). Regarding the latter two variables, the 3-way comparison on accommodation status revealed the source of the effects to be (a) the difference between housed respondents and temporary-homeless respondents in the case of crack injecting (63% compared with 93%); and (b) the difference between housed respondents and both temporary-homeless and roofless respondents in the case of daily injecting (33% compared with 70% and 72%). In addition, roofless respondents were at least four times more likely than housed and temporary-homeless respondents to have injected drugs in squats/derelict houses (60%, compared with zero and 15%) and public places (57%, compared with 11% and 15%); but were almost seven times less likely to have injected drugs in their own residence (11%, compared with 72% and 75%).

Lastly, compared with housed respondents, homeless respondents were almost four times more likely to be HCV-positive (40% compared with 11%); though knew a lower mean number of HIV-positive IDUs (1.8 compared with 3.3), particularly temporary-homeless respondents (1.1). In addition, there were three significant correlations between duration of homelessness (in months) and other variables - but none with duration of rooflessness. These included a negative correlation with self-rated happiness, and positive correlations with daily dose of prescribed methadone among those in treatment, and with the number of shooting galleries among those who used them. In short, the longer someone had been homeless, the more unhappy they were, the

greater the dose of methadone they were prescribed, and the greater the number of shooting galleries they had visited.

### Comparisons of speedballers and heroin-only injectors

Statistical testing of the comparisons between speedballers and heroin-only injectors on several selected variables revealed five groups of 19 significant differences. First, there were five significant demographic/personal differences: compared with heroin-only injectors, speedball injectors were four years younger (35 compared with 39 years), with almost three times as many convictions (40 compared with 15); and were around twice as likely to be male and homeless (around nine in ten compared with around half), but a third as likely to have a regular sexual partner (about a quarter compared with nine in ten). Second, the two groups differed on five needle exchange variables: compared with heroin-only injectors, speedball injectors took almost five times as many needles per visit (about seven compared with 1.5), notably 1-inch orange needles (two compared with zero). They were also more likely to regularly pick up two products – citric acid powder and swabs (about nine in ten compared with half) – but were much less likely to make use of the information/advice service (a quarter compared with two-thirds).

Third, the general drug use of the two groups exhibited four significant differences: compared with heroin-only injectors, speedballers were over twice as likely to report past-month crack smoking (three-quarters compared with a third), and spent almost five times as much per week on drugs (about £500 compared with £110) – notably heroin (about £250 compared with £85) and crack (about £230 compared with £15). Fourth, there were three significant differences in injecting behaviour: compared with heroin-only injectors, speedball injectors were over three times more likely to be daily than monthly injectors (about two-thirds compared with a fifth), were about five times more likely to re-use their own used syringe needles/barrels (just over half compared with one in ten), and were much more likely to inject drugs in squats/derelict houses – just over half (a third regularly) compared with no heroin-only injectors. Fifth, there were just two (related) significant differences in injecting consequences between the two groups: compared with speedball injectors, heroin-only injectors reported knowing more people who were HIV-positive - both overall (almost six compared with almost four) and among injecting drug users (almost six compared with

two). Lastly, the daily number of speedball injections among speedballers was positively correlated with four main variables, namely: weekly spending on both heroin and crack; the typical dose of crack put into a speedball injection, and the duration of imprisonment.

## Conclusions

The findings were discussed under three headings: needle exchange, homelessness, and speedballing. First, compared with other NESs in Britain, the Lifeline NES was found to be generally effective at all four levels of intervention: making contact, delivering services, changing behaviour, and reducing harmful consequences. In a typical year since 2000, the Lifeline NES made contact with about two-thirds of the estimated 2,400 IDUs in Manchester city – which was about six times the number seen by the average specialist NES in the national survey – though young, female and non-White IDUs were under-represented. Regarding service delivery, the average return rate for used needles was 70-75%, though the 'overall return rate' was higher because many clients used other disposed facilities for their used equipment. The typical visit involved picking up about 30 new syringes along with filters, swabs, citric acid powder, water ampoules, sterile cups, and sharps boxes. Almost all clients stated that they were very or quite satisfied with the NES, though it was concluded that the monitoring system should be modified to record better quality information about multi-injecting, accommodation status, and service uptake. Regarding behaviour change, half of the sample reported indirect sharing, and one in nine reported direct sharing. The rate of indirect sharing was similar to that found nationally, though the direct sharing rate was about half the national rate. Also, almost half of the sample reported re-using their own syringes in the past month, almost two-thirds were daily injectors (averaging five shots per day), about four in ten were groin injectors, half had recently injected in public places, and almost a quarter had recently used 'shooting galleries'. In addition, around half reported failing to carry out certain 'safer injecting' actions – notably washing their hands, avoiding 'flushing', completing the injection in less than two minutes, and putting pressure on the injecting site afterwards. Though comparative data was limited, these levels of risk behaviour were broadly similar to national rates, the notable exceptions being Manchester IDUs' much higher rates of injecting in public places and shooting galleries. Regarding harm reduction, BBI rates among tested respondents generally reflected official rates – though up to half reported past-year experiences of 'bad hits', hitting an artery, abscesses and collapsed

veins.

Second, about eight in ten respondents in the Lifeline NES survey reported being homeless, including over half who were temporary homeless, and almost half who were roofless (rough sleepers). It was estimated that about 620 to 750 of the 850 NES clients were homeless (including about 230 to 400 rough sleepers); and also that there were about 1,730 to 2,110 homeless IDUs in Manchester during 2006 (including about 650 to 1,130 rough sleepers). However, Manchester City Council (MCC) estimated that the number of rough sleepers fell from 44 in 1999 to just seven in 2005. The reason for this under-estimate can be traced to MCC's invalid and unreliable method for estimating the prevalence of rough sleepers (based on Homelessness Directorate guidelines) – namely, counting roofless people observed in public places on one night of the year, using highly dubious definitions and procedures. British research shows that around a third to two-thirds of homeless people now use drugs, including a quarter to a half who are dependent on opioids and/or cocaine, and around a third who inject drugs. Conversely, the available evidence suggests that about a tenth to a third of drug users are homeless – rising to around half of IDUs. The present study also found that, compared with housed IDUs, homeless IDUs were more likely to be unemployed, unhealthy, using shooting galleries, and injecting speedballs; while roofless IDUs used more heroin, were less likely to report drug treatment, were more likely to inject in derelict houses and public places, and were more likely to report begging and shoplifting to fund their habit. In conclusion, the present statistical analysis suggested that there is a complex relationship between homelessness, drug injecting practices, and various psycho-social factors – notably mental and physical health, offending, imprisonment, and social deprivation/exclusion. Five salient pathways into homelessness were identified from the research evidence: drug use, relationship problems, imprisonment, leaving other institutions, and, being an asylum seeker or refugee.

National policy toward homelessness has undergone considerable development over the past five years. In 2002, a new Homelessness Act was introduced, requiring LAs to devise local homelessness strategies by March 2005, and the Homelessness & Housing Support Directorate was also set up, to coordinate national policy on homelessness. By 2006, homelessness prevention was being carried out by almost all LAs, including enhanced housing advice, enhanced access to

private tenancies, family mediation, domestic violence victim support, and tenancy sustainment. In March 2007, the government launched its new package of measures to reduce youth homelessness, including: (1) a National Youth Homelessness Scheme; (2) a committee of formerly homeless young people to advise on national policy; (3) centres of excellence in every region for sharing expertise; (4) a National Homelessness Advice Service; and (5) Foundations for Life, a project aimed at transforming youth hostels into learning centres for work and training opportunities – along with £16 million funds to help voluntary agencies prevent all forms of homelessness. Specific policies to tackle homelessness among drug users have also been developed. It was concluded that if we are to evaluate the effectiveness of these policies and interventions in preventing and tackling homelessness among drug users, then LAs need to develop more valid and reliable methods for estimating the prevalence of local levels of homelessness.

Third, speedballing is the simultaneous injection (in one shot) of both heroin and cocaine (powder or crack). Consideration was given to people's reasons for injecting crack – rather than smoking crack or injecting cocaine powder – as well as for injecting crack with heroin (rather than separately). The main reason for speedballing appears to be the massive surge in dopamine which injecting crack and heroin together produces. That is, injected together, heroin and crack/cocaine have synergistic effects which raise dopamine in the brain to ten times normal levels – compared with nearly double when heroin is injected alone, and about quadruple when crack/cocaine is injected alone. The present wave of illicit speedballing began around 1990, distinguished by a switch to crack (instead of cocaine powder) with heroin. Relevant research shows that although fewer than 1% of IDUs had injected crack prior to 1990, national rates have climbed steadily since then, reaching around 20%-40% by 2006 – including a peak rate of 70% among Manchester IDUs. By 2006, it was estimated that between a fifth and two-fifths of IDUs in Britain were regular speedballers – 40,000 to 80,000 people. Research evidence also suggested that the highest regional prevalence of speedballing among IDUs was in the North-West, ranging from about a quarter in some areas to three-quarters in Manchester. It was estimated that about 615 to 750 of the 854 clients attending during the first quarter of 2006 were speedballers, and that there was a total community prevalence of about 1,600 speedballers in Manchester in 2005. Indeed, the present survey

estimated that between seven in ten and nine in ten Manchester NES clients were speedballers. The typical speedballer had started the habit about five years earlier (2001), and stated that most or all of their IDU friends were speedballers. Compared with heroin-only injectors, speedballers were also more likely to be male, single and homeless.

A review of the available research evidence also confirmed the findings of the present survey that speedballing (or crack injecting) is associated with significantly higher levels of drug-related risk and harm. Risks associated with speedballing included using larger amounts of drugs, frequent injecting, groin injecting, using excess citric acid, re-using syringes, public injecting, and poor injecting techniques. Health harms associated with speedballing included higher rates of infectious diseases (notably HCV and HIV) and greater damage to veins/tissue (notably abscesses). It was concluded that drugs research has neglected the growth of the multi-drug injecting habit known as speedballing – as evidenced by the focus of recent research on rises in 'crack injecting', when few IDUs inject crack on its own. In short, multi-drug use needs to become a core variable in researchers' data-collection instruments and drug agencies' monitoring systems if our understanding of the nature and extent of speedballing – and other multi-drug habits - is to be improved.

## Recommendations

Six groups of recommendations were presented for consideration, with the first four being focused on needle exchange schemes, and one each focused on treatment and research. First, needle exchange purchasers and providers should continue to develop the accessibility and availability of services, by providing a range of generic outlets (notably pharmacies) and specialist agencies (including mobile and outreach) – along with continued adherence to a client-centred (user-friendly) style of service delivery. Second, NESs and other drug agencies should provide information on safer injecting to IDU clients, through such delivery channels as publications, product packaging, computer software, direct advice, and training courses, with a particular focus on 12 issues: safe locations, washing hands, clean space, injecting technique, vein-raising, dissolving agents, equipment-cleaning procedures, choosing sites, syringe flushing, site hygiene, managing health problems, and non-injectable methods of drug use. Third, NESs should consider extending their product range to the following equipment and materials:

sterile/anti-bacterial wipes and gels, injecting mats/trays, syringe markers, butane lighters, tourniquets, and wound-care materials (plasters, ointments, etc.); along with injecting kits containing a complete package of relevant equipment; and pro-smoking/sniffing devices – including snorting kits, crack pipes, tin-foil and cigarette papers. Fourth, NESs should consider a range of service improvements and innovations, notably: extended healthcare options (eg. vaccinations), appropriate medical technology, (eg. Vein Finder), drug consumption rooms, drug product testing and improvement facilities, and overdose prevention measures such as take-home naloxone.

Recommendations for drug treatment and research were also put forward for consideration. It was recommended that treatment agencies should consider offering a wider range of prescribing options, including diamorphine maintenance for heroin addicts and substitute stimulants for crack users – in oral, injectable and smokable forms – in addition to options for detoxification. Finally, it was also recommended that more research should be conducted into the aetiology, epidemiology, and social psychology of injecting drug use – as well as related harm-reduction interventions. Urgent tasks include disentangling the multiple biopsychosocial variables associated with drug injecting, in order to identify common cause-effect pathways; producing valid and reliable estimates of the prevalence of various injecting behaviours, and such salient correlates as homelessness; carrying out more ethnographic research into drug injecting practices and lifestyles, notably speedballing, public injecting, and groin injecting; improving routine monitoring of clients' characteristics and service uptake, particularly multi-injecting and accommodation status; and establishing a consensual framework for evaluating the effectiveness of needle exchange and other harm-reduction interventions.

## 1. INTRODUCTION

This report presents the background, methods, findings and conclusions of a survey of injecting drug users attending Lifeline Needle Exchange Scheme in Manchester in 2006. This introductory section has two main parts. The first part examines the evidence underlying the need for the present study, namely trends in injecting-related risks and harms, both nationally and in the North-West region. The second part describes the aims and rationale of the present study.

### 1.1 Trends in injecting-related risks and harms

Almost all of the available evidence about trends in injecting-related health risks and harmful consequences in the UK concerns blood-borne infections (BBIs) - injecting-related problems such as flesh wounds (eg. abscesses) or circulatory damage (eg. DVT) are not routinely monitored. There is growing evidence of an increase in infectious diseases among injecting drug users (IDUs) in the UK, and recent evidence that the North West region may be particularly affected. The following account focuses on the key risk behaviour - sharing of injection equipment - and the three main groups of related infectious diseases: HIV, hepatitis (B and C), and bacterial infections (eg. tetanus). Detailed figures are presented in Tables A1 to A10 in Appendix A. The next section presents the national evidence, and the following section assesses the evidence for North-West England, and within this region, for Greater Manchester.

#### 1.1.1 National trends in risk behaviour and infectious diseases among IDUs

At a national level, research and statistics over the past two decades indicate several notable trends (see Eaton et al., 2005, for an overview of the UK situation). First, there has been a notable increase in self-reported sharing of syringe needles/barrels (henceforth: needle-sharing) among IDUs attending drug services since 1991. This conclusion is based on two sources of evidence:

(1) half-yearly statistics on problem drug users (PDUs) known to all agencies in the UK (excluding N. Ireland), on the DOH's Drug Misuse Database (DMD), 1993-2001 (ranging from about 20,000 to 40,000 PDUs per half-year, of whom about four in ten were IDUs); and

(2) annual statistics on IDUs attending treatment and needle exchange agencies in England & Wales

(and N. Ireland from 2002) in the HPA's Unlinked Anonymous Prevalence Monitoring Programme (UAPMP), 1991-2004 (ranging from about 1,500 to 2,500 IDUs per year).

Lifetime needle-sharing rates (reported in the DMD reports only) were based on those PDUs who indicated that they had ever injected; while past-month needle-sharing rates (reported by both sources) were based on those who indicated that they had injected in the previous four weeks only.

DMD reports indicated that the rate of lifetime needle-sharing among British PDUs rose steadily from 42% in the half-year ending September 1996, to 49% in the half-year ending March 2001 (DOH 2001). While the national rate of past-month needle-sharing fell from 13% in the half-year ending September 1993, to 11% in the half-year ending September 1995, it also climbed steadily from the mid-1990s to about double this rate by the turn of the century - 21% in the half-year ending September 2000, and 20% in the next half-year (Table A1). Similarly, HPA reports indicated that the national rate of past-month needle-sharing among IDUs in England & Wales fell from 24% in 1991 to 17%-18% in each year between 1993 and 1997, before rising up to around a third from 1998 to 2001, peaking at 34% in 2002, and then falling slightly to 28% in 2004 and 2005 (HPA et al., 2005; HPA & HPS, 2005). In short, following a drop in the first half of the 1990s, the needle-sharing rate doubled over the next decade - from less than one in six in the mid-1990s, to a record annual rate of about a third around the turn of the century, levelling out at almost three in ten by 2005. In addition, the UAPMP survey also noted that over half of IDUs reported sharing injection paraphernalia (eg. filters, spoons) over the last decade, though the 'indirect sharing' rate fell steadily from a peak of 63% in 1998 and 1999, to 53% in 2005 (Table A1).

Second, in the 15-year period ending 2000, there was a fairly steady drop in the annual number of laboratory reports of HIV infection among IDUs having blood tests in the UK - from a record 448 in 1986, to 114 in both 1999 and 2000 (HPA et al., 2005, 2006). Annual incidence then rose to 158 in 2003, before falling slightly to 147 in 2005. (Table A2). The total number of HIV-positive IDUs in the UK at December 2005 was 4,434 (69% male) - over 5,000 if we include 768 male IDUs generally counted under the exposure category of 'men who have sex with men' (HPA et al., 2006). Based on the estimated prevalence of 150,000 to 200,000 IDUs in the UK (Newcombe 2007a), this indicates a 'known' HIV rate

of about 2.5%-3.3% among British IDUs.

Third, in addition to monitoring needle-sharing in Britain over the last 15 years, the HPA's UAPMP survey also carried out annual saliva-tests on IDUs attending treatment and needle exchange agencies (HPA et al., 2006; HPA & HPS, 2005). In England & Wales, the HIV rate dropped from a record high of 1.8% in 1991 to a record low of 0.6% in 1996, before stabilising at around 0.8%-1% from 1997 to 2002. It has since risen about 0.2% each year, to reach 1.6% in 2005 – the highest level since 1992, and double the rate in 2000 (Table A3). Thus, one in 62 IDUs were HIV-positive in 2005, compared with one in 110 in 2002 (Hope & Ncube, 2006). But there are notable differences between London and the rest of England & Wales (and Scotland). That is, the HIV rate among IDUs in London has shown no trends over the last decade, remaining between 3% and 4.5%, while in Scotland there was a fairly steady decline - from a peak of 3.2% in 1991, to a record low of 0.5% in 2004 – though the HIV rate among IDUs climbed again to 0.9% in 2005. But in areas of England & Wales outside the capital there has been a six-fold steady increase from a record low of 0.2% (one in 500) in 2002, to 1.2% (one in 83) in 2005 (HPA et al. 2006; Hope & Ncube 2006). The 2005 rate was the highest level of HIV among IDUs ever recorded in England & Wales outside London, the previous highest rate being 1.1% in 1990. Furthermore, HIV prevalence among IDUs who began injecting in the past three years has increased from almost zero in 2000, to a record 1.3% (one in 77) in 2005. In short, the rise in the rate of HIV among IDUs in Britain since 2002 is largely attributable to IDUs in England & Wales outside of London. Professor Peter Borriello, Director of the HPA's Centre for Infections stated in a press release that

“these results confirm a continuing rise in HIV transmission among those who inject drugs. This coincides with a reported increase in more risky behaviours among injecting drug users, as well as a rise in hepatitis C infection”.

In addition, a survey of 1,214 not known to drug services in seven areas of England, including Manchester, was carried out over 1997-98, providing a baseline for BBV infection among 'hidden IDUs' (Hunter et al., 2000). Reflecting the findings of the UAPMP surveys of IDUs attending drug services, prevalence of HIV infection among 'hidden IDUs' was 1.7% (3.3% in London, 1.1% elsewhere) - and prevalence of HCV infection was 20% (33% in London, 14% elsewhere).

Fourth, three types of hepatitis have also continued to spread among British IDUs (HPA et al., 2006; HPA & HPS 2005). Whereas HBV and HCV are primarily blood-borne viruses among IDUs (i.e. spread by sharing injecting equipment), HAV can also be contracted through other routes (notably contact with faeces). From being unidentified about two decades ago, the prevalence of HCV infection in the general adult population of England (15-59s) was estimated to be 0.5% in 2006 (HPA 2007). Among IDUs, HCV infection climbed from around 35%-36% in each annual UAPMP survey between 1999 and 2001, to around 41%-42% in each year from 2003 to 2005. Though there were no clear trends in London (47%-56%), the HCV rate in England & Wales outside London climbed steadily from about 32% in 1999 and 2000, to a record 37% in 2003 and 2004 (Table A4). Indeed, over 90% of HCV cases in England & Wales, and two-thirds in Scotland, now involve IDUs – compared with less than half in the early 1990s (HPA 2005a; HPA et al., 2006). By contrast, the HBV rate among IDUs in the UAPMP surveys dropped from one in three in the early 1990s to around one in five by the mid-1990s, remaining around 21-22% until 2005, when it fell slightly to 19%. By contrast, HBV rates in London have risen back up from 21% in 1997 to 30% in 2004 (HPA et al, 2005) (Table A4). Turning to HAV, diagnoses in England & Wales increased from 789 in 2001 to 1,352 in 2002, before dropping from 996 in 2003, to 669 in 2004, and 457 in 2005 (HPA et al., 2006). This downward trend is most notable among 15-44 year old men. Thus, although injecting drug use is usually the first or second most important risk factor for HAV infection, evidence since 2002 indicate that levels of HAV among IDUs have steadily declined.

Fifth, there is growing evidence of outbreaks/rises in bacterial infection among IDUs in the UK over the last decade (HPA et al., 2006), as well as injecting-related health damage such as deep vein thrombosis (DVT) (e.g. Beeching 2005). Bacterial infections among IDUs involve three main types:

(1) streptococcal: notably Group A streptococcus (GAS), often leading to bacteraemia;

(2) clostridial: notably clostridium tetani (tetanus), clostridium botulinum (wound botulism), and clostridium novyi (severe systemic sepsis/SSS); and

(3) staphylococcal: notably methicillin-resistant staphylococcus aureus (community-based MRSA – ST1-IV strain), and methicillin-sensitive staphylococcus aureus (MSSA).

Each of these is associated with different (though sometimes overlapping) sets of symptoms - including

necrosis, oedema, sepsis, abscesses, and gangrene. Of course, it is possible that some of the trends in bacterial infections described below are based on improved recording and reporting procedures. All figures pertain to England & Wales, except those for SSS and wound botulism, which cover the whole UK.

The most well-known and lethal outbreak of bacterial infection among British IDUs involved 57 cases of SSS in 2000, of whom 43 died (typically intradermic or intramuscular injectors). No cases were recorded prior to 2000, and there were only around a dozen cases between 2001 and 2003, and none in 2004 and 2005. The other types of bacterial infection generally caused either zero or one deaths per annum among IDUs. Reported GAS cases among IDUs remained around 15-20 per year from 1994 to 2000, then climbed steadily from about 40 cases in 2001, to 130 in 2002 and 286 in 2003 - before dropping to 122 cases in 2004, and 46 in 2005. Only one GAS death was reported (in 2002). In addition, in 2002 it was estimated that 15% of all GAS bacteraemia cases were among IDUs. A study in the Yorkshire & Humber region found that the number of GAS cases doubled between the first half of 2001 and the first half of 2003 – while the proportion of cases attributable to drug injecting doubled between 2001 and 2002 (Engler & Perrett 2004). Similarly, there were no cases of wound botulism recorded among IDUs in the UK prior to 2000, but since then numbers have climbed fairly steadily from six in 2000 to 41 in 2004, before dropping to 28 in 2005 - including two deaths in 2004, and two in 2005. Similarly, there were only two cases of tetanus among IDUs in England & Wales between 1984 and 2002, but numbers in 2003 and 2004 totalled 25 (including three deaths) – though provisional figures for 2005 indicate just four tetanus cases among IDUs. Lastly, though no cases of injecting-related sepsis due to MRSA were recorded prior to 2003, there have been 50 cases since then - 37 in 2003/04 and 2004/05, and 13 in 2005/06.

**In summary,** the available evidence indicates that levels of risk behaviour and infectious diseases have increased among British IDUs over the last decade. The notable trends included a notable rise in the past-month needle-sharing rate, from about one in six in the mid-1990s to around three in ten in the 2000s; and, related rises in levels of HIV, HCV and bacterial infections, particularly since 2000. That is, between 2002 and 2005, the HIV rate among IDUs increased by 60% nationally (to 1.6%), and sixfold in England & Wales outside of London (to 1.2%); while the national rate of HCV rose from just over a third in

1999-2001, to over four in ten in 2003-2005 (though, as with HIV, there were no notable trends in London). Annual numbers of bacterial infections among British IDUs also increased in the 2000s – notably cases of SSS, GAS, wound botulism, tetanus and MRSA – though provisional figures indicate a consistent drop for all types in 2005. Lastly, following a drop from around a third in the first half of the 1990s, the national HBV rate among IDUs has remained fairly steady over the last decade at around two in ten - though London rates have risen back to around three in ten. Increased availability and uptake of the vaccine for HBV has probably helped to curb the spread of this virus

### **1.1.2 Trends in risk behaviour and infectious diseases among IDUs in the North-West**

The national rises in risk behaviour and infectious diseases among IDUs identified in the previous section were also apparent in the North West health region - particularly in the Greater Manchester SHA area, and its districts (compared with the region's two other SHA areas - Merseyside & Cheshire, and Cumbria & Lancashire).

First, evidence about trends in needle-sharing among North-West IDUs is available from the same two sources which national figures were drawn from: the Drug Misuse Database (DMD), and the HPA's annual saliva-testing survey (UAPMP). National DMD reports provided regional and district breakdowns for lifetime and past-month needle-sharing from the half-year ending September 1996 to the half-year ending March 2001 (DOH 2001); while local DMD reports provided annual figures on past-month sharing only for the North-West and its districts from 1995 to 2000 (DRMU & DMU, 2001). Neither source provided regional/district-level statistics on sharing of injection paraphernalia. The local DMD reports showed that the lifetime needle-sharing rate among North-West IDUs climbed fairly steadily from 40% in 1995 to 53% in 2000; and that the past-month needle-sharing rate more than doubled from 11% to 24% over the same six-year period (Table A6). National DMD reports mirrored these findings, showing that the past-month needle-sharing rate more than doubled from 11% in the half-year ending September 1996 to 23% in the half-year ending March 2000, before levelling out at 22% in the next two half-years (Table A5). The UAPMP surveys of IDUs attending needle exchange and treatment services have confirmed this trend (HPA et al., 2005). Based on combined data for two-year periods, these figures show that needle-sharing rates among

North-West IDUs fell from 18% in 1991-92 to 13% in 1995-96, before rising steadily to 24% in 2001-02 (Table A9). In 2003-04, the North-West needle-sharing rate fell slightly to 21% - which compared with 29% nationally, and 22% to 36% in the other nine UK regions (excluding Scotland) – making it the lowest rate in the country. Indeed, North-West IDUs have reported the lowest needle-sharing rates in the country since 1997-98.

The DMD reports also provided breakdowns of needle-sharing rates for North-West districts. Focusing on Manchester city, the national DMD bulletins reported somewhat erratic half-year figures, though underlying trends reflected the national picture – that is, past-month needle-sharing increased from fewer than one in ten IDUs over 1996-1998, to around two in ten over 1999-2001 (Table A5). The local DMD reports presented a similar picture for Manchester IDUs, with past-month needle-sharing rates rising from less than one in ten in 1995-1997, to almost two in ten in 1999 and 2000 – with lifetime sharing rates rising from 41% to 54% over the same 6-year period (Table A6). The highest rate of past-month sharing was found in the Wigan & Bolton district: 43% in 2000. Lastly, the local DMD reports also presented the past-month needle-sharing rate for IDUs attending needle exchange schemes only in Greater Manchester and Lancashire. This rate rose from 5% in 1995 and 3% in 1996, to 10% in 1999 and 16% in 2000 – compared with 2% (1999) and 3% (2000) among clients of needle exchanges in Merseyside & Cheshire (Table A6).

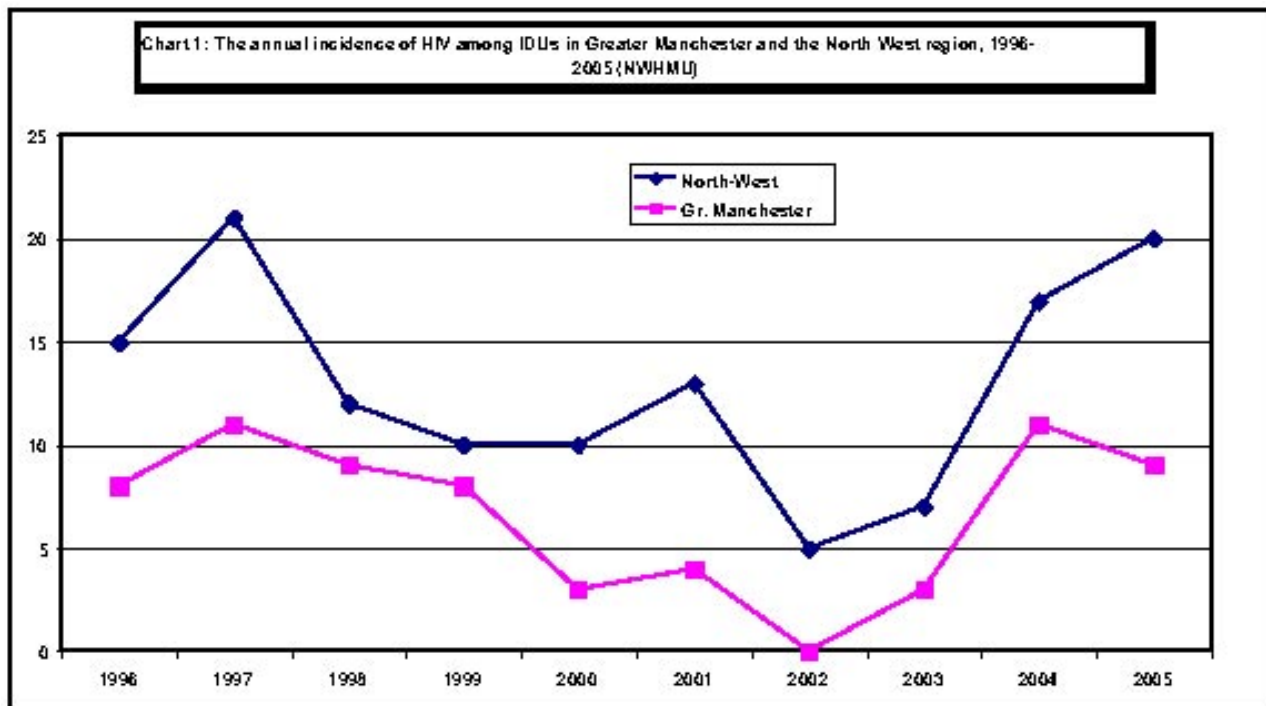
Second, there are two sources of figures on voluntary blood tests for HIV among IDUs in the North-West: national monitoring reports by the HPA (previously PHLS) giving regional breakdowns, which are based on the number of HIV-antibody positive tests routinely reported by laboratory clinicians who analysed test samples (HPA et al., 2006); and local monitoring reports by the North-West HIV/AIDS Monitoring Unit (NWHMU), based on voluntary reporting by agencies which provided the tests (Cook et al., 2005; Downing et al., 2005) – though Hargreaves (2006) has reported a third set of figures (not covered here). Both sources also give breakdowns for Greater Manchester, while the NWHMU gives further breakdowns by PCT areas (notably Manchester). HPA figures are generally higher than NWHMU figures, largely because some agencies which provide tests to IDUs do not report their HIV-positive cases to the NWHMU (Table A7). In addition, NWHMU prevalence figures refer to continuing HIV cases only (i.e. alive, resident in

region/county), and thus annual prevalence can rise or fall; whereas HPA prevalence figures are all-inclusive, and thus cumulative (i.e. annual figures either rise or remain level).

The HPA figures show that prevalence of HIV among IDUs in the North West climbed from 61 in 1989 to 214 (145 men and 69 women) at the end of 2005 – of which 62 had developed AIDS. The annual incidence of HIV among North-West IDUs was 24 in 1990, after which - with the exception of 1995 (21 cases) and 1999 (18 cases) - it generally remained between three and 13 per year. This changed in 2005, when annual incidence climbed to a 15-year high of 22. This is three times as high as the average annual incidence in the previous five years (seven), and over twice as high as the average annual incidence since 1989 (10). This recent rising trend has also been confirmed by local monitoring reports (NWHMU) for the decade 1996-2005. The prevalence of HIV cases among North-West IDUs climbed from 65 in 1996, to 101 in 2005. By contrast, incidence first dropped fairly steadily from 21 in 1997 to a record low of five in 2002 - before rising steadily, to seven in 2003, 17 in 2004, and 20 in 2005 (Chart 1). This is the highest annual number recorded since 1997 (Table A7). Of the 17 new cases of HIV among IDUs in the North West in 2004, 14 were male, 12 were white, and six were infected abroad. Most (11) were being treated at North Manchester General Hospital – four were symptomatic, and two had AIDS.

Both the HPA and the NWHMU also provide breakdowns of figures on HIV-positive IDUs by the three SHAs within the North-West region: Cumbria & Lancashire, Merseyside & Cheshire, and Greater Manchester. The HPA's regional HIV diagnoses surveillance tables indicated that 120 (56%) of the region's 214 cases of HIV among IDUs were located in Greater Manchester at September 2005 (HPA 2005b) – almost three times the number of cases reported in 1989 (42). There were no clear trends over this 15-year period: annual incidence ranged between two and eight, with an annual average of six (Table A8). Even so, there were six new cases in both 2003 and 2004 – the highest incidence since 1997. Similarly, the NWHMU figures indicated that 61 (60%) of the region's 101 cases were located in Greater Manchester in 2004, compared with 42 of 74 (56%) in 1996 (Cook et al., 2005; Downing et al., 2005). Of the 20 new cases of HIV reported among North-West IDUs in 2005, nine (45%) were resident in Greater Manchester – which, with the exception of the previous year (see below), was the highest annual incidence reported for the county since 1998.





Indeed, the NWHMU figures show that the number of HIV-positive IDUs in Greater Manchester fell steadily from 11 in 1997 to zero in 2002, before starting their present upward trend to three in 2003, and 11 in 2004, dropping slightly to nine in 2005 (Table A8).

Further breakdowns showed that 26 (43%) of the county's 61 HIV-positive IDU cases in 2005 were reported from the city of Manchester. Indeed, in the decade ending 2005, Manchester city was the only district out of six in the county with an annual incidence of HIV among IDUs greater than one - i.e. about 2.8, reaching four in 2004 and 2005 (the highest number since 1999). Breakdowns of figures for the 14 PCT areas of Greater Manchester were also available for the period 2001 to mid-2005. The only PCT area with an annual incidence of HIV among IDUs greater than one was North Manchester, which had a peak of three new cases in 2004 (compared with one in Central and zero in South Manchester). North Manchester usually reports about half of the city's annual prevalence of HIV among IDUs - for instance, 15 (56%) of 27 cases in 2004 (Table A8). However, it should be emphasised that the higher rate of HIV among IDUs in Manchester, and North Manchester in particular, is largely explained by the fact that the county's main HIV treatment services are based in the hospital in North Manchester.

Third, according to the HPA's annual UAPMP surveys, which test saliva samples from IDUs attending treatment and needle exchange agencies,

trends in the rate of HIV infection among IDUs in the North West broadly reflected trends for all IDUs in England & Wales outside London, though were generally slightly lower (HPA & HPS 2005). That is, based on combined figures for 2-year periods, the North-West HIV/IDU rate fell fairly steadily from 0.4% in 1991-92 to 0.2% in 2001-02, before rising again to 0.4% (Table A9). The latter most recent figure of 0.4% compared with 3.7% in London, 0.5% in the rest of England & Wales, and 1.3% for England & Wales overall. Out of nine UK regions excluding Scotland (ten since N. Ireland was included in 2001), the North-West generally ranked between fourth and seventh for rate of HIV infection among IDUs (Table A9).

Fourth, the UAPMP surveys have reported that, since the mid to late 1990s, the highest rates of Hepatitis B and C among IDUs have generally been found in the North West region (HPA et al. 2005). Focusing on the Hepatitis B Virus, around a quarter to a third of North-West IDUs were HBV-positive in each 2-year period between 1991-92 and 2003-04 (with no discernible trend) - compared with a national rate of one in five (Table A9). Comparing HBV levels among IDUs across the nine/ten regions of the UK (excluding Scotland), the North-West has ranked around fourth in the first half of the 1990s, but rose to first place between 1995-96 and 2001-02, falling into second place behind London in 2003-04 (29% compared with 30%). Also, between 1999 and 2004, out of eight English regions, the North-West

region had the highest overall annual number of HBV reports – 2,517 new cases in 2004 (almost a third of English cases) – making a cumulative total of 11,095 cases (about a quarter of English cases). Turning to Hepatitis C Virus, the percentage of HCV-positive IDUs in the North West rose from 50% in 1999-2000, to 55% in 2001-02, and 59% in 2003-04 – compared with a national rate of 35%-40%. Comparing HCV levels among IDUs across all UK regions (excluding Scotland), the North-West has ranked first since figures were first collected in 1998 (Table A9). Lastly, no regional figures on bacterial infections among IDUs were available.

In summary, the available evidence indicates rising levels of risk behaviour and related infectious diseases among IDUs in the North West over the past decade, particularly in Greater Manchester. The regional and county-level needle-sharing rates have both doubled, from around one in ten IDUs in the mid-1990s to almost one in four by the mid-2000s – though the North-West has consistently reported the lowest regional needle-sharing rates in the UK since the late 1990s. Furthermore, the highest annual incidence of HIV among IDUs in the North-West was reported in 2005 – 22, twice as high as the annual average since 1990. Indeed, between 2002 and 2005, there was a more than fourfold increase in number of HIV-positive IDUs in the North-West (from five to at least 22). Over half of these cases were reported from Greater Manchester - including 11 of 17 new cases in 2004 (the highest county-level incidence since 1997) – while within Greater Manchester, about half of the cases were reported from Manchester city (notably the North Manchester PCT area). Even so, there were no trends in the rate of HIV infection among North-West IDUs over the past decade, which remained just below the national average in 2003-04 (0.4% compared with 0.5%). By contrast, since the second half of the 1990s, IDUs in the North-West have generally had the highest rates of each of the two main hepatitis viruses since the late 1990s - three in ten for HBV and six in ten for HCV in 2004, compared with two in ten and four in ten nationally. While there were no trends in the HBV rate, the rate of HCV among North-West IDUs has risen steadily since 1999.

## 1.2 Background and rationale of study

### Background

In the first half of 2005, as a response to the rising levels of risk and harm among IDUs indicated by both official statistics and anecdotal reports from front-line drug workers, Lifeline Publications conducted

a preliminary 'snapshot' study of the behaviour of 16 clients of the Needle Exchange Scheme in Manchester (Lifeline 2005a). The sample, surveyed on one day in July 2005, consisted of 10 men and six women, all of whom were homeless. It was found that all were injecting heroin and/or crack daily, and three-quarters were speedballing (simultaneous injection of heroin and cocaine/crack). Over a third were injecting five or more times a day, and almost half stated that they sometimes injected in a 'shooting gallery'.

Given this initial evidence of high levels of homelessness, speedballing, and 'shooting gallery' usage among Manchester IDUs, along with the official evidence of rising levels of HIV and HCV among IDUs in the North West and Greater Manchester, it was decided to seek resources to conduct a full survey of NES clients. An 18-month action research project was designed, based on (1) an initial survey and one-year follow-up of several hundred IDU clients of agencies providing needle exchange in Manchester; and (2) group discussions with a panel of selected clients. The research work was designed to provide a knowledge base and feedback structure for the second part of the project, which involved developing and delivering (a) a package of innovations in needle exchange services, and (b) a series of publications targeted at homeless and speedballing NES clients. The project was costed at around £80,000, but the bid for local funding was rejected in November 2005. But it was soon agreed that there were two main reasons for Lifeline to press ahead with a scaled-down version of the research component of the project, using internal resources. First, it was felt that the growing evidence from official statistics about rising levels of injecting-related risks and harms was too strong to be ignored. Second, revisiting basic principles, the Lifeline policy of responding quickly to new drug trends and drug problems was believed to be of paramount importance in this context.

In December 2005, following on from these background events, the original action research project was redesigned as a six-month one-off survey of 100 IDU clients attending Manchester NES only, supplemented by videotaped simulations of the preparation of speedball injections and informal interviews with clients. Together, the quantitative survey and secondary qualitative research were intended to provide a knowledge base for recommending improvements to services at the NES, and for the subsequent development of information products (publications) aimed at reducing injecting-

related harm among local IDUs. Funding and staffing for the research were provided from the general resources of Lifeline, including:

(1) personnel: the research was designed, analysed and reported by a full-time Senior Researcher in Lifeline Publications, who gave about four days a week of his time over the first half of 2006 – assisted by several NES staff, who administered the survey;

(2) equipment and materials: the research instruments were designed and analysed using the office resources of Lifeline Publications - including computers, printers, video camera, etc.;

(3) money: authorisation was also obtained to release an additional £1,100, which was required for payments to research participants (see Methods).

### **Aims and objectives**

The core aim of the project was to assess the nature and extent of knowledge, attitudes and behaviour concerning injecting-related risks and harms among IDUs attending Manchester NES. This general aim gave rise to three specific informational objectives concerning the target group – that is, to establish the nature and extent of:

(1) their drug injecting behaviour - notably multi-drug use, injecting practices, and equipment sharing;

(2) the harmful consequences of their injecting behaviour - notably infectious diseases (eg. HIV, HBV, HCV) and physical damage (eg. abscesses); and,

(3) their experience of and views on the needle exchange scheme, and drug treatment.

Beyond these basic informational requirements, the research project was designed to explore two salient research questions. Each of these emerged from the findings of the preliminary study in July 2005, and concern the impact of accommodation status and multi-drug injecting on injecting behaviour and its consequences, namely:

(1) does homelessness affect injecting-related risk behaviours and harmful consequences?

(2) does speedballing affect injecting-related risk behaviours and harmful consequences?

Both of these issues are discussed in depth in the final section, and will not be further addressed here.

## 2. METHODS

This section presents details of the methods of investigation according to the four main stages of research, and by the key components of each stage, namely:

1. Design: research questions, type of study, and operational definitions;
2. Sampling: population, sample, and representativeness;
3. Data collection: procedure, research instrument, and validity and reliability;
4. Data processing: data preparation, and statistical analysis.

### 2.1 Design

#### Aims and research questions

As detailed in the previous section, the core aim of the research was to investigate the factors underlying the recent rise in injecting-related risk behaviour and harmful consequences among IDUs in Greater Manchester and the wider North West region. This involved gathering information about the nature and extent of relevant phenomena in three primary domains: injecting behaviour (risks), injecting consequences (harms), and use of and views on needle exchange and drug treatment (service utilisation). Information was also collected about the demographic, criminal, and health characteristics of IDUs. Beyond these primary and secondary informational objectives, there were two specific research questions: does homelessness affect injecting-related risks and harms, and does speedballing affect injecting behaviour and consequences? The main application (purpose) of the research was to help develop an objective knowledge base for generating recommendations for Lifeline publications and needle exchange services.

#### Type of study

The research has two empirical components, one quantitative and one qualitative. The latter, minor component involves conducting and content analysing videotaped simulations of speedballing, supported by informal interviews with NES clients. But the main, quantitative component can be formally categorised as an ex post facto, quasi-experimental, retrospective survey. In a little more detail, this means:

(a) ex post facto: a 'real-world' rather than laboratory-controlled study, involving pre-existing groups rather than experimentally manipulated 'treatment' groups, as well as focusing on macrovariables (eg. homelessness, drug-taking);

(b) quasi-experimental: though sample representativeness is sought and assessed, and sub-groups of respondents are compared on key variables, respondents are neither randomly selected from the population, nor randomly assigned to conditions –which means that the experimental method is only approximated rather than fully achieved;

(c) retrospective: the source of the information gathered is respondents' memories of past events (typically the past month), rather than present experience or future plans/expectations;

(d) survey: the mechanism of data collection is based on verbal self-reporting, namely the social survey method - which is applied in the present study as a dual-mode structured questionnaire (see Section 2.3).

Lastly, although the research was not designed as an evaluation study, it does contain an evaluative component - namely the third of the three primary informational objectives, which incorporates 'market research' style questions about the needle exchange scheme.

#### Operational definitions

For the purposes of this study, the following operational definitions were adopted for the main concepts and key variables:

**Injecting drug user (IDU):** someone who injects illicit drugs, or drugs prescribed them in the treatment of drug dependency (a current IDU is someone who has injected at least once in the previous month);

**Needle-sharing:** injecting with a syringe barrel or needle already used by another IDU, or passing on one's own used syringe barrel or needle to another IDU (whether or not the equipment is 'cleaned') – sometimes known as 'direct sharing', as contrasted with 'indirect sharing' (the sharing of injecting paraphernalia such as filters, water and spoons);

**Needle Exchange Scheme (NES):** an agency which specialises in the provision of clean injecting equipment to IDUs, and the collection of used injecting equipment (including syringe barrels and needles, and other paraphernalia, eg. filters, swabs, sterile water)

**Homeless:** someone who does not reside in permanent, secure accommodation (house, flat or room) – including:

(a) **temporary homeless:** someone who has experienced or is threatened with the loss of their current accommodation – including people who usually reside in such insecure/temporary

accommodation as hostels, B&B, and squats, or who sleep on floors/couches in other people's accommodation;

**(b) roofless or rough sleeper:** someone who has neither permanent nor temporary accommodation, and who usually sleeps in public places (eg. shop doorways, park benches) or insecure/derelict buildings;

**Speedballing:** one of the most popular forms of multi-drug injecting in Britain today, based on the simultaneous injection (i.e. in one 'shot') of heroin and cocaine (typically freebase, i.e. crack). In its broadest definition, speedballing can involve (a) any opiate combined with any stimulant, and (b) smoking and sniffing, as well as injecting.

## 2.2 Sampling

### Population

The 'community' of interest were all clients of Lifeline NES in Manchester city who had injected illicit drugs and used the needle exchange in the four weeks prior to the survey. Given that the survey was conducted during the second and third weeks of February 2006, the statistics used to profile the source population were taken from the NES quarterly report for the first quarter of 2006 (or last quarter of 2005/06). They are used below to assess how representative the sample is of the source population (see Appendix C, Tables C1 to C5).

### Sample

The two criteria for inclusion in the sample (eligibility) were (1) having injected drugs in the four weeks prior to the survey, and (2) having attended the NES in the four weeks prior to the survey. The main exclusion rule involved not sampling steroid users. The reason for excluding steroid users was that they were estimated to comprise fewer than 5% of clients, almost invariably injected steroids only, and were very different from other clients in both demographic and drug-taking characteristics.

The constraints on time and resources did not permit random sampling of NES clients, though representativeness was approximated by a selection procedure which involved 'time sampling' and quota sampling. First, NES staff were instructed to ask every respondent who attended the NES during the two-week study period to participate. All eligible clients attending on research days were asked to participate. As word got round about the survey, many clients offered to participate without being asked by NES staff. There was only one formal non-

respondent - a male who declined to participate, and gave no reason. However, it took two weeks to survey 100 clients because some respondents were initially unable to participate because they or NES staff were too busy, or because there was no room available for them to complete the survey - though many of these returned at a later time/date to complete the questionnaire. Other 'hold-ups' were caused by shortages of questionnaires or cash for paying respondents. Due to these and other events, the survey was completed at the rate of about 10 clients per day, over ten weekdays in the two-week period between the 6th and 17th of February. Second, a quota-sampling procedure was introduced after 75 respondents had been interviewed, based on counting how many female clients had participated by the three-quarters stage, and then, in order to approximate the population gender ratio at that time, asking NES staff to ensure that a particular number of female respondents were included in the final quarter of the sample. It was found that women were under-represented at the three-quarters stage of sampling (7%), and, since the proportion of respondents who were female in the first quarter of 2006 was 10% (compared with around 15% in the previous four quarters), NES staff were asked to ensure that at least five and up to eight of the remaining 25 respondents were women - which would produce a final sample gender (male-female) ratio of between 90:10 and 87:12.

Overall, 103 clients completed questionnaires, though three of these were excluded - two from respondents who were smoking heroin and/or crack only (both ex-IDUs), and one suspect questionnaire (inconsistent responses). Data collection was terminated when 100 valid questionnaires had been completed - almost one in eight of the 854 IDUs attending the NES over the first quarter of 2006.

### Representativeness

As described above, the sampling procedure was designed to maximise the representativeness of the sample, which was formally assessed by comparing the sample and population on their levels of four demographic characteristics: age, sex, race and area of residence/living. As noted above, statistics from the NES report for the first quarter of 2006 provided the source of this information for the population of NES clients (Appendix C). However, given the study's key research questions, it was also considered important to assess the representativeness of the sample on accommodation status, notably homelessness. Since the quarterly reports on the NES provided statistical information on four demographic

characteristics only, a formal assessment of accommodation status was not possible. Instead, the sample rates of homelessness were compared with the estimated level of homelessness among NES clients according to the NES manager – about a third to two-thirds. The results of these assessments of sample representativeness are presented in the first sub-section of the Findings (3.1.1).

## **2.3 Data collection**

### **2.3.1 Procedure**

The project was conducted over a six-month period, starting in January 2006, and finishing in June 2006. The study was designed and piloted in January; the data was collected in February and analysed in March and April; and the report was drafted in May, and finalised in June. The speedballing simulation sessions took place on different dates between February and June 2006.

Following the design stage, including consultation meeting with NES managers and a pilot study in January, the survey was carried out on ten week-days in the two-week period 6th February to 17th February 2006. Thus, an average of 10 questionnaires were completed per day, based on an actual range of between one and 24 completed questionnaires per day – the daily number completed depending on various practical factors (see previous section). When eligible clients arrived at the NES counter, they were asked by staff if they wanted to participate in the survey, and given more verbal or written information if required. This information was also presented on a sheet attached to the front page of the questionnaire, covering such issues as: the purpose of the survey; payment for participation; guarantees of anonymity and confidentiality; and the dual-modality of the questionnaire (it could be self-completed or administered by interview). Having agreed to participate, respondents were taken to a private room on the NES premises, and given a pen and questionnaire – though one in ten preferred to be interviewed by a NES member of staff. Respondents then read (or were read) the Information for Survey Participants, before completing the questionnaire. Afterwards, they were paid £10 cash for their assistance, for which they signed a receipt – though receipts were kept separately from questionnaires to maintain anonymity. Most respondents completed the survey in about three quarters of an hour, with most ranging between half an hour and an hour.

### **Videotaping of simulated speedballing**

Also, between February and June 2006, several IDUs were observed preparing and injecting speedballs, and four simulations of the preparation of a speedball injection were videotaped on the NES premises. This was designed to provide valuable information about the intricate, visual aspects of drug injecting behaviour, which, as other researchers have commented, cannot be adequately captured by verbal responses alone (Rhodes et al., 2006). Each of the four videotaped exercises involved a different volunteer client of the NES, who used legal powders designed to look like illicit heroin and crack in the simulations. Each simulation took between 10 and 20 minutes, and participants were also involved in unstructured interviews (to elicit simultaneous verbal commentaries) during the exercise. Each of the four clients was paid £20 for their assistance. The four videotapes were subsequently content analysed to identify each stage of speedball preparation, and the key risks.

### **2.3.2 Research instrument & materials**

#### **Overview**

The research instrument was a dual-mode, structured, retrospective self-report questionnaire (Appendix B). That is, it was (a) designed to be completed either by self-report or interview; (b) based largely on multiple-choice response formats and numerical response formats (eg. rating scales), with a small number of open-ended verbal questions; (c) focused on (memories of) past states/events; and (d) designed to elicit verbal/written responses both from the respondent (as contrasted with observation, psychometrics, etc.) and about the respondent. Regarding (c), the standard time-period covered by questions was the last four weeks (called here 'past month'), though, when relevant, some questions referred instead or as well to lifetime, 12-month (past-year), and 7-day (past-week) time periods. Regarding (d), the vast majority of questions asked about the respondent, though a small number elicited 'second-hand' information about the behaviour or characteristics of their friends/associates or partners.

In addition to 110 copies of the questionnaire, other materials/resources designed or acquired for the survey included:

- (1) instruction sheets for respondents and NES staff (Appendix B);
- (2) standard response cards for interviewers to show respondents during interviews, notably frequency categories;

(3) a non-response record sheet, on which NES staff were asked to record the sex and estimated age of any clients declining to participate;

(4) £1,100, for paying each respondent £10 for completing a questionnaire (£20 for the speedballing simulations), along with payment receipts for signing.

The questionnaire had four standard components: questions, response formats, additional instructions, and signposts. Additional instructions are specific to particular questions and response formats, and, in addition to following on from a question, were identified here by printing them in italics and inside brackets, eg. (tick one box only). Signposts – instructions about whether or not to answer the following question(s) – were inserted between each question/RF block, and further identified by being the only components printed in block capitals, eg. IF YES, SKIP THE NEXT QUESTION. Questions always end with a question mark, but were further identified by printing them in bold. Lastly, response formats follow questions and have other visual characteristics (eg. 'answer lines'), but were further identified by being the only components printed in regular style (small-case, non-bold, and non-italic).

### Questions

Each question was designed and developed to meet the ten criteria of a good question – namely, being specific, simple, unambiguous, clear, relevant, fair, direct, realistic, unembarrassing and up-to-date. Question non-response was greatest in relation to questions about sexual behaviour (see next section). As regards topic/content areas, one fundamental fourfold distinction is that between questions about the characteristics of respondents; questions about their experience and behaviour; questions about the causes of and reasons for their experience/behaviour; and questions which assess their consequences. Another key distinction is that concerning questions about psychological variables (knowledge, attitudes, attributions, affective states, etc.), compared with those which assess observable actions and interactions. The present survey focused heavily on behaviour, and asked no knowledge questions, just one attitude question (about drug decriminalisation), three questions about affective states - including self-rated satisfaction with treatment and needle exchange services, and recent mood (self-rated level of happiness) – and three questions about causal attributions (reasons for starting to inject, present injecting, and homelessness).

The questionnaire itself is divided into seven

main sections: demographic, crime, health, needle exchange, sexual issues, general drug use, and drug injecting. The first section asks about the standard demographic variables – age, sex, race, parental status, area of residence, academic qualifications, and accommodation status - to produce a profile of the sample, and to assess how representative it is of the source population. Accommodation status is the key variable here, with questions about the nature, level and duration of both temporary homelessness and rooflessness. The second section briefly asks about criminal and prison records, while the third section covers health characteristics and use of health services – notably drug treatment. The fourth section on needle exchange asks about respondents' experiences of each service and product, and assesses their views on the agency's good and bad points. The fifth section on sexual issues has questions which focus on both the riskiness of their sexual behaviour (eg. number of partners, condom use), and questions which focus on the consequences of their sexual behaviour (eg. STDs). The sixth section, on general drug-taking behaviour, covered three main topics: non-injectable drug use, weekly spending on drugs, and methods of funding their drug use. The final section on drug injecting was the largest, and was divided into three sub-sections - causes, behaviour, and consequences - with the middle sub-section being further divided into four more parts: injecting practices, needle sharing, multi-drug injecting, and injecting locations. In order to ensure systematic and comprehensive coverage of all aspects of drug injecting, relevant questions were generated from a model of the seven risk components of drug consumption behaviour, namely: access, product, patterns, methods, amounts, mixtures, and contexts (Newcombe 1987, 1992, 2005a, 2007b). In addition to being used to generate relevant questions and response formats about injecting behaviour, these headings were also employed to summarise key results about injecting behaviour in the Findings section.

For instance, two questions developed under the 'mixtures' and 'methods' headings would seem to be of critical importance, yet have not been asked by previous surveys or assessed by routine monitoring systems. First, while many studies have reported on poly-drug injecting (which can be inferred from the list of individual drugs which respondents report injecting), no studies have reported on multi-drug injecting (the simultaneous injection of two or more drugs) - which requires asking at least one additional question. Consequently, since few researchers even distinguish multi-drug use from poly-drug use,

investigation of the nature and extent of practices such as speedballing have been heavily neglected. In the present survey, recent multi-drug injecting was measured by a question asking respondents if they had injected two or more drugs in one 'shot' over the past month, followed by an instruction asking them to give details of the drugs involved in each combination (to a maximum of four). Second, drug injecting is a 'script-like' activity, with three stages of actions which need to be performed in a set order for risk to be minimised. However, few studies have attempted to systematically assess the level of risk/safety involved in each component action involved in injecting drugs, with most focusing on just one or two of the most salient actions (eg. using a new needle, disposing of used needles in a sharps box). In the present survey, respondents are asked to indicate the frequency (never, sometimes, usually or after) with which they perform each of 18 sequential actions across three stages of injecting (preparation, administration, and completion).

### Response formats

Most of the response formats (RFs) were multiple-choice, though the questionnaire also had several open-ended questions, and three rating-scale formats – though no item ranking RFs were employed (eg. preferences). Regarding multiple-choice RFs, while binary formats were used to measure simple yes/no questions, multi-item formats were typically utilised to represent frequency and recency categories. Several types of frequency categorisation were employed, each tailored to the specific information needs associated with particular variables, and which differ according to general-specific and lifetime-past month dichotomies. General frequency RFs included binary category past-month RFs (yes/no), 3-category lifetime RFs (never, past, and present), and 4-category past-month RFs (never, sometimes, usually and always). Specific frequency category RFs (based on recency of time period) included 3-category lifetime RFs (never, over a year ago, and past year); 4-category lifetime RFs (never, over a year ago, past year, and past month); and 5-category past-month RFs (never, less than once a week, some days of week, most days of week, and every day). Prevalence rates were also generated from these frequency categories – for instance, the 5-category past-month RFs were used to estimate past-month, past-week and past-day prevalence rates; while the three and four-category specific frequency RFs were used to estimate past-year and lifetime prevalence rates.

Regarding rating-scale formats, three Likert scales were employed, i.e. 5-point ordinal level rating scales,

with marking, numbering and labelling of points approximating interval-level measurement. These included satisfaction with treatment and needle exchange services; and self-perceived body weight. Each of these scales employed 'very' and 'quite' to indicate high and medium levels at each pole (eg. satisfied/unsatisfied, overweight/underweight), with the mid-point labelled as 'neither' for the satisfaction scales, and 'normal/OK' for the body-weight scale.

Regarding open-ended questions, there were two main types: (1) questions requiring numerical responses (eg. age, number of children, daily number of injections, etc.); and, (2) questions requiring verbal responses about psychological variables (eg. notably attributions, but also other beliefs). There were several numerical open-ended questions, making them the second most common type of RF after multiple-choice RFs; while open-ended verbal RFs ranked third, with about half a dozen examples. One notable exception to the type of questions usually associated with open-ended verbal RFs was the question about injecting sites. Rather than providing a multiple-choice RF itemising the sites, this RF was left open-ended following advice from NES staff that a multiple-choice format could draw the attention of some clients to risky sites in which they might not otherwise have injected (notably the groin). Standard content analysis techniques were used to categorise responses to each of the main open-ended questions, and their reliability was assessed by carrying out inter-coder agreement checks on each set of categories (see next section).

### 2.3.3 Validity and reliability

The accuracy (validity) and consistency (reliability) of the data collected in this survey are likely to be affected by general biases common to all surveys (notably memory limitations and dishonesty), as well as particular factors arising from illicit drug use and intoxication (eg. poor concentration, fear of reprisals). It is therefore important to assess the quality of the data collected, which breaks down into four types of checking procedures, as shown in the diagram below:

	INTERNAL	EXTERNAL
<b>VALIDITY</b>	Invalid/non-response rates, & identifying problem Qs/RFs	Cross-referencing with statistics from NES report for first quarter of 2006 .
<b>RELIABILITY</b>	Cross-referencing linked response items	Inter-coder agreement on content analysis of open-ended RFs



Internal validity was checked by two procedures: assessing the rate of invalid and non-responding for each question and response item; and checking which questions respondents' explicitly indicated that they declined to answer (information requested by Q99). Invalid responding (eg. ticking two or more items when only one tick was required) was very rare, and only one question received enough invalid responses to be excluded from the analysis. This was Question 87, which asked respondents who injected speedballs (mixtures of heroin and crack) to indicate whether each of seven consequences was more, less or equally likely compared with when they injected each drug on its own. The majority of questions were answered by all or nearly all respondents (i.e. with the exceptions of one or two), while most of the remainder achieved response rates of 95% or higher - the exceptions being multi-item frequency RFs in which respondents indicated 'never' by omitting to tick any frequency category. The question which received the highest rate of non-response, and which was also identified as the question most likely to be declined to answer (by 7% of respondents) was the question asking about lifetime number of sexual partners. The final question asked for respondents' general comments - 27% responded, and their comments generally confirmed the internal validity of the survey data. For instance, the most common comment, given by 19%, was a positive statement about the questionnaire – notably statements like 'it covers everything' 'good questions', and 'makes you think about your behaviour'.

External validity was indirectly assessed by comparing key findings about the sample to statistics on the source population in the study period – as provided in the NES report for the first quarter of 2006. As noted in the first section of the Findings, the sample was broadly representative of the source population on key demographic characteristics, though slightly under-represented under-30s and those from Greater Manchester districts other than Manchester city. The Findings also report that respondents' mean estimated return rate for used injecting equipment was 60%, with a median of 70% - which is broadly consistent with the mean return rate of 76% for all NES clients in the first quarter of 2006. In short, the external validity of the survey data was confirmed by comparisons with available indicators from the relevant quarterly NES report. In addition, key findings from the research – including the proportion of clients likely to be involved – were confirmed by conducting conversations with staff and clients at the NES following the survey. For instance, both staff and clients invariably confirmed the observed levels of homelessness and speedballing.

Internal reliability was assessed by cross-referencing linked response items, and comparing the response patterns, which should be broadly equivalent or systematically correlated in some way. Such checks invariably confirmed the internal reliability of the data. For instance,

when comparing the overall daily number of injections (Q65) with the daily number of speedball injections (Q85), the latter can be equal to or less than the former, but never more (i.e. no respondent can have a higher number of daily speedball injections than their total number of daily injections). Each of the 68 relevant cases on which information was available was examined, and it was found that the number of speedball injections (mean of 3.3) was invariably equal to or smaller than the number of daily injections overall (mean of 3.9). Indeed, among speedballers, there was a significant positive correlation between the mean daily number of injections overall, and the mean daily number of speedball injections ( $r=0.49$ ,  $n=68$ ,  $p<.001$ ). Another comparison which confirmed the internal reliability of data involved cross-referencing responses to Q68 (how long it usually takes to administer an injection) with responses to the 14th item of Q69 (how frequently they complete an injection within two minutes). On the former question, 60% indicated that they usually took longer than two minutes to inject, while on the latter response-item, 57% indicated that they never or only sometimes completed an injection within 2 minutes.

External reliability was assessed and confirmed by conducting inter-coder agreement checks on categorisations of three open-ended verbal responses to self-attribution questions: reasons for homelessness, reasons for starting to inject, and reasons for current injecting. The content analysis of homelessness attributions resulted in eight categories, while the content analysis of injecting attributions resulted in ten categories (covering both reasons for starting to inject, and for current injecting). Some responses required more than one category to classify their content. An independent researcher was recruited to provide a check on the reliability of each set of categories. They were presented with (1) a random sample of one in four of the responses given for each of the three questions; and (2) a list of each set of categories, with definitions and examples given for each category. The levels of inter-coder agreement were 83% on the homelessness attributions, 79% on the attributions for starting to inject, and 86% on the attributions for current injecting. The standard cut-off point for inter-coder agreement checks is 80%, which suggests that

the qualitative data achieved an acceptable level of external reliability.

In summary, various checks on indicators of accuracy and consistency in survey responses confirmed the validity and reliability of the data.

### 2.3.4 Ethics

All respondents were made aware through the information attached to the front of the questionnaire that the survey was voluntary, anonymous and confidential – with each of these conditions being clearly defined (Appendix B). The Information to Participants also detailed the nature and purpose of the survey, and the fact that each participant would be paid £10 for their assistance, for which they would need to sign a receipt. To ensure anonymity, signed receipts were kept separately from completed questionnaires. Completed questionnaires were kept in a secure place, and after all data had been extracted and entered onto a computer, the original questionnaires were destroyed.

## 2.4 Data processing

### 2.4.1 Data preparation

#### Non-response

Non-response was generally coded as a missing value, including non-response in a binary RF (yes/no), and non-response to all items on a multi-item RF. The main exception was non-response to an item in a multi-item RF when the respondent showed a consistent pattern of ticking boxes for items which required a positive response (eg. various frequencies), but not for negative responses (eg. no/never) – such cases were coded as implicitly indicating 'no/never' (notable examples including the RFs for NES services and products).

#### Secondary variables – recodes and counts

Several variables were modified and recoded, either (1) to generate new variables, or (2) to apply statistical tests which required fewer conditions, etc.. Key examples of the first type include changes to three related variables: age of first drug use, age of first injection, and year of first speedball. Each of the first two variables were converted into two more variables, by (a) subtracting the age of first drug use/injection from the respondent's age (duration); and (b) subtracting the duration of drug use/injecting from the present year (year of first drug use/injection). Conversely, year of first speedball injection was converted first into duration

of speedballing (by subtracting it from the present year), and then into age of first speedball injection (by subtracting duration of speedballing from respondents' age). Notable examples of the second type of recode (i.e. for statistical testing purposes) are the various types of frequency response format. For instance, with 4-category general frequency tables, 'never', 'sometimes', 'usually' and 'always' were recoded into the binary categories of 'does thing' ('sometimes' to 'always'), as contrasted with 'does not do thing' for 'never' ('usually' and 'always' may also be collapsed into 'regular'). Similarly, 3-category specific frequency responses are recoded into the same binary categories of 'does thing' ('over a year ago' and 'in the last year') and 'does not do thing' (never) - as are 4-category specific frequency responses ('over a year ago' to 'past month', compared with 'never'), and 5-category specific frequency responses ('less than once a week' to 'daily', compared with 'never').

Other useful variables made possible by frequency recodes included counts of the number of items checked in lists of items – for instance, the number of needle exchange scheme (NES) services used in the past month (one to 11), the number of NES products picked up over the past month (zero to 10); the number of sources used to fund drug habits (one to 13); and the number of different drugs injected over the past month (one to six). The latter recode permitted calculations about levels of poly-drug injecting. Other recodes based on counting scores rather than binary (zero/one) codes included the total number of needles, barrels, or 'complete syringes' picked up on a typical past-month visit to the needle exchange (based on adding up the numbers given for each type of equipment); and total weekly spending on illicit drugs (based on adding up weekly spending on each listed drug). Another type of recode involved estimating the amount (cost) of drugs put into a standard injection and speedball injection, by multiplying the cost of the bags used by the number of bags used.

### 2.4.2 Statistical analysis

The findings include descriptive and inferential statistics. Descriptive statistics were mainly percentages, means, standard deviations (SDs), ranges, and other summary statistics as applicable - for each question and response format. Ranges were represented as the minimum and maximum number (rather than the difference between the two). 'Peak range' was used to refer to the sub-range within which most high-frequency responses

are incorporated (typically just over half). Other measures of central tendency (i.e. mode or median) were only presented if the mean was distorted by extreme outliers, i.e. when they differed notably from the mean. Findings were organised according to the main sections of the questionnaire (with slightly different order): demographics, crime, health and health services, sexual behaviour, needle exchange, general drug use, and injecting drug use. All percentages were presented to the nearest whole integer, and means were generally rounded to the nearest whole integer (larger numbers) or one decimal place (smaller numbers). In tables, zero was indicated by a dash, and less than 0.5% was represented by an asterisk.

The Findings also present an inferential statistical analysis of salient comparisons within the survey, notably the effects of accommodation status and speedballing on variables of interest. Both variables could have been entered into the same test (eg. 2-way ANOVA, 3-way chi-squares), but sub-sample sizes would have been so small that many tests would have been invalid, and large differences would have remained non-significant. So, it was decided to employ single-variable tests such as 1-way ANOVA and 2-way chi-square. Speedballers were compared to heroin-only injectors, and because of the small numbers in the latter condition, only fairly large differences were significant (and some tests were invalid).

Two types of comparison were made concerning accommodation status: a 2-way comparison of all homeless people with those living in their own homes (t-tests and chi-square); and a 3-way comparison of temporary homeless, roofless, and housed respondents (1-way ANOVA and chi-square). When parametric assumptions on variance were violated, an adjusted t-test was applied to the two-condition comparison, and a Kruskal-Wallis test to the 3-condition comparison. When an overall significant difference was found between three groups, the source of the effect (either two or three groups) was assessed by one of three post-hoc 'paired comparison' procedures. First, with categorical data (chi-square), the simplest procedure involves comparing the adjusted standardised residuals (ASRs) for each condition - the largest ASRs indicate the sources of the overall effect (as contrasted with ASRs close to zero). Instead, it was decided to use a more thorough procedure described by Everitt (1977). This involves conducting chi-squares on each pairing of conditions, and comparing the observed value to the critical value using an

adjusted alpha level. Thus, to assess significance at the minimum .05 level, the observed value was compared to the critical value found at the higher alpha level of  $.05/2(k-1)$ , where  $k$  is the number of conditions. Second, with interval-level data (1-way ANOVA), post-hoc comparisons were conducted between each pairing of the three groups to establish which ones were the source of the effect - usually employing the Tukey 'honestly significant difference' test (with harmonic  $n$ ). Third, with ordinal data - i.e. interval data rank ordered for non-parametric testing when - two-condition tests (Mann-Whitney) were conducted on each pairing of conditions in the significant Kruskal-Wallis test, and the resulting significance levels adjusted by multiplying them by  $k(k-1)/2$ . All tests were two-tailed.

A third approach involved carrying out Pearson correlation tests on the relationship between the duration of homelessness or rooflessness, and selected interval-level variables. Those comparisons which did not meet required assumptions (such as linearity, a fair range of talent and homoscedasticity) were analysed by the Spearman correlation test. To compensate for the 'fishing' effect produced by an array of correlations, a cut-off probability level of 2.5% (.025) - double the standard 'alpha' of 5% - was required for an effect to be regarded as significant. Significant correlations arising from time-related variables (eg. duration of homelessness and duration of injecting) were generally excluded because of the confounding effects of age.

For the sake of brevity and clarity, the focus is on the statistical significance of effects, rather than on 'importance' (magnitude) or 'confidence'. That is, effect sizes are not reported here, and estimation of confidence intervals is restricted to some key variables (notably prevalence of drug injecting). Four groups of statistical tests were utilised to assess the significance of differences between conditions, or relationships between key variables. Differences between conditions in frequency data (numbers/percentages giving each response) were analysed with the chi-square test (symbolised by  $\chi^2$ ), adjusted by Yate's Correction or Fisher's Exact Test, if required. Differences in interval-level data (scores) which met parametric assumptions were analysed with t-tests ( $t$ ) and ANOVAs ( $F$ ). Differences in interval-level data which violated parametric assumptions (eg. normal distribution, homogeneity of variance) were analysed mainly with the Kruskal-Wallis non-parametric test ( $H$ ). And, as planned, some relationships between key variables were analysed with the Pearson correlation test ( $r$ ). When parametric assumptions were violated

- including a linear relationship between variables, a sample size of 30+, homoscedasticity, and/or a fair 'range of talent' - the Spearman correlation test ( $r_s$ ) was applied instead. All statistical tests were run on SPSS12. Test statistics (observed value, probability level, etc.) are presented for each significant finding, but not for non-significant results.

### 3. FINDINGS

The findings are organised according to two main sections, each with sub-sections. The first section presents the descriptive statistics – mainly percentages, means, standard deviations (SDs), ranges, and other summary statistics as applicable - for each question and response format. Findings are organised according to the main sections of the questionnaire (with slightly different ordering): demographics, crime, health and health services, sexual behaviour, needle exchange, general drug use, and injecting drug use. The second section presents an inferential statistical analysis of two salient variables within the survey, notably the effects of accommodation status (comparison of housed with homeless IDUs), and the effects of multi-drug injecting status (comparison of speedballers heroin-only injectors).

#### 3.1 Main Findings

##### 3.1.1 Demographics

Of 100 respondents who completed the survey questionnaire, 90% did so by self-report, and 10% were interviewed. The mean age of respondents was 35 years (SD 6), with a range of 20-60 years, and a peak age-range of 31-36 years. Female clients had a mean age of 36 years, compared with 35 years for males. By 5-year age-bands, 3% of respondents were aged 20-24, 12% were 25-29, 35% were 30-34, 30% were 35-39, 12% were 40-44, 5% were 45-49, 1% were 50-54, and 1% were 55-60. Sex, race and area of residence were each dominated by one group: 89% of respondents were male (11% female); 91% were White (3% Asian, 3% Mixed-race, and 3% not stated); and 88% were based in Manchester - with the other areas being Salford (6%), Stockport (2%), Tameside (1%), and Rochdale (1%).

These key demographic statistics of respondents can be compared with those of all clients attending Manchester Needle Exchange (n = 854) during the study period (see Appendix C), in order to check the representativeness of the sample in relation to the source population – and hence assess the generalizability of survey findings. The Needle Exchange was attended by 854 clients during the first quarter of 2006 (Table C1), of which 12% (100) were sampled by the survey - about one in eight. Overall, 26% of all clients attending the NES in the first quarter of 2006 were new clients, compared with 2% of the survey respondents (see 3.1.5). This under-representation of new clients is likely to have arisen

from NES staff's tendency not to ask new clients to participate in the survey, based on the policy that requesting too much information on their first visit may deter them from returning. The demographic characteristics of clients were fairly similar to those in previous quarter-years going back to 2000 (Tables C3 and C4). The male-female ratio was very similar – 89:11 in the survey sample, compared with 87:13 among all Needle Exchange clients - though quota-sampling was employed toward the end of the survey to approximate representativeness on the gender variable. Similarly, 91% of survey respondents were White, compared with 95% of all recent Needle Exchange clients – though none of the sample were Black, compared with 3% of all recent clients. The sample also included 3% Asian and 3% Mixed-Race respondents, compared with 1% each among all Needle Exchange clients. Compared with the sample, the source population has almost twice the proportion of clients in their 20s, while the sample had somewhat more individuals in their 30s. Lastly, area of residence of all Needle Exchange clients was reported as 79% Manchester, 8% Salford, and 13% other areas – which compares with 88%, 6% and 6%, respectively, among survey respondents. In summary, the sample was broadly representative of the source population, though new clients and younger clients (under 30 years) were under-represented in the survey - as were, to a lesser extent, clients who lived outside of Manchester and Salford; Black clients; and possibly clients with their own homes (see below). It should also be reiterated that steroid injectors were excluded from the study.

Table 1: The proportion of survey respondents (sample) and all Needle Exchange clients in seven age-bands, during first quarter of 2006

	%	15-19	20-24	25-29	30-34	35-39	40-44	45+
Survey sample (n = 100)	0	3	12	35	30	12	7	
All NES clients (n = 854)	1	10	17	29	24	12	8	

Just over half (52%) of respondents stated that they had children aged under 18 years – a mean 1.8 children per parent. – though only 6% of these (three respondents) stated that their children lived with them. Almost three-quarters indicated that they had no academic qualifications, while 28% reported that they were qualified - notably GCSE/O-Levels (15%), but also A-Levels (6%), CSEs (5%) and degrees (2%). Regarding occupational status and related state

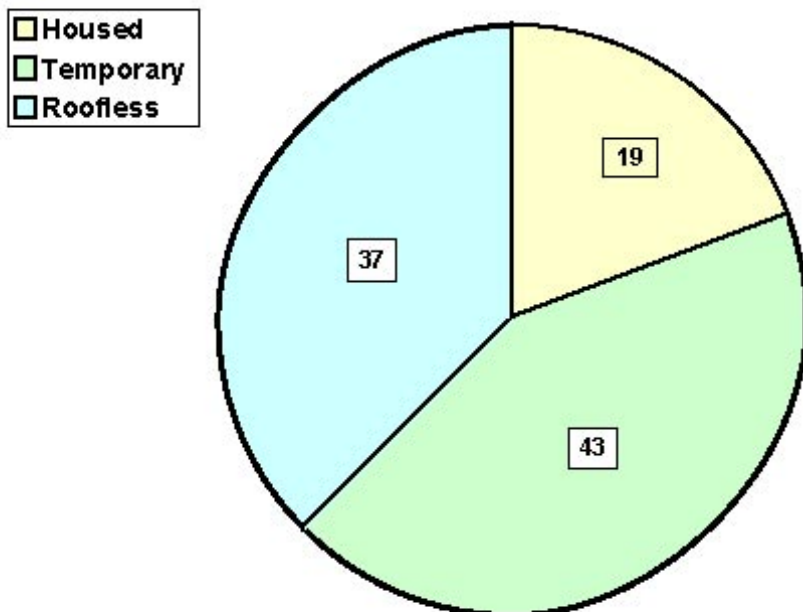
benefits, 67% indicated unemployment (jobseekers allowance), and 30% indicated long-term illness – including incapacity benefit (29%) and disability living allowance (1%). Only one respondent (a woman) reported employment.

Accommodation status, based on three main groups, is a major independent variable used in the later statistical analysis of findings. Overall, 19% reported living in their own home, and 80% reported being homeless – including 43% living in temporary or insecure accommodation, and 37% who were roofless, i.e. rough sleepers (Chart 2). This is slightly higher than the NES manager’s pre-survey guesstimate of the level of homelessness among all NES client: between a third and two-thirds (depending on definitions). Using interval estimation techniques, it was calculated, with 95% confidence, that the rate of homelessness among all needle exchange clients was between 72% and 88%, while the rate of rooflessness was between 27% and 47%. Thus, applying these confidence intervals to the 854 clients who attended the scheme in the first quarter of 2006, it can be estimated that between 615 and 752 were homeless, and that between 230 and 401 were roofless.

Temporary homeless respondents included those living in hostels (13% of sample), other people’s

homes (12%), bed & breakfast hotels (10%), and women’s refuges (1%), as well as squatters (5%). One respondent did not indicate their accommodation status. Of 18 respondents living in their own homes who gave further information, almost two-thirds lived in a flat, about one in five in a house, and one in five in a bedsit; while almost three-quarters were in council or housing authority property, and almost a quarter were renting privately - just one respondent had their own mortgaged property. Respondents in their own homes reported a mean 1.2 adult co-residents (range 0-7), and zero child co-residents. Partly because of confusion over the definition, only 53 of the 80 homeless respondents reported the duration of their homelessness: 44 months (SD 47), with a range of one month to 18 years. Within this group, 32 roofless respondents reported rough sleeping for a mean 29 months (SD 43, median 12 months), with a range of one month to 16 years. Asked about the main causes of their homelessness, 50 respondents indicated one or more factors, including drug use (36%), divorce or relationship breakdown (28%), imprisonment (18%), family/parental problems (12%), eviction (6%), and losing job (6%). Asked about the impact of homelessness on their drug problems, 59% stated that it made them worse, 26% indicated that their drug problems were about the same, and 15% indicated that they had improved.

**Chart 2: The proportion of housed, temporary-homeless and roofless respondents**



### 3.1.2 Crime

Information about number of criminal convictions was reported by 88 respondents (a further seven indicated 'several'). The mean number of convictions was 36 (SD 37) – or 39 among those with at least one conviction (82 respondents), with a range of one to 163. In addition, the typical respondent had a mean of one drug conviction. But of the 27 respondents who reported one or more drug convictions, the mean number was 3.3, with a range of one to eight (excluding one respondent with 30 drug convictions). Imprisonment was reported by 88% of respondents, among whom the mean number of prison sentences was about 11 (SD 11), with a range of one to 70. The mean duration of imprisonment was 86 months (SD 70), with a range of less than one month to 300 months (25 years). Asked about their last prison sentence, 37% indicated that it ended in 2005, 12% in 2006, 15% in 2003/2004, 20% between 2000 and 2002, 10% in the 1990s, and 5% in the 1980s. The mean duration of their last sentence was 12 months (SD 16), with a range of one to 78 months. The offence for which they were last imprisoned included theft (34%), shoplifting (15%), burglary (11%), robbery (11%), drug trafficking (10%), motoring offences (5%), assault/GBH (6%), drug possession (5%), car theft (3%), manslaughter (2%), non-payment of fines (2%) and begging (2%).

### 3.1.3 Health & health services

Almost half of the sample (49%) reported long-term health problems - notably hepatitis-C (22%), but also DVT (8%), asthma (7%), depression/mood disorder (5%), arthritis (4%), and learning disorders (4%). One respondent each reported HIV, hepatitis-B, deafness, partial sight, back problems, heart problems, Gulf War syndrome, and epilepsy. Almost a quarter (23%) reported present physical health problems - including flesh wounds, i.e. abscesses, ulcers and sores (9%), circulatory/blood problems (6%), respiratory/lung disorders (6%), broken bones (3%), hepatitis-C (3%), skin problems (2%), digestive problems (1%), heart problems (1%), and TB (1%). Regarding self-reported body weight, six in ten respondents saw themselves as underweight, including 18% very underweight, and 42% quite underweight. Another third perceived their body weight as normal (33%), while just 6% viewed themselves as quite overweight, and none as very overweight. Respondents were also asked how many meals they had on an average day in the past four weeks, and the mean number was 1.4 (SD 0.8). The modal number of daily meals was one (47%),

followed by two (33%), zero (12%), three (7%) and four (1%).

Mental health problems were reported by 27% - notably depression (19%), but also schizophrenia (6%), bipolar disorder (4%), self-harming (2%), anxiety (1%), and Gulf War syndrome (1%). Overall, 33% reported having received treatment for mental health problems, including 12% at present and 21% in the past. However, examination of response patterns suggested that most respondents who indicated 'in past' meant 'present' treatment which started in the past. For instance, the number being prescribed drugs to treat mental disorder was higher than the number of those stating that they were presently receiving treatment for it. That is, 21% reported being prescribed drugs to treat mental disorder - including anti-psychotics (7%), SSRIs (5%), tri-cyclic anti-depressants (3%), unspecified anti-depressants (2%), and benzodiazepines/sleeping pills (3%). Asked to rate their level of happiness over the past four weeks on a 5-point rating scale, respondents' mean response was 2.9 (SD 1.1), which is equivalent to the scale mid-point of neither happy or unhappy. This mean was based on 12% who were very unhappy, 30% quite unhappy, 22% neither, 33% quite happy, and just 3% very happy.

Overall, 83% of respondents reported being registered with a GP - 54% had seen their GP in the last month, 22% in the past two to 12 months, and 3% over a year ago (4% could not recall their last contact). The flipside of this statistic is that one in six (17%) were not presently registered with a GP. Of 93 respondents who replied to the question asking if they had received free food from any agencies during the past month, 56% stated that they had not, and 44% that they had - 28% on some days, and 16% on most days.

Over three-quarters of respondents (78%) reported having received treatment for drug problems. Among these, the mean number of treatment episodes was 3.3 (SD 3.6), with a range of 1 to 20. Present drug treatment was reported by just over half (54%) - including 14% from GPs, and 40% from drug clinics (DDUs/CDTs). Drug treatment agencies mentioned by name included the Bridge (4%), Salford CDT (3%), DASH (3%), and MDS (2%). Of those in present drug treatment, 78% indicated that it was voluntary, and 22% compulsory, i.e. DTTO/DIP. The mean duration of their present treatment episode was 32 months (SD 48), with a range of one month to 17 years (though the median duration was just 12 months). All 54 present treatment clients were being prescribed

drugs – notably oral methadone (51%), but also tranquillisers (2%) and Subutex (1%). No respondents were being prescribed injectable methadone, other opiates or stimulants. The mean daily dose of oral methadone was 60 mg (SD 20, range 30-120 mg) - though both the mode and median were 50 mg. Treatment regime was reported to be maintenance by 70%, reduction by 6%, and detoxification by 4% - though 20% stated that they did not know which regime they were receiving. Respondents were asked to rate their satisfaction with present drug treatment on a 5-point scale, and the mean rating was 3.8 (SD 1.3) - equivalent to quite satisfied. This mean was based on 9% who indicated that they were very unsatisfied, 11% quite unsatisfied, 7% neither satisfied or unsatisfied, 42% quite satisfied, and 31% very satisfied. Of the 54 treatment clients, 18 (33%) also reported having had treatment for mental disorders – indicating that 18% of the sample were classifiable as cases of 'dual diagnosis'.

Lastly, respondents were also asked if they had received any help for drug problems over the past-month from agencies or professionals other than the needle exchange and drug treatment services, and 16% indicated that they had – including the Bridge (4%), Stockport CDT (2%), probation officers (2%), Salford CDT (1%), MDS (1%), Rochdale CDT (1%), hostel care-worker (1%), prison officer (1%), and social worker (1%).

### 3.1.4 Sexual behaviour

The lifetime number of sexual partners was reported by 71 respondents: a mean of 26 (SD 68), with a range of zero to 500, though 69% fell within the peak range of five to 20. Indeed, the mode was 10 (and the median was 20), reflecting the distortion of the mean by a small number of respondents (three) who reported between 100 and 500 sexual partners. All but two respondents answered the question about having a regular sexual partner, and 30% indicated that they had. Of these, about two-thirds (19% of sample) lived with their partner, about a third (12%) had an injecting partner, and nine in ten (27%) reported having had sex with their partner in the past month. Of the latter, 70% reported never using condoms, 7% sometimes, 7% usually and 15% always. Respondents were also asked if they had had sex with anyone other than a regular partner in the past month (casual sex), and 9% indicated that they had – with a mean of 2.1 people (SD 1.4), based on a range of one to four. Of these, 44% reported never using condoms, 11% sometimes, 11% usually, and 33% always. Also, 5% of respondents indicated that

they had ever sold sex – 1% in the past month, 2% in the past year, and 2% over a year ago. Of the 30 respondents with regular partners, two (7%) stated that their partner had sold sex – one in the past month, and one over a year ago.

The lifetime prevalence of sexually transmitted infections (STIs) was 7% (all over a year ago) - including gonorrhoea (4%), genital warts (2%), syphilis (1%), and herpes (1%). Lastly, 45% of respondents indicated that they knew people who were HIV-positive - the mean number of HIV-positive acquaintances was 2.6 (SD 1.6), with a range one to seven, and a peak range of one to two (58%). Of these 45 respondents, almost two-thirds (29% of sample) indicated that they knew HIV-positive injecting drug users – a mean of 2.2 (SD 1.8), with a range of one to seven, and a peak range of one to two (64%).

### 3.1.5 Needle exchange

The mean duration of attendance at the Needle Exchange Scheme was 51 months (SD 41), with a range of one month to 15 years (the agency started in 1987, and opened at this site in 1990). However, the mean was distorted by five individuals who had been attending longer than ten years – indeed, both the modal and median attendance figures were 36 months, and so it is likely that three years (rather than just over four years) is more representative of respondents' average duration of attendance. Overall, 18% had been attending for between two months and a year, 57% had been attending for between two and five years, 19% had been attending for between six and ten years, and 4% had been attending for between 11 and 15 years. Only two respondents had been attending for a month or less – indicating that just 2% of respondents were new clients, compared with 26% of all clients attending the NES in the first quarter of 2006. Since the formal sampling procedure for the study was not intended to exclude new clients (as detailed in the instructions to NES staff), this low proportion is likely to have arisen from unilateral decisions by NES staff not to deter new clients by bothering them with survey questionnaires on their first day of attendance.

The modal frequency of attendance over the past month was weekly (44%), followed by daily (30%) and monthly, i.e. one to three times a month (19%) – with 7% stating that it was their first visit for over a month. Weekly attenders were comprised of two groups: those who attended one to three days each week (29%), and those who attended four to six days



each week (15%). Similarly, daily attenders were comprised of those who attended once a day (18%) and those who attended twice or more each day (12%). These figures are consistent with the number of days covered by a typical equipment pick-up: a mean of about five days (SD 6), with a range of one to 28 days – though the median and mode were both two days. Indeed, closer examination of the data show that there were two clear groups: almost half said a typical equipment pick-up lasted one or two days, and about a sixth stated one week. How does this compare with the average frequency of attendance of all clients of the Needle Exchange in the first quarter of 2006? This can be estimated by dividing the number of visits (4,769) by the number of clients (854), namely, a mean 5.6 visits over three months, which is one visit every 16 days - or nearly two visits per month. Thus, it appears that survey respondents were more frequent attenders than NES clients overall. This sample profile probably emerged largely because, in a survey carried out mainly over a two-week period, frequent attenders were more likely to be seen (and surveyed) than less frequent attenders

The mean number of services used by respondents was 2.7 – about a quarter of the 11 available. However, it should be clear that respondents who indicated 'never' for a particular service were referring to the Lifeline NES only, and they may have received that service (eg. BBI vaccination or testing) from another agency. Over their full duration of attendance, 38% of respondents had used just one service (invariably needle exchange), 26% had used two services, 9% had used three services, 4% had used four services, 11% had used five services, and 10% had used between six and nine services. Excluding needle exchange, which had been used by all respondents, 60% had used other services at the agency, notably advice/information (32%), HBV testing (22%), health check-ups (21%), referrals (18%), HCV testing (17%), wound care (16%), HBV vaccination (13%), HIV testing (10%), HAV vaccination (9%), and home detoxification (4%). Table 2 shows the proportion of respondents utilising different services in the past month and prior to the past month. The most popular service over the previous month was needle exchange (93%), followed by health check-ups (14%), advice/information (22%), and referrals (10%). It should be taken into account that some services are not required as frequently as others.

The mean number of products utilised by respondents was 5.6 – just over half of the ten products available. Over their full duration of attendance, 4 % of respondents had never picked up any products other than injecting equipment, 4% had picked up one or two products, 11% had picked up three or four products, 31% had picked up five or six products, 33% had picked up seven or eight products, and 15% had picked up nine or ten products. The main products which had been utilised by a majority of respondents were filters (92%), swabs (90%), citric acid powder (89%), water ampoules (81%), and sterile cups (75%) – with just over half picking up sharps boxes (57%) and needle clippers (55%). Three products had been utilised by just a minority of respondents, namely tourniquets (30%), vitamin-C powder (26%), and condoms (26%). As with services, it should be taken into account that some products are not required as frequently as others, and so rank order should not be interpreted as a direct indicator of the popularity or necessity of a product.

Table 2: Lifetime and past-month use of Needle Exchange services

%	Prior		
	Never	4 weeks	In last 4 weeks
Needle exchange	0	7	93
Advice & Info	68	10	22
HBV test	78	11	11
Health check-ups	79	7	14
Referrals	82	8	10
HCV test	83	9	8
Wound-care	84	7	9
HBV vaccination	87	8	5
HIV test	90	5	5
HAV vaccination	91	4	5
Home detox	96	4	0

Table 3 shows the proportion of respondents who sometimes, usually or always picked up each product, with the final column presenting the figures for 'regular' utilisation of each product (usually and always combined). The rank-orders of products by regular use were very similar to the overall rankings, with figures typically being about 10-15% lower. Two respondents also mentioned 'lollipops', which are given to clients who regularly return used equipment.

Table 3: Past-month frequency of product utilisation at Needle Exchange Scheme

	%	Never	Some	Usually	Always	Regular
Filters	8	9	14	69	83	
Swabs	10	9	14	67	81	
Citric acid	11	11	13	65	78	
Water amps	19	11	10	60	70	
Sterile cup	25	12	8	55	63	
Sharps box	43	15	12	30	42	
Needle clippers	45	20	7	28	35	
Vitamin C	74	9	3	14	17	
Tourniquet	70	14	4	12	16	
Condoms	74	12	1	13	14	

Respondents were then asked how many syringe barrels and needles they had picked up on a typical visit during the past four weeks. Unfortunately, instead of giving a number, some respondents ticked the needles/barrels they typically picked up, though they numbered less than ten for most types of equipment (30 for the 1-ml syringe). Table 4 shows that the mean number of complete syringes (based on a combined count of needles and 1-ml syringes) picked up by the average client was about 30, including about 25 1-ml (diabetic) syringes. Indeed, the most popular injecting equipment was the 1-ml syringe (picked up by 86%), followed by the 1-inch orange needle (18%), the one-inch blue needle (15%), the 2-ml barrel (11%), and the 5/8-inch needle (9%). The five other items were each used by fewer than 4% of respondents. Among those respondents who picked up 1-ml syringes, the mean number picked up per visit was about 31.

Similarly, among those respondents who picked up the other most commonly used equipment items, the mean number picked up per visit was about 14 for orange needles, 12 for blue needles, 14 for 2-ml barrels, and 18 for 5/8-inch needles. The median and mode for the six most popular items were 10 in all cases except the 1-ml syringe, which had a median of 20. In summary, on a typical visit, the average respondent picked up either around 30 1-ml syringes, or combinations of 5/8-inch or 1-inch needles with 2-ml barrels, in sets of 10 to 20.

Respondents were also asked to estimate their recent equipment return rate – that is, the percentage of injecting equipment they had taken over the previous month which they had brought back to the Needle Exchange Scheme. Among 93 who replied, the mean estimate was 60% (SD 40, range 0-100%) – though the median was 70%, and the mode was 100%. Indeed, 33% reported a typical 100% return rate, while, at the other extreme, 13% reported a zero return rate, and 14% reported returning less than 10% of their equipment. According to the quarterly reports of the Needle Exchange Scheme, the mean equipment return rate for all clients in the first quarter of 2006 was 76%. This is broadly consistent with the averages reported in the survey sample, particularly the median.

The main reasons for not returning loaned equipment (by 50 of the 62 respondents who returned less than 100%) were: disposing of it in sharps bins in hostels or friends' places (35% of sample); keeping it in sharps boxes at home, which are not returned until full (19%), giving

Table 4: Equipment pick-up on typical past-month visit to Needle Exchange Scheme

	All NES clients Mean (SD)	Clients who used this equipment N	Mean (SD)
<u>1 ml syringe</u>	<u>25.4 (38.7)</u>	<u>86 [56]</u>	<u>31.3 (40.8)</u>
2 ml barrel	0.8 (3.7)	11 [5]	14.0 (8.9)
5 ml barrel	0.2 (2.0)	1 [1]	20.0
<u>10 ml barrel</u>	<u>0.1 (1.0)</u>	<u>2 [1]</u>	<u>10.0</u>
1/2-inch needle	0.2 (2.0)	4 [1]	20.0
5/8-inch needle	0.8 (4.0)	9 [4]	18.0 (9.1)
1-inch needle(o)	1.5 (5.3)	18 [10]	13.7 (9.7)
1-inch needle(b)	0.8 (3.1)	15 [6]	11.7 (4.1)
1 1/4-inch needle	1.5 (6.2)	15 [8]	16.9 (14.4)
<u>1 1/2-inch needle</u>	<u>0.0 (0.3)</u>	<u>3 [1]</u>	<u>3.0</u>
Total barrels	1.3 (4.9)		
<u>Total needles</u>	<u>7.0 (12.8)</u>		
<u>Total syringes~</u>	<u>29.7 (36.9)</u>		

[ ] equipment users who stated the typical number picked up  
~ based on combined numbers for needles and 1-ml syringes

the equipment to others to use (15%), being lazy or irresponsible (15%), accidentally leaving it in someone's place (8%), disposing of it at other needle-exchange agencies (6%), and having it confiscated by the police (2%). Respondents were also asked where they had recently disposed of unreturned equipment, and the main places listed were: sharps-bins at hostels or friends' places (35%); inside cans/bottles in garbage bins at home (17%), other needle exchange agencies (15%), other people's places (10%), and down grids or in bins in public places (8%). Other sources of clean injecting equipment over the past month were reported by 38% - including friends (3%), pharmacies (12%), and other needle exchanges (20%) – notably STASH (6%), DASH (5%), and MDS (3%).

Overall, 43% of respondents admitted exchanging equipment for other people in the past month, though this figure was comprised of 32% who did so only sometimes, 7% usually and 4% always. In short, only around one in ten regularly exchanged equipment for other IDUs. Focusing on the 43 respondents who exchanged equipment for others at least once in the past month, 41% did so to help friends who were too busy or unable to attend the NES, 24% did so to ensure that used works get returned which would otherwise be left lying around, 24% did so for lazy friends or people who hassled them, 7% did so for friends who shared the same sharps-box, and 7% did so because 'their friends were getting the drugs'.

The survey also included a small number of 'market research' questions about the needle exchange services. Respondents were first asked to rate their satisfaction with the services at the agency on a 5-point scale. The mean rating was 4.7 (SD 0.8), which is equivalent to very satisfied. This figure was based on 80% who indicated that they very satisfied, 16% quite satisfied, 1% neither, and 3% very unsatisfied. The latter three ratings are regarded as suspect (i.e. mistaken), because they were inconsistent with the other responses made by these respondents about the needle exchange, which were invariably positive. Asked about the things they liked most about the agency, the two most common responses were helpful staff (36%) and friendly staff (33%). Other responses included non-judgmental staff (14%), good advice (14%), range of equipment available (8%), confidentiality (7%), fast/efficient service (6%), accessible location (6%), flexible opening hours (5%), and the building being warmer than outside (2%). Respondents were also asked if they disliked anything about the

agency, and just 6% replied that they did. The only common complaint concerned the lack of a toilet facility (3%), with one respondent each mentioning staff sometimes being unavailable or busy, lack of self-service, lack of privacy, and sometimes being given the wrong equipment. Lastly, 80% believed that no improvements could be made to the agency, though 20% made one or more suggestions, notably two: opening on Sundays (3%), and providing an injecting room (2%). One respondent each mentioned providing: a sleeping room, a private room for getting works, more rooms generally, a toilet, more staff, an outreach service, a counselling service, help getting scripts, a better supplies of water amps, more swabs, self-service, a comments box, coffee-mornings for user meetings, a 24-hour helpline, and more time for advice.

### 3.1.6 General drug use

Compared with use of legal drugs by the general population, needle exchange clients were much more likely to smoke tobacco, but much less likely to drink alcohol. Overall, 92% of respondents reported tobacco smoking – 81% every day, and 11% on a weekly basis. By contrast, just 55% reported alcohol use – 14% every day, 20% weekly, and 21% monthly (less than once a week) – meaning that 45% were non-drinkers. The mean amount consumed on the last drinking occasion was reported to be 15 standard units of alcohol (SD 14), with a range of one to 60 units. Of these, 62% stated that this was about the same amount as they usually consumed, 26% indicated more than usual, and 13% indicated less than usual.

Before assessing injecting drug use, respondents were first asked some questions about drug use in general – including their rates of non-injecting drug use, i.e. swallowing, sniffing and/or inhaling of drugs. Table 5 gives the percentage of respondents reporting each frequency of use for the ten main drugs/drug groups, and the final two columns extrapolate the past-week and past-month prevalence levels from the frequency figures. Unfortunately, there is evidence that some respondents may have misinterpreted this question as covering all methods of drug use (including injecting), though there is no way of quantifying this likely error. Also, though the drug use covered by Table 5 is generally illicit, two types – methadone and tranquilliser use – may also incorporate prescribed drug use, though the figures in Section 3.1.3 suggest that methadone use was the only type in which a majority of users were prescribed the drug.

Table 5 shows that most respondents reported four types of past-month non-injecting drug use – smoking crack (67%), smoking cannabis (65%), swallowing methadone (59%) and/or smoking heroin (55%) - with a substantial minority mentioning oral tranquilliser use (27%), and/or cocaine sniffing (20%). Past-week non-injecting drug use was reported by a majority for two types only – crack smoking (53%) and/or oral methadone use (51%) – with three other types being mentioned by a substantial minority: heroin smoking (44%), cannabis smoking (39%), and/or oral tranquilliser use (19%). Table 5 also shows that the most common types of daily non-injecting drug use involved oral methadone use (43%), crack smoking (26%) and/or heroin smoking (26%).

The mean age of first use of illegal drugs, based on responses from 89 clients, was about 16 years (SD 6), with a range of eight to 39 years, and a peak age-range of 14 to 16 years (encompassing 45% of respondents). Overall, 54% reported using cannabis first (at a mean age of 14 years), 22% reported using heroin first (mean age 21 years), 11% reported using amphetamines first (mean age 17 years), and 4% reported using tranquillisers first (mean age 13 years). Just 2% each reported using ecstasy, magic mushrooms, LSD or solvents as their first drug; and no-one reported using cocaine, crack, methadone or other drugs as their first drug. The mean duration of drug use was 19 years (SD 7), with a range of one to 38 years, and a peak range of 14 to 24 years (62%).

Table 5: Frequency/prevalence of past-month non-injecting drug use (oral/sniffing/smoking)

%	Frequency of non-injecting drug use					Prevalence levels	
	Never	LT once a week	1-3 days a week	Most days	Every day	PAST WEEK	PAST MONTH
Crack	33	14	14	13	26	53	67
Cannabis	35	26	20	10	9	39	65
Methadone	41	8	4	4	43	51	59
Heroin	45	11	7	11	26	44	55
Tranquillisers	73	8	10	6	3	19	27
Cocaine	80	12	6	1	1	8	20
Amphetamine	88	9	1	1	1	3	12
Ecstasy	90	9	1	0	0	1	10
Steroids	99	0	1	0	0	1	1
Other drugs	100	0	0	0	0	0	0

Past week prevalence = 1-3 days a week, most days or every day

Past month prevalence = less than once a week, 1-3 days a week, most days or every day

Table 6: Average weekly spending (£) on drugs in past month (n = 97)

	All clients Mean (SD)	Clients who spent money on this drug (£)				
		%	Mean (SD)	Mode	Median	Range
Heroin	213 (240)	92	224 (241)	300	180	10 -2000
Crack	198 (273)	77	249 (285)	100	150	15 -2000
Cocaine	15 (67)	6	237 (150)	na	180	20 - 420
Cannabis	8 (18)	34	24 (23)	10	20	5 - 100
Amphetamines	5 (32)	6	83 (111)	na	25	10- 300
Methadone	1 (4)	2	25 (7)	na	na	20 - 30
Tranquillisers	1 (3)	5	13 (4)	10	10	10 - 20
TOTAL	440 (497) [median 350]					

Table 6 shows the average weekly spending on drugs over the four weeks prior to the survey (all figures are rounded to the nearest whole pound). Respondents spent a mean £440 per week on illicit drugs (median £350) – including £213 on heroin and £198 on crack. It was also found that the proportion of respondents who had purchased each drug in the past month was 92% for heroin, 77% for crack, and 34% for cannabis – with fewer than 6% purchasing any other drug. Average weekly spending on drugs by those who purchased them was £224 for heroin, £249 for crack, and £237 for cocaine – with cannabis purchasers spending about £24 a week on cannabis, and amphetamine users spending about £83 a week on amphetamine.

Respondents were also asked about their main sources of money for buying drugs in the past month. The mean number of sources for funding drug use was 2.4, with a range of one to seven. Overall, 84% funded their drug use from between one and three sources: 30% mentioned one source, 32% mentioned two sources, and 22% mentioned three sources. The three most common sources were state benefits (71%), shoplifting (44%), and begging (39%) – though other sources included borrowing (15%), selling the Big Issue (14%), other theft (11%), partners/relatives (11%), fraud/deception (9%), drug dealing (6%), burglary (5%), robbery/mugging (4%), work wages (3%), and selling sex (3%).

The survey included just one drug attitude question: Do you believe that the possession of any drugs should be decriminalised (made legal)? Almost half (47%) responded 'yes', and about a third (32%) responded 'no', with the remaining 21% indicating 'don't know'. Overall, decriminalisation was supported by 45% in the case of cannabis, 14% for heroin, 11% for all drugs, 5% for cocaine, and 2% for amphetamine. The main reasons given for decriminalising drugs were: cannabis is relatively harmless compared to other drugs (11%); it would stop/reduce crime among drug addicts (6%); human rights/civil liberties (4%); legalising cannabis would prevent people from using hard drugs (2%); and, it would make drugs would be easier to control (2%).

### 3.1.7 Injecting drug use

Findings on injecting drug use were numerous, and will be organised into three main sub-sections: causes, behaviour and consequences

### 3.1.7.1 Causes of injecting

#### Reasons

Respondents were asked to give the main reasons for why they started to inject drugs, and the vast majority gave either one or two reasons. The main reason, given by over a third (37%), was peer influence, eg. 'all my friends were injecting', 'some mates got into it'. The next three most common reasons were coping with negative/disturbed mental states such as depression, anxiety, etc. (14%), bereavement (10%), and because injecting provides a better hit than smoking, i.e. a rush (9%). A small number of respondents each mentioned a variety of other reasons for starting to inject: family problems (5), curiosity (5), longer/cheaper hit than smoking (4), divorce/relationship break-up (4), pleasure/fun (3), bad upbringing/in care (2), boredom (2), imprisonment (1), homelessness (1), reducing pain from accident (1), because their partner was injecting (1), and 'ran out of foil' to smoke heroin (1).

Respondents were also asked to give the main reasons for why they injected at present, and the typical response was again based on one or two reasons. One type of explanation dominated all others: dependence (41%) - including habit, addiction, craving, avoiding withdrawals, being hooked, and 'needle fetish'. The next four most common reasons were that injecting was better/cheaper than smoking (14%), boredom (9%), pleasure/intoxication (6%), and homelessness (6%) - including making sleeping rough more tolerable, and it being easier to inject than smoke drugs in public places (6%). Other reasons for continuing to inject given by smaller numbers of respondents included: coping with negative/disturbed mental states (4), reducing physical pain (2), irresponsibility arising from mental illness (2), peer influence (2), bereavement (1), and divorce/relationship break-up (1).

#### Friends

Asked how many friends injected drugs at present, 16 respondents gave no reply, 12 indicated 'many/most', and 27 indicated 'all' – leaving 45 who gave a specific number. The mean number of injecting friends was eight (SD 9), with a range of zero to 40, and a peak range of zero to nine (73%). However, the mean was inflated by half a dozen respondents who reported 20 to 40 injecting friends, as evidenced by the mode (two) and the median (5). Respondents were also asked what proportion of friends injected drugs at present, and all but two replied. The most frequent responses began with 'all' and dropped fairly

steadily to 'none', that is: all (50%), three-quarters (18%), half (13%), quarter (9%), 10% or fewer (3%), and none (5%) – with 2% responding that they had no friends. In short, about two-thirds reported that most or all of their friends injected drugs – which, for the average respondent, meant having around five (two to eight) injecting associates.

### 3.1.7.2 Injecting behaviour

Findings about injecting behaviour will be organised according to the seven components of drug consumption: access, product, pattern, amount, method, mixture, and context (see Newcombe 1992, 2005a, 2007b). Access to injectable drugs such as heroin and crack was covered in the previous section (i.e. drug spending and funding).

#### Drug products injected

The past-month and past-week prevalence rates for drug injecting by type of drug are presented in Table 7. All respondents had injected in the past month, and 93% in the past week. Two drugs were clearly the most popular: heroin injecting was reported by 95% in the past month and 90% in the past week; while crack injecting was reported by 84% in the past month and 79% in the past week. In addition, two stimulant drugs were each reported to be injected by a small minority - cocaine (10%, 8%) and amphetamine (5%, 4%) – while one respondent reported injecting ecstasy. No respondents reported recent injecting of tranquillisers, steroids or other drugs.

Confidence intervals were calculated for the two main drugs injected, namely heroin and crack. It was estimated, with 95% confidence, that the rate of heroin injecting among all needle exchange clients was between 91% and 99%, while the rate of crack injecting among all clients was between 77% and 92%. Also, of the 16 respondents who had not injected crack in the past month, over half (nine) reported smoking crack – taking the overall past-month rate of crack use to 93%. But just one of the five respondents who had not injected heroin reported smoking heroin in the past month – taking the overall past-month rate of heroin use to 96%.

Asked about the standard price of deals of heroin they injected, most respondents stated that they purchased £10 bags (83%), with about 5% each indicating three other types: £20 bags, £15 bags or £5 bags. Asked about the standard price of crack deals which they injected, most respondents stated that they purchased £10 bags (76%), though a

substantial minority (23%) indicated £20 bags. No evidence about the local purity/adulteration of these drugs was available – though the range of mean quarterly purities in 2003, based on police seizures in England & Wales, were 28% to 42% for heroin, and 66% to 72% for crack (Home Office 2004). However, at 'street level' in the North West, the average purity of 'bags' at this time was probably nearer 25% for heroin and 50% for crack

#### Patterns

This consumption variable covers age of first injection, duration of injecting, and frequency of injecting (past-month and daily). The mean age at which respondents first injected drugs was 21 years (SD 6), with a full range of 10 to 39 years, and a peak range of 15 to 21 years (58%). Though almost nine in ten were aged under 30 years when they started injecting, it should be noted that 13% – one in seven – were in their 30s when they started injecting. This significant group of respondents who started injecting late in their lives raises the mean age away from the modal average: 17 years. All but two respondents stated that they first injected one of two drugs: heroin (56%) or amphetamines (41%). One respondent indicated cocaine, and one indicated methadone. The mean age at which those who injected heroin first did so was 23 years (SD 6, range 11-39), while the mean age at which those who injected amphetamine first did so was 19 years (SD 5, range 10-31).

The duration of drug injecting was calculated by subtracting the age of first injection from the respondent's age (and by assuming that injecting careers are typically continuous episodes). The mean duration of injecting was 14 years (SD 7), with a range of one to 38 years, and a peak range of 11 to 22 years (60%). The timeline for respondents' initiation into injecting was calculated by subtracting the duration of injecting from the present year (2006). All but three respondents (1968, 1969 and 1974) started injecting after 1980 – 26% started injecting in the 1980s, 53% in the 1990s, and 17% in the 2000s (to 2006). The median year of first injection was 1993, while the two modal years were 1992 and 1994 (see Chart 3).

The frequency of injecting was measured in two ways: the number of injecting days in the past month (all respondents); and the number of injections in an average day (24-hour period) in the past month (daily injectors only). Figures for past-month frequency of injecting are shown in Table 7. Overall, 63% were daily injectors, 12% injected most days of the week (near-daily injectors), 18% injected some days of the week,

and just 7% injected less than once a week. Three-quarters were regular (daily or near-daily) injectors – including 72% who were regular injectors of heroin, and 64% who were regular injectors of crack. Fewer than one in ten regularly injected other drugs - either cocaine (6%) or amphetamines (3%). One respondent reported injecting ecstasy (less than once a week). The proportions who injected various combinations of drugs are examined below (see: Mixtures). Confidence intervals were calculated for daily injecting of the two main drugs, heroin and crack. It was estimated, with 95% confidence, that the rate of daily heroin injecting among needle exchange clients was between 51% and 71%; while the rate of daily crack injecting among all clients was between 43% and 64%.

was reported by 90 respondents. The mean number of injections on an average day was reported to be 3.9 (SD 2.8), with a range of zero to 16, and a peak range of two to four (54 %). But there were significant differences between non-daily and daily injectors ( $t = 3.37, df = 86, p < .001$ ). Non-daily injectors reported a mean 2.7 injections (SD 2.4) on days on which they injected, compared with 4.7 injections (SD 2.7) per day among daily injectors. Also, while a clear majority (80%) injected between one and six times per day, it should also be noted that, at the other extreme, the most frequent injectors (9%) injected between eight and 16 times each day.

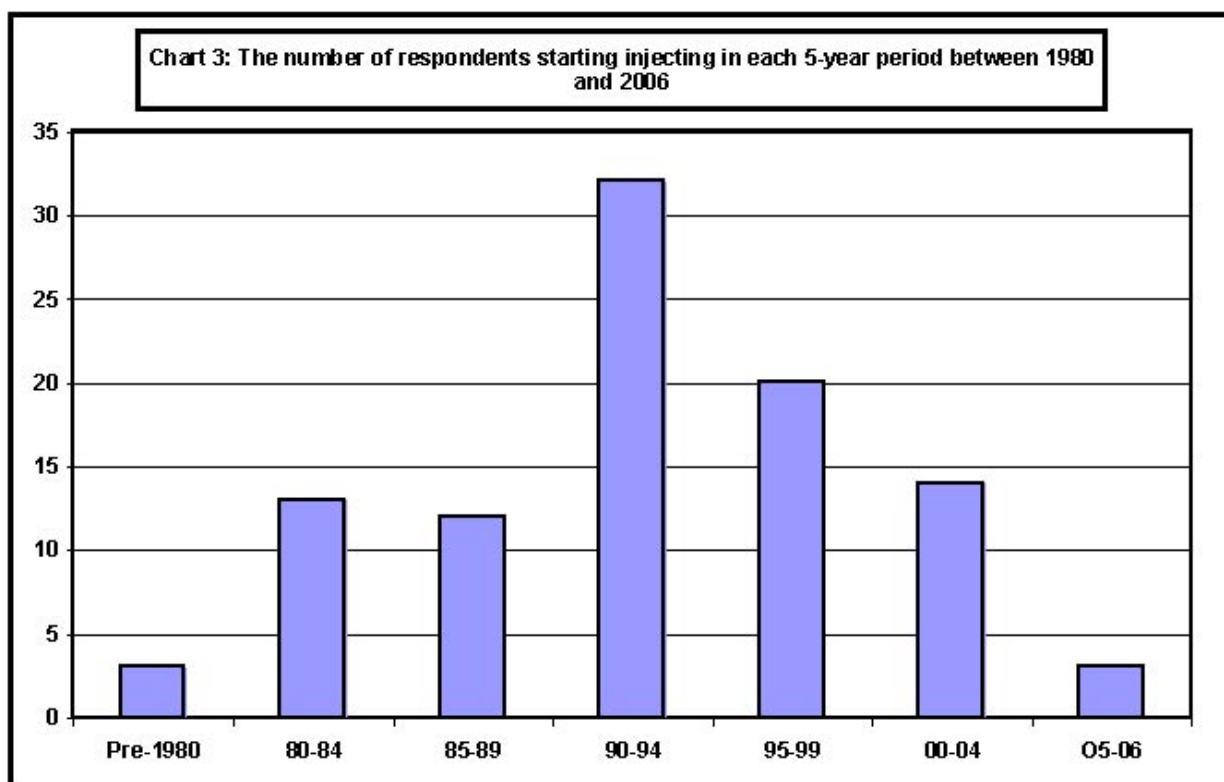
The daily frequency of injecting over the past month

Table 7: Frequency and prevalence of past-month injecting drug use %

	Never	LT once a week	1-3 days a week	4-6 days	Every day	Prevalence levels	
						PAST WEEK	PAST MONTH
Heroin	5	5	18	11	61	90	95
Crack	16	5	15	10	54	79	84
Cocaine	90	2	2	1	5	8	10
Amphetamines	95	1	1	1	2	4	5
Ecstasy	99	1	0	0	0	0	1
Steroids	100	0	0	0	0	0	0
Tranquillisers	100	0	0	0	0	0	0
Other drugs	100	0	0	0	0	0	0
Overall	0	7	18	12	63	93	100

Past week prevalence = 1-3 days a week, most days or every day

Past month prevalence = less than once a week, 1-3 days a week, most days or every day



## Amounts

The modal amounts of drugs (by cost) put into one injection were examined for the two popular drugs, heroin and crack. The typical amount of heroin put into one shot was one £10 bag (73%), with 8% reporting two £10 bags, 5% reporting one £20 bag, 4% reporting one £15 bag, 4% reporting one £5 bag, and 2% reporting half of a £10 bag. The typical amount of crack put into one shot was one £10 bag (63%), with 19% reporting one £20 bag, 9% reporting two £10 bags, 4% reporting half a £10 bag, 3% reporting two £20 bags, and 1% reporting half of a £20 bag. The mean amounts of drugs usually injected per shot were also calculated by multiplying the number of bags used in a shot by the price of the bag. Rounded to the nearest whole pound, the mean amount of heroin put into one shot was £12 worth (SD 5), while the mean amount of crack put into one shot was £13 worth (SD 6).

Based on (a) the modal amount of one £10 bag of each drug, and assuming (b) typical bag weights of 150 mg for each drug, and (c) average purities of 25% for heroin and 50% for crack (see above), it can be estimated that the typical speedball injection contains about 40 mg of diamorphine and 75 mg of cocaine freebase. However, bag weights and purities vary enormously, and these estimates are very rough indicators.

## Methods

Overall, 94% of respondents reported usually or always injecting by the intravenous (IV) method, and 7% reported injecting by intradermal (ID) and intramuscular (IM) methods, at least sometimes (Table 8). Of those respondents who used the latter two methods, four reported mostly injecting IV and sometimes ID and IM; two reported mostly injecting IV and sometimes ID; and just one reported injecting only by ID and IM methods.

Respondents were also asked what parts of the body they injected over the last four weeks, and 81 replied. The two most popular injecting sites were the arms/hands (43%) and the groin (42%), followed by the legs/feet (21%). Other injecting sites used by a minority included the neck (8%) and the head (1%) – while 2% reporting using various sites. Assessing respondents' replies as a whole, the two most common responses were the groin only (36%) and the arms only (28%) – followed by arms and legs (12%); legs only (6%); arms, groin and neck (4%); arms, legs and groin (3%); and arms, legs and neck (3%). Other combinations of the five main sites

were reported by one respondent each. In section 3.2, comparisons will be made between two groups: respondents who inject in the groin only (36%) and limb-only injectors (47%). The other two groups were too small for comparison, i.e. those who inject in the groin and limbs (8%), and those who inject in the head and neck as well as the limbs (7%).

Table 8: Prevalence of use of three methods of injecting

%	Never	Sometimes	Usually	Always
Intravenous	1	5	6	88
Intradermal	93	6	0	1
Intramuscular	95	4	0	1

Respondents were asked how long it usually took them to administer an injection, from when they inserted the needle into their flesh, to when they had finished and removed the needle from their body. The mean time taken to inject was about five minutes (SD 8), with a range of less than one minute to 40 minutes. But the peak range was less than one minute to two minutes (54%) – though two other peaks were five minutes (15%) and 10 minutes (11%). The 'slowest' injectors (6%) took 15 to 40 minutes, which inflated the mean somewhat – for instance, the modal time was one minute, and the median time was two minutes. Those respondents who stated that they took two minutes or longer to inject (60%) were asked to state the main reasons for why they took this long. Of the 44 who responded, 87% indicated that they had difficulty in finding a vein, 11% indicated poor injecting technique, and 9% offered other reasons – including being careful (4%), needle fetish (2%), and DVT (2%).

The most detailed question in the survey asked respondents how frequently they carried out each of 18 safer injecting actions when injecting drugs. These actions were presented in chronological order, and organised into three stages (preparation, administration, and completion). Table 9 shows the proportions of respondents indicating that they never, sometimes, usually or always carried out each action. By frequency of regular use (usually or always), the commonest five actions, indicated by more than eight in ten respondents, included four preparatory actions – heating and stirring the solution in clean spoon, getting a new needle from an unopened packet, drawing up the mixture through a filter, and squirting air bubbles out of the barrel – and one completing action: clearing away paraphernalia. About two-thirds to three-quarters of respondents



indicated five more regular actions, again including four preparatory actions – cleaning injection site with swab or soap, using boiled or sterile water, mixing citric acid or Vitamin-C powder into the drug solution, and not licking the drip off the end of the needle – and one completing action: putting the used syringe into a sharps-box.

About a third to a half of respondents reported six other regular actions, including one preparatory action (washing hands with soap and water), and five of the six administration actions – bringing up veins with a tourniquet, getting needle into vein within one minute, not flushing blood in and out of barrel, completing injection within two minutes, and putting finger pressure on the injection site for 20+ seconds after withdrawing the needle. Lastly, a minority of respondents indicated regularly doing the remaining two actions: the administration action of bringing up veins using hot water or heat (one in five), and the completing action of putting a plaster on the injection site (one in seven).

However, this ordering of injecting actions needs to be interpreted with care, because some of these actions reduce the risks of injecting only when particular practices are also being carried out. For instance, bringing up veins by warming them or using a tourniquet are relevant safer injecting actions only to those who inject in their limbs (arms or legs) - but not to those who inject in the groin. Indeed,

statistical testing of the differences between groin-only and limb-only injectors on regular performance of each of the 18 safer injecting actions revealed just two significant differences. Limb-only injectors were more likely than groin-only injectors to regularly warm their veins (21% compared with 4%,  $\chi^2 = 2.9$ ,  $df = 1$ ,  $p < .05$ ), and to use a tourniquet (53% compared with 7%,  $\chi^2 = 13.03$ ,  $df = 1$ ,  $p < .001$ ). This raised the ranking of the latter action (but not the former one) – though by three places only, which did not alter its classification by prevalence group (a third to a half). Thus, it seems likely that warming veins and using tourniquets are actions relevant to limb injectors only, and not to groin injectors.

Also, since only one of these two actions is required to raise veins for injecting, the number of limb-only injectors who regularly performed either or both actions was examined. It was found that 16% of limb-only injectors regularly warmed their veins but did not regularly use a tourniquet, 47% regularly used a tourniquet but did not regularly warm their veins, while 5% regularly carried out both actions – making 68% who used one or both methods. This raised the ranking of this action-pair for limb-only injectors to the second prevalence level (a half to two-thirds). These findings confirm the suggestion that vein-warming and using tourniquets are typically alternate actions for limb injectors. On a related theme, respondents were also asked if they had used any substances other than citric acid or Vitamin-C as

Table 9: Frequency of safer injecting actions during preparation, administration and completion stages

	%	Never	Sometimes	Usually	Always	REGULAR
Washed hands with soap		26	34	7	33	40
Cleaned site with swab		14	20	15	52	67
Used boiling/sterile water		15	13	15	58	73
Mixed in citric/Vitamin-C		26	4	3	66	69
Heated/stirred solution		14	5	11	71	82
Got new needle from packet		11	3	7	79	86
Drew up through filter		7	3	5	84	89
Squirted air out of barrel		8	6	7	78	85
<b>Didn't</b> lick drip off needle		30	4	13	54	67
Raised veins by warming		71	12	7	11	18
Raised veins with tourniquet		48	14	8	30	38
Needle in vein in one minute		21	25	14	40	54
<b>Didn't</b> flush blood in barrel		35	7	22	35	57
Completed injection in 2 mins		27	17	19	37	56
Put finger pressure on site		41	11	11	38	49
Put plaster on injection site		79	8	3	10	13
Put used works in sharps-box		15	13	13	60	73
Cleared away paraphernalia		10	5	7	78	85

a dissolving agent for injecting drugs over the past month, and just 9% indicated that they had – 5% sometimes, 2% usually, and 2% always. Of these, about half indicated lemon, about a quarter indicated vinegar, and about a quarter did not indicate the substance.

Respondents were then asked if they had been injected by anyone else with drugs (other than doctors or nurses) in the past month, and 19% indicated that they had – including 16% who were injected by friends, and 3% who were injected by their partners. The mean number of people by which they had been injected was 1.7 (SD 1.3), with a range of one to six. The main reasons given for letting someone else inject them were: they were having difficulty injecting themselves (7%), their only usable vein was in their neck (4%), their friend/partner was much better at injecting (4%), the friend/partner seemed confident about it (2%), and/or because the respondent was too shaky from drug withdrawals to inject (2%).

Conversely, respondents were also asked if they had injected anyone else with drugs in the past month, and 13% indicated that they had – including 11% who injected friends, and 2% who injected their partners. The mean number of people they injected was 1.8 (SD 1.4), with a range of one to five. Two reasons were given for injecting others with drugs: they could not inject themselves as well as the respondent could do it (10%), and/or they were too shaky from drug withdrawals to inject (2%).

Respondents were also asked about re-using their own syringes during the past month (i.e. for two or more injections), and 44% indicated that they had – though the vast majority (38% of sample) stated that they only did so sometimes (3% indicated usually, and 4% always). The occasional nature of this practice is explained by the two main reasons given by those who re-used syringes: running out of new needles/ barrels (63%), and because the needle exchange scheme was shut (25%). Other reasons given by a minority were out of habit (5%), and because the needle exchange was too far away when an injection was needed (2%).

As regards past-month sharing of injecting equipment, injecting with syringes (needles and/or barrels) already used by someone else was indicated by 9%. The mean number of times they had injected with used syringes was six (SD 2.3), with a range of four to 10 times. The mean number of people they had received used syringes from was 1.6 (SD

1.3), with a range of one to four. As regards cleaning the injecting equipment before using it, two-thirds (six) stated that they always did, while a third stated that they never did (2) or only sometimes did (1). The main reasons given for injecting with used equipment were: running out of new/clean needles (9), because the needle exchange was closed (4), because they had only been used by their partner (4), and by mistake (1). All respondents were then asked if they had ever injected with used syringes within an hour of them being used by someone else, and 4% stated that they had. Respondents were also asked if they had passed on their own used syringes to other people to inject with over the past month, and 3% indicated that they had, to a mean of one person - either friends (2%) or an associate (1%). One of these respondents had also injected with used syringe barrels/needles from other people, and two had not – making a total of 11% who reported one or both forms of 'sharing'. Lastly, respondents were asked if they had shared any injecting paraphernalia in the past month. Overall, 50% indicated that they had shared one or more of three items of injecting paraphernalia - including spoons/steri-cups (45%), filters (43%), and glasses/water (44%). Forty per cent indicated sharing all three items.

### Contexts

Of 94 respondents who gave information about the locations in which they injected, the most common location was respondents' own homes/rooms - 63%, including 52% regularly (usually or always) (Table 10). The next three most common locations were public places (53%, including 30% regularly), squats or derelict houses (43%, including 30% regularly), and other people's homes (32%, including 12% regularly). Overall, 86% indicated that they regularly injected drugs in one or more of the four locations – including 57% who indicated one location, 23% who indicated two locations, 3% who indicated three locations, and 2% who indicated regularly injecting in all four locations. In addition, 2% of respondents reported injecting drugs in prison on their last sentence.

Table 10: Frequency of injecting in four types of location (n = 94)

	%	Never	Sometimes	Usually	Always
Own home	37	12	9	43	
Other's home	68	19	6	6	
Squat/derelict	57	14	20	9	
Public place	47	23	14	16	

Respondents were also asked if they had injected drugs in shooting galleries in the past month, defined as 'a place where lots of people all go to inject drugs'. Of 94 who responded, 23% stated that they had, with the typical visitor attending a mean 3.7 shooting galleries in the previous month (SD 3.2), with a range of one to ten, and a peak range of one to three (65%). The mean number of people typically found in these shooting galleries was reported to be 7.5 (SD 5.3), with a range of two to 20, and a peak range of three to five (52%). Of the 23 respondents who had utilised shooting galleries recently, 59% had done so weekly, 23% daily, and 18% monthly. Just one respondent admitted to injecting with equipment already used by other people – ten times with six people.

### Mixtures

The following account is as applicable to non-injecting drug users as it is to injecting drug users. IDUs can be divided into mono-injectors (those who inject one drug only) and poly-injectors (those who inject two or more drugs). Poly-drug injectors can be further divided into three groups:

- (a) multi-drug injecting: when the person injects two or more drugs together, in a single shot;
- (b) serial drug injecting: when the person injects two or more types of drug separately, but in close succession - so that the effects of the drugs occur at the same time or in overlap (this intermediate level of combined drug injecting was not investigated by the present survey);
- (c) singular drug injecting: when the person injects each type of drug on separate occasions, so that there is no overlap in either administration of the drug or experience of the effects.

Poly-drug use/injection is therefore a measure of which drugs are used/injected over a particular time period (eg. month), whichever method of combining drugs is involved in these consumption events/episodes - multi-injecting, serial injecting, and/or singular injecting. In short, all individuals who use/inject two or more drugs over a period of time are

poly-drug users/injectors – only those drug users who stick to a single drug over the relevant period of time are mono-drug users/injectors rather than poly-drug users/injectors.

Poly-drug injecting was indicated by almost nine in ten in the past month, eight in ten in the past week, and almost six in ten in the past 24 hours (Table 11). Poly-drug injectors typically injected two drugs (almost invariably heroin and crack) – about three-quarters of respondents did so in the past month and week, and just over half in the past day. Injecting of three drugs (i.e. cocaine or amphetamine, in addition to heroin and crack) was reported by about one in 12 respondents in the past month, about one in 14 in the past week, and about one in 30 in the past day. Only one respondent had injected all four of these drugs over the past month. Lastly, 12% of respondents were mono-injectors, either or heroin only (9%) or amphetamine only (3%).

The most common injectable drug habit over the past month was heroin and crack (75%), followed by heroin only (9%), heroin, cocaine, and crack (7%), and amphetamine only (3%) – with one each indicating amphetamine, crack and heroin; or amphetamine, heroin, crack and cocaine (two respondents did not indicate what drugs they injected).

Past-month multi-drug injecting – simultaneous injection of two or more drugs - was reported by 81%, including 77% who injected one combination of two drugs, and 4% who injected two combinations of two drugs. No respondents reported injecting three or more combinations of two drugs, and none reported injecting combinations of three or more drugs. Focusing on the drugs involved in multi-drug injections, 80% injected heroin with crack together in one shot (among whom four also sometimes injected heroin with cocaine), and 1% injected amphetamine with ecstasy. Also, a further four respondents reported injecting heroin and crack in separate shots in the past month (either serial or

Table 11: Levels of poly-drug injecting

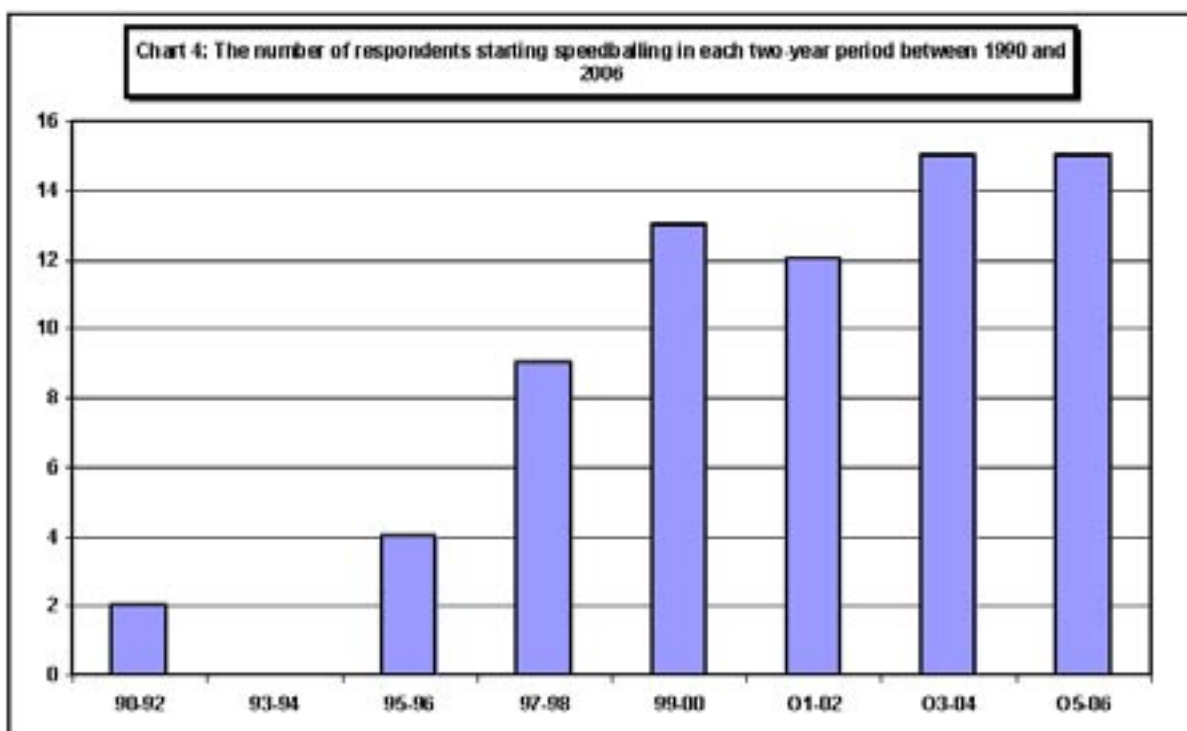
	%	Number of different drugs injected					All poly-injectors (2+ drugs)
		None	1 drug	2 drugs	3 drugs	4 drugs	
Past 4 weeks	-	14	77	8	1	86	
Past 7 days	7	12	74	7	-	81	
Past 24 hours	37	7	53	3	-	56	

singular poly-injectors). In short, speedballing was the main practice among 99% of multi-drug injectors. Using interval estimation, it was calculated, with 95% confidence, that the rate of past-month speedballing among all needle exchange clients was between 72% and 88%. Thus, applying these confidence intervals to the 854 clients who attended the scheme in the first quarter of 2006, it can be estimated that between 615 and 752 of the clients of Lifeline NES were speedball injectors.

Several additional questions were also asked about speedballing. The frequency of past-month speedballing was reported to be every day by 55% of speedballers, most days by 18%, some days of the week by 18%, and less than once a week by 9%. The mean number of speedball injections per use-day was 3.3 (SD 2.2), with a range of zero to 10, and a peak range of one to four (75%). But there was a significant difference between the number of speedball injections per day reported by daily injectors, and the number reported by non-daily injectors ( $t = 5.5, df = 60.9, p < .001$ ). That is, daily speedballers reported a mean 4.2 speedball injections per day (SD 2.1), compared with half that many (two) per speedballing day (SD 1.2) among non-daily speedballers. The modal amount of drugs put into a speedball injection was one £10 bag of heroin (73%) and one £10 bag of crack (68%). The mean amount (cost) of drugs put into speedball injections was about £11 for heroin (SD 7), and £13 for crack (SD 7) – fairly similar to the amounts put into injections of these drugs on when they are used on their own (see above).

Respondents were also asked what year they first started speedballing, and all but two gave years between 1995 and 2006, with 87% indicating between 1998 and 2005, and 66% indicating between 2000 and 2005. The three peak years were 2005 (18%), 2003 (13%) and 2001 (13%). The timeline for initiation into speedballing, based on three-year periods, is shown in Chart 4. The mean duration of speedballing (to the nearest year), calculated by subtracting the year in which respondents started speedballing from the present year (2006), was five years (SD 3.8) – with a range of less than one year to 19 years. There was a positive significant correlation between duration of speedballing and duration of drug injecting overall, though this was a fairly small effect ( $r = .26, p < .03$ ), largely because 62% of respondents began injecting before 1995 (the first year of speedballing for all but two speedballers). The median year of first speedball injection was 2001, while the modal year was 2005. The mean age of first speedball injection was 30 years (SD 7), with the youngest age reported being 17 years, and the oldest age reported being 56 years.

Lastly, all respondents were asked what proportion of their injecting friends and associates were presently into speedballing. Of 91 who responded, 57% indicated all, 13% indicated three-quarters, 11% indicated half, 8% indicated a quarter, and 11% indicated none. In short, over two-thirds reported that most or all of their friends were speedballers.



### 3.1.7.3 Consequences

Findings about the health consequences of injecting drug use are presented under four headings: mistakes/accidents, viral infections, bacterial infections, and physical damage. Of five injecting mistakes/accidents, between a fifth and a half of respondents reported four of them over the past year, though the majority of these indicated that their frequency was less than monthly (Table 12).

The most common past-year problem was having a 'bad hit' (resulting in sickness, headache, etc.), indicated by 54%, including 9% over the past month. The second most common problem was hitting an artery, reported by 50%, including 11% in the past month. The third most common problem was hitting a major nerve, reported by 35%, including 9% in the past month. The fourth most common problem was overdosing (to unconsciousness), reported by 18%, including 2% in the past month. Lastly, only 6% reported having had seizures (fits or convulsions), including 3% in the past month. Experience of these problems in the past week was reported by about one in 20 for the first three problems, by none for the fourth problem, and by one respondent for the fifth problem.

Table 13 shows that the proportion of respondents reporting that they had tested positive for each of three injecting-related viruses - HIV, HAV and HBV - was 1%, though the proportions who had been tested and received results was 56%, 49%, and 52% respectively – giving infection rates among those tested of about 2%.

By contrast, 32% of respondents were HCV positive. Among the 66% who had been tested for HCV and received results, this was an infection rate of nearly one in two respondents (48%). No respondents reported HDV infection. Respondents were also asked if they had been vaccinated against two of these viruses. Of 84 who responded concerning HAV, 56% had been vaccinated; and of 95 who responded concerning HBV, 73% had been vaccinated.

Table 14 shows that the proportions reporting five types of injecting-related bacterial infection were zero for severe systemic sepsis and GAS bacteraemia), around 5% for tetanus and septicaemia, and just 2% for wound botulism. Only two types of bacterial infection were reported over the past year: tetanus (4%) and septicaemia (1%); while none were reported in the last month.

Table 12: Frequency of past-year injecting mistakes/accidents

%	Never	LT monthly	1-3 per month	Weekly
Bad hit	44	47	5	4
Hitting artery	50	39	6	5
Hitting major nerve	65	26	5	4
Overdose/unconscious	82	16	2	0
Seizures/fits	94	3	2	1

Table 13: Viral infections: proportions reporting different test statuses

%	Not tested	Negative	Positive	Awaiting	Don't know	No answer
HIV	33	55	1	2	2	7
HAV	34	48	1	1	5	11
HBV	30	51	1	4	6	8
HCV	18	34	32	4	7	5

Table 14: Bacterial infections: proportions reporting different infection time-periods

%	Never	Over year ago	2 to 12 months	Last month	Prevalence levels	
					Lifetime	Past-year
Tetanus	95	4	1	0	5	4
Septicaemia	96	3	1	0	4	1
Wound botulism	98	2	0	0	2	0
Severe systemic sepsis	100	0	0	0	0	0
GAS bacteraemia	100	0	0	0	0	0

Table 15: Physical damage: proportions reporting different time-periods of damage

%					Prevalence levels	
	Never	Over year ago	2 to 12 months	Last month	Lifetime	Past-year
Abscesses	56	21	13	10	44	23
Collapsed veins	61	19	13	7	39	20
Ulcers/sores	76	4	15	5	24	20
Gangrene	95	2	3	0	5	3
Amputation	99	1	0	0	1	0

Finally, Table 15 shows that, for five types of injecting-related physical damage, only three were reported by notable proportions (about a quarter to a half): abscesses (44%), collapsed veins (39%), and ulcers/sores (24%). Recent experience of these three types of damage was reported by around one in five in the past year, and between one in 20 and one in ten in the past month. About half of all cases of abscesses and collapsed veins were reported in the past year (as compared with prior to the past year) - though about four-fifths of cases of ulcers/sores were reported in the past year. The two remaining conditions were reported by 5% in the case of gangrene (3% in the past year), and 1% in the case of amputation (zero in the past year). DVT was not itemised under this question, though 8% reported it as a long-term physical health problem.

### 3.2 Statistical analyses of key variables

Numerous comparisons of variables were of interest, but the aims and objectives of the study, along with constraints on time and space, necessitated the focusing of statistical analyses on two salient comparisons, namely: homeless and housed respondents; and speedballers and heroin-only injectors. Other important analyses will be reported in separate publications, notably comparisons of: mentally healthy respondents with mentally disordered respondents; treatment clients with those not in treatment; groin injectors with limb injectors; needle-sharers with non-sharers; shooting gallery users with non-users; and HCV-positive respondents with HCV-negative respondents.

#### 3.2.1 Comparisons of housed with homeless respondents (temporary and roofless)

Two types of comparison were made concerning accommodation status: a 2-way comparison of

all homeless people with those living in their own homes (t-tests and chi-square); and a 3-way comparison of temporary homeless, roofless, housed respondents (1-way ANOVA/Kruskal-Wallis, and chi-square). When an overall significant difference was found between three groups, the potential sources of the effect (the three differences between each pairing of the three conditions) were assessed by post-hoc 'paired comparison' procedures. The main test results are presented at the foot of Table 16, while the results of post-hoc comparisons are presented in the text. In addition, correlation tests (Pearson or Spearman) were conducted on the relationship between the duration of homelessness or rooflessness, and selected interval-level variables (also presented in the text). The Methods section provides a thorough account of rationale underlying the selection and interpretation of statistical tests.

Several groups of variables were selected for statistical testing, and a total of 26 variables exhibited significant differences for one or both comparisons on accommodation status (see Table 16). First, there were six significant demographic and health variables (but no differences in criminal profile). Compared with respondents with their own homes, homeless respondents overall were about 1.5 times more likely to be male (95% compared with 68%) and unemployed rather than on incapacity benefit (75% compared with 47%). There were also overall significant differences on the 3-way comparisons on accommodation status for number of children aged under 18 years, and number of daily meals. In the former case, post-hoc comparisons revealed that none of the three differences between paired conditions reached significance, though the largest difference in the number of 'grown-up' children was between temporary homeless respondents (1.4) and roofless respondents (2.2). Regarding the significant effect of accommodation status on number of daily meals, post-hoc comparisons (Tukey HSD test) revealed that just one of the three differences between paired

conditions was significant: temporary-homeless respondents had significantly more meals per day than roofless respondents (1.7 compared with 1.1,  $Q = 4.55$ ,  $p < .01$ ). There were also two unexpected significant effects of accommodation status: housed respondents were more likely than homeless respondents to report long-term health problems (43% compared with 74%), and rated themselves as more unhappy on a 5-point scale (2.4 compared with 3.0).

Second, although there were no significant differences between housed and all homeless respondents in drug treatment, 3-way comparisons on accommodation status found overall significant differences on three drug treatment variables: present drug treatment, number of treatment episodes, and treatment satisfaction. As regards present drug treatment, post-hoc comparisons on the three pairings of conditions revealed just one significant difference: temporary homeless respondents were over 1.5 times more likely to be in treatment than roofless respondents (82% compared with 50%,  $\chi^2 = 5.4$ ,  $df = 1$ ,  $p < .05$ ) (Table 16). Similarly, post-hoc comparisons on the significant ANOVA on treatment satisfaction revealed the same single source for the effect: temporary-homeless respondents were more satisfied with treatment than roofless respondents (4 compared with 3,  $Q = 3.28$ ,  $p < .04$ ). But post-hoc comparisons on the significant Kruskal-Wallis test on number of treatment episodes revealed a different source for this overall effect: housed respondents reported over twice as many episodes than roofless respondents (4.6 compared with 1.9,  $U = 71$ ,  $p < .03$ ).

Third, regarding needle exchange, there were no significant differences in utilisation of any services, in most sizes of syringe needles/barrels, or most of the products available. Homeless respondents overall differed significantly from housed respondents in five main ways: they were over five times less likely to take 2-ml barrels on a typical visit (6% compared with 32%), much more likely to pick up citric acid powder regularly (84% compared with 58%), three times more likely to be daily attenders (34% compared with 11%), about half as likely to be monthly attenders (23% compared with 42%), and reported that their equipment loans lasted for about half as long (a mean of 4 days, compared with about nine days for housed respondents). The 3-condition accommodation status variable also had overall significant effects on four of these five needle exchange variables. Post-hoc comparisons revealed that the source of these overall effects was the

difference between housed and roofless respondents in each case (Table 16). Compared with housed respondents, roofless respondents were more likely to regularly pick up citric acid (86% compared with 58%) – though a post-hoc comparison (adjusted chi-square) found no significant differences between any of the paired conditions, examination of the ASRs showed that the difference between these two groups was the most likely source of the overall effect. Compared with housed respondents, roofless respondents were also over three times more likely to attend the NES daily (38% compared with 11%), and three times less likely to attend the NES monthly (14% compared with 42%,  $\chi^2 = 5.6$ ,  $df = 1$ ,  $p < .05$ ). And, compared with housed respondents, roofless respondents reported that their equipment loans lasted about a third as long – less than three days, compared with almost nine days ( $U = 162.5$ ,  $p < .02$ ). In short, housed respondents were less likely to be frequent attenders and regular users of citric powder compared with homeless respondents, particularly roofless respondents.

Fourth, turning to general drug use, there were significant differences on 2-way comparisons between housed and all homeless respondents for four variables, and significant overall differences on 3-way comparisons for three variables. Since two of these significant effects were found for both types of comparison, this made five significant variables in total. Compared with housed respondents, homeless respondents were half as likely to report past-month oral tranquilliser use (23% compared with 47%), spent twice as much per week on heroin (£238 compared with £117), spent more per week on cocaine (£18 compared with zero), and were about three times more likely to report shoplifting as a source of funding for drugs (49% compared with 17%). Homeless respondents also reported spending more per week on crack (£212 compared with £147) but the difference was non-significant. Assessment of the 3-way comparisons on accommodation status regarding these four variables revealed significant overall effects for two of them (weekly spending on heroin, and shoplifting) with the sole source of the effect in each case being the difference between roofless and housed respondents. That is, roofless respondents spent more per week on heroin than housed respondents (£282, compared with £117;  $Q = 4.11$ ,  $p < .04$ ), and were over three times more likely to report drug-related shoplifting (61% compared with 17%;  $\chi^2 = 7.83$ ,  $df = 1$ ,  $p < .02$ ).

A fifth significant effect of accommodation status on general drug use variables, found only for

the 3-way comparison, involved begging as a way of funding the drug habit. Post-hoc comparisons revealed no significant differences between pairings of the three conditions, though examination of the ASRs reveals the source of the overall significant effect to be the difference between roofless and temporary-homeless respondents – that is, twice the proportion of respondents in the former group (53%) reported past-month begging compared with the latter group (26%).

Fifth, accommodation status had significant effects on six past-month injecting behaviours. Three related behaviours were significantly higher among homeless respondents compared with housed respondents, namely injecting crack (90% compared with 63%),

injecting speedballs (96% compared with 69%), and daily injecting (71% compared with 33%).

Two of these three variables also exhibited significant overall differences on the 3-way comparison on accommodation status. The sole source of the effect for crack injecting was the difference between housed respondents (63%) and temporary-homeless respondents (93%) ( $\chi^2 = 6.62$ ,  $df = 1$ ,  $p < .02$ ); while the effect for daily injecting was due to two significant differences: housed respondents (33%) were less than half as likely to be daily injectors compared with both temporary-homeless respondents (70%,  $\chi^2 = 5.54$ ,  $df = 1$ ,  $p < .04$ ) and roofless respondents (72%,  $\chi^2 = 5.99$ ,  $df = 1$ ,  $p < .04$ ).

Table 16: Significant differences between housed and homeless respondents

	OWN HOME (n = 19)	HOMELESS (n = 80)	Temporary (n = 43)	Roofless (n = 37)
<u>Demographics &amp; Health:</u>				
a. Gender – male	<b>68%</b>	<b>95%</b>		
b. Unemployed (vs. incapacity)	<b>47%</b>	<b>75%</b>		
c. Number of children 18+	1.9		1.4	2.2
d. Long-term health problems	<b>74%</b>	<b>43%</b>		
e. Happiness (5-point scale)	<b>2.4</b>	<b>3.0</b>		
f. Number of daily meals eaten	1.3		1.7	1.1
<u>Drug Treatment:</u>				
g. Present drug treatment	72%		<b>82%</b>	<b>50%</b>
h. No. of treatment episodes	<b>4.6</b>		4.3	<b>1.9</b>
i. Treatment satisfaction (5-ps)	3.9		<b>4.0</b>	<b>3.0</b>
<u>Needle exchange:</u>				
j. Picked up citric regularly	<b>58%</b>	<b>84%</b>	81%	86%
k. Typically takes 2-ml barrel	<b>32%</b>	<b>6%</b>		
l. No. days equipment lasted	<b>8.6</b>	<b>4.0</b>	5.1	<b>2.7</b>
m. Daily attendance ~	<b>11%</b>	<b>34%</b>	30%	<b>38%</b>
Monthly attendance ~	<b>42%</b>	<b>23%</b>	30%	<b>14%</b>
<u>General drug use:</u>				
n. Oral tranquilliser use	<b>47%</b>	<b>23%</b>		
o. Weekly spending on heroin	<b>£117</b>	<b>£238</b>	£202	<b>£282</b>
p. Weekly spending on cocaine	<b>0</b>	<b>£18</b>		
q. Drug funding: begging	44%		26%	53%
r. Drug funding: shoplifting	<b>17%</b>	<b>49%</b>	40%	<b>61%</b>
<u>Injecting behaviour:</u>				
s. Injected crack	<b>63%</b>	<b>90%</b>	<b>93%</b>	87%
t. Injected speedballs #	<b>69%</b>	<b>96%</b>		
u. Daily injecting ^	<b>33%</b>	<b>71%</b>	<b>70%</b>	<b>72%</b>
v. Location: own residence	<b>72%</b>		<b>75%</b>	<b>11%</b>
w. Location: squat/derelict	<b>0</b>	<b>36%</b>	<b>15%</b>	<b>60%</b>
x. Location: public places	<b>11%</b>		<b>15%</b>	<b>57%</b>
<u>Injecting consequences:</u>				
y. No. HIV+ IDUs known	<b>3.3</b>	<b>1.8</b>	<b>1.1</b>	2.2
z. HCV-positive	<b>11%</b>	<b>40%</b>		



## Results of main statistical tests

**a.**  $\chi^2 = 9.2$ ,  $df = 1$ ,  $p < .003$ ; **b.**  $\chi^2 = 3.84$ ,  $df = 1$ ,  $p < .05$ ; **c.**  $H = 6.89$ ,  $df = 2$ ,  $p < .04$  (SDs: 0.3, 0.5, 1.1); **d.** (1)  $\chi^2 = 4.79$ ,  $df = 1$ ,  $p < .03$ ; **e.**  $t = 1.97$ ,  $df = 90$ ,  $p < .05$  (SDs: 1.3, 1.0); **f.**  $F = 7.1$ ,  $df = 2$  & 91,  $p < .001$  (SDs: 0.8, 0.8, 0.7); **g.**  $\chi^2 = 6.9$ ,  $df = 2$ ,  $p < .03$  (ASRs: 0.4, 2.1, 2.5); **h.**  $H = 8.87$ ,  $df = 2$ ,  $p < .01$  (SDs: 4.1, 4.7, 1.2); **i.**  $F = 3.22$ ,  $df = 2$  & 52,  $p < .05$  (SDs: 1.0, 1.1, 1.5); **j.** (1)  $\chi^2 = 4.56$ ,  $df = 1$ ,  $p < .03$ , (2)  $\chi^2 = 6.24$ ,  $df = 2$ ,  $p < .04$  (ASRs: 2.4, 0.6, 1.4); **k.**  $\chi^2 = 7.3$ ,  $df = 1$ ,  $p < .01$ ; **l.** (1)  $t = 2.06$ ,  $df = 18.6$ ,  $p < .05$  (SDs: 9.2, 4.1), (2)  $H = 10.72$ ,  $df = 2$ ,  $p < .01$  (SDs: 9.2, 4.9, 2.1); **m.** (1)  $\chi^2 = 3.77$ ,  $df = 1$ ,  $p < .04$ , (2)  $\chi^2 = 7.72$ ,  $df = 2$ ,  $p < .02$  (ASRs: 2.3, 0.4, 2.3); **n.**  $\chi^2 = 3.23$ ,  $df = 1$ ,  $p < .05$ ; **o.** (1)  $t = 1.99$ ,  $df = 95$ ,  $p < .05$  (SDs: 104, 259), (2)  $F = 3.12$ ,  $df = 2$  & 93,  $p < .05$  (SDs: 104, 159, 340); **p.**  $t = 2.17$ ,  $df = 76$ ,  $p < .03$  (SDs: 0, 75); **q.**  $\chi^2 = 6.34$ ,  $df = 2$ ,  $p < .05$  (ASRs: 0.5, 2.4, 2.1); **r.** (1)  $\chi^2 = 5.12$ ,  $df = 1$ ,  $p < .03$ , (2)  $\chi^2 = 10.1$ ,  $df = 2$ ,  $p < .01$  (ASRs: 2.5, 0.7, 2.7); **s.** (1)  $\chi^2 = 6.64$ ,  $df = 1$ ,  $p < .01$ , (2)  $\chi^2 = 9.27$ ,  $df = 2$ ,  $p < .01$  (ASRs: 2.9, 2.0, 0.4); **t.**  $\chi^2 = 8.57$ ,  $df = 1$ ,  $p < .01$ ; **u.** (1)  $\chi^2 = 7.41$ ,  $df = 1$ ,  $p < .01$ , (2)  $\chi^2 = 9.02$ ,  $df = 2$ ,  $p < .02$  (ASRs: 3.0, 1.1, 1.3); **v.**  $\chi^2 = 34.4$ ,  $df = 2$ ,  $p < .001$  (ASRs: 2.0, 4.1, 5.9); **w.** (1)  $\chi^2 = 7.47$ ,  $df = 1$ ,  $p < .01$ ; (2)  $\chi^2 = 27.5$ ,  $df = 2$ ,  $p < .001$  (ASRs: 3.0, 2.6, 5.1); **x.**  $\chi^2 = 19.6$ ,  $df = 2$ ,  $p < .001$  (ASRs: 2.0, 2.8, 4.4); **y.** (1)  $t = 2.38$ ,  $df = 29$ ,  $p < .02$  (SDs: 2.2, 1.4), (2)  $H = 8.7$ ,  $df = 2$ ,  $p < .02$  (SDs: 2.2, 0.6, 1.6); **z.**  $\chi^2 = 4$ ,  $df = 1$ ,  $p < .05$

## Notes for Table 16

Two statistical tests were conducted for each variable, i.e. (1) a 2-way comparison of housed respondents with all homeless respondents (19 significant differences), and (2) a 3-way comparison between housed, temporary homeless and roofless respondents (18 significant differences). All variables with either one (16) or both (10) comparisons significant are listed. As a general guide, those with two figures per row are significant on the first comparison only; those with three figures are significant on the second comparison only; and those with four figures are significant on both comparisons. Standard deviations (SDs) associated with condition means are presented in brackets after relevant t-test/ANOVA results (the number of cases generating each mean/SD are indicated in Section 3.1). Adjusted standardised residuals (ASRs) associated with condition percentages/frequencies are presented in brackets after relevant chi-square test results for 3-condition comparisons. Most variables refer to the past month, though some refer to the 'present' (eg. regular sexual partner, drug treatment)

In 3-way comparisons, when a figure is not in bold, this indicates that post-hoc comparisons (ANOVA) did not reveal it to be one of the sources of the overall significant difference – i.e. figures in bold indicate that the condition is a source of either one or two of the three possible significant difference(s) between paired conditions underlying the overall effect.

## Key to symbols

- ~ based on comparison of daily attenders (n=30) with monthly attenders (n=26), excluding 44 weekly attenders
- # based on comparison of speedballers (n=80) with heroin-only injectors (n=9), excluding 11 other respondents
- ^ based on comparison of daily injectors (n=63) with non-daily (weekly and monthly) injectors (n=35)

Significant effects of accommodation status were also found on levels of past-month injecting in different locations. Homeless respondents were much more likely than housed respondents to report injecting in just one of the four listed locations: squats or derelict houses (89% compared with 56%,  $\chi^2 = 5.36$ ,  $df = 1$ ,  $p < .02$ ). But when the comparison was focused on regular injecting (usually or always), significant differences were found for three of the four locations. Homeless respondents overall were again found to be more likely to report regularly injecting in squats/derelict houses (36% compared with zero). Post-hoc comparisons on the 3-way comparison revealed two sources for the overall significant effect: roofless respondents (60%) were at least four times more likely to report regularly injecting in squats/derelict houses compared with both temporary-homeless respondents (15%,  $\chi^2 = 14.5$ ,  $df = 1$ ,  $p < .01$ ) and housed respondents (zero,  $\chi^2 = 15.5$ ,  $df = 1$ ,  $p < .01$ ). The 3-way comparison on accommodation status also had an overall significant effect on regular injecting in two other locations: own

residence, and public places. Post-hoc comparisons revealed the two sources of the overall significant effect in both cases to be between roofless respondents and each of the other two groups. That is, roofless respondents (11%) were almost seven times less likely to report regularly injecting in their own residence compared with both temporary-homeless respondents (75%,  $\chi^2 = 27.9$ ,  $df = 1$ ,  $p < .01$ ) and housed respondents (72%,  $\chi^2 = 17.5$ ,  $df = 1$ ,  $p < .01$ ). Similarly, roofless respondents (57%) were four to five times more likely to report regularly injecting in public places compared with both temporary-homeless respondents (15%,  $\chi^2 = 12.8$ ,  $df = 1$ ,  $p < .01$ ) and housed respondents (11%,  $\chi^2 = 8.56$ ,  $df = 1$ ,  $p < .01$ ). In short, homeless respondents overall are more likely than housed respondents to report crack injecting, speedballing, daily injecting, and injecting in squats/derelict houses – particularly roofless respondents in the latter case. And, compared with both other groups, roofless respondents were more likely to inject in public places, and less likely to inject in their own residence.

Also, compared with housed respondents, homeless respondents reported injecting in significantly more types of locations in the previous month: 1.3 out of four, compared with 0.8 ( $t = 3.13$ ,  $df = 41.8$ ,  $p < .01$ ). There was also a significant overall effect of this variable on the 3-way comparison ( $H = 8.4$ ,  $df = 2$ ,  $p < .02$ ), and post-hoc comparisons revealed one source for this effect: roofless respondents injected in twice as many types of location as housed respondents (1.5 compared with 0.8,  $U = 186$ ,  $p < .03$ ). Homeless respondents were also more than twice as likely as housed respondents to report using shooting galleries in the previous month (27% compared with 11%), though this difference was non-significant.

Sixth, there were only two significant effects of accommodation status on injecting consequences. In the case of bacterial and viral infections, this was because the low prevalence of most conditions - except HCV - provided little 'room' for any differences to emerge. But HCV was fairly prevalent in the sample, and comparisons showed that homeless respondents were almost four times more likely than housed respondents to be HCV-positive (40% compared with 11%). However, they also reported knowing a lower mean number of HIV-positive IDUs (1.8 compared with 3.3). Post-hoc comparisons on the 3-way accommodation status variable revealed an overall significant effect for the latter variable only. This was based on just one significant difference between paired conditions: housed respondents reported knew three times as many HIV-positive IDUs as temporary homeless respondents (3.3 compared with 1.1;  $U = 11.5$ ,  $p < .02$ ).

Lastly, there were three valid, significant correlations between duration of homelessness (in months) and other variables - but none with duration of rooflessness. These included a small negative correlation with self-rated happiness ( $r = -.33$ ,  $p < .02$ ), and two large positive correlations with (a) daily dose of prescribed methadone among those in treatment ( $r = +.66$ ,  $p < .001$ ), and (b) the number of shooting galleries visited in the past month among those who used them ( $r = +.74$ ,  $p < .01$ ). In short, the longer someone had been homeless, the more unhappy they were, the greater the dose of methadone they were prescribed (if in treatment), and the greater the number of shooting galleries they had visited (if they used them).

### **3.2.2 Comparison of speedballers with heroin-only injectors**

The 'drug injecting status' variable involved a comparison of past-month speedballers with heroin-only injectors - other sub-groups (eg. amphetamine

users) were too small for further analysis, and too diverse to be combined into a meaningful larger group. The significance of differences between the two groups was tested by t-test (means) or chi-square (frequencies/ percentages). Several groups of variables were selected for statistical testing, and a total of 19 variables exhibited significant differences (see Table 17), and these are described below in five groups: demographic/personal characteristics, needle exchange, general drug use, injecting behaviour, and injecting consequences. It should be noted that many large differences between the two groups turned out non-significant (or invalid) due to the small size of the heroin-only group. There were also several significant differences between the two groups concerning variables related to crack injecting, but these are not reported since the heroin-only group, by definition, did not inject crack

As regards demographic/personal profile, there were four significant differences: compared with heroin-only injectors, speedball injectors were much more likely to be male (93% compared with 56%), were younger (35 years compared with 39 years), were over twice as likely to be homeless (86% compared with 38%), and were more than three times less likely to have a regular sexual partner (24% compared with 89%). There were no significant differences in health or drug treatment variables, and just one difference in criminal profile: speedball injectors had significantly more convictions than heroin-only injectors - a mean of 40 compared with 15.

Second, the two groups of injectors differed on five needle exchange variables: compared with heroin-only injectors, speedball injectors took more 'loose'/longer needles - i.e. excluding 1-ml syringes - on a typical past-month visit (6.9 compared with 1.4), notably 1-inch orange needles (1.9 compared with zero). They were also more likely to regularly pick up two products - citric acid powder (87% compared with 56%) and swabs (90% compared with 44%) - but were much less likely to make use of the information/advice service (25% compared with 67%).

Third, the general drug use of the two groups exhibited four significant differences: compared with heroin-only injectors, speedballers were over twice as likely to report past-month crack smoking (74% compared with 33%), and spent almost five times as much per week on drugs (£503 compared with £112) - notably heroin (£248 compared with £83) and crack (£231 compared with £13).

Table 17: Significant differences between speedballers and heroin-only injectors

	Speedballers (n = 80)	Heroin-only (n = 9)
<u>Demographics &amp; Crime:</u>		
a. Gender: male	93%	56%
b. Age (in years)	35	39
c. Accommodation status: homeless	86%	38%
d. Regular sexual partner	24%	89%
e. Number of convictions	40	15
<u>Needle exchange:</u>		
f. No. 'loose' needles taken per visit	6.9	1.4
g. No. 1"-needles taken on typical visit	1.9	0
h. Regularly pick-up citric acid	87%	56%
i. Regularly pick-up swabs	90%	44%
j. Use advice/info. service	25%	67%
<u>General drug use:</u>		
k. Crack smoking	74%	33%
l. Weekly spending on heroin	£248	£ 83
m. Weekly spending on crack	£231	£ 13
n. Weekly spending on drugs	£503	£112
<u>Injecting behaviour:</u>		
o. Daily injecting (heroin/overall) ^	71%	22%
p. Re-using own syringes	54%	11%
q. Injecting in squats/derelict houses	52%	0
<u>Injecting consequences:</u>		
r. No. HIV+ people known	3.5	5.5
s. No. HIV+ IDUs known	2.0	5.5

## Results of statistical tests

a.  $\chi^2 = 7.7$ ,  $df = 1$ ,  $p < .01$ ; b.  $t = 2.15$ ,  $df = 86$ ,  $p < .03$  (SDs: 5.9, 5.6); c.  $\chi^2 = 8.6$ ,  $df = 1$ ,  $p < .01$ ; d.  $\chi^2 = 12.83$ ,  $df = 1$ ,  $p < .001$ ; e.  $t = 3.69$ ,  $df = 23.4$ ,  $p < .001$  (SDs: 35.7, 10.8); f.  $t = 2.72$ ,  $df = 49.7$ ,  $p < .01$  (SDs: 12.9, 3.4); g.  $t = 2.74$ ,  $df = 71$ ,  $p < .01$  (SDs: 5.9, 0); h.  $\chi^2 = 3.96$ ,  $df = 1$ ,  $p < .03$ ; i.  $\chi^2 = 9.88$ ,  $df = 1$ ,  $p < .01$ ; j.  $\chi^2 = 4.93$ ,  $df = 1$ ,  $p < .02$ ; k.  $\chi^2 = 4.67$ ,  $df = 1$ ,  $p < .02$ ; l.  $t = 1.93$ ,  $df = 85$ ,  $p < .05$  (SDs: 254, 43); m.  $t = 6.53$ ,  $df = 84.8$ ,  $p < .001$  (SDs: 282, 28); n.  $t = 2.22$ ,  $df = 85$ ,  $p < .03$  (SDs: 525, 72); o.  $\chi^2 = 6.65$ ,  $df = 1$ ,  $p < .01$ ; p.  $\chi^2 = 4.31$ ,  $df = 1$ ,  $p < .03$ ; q.  $\chi^2 = 6.78$ ,  $df = 1$ ,  $p < .01$ ; r.  $t = 2.61$ ,  $df = 35$ ,  $p < .01$  (SDs: 1.6, 2.1); s.  $t = 2.86$ ,  $df = 26$ ,  $p < .01$  (SDs: 1.6, 2.1).

## Notes

Standard deviations (SDs) associated with condition means are presented in brackets after relevant t-test results (the number of cases generating each mean/SD are indicated in Section 3.1). Most variables refer to the past month, except 'regular sexual partner' (which refers to the 'present') and permanent demographic variables.

~ based on comparison of daily attenders (n=30) with monthly attenders (n=26), excluding 44 weekly attenders

Fourth, there were three significant differences in injecting behaviour: compared with heroin-only injectors, speedball injectors were over three times more likely to be daily than monthly injectors (71% compared with 22%), were about five times more likely to re-use their own used syringe needles/ barrels (54% compared with 11%), and were much more likely to inject drugs in squats/derelict houses - 52% (35% regularly) compared with no heroin-only injectors. Indeed, 28% of speedballers also reported past-month use of shooting galleries, compared to no heroin-only injectors, but the difference was non-significant. Similarly, of 11 people who had 'shared' injecting equipment, all but one were speedballers; and speedballers were twice as likely as heroin-only injectors to have shared injecting paraphernalia (about a half compared with a quarter), though these differences were also non-significant.

Fifth, there were just two (related) significant differences in injecting consequences between the two groups: compared with speedball injectors, heroin-only injectors reported knowing more people who were HIV-positive - both overall (5.5 compared with 3.5) and among injecting drug users (5.5 compared with 2.0). As with comparisons on accommodation status, the lack of significant differences between the two groups on some consequences - notably infectious diseases - was due to their very low prevalence in the sample.

Lastly, the number of speedball injections per day among speedballers was significantly correlated with four main variables, positively in each case. Unsurprisingly, number of speedball injections per day was correlated with weekly spending on both heroin ( $r = +.35$ ,  $p < .01$ ) and crack ( $r = +.33$ ,  $p < .01$ ) among the majority who used these drugs. It was also correlated with the mean dose of crack put into a speedball injection among the four in five speedballers ( $r = +.27$ ,  $p < .025$ ), and the mean duration of imprisonment among the nine in ten who had been in prison ( $r = 0.3$ ,  $p < .02$ ). In short, the more money respondents spent on heroin and/or crack, the greater the dose of crack they put into speedball injections; and the longer they had been in prison, the more speedball injections they had per day.

## 4. DISCUSSION

The numerous findings are summarised at the front of this report, and glossed over in the fifth section of this chapter, which summarises the conclusions and advice. This chapter discusses the broader implications of the findings, and presents conclusions under three main headings: needle exchange; homelessness; and speedballing. Based on these conclusions, the fourth section presents recommendations for policy-makers, service providers, and researchers.

### 4.1 Needle exchange: the overview

Relevant findings from the survey, quarterly NES reports, and other research will be brought together here under four headings, to enable an evaluation of how effective the agency was in achieving its aims - namely: making and maintaining contact with IDUs; delivering services and products to clients; reducing their risk behaviour; and, minimising harmful consequences (Newcombe 2001, 2007b). The focus was on outcome and process evaluation - rather than structural or cost evaluation, which were outside the scope of the study.

#### 4.1.1 Making and maintaining contact

The available evidence, discussed below, suggests that Lifeline's NES has consistently reached the majority of IDUs in the city. In research conducted over 15 years ago, 43% of opiate injectors sampled in Manchester used needle exchange services regularly (Klee et al., 1991). But to produce an accurate estimate of the proportion of local IDUs served by the Lifeline NES, an estimate of the prevalence of injecting drug use in Manchester is required. Millar et al. (2004) used capture-recapture methods to estimate that there were 6,000 problem drug users (PDUs) in the Manchester health district in 2000/01 - comprising almost a third of the estimated 19,000 PDUs resident in the ten districts of Greater Manchester. Since about 40% of North-West PDUs typically inject drugs (see Appendix A), this suggests that there were about 2,400 IDUs in Manchester in 2000/01 (and 7,600 IDUs in Greater Manchester). This estimate is consistent with estimates extrapolated from population surveys of drug injecting combined with Census statistics. That is, Census statistics in 2001 indicated that Manchester local authority area had a population of 393,000 in 167,000 households - about 6% of the North West population of 6.7 million. By mid-2003, the

population of Manchester had risen to an estimated 432,500 (Office of National Statistics, 2006). At mid-2003, 14% of Manchester residents were past retirement age, 5% were aged under five years, and 14% were aged 5 to 15 years - making 67% aged 16 to 60/64 years (i.e. 290,000). However, the only available estimate of the population rate of drug injecting is that provided by Johnson et al. (1992), based on a random sample of 18,676 16-59 year British householders in 1990. This survey found that 0.6% reported ever injecting (0.8% of men, and 0.4% of women); and 0.4% reported injecting in the past five years. Combining these figures with the mid-2003 Census statistics presented above, they produce an estimate of 1,750 lifetime IDUs in Manchester, including 1,200 who have injected in the past five years (a crude indicator of current injecting levels). However, taking into account under-reporting factors and drug trends over the past 15 years (Newcombe 2007a), it is likely that these figures under-estimate the level of drug injecting by a factor of at least two, which would indicate a total prevalence of about 2,400 current IDUs in 2003 - which mirrors the estimate by Millar et al. for 2001.

#### Contact rates

Manchester NES reports for 2000/01 show that an average of about 1,000 IDUs attended the agency over a typical quarter-year, and that almost 2,000 individual IDUs attended over the whole year (Tables C1 and C2). About three-quarters of these (1,500) were resident in Manchester city (with a quarter coming from other districts of Greater Manchester). In short, almost two-thirds (63%) of the estimated number of 2,400 IDUs in Manchester city in 2000/01 attended the Lifeline NES. Moreover, since needle exchange was also provided by several other drug agencies and pharmacies in the city (and adjacent districts), these quarterly statistics suggest that, at the start of the century, the vast majority of IDUs in Manchester city were using one or more needle exchange services. This underlines the critical role that needle exchanges play in tackling problems associated with drug injecting. As the WHO (2004) international review of over 200 evaluation studies concluded, needle exchanges are often the first (or only) contact IDUs have with official services.

But the lack of more recent estimates of trends in the numbers of IDUs in Manchester and the North West makes it difficult to assess the Lifeline NES's client attraction and retention rates. Even if annual estimates of IDU numbers were available, no information is available about how many clients dropped out, as compared with how many died,

got imprisoned, moved away, ceased injecting etc.. Quarterly NES reports for the six-year period 2000/01 to 2005/06 show that the rate of visits fell from a peak of over 7,000 per quarter in 2000/01 (over 100 visits per day), to a record low of 4,357 in the first quarter of 2005 - about 60 visits per day) – though climbed again over the following year to a quarterly average of about 4,800, i.e. about 70 visits per day (Table C1). Individual client numbers climbed from 934 in the second quarter of 2000, to a peak of 1,246 in the third quarter of 2003, before falling to an all-time low of around 850 in the fourth quarter of 2004. Following a slight rise to around 900 individual clients per quarter at the start of 2005, quarterly numbers had dropped to around 850 again by the first quarter of 2006. New client numbers exhibit a somewhat different trend. After rising from around 300 per quarter to reach a peak of 378 in both the second quarter of 2001 and 2002, new client numbers then more than halved over the next two years, dropping to a record low of 134 in the first quarter of 2005 – before climbing back up to a quarterly average of 235 new clients over the next latest year (Table C1).

The national survey of needle exchanges conducted in all English DAT areas over 2004/05 was based on data gathered from all 149 English DATs, including questionnaires completed by 110 DAT joint commissioners (74% response rate), 145 specialist needle exchanges (55% response rate), and 72 pharmacy needle exchanges (48% response rate) (Abdulrahim et al., 2005, 2006). Overall, 80% of all NESs were pharmacy-based (the average DAT had 11 pharmacy NESs, and 2.4 specialist NESs); and most specialist NESs were part of wider drug treatment services – just 10% were exclusive needle exchange services. Furthermore, most specialist NESs operated during weekdays only. Thus, the Lifeline NES in Manchester is unusual because it is both an exclusive needle exchange service, and because it opens on Saturdays. The national survey also reported that the median number of clients who used needle exchange services in each DAT area was 700, while the median number of clients per NES was 250 at specialist NESs and 590 at pharmacy NESs. The Manchester NES was attended by about 1,400 IDU clients in 2004/05 (Table C2) – which is over five times the national average for a specialist NES.

### **Client retention**

Also, the annual attendance rate among Manchester NES clients over 2004/05 was almost twice as high as the national average: 13 visits (about one a month), compared with seven visits for

specialist NESs in the national survey (Abdulrahim et al. 2006). Even so, between 2000/01 and 2005/06, the annual number of IDU clients exhibited an overall downward trend (from over 2,000 a year to about 1,600 a year), as did the client contact rate (from about 14 to 12 visits per year).

Though new clients were under-represented in the present survey, the average duration of attendance among established NES clients was reported to be about three years - almost a quarter had attended the NES for six years or longer, and about six in ten had been attending for between two and five years. In addition, the average respondent had visited the NES about once every five days over the previous month (about three-quarters at least once per week, and almost a third on a daily basis). This compared with a lower visiting frequency of about once a fortnight to once a month among all NES clients, which was largely due to a quarter of them being new clients - compared with just 2% of survey respondents – many of whom had attended the NES for the first time during the previous month.

### **Client profile**

In addition to the lack of prevalence research, there is also little reliable up-to-date information about the demographic and personal characteristics of IDUs in Manchester (particularly race and socio-economic profile). It is therefore not possible to assess whether the NES is attracting IDUs from all parts of the injecting community. However, community research has consistently reported a 2:1 male-female ratio among IDUs – given that the average quarterly proportion of NES clients reported to be male was 85%-90%, this suggests that female IDUs are under-represented at the service (as is the case at most NESs). One major reason for this 'gender bias' is that many female IDUs are 'secondary clients' – that is, their male partners collect and return injecting equipment on their behalf (eg. so that they can stay at home and look after their children). Assuming that the average age of IDUs in the community has not changed significantly, data from quarterly NES reports also suggests that younger IDUs may also be less likely to attend the NES. For instance, the proportion of clients who were aged 40 years or older more than doubled from 9% in the third quarter of 2000, to 21% in the last quarter of 2005; while the proportion aged 30-39 years climbed from an average quarterly rate of 41% in 2000 to 53% in 2005. By contrast, the proportion of clients who were aged 20-29 years more than halved from a peak of 48% in the third quarter of 2000, to 23% in the last quarter of 2005. Moreover,

as shown by the latest quarterly report (first quarter of 2006), about two-thirds of clients in their 20s are aged 25-29 years. Furthermore, the proportion of new clients aged 15-19 years dropped from 5% in the last quarter of 2000, to 1% in the first quarter of 2006 (Table C4). In short, these figures are consistent with the interpretation that, by the mid-2000s, the Manchester NES was mainly serving an aging population of regular IDU clients (mean age 35 years), with relatively few younger IDUs entering or regularly attending the agency.

The 2001 Census also reported that, among 16-74 year olds in Manchester, 34% had no qualifications, 5% were unemployed (among the economically active), and 18% had a limiting long-term illness (among those of working age). Manchester was also ranked second on Indices of Deprivation out of 354 Local Authorities in Britain in 2004. Comparable statistics for the IDU sample at Lifeline NES included 72% who had no academic qualifications; 99% who were unemployed (among the two-thirds who were economically active); and 49% who reported long-term health problems or disabilities. In short, compared with the general population of Manchester, NES clients were much more likely to have economic and health disadvantages – including being unqualified, unemployed, and in poor health. However, it should be noted that the NES clients had a different demographic profile to Manchester residents overall, notably a narrower age range (20-60 years), and a predominance of males (89%, compared with 49% among all Manchester residents). In addition, while the racial profile of Manchester residents in 2001 was 81% White, 11% Asian, 5% Black, and 3% Mixed, the racial profile of Manchester NES clients was 91% White, 3% Asian, 3% Mixed and zero Black.

Lastly, the sample of NES clients also had much higher rates of mental disorder and criminal behaviour compared with general population rates. For instance, just over a quarter reported present mental health problems (27%) - notably depression and mood disorders (23%), and schizophrenia (6%). These are higher rates of mental disorder – overall, and for the two types of disorder - than those reported in the general population. For instance, a national survey of psychiatric morbidity among 8,900 16-74 year olds in Britain in 2000 found that less than one in five of the general population reported mental disorders (Office of National Statistics, 2002). Overall, 16% had neuroses or mood disorders (typically general anxiety, or mixed anxiety and depression), 4% had personality disorders, and 0.5% had psychotic

disorders (notably schizophrenia). Indeed, market research surveys (Gallup, MORI, etc.) from 1952 to 2006 have shown that the proportion of British adults who describe themselves as (very or fairly) happy has consistently been between 80% and 90%; while fewer than one in ten rated themselves as generally unhappy. By contrast, Manchester NES clients were two to three times less likely to rate themselves as happy (36%), while being over four times more likely to rate themselves as unhappy (42%).

Similarly, about nine in ten respondents had acquired an average of 36 convictions and 11 prison sentences (averaging seven years in custody). The main offences for which they received their last prison sentence were all acquisitive – theft, shoplifting, burglary, robbery and drug trafficking. Though most British people have no criminal convictions, and only around 1% have been imprisoned, this criminal profile is generally consistent with the findings of other studies of IDUs and heroin users – though Manchester NES clients appear particularly likely to have been in custody. For instance, the UAPMP annual survey of 3,000 needle exchange and treatment clients across the UK in 2005 reported that 64% had been in prison/YOI, including 42% at least five times (HPA et al., 2006)

In conclusion, the available evidence indicates that the Lifeline NES in Manchester, in conjunction with other needle exchange agencies, has the capacity to provide clean injecting equipment to most or all IDUs in the Manchester city area. However, some groups of IDUs may be under-represented at the NES – notably younger IDUs and female IDUs, and possibly non-White IDUs. As regards age, the mean age at which respondents first injected drugs was 21 years (range 10-39 years), including 23 years for those who injected heroin first, and 19 years for those who injected amphetamine first. This is consistent with the international mean age of initiation into injecting of 20 years (Dolan & Niven, 2005). Yet the mean age of survey respondents was 35 years, and the typical respondent had been attending the NES for about four years – while having an average injecting career of 14 years. In short, the typical respondent had been injecting for about ten years before first attending the NES. HIV and BBI prevention efforts would be greatly enhanced by contact with IDUs earlier in their injecting careers. Since younger IDUs generally belong to different social networks from those to which established NES clients belong, it may be necessary to contact them and increase their numbers through new interventions – such as local outreach projects.

If sufficient resources were available, two broader groups of young drug users which could be targeted by the NES include heroin smokers and crack smokers – with the aim of preventing them from progressing to injecting drug use (a neglected aim within our drug strategy). But rather than bringing them together in the same building with drug injectors, it may be prudent to contact this group through separate premises or outreach projects. In addition to providing advice and information, product-based interventions could include the provision of tin-foil (for heroin smoking) and glass pipes (for crack smoking) (see Recommendations). Clearly, other methods of preventing initiation into injecting can be derived from rationales relating to the three main reasons given by respondents for why they started injecting. That is, over a third mentioned the influence of friends' behaviour; while one in seven mentioned coping with mental disorder such as depression and anxiety; and one in ten reporting that injecting provided a better/cheaper 'hit' than smoking or sniffing. Indeed, the typical respondent stated that most or all of their friends injected drugs. Similarly, interventions for encouraging a return to smoking/sniffing among current IDUs could be derived from arguments concerning the three main reasons given for continuing to inject drugs - dependence/addiction (four in ten); pleasure/intoxication – including getting a better 'hit' from injecting than from smoking or sniffing (two in ten); and boredom (one in ten).

#### **4.1.2 Delivering services**

Four main indicators of the effectiveness of service delivery will be considered here: the needle exchange rate (a measure of the core service); levels of uptake of different services; satisfaction with services; and the quality of client monitoring (data collection and reporting).

##### **Exchange rate**

The needle exchange rate, or 'syringe return rate', is based on dividing the number of syringes dispensed by the number of used syringes returned during a month/quarter/year - though it should be noted that the return count is typically an approximate figure (due to the contents of sharps boxes being estimated rather than physically counted). According to the quarterly reports of Manchester NES, the return rate is typically in the range 65% to 80%, and averaged 76% in the first quarter of 2006 – which was broadly consistent with the average past-month return rate reported by the survey sample (median of 70%). A world-wide review

of 26 studies of NES return rates reported an average return rate of 90%, ranging from 15% to 112% (Ksobiech 2004b).

But the shortfall of about 25%-30% in the Manchester NES return rate was largely due to the one in four respondents who reported returning no or little equipment to the Oldham Street NES (though a third reported returning all of the equipment they took out). These 'non-returners' typically explained their behaviour by stating that they instead disposed of their used equipment in sharps bins in other needle exchange agencies, hostels, or friends' places – that is, rather than carrying around their used equipment, they safely disposed of it at the earliest opportunity. Even so, up to a quarter of respondents at least sometimes disposed of used equipment in unsafe public places – notably inside cans/bottles put into garbage bins (domestic or public); or down grids (street drains) – particularly when NESs were shut. In short, the vast majority of clients usually disposed of their used syringes safely and responsibly, by returning them to the Lifeline NES, or putting them in sharps-boxes in convenient locations. Indeed, more than four in ten respondents reported exchanging equipment for other IDUs (including one in ten who did so regularly), and the two main reasons were that their partner/friends were unable to attend the NES; and/or they were returning used equipment which would otherwise be left 'lying around' in public places.

These findings on the needle exchange rate are broadly consistent with the evidence of the WHO's (2004) international review of 200 studies of needle exchange, which concluded that needle exchanges generally reduced the number of used needles discarded in the community.

##### **Service uptake**

A second indicator of the effectiveness of service delivery is the level of utilisation of available services and products. These findings clearly show that the typical client attended the agency primarily for the needle exchange service. However, a third had been given advice/information on past visits, while around one in five had also received HBV or HCV testing, referrals, health check-ups and/or wound care - though only around one in ten had received HAV or HBV vaccination, or HIV testing. These findings will now be discussed in more detail, including comparisons with the findings of the recent survey of English needle exchange schemes, the methodology of which was described earlier (Abdulrahim et al., 2005, 2006)

While some types of injecting equipment were clearly very popular, other types (notably five-ml and ten-ml barrels, and the half-inch needle) were utilised by fewer than one in 20 respondents. On a typical visit, respondents tended to take about 30 syringes - either around 30 one-ml syringes, or combinations of up to twenty 5/8-inch and/or one-inch needles, along with around 15 two-ml barrels. This compared with a 'national average' of 25 syringes per client visit (typically 1-ml insulin syringes) at specialist NESs, and 16 syringes per visit at pharmacy NESs - as reported by the national survey of needle exchanges in all English DAT areas in 2004/05 (Abdulrahim et al., 2005, 2006).

Most respondents (two-thirds to four-fifths) also regularly picked up five injecting products - filters, swabs, citric acid, water ampoules and sterile cups - and a substantial minority regularly picked up sharps boxes and needle clippers. However, fewer than one in six regularly utilised tourniquets, vitamin-C powder or condoms. The national survey of NESs in 2004/05 (Abdulrahim et al. 2005, 2006) found that 96% of specialist NESs provided sharps bins, 93% condoms, 85% wipes/swabs, 81% citric acid, 52% filters, 49% sterile cookers, 38% vitamin-C powder, 26% sterile water, and 18% tourniquets. Provision of these injecting products was less common at pharmacy NESs (eg. 13% sterile water, 8% tourniquets).

At the Lifeline NES, information and advice on injecting risks and harms, and safer injecting, is provided to all clients who request it or who are assessed as needing it - in the form of verbal instructions and demonstrations by staff, or by giving clients leaflets and booklets on safer injecting to take away. One in three clients reported using information and advice services at the NES, including one in five in the past month. However, as with other services (see below), the nature and extent of information and advice-giving is not routinely monitored, and this may need to be changed. Abdulrahim et al's (2006) survey of English needle exchange schemes in 2005 found that when assessing new clients, 20% did not discuss sharing paraphernalia, 36% did not discuss injecting hygiene, and almost half did not discuss BBI testing or HBV vaccination.

Referrals are a particularly important function of the NES, which is often the first point of contact for 'hidden' IDUs. Though only one in five reported that they had been referred to other agencies by the Lifeline NES, most respondents were in contact with other helping agencies. This included three-quarters who had seen their GP over the last year; over half

who were presently in drug treatment; almost half who were receiving free food; and one in six who were receiving help for drug problems from other agencies or professionals. In addition, most had ongoing criminal justice system involvements - nine in ten had been in prison, and about half had been released from prison in the last 12 months.

Health check-ups were reported by one in five respondents, while one in six reported receiving wound-care (including one in ten in the past month). In the recent survey of English needle exchange schemes, only 35% indicated that they provided care for minor infections and dressings, and just 27% provided primary care or GP sessions (Abdulrahim et al. 2005, 2006). Furthermore, one type of intervention was found to be heavily neglected by most NESs: overdose prevention.

New harm-reduction services which came on-line from the 1990s included testing and immunisation for blood-borne viruses and bacteria. About half of the present sample indicated that they had been vaccinated for HAV, and almost three-quarters for HBV - though only a minority reported receiving vaccinations from the Lifeline NES (about one in ten for HAV, and one in eight for HBV). These findings are consistent with the UAPMP annual survey of about 3,000 IDUs in the UK in 2005, which found that the uptake of HBV vaccination doubled from 25% in 1998 to 59% in 2005 (HPA et al., 2006). Similarly, the UAPMP enhancement study of 952 IDUs in the South-West, North-West and North East in 2004 found that 20% reported having had an HAV vaccination (HPA et al, 2005).

In addition, there was a low reported uptake of virus-testing services at the Lifeline NES (22%, 17% and 10% for HBV, HCV and HIV tests respectively) - yet over half of respondents reported having been tested for HIV and HBV, and two-thirds reported having been tested for HCV. Clearly, one reason for the relatively low reported rates of vaccination and testing for these viruses at the Lifeline NES may have been that many respondents had been vaccinated or tested by other agencies (such as treatment clinics or prison health services). The survey of English needle exchanges conducted in 2004/05 found that less than half of specialist NESs provided any of five key BBI-related services - including 50% who provided HBV vaccination, 25% HAV vaccination, and 11% tetanus vaccinations; while 43% provided HCV testing and 31% provided HIV testing (Abdulrahim et al., 2005, 2006).



## Service satisfaction

A third indicator of the effectiveness of service delivery involves process evaluation, for which a major cornerstone is market-research type information on the perceptions and views of service recipients. Regarding overall satisfaction with the service, respondents rated the NES very highly (a mean of 4.7 on a 5-point scale) – eight in ten were very satisfied (compared with three in ten who stated that they were very satisfied with their drug treatment). Asked what they liked about the NES, respondents clearly indicated one 'thing' above all others - 'the staff', because they were helpful, friendly, non-judgmental and/or well-informed. Just 6% disliked things about the agency, particularly the lack of a toilet facility, though one in five suggested possible improvements, notably opening on Sundays; and providing more specialised rooms/staff – such as supervised injecting rooms.

## Client monitoring

The Lifeline NES in Manchester records information about the demographic and drug-taking characteristics of new clients, and the uptake of core services by all clients. This information is recorded on Needle Exchange monitoring forms designed by the National Drug Evidence Centre (NDEC). The Lifeline NES produces its own in-house quarterly reports, and detailed annual reports on all six specialist needle exchange services in Manchester are also produced by the National Drug Evidence Centre (Table C5). Though its routine monitoring systems are adequate, a number of improvements could be made to the present recording and reporting practices of the Lifeline NES. These include: monitoring the multi-drug injecting activities of clients, such as speedballing (rather than recording information separately for each drug injected); recording and reporting more demographic information (notably accommodation status); collecting and presenting information about each service utilised at the scheme (rather than just the provision of needles and condoms, and the return rate); and, monitoring levels of needles discarded in public places and needle-stick injuries. Indeed, regarding the latter issue, Abdulrahim et al. concluded from their national survey of English needle exchange schemes that "systems for monitoring discarded sharps and needle stick injuries to the public appeared to be largely missing" (2006: 5). In addition, there are disparities between the annual client numbers presented in in-house reports of Lifeline NES and those presented in NDEC reports, and this anomaly needs further investigation. Lastly, the Lifeline NES has also received little in the way of research evaluation over

the past 15 years – the present study is the first major piece of research in which it has been involved. Indeed, the report on the national survey of needle exchanges in England concluded that "one of the striking findings of the survey was the poor level of data on needle exchange throughput and activity" (Abdulrahim et al. 2006: 6).

### 4.1.3 Changing risk-behaviour

The primary aim of needle exchange is to reduce the risk of IDUs injecting with used equipment, since this can facilitate the spread of viral infections (notably HIV and hepatitis), in addition to bacterial infections. The secondary and tertiary aims usually include reducing the risks of other unsafe injecting behaviour, and reducing risky sexual behaviour. Consequently, the main indicator of risk reduction in research evaluations reflects the primary aim of NES, namely: the proportion of clients who inject with used equipment (receiving), and/or who pass on their used equipment to others to inject with (providing) – typically in the past month (but also past-year and lifetime). When such 'sharing' involves syringe needles or barrels, it is called here the 'needle sharing rate' (also known as 'direct sharing'); when it involves other injecting equipment (eg. filters, water, spoons), it is called the 'paraphernalia sharing rate' (also known as 'indirect sharing'). Two other possible transmission routes for infectious diseases include re-using one's own used syringes, and injecting or being injected by someone else. The validity and reliability of statistics about 'sharing rates' and other injecting-risk behaviours is heavily dependent upon the methods of data collection and processing. In other words, how the question is asked, what behaviours it covers, who asks it, where it is asked, how the answer is recorded, how non-response is dealt with, etc., all influence the final figure for 'sharing' (cf. Koesbiech 2004a). Even so, a comparative assessment of the 'sharing rates' found in the present survey was attempted. This is followed by a discussion of the risks relating to other injecting behaviours, and an assessment of sexual behaviour risks.

### Needle sharing

Overall, 11% of respondents reported past-month needle-sharing (8% received only, 2% provided only, 1% both), while exactly half reported sharing paraphernalia. Of the 9% who had injected with used equipment, almost half (4%) had injected with used syringes within an hour of them being used by someone else ('serial needle-sharing' makes the risk of HIV far higher, since the virus usually dies outside

of the body after a few hours – unlike hepatitis). The typical needle sharer reported 'sharing' a mean of six times with two people over the previous month; and two-thirds reported always cleaning the equipment before re-using it. In addition, almost half of respondents reported re-using their own syringes in the previous month (typically on rare occasions when they accidentally 'ran out' of new ones, and the NES was shut). Lastly, one in five respondents had been injected by someone else in the past month, and one in seven had injected someone else (invariably friends or partner in both cases).

In summary, over the past month, about half of the sample reported low-risk injecting behaviour (notably sharing paraphernalia) - while about one in ten had exhibited medium risk injecting behaviour (potential exposure to hepatitis or bacterial infection through any needle sharing), and about one in 25 had exhibited high-risk injecting behaviour (potential exposure to HIV infection through serial needle-sharing).

How does this compare with other 'sharing rates' in the UK in general, and Manchester in particular? The first ever evaluation of needle exchange was conducted in the late 1980s, after the government set up 15 needle exchange pilot projects in England, and commissioned the Centre for Research on Drugs & Health-Related Behaviour (CRDHRB) to evaluate them (eg. Lart & Stimson 1990; Stimson et al. 1988; Donoghoe 1991, 1992). The research found that, between 1987-88 and 1989-90, self-reported past-month needle-sharing among NES attenders fell from 28% to 21%, compared with a fall of 62% to 38% among non-attenders (hidden IDUs). The research concluded that (a) attendance was relatively low and that more NESs were needed; (b) NESs reduced needle-sharing among IDUs, but attracted IDUs with lower risk behaviour; and (c) NESs had little effect on sexual risk behaviour.

A baseline needle-sharing rate for IDUs not attending NESs was provided in the late 1990s (Hunter et al., 2000). A survey of 1,214 IDUs not known to drug services in seven areas of England, including Manchester, was carried out over 1997-98. It was found that 52% had shared needles/syringes in the past four weeks (with a median of two people) – 78% when more detailed questions about injecting paraphernalia and practices were asked. Annual statistics on needle-sharing rates among IDUs known to drug agencies have been provided by the DOH's Drug Misuse Database (1993 to 2001), and the HPA's UAPMP (1991 to 2004). These were presented in

the Introduction, and will not be repeated in detail here (see also Appendix A). They suggest that the national needle-sharing rate among known IDUs fell from about three in ten in the late 1980s to just over one in ten in the mid-1990s, only to rise again over the past decade, to record levels. For instance, the results of the UAPMP annual survey (HPA et al., 2006) show that among about 3,000 IDUs surveyed across the UK in 2005, direct sharing was reported by 28%, and indirect sharing by 48%. Lastly, Ksobiech (2003) used meta-analysis to review 47 studies of behaviour change among NES clients in several countries between 1986 and 1997, and concluded that they consistently reported that NES attendance leads to a significant reduction in needle-sharing.

Evidence about sharing of needles by IDUs in the North-West generally suggests a lower needle-sharing rate than in other regions – though sharing of injecting paraphernalia seems similar to national rates (i.e. over half). For instance, Speed & Bennett (1997) interviewed 96 IDUs at five needle exchange schemes in the North West of England (mean age 30 years, 2:1 male-female ratio, mean injecting duration of five years). Overall, just 8% reported past-month sharing of needles/syringes – though about two-thirds reported shared past-month sharing of spoons and water, and over half reported sharing filters. In 2004, the past-month needle-sharing rate among IDUs in the UAPMP survey was 30% nationally, and 21% in the North-West (the most recent figure for Manchester IDUs was 22% in 2001). But although the UAPMP survey indicates that past-month needle-sharing has spread to one in five IDUs in the North-West, this still represents the lowest regional rate in Britain - and the needle-sharing rate among Lifeline NES clients remains half the regional rate, at around one in ten. Indeed, this is consistent with the past-month needle-sharing rate reported by the NDEC for over 800 IDUs known to all six NESs in Manchester in 2004/05 - namely 12% (Table C5).

### **Other injecting risk behaviours**

Beyond 'needle sharing', there are various other risky injecting behaviours which NESs and other agencies strive to change in order to reduce harm. The present study systematically assessed drug injecting by gathering information about relevant behaviours under each of the seven 'aspects' of drug consumption (Newcombe 1992, 2005a, 2007b): access to drugs (sources and funding); drug products (purity and adulterants); amounts injected (per session and per time-period); methods of injecting (including styles and sites); patterns of injecting (frequency and stages/actions); contexts (reasons

for and locations of injecting); and mixtures (multi-drug and poly-drug injecting). Each of these is briefly considered below – with the exception of multi-drug injecting (speedballing), which is addressed in Section 4.3.

As regards access to drugs, the average respondent made three or four purchases from drug dealers per day, costing £60 to £80 – and generally funded by social security benefits, shoplifting and/or begging. As regards the type and amounts of drug products injected, both the typical purchase and the typical injection involved a combination of a £10 bag of heroin and a £10 bag of crack-cocaine. It is estimated that a standard bag of heroin in Manchester in 2006 would have weighed between 0.15 and 0.25 of a gram, with a typical purity range of 20% to 30% diamorphine; while a standard deal of crack would have weighed between 0.1 and 0.2 of a gram, with a typical purity range of 50% to 70% cocaine freebase.

Turning to methods of injecting, 99% were intravenous injectors. By usual sites of injecting, almost half were limb-only injectors, and over a third were groin-only injectors. The level of groin injecting provides a general indicator of the proportion of IDUs who have 'used up' (collapsed or otherwise damaged) all the main veins in their arms and legs. When the four limbs have been 'used up', this leaves the torso and the head/neck – and the femoral vein in the groin is the most accessible site in these body locations. Unfortunately, the proximity of this large vein to the femoral nerve and artery present serious health risks – so the general policy of the NES is to discourage groin injecting, but to provide safer injecting advice when necessary. Rhodes et al. (2006) reviewed recent research on IDUs in England, and estimated that 45% (428/952) of IDUs in English cities reported groin injecting in the past month – with the highest rate (58%) reported among Manchester IDUs. This is similar to the 42% who reported groin injecting (alone or with other methods) in the present survey. Rhodes et al. concluded that "taken together, our data are suggestive of the normalisation of groin injecting among UK drug injectors, who may be at elevated risk of viral and bacterial infection" (2006: 169).

Respondents were largely daily drug users, injecting four or five times per day on average. The present survey also assessed the frequency of 18 actions involved in preparing, administering and completing an injection. Although ten of these injecting actions were regularly (usually or always)

carried out by two-thirds or more of respondents, six were carried out regularly by around half only, and two were carried out regularly by fewer than one in five. The six actions neglected by around half of respondents included initial washing of hands, using a tourniquet, inserting needle into vein within one minute, avoiding flushing, completing the injection within two minutes, and putting finger pressure on the site after withdrawing the needle. While lack of hand-washing (and licking the end of the needle) increases the risks of bacterial infection, both 'flushing' and taking several minutes to inject – mainly due to efforts to find a usable vein by repeated 'digging' at the same site, or 'fishing' around different sites – increase the risk of further vein damage. The two least frequent injecting actions included raising veins by warming, and putting a plaster on the injection site. But neither of these actions is essential, and, if a vein does need raising, a tourniquet appears to be preferred to warming, being regularly utilised by four in ten respondents.

The UAPMP enhancement study of 952 IDUs in the South-West, North-West and North East in 2004 asked about several safer injecting behaviours (HPA et al, 2005), and found that 47% had used their last needle more than once; 11% had used their last needle five or more times (15% of crack injectors, compared with 8% of other IDUs); 72% had tried to clean needles/syringes before re-use; and 33% always swabbed injection sites. The present survey found similar levels of risky/safer injecting – for instance, almost half indicated that they had re-used their own needles/syringes in the past month, and, as noted above, just over half reported always swabbing their injection sites.

Lastly, the locations in which drug injecting was reported to take place were also of concern. That is, though 'own home' was the typical injecting location for over half of respondents, almost a third reported regularly injecting in public places like parks and toilets, and in squats or derelict houses – while almost a quarter reported recently injecting in shooting galleries. This high level of injecting in risky locations like parks and derelict houses exceeds the levels reported in most other areas by recent research studies (excluding London), and is likely to be related to the high rate of homelessness found in the survey sample (cf. Rhodes et al. 2006).

### **Sexual behaviour**

In order to prevent the transmission of BBIs from IDUs to non-IDUs, NESs also aim to reduce risky sexual behaviour among their clients. Levels of three

risky sexual behaviours were assessed - number of sexual partners, frequency of condom use during penetrative sex, and selling sex – along with one harmful consequence (STIs).

A baseline comparison for the general population on mean number of lifetime partners was provided by a MORI survey of 1,790 British 16-64 year olds, conducted for the Observer newspaper in January 2006. The mean number of lifetime partners nationally was 9.5 (about eight for women, and 11 for men) – compared with 26 among the sample of Manchester NES clients. However, the survey sample mean was inflated by three respondents who each reported over 100 partners. Indeed, the modal lifetime number of sexual partners among the respondents (who were 90% male) was ten – similar to the national average of 11 for men.

About six in ten respondents were sexually inactive in the previous month. Of the four in ten who were sexually active, about three-quarters had a regular sexual partner, and less than one in ten reported casual sex (with a mean two sexual partners). Only one respondent had sold sex in the past month. Regular condom use was reported by one in five with regular partners, and by almost half with casual partners. None reported infection with STIs in the past year. In short, the sample exhibited a very low STI rate, which was probably related to their relatively low levels of sexual behaviour. Interest in sexual behaviour is often reduced among IDUs for two reasons: (1) opioids such as heroin and methadone typically reduce their sexual libido, as well as aspects of their sexual performance (eg. getting/keeping an erection); and (2) the injecting 'rush' becomes their main source of pleasure, which they value more highly than sexual pleasure or orgasm.

**In summary**, these findings suggest that the rate of past-month needle-sharing among Manchester IDUs (one in ten) remains relatively low compared with national levels (one in four). Indeed, the international review of over 200 needle exchange studies by the WHO (2004) concluded that needle exchanges achieve several desired changes in behaviour among injectors and in the wider community – notably, reducing the sharing of injecting equipment; not increasing the prevalence, frequency or duration of drug injecting; and not reducing the motivation to abstain from drugs. However, in both the present sample and among IDUs nationally, higher levels of risk are evident with regards to other injecting behaviours - notably indirect sharing (of paraphernalia), groin injecting, and use of unsafe practices and settings – with public injecting appearing to be particularly

high among Manchester IDUs.

#### 4.1.4 Reducing harmful consequences

The ultimate measure of the effectiveness of needle exchange is the level of harm which it reduces – particularly health-harm, but also social problems and economic costs. This section focuses on three main groups of injecting-related health consequences: infectious diseases, accidents/mistakes, and physical damage. Needless to say, though some of these injecting-related health problems may be fatal, the mortality rate of IDUs cannot be assessed by the present research methodology. About 20-30 IDU deaths per year are presently attributable to HIV/AIDS in the UK, though the annual number of IDU deaths attributable to HBV and HCV is not known (over 90% of IDU deaths are attributable to accidental drug overdose). Previous British research suggests that the annual mortality rate for IDUs is about 1%-3%.

Among the infectious diseases, the three BBVs of HIV, HBV and HCV are the primary targets of needle exchange - both because of their generally greater lethality, and because of their potential for spreading from IDUs to other people, by sexual or blood-related transmission methods. National and regional trends in official rates of these BBVs among IDUs were detailed in the Introduction, and so will be glossed over here rather than reported again in detail (see also Appendix A). In the present survey, HIV, HAV and HBV infection were each reported by just 1% of respondents (2% of those tested), though HCV was reported by 32% (almost half of those tested). These figures are broadly consistent with annual figures from the UAPMP saliva-testing survey of IDUs known to treatment and needle exchange agencies in England – except for HBV. That is, the prevalence of HIV among North-West IDUs in the UAPMP survey has ranged between 0.2% and 0.5% since 1991-92 – reaching 0.4% in 2003-04, compared with 1.4% in England & Wales in 2004 (0.6% excluding London). Similarly, the prevalence of HCV among North-West IDUs has climbed from 50% in 1999-2000 to 59% in 2003-04 – compared with 41% nationally. But the HBV rate was much lower in the survey sample (2%) compared with UAPMP figures on North-West IDUs in 2003-04, which reported 29% to be HBV-positive – compared with 21% nationally. It is not clear why the sample HBV rate was so unexpectedly low.

Thus, although the rate of HIV infection among Lifeline NES clients remains very low, their HCV and HBV levels are much higher – suggesting that

there is a clear potential for HIV transmission to and from Manchester IDUs, particularly given their continuing high levels of 'indirect sharing' of injecting paraphernalia. This potential is also evident from the findings that almost half of the NES sample had two or three acquaintances who they knew to be HIV-positive, and about two-thirds of these acquaintances were also IDUs - though many respondents were likely to have been referring to the same individuals. Lastly, there is increasing evidence that levels of bacterial infection have been rising among British IDUs over the last decade (see Appendix A), though the only notable case in the present survey was tetanus, which was reported by one in 25 respondents over the previous year.

Turning to other kinds of injecting-related health damage, up to half of respondents in the present survey each reported past-year experience of three out of five injecting-related accidents or mistakes - namely, a 'bad hit', hitting an artery or hitting a major nerve (about one in ten each in the past month). One in five reported past-year overdoses. Regarding physical damage, about one in five each reported past-year experience of abscesses, collapsed veins, and ulcers/sores (fewer than one in ten in the past month). Though comparative data is generally limited or lacking, these findings are broadly consistent with other recent studies of IDUs in the UK. For instance, the UAPMP enhancement study of 952 IDUs in the South-West, North-West and North East in 2004 found that, over the previous year, 58% of IDUs reported injection site reactions (redness, swelling or tenderness), and 36% reported injection site damage (an abscess, sore or open wound) - including 45% of crack injectors, compared with 30% of other IDUs (HPA et al., 2005). Also, Lloyd-Smith et al's (2005) study of 1,585 IDUs in the Vancouver IDU Study from 1996 to 2004 found that 22% reported having an abscess in the last six months. The main factors statistically associated with abscesses were frequent cocaine use, recent imprisonment, sex work, being female and HIV infection.

These findings on the health consequences of drug injecting among Lifeline needle exchange clients reflect the conclusions of the WHO (2004) in their review of over 200 needle exchange studies, namely that there is "compelling evidence that increasing availability of injecting equipment reduces transmission of HIV" (WHO 2004). Indeed, MacDonald et al's (2003) international review of data from 99 cities, covering 778 years, found that the HIV rate declined by 19% in cities which introduced needle

exchange, but increased by 8% in cities which did not. Reflecting the national rate, HIV infection among the Manchester IDUs attending Lifeline's needle exchange was just 1%. The impact of needle exchange services on other BBIs (notably hepatitis and bacterial infections) and other health conditions has not been as impressive. So what is lacking in current NES provision which could be responsible for this failure to reduce other BBIs as effectively as HIV? One likely cause, as the recent NTA national survey of needle exchange services found, is that only a small minority of NESs provided a comprehensive package of harm-reduction services and products to IDUs, thus supporting hygiene and safety in all injecting practices (Abdulrahim et al. 2006). Fortunately for Manchester, the Lifeline NES was (and is) one of these. Indeed, in their most recent report *Shooting Up* report, the HPA concluded that more needle exchange schemes need to provide such comprehensive harm-reduction services if we are "to further support IDUs to improve their injection-related hygiene so as to reduce the growing burden from the wide range of injecting-related infections" (HPA et al., 2006: 22).

#### **4.1.5. Commentary**

Overall, the evidence from both the present survey and other research indicates that the Lifeline needle exchange scheme in Manchester is a generally effective service - it reaches its target group, delivers its services, discourages risky injecting behaviours, and reduces harmful health consequences. However, reflecting the national situation, its limitations include a neglect of younger IDUs and potential injectors; and insufficient reduction of particular risky behaviours (notably poor hygiene, using unsafe settings, and indirect sharing) and health harms (notably HCV infection).

In 2006, the UK National Needle Exchange Forum (NNEF) released a Consensus Statement on Best Practice, which detailed the essential service elements for needle exchange agencies. This Consensus Statement confirmed that the main aim of needle exchange agencies was to reduce the spread of HIV and other blood-borne diseases among IDUs, by providing them with access to a full range of relevant products (injecting equipment and paraphernalia) and services (eg. return of used equipment), delivered by trained staff at specialist, pharmacy-based, outreach and/or other needle-exchange agencies. The NNEF also advised on service style as well as 'content', recommending that NESs should be local, accessible, user-friendly, confidential, anonymous, and flexible (eg. not limiting the number

of needles provided per visit). The Consensus Statement noted that, beyond equipment provision and return, the main services provided by needle exchanges should include: safer injecting information and advice; general healthcare assessment; wound-care; testing for HIV, HBV and HCV; HBV vaccination; and referral to other services.

In their 2003 *Shooting Up* report, the HPA concluded that there is “a need to improve harm reduction services for IDUs so as to reduce the growing burden from injecting related infections”, and that “infections such as hepatitis A and C may be reduced by the provision of sterile injecting equipment other than needles and syringes” (2003, para. 63-64). In this and subsequent *Shooting Up* reports, the HPA have recommended that in addition to providing all legally permitted injecting equipment, NESs should also consider providing these services:

- (1) full vaccination against HAV, HBV, and tetanus;
- (2) clear information and advice on safer injecting/ disposal and related infections;
- (3) improved access to HIV, HBV & HCV tests, and checks for injecting-related infections;
- (4) primary healthcare, including health check-ups, wound-care, etc.;
- (5) easy referral to drug treatment and generic services;
- (6) greater availability of needle exchange (through pharmacy, mobile and outreach services);
- (7) improved monitoring of information about client characteristics and service usage.

To its credit, the Lifeline NES in Manchester already provides all of these recommended services to a greater or lesser extent, and other services besides (eg. home detox). However, this is not the case at all needle exchanges – as Abdulrahim et al. concluded from their survey of English needle exchange schemes, “though good practice does exist, substantial areas and groups of injectors were being denied interventions in line with Models of Care (NTA 2006) or *Shooting Up* (HPA 2005)” (2006: 7).

What is the ‘big picture’ on the effectiveness of needle exchange in reducing health risks and/or harms? Since 2000, five international reviews of research (or research domains) on needle exchange have been published (Dolan & Topp 2000; Ksobiech 2003, 2004; MacDonald, Law, Kaldor, Hales & Dore 2003; WHO 2004; Wodak & Cooney 2005). They have invariably concluded that “evidence of the effectiveness of needle and syringe programs is consistent and compelling” (Dolan & Topp 2000: 22). In short, they achieve their aims and objectives

- notably reducing risky drug injecting practices like needle-sharing, and thus preventing the spread of HIV and other BBIs – without increasing levels of either drug injecting or publicly discarded used needles. The WHO’s (2004) review of over 200 needle exchange studies also concluded that needle exchanges are generally cost-effective – that is, by preventing HIV infection alone they deliver substantial savings in treatment of HIV and AIDS cases. The most recent, comprehensive international review of the evidence on needle exchange has been provided by Wodak & Cooney, who concluded that “the major, and now overwhelmingly strong, finding is that needle/syringe programmes reduce HIV transmission effectively, safely and cost-effectively ... by reducing HIV risk behaviour” (2005: 31)

Since 2004, several statutory and non-statutory bodies have issued reports and guidelines supporting increased resources for needle exchange and other drug services aimed at IDUs, particularly to prevent the growing spread of BBIs – notably HCV. The Department of Health published a Hepatitis C Action Plan for England in 2004 (Scotland launched its own action plan in 2006) - including a general awareness campaign (FaCe It), and increased resources for both prevention and treatment of hepatitis C. The 2006 Action Plan to reduce drug-related deaths also focused on the increase in BBI infection among IDUs, and improving efforts to control them. In 2006, the NTA published the updated Models of Care for Treatment of Adult Drug Misusers, which also focused on reducing the risks of BBIs (and overdose) among drug users. The HPA’s annual report on Hepatitis C in England in 2006 concluded that needle exchange is critical in containing HCV, and so comprehensive needle exchange services need to be available throughout the UK (HPA 2007). The report also concluded that, in addition to promoting safer injecting, efforts should also be directed to reducing the prevalence of drug injecting - including helping current IDUs to stop injecting, and preventing initiation into drug injecting (see Recommendations).

## 4.2 Homelessness: down and out of it

The level of homelessness in the sample of IDUs attending Lifeline Needle Exchange Scheme was unexpectedly high: eight in ten respondents were homeless, including just over half who were in temporary accommodation (43%), and just under half who were rough sleepers (37%). The average case had been homeless for almost four years, while rough sleepers had been roofless for an average of two and a half years. Many important questions are raised

by the responses of this sub-sample of homeless drug injectors, and two key issues concerning their 'downfall' into a complex of inter-related health disorders and social problems will be briefly explored here:

(1) what is the prevalence of homelessness in Manchester – overall, and among IDUs?

(2) what is the relationship between drug use and homelessness, locally and nationally?

#### **4.2.1 The prevalence of homelessness in Manchester – general and drug-related**

The Office of the Deputy Prime Minister (renamed the Department of Communities & Local Government in April 2007) defines homelessness as involving one of two main groups: (1) people in temporary and/or insecure accommodation – i.e. those "threatened with the loss of, or who are unable to continue with, their current accommodation"; and (2) those 'sleeping rough' – also called 'roofless' (ODPM 2005a). The ODPM Housing Activity supplementary returns annual bulletin for 2004/05 reports the number of homeless household 'acceptances' by local authorities (i.e. those eligible for assistance, falling within a priority category need, and is unintentionally homeless). The total number for England was 121,060, of which 17,430 were in the North West. Also, 101,520 households were classified as in temporary accommodation arranged by local authorities (LAs) on the last day of 2004/05 – the lowest number since 1985. They included 27% in LA/RSL stock, 47% in stock leased from the private sector by an LA/RSL, 11% in private sector accommodation, 11% in hostels (including womens' refuges), and 7% in B&B hotels or other shared facility annexes. About a third of new cases of homelessness in 2006 involved under-25s. An ODPM survey of English LAs in 2005 concluded that the number of households in temporary accommodation was likely to drop to around 87,000 by March 2006, and to about 54,000 by March 2010 (ODPM 2005c). The ODPM statistics also show that the number of rough sleepers in England fell from 1,850 in 1998 to 459 in 2005, though rose slightly in 2006 - back up to 2003-2004 levels of around 500.

However, charities dealing with homelessness, such as Shelter, regard these figures as inaccurate. In 2006, a BBC investigation involving these charities estimated that there were 250,000 homeless people aged under 25 years alone. While the number of rough sleepers is greatly under-estimated because of the inadequate counting methods employed by local authorities, the number of temporary homeless

people is under-estimated for various reasons. One of the main reasons is that the official count excludes large numbers of young people who live in other people's homes, often sleeping on sofas/floors, with no room of their own.

At the end of December 2005, the North-West had 2,340 (2.5%) of England's 98,730 households in temporary LA accommodation; and, within the North-West, Manchester had the highest number of out of 43 LA areas – 768, about a third of all cases in the region (ODPM report, fourth quarter of 2005). Manchester City Council reported that, in 2004/05, the number of homelessness presentations was 6,515, the number of acceptances was 1,371, and the number rehoused was 1,036 (Manchester City Council, 2005). The number of homeless people in temporary accommodation at the end of 2004/05 was 696 (including 236 singles). The four most common presentation reasons were loss of lodgings (1,345), disputes with relatives/friends (1,263), domestic violence (519), and relationship breakdown (393). Also, one of the most rapidly growing groups of homeless people in recent years are asylum-seekers - particularly those refused refugee status and awaiting deportation (Patel et al. 2004). For instance, the Masked Tree, a resource centre for homeless people in Manchester, reported that 60% of its clients were asylum-seekers in early 2007 (Big Issue, 26/2/07).

The official number of rough sleepers in Greater Manchester fell fairly steadily from 69 in 1998 and 75 in 1999 to 12 in 2003, but then rose to 26 in 2004, before falling again to 14 in 2005 (ODPM 2005b). The majority of rough sleepers in Greater Manchester were reported from Manchester city in each year except 1998. Trends in numbers of rough sleepers in Manchester city reflected the county trend – that is, numbers climbed from 31 in 1998 to 44 in 1999, before falling steadily down to nine in 2003, rising to 18 in 2004, and then falling to a record low of seven in 2005 (Table 18). This trend was also apparent nationally – with the lowest number of rough sleepers recorded in England (459) reported in 2005. Thus, although Manchester city ranked 5th (1999) to 13th (2003) for rough sleepers between 1998 and 2003, it ranked third in 2004 – after London city (22) and Westminster (175). However, in 2005, Manchester's report of seven rough sleepers gave it the lowest annual rank to date: joint 15th. From 1998 to 2000, nine districts of Greater Manchester (all except Rochdale) reported rough sleepers – but by 2005, the only districts other than Manchester city to report rough sleepers were Wigan and Stockport.

Local authorities estimated by DETR in 1998 to have more than 20 rough sleepers are legally required to make at least two estimates of numbers each year, one for June and one for December. Manchester was estimated to have 41-50 rough sleepers, and conducted the first of its two annual counts in March/April (for the official 'June' estimate), while the second count was carried out in November/December. Second counts for which figures were available include 46 in November 1999, and seven in November 2004 – fairly similar to the first counts for those two years.

But whether these figures give an accurate reflection of the prevalence of rough sleeping is debatable, because both the definition of homelessness and the procedure for making the count are problematic. The 'street counting' method involves a team of professionals and volunteers who work with homeless people in that locality going out on one night, and counting people who "sleep in the open air (such as the streets, or in doorways, parks or bus shelters) or in buildings or other places not designed for habitation (such as barns, sheds, car parks, cars, derelict boats, stations, or 'bashes)". In addition, "the count should start at a time when people have actually bedded down, otherwise some will be missed and others, who are on the streets but who do not actually sleep there, may be included mistakenly". The advised time for the count is between midnight/1am and 6am. In addition, to

make effective use of limited resources, counters are advised to cover those areas rough sleepers are known to use, and not to systematically assess every street or every neighbourhood. A second element of the exercise involves collecting information on the number of people with a history of rough sleeping, and the number of vacancies, in local direct access hotels and hostels during the period before and after the count (ODPM 2005a).

Thus, the numbers of rough sleepers are likely to be under-estimated for three main reasons. First, the time period for the count is just one night of the year – indeed, the ODPM guidelines explicitly note that "any count carried out on a single night will miss out on some people who drift in and out of sleeping rough". The selected night could also be atypical for several reasons (eg. good/bad weather, police activity, local events), though counters are advised to consider such issues when deciding on which night to do the count. Although the 'point prevalence' approach is recommended to reduce the risks of double-counting, if prevalence were estimated over a longer period (such as a week), double-counting could be avoided by other methods (eg. identity codes). Second, various places in the area of the count are excluded, including: any neighbourhoods or streets which have not previously been used by rough sleepers; areas which the counters feel are 'unsafe'; commercial premises; and many types of makeshift shelter (eg. tents, derelict buildings).

Table 18: Number of rough sleepers in districts of Greater Manchester, 1998-2005

	1998	1999	2000	2001	2002	2003	2004	2005
Manchester	31	44	23	17	19	9	18	7
Bury	12	6	3	3	0	3	0	0
Wigan	11	2	2	0	0	0	8	2
Bolton	11	11	..	0	0	0	0	0
Stockport	..	4	4	0	0	0	0	5
Salford	..	4	4	0	0	0	0	0
Oldham	3	3	..	0	0	0	0	0
Tameside	1	1	2	0	1	0	0	0
Trafford	..	..	2	2	0	0	0	0
Rochdale	..	..	0	0	0	0	0	0
Gr. Manchester	69	75	40	22	20	12	26	14
England	1850	1633	..	..	..	504	508	459

Note: numbers are based on 'street counts' made on one night in June (or March/April) each year  
 .. not reported/not available

Source: Office of Deputy Prime Minister (2005). National Rough Sleeping Estimates 2005.

Website, accessed April 2006. [ j = joint ranking ]



Third, the definition of rough-sleeper is so narrow that it excludes many potential cases. For instance, in addition to excluding travellers and squatters, the count also excludes people seen on the street with a blanket or sleeping bag who are not “clearly bedded down” when observed. Yet many roofless people stay awake part or all of the night and sleep during the day. The main reasons for doing so include colder temperatures at night making it more difficult to sleep; and, avoiding assault (more people are around during the daytime, and potential witnesses makes assault less likely). In addition, users of stimulant drugs (notably crack) may stay awake through most or all of the night, and sleep during the morning hours – not just because of over-stimulation and insomnia, but also because drug dealers tend to operate from around midday to midnight. Lastly, for safety and security reasons, many rough sleepers do not lie down to sleep (eg. sleep in a chair), or will get up when they become aware of other people approaching them - so the presence of the counters themselves may elicit behaviour which excludes rough sleepers from the count!

Clearly, more valid and reliable methods of estimating the prevalence of rough sleepers are urgently needed. Potentially suitable methods include capture-recapture (indicator dilution), nomination techniques, and case multipliers – all of which have been successfully used to estimate the number of ‘hidden’ IDUs in drugs research. Indeed, though not directly comparable, there can be little doubt that if researchers were to estimate the number of illicit drug users ‘on the streets’ by using a similar method - counting how many people are observed using drugs in public places on one night of the year – they would produce a serious under-estimate of the true numbers, as well as suffering a serious loss of credibility.

The survey of IDUs attending Lifeline Needle Exchange found that only one in five reported living in their own home, compared with four in five who reported being homeless. Of these, just over half were living in temporary accommodation (typically other people’s homes, hostels, and B&B), and just under half were rough sleepers. Employing interval estimation techniques, it was estimated that about 620 to 750 of the 850 IDUs who attended the NES in the first quarter of 2006 were homeless - including between 230 and 400 rough sleepers. If these findings are extrapolated to the estimated 2,400 IDUs in Manchester in 2005, they suggest that between 1,730 and 2,110 of the city’s IDUs were homeless, including about 650 to 1,130 who

were rough sleepers. However, while there were grounds for believing that the survey sample was representative of all NES clients, it was likely that NES clients - by nature of their voluntary attendance - were a skewed sample of the whole ‘population’ of IDUs in the city. Therefore, the estimate of the probable prevalence range for all homeless IDUs in Manchester is not as reliable as the estimate for homeless IDUs attending the NES. Nevertheless, even the minimum values of these estimates clearly exceed the ‘counts’ given for all homeless and roofless people in 2005 by Manchester City Council (768 and 7 respectively). Indeed, since the average duration of homelessness was nearly four years overall (and two and a half years for rough sleepers), levels of homelessness in Manchester are likely to have been fairly high since at least the turn of the century. In short, the present survey’s lowest estimate for roofless IDUs in Manchester (650) is almost 100 times higher than MCC’s official figure for all roofless people (7). Indeed, the latter figure is over five times lower than the number of roofless individuals (37) in our sample of 100 NES clients.

#### **4.2.2 Relationship between drug use, homelessness and other factors**

Although a review of the general literature on homelessness is outside the scope of this report, the following text briefly assesses three research domains relevant to understanding the present findings – namely, evidence about levels of drug use among homeless people, evidence about levels of homelessness among drug users (including local and national research), and evidence about the causes of homelessness, particularly among drug users.

##### **Drug use among the homeless**

A survey of 496 homeless young adults who were new cases of the Hungerford Project in London in 1995/96 found that 88% reported illicit drug use (Flemen 1997). A similar survey of 100 homeless single young adults (16-30 year olds) known to a housing agency in Glasgow in 1996 found that 89% had tried illicit drugs – including about eight in 10 who had tried cannabis, amphetamines and hallucinogens, and about a third who were dependent on drugs (Hammersley & Pearl 1997). The Youth Lifestyles Survey of a representative sample of almost 5,000 12-30 year olds in England & Wales in 1998/99, focused on four vulnerable groups: homeless and runaways, school young people living in drug-using families, truants and excludees, and young offenders (Goulden & Sondhi 2001). Overall, 4% had been homeless for a month or more in the

past, 1% had slept rough, and 6% had run away from home. It was found that 53% of the 'homeless' had tried an illicit drug, as had 80% of the 'rough sleepers' and serial runaways. A review of research on rough sleepers up to 1998 concluded that one in five roofless people had drug problems, rising to about one in three among those under 26 years old (Randall 1998). An update in 2002 noted that there had been significant increases in heroin use, crack use and poly-drug use among rough sleepers, with an estimated half to three-quarters of rough sleepers using these drugs in the most affected areas (Randall & Brown 2002).

These trends have been confirmed by other recent studies. For instance, a survey of 160 young people aged 25 years or younger, known to homeless agencies in Cardiff, Brighton & Hove, Canterbury and Birmingham, was conducted in 2001/02 for the Home Office's Drug & Alcohol Research Unit (Wincup et al., 2003). It found that 34% were living in hostels, and 16% on the street. Overall, 95% had used drugs - notably cannabis (94%), amphetamine (73%), ecstasy (64%), LSD (54%), cocaine (50%), heroin (43%) and crack (38%) - and four in five were current drug users.

Similarly, one of the largest surveys of drug use among the homeless in Britain was conducted by Fountain et al. (2002, 2003a,b), who surveyed 389 rough sleepers in London for Crisis in 2002. It was found that 94% reported trying drugs, including 88% in the past year, and 83% in the past month. Past-month use largely involved three drugs - cannabis (65%), heroin (47%), and crack (47%) - though also included benzodiazepines (32%), other opiates (30%), and other stimulants (25%). Three in four also reported past-month alcohol use. Almost half of past-month drug users reported injecting drugs in the past month - including four in five heroin users, two in five users of crack and other stimulant users, and one in five users of other opiates. Past-month needle-sharing was reported by about one in seven IDUs (15% had passed on a used needle, and 14% had injected with a needle used by someone else). The overall rate of drug dependence, as assessed by psychometric testing, reached 66%, and was highest among past-month heroin users (76%), followed by alcohol users (37%) and crack users (19%). The average respondent had used three or four drugs in the past month. Asked which was their main drug, 76% indicated heroin, and 21% indicated crack. Four in five of those reporting past-month crack use also reported past month heroin use, and two in five respondents reported past-month use of both heroin

and crack (see next section on speedballing). Over two-thirds of heroin users were taking it on a daily basis, as were almost half of crack users. This study also found that four in five homeless respondents had started using at least one new drug since becoming homeless. The proportions of users of each drug who first used it after becoming homeless were found to be almost three-quarters for other opiates (73%), crack (72%) and benzodiazepines (70%), and over half for other stimulants (58%) and heroin (54%). Lastly, among drug dependent respondents, six in ten had used needle exchange in the past month, and two in ten has attended treatment agencies.

Griffiths (2002a,b) reviewed the literature on rough sleepers, with a particular focus on Oxford, for a report commissioned by the DETR's Rough Sleeping Unit. She concluded that rough sleepers were about 90% male, with 75% aged 25 years or older, and 5% in ethnic minorities. A quarter to a third were estimated to have been in LA care, with 30-50% having a serious mental health problem, 50% being alcohol dependent, and 20% using illicit drugs - though she added that there was evidence of recent increases in levels of drug use. She also noted that the average life expectancy of rough sleepers was 42 years, and that they were 35 times more likely to commit suicide than the general population, and four times more likely to die from unnatural causes like accidents, assaults, homicide and drug/alcohol poisoning.

Deloitte (2004) reported that 54% of a sample of homeless people in Northern Ireland were current drug users. One of the conclusions of the latest report to the EC on the UK Drug Situation (Eaton et al. 2005) is that recent research has consistently found that drug use is particularly prevalent among socially excluded groups like the homeless. Examples given included the Crime & Justice Survey (Becker & Roe 2005), and a review of drug use prevention by the Health Development Agency, now part of NICE (Canning et al., 2004). Lastly, a survey by Shelter in 2006 of national street outreach teams for rough sleepers, and day centres for homeless people in the North West, estimated that the overall rate of drug use among their clients was around 60-70% - with agency-level estimates ranging from 30-40% to 90-100% (McKeown 2006). The report concluded that there were "particular difficulties for drug users with complex needs, particularly mental health problems" (2006: 13).

In short, British research shows that drug use has grown steadily among homeless people, and is now

practiced by a clear majority, particularly among rough sleepers. Glossing over many regional and sub-group variations, the evidence can be summed up as indicating that around a third to two-thirds of homeless people now use illicit drugs, including a quarter to a half who are dependent on opioids and/or cocaine, and around a third who inject drugs.

### **Homelessness among drug users**

Though research on homeless people in Britain generally suggests that most are drug users, research on drug users (including drug injectors) typically finds that a minority (less than half) are homeless. However, as the following brief review of a selection of key studies shows, this generalisation glosses over many regional and sub-group variations. Also, accommodation status is not usually regarded as a primary demographic variable in research on drug users, and so is frequently unreported. In 1995, the National Treatment Outcome Research Study (NTORS) investigated 1,075 clients of 54 treatment agencies in England, and reported that 10% were homeless (temporary or roofless) at intake – and that homelessness was associated with an increased mortality risk (NTA 2005b). Klee & Morris's (1995) study of poly-drug users who injected in public places during the mid-1990s reported that a high proportion were homeless; while Klee & Reid's (1998) study of health risks among young homeless drug users in Manchester found that 43% had attempted suicide, with 25% trying more than once. Although the NDTMS does not presently report the accommodation status of problem drug users attending treatment agencies in England, the Scottish Drug Misuse Database reported that, in 2003/04, 12% of 11,757 treatment cases were in temporary or unstable accommodation and 2% were roofless (ISD, 2005). A survey of 952 IDUs recruited from community settings in six English cities in 2003/04 found that 58% reported being homeless in the last year - defined as rough sleeping, night-shelters, or no fixed abode (see HPA et al. 2005a). In 2004, the Audit Commission report on drug misuse summarised recent government research and guidance as stating "that one in three drug users presenting for treatment is in housing need".

Addaction (2005) conducted in-depth interviews with 350 drug users, mostly prisoners or prison-leavers, from around England in 2005, and found that 57% reported that lack of suitable housing was a major concern during after-care. March et al. (2006) reported a study of 1,879 past-year users of heroin and/or cocaine in ten cities from nine European countries, including London in England (70% male,

mean age 30 years, 60% past-year injecting). Overall, 14% were homeless; and, social exclusion variables associated with drug injecting were homelessness, imprisonment and unemployment. In a recent study of 398 NES clients from London, Leeds and Glasgow, 50% were reported as homeless, including 33% living in hostels and 12% who were sleeping rough (Hunt, cited in Rhodes et al. 2006). Echoing the conclusions of Hickman et al. (2006), Rhodes et al. (2006) concluded from their qualitative study of groin injectors in London that "homeless crack injectors ... may be at elevated risk of viral and bacterial infection" (2006: 169). In short, the available evidence suggests that about a tenth to a third of drug users are homeless – rising to around half of IDUs.

Based on the above review, it is clear that Manchester IDUs have a relatively high level of homelessness and rooflessness. The present survey also found that homeless IDUs were more likely than housed IDUs to be unemployed, and had fewer children and more long-term health problems. Regarding drug treatment, housed and temporary-homeless IDUs reported twice as many drug treatment episodes as roofless respondents, a higher rate of present treatment, and greater satisfaction with treatment. Regarding needle exchange, homeless IDUs were more frequent attenders, with roofless IDUs being the most frequent attenders overall. Compared with other IDUs, roofless IDUs also reported higher levels of spending on heroin and drug-related shoplifting – and were more likely than temporary-homeless IDUs to report drug-related begging. Levels of daily injecting, crack injecting, and speedball injecting were about 1.5 to two times higher among homeless IDUs compared with housed IDUs. Roofless IDUs generally injected drugs in squats/derelict houses and public places, while housed IDUs usually injected drugs in their own home. Homeless IDUs were four times more likely than housed IDUs to be HCV-positive. Also, the longer someone had been homeless, the greater their unhappiness, the larger their daily methadone dose, and the greater the extent of their shooting gallery usage. In conclusion, the present statistical analysis suggested that there is a complex relationship between homelessness, drug injecting practices, and a package of personal and social factors - notably mental and physical health, relationships, offending, imprisonment, and social deprivation/exclusion. This brings us to the question of causality.

## **Aetiology**

Why do IDUs in Manchester have such a high level of homelessness and rooflessness? What are the nature and strengths of the causal relationships between drug use, homelessness, and other factors – such as crime, health and social situation? In assessing aetiological evidence relevant to this question, it needs to be noted that there are different types of homelessness (notably: temporary and roofless) and drug use (eg. starting and continuing, injecting and non-injecting) – as well as different types of criminal offending (eg. violent/non-violent), mental health problems (eg. psychotic/neurotic), etc.. Generalisations about homelessness and drug use therefore tend to mask subtle differences between sub-types of each social problem. Four main reasons were given in the present survey for becoming homeless: drug use (36%), divorce/relationship breakdown (28%), imprisonment (18%), and problems with parents (12%). However, when asked about their main reasons for starting and continuing to inject drugs, only 6% attributed their present drug injecting to homelessness, and just 1% attributed their decision to start injecting to homelessness. Two common scenarios described in questionnaires and during informal interviews with NES clients included (a) sudden 'ejection' from the marital/parental home because of one or more problems (financial, mental health, drug use etc.); and (2) repeated prison sentences for drug-related offences leading to loss of rented flat/house, as well as rejection/eviction by landlords. Although drug use was the main cause given for homelessness, most respondents also believed that being homeless had worsened their drug problems.

These findings are consistent with evidence provided by other recent studies of the causes of homelessness. The Crisis survey of 389 rough sleepers in London in 2002 reported that 63% cited drugs or alcohol as their main reason for becoming homeless (50% drug use, 36% alcohol use), including inability to pay rent, and eviction for drug offences. The second most common reason was relationship problems with parents (62%). Other reasons, mentioned by between about a fifth and two-fifths, included problems with finances (43%), police (33%), partner (30%), and mental health (19%); and coming out of prison (20%) and care (18%) (Fountain et al. 2002, 2003a,b). Griffiths (2002a,b) review of the literature also concluded that "groups particularly vulnerable to homelessness and rough sleeping include: young people leaving care; people who misuse drugs and alcohol; people with mental health problems; people leaving prison; people who have

experienced family breakdown; and people leaving the armed forces". The BBC investigation in 2006 concluded that the two most common causes of homelessness, each accounting for about one in five new cases, were family problems (typically resulting in parents no longer being willing to accommodate their children) and relationship breakdown (including 'removal' from a shared home, and domestic abuse). In addition, one in five homeless people had been in local authority care, and became homeless after reaching adulthood and having to leave their care home. Similarly, a study of homeless drug users and offenders in 2006 concluded that "offenders often lost accommodation when they were in prison, because they fell behind on rent payments" (Duffin, 2006: 11) – and because this resulted in them being classified as 'intentionally homeless' (Broadhurst et al. 2006). Addaction has estimated that about a third of prisoners lose their home while in custody. The Housing Minister has also publicly confirmed that almost a quarter of people who became homeless in 2006 were forced to leave home because their parents were no longer willing to accommodate them – often resulting in them having short periods of temporary accommodation with a succession of friends and relatives.

In short, the evidence suggests that there are a small number of core paths into homelessness, typically characterised by drug/alcohol problems, relationship problems, imprisonment, leaving institutions, and being an asylum seeker or refugee. However, it is also clear that drug use, homelessness and other factors are caught up in complex causal relationships operating at many different levels, in which the same factors can be both causes and consequences (eg. debt/poverty, mental disorder). More research is urgently needed to clarify the underlying processes involved in people becoming both homeless and problem drug users. Indeed, the HPA concluded in their latest Shooting Up report that "how factors such as homelessness and the injecting environment interplay with crack-cocaine injection and related risk practices remain unclear, and need further examination" (HPA et al., 2006: 20).

### **4.2.3 Official responses to drug use and homelessness**

Under the Housing (Homeless Persons) Act 1977, local authorities are legally required to assist people under imminent threat of homelessness (and classed as in priority need) by taking reasonable steps to prevent them losing their accommodation. From 1997, the government encouraged local authorities

(LAs) to adopt a more pro-active approach to preventing and monitoring homelessness, and this was consolidated by the Homelessness Act 2002, which required LAs to devise local homelessness strategies by March 2005. The Homelessness & Housing Support Directorate was also set up in 2002 in the Office of the Deputy Prime Minister (ODPM), which was later transformed into the Department of Communities & Local Government (DCLG). The Homelessness Directorate coordinates national policy on homelessness, as detailed in its strategy document 'More than a Roof'.

In 2005, the ODPM published a new strategy on homelessness, entitled Sustainable Communities: settled homes, changing lives. It was noted that in 2004/05, the Supporting People Programme in England used about £353 million to support 17,000 families and 47,000 single people who had experienced or were at risk of homelessness, including 1,600 former rough sleepers. A further £100 million was used to provide housing-related support to people at risk of homelessness – such as victims of domestic violence and problem drug/alcohol users. By 2006, homelessness prevention was “being actively embraced by growing numbers of local authorities”, including enhanced housing advice, schemes to enhance access to private tenancies (eg. rent deposit), family mediation, domestic violence victim support, and tenancy sustainment (DCLG 2006). A survey of English local authorities policies on homelessness was conducted in September 2005 by the ODPM Homelessness Directorate, and 338 replied (95% response rate). All but one LA ran at least one homelessness prevention scheme, with more than half having 10 or more schemes. The most common schemes were rent deposit/bond schemes to support private renting, implemented by almost nine in ten LAs, with six in ten planning to introduce Choice Based Lettings for social housing by 2007 (ODPM 2005c).

The most recent official responses have included the government’s announcement of plans, in November 2006, for a £164 million package of services for homeless young people (under-24s) – including access to family mediation services, and a national network of supported lodging schemes. The latter will provide temporary accommodation with trained volunteers, as well as offering training and skills facilities. In addition, a new target was introduced to end the use of B&B accommodation for 16-17 year olds by 2010. Lastly, in March 2007, the government’s Housing Minister (Yvette Cooper) announced a new package of measures to reduce

youth homelessness, namely:

- (1) developing a new partnership with YMCA England and Centrepoint to deliver a National Youth Homelessness Scheme – including a network of short-term supported lodgings;
- (2) setting up a committee of formerly homeless young people to advise Ministers on policy;
- (3) establishing a new centre of excellence in every region, to enable the sharing of expertise between LAs that have already made good progress in tackling youth homelessness, and other neighbouring LAs;
- (4) launching a new National Homelessness Advice Service, in partnership with Shelter and the Citizens Advice Bureau;
- (5) launching 'Foundations for Life', a new project between Centrepoint and LandAid, aiming to transform hostels into learning centres to provide young homeless people with work and training opportunities;
- (6) the allocation of £16 million to voluntary agencies to help prevent all forms of homelessness (part of the £74 million grant to tackle homelessness in 2007/08).

Specific policies to tackle homelessness among drug users have also been developed in England (with similar initiatives in Wales and Scotland). The Updated Drug Strategy for 2003-08, published in 2002, acknowledged the links between homelessness and drug use, and included a target to increase supported accommodation available for drug users - adapted in 2003 to 'ensuring the availability of supported housing'. In 2002, the Home Office issued guidelines on 'Tackling Drug Use in Rented Housing', which suggested various strategies for housing problem drug users and tackling drug use and drug dealing in council and private tenancies/ estates. Emphasis was placed on partnership, community involvement and planned management, and tackling drug problems through both 'hard' and 'soft' responses. For instance, landlords were advised to prevent anti-social behaviour by drug users through such actions as mediation, injunctions, acceptable behaviour contracts, and anti-social behaviour orders. Also in 2002, a good practice guide for drug services for homeless people was produced by the ODPM and NTA, and sent to DATs. In 2004, the Drug Strategy Directorate (DSD) published specific guidance to meet the housing needs of DIP clients (ODPM & Home Office 2004); and the Home Office issued guidance to support the development of services to engage and sustain contact with drug users who beg. In 2005, the ODPM and DSD issued guidance to Supporting People Commissioners on meeting the housing needs of drug users. Further

guidance in 2005 noted that “in some cases the appropriate support package may be one that recognises that substance misuse might not end, and the role of support may focus on reducing harm, nuisance, debt or other factors that result in the loss of accommodation” (ODPM & DSD 2005). The Homelessness Directorate is presently working with the NTA to develop improved services for homeless drug users.

In 2006, the charity Shelter published a report on homelessness among drug users, entitled ‘Safe as Houses’ (McKeown 2006). The report concluded that there is a strong need for increased development and availability of service provision for homeless drug users, and identified eight principles of good practice for such services: clear aims and objectives; informed by local need; proactive management of the physical environment; holistic approach to housing and support; appropriate staff training, support and supervision; effective multi-agency working and liaison; appropriate move-on to permanent housing; and ongoing development and improvement. A study of homeless drug users in 2005 by Perpetuity Research & Consultancy International concluded that

“there is a need to not only ensure that sufficient accommodation is accessible to these vulnerable groups, but also to ensure that they are provided with appropriate support to help them to maintain their tenancies and prevent homelessness in the first place” (Duffin 2006: 11).

In conclusion, since 1998, the government has introduced new laws and policies on homelessness, and allocated a great deal more resources to local authorities and charities involved in its prevention and management. Official statistics indicate that levels of homelessness, both temporary and roofless, have dropped significantly over the last decade, though the experience of many voluntary agencies, such as Shelter, is that levels of homelessness have risen – in direct contradiction with the official picture. It is concluded that the Homelessness Directorate should review their guidance to LAs on measuring levels of homelessness, and provide improved guidelines – starting by replacing the annual one-night ‘count’ of observed cases with a more scientifically valid and reliable method of prevalence estimation (such as capture-recapture). An accurate estimate of the prevalence of homelessness is essential to the development and evaluation of any strategy to reduce and manage this problem.

## 4.3 Speedballing: the upshot

### 4.3.1 Multi-drug injecting

This section presents a short discussion of the findings on speedballing, and their implications for policy and practice. Unfortunately, space constraints preclude a more detailed assessment of relevant issues here, though Appendix D provides an overview of some key issues about speedballing. Further analyses of the speedballing data will also be presented in future publications (see Newcombe 2006c).

In order to examine injecting behaviour in detail, a distinction was made between poly-drug injecting and multi-drug injecting (the same considerations apply to all drug use, whether injectable or non-injectable). This distinction is part of a broader classification of types of injecting, namely:

1. Mono-drug injecting: injecting one drug only across time;
2. Poly-drug injecting: injecting two or more drugs across time – based on three sub-types:
  - (a) singular drug injecting: separate injections of each drug on different occasions (i.e. with no overlap between the main effects or after-effects);
  - (b) serial drug injecting: separate injections of each drug, but in the same time period (i.e. with some overlap between the main or after-effects);
  - (c) multi-drug injecting: single injection of two or more drugs simultaneously, that is, in the same shot (i.e. with major or full overlap between the effects and after-effects of each drug).

In its narrowest definition, speedballing is the multi-injection of both heroin and cocaine (hydrochloride or freebase), though in its broader definition, speedballing also encompasses serial injecting. Furthermore, in different places at different times, speedballing has also been used to refer to the injecting of opioids other than heroin (notably morphine) with stimulants other than cocaine (notably methamphetamine). Some writers have also described the smoking or sniffing of heroin and cocaine together as speedballing, though the popular conception of speedballing requires injecting – especially intravenous injection, which is needed to get the speedball ‘rush’.

In the present survey, poly-drug injecting was indicated by almost nine in ten respondents over the past month – typically heroin and crack. Past-month multi-drug injecting was reported by eight in ten - heroin with crack in all but one case. Extrapolating

these findings to all IDUs attending the needle exchange scheme, it was estimated that between seven in ten and nine in ten had injected speedballs in the month prior to the survey. Indeed, overall, about two-thirds indicated that three-quarters to all of their injecting friends were speedballers.

However, a review of the literature indicates that there are few published reports about speedballing in Britain (see below) – mainly because both research instruments and routine monitoring systems collect information about drug consumption ‘drug by drug’. That is, a list of drugs used by the respondent is identified, and information about consumption of each drug (frequency, amount, etc.) is then collected. This approach to gathering evidence about patterns of drug use can provide information about patterns of poly-drug use, but has a built-in ‘blind spot’ for multi-drug use activities like speedballing. Consequently, though there are some notable exceptions, most recent reports which have identified an increase in crack-cocaine injecting have not explicitly linked this to an upward trend in speedball injecting.

Indeed, in the present survey, respondents who injected one drug only were injecting either heroin or amphetamine - not one IDU reported injecting crack on its own. In short, many or most studies of IDUs in the recent UK literature which report ‘crack injecting’ among their sample are likely to be misrepresenting the multi-injection of heroin and crack as the singular injection of crack - because their response formats list each drug separately and are not capable of eliciting information about multi-drug injecting. Neither official population surveys of drug use (eg. British Crime Survey), nor the NDTMS, report figures on multi-drug use/injecting – in fact, they do not even report statistics on injecting drug use at all.

#### **4.3.2 Reasons for crack injecting and speedballing**

IDUs who previously injected heroin and smoked crack, a multi-drug habit that became popular among drug users and sex workers in the late 1980s (eg. Newcombe & Matthews 1994), have from the early to mid-1990s been increasingly more likely to inject the two drugs mixed together. In addition to the usual social processes of macrodiffusion (spreading from urban to rural areas) and microdiffusion (spreading from individual to individual), there seem to be two main reasons for the switch from smoking to injecting crack: (1) ‘knackered lungs’ from several years crack (and heroin) smoking; and (2) a cheaper and better quality rush – particularly since the purity

of crack-cocaine has dropped substantially in recent years (from over 90% in 1992 to as low as 55% by 2004). Some new injectors now begin by injecting speedballs rather than single drugs – usually when they are initiated into injecting by established IDUs already doing speedballs. Additional risks presented by injecting (rather than smoking) crack are: (1) increased chance of overdose (seizures, heart attacks); (2) physical damage to veins/flesh related to local anaesthetic effect (cannot feel pain); and (3) bacterial infections due to contaminated drug (and viral infections if needles are shared).

Why IDUs prefer to inject heroin and cocaine/crack together – rather than separately – has been made clear by psychopharmacology research. When two or more drugs are taken together, the combined effects are known as synergy, and can be of two types: (a) additive – the total effects are simply the effects of each drug added together (arithmetic increase); (b) potentiation – the total effects are more than the sum of the two drug’s effects, i.e. one or both drugs enhances the other drug’s effects (geometric increase). Though cocaine boosts noradrenaline levels, and heroin boosts endorphin levels, the two drugs also share the key effect of boosting dopamine levels – by indirectly stimulating dopamine release in the case of heroin, and by directly blocking dopamine reuptake in the case of cocaine. Both drugs boost levels of dopamine in the nucleus accumbens (Nac) – the brain’s pleasure centre.

Initial research in the 1990s concluded that there was a complex synergistic interaction between the two drugs. Then, in 1999, the synergistic effects of cocaine and heroin on dopamine levels were more precisely identified by two studies. Gerasimov & Dewey (1999) gave animals intraperitoneal injections of either cocaine (20 mg/kg), heroin, or a heroin-cocaine mixture, and then measured their effects on NAc dopamine levels. They found that dopamine levels were increased by 70% with heroin and by 380% with cocaine – while co-administration of the two drugs produced a synergistic increase in dopamine of 1000%. Similarly, Hemby et al. (1999) provided self-administered intravenous injections of heroin and/or cocaine to 14 rats in three conditions (with three doses in each condition): cocaine only (125/250/500 mcg), heroin only (4.5/9/18 mcg), and a cocaine-heroin mixture (paired low, medium and high doses of each drug). Their findings confirmed those of Gerasimov & Dewey (1999): extra-cellular NAc dopamine levels were raised by

a small proportion with heroin, by about 400% with cocaine, and by around 1000% with heroin-cocaine mixtures.

Whether injecting cocaine freebase (crack) with heroin produces a better 'hit' than injecting cocaine hydrochloride (powder) with heroin is less clear, though many injectors believe that it does. Other reasons for preferring crack rocks to cocaine powder as the second drug in the speedball injection include: (1) crack having fewer adulterants than cocaine powder (in 2004, police seizures of crack had an average purity of 55%-70%, compared with 40%-45% for cocaine powder); (2) crack usually coming in cheaper deals (£10 bags) than cocaine powder (£20-25 for half-gram, £40-50 for a gram); and (3) convenience - dealers typically sell heroin and crack (not cocaine powder), often in combined 'special offers'. Lastly, there is clearly one strong determinant of the choice of crack over cocaine powder among speedball injectors: the norms and rules of the injecting sub-culture - i.e. shooting heroin with crack is what most of the established IDUs do, and is what they show new users to do. In short, someone who injects heroin and cocaine has several good reasons, beyond convenience, for injecting the two drugs together rather than separately - the most important of which is the huge boost in dopamine levels, and thus pleasure. There are various reasons for why crack is preferred to cocaine powder in a speedball injection, though more research is needed into the psycho-social aspects of such preferences.

Though there is not much direct evidence on levels of speedballing (i.e. rates of multi-injecting of heroin with crack), there are two forms of indirect evidence, namely (1) evidence about levels of heroin injecting and levels of crack injecting in the same sample, and (2) evidence about levels of poly-injecting (or poly-use) of heroin and crack.

### 4.3.3 Speedballing around the UK

The first speedballs were injected by middle-class professionals well over a century ago, soon after (a) the hypodermic syringe was invented, and (b) cocaine and heroin were first synthesised (see Appendix D). Speedballing became more widely known during the 1950s and 1960s, when young 'counter-culture' drug users were prescribed heroin and cocaine on the NHS. But the third and present wave of illicit speedballing began around the early 1990s, distinguished by a switch to combining heroin with crack, rather than cocaine powder. Crack smoking became popular among IDUs in Britain from the late 1980s, though

crack injection did not become common until the early 1990s. Several studies over the last decade have produced evidence of a growth in crack injecting among IDUs, particularly in London.

For instance, Hunter, Donoghoe & Stimson (1995) interviewed IDUs in treatment and out of treatment in London in the early 1990s, and found that crack injection increased from a very low rate of 1% in 1990 to 27% in 1993. In 1997-98, a survey was conducted of 1,214 IDUs not known to drug services across the seven regions of England, including Manchester and London (Hunter et al., 2000). Overall, 64% reported injecting opiates as their main drug, and 16% reported mainly injecting stimulants - though nearly one in five (18%) reported injecting both opiates and stimulants as their main drug habit. A study of 116 opiate addicts (71% male, mean age 35 years) in treatment in south London in the 1990s found that 70% reported use of two or more drugs, notably heroin (90%) and crack (63%) (Beswick et al. 2001). Among heroin users, two-thirds reported using it with crack, and about one in ten each reported using it with tranquillisers, methadone or cocaine powder. Overall, 65% of heroin users primarily injected it, and 25% of crack users primarily injected it. This suggested that up to a quarter were injecting speedballs, though 52% reported using heroin and crack in the same episode of drug use. It was also noted that users of both heroin and crack were "more psychologically distressed, with more frequent heroin use and shorter treatment duration" (2001: 203).

More recently, a cohort study of 428 new IDUs (aged under 30 years or injecting for fewer than six years) was conducted in London (91%) and Brighton (9%) between 2001 and 2003 (Judd et al., 2005a). It found that, over the past year, 71% reported regular injection of opiates, and 53% reported regular injection of cocaine or crack, with a substantial minority reporting that they injected both. Similarly, a study of the prevalence of crack use, using capture-recapture methods with covariates, was conducted in 12 London boroughs in 2000-2001 (Hope, Hickman & Tilling 2005). It was estimated that about 2% of 15-44 year olds in inner London were crack users, compared with just over 1% in London overall. Overall, 57% of crack users were also opiate users. The researchers concluded that "the size of the crack cocaine-using population in London is large, although currently the majority are also opiate users. Given that half of current users are under 30, the problems associated with crack cocaine use are likely to increase in the future" (Hope, Hickman & Tilling, 2005: 1701).



This study was part of a larger 3-city study using capture-recapture methods to estimate the prevalence of problem drug use in London, Brighton and Liverpool in 2000/2001 (Hickman, Higgins, Hope & Bellis, 2004). It was estimated that the prevalence of injecting drug use among 15-44 year olds was 2% in Brighton, 1.5% in Liverpool and 1.2% in the 12 London boroughs. Only in London was there sufficient data to produce an estimate of crack/cocaine use - 0.8% - and 65% of those using crack or cocaine in London were also opiate users.

Community surveys of 650 IDUs were also undertaken in each city (3:1 male-female ratio, mean age 30 years). Opiates were reported to be the main drug injected by 75% in Brighton, 63% in Liverpool, and 66% in London; while cocaine/crack was reported to be the main drug injected by just 1% in Brighton and Liverpool, and 5% in London. However, about one in five reported injecting opiates and cocaine/crack as their main type of injecting: 16% in Brighton, 34% in Liverpool, and 18% in London. The authors concluded that "though nearly nine in ten of the IDUs in the survey injected heroin in the previous year, over half had also used crack or cocaine ... It is recommended, therefore, that prevalence estimation of problem drug use focus on injecting drug use, opiate and crack/cocaine use, with an assessment of the most appropriate data sources for each type" (Hickman et al., 2004: 29).

The Home Office (2002) concluded in their National Crack Action Plan, "crack use is steadily increasing throughout the UK ... the majority of users are poly-drug users, using crack alongside heroin" – though crack injecting is not explicitly mentioned (parag. 1, Annex 1, Updated Drug Strategy for Britain). Harocopos et al. (2003) conducted repeat interviews with a cohort of 100 crack users (mean age 31 years) from City Roads Crisis Intervention Centre in London across 2000-2001. Past-month heroin use was reported by 63%, and past-month injecting by 31% - almost all IDUs injected heroin, and over a third also injected crack. The authors concluded that "speedballing was common among this group" (p.10), and that at least one in ten had recently injected speedballs.

The 2003/04 UAPMP enhancement pilot survey recruited 952 current IDUs in community settings in six English cities (HPA et al., 2005; Rhodes et al. 2006). Injecting of crack-cocaine was reported by 40% - rising to over 70% in some cities - usually in combination with opiates, and these IDUs had higher levels of needle-sharing and other risk behaviours.

Crack injectors were also more likely to have been homeless in the last year: 67%, compared with 53% of other IDUs. Maliphant & Scott (2005) studied 47 drug users injecting in their femoral vein (groin), who were recruited from a drug agency in Bristol (66% male, mean age 31 years). It was found that 98% injected heroin, 40% crack, and 17% amphetamines. Overall, just over half (52%) were injecting more than one drug: 43% were injecting two main drugs – most of whom (34% of sample) were injecting both heroin and cocaine - and 9% were injecting three main drugs (heroin, cocaine and amphetamines in each case). Though poly-drug injecting was clearly the norm, multi-drug injecting was not directly assessed, and so the rate of speedballing was not reported.

Lastly, Hay et al. (2006) used capture-recapture and multiple indicator methods to estimate the numbers and population rates of four types of drug use among 15-64 year olds in England and its regions in 2004/05. Focusing on rounded-up mid-point estimates for England overall, the total number of problem drug users (PDUs) was estimated to be 327,000 (9.9 per 1,000) – including 281,000 opiate users (8.5), 193,000 crack users (5.9), and 137,000 IDUs (4.2). The highest numbers and rates of PDUs, opiate users and crack users were reported in London; though the highest number of IDUs was in the North-West (22,000), while the highest rate of IDUs was in Yorkshire & Humber (6.4 per 1,000)

Professor Peter Borriello, Director of the HPA's Centre for Infections stated in a press release at the start of 2006 that there was "evidence of an increase in the injecting of crack-cocaine which has been shown to be associated with transmission of blood-borne viruses such as HIV and hepatitis C" (referring mainly to the study by Judd et al., 2005a, in London). This was echoed by the HPA in their latest Shooting Up report on infections among IDUs in the UK: "there is a need to further investigate these associations [between crack use and BBIs] in order to inform effective harm reduction and prevention among crack-cocaine injectors and injectors of both heroin and crack-cocaine" (HPA et al., 2006: 20). Glossing over the evidence, and employing the latest prevalence estimates, it can be estimated that between one in five and two in five of the UK's 200,000 IDUs injected speedballs (heroin with crack/cocaine) during 2004 - about 40,000 to 80,000 people, with a mid-point of 60,000. However, the next section shows that the available evidence about regional rates of speedballing is patchy, though indicates that the highest levels outside London were in Greater Manchester.

#### 4.3.4 Speedballing in Manchester & North-West England

Several studies have shown that Manchester and the wider North-West region have for many years had particularly high rates of crack availability and crack/cocaine injecting compared with other cities and areas. These regional differences were first noted in the 1990s. For instance, a study of drug users across England & Wales in 1990/91 surveyed 412 clients of 19 drug agencies in eight locations, and 255 cocaine/crack users not known to agencies in six locations – with each sample including Manchester as one of the locations (Dean et al., 1992). Combining data from both samples, respondents were about two-thirds male, had a mean age of about 30 years, and around one in five were homeless. Crack availability was found to be highest in Manchester, where 87% of users stated that it was always available; while Manchester ranked third for cocaine availability (67%). Second, a study of 839 arrestees in five English police force areas (including Manchester) in 1996 found that 19% reported having ever injected, including 13% for heroin and 8% for cocaine; while 14% reported injecting in the past year, including 10% for heroin and 5% for cocaine (Bennett 1998). Manchester PFA had the highest lifetime and past-year rates of both heroin injecting (22%, 21%) and cocaine injecting (14%, 14%). In short, past-year injecting of heroin in Manchester was double the sample rate, while past-year injecting of cocaine was almost treble the sample rate. The proportions of arrestees who were multi-drug injecting (eg. speedballing) was not reported, but a median 30% tested positive for multiple drugs.

Third, Bottomley et al. (1997) reported that the majority of crack users in and around Manchester had a history of heroin dependency, and experienced similar problems to heroin users. Fourth, Sumnall et al. (2005) reported an analysis of data from the National Drug Treatment Monitoring System on 4,055 drug users who presented for treatment in Merseyside in the three years following April 1999 – based on a comparison of crack-cocaine injectors and other cases. The two groups were found to be well matched on most demographic and most drug-taking variables, though crack injectors were significantly more likely to report use of injected heroin and non-injected cocaine, less likely to report use of non-injected heroin, and more likely to live in Liverpool. The authors concluded that “crack-cocaine injectors may represent a subset of heroin users rather than a distinct population” (2005: 213).

Moving into the 21st century, the 2003/04 UAPMP

survey of 952 current IDUs in six English cities found that 40% had injected crack in the past month, with the highest rates reported in Manchester and Bristol – over 70% of IDUs (HPA et al., 2005). Crack injectors were also more likely to have been homeless in the last year: 67%, compared with 53% of other IDUs. In 2004, Weaver et al. (2006) conducted a study of 447 problem drug users (3:1 male-female ratio, mean age 32 years) recruited during a 2-month period from four specialist treatment agencies in three cities (two in Manchester, one each in London and Birmingham). Overall, about one third of participants used both crack and heroin. Based on the subsample of 271 drug users who received assessment for treatment – including 46 in London, 43 in Birmingham, and 118 and 64 in the two Manchester samples – it was found that 20% were using heroin and crack (with or without other drugs). However, the highest rate of use of both drugs was found in the largest Manchester sample (32%), compared with 20% in Birmingham, 10% in the smaller Manchester sample, and 4% in London. Focusing on the 155 crack users, the highest rate of use of both heroin and crack in the month prior to referral was again found in the larger Manchester sample (55%), compared with 24% in Birmingham, 20% in the smaller Manchester sample, and 6% in London.

The National Drug Evidence Centre (NDEC) have published two annual monitoring reports on the number and characteristics of IDUs attending six needle exchange schemes (NESs) in the city of Manchester (NDEC 2005). These reports noted that these Manchester NESs had a total of 1,355 clients in 2003/04, and 1,232 in 2004/05, of whom 877 and 882 respectively were classified as current individual IDUs. Among current IDUs, the proportion who injected heroin was 88% in 2003/04 and 83% in 2004/05; while the proportion of current IDUs who injected crack/cocaine was 31% in each year. This indicates that about three in ten clients of Manchester NESs were speedballers – about one in three of those who injected heroin.

The first report on the North West Drug Treatment Monitoring System, covering 2003/04, was published by LJMU's Centre for Public Health (Bullock et al., 2005). It noted that 27,909 North-West residents were in contact with structured drug treatment services in 2003/04 (2:1 male-female ratio), amounting to 1% of the 16-44 year old population. After Lancashire (3,782), the highest numbers of treatment cases were reported in Liverpool (2,771) and Manchester (2,722), as were two of the highest

population rates: 1.3% each (indeed, these two cities are also the two most deprived local authority areas in Britain according to ONS deprivation scores, reflecting the link between problem drug use and social exclusion). Only one figure was reported regarding treatment clients' drug use: 79% reported opiates (typically heroin) as their main drug. However, the report also noted that "evidence from historical regional monitoring data ... going back to the mid-1990s ... indicates a continuing upward trend in poly-drug use (crack and heroin combined, in particular)" (Bullock et al., 2005: 4). Although this trend is likely to incorporate speedball injectors, the extent of speedballing cannot be inferred, because no figures were presented for either multi-drug use or (more strangely) injecting drug use. More recently, Khundakar et al. (2006) reported figures on 35,469 problem drug users on the North West Drug Treatment Monitoring System in 2005/06 (injectors and non-injectors). Covering main and other drug use, 66% indicated heroin use, and 20% indicated crack use. Of 20,274 PDUs who indicated heroin as their main drug, 23% (4,703) stated that they also used crack.

The most valid and reliable estimates of the prevalence of different types of problem drug use in the 22 DAT areas of the North West region have recently been provided by Hay et al. (2006), using capture-recapture and multiple indicator methods. Confidence intervals were reported, but this brief summary focuses on mid-point estimates. These researchers concluded that there were 51,110 problem drug users (PDUs) in the North West in 2004/05, of whom 44,000 used opiates, 29,750 used crack, and 22,090 injected drugs. Greater Manchester was estimated to have 19,850 PDUs, including 17,320 opiate users, 10,450 crack users, and 8,650 IDUs. Out of the 22 districts, Manchester had the second highest number of opiate users (5,380) and IDUs (2,960) after Lancashire, and the second highest number of crack users (3,430) after Liverpool. Manchester also had the second highest population rates of problem drug use (based on 15-64 year olds) after Liverpool or Blackpool – 1.76% were opiate users, 1.12% were crack users, and 0.97% were IDUs (almost double the regional rate). The prevalence of speedballing was not assessed, but since 47% of Manchester PDUs were reported to inject, it can be speculated that the number of speedballers was around 1,600.

In short, the evidence suggests that Manchester had a high level of crack injecting compared with other cities, though there were no valid estimates

of the prevalence of speedballing. In the present survey, interval estimation techniques were used to estimate that between 72% and 88% of NES clients were speedballers – that is, between 615 and 752 of the 854 clients who attended the scheme in the first quarter of 2006. Two-thirds of the speedballers injected daily, typically injecting one £10 bag of heroin with one £10 deal of crack about four times each day. Almost nine in ten speedballers reported starting the habit between 1998 and 2005, and the mean duration of the habit was about five years – meaning that the typical speedballer started the habit around 30 years old.

There were four main groups of significant differences between speedballers and heroin-only injectors: personal characteristics, needle exchange usage, general drug use, and injecting drug use. First, compared with heroin-only injectors, speedball injectors were about four years younger, around twice as likely to be male and homeless, and three times less likely to have a regular sexual partner – as well as having about three times as many convictions (40 compared with 15). Second, compared with heroin-only injectors, speedball injectors took almost five times as many single-unit needles per NES visit, notably 1-inch orange needles; and were more likely to regularly pick up citric acid powder and swabs – but much less likely to make use of the information/advice service. Third, speedballers were over twice as likely as heroin-only injectors to report past-month crack smoking, and spent almost five times as much per week on drugs (about £500 compared with £110) – notably heroin (about £250 compared with £85) and crack (about £230 compared with £15). Fourth, speedball injectors were over three times more likely to be daily rather than monthly injectors, about five times more likely to re-use their own used needles/syringes, and much more likely to inject drugs in squats/derelict houses (about half, compared with no heroin-only injectors).

Some notable differences between speedballers and heroin-only injectors, particularly in injecting-related health consequences, were statistically non-significant because of the small number of respondents in the heroin-only comparison group (nine). For instance, the higher rate of HCV infection among speedballers compared with heroin-only IDUs was non-significant – yet speedballers had significantly higher levels of homelessness than heroin-only injectors, and homeless IDUs were significantly more likely than housed respondents to report being HCV-positive. Other causes of speedball-related harm were not directly assessed

by the survey – for instance, informal interviews conducted with several NES clients during the study period produced consistent reports that the quality of crack in Manchester had declined substantially since the 1990s, and particularly in the last few years. This is consistent with annual figures on the purity of crack seized by the police in England, and sent to the Forensic Science Service for analysis (Chart 5). In short, the quarterly purity of crack-cocaine dropped from around 90% in 1992 to around 70-75% from 2000, falling to a record low of 53% in 2004. Anecdotal evidence from Manchester IDUs also suggests a wider variety of adulterants and additives are turning up in crack-cocaine, including waxy substances. Such adulteration is likely to contribute to even greater physical damage.

Support for the present survey's findings of significant levels of risk and harm among speedballers has been provided by more recent research. For instance, the enhanced UAPMP survey of 952 British IDUs in 2004 found that the prevalence of HCV infection was highest among crack-cocaine injectors – 44%, compared with 24% among other IDUs (HPA et al. 2005). The HPA also concluded in their 2005 report (Shooting Up) that crack injecting was associated with an increased risk of both HIV and HCV. The UAPMP survey further reported that past-month groin injectors were significantly more likely than IDUs injecting in other sites to report crack injecting – 49% compared with 34% (HPA et al., 2005). Indeed, a recent review of research on injecting drug use in England concluded that "groin injecting is shaped by crack injection" (Rhodes et al., 2006: 167). Rhodes et al. further concluded that "a combination of factors linked with crack injection may increase risks of vascular damage (as well as bacterial and wound infection) ... including: the frequency of injection; multiple attempts to obtain venous access and use of multiple injection sites per injection attempt; crack cocaine acting as a local anaesthetic at injection sites increasing the potential for vascular and tissue damage at the injection site due to reduced sensation when injecting; the use of excess citric or other acids in the preparation of 'speedball' contributing to vascular damage; and repeated 'drawing back' or 'flushing' of blood into the syringe" (2006: 167).

However, there are no references either to the general behaviour of multi-drug injecting or to the particular example of speedballing in the UK government's 10-year Drug Strategy launched in 1998 – nor do they get mentioned in the Updated Drug Strategy (2002) or in the National Crack Plan

(2002). Consequently, there are no mentions of either injecting or multi-drug use in the government's three PSA drug strategy targets or wider drug strategy targets. This is part of the general neglect of drug consumption and drug-taking prevalence targets in the national strategy, in favour of client contact, service delivery and crime reduction targets.

But even if targets for reducing speedballing or its harmful effects were set, there is presently no way of measuring how many drug users are involved because both our research and monitoring – including the annual national survey of drug use (the British Crime Survey) and the National Drug Treatment Monitoring System - fail to collect information about multi-drug use. Nor do they report any information about drug injecting. Needle exchange monitoring systems vary from area to area, but also generally fail to properly assess multi-drug injecting. In short, both research and monitoring systems on drug users collect information in a singular fashion about each drug used, and generally neglect injecting drug use – and are thus incapable of telling us anything about multi-drug habits like speedballing.

#### 4.4 Implications and recommendations

Before turning to the implications of the present research, and recommendations for policy, practice and research, a brief gloss on the key findings and conclusions is provided:

(1) the characteristics of the sample were generally similar to those identified by other recent surveys of NES clients (eg. vast majority male, average age in the 30s) though their distinguishing features included a high level of homelessness (eight in 10) and a high level of speedballing (eight in ten);

(2) Though needle-sharing was relatively uncommon, other risky injecting practices were more prevalent, and these were (a) rooted in lack of hygiene, re-use of own needles, sharing paraphernalia, groin injecting, poor technique, unsuitable settings, and adulterated drugs; and

(b) associated with a package of personal and social factors, notably homelessness, mental disorder, criminality, imprisonment, and social exclusion;

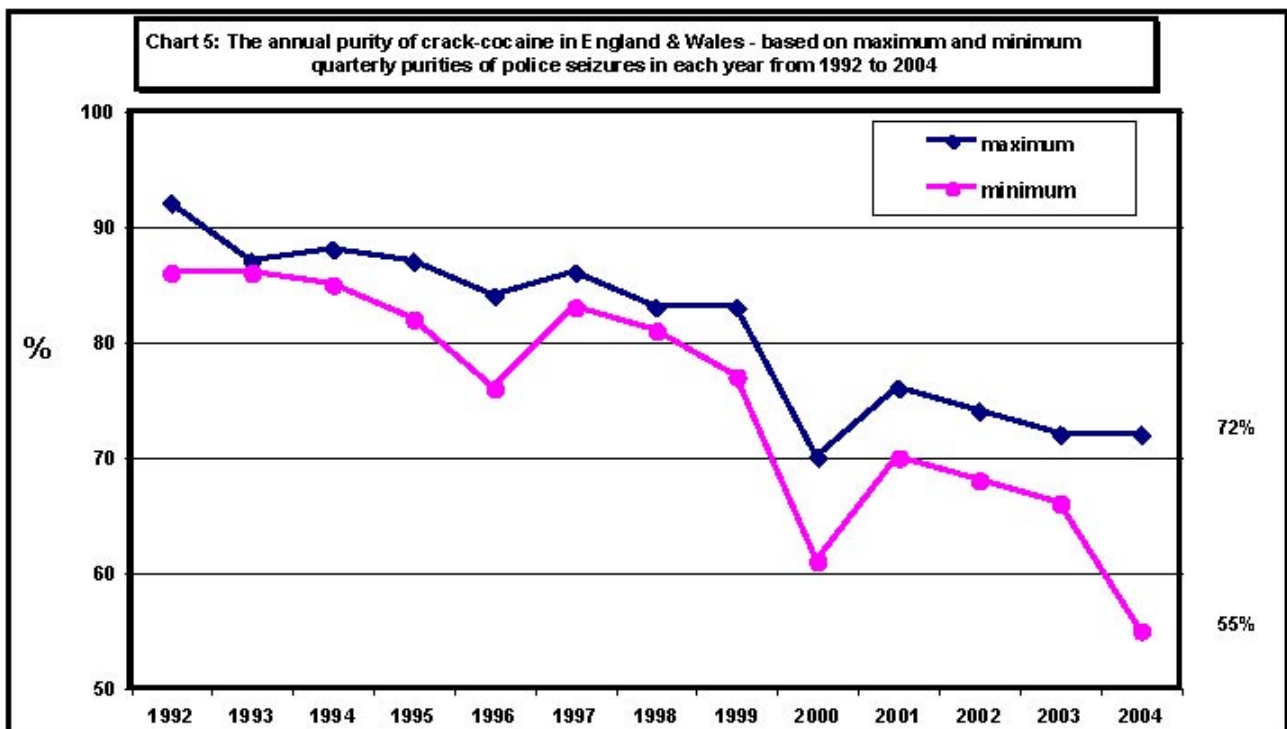
(3) Though HIV infection was reported by just one respondent, other harmful consequences of drug injecting were more common, notably HCV and physical damage to veins etc.;

(4) The NES was generally effective at making contact, delivering services, changing behaviour

and reducing harm, and many, if not most, of its shortcomings derived from the external constraints of drug policy, drug laws, and funding/resources (see below).

Recommendations are presented under two headings: policy and services; and research and monitoring. Recommendations for interventions focus mainly on needle exchange and treatment agencies, though it should be clear that particular interventions (eg. safer injecting information) could, with the appropriate packaging and delivery mechanisms, be provided through various specialist drug agencies (eg. Young People’s Drug Services), as well as through generic services like the Youth Service and Probation Service. Space constraints permit only a brief account of the rationale for these recommendations, though many will be more thoroughly explored in forthcoming publications in a variety of media.

Some readers may regard some of the recommendations presented below as radical or extreme. However, in addition to being supported by drug policy reform groups (notably Transform), harm-reduction pressure groups (notably UKHRA), and relevant professional associations (notably the National Needle Exchange Forum), they are increasingly supported by more mainstream organisations, such as government authorities and statutory bodies - locally (notably DATs), nationally (notably the HPA), and internationally (notably the WHO). Many recommendations are also supported by the findings of large national studies (eg. Abdulrahim et al. 2006) and/or recent local studies of IDUs, treatment cases, or needle exchange clients (eg. Rhodes et al. 2006). This chapter has provided clear and consistent evidence of this official support and advice, and pertinent quotes from the recent reports of these bodies will be used to illuminate the recommendations given below.



#### **4.4.1 Recommendations for drug policy and drug services**

Recommendations concerning needle exchange are presented under four main headings: availability and accessibility; safer injecting information, safer injecting products, and new and improved services.

##### **Availability and accessibility**

Manchester has six specialist Needle Exchange Schemes, though, unlike other nearby cities such as Liverpool and Bradford, it does not have needle exchange outlets in community pharmacies – nor in other generic services, such as hospital A&E departments. Though the Lifeline NES has an outreach service, this would benefit from greater resources and staffing – including (a) outreach workers targeting under-represented sub-groups such as ethnic minorities, women, young people, and body-builders/gym users; and (b) mobile services for areas on the outskirts of the city. Consideration should also be given to extending current opening hours to some evenings, and to Sundays as well as Saturdays. As regards physical accessibility, the Lifeline NES is well located on a main street in the city centre, close to bus routes and both rail stations. The location of the Lifeline scheme, along with the direct (open-door) access and user-friendly attitude of staff, are all key 'availability and accessibility' factors which underlie its success in attracting, retaining and changing the behaviour of local IDUs.

##### **Safer injecting information**

The two main issues concerning safer injecting messages involve the methods of delivery, and the message content. The Lifeline NES provides clients with high-quality and up-to-date information about safer injecting through two main delivery channels: (1) face-to-face advice and visual instruction on injecting-related behaviour and health problems; and (2) a variety of drug education materials designed by Lifeline Publications, based on textual and pictorial information - notably safer injecting guidebooks. Recent examples of the latter include the first-ever booklet on Safer Speedballing, which was based on the findings of the present survey, and released at the end of 2006. In addition, a series of short safer injecting messages, printed on small cards, is currently in the design and testing stage, and should be launched by mid-2007. As confirmed by recent market research (Newcombe 2006d), it is particularly important to continue with the philosophy of providing risk/harm-reduction information in both attractive forms (eg. colourful, humorous) and functional forms (see 'Safer injecting products'

below) - rather than simply giving out text-based information leaflets, which typically end up being discarded within a few hours. When information is provided on functional devices/materials, it is more likely that IDUs will want to keep it on them (eg. lighters), display it (eg. T-shirts), and/or pass it on to other drug users (eg. comic-books).

As well as putting out new, fresh messages in publications and on product packaging (eg. sharps boxes) at regular intervals, it is also recommended that consideration be given to the development of both computer software and a training course on safer injecting for NES clients. The software could be accessed by clients on routine visits, or integrated into training sessions, which would provide clients with an opportunity to receive direct verbal and visual instruction on injecting practices - including hygiene issues, preparation stages, administration technique, and dealing with health problems (wound-care etc.). These training sessions would also enable clients to discuss their concerns about injecting in a learning environment, as well as allowing staff to correct common errors and myths about injecting practices. Indeed, there are many aspects to safer injecting which cannot be easily demonstrated in words, and which would ideally require visual and tactile demonstrations. This training intervention would probably work best as a one-off session, though could conceivably involve a series of one-day or half-day sessions over several weeks, depending on content, costs and other factors. Alternatively, a training video could be produced, and this could be shown to groups of clients either instead of trainer-based sessions, or as part of such sessions.

As regards the content of safer injecting messages, there are many aspects of preparing and administering injections which need covering in publications for IDUs and in face-to-face advice – not least because a significant minority of IDUs (particularly women) do not know how to inject themselves, and are dependent on others. The findings of the present survey also suggest that some risky behaviours and harmful outcomes are far more prevalent than others, and, for these and other reasons discussed above, it was concluded that the following 12 messages are especially important:

(1) choose a safe and hygienic location for injecting drugs, preferably your own home or a friend's home – avoid derelict houses, public places, and shooting galleries;

(2) start by washing your hands with soap and water, and drying them on a clean towel; failing that, clean your hands with a sterile wipe, or else put on

plastic disposable gloves (see also the section on safer injecting products below);

(3) though you may need to learn how to inject by letting someone else inject you, you should soon learn how to inject yourself – advice is available from needle exchange schemes;

(4) lay all your injecting equipment out in a 'clean space' – like a tray or magazine cover – and do not let anyone else touch or use the equipment in your clean injecting space;

(5) use new (or at least clean) equipment for each injection – do not share paraphernalia like water and cookers with other injectors, and do not re-use your own equipment (if you do, make sure you follow the correct procedure for sterilising needles, spoons, etc.);

(6) use citric acid or Vitamin-C powder to dissolve drugs, preferably from small sachets provided by needle exchange schemes – and learn to use as little as possible for each shot;

(7) when usable veins are becoming harder to find, use either (a) warming/slapping methods to raise and swell veins in your arms/hands or legs/ankles, and/or (b) a tourniquet on your upper arm (seek advice from needle exchange staff on how to properly use a tourniquet);

(8) do not start injecting in your groin unless you have no other usable veins in your limbs - and seek advice on groin injecting from needle exchange staff first; and never inject in any other part of the body (i.e. head, neck, back, genitals);

(9) do not 'flush' (push and pull on plunger so that blood is repeatedly drawn into the drug solution and partly squirted back into vein) – instead, establish that the needle is in the vein by drawing back the plunger, and, as soon as you see blood in the barrel, press the plunger slowly down so that the solution is fully injected into the vein in one continuous action;

(10) after injecting, put finger pressure on the site until bleeding stops; then put a plaster on any gaping holes or weeping sores, and get more serious wounds (eg. abscesses) and injecting-related conditions treated as soon as possible by needle exchange staff;

(11) consider non-injectable methods of using heroin, crack, etc., which also produce a full and rapid effect (rush) – including smoking (using foil, pipes, reefers, etc.), snorting (using blades and tubes), and rectal absorption - the suppository or 'Up Your Bum' (UYB) method;

(12) learn how to identify the early signs of injecting-related problems (eg. hitting an artery, bad hit, seizures) and infections (eg. hepatitis, tetanus), and learn basic first-aid (notably how to put an unconscious person in the recovery position, etc.) – these things may one day save the limbs or life of

yourself or a friend.

### **Safer injecting products**

In addition to its current provision of a full range of injecting equipment, preparation paraphernalia (notably filters, citric powder, stericups, sterile water, swabs), secondary safety devices (needle clippers, ampoule snappers, sharps boxes), and safer-sex products (condoms, lubricants, etc.), it is recommended that the Lifeline NES should also consider routinely providing the following products:

(1) sterile wipes and/or disposable gloves - for cleaning or covering hands when there is no access to soap and water; and cleaning surfaces where injecting equipment will be placed;

(2) injecting mats/trays - to provide a clean personal space for laying out injecting equipment during the preparation and administration of an injection;

(3) syringe markers - coloured plastic attachments which help users to identify their own syringe when injecting in large groups;

(4) lighters – for a safer method of 'cooking' up solutions of water and drug powders in a stericup/ spoon (safer compared with matches and candles);

(5) proper tourniquets – ideal for accessing collapsed veins, and safer and more hygienic than makeshift tourniquets like belts and ties;

(6) plasters, bandages, antiseptic ointments, etc. - to cover and treat sores and other wounds;

(7) injecting kits – boxes/packs containing all relevant equipment needed by the typical IDU, with specialised kits containing relevant items for heroin injectors, speedballers, etc.;

(8) pro-smoking/sniffing devices – to encourage non-injectable forms of drug use, notably crack and heroin smoking, including crack pipes, tin-foil, and cigarette papers.

In addition to the general and specific harm-reduction arguments presented above to support each of the recommended products, there is also evidence from a variety of sources (including the present survey) which provides further support for these recommendations.

First, sterile wipes – particularly anti-bacterial hand and skin gels - and disposable plastic gloves are important for reducing 'germs' on the IDU's hands and on 'injecting surfaces' when soap/ water and cleaning agents are not available (eg. in derelict houses) - not just to prevent self-infection, but also to prevent the spread of infections when administering injections to other people. Indeed, there is evidence of a growth in bacterial infections

among IDUs over the past decade (HPA et al., 2006). In addition, the present survey found that three in ten respondents (and six in ten rough sleepers) injected in derelict houses and squats; that only four in ten regularly washed their hands with soap and water before injecting; that one in five had recently been injected by someone else; and that one in seven had recently injected someone else. However, information and advice on safer injecting should emphasise that washing hands with soap and water is preferable to using sterile hand-wipes for various reasons. For instance, as hospital doctors are only too aware, alcohol-based swabs and wipes do not eradicate all infectious micro-organisms – for example, *Clostridium difficile*, which is presently rife among hospital patients in the UK, can be eliminated by use of soap and water, but is not killed by alcohol-based swabs and solutions.

A second major source of bacterial infection is the 'injecting space', typically a table top or kitchen surface, which is often dirty and unsterilised – particularly in derelict houses. Sterile injecting equipment taken out of its packaging is quickly contaminated by bacteria when it is put down on such surfaces during the preparation and administration of an injection. Though one solution involves wiping the surface clean with a sterile wipe, an easier option would be to provide IDUs with sterile mats/trays which not only provide a clean space for injecting, but also provide a personal space which reduces the chances of accidentally using equipment already used by someone else. Third, the risk of accidental equipment sharing can also be reduced by the provision of syringe markers – coloured plastic items which can be attached to syringes. These are likely to be particularly useful to IDUs who both (a) inject in large groups (such as 'shooting galleries'), and (b) inject in messy chaotic environments like derelict houses – notably homeless IDUs. However, there has been no research into the effectiveness of either injecting mats/trays or syringe markers, and these issues should be a key priority for future evaluations of needle exchange interventions.

Fourth, cigarette lighters should be provided to IDUs because they offer a safer method of heating up drug solutions in stericups/spoons than either matches or candles, for three reasons: the flame is adjustable (using the size switch), cleaner (there are no soot or wax residues from butane), and safer (it goes out when the lighter button is released – whereas matches and candles may continue to burn when not being held or if dropped). In addition, disposable lighters are cheap, lightweight, and can

be used as a vehicle for safer drug use messages. Indeed, a market research survey of 114 drugs workers (mostly needle exchange and treatment agency staff) attending the National Conference on Injecting Drug Use in London in October 2006 asked about their level of interest in purchasing various products with drug-related messages for their clients (Newcombe 2006d). It was found that the most popular item out of eight listed items was 'lighters/matches', indicated by almost half (see below for more details). Of course, local fire departments may object that the provision of lighters presents a fire risk, particularly in derelict houses with no fire prevention devices. But since IDUs are using naked flames to cook up drugs anyway, providing disposable butane lighters would at least reduce the additional risks associated with using matches or candles for such purposes.

Fifth, needle exchange schemes should also offer IDUs tourniquets – specially designed straps for bringing up veins in the arm, and making them easier to inject. Unfortunately, tourniquets are currently not one of the injecting equipment items currently excluded from Section 9 of the 1971 Misuse of Drug Act (see below), based on the false argument that they do not contribute to risk/harm reduction. That is, this argument fails to take into account the fact that the veins of longer-term IDUs become both scarred and collapsed – which makes it very difficult to penetrate them with a needle. A properly used tourniquet can raise and swell veins that would otherwise be almost impossible to inject, and thus reduces (a) damage to these limb-sites caused by continuous 'digging', and (b) the probability that IDUs will turn to groin injecting. In addition, medical tourniquets also have special safety features like quick-release devices – a useful feature when sedating drugs like heroin are being injected.

Sixth, the provision of sticking plasters and other medical materials for minor flesh wounds would assist IDUs to prevent or self-treat damage and infections at injecting sites – particularly homeless IDUs (who are far more likely to be exposed to unhygienic locations and used equipment, and who have fewer opportunities to bathe and wash regularly) and speedballers (because crack injection leads to significantly greater vein/tissue damage and infection). Indeed, in the present survey, almost a quarter of IDUs reported having had abscesses in the past year, while one in five each reported ulcers/sores and collapsed veins. Ideally, medical treatment of injecting-related wounds should be carried out by trained medical staff at NESs or A&E departments



(who also have access to medical technology, antibiotics, etc.) - but since many IDUs attend these services irregularly or for equipment supplies only, it makes sense for NESs to offer them such basic infection-control materials as sticking plasters, bandages, and antiseptic ointments.

Seventh, though one of the advantages of specialist NESs is that they can provide clients with the precise type and quantity of injecting equipment which they require for their individual needs, they should also consider stocking and offering complete 'injecting kits'. Precedents for such kits/boxes already exist in pharmacy NESs and some specialist schemes. In addition to making savings on staff time, such kits would also be useful to new injectors and those with particular injecting habits/practices. For instance, kits could be designed which provide the standard equipment required by the average injector for a set time period (eg. one week, two weeks); or which cover the injecting (and information) needs of particular sub-groups of IDUs – such as heroin-only injectors, speedballers, and steroid injectors; or groin injectors, homeless IDUs, and sex workers. A prototype generic kit was designed by Lifeline Publications in the early 2000s, but was withdrawn due to a variety of 'teething problems' and official objections. One of the advantages of this prototype was that it provided a cardboard box for the injecting equipment/materials which also served as a clean personal 'injecting space' (see the second recommendation for NES products above). But the time is now ripe for a revival of the 'drug injecting kit' in improved and refined forms. For instance, the market research survey of 114 drug treatment and needle exchange workers in 2006 described earlier also found that about half were quite or very interested in providing clients with safer injecting kits, while four in ten were quite or very interested in providing specialised kits for sex workers (Newcombe 2006d).

Eighth, needle exchange schemes and other drug agencies need to give far greater attention to services and products which encourage non-injectable drug use (cf. Rhodes et al., 2006), both by supporting drug smokers and sniffers not to make the transition to injecting, and by encouraging IDUs to switch back to non-injectable methods of drug use, including rectal absorption, also known as the UYB (Up Your Bum) method. In addition to discouraging injecting, the provision of such equipment also reduces the risks of spreading HCV and other infections through sharing of such devices as snorting tubes and pipes. Although NESs are well

placed to encourage IDUs to switch to non-injectable drug use, some experts understandably believe that they are not the best agency to conduct interventions with young drug smokers and sniffers aimed at preventing the transition to injecting drug use – largely because non-injectors could be exposed to IDUs and 'injecting culture' on the agency premises. Such commentators therefore argue that it would be more effective to deliver pro-smoking and pro-snorting interventions through general drug agencies and through young people's drug services. Whatever the delivery method, there are four main types of non-injecting equipment/materials which require careful consideration as harm-reduction tools for promoting safer drug consumption:

(1) equipment for snorting powders (notably amphetamine, cocaine and heroin, but also ketamine, ecstasy, etc.) - particularly blades for chopping up powders, mirrors or similar surfaces for laying out lines of powder, and tubes for snorting them up the nose (which, as well as decreasing injecting levels, also reduce the risk of contracting HCV or other infections through the sharing of snorting tubes like rolled-up bank-notes);

(2) glass pipes with gauze meshes and rubber mouth-pieces (primarily for smoking crack), which, in addition to discouraging injecting, also reduce the risk of burnt/cracked lips, and the consequent spread of infections, associated with using a home-made pipe (eg. a glass with a foil lid, or an adapted soft-drink can);

(3) high-quality tin-foil (primarily for 'chasing' heroin), which in addition to discouraging injecting, reduces the risks of (a) burning (rather than vaporising) the drug powder, and (b) inhaling toxic fumes from smouldering tin-foil; and

(4) cigarette papers (primarily for crack smoking, but also for cannabis users, etc.) – this product is ideal for providing short messages on safer drug use to a broad range of drug users.

In short, in addition to attracting 'hidden' drug smokers and sniffers into contact with drug agencies, and providing them with products which discourage injecting and reduce the harmful effects of their drug use, all of these devices and materials for administering drugs can also be used as vehicles for providing safer drug use messages.

At present, the available evidence indicates that no drug agencies have ever provided clients with snorting kits for the nasal absorption of drug powders – though cocaine-snorting kits have been available from 'headshops' (in city centres, or mail-order from magazines and online) for several years. Retailers

typically avoid prosecution under Section 9A of the Misuse of Drugs Act (see below) by ensuring that the packaging contains information which states that the equipment/materials are for legal purposes only, and/or that they are not intended to be used to take illegal drugs.

Tin-foil has been provided to IDUs from agencies in various European countries. Some British NESs have also developed 'unofficial' tin-foil provision services over the last few years, while the Turning Point NES in Yeovil, Somerset, starting an official tin-foil provision service in October 2006 – supported by Avon & Somerset Police. Moreover, since the start of 2007, Exchange Supplies, a wholesale supplier of equipment to needle exchange schemes in the UK, has been marketing packs of tin-foil sheets for heroin smokers. They note in their latest catalogue that although tin-foil is not specifically excluded from section 9A of MODA (see below), this law "exists to facilitate prosecution of drug dealers and has (a) NEVER been used against drug services; and (b) has already been changed three times to add items being provided by drug services to reduce harm" (Tools for Harm Reduction, Spring 2007). Their website provides further details of "how to reduce the very low risk of prosecution to zero".

Similarly, needle exchange schemes and drug agencies in other parts of the world have recently started to provide crack-pipes to clients, including Paris in France. Though some of these schemes are 'unofficial', the Needle Exchange Scheme in Ottawa, Canada has since 2005 provided a formal crack-pipe equipment programme. The equipment package includes glass stem pipes, rubber mouth-pieces, brass screens (to prevent burns), lip balm, chewing gum, a pipe disposal mechanism, and safer use information. Preliminary evidence about the effectiveness of the intervention in reducing harm associated with crack use was released in September 2006, based on the responses of 550 crack smoking IDUs - both retrospectively, at six months prior to the initiative; and concurrently, at one month, six months, and 12 months (Leonard 2006). After one year, the programme had provided 52,000 kits to 4,400 crack smokers, and almost nine in ten of the 550 study participants continued to collect the crack-smoking kits. The proportion who reported sharing crack pipes every time they smoked dropped from 31% to 13% over the same year. Furthermore, although 29% reported a greater frequency of crack smoking after a year, this was accompanied by a 40% reduction in the frequency of injecting.

Because of their association with tobacco use, the supply of cigarette papers to drug agency clients for the purpose of smoking drugs appears less controversial and legally contentious than supplying the other drug-taking devices listed above, though remains rare in the UK. Yet, the 2006 market research survey of 114 needle exchange and treatment workers mentioned earlier found that, after lighters/matches, the second most popular product for safer drug use messages was cigarette papers (followed by pens/pencils), being regarded as quite or very interesting by more than four in ten drugs workers. Indeed, fewer than one in five drugs workers expressed such interest in any of the other five products listed (badges/wrist-bands, t-shirts, coasters, cups and baseball caps).

However, unlike headshops, drug agencies are not in a position to dishonestly justify the supply of drug-taking (or preparing) equipment to illegal drug users under the pretence that it for using legal substances only. Thus, despite the comforting 'noises' understandably made by wholesale suppliers of such devices and materials, its provision would ideally require further amendments to Section 9A of the 1971 Misuse of Drugs Act (MODA). As noted earlier, an amendment to MODA in 1986 prohibited the supply of materials (other than syringes) for preparing or administering controlled drugs. Thus, providing devices like crack pipes and snorting kits from needle exchanges would require that they are added to the growing list of drug-taking equipment/materials which were later legally excluded for harm-reduction purposes (in 2002 and 2003) – though all of the items excluded so far were for injecting purposes only.

### **New and improved services**

At the time of the present survey, the Lifeline NES provided a comprehensive range of relevant services to clients, notably: injecting equipment provision and return services; advice and information on safer drug injecting; outreach work; referrals to other agencies; vaccination and testing for BBIs; and primary healthcare, notably treatment of injecting wounds. Although it clearly already provides a wide range of services and products to clients, the present survey suggested that there is still a need for the NES to improve its existing services, as well as to consider setting up new services. The main recommendations put forward for consideration by the Lifeline NES and other specialist needle exchanges, based on the harm-reduction interventions available to date (Newcombe 2007), are: extended healthcare options, appropriate medical technology, drug consumption

rooms, drug product testing, drug product improvement, and overdose prevention. These are each briefly elaborated upon below.

First, the NES should consider developing extended healthcare options to prevent a broader range of blood-borne infections among clients - notably (a) full vaccination against tetanus, influenza, and other prevalent infections, and (b) funding Nurse Practitioner time and resources to prescribe basic medications to clients - notably antibiotics to treat bacterial infections. Second, the NES should try to find resources to install and offer new medical technology to reduce the harmful effects of drug injecting - notably the Vein-Viewer (Luminetx), a machine which identifies the location of deeper veins, and thus assists IDUs to rotate injecting sites and avoid groin injection. Third, NESs should consider providing a drug consumption room, particularly for homeless IDUs - both for the safer preparation and administration of injections, and to reduce injecting in public places and risky locations (like derelict houses). However, Section 8 of MODA (1971) makes it an offence to allow your premises to be used for drug offences, and so (as with the provision of drug-taking equipment) a legal amendment to MODA would be needed to permit drug agencies to legally provide a room for clients to prepare and use illegal drugs.

Fourth, NESs and other drug agencies should consider setting up and offering drug product testing service - either by (a) the relatively cheap and easy option of offering on-site testing facilities or take-away testing kits for clients to test their own drugs - though these simply indicate the presence or absence of a small number of key drugs; or by (b) the much more expensive and logistically difficult option of developing a multi-agency system, involving the Police and Forensic Science Service, in which information about the identifying characteristics (visual and gustatory) and precise contents (purity and adulterants) of seized drugs is quickly fed back to drug users through NESs and other drug agencies. If resources permitted, it would also be extremely valuable to scientifically test drug products for biological contaminants, such as the presence/ extent of bacteria or aflatoxins in heroin and cocaine powders. The harm-reduction rationale of the multi-agency feedback system is that (a) information about adulterants, additives, impurities and contaminants would permit users to avoid particular batches of a drug product, or else to use appropriate 'cooking' procedures (eg. dissolving agents and filters); while (b) purity information would enable users to adjust

the dose accordingly (and thus avoid overdosing or under-dosing), as well as enable them to choose the highest-purity product when two or more different batches are available. However, the political will needed to develop such a system does not presently exist, and it is doubtful whether it ever will.

Fifth, NESs should consider designing and delivering a drug product improvement service. In addition to providing recipes for the best methods of 'cooking' up illegal drug solutions for injection (i.e. techniques for dissolving and filtering adulterants), this intervention would be centred around the supply of a 'crack-making kit'. This would contain information (booklet/ videotape/DVD) about how to make crack (cocaine freebase) from cocaine hydrochloride (coke powder), possibly along with the substances and equipment required for the chemical transformation. The harm-reduction rationale for this intervention is that crack in Manchester and the UK generally is presently very adulterated, and a crack-making recipe or kit would improve and stabilise the purity of crack, reduce exposure to adulterants, make the crack much cheaper, and prevent mistakes in the process or product which could damage health. Some agencies now provide information in print (booklet) or video (tape/DVD) form about how to make crack from cocaine hydrochloride - for instance, the Antwerp Free Drug Clinic in Belgium [in addition, NESs should consider whether speedballers are best advised to inject cocaine powder rather than crack with their heroin - if so, then interventions to divert speedballers toward cocaine HCl-based 'hits' would also need to be designed and delivered].

Sixth, NESs should consider implementing overdose intervention schemes - particularly by setting up antidote projects with heroin injectors, in which IDUs are issued with naloxone to administer to friends who accidentally overdose; providing access to first aid training courses to enable clients to help overdosed friends; and also by improving and publicising existing schemes to prevent fatal overdoses (in which ambulance paramedics agree not to routinely involve the police when called out to deal with drug overdoses).

Although space constraints rule out a more thorough review of the literature on these interventions here, up-to-date overviews of the issues and relevant research can be found in Dolan et al. (2000) and Joseph Rowntree Foundation (JRF 2006) for drug consumption rooms; and in Strang et al. (1999), Oldham et al. (2002), and Wright et al. (2006) for naloxone interventions. One anecdotal

point which illustrates the need for such interventions derived from a common observation given by several male NES clients who were informally interviewed during the study period, concerning a popular method for covertly injecting in the groin while in public. To quote one such client, this involved “leaning into a bush and acting like you are taking a piss, then bish-bosh-bish - you can be in and out of your femoral vein real quick”. Indeed, the JRF report on drug consumption rooms concluded that they should be piloted in the UK - and similar conclusions have been reached about naloxone interventions, particularly ‘take-home’ doses which IDUs can use in an emergency when a friend has overdosed on opioids. While most projects and proposals for drug consumption rooms involve promoting safer injecting practices among IDUs and reducing public drug injecting, drug services in Vancouver are developing plans to launch a supervised safer smoking facility for crack-cocaine users (Shannon et al. 2006). Along with universal ethical implications, these interventions have legal and cultural implications which vary from country to country, and so they clearly need very careful consideration and monitoring both before and during implementation.

### **Treatment agencies**

It is recommended that drug treatment agencies (DDUs and CDTs) develop specialised programmes for drug users with multiple drug dependencies, particularly habits involving heroin and crack/cocaine - and sometimes other drug groups as well (particularly the amphetamines and benzodiazepines). There are three main sub-groups of poly-users of heroin and crack who require different strategies: (1) multi-drug injectors of heroin with crack (speedballers); (2) heroin injectors who also smoke crack or sniff cocaine, who are at risk of transition to speedballing; and (3) serial or singular smokers/sniffers of both heroin and crack, who are at risk of transition to injecting either or both drugs. Many people in each sub-group will also be using methadone regularly or occasionally, and some will also be dependent on benzodiazepines (notably temazepam or diazepam). It may also be prudent to give consideration to interventions with three other sub-groups: heroin-only users at risk of using crack or cocaine; crack/cocaine-only users at risk of using heroin; and the ‘separate’ minority group of amphetamine users (5% of respondents in the present survey injected amphetamines, though rates vary from place to place). UK treatment agencies also need to stay alert to any signs of methamphetamine use among their client group. Despite warnings and claims by politicians and the

mass media over the last two years, there is presently no evidence of any market for methamphetamine use in the UK (prevalence remains virtually zero) – but this does not rule out the possibility of a future outbreak.

Drug prescribing has two key functions: attracting and retaining drug users in treatment; and reducing risky behaviour and harmful consequences by providing a regulated clean supply of pharmaceutical drugs to substitute for the client’s illicit drug use – either to stabilise the client on a maintenance dose, or to provide a reducing dose to help them gradually reach abstinence with minimal withdrawal symptoms. While methadone and buprenorphine (Subutex) are the main two opioids licensed to treat heroin dependence in Britain, some treatment agencies also prescribe other substitute opioids, notably dihydrocodeine, morphine, and diamorphine - see Stimson & Metrebian (2003) for a review of the evidence on prescribing heroin to opioid addicts. Some agencies also have options for injectable rather than oral opioids – and, a small number of agencies continue to prescribe smokable heroin and methadone (‘reefers’), though only rarely to new clients. Smokable prescriptions have the major advantage of providing users with rapid drug effects (a ‘rush’) without the need to inject – and thus provide an important tool for assisting injectors to move toward non-injectable drug use (Marks, Palombella & Newcombe 1994). In addition, as part of reduction and detoxification regimes, most treatment agencies also provide opioid withdrawal-management drugs - such as clonidine, Britlofex, and symptom-specific medications (notably sleeping pills, anti-emetics, muscle relaxants, etc.) – and relapse-management drugs, such as naltrexone (see Strang et al. 2004, Webster 2007, and NTA website for up-to-date accounts of drug treatment in the UK). Although offering a broader range of opioid substitutes to heroin users would be likely to generate a range of benefits, from attracting more users to reducing illicit top-ups, various political and economic factors conspire to limit such prescribing options in most treatment agencies. The future of heroin prescribing in the UK should be strongly influenced by the findings of the ongoing experimental study at three drug treatment agencies.

Even so, compared with what is available for other forms of drug dependency, treatment options for heroin users are fairly abundant. Most notably, despite the emergence of a National Crack Plan five years ago, the only pharmaceutical assistance that crack and cocaine users can expect from

British treatment agencies is anti-depressants and sleeping pills (see Weaver et al. 2006). For instance, in one of their most recent reports on crack/cocaine treatment, the NTA argued that “there is no strong evidence to support the routine use of pharmacotherapies, though in some studies disulfiram (Antabuse) has reduced cocaine use, especially among patients whose heavy drinking is integral to their cocaine dependence” (2002: 5). However, initial research into substitute prescribing interventions with crack/cocaine users has been conducted in other countries, while some countries/cities are considering launching crack/cocaine substitution programmes. For instance, Dackis et al. (2005), supported by NIDA in the USA, conducted a double-blind, placebo-controlled trial of modafinil prescribing for cocaine dependence on 62 cocaine-dependent individuals (two-thirds male, mean age 45 years). All patients took part in twice-a-week CBT sessions for the eight weeks of the study, and all took prescribed tablets on a daily basis – but while half were given daily doses of 400 mg of modafinil, the other half were given identical-looking placebo tablets. It was found that modafinil patients were over twice as likely to remain abstinent for three weeks or more compared with placebo patients (33% compared with 13%), which was supported by evidence of fewer cocaine-positive urine samples among modafinil patients compared with placebo patients. The psycho-pharmacological explanation is that regular use of cocaine depletes brain glutamate levels, while modafinil enhances glutamate levels.

Similar evidence of effectiveness has been found for dexamphetamine. That is, two randomised double-blind placebo-controlled studies have found that dexamphetamine prescribing is an effective treatment for cocaine dependence (Grabowski et al. 2001; Shearer et al. 2003). Collins et al. (2006) conducted a volunteer inpatient study of 14 cocaine-dependent people, who were given daily doses of 40-60 mg of a third stimulant: sustained-release methylphenidate. Findings were generally supportive of this approach – for instance, ratings of cocaine’s reinforcing effects dropped over time for the seven participants with ADHD. The authors concluded that “a therapeutic approach of using slow-acting stimulants to reduce craving for cocaine – parallel to the use of methadone or buprenorphine in opiate addiction – may be possible for cocaine addicted patients with ADHD” (2006: 158). At the start of 2007, the drug treatment service in Vancouver, Canada, announced plans for a substitute prescribing programme for cocaine and crack users, with both methylphenidate and dexamphetamine

being considered as options. Other suggestions for safer, slower-acting stimulants for use in substitute prescribing for cocaine dependence, include coca-leaf. Coca-leaf contains about 1% cocaine, which is released and absorbed slowly through the lining of the mouth and throat, as it is chewed or drunk as a tea (it is largely inactivated by the liver when swallowed).

About a dozen treatment agencies in Britain also prescribe oral dexamphetamine to people with a speed habit, an intervention designed to reduce the prevalence and frequency of amphetamine injecting and related harms – and a review of preliminary research suggests a high level of effectiveness (Newcombe 2003). Of course, experimental prescribing of stimulants as a substitute for crack would also need to carefully monitor possible interaction effects with crack/cocaine, as well as methadone, heroin and other drugs. In summary, it is recommended that treatment agencies prioritise the development of programmes for multi-drug users, particularly speedballers, but also drug users at risk of progressing to crack use, injecting or speedballing. It is also advised that these programmes consider offering a broad range of prescribing options to meet the varying needs of the different sub-groups, including several opioids, and substitute drugs for crack dependence – as well as smokable prescriptions, to help prevent the transition to injecting among smokers, and to encourage IDUs to return to non-injectable drug use.

In conclusion, with a few exceptions (notably drug product testing and improvement) most of the above recommendations for innovations and improvements to needle exchange and treatment services for IDUs are supported by the generally harmonious conclusions and advice of international and national organisations in a variety of recent official reports, bulletins and publications. These include government committees and research teams, and such statutory bodies as the WHO, the HPA, and the NTA; and such relevant voluntary groups as the International Harm Reduction Association (IHRA) and the UK National Needle Exchange Forum (NNEF). A full review of this advice was outside the scope of this report, so this section will be rounded off with a few brief but salient examples of concordance between this official/expert advice and the present recommendations. Regarding treatment, more flexible prescribing – including smokable and injectable heroin – has been recommended by several statutory and voluntary organisations, by major research projects, and by individual politicians and

senior police officers (eg. RSA 2007). Indeed, in 2002, the UK Government's Updated Drug Strategy 2003-2008 included the promise that "all those who have a clinical need for heroin prescribing will have access to it under medical supervision, safeguarding against the risk of seepage into the community" (2002: 11). However, substitute prescribing for crack dependence is not officially endorsed, and remains rare. Finally, the HPA noted in their latest annual report on drug injecting in Britain (Shooting Up) that there is "a need to reinvigorate harm reduction advice and intervention in relation to injection hygiene, vein care and risk management", as well as a need "to pilot and evaluate innovative intervention options for improving injection hygiene, such as novel approaches to providing practical training to IDUs on safer injecting ... [and] drug consumption rooms" (HPA et al., 2006: 20, 22).

#### **4.4.2 Recommendations for research and monitoring**

The following recommendations for research into and routine monitoring of injecting drug use attempt to cover its four key aspects (research domains): causes (aetiology), prevalence and demography (epidemiology), behaviour and experience (ethnography and social psychology), and interventions to reduce injection risks and harms (evaluation research).

First, aetiological research needs to focus on identifying and disentangling the causes and consequences of drug injecting – including biological causes (genes, epigenetics, etc.), psychological causes (personality, mental health, etc.), and social causes (childhood, social environment, occupational status, demographics, etc.). Then, in order to constructively interpret and respond to findings about the complex causal relationships between these multi-level variables, researchers and policy-makers also need to make clear distinctions between (1) IDUs' reasons for starting to inject, and their reasons for continuing to inject; (2) non-injecting drug users' reasons for sticking with smoking or sniffing, and ex-injectors' reasons for moving back to smoking or sniffing; and (3) the reasons for injecting particular drugs, notably heroin, crack/cocaine, or amphetamines; and the reasons for multi-drug injecting (notably speedballing) and groin injecting. Indeed, the findings of the present survey indicate that there is a particular need to develop a clearer aetiological picture of the relationships between injecting-related risks/harms and a critical package of factors headed by social exclusion (notably

homelessness, unemployment and criminalisation), mental and physical health problems, and drug injecting habits (notably speedballing, groin injecting, and use of 'shooting galleries'). This echoes the conclusion of the HPA, in their latest Shooting Up report, that there is a need for more research into the numerous 'interacting' factors underlying risky injecting behaviour, notably "homelessness, injecting in public and semi-public places, ...groin injection, and the growing use of crack-cocaine" (2006:22).

Second, epidemiological research aims to quantify the population parameters of a disease or deviant behaviour – which, in the present case, means devoting more resources to estimating the incidence and prevalence of the main types of drug injecting (including multi-drug injecting), and to profiling the demographic and personal characteristics of IDUs (including accommodation status). Local prevalence estimation is particularly important if needle exchange schemes and other drug agencies are to evaluate their success in attracting IDUs into contact; whilst the monitoring and forecasting of prevalence trends provides a scientific basis for service planning and resource allocation. Having an up-to-date demographic profile is also important, not just to assess levels of social exclusion (unemployment, homelessness, etc.), but also to identify which sub-groups are under-represented among agency clients (typically women and young people), thus permitting more systematic targeting of 'hidden' IDUs. In this respect, it is also recommended that the Homelessness Directorate should provide local authorities with improved guidelines for estimating the prevalence of rooflessness (rough sleepers). This is required because, as argued in Section 4.2, the point-prevalence physical counts of rough sleepers described in the present guidelines are both invalid and unreliable, i.e. scientifically worthless. It is recommended that the new guidelines for estimating the number of rough sleepers should be based on statistical techniques successfully used to estimate the size of other 'hidden' populations, notably drug users (eg. capture-recapture, case multipliers).

Third, the behaviour and experience of IDUs is a central issue from a harm-reduction perspective, and is best assessed by the models and methods of the social sciences, notably social psychology. In particular, more ethnographic research is essential for understanding both the subjective and social dimensions of drug injecting. That is, question-and-answer based research methods cannot provide an adequate picture of the intricacies and subtleties of the behaviour involved in the preparation

and administration of an injection, nor of IDUs' experiential worldview. Ethnographic methods can gather such detailed and subjective information by content analysis of verbal data (from unstructured interviews) and visual data (derived both from direct observation and electronic recordings). These ethnographic methods have been neglected to date, and should play a more central role in future research into the risks and harms of injecting drug use. Indeed, Rhodes et al. (2006) concluded from their pioneering 'visual assessment of injecting drug use' that "the use of film is methodologically feasible and desirable, especially in the context of multi-method qualitative or ethnographic research" (2006: 17). They also recommended that "future ethnographic work focuses on the choice and management of injecting sites, the initiation and use of the groin ... [and] the risks associated with blood in the injecting environment" (op. cit.). Regarding the problem of speedballing, Rhodes et al. also advised that more research be conducted into "the scope and feasibility of interventions specifically targeting risk management among poly injectors of crack and heroin", as well as "risk reduction interventions targeting injecting in public and semi-public environments" (2006: 17). In addition, the HPA recommended research into "the feasibility of interventions designed to prevent or reduce transitions to drug injecting, especially crack-cocaine injection, among heroin injectors and current non-injectors of crack-cocaine" (2006: 22).

Fourth, it is recommended that researchers and policy-makers develop a framework for monitoring and evaluating needle exchange and related harm reduction interventions, in order to properly assess their effectiveness and improve their performance, and to facilitate communication between interested parties (see Amundsen 2006). When resources permit, evaluation should be conducted on an annual basis, and should systematically examine four levels of outcomes (making contact, service delivery, behaviour change, and harm levels) - as well as incorporating process evaluation. Moreover, systems for collecting and reporting routine monitoring data on clients - from the National Drug Treatment Monitoring System to local NES monitoring systems - should be subject to reviews of 'fitness for purpose'. The demographic item which requires most urgent development is accommodation status (including clear definitions of different types of homelessness); while the drug-taking item requiring most urgent attention is multi-drug use, i.e. which drugs clients use/inject simultaneously (including types of drug, doses, etc.). In addition, more information needs

to be recorded about ongoing events, including service uptake and various client outcomes. This recommendation echoes the conclusion of the report on the national survey of needle exchanges in England, that "one of the striking findings of the survey was the poor level of data on needle exchange throughput and activity" (Abdulrahim et al. 2006: 6). These researchers also concluded that "systems for monitoring discarded sharps and needle stick injuries to the public appeared to be largely missing" (2006: 5). Lastly, since the effectiveness of needle exchange schemes in reaching 'hidden' IDUs is partly dependent on the guarantee of anonymity to clients, it is advised that they should continue to resist calls to collect information about clients' names (other than initials), date of birth (other than year), and/or address (other than first part of postcode). Hopefully, the NTA's planned monitoring scheme for needle exchange services will also respect the essential requirement of anonymity for this low-threshold service.

## 4.5 Summary of conclusions and recommendations

Conclusions were presented under three headings: needle exchange, homelessness, and speedballing. They are summarised below.

### Conclusions on needle exchange

The findings concerning the Lifeline NES were reviewed in the light of the relevant research literature, including the national survey of English NESs in 2005 (Abdulrahim et al. 2006), along with recent review papers. Effectiveness was assessed for each stage of service provision: making contact, service delivery, changing risk behaviour, and reducing harmful health outcomes. First, contact rates were mainly assessed using quarterly and annual statistics from the NES monitoring system, and it was concluded that, in a typical year since 2000, the Lifeline NES made contact with about two-thirds of the estimated 2,400 IDUs in Manchester city - that is, around 1,600 IDUs, which is about six times the number seen by the average specialist NES in the national survey. However, these figures gloss over annual variations in the number of clients attending the Lifeline NES - numbers peaked at just over 2,000 in 2001/02, falling steadily to an all-time low of about 1,400 in 2004/05, before rising again to just over 1,600 in 2005/06. New client numbers exhibited a similar trend, falling from a peak of almost 380 in the first quarter of 2002/03 to about 140 per quarter in the second half of 2004/05, before rising again to

about 240 per quarter in 2005/06. The main indicator of client retention was frequency of attendance, which was twice the national rate – that is, the typical Lifeline NES client attended once a month, compared with about once every two months nationally. Regarding profile, the typical survey respondent was male, white, unqualified, unemployed, and homeless, with a mean age of 35 years; and had 36 convictions, and 11 prison sentences (averaging about seven years in custody). Half had long-term health problems, a quarter reported mental disorders, and over half were receiving drug treatment. This profile was compared to the research profile of IDUs in the community, and it was concluded that young, female and non-White IDUs were under-represented among Lifeline NES clients.

Second, evaluating the effectiveness of service delivery was based on assessment of four issues: the needle exchange rate, service uptake, satisfaction ratings, and quality of monitoring. The average return rate for used needles was 70-75% (compared with 90% in an international review of NES return rates). However, the 'overall' return rate was probably much higher, because one in four respondents reported that they usually disposed of their used equipment immediately, typically using convenient facilities (eg. other NESs, sharps disposal boxes in hostels) – though sometimes discarding them in public bins/drains. Regarding service uptake, the average client had used three services, typically needle exchange and advice/information services - with one in five reporting HBV/HCV testing, referrals, health check-ups and/or wound care. The typical visit involved picking up about 30 syringe barrels/needles, including 25 1-ml 'diabetic' syringes, along with six of the ten main products available – typically filters, swabs, citric acid powder, water ampoules, sterile cups, and sharps boxes. Indeed, compared with the average specialist NES in the UK, the Lifeline NES offered a comprehensive range of services and products. Almost all clients stated that they were very or quite satisfied with the NES, the main reason given being the 'friendly and helpful staff'. It was also concluded that the Lifeline NES monitoring system was generally adequate, but that it could be improved by recording and reporting information about multi-drug injecting, accommodation status, and uptake of different services (see Recommendations). Consideration should also be given to monitoring local levels of publicly discarded injecting equipment, and to implementing more regular research evaluations.

Third, evaluation of behaviour change (risk

reduction) was based on three main indicators: needle-sharing, other injecting risks, and sexual behaviour. Over the previous month, half of the sample reported indirect sharing (of injection paraphernalia), one in nine reported direct sharing (of needles), and one in 25 reported high-risk direct sharing (of recently used needles). The typical needle-sharer reported 'sharing' a mean of six times with two people over the previous month, and two-thirds reported always cleaning used equipment. Compared with national rates, Lifeline NES clients exhibited a similar rate of indirect sharing, but their rate of direct sharing was about twice as low. In addition, almost half of the sample reported re-using their own syringes in the previous month. The main reason given for needle-sharing and for needle re-use were because the NES was closed at the time. Regarding other risky injecting behaviours, almost two-thirds were daily injectors (averaging five shots per day), while one in ten were frequent injectors (8-16 shots a day). In addition, about four in ten were groin injectors, half injected in public places, and almost a quarter used 'shooting galleries'. Furthermore, of 18 'safer injecting' actions involved in preparing and administering an injection, most respondents reported regularly carrying out most of them – though around half reported failing to regularly carry out some of these actions, notably: washing hands; avoiding 'flushing'; inserting the needle in less than one minute; completing the injection in less than two minutes; and, putting pressure (or a plaster) on the injecting site after removing the needle. Comparable levels of injecting risk have been reported by other recent studies of NES clients in the UK – the notable exceptions being rates of injecting in public places and shooting galleries, which appear to be far higher in Manchester than in most other parts of the country. Lastly, sexual risks were generally low because most respondents were sexually inactive. That is, only three in ten reported sexual intercourse with a regular partner in the previous month, and just one in ten reported sex with a casual partner (with a 50:50 split on regular condom use) – while just one reported recent selling of sex - which is consistent with the zero rate of past-year STI infection. In short, the main injecting risks usually exhibited by around half or more of the sample included indirect sharing, re-using own needles, public injecting, groin injecting, and unsafe/unhygienic administration practices.

Fourth, evaluation of injecting-related health harms involved three main indicators: blood-borne infections, accident/mistakes and vein/tissue damage. BBI rates among tested respondents



– 2% for HIV and 48% for HCV - broadly reflected official rates, though the HBV infection rate was unexpectedly low (2%, compared with 29% for North-West IDUs in the 2003-04 UAPMP). Lifetime rates of bacterial infections were also reported to be fairly low, reaching around 5% for tetanus and septicaemia. By contrast, past-year rates of injecting-related mistakes/accidents were much higher, with about half of respondents reporting 'bad hits' and hitting an artery, and a third reporting hitting a major nerve (past-month rates were each about one in ten). One in six also reported overdosing (into unconsciousness) in the past year. Lastly, regarding physical damage, around four in ten reported experience of abscesses and collapsed veins, and a quarter reported ulcers/sores – including about one in five each in the past year. These findings were broadly consistent with the rates of injecting-related health damage and problems reported among IDUs by other recent UK studies – though beyond BBIs, comparative data was generally limited or lacking.

To conclude, the present evaluation of the effectiveness of the Lifeline NES reflected the conclusions of recent reviews of NES evaluation research that this intervention is effective in making contact with IDUs, delivering services to them, changing their risk behaviour, and reducing harm to them and the wider community. It also agreed with these reviews that NES services and products could be further improved in several respects (see Recommendations).

### **Conclusions on homelessness**

About eight in ten respondents in the Lifeline NES survey reported being homeless, including over half who were temporary homeless, and almost half who were roofless (rough sleepers). Using interval estimation techniques, it was estimated that, during the first quarter of 2006, approximately 620 to 750 of the 850 NES clients were homeless, including about 230 to 400 rough sleepers. Extrapolating these figures to the projected population of 2,400 IDUs in Manchester, it was estimated that there were about 1,730 to 2,110 homeless IDUs in the city in 2006, including about 650 to 1,130 rough sleepers. Along with other survey findings – notably that the mean duration of homelessness was almost four years overall and about two and a half years for rough sleepers – these figures suggest that the streets of Manchester have been 'home' to several hundred roofless drug injectors since at least the start of this century. However, these figures contrast starkly with official estimates provided by Manchester City Council (MCC). For

instance, reflecting national trends, the official number of rough sleepers in Manchester city was reported to have fallen from a peak of 44 in 1999 to just seven in 2005 – with respective figures for Greater Manchester being about double (75 and 14). In short, the present survey's lowest estimate for roofless IDUs in Manchester (650) is almost 100 times higher than MCC's official figure for all roofless people (7). Indeed, the latter figure is over five times lower than the number of roofless individuals (37) in our small sample of 100 NES clients. The source of this disparity can be traced to MCC's method of estimating the prevalence of rough sleepers. Derived from guidelines provided by the government's Homelessness Directorate, this method is based on local authority teams counting roofless people observed in public places on one night of the year, using highly dubious definitions and procedures. It was concluded that producing more valid and reliable estimates of the number of roofless people in a locality requires the deployment of more sophisticated prevalence estimation techniques - such as those used to estimate the true community prevalence of illicit drug use (eg. capture-recapture). An accurate estimate of the prevalence of homelessness is essential to the development and evaluation of any strategy to reduce and manage this problem.

In order to contextualise these findings, research studies providing evidence about two related issues were reviewed: drug use among the homeless, and homelessness among drug users. British research shows that drug use is now practiced by a clear majority of homeless people, particularly rough sleepers. Glossing over many regional and sub-group variations, the general picture is that around a third to two-thirds of homeless people now use drugs, including a quarter to a half who are dependent on opioids and/or cocaine, and around a third who inject drugs. Conversely, the available evidence suggests that about a tenth to a third of drug users are homeless – rising to around half of IDUs. The present study also found several significant differences between homeless and housed respondents, as well as between temporary-homeless and roofless respondents. For instance, compared with housed IDUs, homeless IDUs were more likely to be unemployed, unhealthy, using shooting galleries, and injecting speedballs; while roofless IDUs were less likely to report drug treatment, more likely to inject in derelict houses and public places, purchased and used more heroin, and were more likely to report begging and shoplifting to fund their habit. In conclusion, the present statistical analysis

suggested that there is a complex relationship between homelessness, drug injecting practices, and various psycho-social factors - notably mental and physical health, offending, imprisonment, and social deprivation/exclusion. Evidence from aetiological research confirmed this conclusion, showing that some factors are both causes and consequences of homelessness (eg. mental disorder, debt). Five salient pathways into homelessness were identified from the research evidence: drug use (eg. rent arrears, eviction for drug offences), relationship problems (eg. expulsion from parental home, divorce, domestic abuse), imprisonment (eg. inability to pay rent, discrimination by landlords), leaving other institutions (eg. LA care, the Armed Forces, mental hospitals), and, most recently, being an asylum seeker or refugee. Of course, contributory 'external' factors include a lack of suitable accommodation, and the broader issue of inadequate local authority housing policies.

National policy toward homelessness has undergone considerable development over the past five years. In 2002, a new Homelessness Act was introduced, requiring LAs to devise local homelessness strategies by March 2005, and the Homelessness & Housing Support Directorate was also set up, to coordinate national policy on homelessness – including publishing a new strategy in 2005. In 2004/05, the Supporting People Programme helped 17,000 families and 47,000 single people who were experiencing or at risk of homelessness - including 1,600 former rough sleepers. By 2006, homelessness prevention was being carried out by almost all LAs, including enhanced housing advice, enhanced access to private tenancies, family mediation, domestic violence victim support, and tenancy sustainment. In late 2006, the government announced a £164 million package of services for homeless young people - including access to family mediation services, and a national network of supported lodging schemes. In March 2007, the government launched its new package of measures to reduce youth homelessness, including: (1) a National Youth Homelessness Scheme; (2) a committee of formerly homeless young people to advise on national policy; (3) centres of excellence in every region for sharing expertise; (4) a National Homelessness Advice Service; and (5) Foundations for Life, a project aimed at transforming youth hostels into learning centres for work and training opportunities – along with £16 million funds to help voluntary agencies prevent all forms of homelessness.

Specific policies to tackle homelessness among drug users began with the Updated Drug Strategy (2003-08), which included a target to ensure the availability of supported housing for drug users. In 2002, the Home Office issued guidelines to LAs and private landlords on tackling drug use in rented housing; and the Homelessness Directorate and NTA issued a good practice guide for drug services concerning homeless clients. In 2004, the Home Office issued specific guidance to services to meet the housing needs of DIP clients, along with guidance to engage and sustain contact with drug users who beg. In 2005, guidance was issued to Supporting People Commissioners on meeting the housing needs of drug users. It was concluded that if these policies and interventions are to be effective in preventing and tackling homelessness among drug users, then LAs need to develop more valid and reliable methods for estimating the prevalence of local homelessness.

### **Conclusions on speedballing**

Speedballing is the simultaneous injection (in one shot) of both heroin and cocaine (hydrochloride or freebase). Speedballing has been neglected by both routine monitoring systems (notably the NDTMS) and research on injecting drug use because of their inadequate measurement of multi-drug use. The standard practice is to ask people questions about the consumption of each drug they use – with no questions about which drugs are used simultaneously. Consequently, inferences can be drawn about an individual's poly-use (the repertoire of drugs they use over time), but not about their multi-use or serial use (the drugs which they use/inject at the same time, or in the same session). Indeed, several recent studies have reported increases in crack injecting, but do not mention speedballing (see below). Yet, in the present survey, past-month multi-drug injecting was reported by eight in ten, and involved speedballing (injecting heroin with crack) in all but one case.

The reasons for injecting crack can be split into three types: (1) reasons for injecting rather than smoking crack, (2) reasons for injecting crack rather than cocaine powder, and (3) reasons for injecting crack with heroin, rather than on its own. First, research suggests that the two main reasons why drug users switched from smoking to injecting crack were both linked to the effects of long-term crack smoking, namely damaged lungs and tolerance to the effects - combined with a drop in crack purity in recent years. Second, the main reason for injecting crack rather than cocaine powder is the nature of the

drug injecting scene – that is, dealers typically sell heroin and crack together, crack is generally more pure than cocaine, and almost all speedballers use crack rather than cocaine. Third, the main reason for injecting crack and heroin together, rather than separately, appears to be the massive surge in dopamine which they produce (the brain's pleasure chemical). That is, injected together, heroin and crack/cocaine have synergistic effects which raise dopamine to ten times normal levels – compared with almost double for heroin alone, and quadruple for cocaine alone.

The first speedballs were injected by middle-class professionals well over a century ago, soon after the hypodermic syringe, cocaine and heroin first came into existence. Speedballing became more widely known in Britain during the 1950s and 1960s, when young 'counter-culture' drug users were prescribed heroin and cocaine on the NHS. But the present wave of speedballing began around 1990, distinguished by a switch from pharmaceuticals to illicit drugs, and from cocaine powder to crack. For instance, a study of IDUs in London reported an increase in crack injecting from 1% in 1990 to 27% in 1993; while a survey of about 1,200 IDUs across England in 1997-98 found that about one in five reported their habit to involve injecting both opiates and stimulants. A study of over 100 opiate addicts in London in the late 1990s reported that about a quarter were injecting both heroin and crack/cocaine; while a study of over 400 IDUs in London and Brighton from 2001 to 2003 found that just over half were regular injectors of cocaine or crack, with a substantial minority injecting both heroin and crack/cocaine. A study of problem drug use among 15-44 year olds in London, Brighton and Liverpool in 2000/2001 reported that about one in five IDUs were injecting both heroin and crack/cocaine - 16% in Brighton, 18% in London, and 34% in Liverpool. Lastly, the UAPMP survey of 952 IDUs in six English cities in 2003/04 reported that 40% were crack injectors overall. In short, it was estimated that between two in ten and four in ten IDUs in Britain were regular speedballers in 2006 – between 40,000 and 80,000 people.

Research also suggests that the prevalence of speedballing is highest among IDUs in Manchester and the North-West. For instance, a study of 839 arrestees in five English police force areas in 1996 found that Manchester arrestees had the highest past-year rates of both heroin injecting (21%) and cocaine injecting (14%) – more than double the sample rates. The 2003/04 UAPMP survey of about 950 current IDUs in six English cities reported the highest rates

of crack injecting to be in Manchester and Bristol (70%). A study of about 450 treatment clients in three cities in 2004 found that about one in five assessed clients used both heroin and crack, with a top rate of one in three in Manchester. The 2003/04 report on the North West DTMS concluded that levels of poly-drug use had been growing since the mid-1990s, particularly "crack and heroin combined". The 2005/06 report on the North West DTMS noted that, of over 20,000 PDUs whose main drug was heroin, almost a quarter stated that they also used crack. Lastly, research in 2004/05 estimated that the North-West had about 51,000 problem drugs users, of whom 44,000 used opiates, 30,000 used crack, and 22,000 injected drugs. Manchester had the second highest numbers in the region, including about 5,400 opiate users, 3,400 crack users, and 3,000 IDUs – suggesting that around 1,600 may have been speedballers. In short, research suggests that between about a quarter and three-quarters of North-West IDUs inject speedballs, with the highest levels reported in Manchester. Indeed, the present survey estimated that between seven in ten and nine in ten Manchester NES clients were speedballers – that is, between 615 and 750 of the 854 clients seen in the first quarter of 2006. Compared with heroin-only injectors, speedballers were also more likely to be male, single and homeless.

A review of the available research evidence also confirmed the findings of the present survey that speedballing is associated with significantly higher levels of drug-related risk and harm. Risks associated with speedballing included buying and using larger amounts of drugs, injecting more frequently, injecting in the groin, using excess citric acid, re-using syringes, injecting in public places and derelict houses, and poor injecting techniques (including flushing the syringe with blood, digging in the same site, or fishing around different sites). Health harms associated with speedballing in the literature included higher rates of infectious diseases (notably HCV and HIV) and greater damage to veins/tissue (notably abscesses). It was concluded that the growth of speedballing over the past decade has been badly neglected by drugs researchers, because their failure to distinguish poly-drug use from multi-drug use has resulted in conclusions being drawn about increases in crack injecting rather than speedballing. Therefore, multi-drug use needs to become a core variable in researchers' data-collection instruments and drug agencies' monitoring systems if our understanding of the nature and extent of speedballing – and other multi-drug habits - is to be improved (cf. Leri, Bruneau & Stewart, 2003).

## Recommendations

Six sets of recommendations were put forward for consideration by policy-makers, practitioners, and researchers in the field of injecting drug use:

(1) Needle exchange purchasers and providers should continue to develop the accessibility and availability of services, by providing a range of generic outlets (notably pharmacies) and specialist agencies (including mobile and outreach) – along with continued adherence to a client-centred (user-friendly) style of service delivery;

(2) NESs and other drug agencies should provide information on safer injecting to IDU clients, through such delivery channels as publications, product packaging, computer software, direct advice, and training courses; with a particular focus on 12 issues: safe locations, washing hands, clean space, injecting technique, vein-raising, dissolving agents, equipment-cleaning procedures, choosing sites, syringe flushing, site hygiene, dealing with injecting-related health problems, and non-injectable methods of drug use;

(3) NESs should consider extending their product range to the following equipment and materials: sterile/anti-bacterial wipes and gels, injecting mats/trays, syringe markers, butane lighters, tourniquets, and wound-care materials (plasters, ointments, etc.); along with injecting kits containing various equipment, and pro-smoking/sniffing devices – including snorting kits, crack pipes, tin-foil and cigarette papers;

(4) NESs should consider a range of service improvements and innovations, notably: extended healthcare options (eg. vaccinations), appropriate medical technology, drug consumption rooms, drug product testing and improvement, and overdose prevention;

(5) Treatment agencies should consider offering a wider range of prescribing options, including diamorphine maintenance for heroin addicts and substitute stimulants for crack users – in oral, injectable and smokable forms – in addition to options for detoxification;

(6) Research is needed into the aetiology, epidemiology, and social psychology of injecting drug use. Urgent tasks include: disentangling the multiple biopsychosocial variables associated with drug injecting into common cause-effect pathways; producing valid and reliable estimates of the prevalence of various risky injecting behaviours and such salient correlates as homelessness; carrying out more ethnographic research into drug injecting practices and lifestyles, particularly to assess the nature and extent of speedballing, groin injecting, and public injecting; establishing a consensual framework for evaluating the effectiveness of needle exchange and other harm-reduction interventions; and improving routine monitoring of clients' personal characteristics, drug consumption, and service uptake - particularly accommodation status and multi-drug use.

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## APPENDIX A

### Trends in needle-sharing and blood-borne viruses among IDUs - in Britain (A1-A5) and North-West England (A6-A10)

**Table A1: Annual rate of past-month sharing of injecting equipment among UK IDUs**

(a) Half-yearly number of problem drug users, overall and using three drugs, who were IDUs; and the percentage of IDUs sharing injecting equipment in the past month, Britain, 1993-2001.

<u>Six months ending:</u>	<u>TOTAL</u>	<u>Overall %</u>		<u>% injecting drug users</u>		
		<u>IDU</u>	<u>SIE</u>	<u>Heroin</u>	<u>Amphets</u>	<u>Cocaine</u>
March 1993	20343	38	..			
Sept. 1993	20221	43	13	69	54	10
March 1994	21582	42	12	68	54	8
Sept. 1994	23707	41	12	65	51	11
March 1995	25440	38	12	59	48	9
Sept. 1995	27935	37	11	58	47	7
March 1996	28856	36	11	54	45	7
Sept. 1996	30292	37	12	52	43	5
March 1997	31684	37	12	52	42	5
Sept. 1997	27262	39	15	58	44	5
March 1998	29765	38	15	58	45	4
Sept. 1998	34875	39	17	57	47	5
March 1999	34802	41	17	60	48	5
Sept. 1999	37681	39	19	58	47	5
March 2000	39055	40	20	59	41	4
Sept. 2000	40416	40	21	58	38	6
March 2001	40181	38	20	54	40	4

#### Notes

Based on figures from the regional Drug Misuse Databases of eight English regions, Scotland, and Wales (reports give detailed breakdowns of figures for England, and some breakdowns for Britain overall)

Problem drug user (PDU): drug user presenting to health services or drug agencies for the first time or re-presenting after an absence of 6 months, with problem relating to psychoactive drugs – illicit or prescribed (alcohol included only as a secondary drug, not as main drug)

IDU = percentage of PDUs using this drug who were known to inject – as % of those whose injecting status was known

SIE = percentage of injecting PDUs (i.e. IDUs) who reported sharing injecting equipment in the past four weeks, as % of those whose sharing status was known (the proportion of IDUs whose past-month sharing status was not known was generally about 12-13%). This statistic only is based on the figures for PDUs in England only (83% of all PDUs in Britain in half-year ending September 2000) - in which the figure for IDUs is based on those who reported injecting in the past month only. The proportion of known IDUs who reported having ever shared syringes/needles climbed steadily from 42% in the period ending 9/96 to 49% in the period ending 3/01

**Source:** Department of Health (2002). Statistics from the Regional Drug Misuse Databases for six months ending March 2001. London: Government Statistical Service [and previous bi-annual bulletins]

**Table A1 (continued)**

(b) Annual rates of past-month sharing of syringe needles/barrels and other injecting paraphernalia among IDUs attending services, UK, 1991-2005

	%	<u>Syringes/needles</u>				<u>Other injecting paraphernalia</u>		
		<sup>^</sup> Rest	London	E&W	Scotland	<sup>^</sup> Rest	London	E&W
1991	27	17	24	..	..	..	..	
1992	19	22	20	..	..	..	..	
1993	19	16	18	..	..	..	..	
1994	18	16	17	..	..	..	..	
1995	17	18	17	..	..	..	..	
1996	18	20	18	28	54	57	58	
1997	17	21	17	28	52	57	55	
1998	31	35	32	34	56	61	63	
1999	31	42	33	34	56	62	63	
2000	29	41	31	34	53	62	60	
2001	33	37	33	35	52	61	59	
2002	33	36	34	33	54	59	60	
2003	29	32	29	34	49	51	55	
2004	29	26	28	31	49	49	55	
2005			28	27			53	

**Notes**

Sharing = injecting with syringe needles/barrels/equipment already used by someone else, or passing on own used injecting equipment to other people to share with – among current injectors

<sup>^</sup> Rest: E&W excluding London, though includes N.Ireland from 2002

E&W: including London

**Source**

Health Protection Agency, Health Protection Scotland, NPHSW, CDSCNI & CRDHB (2006). Shooting Up: infections among injecting drug users in the UK 2005 - an update: October 2006. London: HPA

HPA & HPS (2005). Supplementary Data Tables of the Unlinked Anonymous Survey of IDUs in contact with services – data to the end of 2004. London: Health Protection Agency Centre for Infections (and Health Protection Scotland).

Figures for E&W are from the Unlinked Anonymous Prevalence Monitoring Programme (UAPMP) – based on saliva-testing of IDUs known to treatment agencies (about two-thirds) and needle exchange schemes.

Figures for Scotland are based on self-report data recorded by drug services on the Scottish Drug Misuse Database – revised in 2006

Figures for indirect sharing (of paraphernalia) for E&W were revised in 2006 (mostly up a few points)

**Table A2: Annual incidence of HIV-infected IDUs in UK, 1985-2005**

	<u>E, W &amp; NI</u>	<u>Scotland</u>	<u>U.K</u>
1984 & earlier	36	272	308
1985	113	165	278
1986	250	198	448
1987	257	126	383
1988	174	56	230
1989	176	37	213
1990	173	28	201
1991	192	51	243
1992	161	27	188
1993	150	52	202
1994	136	30	166
1995	159	22	181
1996	142	33	175
1997	139	31	170
1998	114	19	133
1999	97	17	114
2000	98	16	114
2001	116	17	133
2002	107	9	116
2003	145	13	158
2004	122	11	133
2005*	128	19	147
2006 ~			36
TOTAL ^	3185	1249	4434

**Notes**

\* provisional                      ~ mid-year (to June) 2006                      ^ cumulative prevalence to end of 2005

E, W & NI = England, Wales & N. Ireland

Year: year of HIV diagnosis

Excludes IDUs also known to be in the 'sex between men' exposure category – 768 at end of 2005

Figures from 1989 to 2005 were revised in 2006 (Quarterly Bull. No. 71)

**Sources:** \_

Public Health Laboratory Service AIDS Centre & Scottish Centre for Infection & Environmental Health: AIDS/HIV

Quarterly Surveillance Tables – UK data [reports up to 2002]

Health Protection Agency (HIV/STI Department, Communicable Disease Surveillance Centre), & Scottish Centre for

Infection & Environmental Health, & Institute of Child Health (2006): AIDS/HIV Quarterly Surveillance Tables – cumulative

UK data to end December 2005 (Report No. 69) [reports since 2003]

HIV/STI Department – Health Protection Agency Centre for Infections, Health Protection Scotland, & Institute of Child

Health (2006). HIV New Diagnoses Quarterly Surveillance Tables – UK data received to the end of June 2006. [No. 71,

July 2006]

**Table A3: Annual rate of HIV among IDUs in UK – with breakdowns for London, the rest of England & Wales, and Scotland, 1990-2005**

	Numbers positive/tested		Percentage HIV+			
	London	Rest of EW*	London	Rest of EW*	All EW~	Scotland
1990	6/226	14/1330	2.7	1.1	1.3	2.8
1991	19/353	6/1063	5.4	0.6	1.8	3.2
1992	34/489	20/2839	7.0	0.7	1.6	1.9
1993	27/705	19/2706	3.8	0.7	1.3	2.9
1994	26/613	11/2808	4.2	0.4	1.1	1.5
1995	34/593	7/2250	5.7	0.3	1.4	1.5
1996	8/762	13/2695	1.0	0.5	0.6	1.5
1997	18/543	9/2135	3.3	0.4	1.0	1.4
1998	21/655	9/2711	3.2	0.3	0.9	0.8
1999	23/791	8/2940	2.9	0.3	0.8	0.7
2000	20/559	6/2866	3.6	0.2	0.8	0.7
2001	23/515	6/2340	4.5	0.3	1.0	0.7
2002	22/608	4/2188	3.6	0.2	1.0	0.5
2003	23/801	10/1901	3.4	0.5	1.2	0.6
2004	25/645	13/2040	3.9	0.6	1.4	0.5
2005	..	29/2400	3.6	1.2	1.6	0.9

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**Notes**

Figures based on unlinked, anonymous saliva-testing of IDUs attending treatment and needle exchange services in England & Wales (UAPMP)

\* excluding London (N.Ireland included from 2002) – exact figures for 2002 to 2004: 0.18, 0.53, 0.64

~ including London but excluding Scotland - England & Wales only 1990-2001; N.Ireland also from 2002

Scotland: prevalence among those having voluntary confidential HIV tests (n = 218 in 2004)

N.Ireland: 3/153 in 2003 & 2004 combined, i.e. 2.0%

.. not available

**Source**

Health Protection Agency, Health Protection Scotland, NPHSW, CDSCNI & CRDHB (2006). Shooting Up: infections among injecting drug users in the UK 2005 - an update: October 2006. London: HPA

HPA & HPS (2005). Supplementary Data Tables of the Unlinked Anonymous Survey of IDUs in contact with services – data to the end of 2004. London: Health Protection Agency Centre for Infections (and Health Protection Scotland).

Hope V. & Ncube F. (2006). Evidence of continuing increase in the HIV prevalence among IDUs in England & Wales. CDR Weekly, 16(11), March 2006 [figures for 2005]

**Table A4: Annual rate of HBV and HCV among IDUs in England & Wales – with breakdowns for London and the rest of England & Wales, 1990-2005**

	Hepatitis B Virus			Hepatitis C Virus		
	London	Rest of E&W	All E&W	London	Rest of E&W	All E&W
1990	28	34	33			
1991	39	28	31			
1992	40	34	35			
1993	35	33	34			
1994	32	29	29			
1995	22	22	22			
1996	22	23	22			
1997	21	18	18			
1998	31	20	22	56	37	41
1999	26	18	20	47	32	35
2000	26	20	21	52	32	35
2001	23	21	21	47	34	36
2002	28	20	22	56	34	39
2003	29	19	22	55	37	42
2004	30	19	21	53	37	41
2005			19			42

**Notes**

~ 'Rest of E&W' includes N.Ireland from 2002

**Source**

Health Protection Agency, Health Protection Scotland, NPHSW, CDSCNI & CRDHB (2006). Shooting Up: infections among injecting drug users in the UK 2005 - an update: October 2006. London: HPA

Figures are from the Unlinked Anonymous Prevalence Monitoring Programme (UAPMP) – based on saliva-testing of IDUs known to treatment agencies (about two-thirds) and needle exchange schemes.

**Table A5: Bacterial infections (and related deaths) among IDUs in UK, 1994-2005**

	<u>GAS</u>	<u>W. botulism</u>	<u>SSS</u>	<u>Tetanus</u>	<u>MRSA</u>
94-97	56 (0)	0	0	0	0
1997	19 (0)	0	0	0	0
1998	20 (0)	0	0	0	0
1999	20 (0)	0	0	0	0
2000	20 (0)	6 (0)	57+ (43)	0	0
2001	40 (0)	4 (0)	.. (8)	0	0
2002	130 (1)	13 (0)	.. (0)	2 (0) #	0
2003	286	20	6	{	{
2004	122	41 (2)	..	{25 (3)	{ 37
2005	46	28 (2)	..	4	13

**Notes**

**Three main groups of bacterial infections affect IDUs: (1) streptococcal (Group A), (2) staphylococcal (MRSA, MSSA), and (3) clostridial (tetanus, wound botulism, SSS) – each producing different (but sometimes overlapping) syndromes or groups of symptoms (eg. necrosis, sepsis, abscesses)**

**GAS:** Group A streptococcal infections – cause skin sepsis and necrosis, often leading to bacteraemia

**MRSA:** methicillin-resistant staphylococcus aureus (ST1-MRSA-IV strain – community-based, not hospital-based)

MRSA: injecting related sepsis due to MRSA in E&W; zero cases prior to April 2003, 37 from April 2003 to March 2005, 50 from April 2003 to March 2006 [no figures available on MSSA – methicillin-sensitive staphylococcus aureus]

**Clostridial infections:** spore-forming bacteria found in street heroin etc. – lead to tetanus, 'gas gangrene', etc. – including recent reports of clostridium histolyticum

**Tetanus:** clostridium tetani (E&W) # 1984-2002 { 2003 & 2004

**Wound botulism:** clostridium botulinum – no cases in UK prior to 2000, 112 between 2000 and 2005 (mainly Type A)

**SSS - Severe systemic sepsis:** clostridium novyi - causes damage at injection site, from oedema to necrosis, and often leads to septic shock – biggest bacterial cause of death among IDUs in UK. These infections were attributed to ID/IM injecting of contaminated heroin in 2000/2001- presumably, this batch was eventually consumed – though 6 cases also occurred in July 2003 in Scotland

94-97: mid-94 to mid-97 ( ) = number of deaths .. not available italics = to nearest 10

Some figures for 2005 are provisional

**Sources:**

Health Protection Agency, Health Protection Scotland, NPHSW, CDSCNI & CRDHB (2006). Shooting Up: infections among injecting drug users in the UK 2005 - an update: October 2006. London: HPA

PHLS (2002). Group A streptococcal bacteraemia among injecting drug users. Communicable Diseases Report Weekly, 12, 22.



**Table A6: Annual rate of past-month needle-sharing among injecting problem drug users in the North-West and Manchester – national monitoring, 1996-2001**

<u>Six months ending:</u>	<u>North-West</u>	<u>%</u>	<u>Manchester</u>
September 1996	11		7
March 1997	12		6
September 1997	16		10
March 1998	20		8
September 1998	20		15
March 1999	21		10
September 1999	21		23
March 2000	23		17
September 2000	22		18
March 2001	22		22

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**Notes**

Based on figures from the half-yearly Drug Misuse Database reports on eight English regions, Scotland, and Wales (reports give detailed breakdowns of figures for English regions, and some breakdowns for Britain overall)

Problem drug user (PDU): drug user presenting to health services or drug agencies for the first time or re-presenting after an absence of 6 months, with problem relating to psychoactive drugs – illicit or prescribed (alcohol included only as a secondary drug, not as main drug)

IDU = percentage of PDUs using this drug who were known to inject – as % of those whose injecting status was known

SIE = percentage of injecting PDUs (i.e. IDUs) who reported sharing injecting equipment in the past four weeks, as % of those whose sharing status was known (the proportion of IDUs whose past-month sharing status was not known was between 6% and 11%). This statistic only is based on the figures for PDUs in England only (83% of all PDUs in Britain in half-year ending September 2000) - in which the figure for IDUs is based on those who reported injecting in the past month only.

**Source:**

Department of Health (2002). Statistics from the Regional Drug Misuse Databases for six months ending March 2001. London: Government Statistical Service [and previous bi-annual bulletins]

**Table A7: Annual rate of needle-sharing among injecting problem drug users in the North-West, Greater Manchester and districts – local monitoring, 1995-2000**

**(a) Number (%) of PDUs injecting drugs in past month**

	1995	1996	1997	1998	1999	2000
Bury/Rochdale	177 (53)	214 (53)	190 (50)	146 (53)	232 (57)	315 (50)
Manchester	841 (60)	666 (59)	460 (56)	590 (58)	404 (54)	608 (55)
Salford/Trafford	185 (40)	149 (41)	107 (39)	109 (36)	126 (29)	170 (30)
Stockport	131 (70)	162 (50)	99 (51)	81 (46)	78 (48)	36 (39)
Oldham/Tameside	346 (64)	317 (60)	210 (56)	292 (54)	240 (54)	252 (54)
Wigan/Bolton	549 (59)	503 (60)	577 (65)	651 (66)	523 (57)	596 (59)
<b>Gr. Manchester</b>	<b>2229 (55)</b>	<b>2011 (51)</b>	<b>1643 (50)</b>	<b>1869 (49)</b>	<b>1603 (48)</b>	<b>1977 (48)</b>
<b>NORTH-WEST</b>	<b>3877 (49)</b>	<b>3823 (48)</b>	<b>3653 (51)</b>	<b>4068 (50)</b>	<b>3798 (47)</b>	<b>4088 (44)</b>

**(b) Proportion of injecting PDUs reporting lifetime needle-sharing**

%	1995	1996	1997	1998	1999	2000
Bury/Rochdale	39	25	44	47	41	48
Manchester	41	38	42	43	51	54
Salford/Trafford	36	33	40	44	51	53
Stockport	52	54	57	65	70	84
Oldham/Tameside	37	37	56	59	60	70
Wigan/Bolton	38	37	40	53	59	73
<b>NORTH-WEST</b>	<b>40</b>	<b>39</b>	<b>43</b>	<b>48</b>	<b>51</b>	<b>53</b>

**(c) Proportion of injecting PDUs reporting past-month needle-sharing**

%	1995	1996	1997	1998	1999	2000
Bury/Rochdale	8	6	13	17	10	24
Manchester	9	8	9	13	19	19
Salford/Trafford	8	7	13	16	18	23
Stockport	13	6	9	14	10	14
Oldham/Tameside	6	9	16	21	23	31
Wigan/Bolton	10	13	19	32	33	43
<b>NORTH-WEST</b>	<b>11</b>	<b>12</b>	<b>16</b>	<b>21</b>	<b>23</b>	<b>24</b>

**(d) Proportion of Needle Exchange Scheme clients reporting past-month needle-sharing**

%	1995	1996	1997	1998	1999	2000
G.Manchester & Lancs	*	*	..	..	10	16
Merseyside/Cheshire	..	..	..	..	2	3
<b>North-West region</b>	<b>*5</b>	<b>*3</b>	<b>9</b>	<b>6</b>	<b>7</b>	<b>10</b>

\* Gr. Manchester only

**Notes**

Problem drug user (PDU): an individual PDU, involved in one or more episodes (i.e. known to one or more agencies) – i.e. presenting to an agency for the first time (new user), or after break in contact of over 6 months (returning user) – but excluding continuing users (those who were PDUs in previous period) .. not available  
 Figures are based on PDUs reported to be clients of agencies in that district/region, not the area of residence of the PDU  
 Table A5a: %s for GM are lower than actual, because denominator includes cases with unknown injecting status  
 Table A5d: NES clients are monitored separately (because no names or DOBs are available)

**Source:**

Drug Misuse Research Unit (Manchester University) & Drug Monitoring Unit (Liverpool John Moores University), Drug Misuse in the North West of England 2000 [and previous annual reports]

**Table A8: Annual number of HIV cases among IDUs in North-West, 1989-2006**

	<u>National monitoring (HPA)</u>			
	<u>Prevalence</u>	<u>Incidence</u>		
1989	61			
1990	85	24		
1991	88	3		
1992	91	3		
1993	98	7		
1994	95*	-		
			<u>Local monitoring (NWHMU)</u>	
			<u>Prevalence</u>	<u>Incidence</u>
1995	116	21#	65	15
1996	119	3	74	21
1997	126	7	83	12
1998	139	13	83	10
1999	157	18	83	10
2000	162	5	79	13
2001	168	6	76	5
2002	179	11	76	7
2003	189	10	95	17
2004	192	3	101	20
2005	214	22		
2006-2 ^	226	12		

**General notes**

Figures are based on voluntary, confidential blood-tests requested by individual IDUs in North-West England. HPA figures are based on routine reporting from clinicians at testing laboratories, while NWHMU figures are based on voluntary reporting by testing agencies (NWHNU) – hence, the difference between the two sets of figures

Incidence = annual number of new IDU cases during year

Prevalence = total of all IDU cases at end of year – based on cumulative total of each year's incidence for national monitoring figures (HPA), but based on annual count of those cases still resident in NW region in local monitoring figures (NWHMU)

Cumulative prevalence (local monitoring), 1996 to Sept. 2005: 1996 prevalence (65) + annual incidence (117) = 182

Figures to end of 1994 based on combining figures for old Mersey region (Merseyside & Cheshire) and North Western region (Gr. Manchester & Lancashire); figures from 1995 to 1998 based on new North West Region (Mersey, N. Western & southern part of Cumbria [part of old Northern region]); figures from 1999 based on expanded North West region (including all of Cumbria, i.e. now covering 5 complete counties).

All IDU figures include men who were both homosexual and IDU

**Notes to Table**

\* = at mid-year 1994

^ at end June 2006 (i.e. first half-year only)

# possibly lower, depending on December 1994 figures (not available at time of writing)

**Sources**

Cook P et al. (2005). HIV & AIDS in the North West of England 2004. Liverpool: NW HIV/AIDS Monitoring Unit.

Cook P et al. (2006). HIV & AIDS in the North West of England 2005. Liverpool: NW HIV/AIDS Monitoring Unit

Downing J. et al. (2005). HIV & AIDS in the North West of England, mid-year 2005. Liverpool: NW HIV/AIDS Monitoring Unit. Health Protection Agency, Health Protection Scotland, and the Institute of Child Health (2006). AIDS/HIV Quarterly Surveillance Tables – cumulative UK data to end December 2005 (No. 69). London: HPA

**Table A9: Annual number of HIV cases among IDUs in Greater Manchester, 1989-2005**

**(a) Greater Manchester**

	<u>National monitoring (HPA)</u>			
	<u>Prevalence</u>	<u>Incidence</u>		
1989*	42	42		
1990	48	6		
1991	55	7		
1992	60	5		
1993	64	4		
1994	70	6		
1995	76	6		
			<u>Local monitoring (NWHMU)</u>	
			<u>Prevalence</u>	<u>Incidence</u>
1996	83	7	42	8
1997	91	8	46	11
1998	94	3	53	9
1999	98	4	54	8
2000	100	2	51	3
2001	105	5	48	4
2002	108	3	46	0
2003	114	6	48	3
2004	120	6	59	11
2005	120~	0~	61	9

**(b) Manchester city (NWHMU)**

	<u>Manchester city</u>							
	<u>Prevalence</u>	<u>Incidence</u>						
1996	22	2						
1997	24	5						
1998	32	6						
1999	31	4						
2000	29	0						
2001	22	2						
2002	19	0						
2003	19	1						
2004	27	4						
2005	26	4						
			<u>Manchester City Primary Care Trust areas</u>					
			<u>Prevalence</u>			<u>Incidence</u>		
			<u>North</u>	<u>Central</u>	<u>South</u>	<u>North</u>	<u>Central</u>	<u>South</u>
			7	9	6	1	1	0
			8	7	4	0	0	0
			9	6	4	1	0	0
			15	8	4	3	1	0
			10	7	4	1	0	1 ^

**Notes**

See general notes to Table A6

\* 1989 or earlier ~ to September 2005 ^ to June 2005

Incidence = annual number of new IDU cases during year

Prevalence = total of all IDU cases at end of year – based on cumulative total of each year's incidence for national figures (HPA), but based on annual count of those cases still resident in region/district in local figures (NWHMU)

(a) Cumulative prevalence (local monitoring), 1996 to mid-2005: 1996 prevalence (42) + annual incidence (52) = 94

(b) Based on local monitoring figures only (NWHMU) – other 5 districts of GM are Bury & Rochdale, Salford & Trafford, Oldham & Tameside, Wigan & Bolton, and Stockport. For 1996-2005, 26 out of 60 HIV/IDU cases in GM were in Manchester city (43%). GM is also divided into 14 PCT areas, three of which comprise Manchester city. Cumulative prevalence, 1996 to mid-2005: 1996 prevalence (22) + annual incidence (24) = 46  
Cumulative prevalence, 2001 to 2005, for three PCT areas: 12, 10 and 7 – totalling 29 for Manchester city.

**Sources**

Cook P et al. (2005). HIV & AIDS in the North West of England 2004. Liverpool: NW HIV/AIDS Monitoring Unit.

Cook P et al. (2006). HIV & AIDS in the North West of England 2005. Liverpool: NW HIV/AIDS Monitoring Unit

Downing J. et al. (2005). HIV & AIDS in the North West of England, mid-2005. Liverpool: NWAH Monitoring Unit.

HPA (2005). HIV Diagnoses Surveillance Tables – Greater Manchester - data to end September 2005. London: HPA.

**Table A10: Two-yearly rates of HIV, HBV, HCV and needle-sharing among IDUs in North West, 1991-2004**

	Percent positive			Direct Sharing	Rank ~			
	HIV	HBV	HCV		HIV	HBV	HCV	D.sharing
1991&1992	0.4	33		18	7	4j		8
1993&1994	0.4	34		17	6.5	3.5		4.5
1995&1996	0.3	27		13	5.5	1		6
1997&1998	0.5	28		17	3	1		9
1999&2000	0.3	33	50	21	4j	1	1	9
2001&2002	0.2	34	55	24	4	1	1	10
2003&2004	0.4	29	59	21	5.5	2^	1	10

### Notes

D. (direct) sharing – of syringe barrels/needles in past month - NW ranked bottom in five periods (all except 93/94 and 95/96) ^ after London (30%) j = joint ranking

~ Ranks for 1993-2000 are based on nine regions of Britain excluding Scotland; 1991/1992 is based on eight regions (excludes North East); and from 2001, N.Ireland was included, making 10 regions of Britain (still excluding Scotland). Eight English regions are based on 9 Government Office regions, with Yorkshire & Humber and East Midlands (Trent) combined into one region

Regional breakdowns for indirect sharing (of injection paraphernalia) is not reported.

### Sources

Health Protection Agency, Health Protection Scotland, NPHSW, CDSCNI & CRDHB (2006). Shooting Up: infections among injecting drug users in the UK 2005 - an update: October 2006. London: HPA

HPA & HPS (2005). Supplementary Data Tables of the Unlinked Anonymous Survey of IDUs in contact with services – data to the end of 2004. London: Health Protection Agency Centre for Infections (and Health Protection Scotland).

**QUESTIONNAIRE FOR INJECTING DRUG USERS 2006**

**NOTES FOR NEEDLE EXCHANGE STAFF**

This questionnaire is designed to collect information from injecting drug users who are clients of the Oldham Street Needle Exchange Scheme. During the study period (February/March), staff are requested to ask all clients attending the service if they would be willing to complete the questionnaire – explaining what it is about or showing them the Instructions to Respondents, as required; and not forgetting to mention the £10 payment. In order to assess the non-response rate, staff are asked to keep a record of how many clients decline to participate each day, as well as noting their sex and estimated 5-year age-band (15-19, 20-24, 25-29, 30-34, 35-39, etc.).

The questionnaire can either be completed by clients themselves, or it can be used as an interview schedule – in which case the questions are asked and the answers are written down by Needle Exchange Scheme staff. Questions are in bold small-case, and responses are in regular small-case. The only other information in the questionnaire is instructions: response instructions come straight after questions in square bracketed italics, and signpost instructions are in block capitals. Please use a pen to complete questionnaires (not a pencil), preferably any colour except black (blue or red are best).

**Self-completion by clients**

If clients decide to complete the questionnaire themselves, staff should advise them that they will need to be reasonably literate, and will also need to provide them with a pen, and a room in which to complete the questionnaire. The respondent should be asked to read the Information for Participants attached to the front of the questionnaire before starting. Afterwards, before paying the respondent, staff should check that they have completed all/most of the required answers – though respondents are permitted to skip any questions which they find offensive, personal, etc..

**Interviews by staff**

Interviews should be conducted in private – ideally in a room on the premises, with no-one else present. The interviewer should start by reading out the Information for Participants, attached to the front of the questionnaire. If the interviewer begins to find that the average duration of an interview is a lot less or more than 45-60 minutes, they should adjust the information to respondents accordingly. Before starting with each interview, the interviewer should write their name and the date at the top of the first page (where it says: OFFICE USE ONLY).

After reading out a multiple-choice question to the respondent, the interviewer should then read out the list of possible answers, and ask the respondent to choose one (or more, as required). Alternatively, with common multiple-choice response formats (e.g. always/sometimes/usually/always), the respondent can be shown a 'Response Format Sheet', which provides a list of appropriate responses in a large font. In some cases, its best just to let the respondent answer how they want, and then see which of the listed responses it corresponds to. Also, answers to some of the initial questions can be inferred from visual assessments (e.g. male or female). Ticks should be written on or just above the short lines provided, not through them.

With open-ended questions, particularly when the respondent gives a long answer, its best to summarise the gist of what they say. If you run out of space, continue in the margins, or on the back of the sheet.

Turning to question topics, it should be noted that, in addition to questions about drug use and crime, there are some questions about sexual behaviour, so it is advisable that interviewers are of the same sex as the respondent. In questions about drugs, the standard name for the drug is followed by slang names in brackets - interviewers should use whichever drug-names they believe the respondent to be most familiar with. Similarly, interviewers can use other common words for any subjects where it seems preferable – for example, saying ‘works’ instead of ‘syringe barrels and needles’ or ‘injecting equipment’. Otherwise, interviewers should try to standardise questioning by reading out questions and response items as they are written.

Turning to response formats (RFs), many RFs employ the time periods ‘the last 4 weeks’ or ‘the last 12 months’. It is best to stick with these phrases, rather than using ‘the last month/year’, because some respondents will interpret the latter to mean ‘the calendar month/year so far’, or ‘the previous calendar month/year’. Also, if a respondent answers ‘no’ or ‘never’ to all/most items in a list of responses, make sure that you put a tick in the relevant box for each item.

Lastly, if a respondent declines to answer a particular question, do not query their refusal, simply move on to the next question. But please make a note of which questions they declined to answer at the end of the questionnaire (Q.99).

#### All respondents

After completing the questionnaire, each respondent should be thanked, paid £10, and asked to sign a receipt (100 £10-notes and petty cash vouchers will be provided). The questionnaire should then be placed in a secure place with the other completed questionnaires; and the receipts should be kept in a separate pile (i.e. not attached to each questionnaire, because this would violate anonymity). The survey should end when 100 clients have completed the questionnaire.

Lastly, because different members of staff will be asking clients to participate in the survey, it is possible that some clients who have already taken part will be asked to do so again. Because payment is involved, one or two of these clients may pretend that they have not yet done the survey, and volunteer to do the questionnaire again. Please be on the look out for such deception, because it would reduce the validity of the survey.

Russell Newcombe  
Senior Researcher  
Lifeline Publications  
Manchester  
January 2006

**QUESTIONNAIRE FOR NEEDLE EXCHANGE SCHEME CLIENTS, 2006**  
**LIFELINE, OLDHAM STREET, MANCHESTER**

**INFORMATION FOR SURVEY PARTICIPANTS**

**What's it about, and what's in it for you?**

This survey is mainly about your drug use and your use of drug services. The information gathered will be used to develop services for people who inject drugs, and to produce new leaflets and booklets on safer drug use.

The questionnaire takes around 45 to 60 minutes to complete. Most of the questions are followed by a list of possible responses, and you simply pick the right answers for you. Some questions ask you to give your own answer.

After completing the questionnaire, you will be paid £10 for your help. You will also be asked to sign a receipt for payment – but these will be kept separately in order to keep your completed questionnaire anonymous. Please do not attempt to complete the questionnaire a second time, because this would mess up the findings.

**Is it voluntary, anonymous and confidential?**

Yes to all three.

Voluntary means that you don't have to do it if you don't want to – it won't affect any of the services you receive here. If you do agree to do the questionnaire, you are still free to skip any question which you prefer not to answer.

Anonymous means that we don't need your name (or address), and you are not identified on the questionnaire.

Confidential means that no-one else will know that you took part in this survey – its between us and you. After everyone's answers have been summarised, the original questionnaires will be destroyed.

**Do you want to do it yourself, or get interviewed?**

You can complete the questionnaire yourself, or, if you prefer, a member of staff here can interview you (in a private room) – that is, read out the questions to you, and write down your answers.

Feel free to ask any questions that you have about the questionnaire before you start – or while answering the questions. Thanks for your help.



OFFICE USE ONLY: Date: \_\_\_/\_\_\_/2006 Interviewer: \_\_\_\_\_

**A. QUESTIONS ABOUT YOU**

1. How old are you? \_\_\_\_\_ years
2. Are you: Male \_\_\_ or Female \_\_\_
3. How would you describe your racial group? Asian \_\_\_ Mixed-race \_\_\_  
[tick one only] Black \_\_\_ Other (say what):  
White \_\_\_ \_\_\_\_\_
4. Do you have any children under 18 years? Yes \_\_\_ No \_\_\_  
If Yes, (a) How many? \_\_\_ (b) How many of them live with you? \_\_\_
5. Do you have any educational qualifications? Yes \_\_\_ No \_\_\_  
If Yes, What is your highest one? CSE \_\_\_ GCSE/O-Level \_\_\_ A-Level \_\_\_  
Other (say what): \_\_\_\_\_
6. Are you unemployed, working, on long-term incapacity benefit - or something else?  
Unemployed \_\_\_ Working \_\_\_ Incapacity \_\_\_ Other (state): \_\_\_\_\_
7. Where do you live? Manchester city \_\_\_ Trafford \_\_\_ Salford \_\_\_  
[tick one only] Tameside \_\_\_ Other (state): \_\_\_\_\_
8. What is your present situation regarding accommodation? [tick one only]  
Living in own home \_\_\_ Squatting \_\_\_  
Living in someone else's home \_\_\_ Sleeping rough \_\_\_  
Living in B&B or SS hotel \_\_\_ Other \_\_\_  
Living in hostel/YMCA \_\_\_ (say what): \_\_\_\_\_

IF YOU ARE HOMELESS (ROOFLESS OR IN TEMPORARY ACCOMMODATION), SKIP THE NEXT THREE QUESTIONS, AND GO TO QUESTION 12 IN THE BOX BELOW THEM

9. What kind of accommodation do you live in? [tick one only]

Bedsit/single room \_\_\_  
Flat \_\_\_  
House \_\_\_  
Other: \_\_\_\_\_

10. How many adults and children (whether your own or your partner's children) do you presently live with? Adults: \_\_\_  
Children: \_\_\_

11. Do you own, mortgage or rent the property you live in? [tick one only]

- Own or mortgaged property \_\_\_\_\_  
Council/Housing Authority rent \_\_\_\_\_  
Private rent \_\_\_\_\_  
Other: \_\_\_\_\_

IF YOU ARE NOT HOMELESS, GO TO QUESTION 16 BELOW THE BOX

**QUESTIONS FOR HOMELESS - ROOFLESS OR IN TEMPORARY ACCOMMODATION**

12. How long have you been homeless? \_\_\_\_\_ years \_\_\_\_\_ months

13. *If sleeping rough/roofless:* How long have you been sleeping rough? \_\_\_\_\_ years \_\_\_\_\_ months

14. What were the main events which led you to become homeless?

\_\_\_\_\_  
\_\_\_\_\_

15. Have your drug problems changed since you became homeless? Yes, got better \_\_\_\_\_  
Yes, got worse \_\_\_\_\_  
No, about the same \_\_\_\_\_

**B. QUESTIONS ABOUT CRIME**

16. How many criminal convictions do you have? \_\_\_\_\_

17. How many of these were for drug trafficking offences (including supply, intent to supply, import/export, and production)? \_\_\_\_\_

18. Have you ever been in prison? Yes \_\_\_ No \_\_\_

If Yes, (a) How many times? \_\_\_\_\_

(b) How long have you spent in prison in total? \_\_\_\_\_ years \_\_\_\_\_ months

(c) When did your last sentence end? \_\_\_\_\_ month \_\_\_\_\_ year

(d) What offence were you imprisoned for? \_\_\_\_\_

(e) How many months were you in prison on your last sentence? \_\_\_\_\_ months

(f) Did you inject drugs in prison on your last sentence? Yes \_\_\_ No \_\_\_

**C. NEEDLE EXCHANGE – EXPERIENCE & VIEWS**

19. How long have you been coming to this agency? \_\_\_\_ years \_\_\_\_ months

20. About how often did you attend this agency over the last four weeks? *[tick one only]*

Every day – 2 or more times \_\_\_\_ About 1 to 3 days per week \_\_\_\_  
 Every day – once a day \_\_\_\_ About 1-3 days over the month \_\_\_\_  
 Most days of the week \_\_\_\_ First time today for over 4 weeks \_\_\_\_  
 Other: \_\_\_\_\_

21. Which of the following services have you used recently (last 4 weeks) or prior to this?  
*[give one tick for each service]*

	<u>Never</u>	<u>Prior to last 4 weeks</u>	<u>Recently (last 4 weeks)</u>
Needle exchange	___	___	___
Advice & information	___	___	___
Home detox	___	___	___
HIV test	___	___	___
Hepatitis B test	___	___	___
Hepatitis C test	___	___	___
HAV vaccination	___	___	___
HBV vaccination	___	___	___
Injecting wound-care	___	___	___
Other health check-ups	___	___	___
Referrals to other agencies	___	___	___
Other (say what): _____	___	___	___

22. Over the last four weeks, how often have you picked up each of the following products?  
*[give one tick for each product]*

	<u>Never</u>	<u>Sometimes</u>	<u>Usually</u>	<u>Always</u>
Filters	___	___	___	___
Citric acid	___	___	___	___
Vitamin C	___	___	___	___
Water amps	___	___	___	___
Swabs	___	___	___	___
Sterile cup	___	___	___	___
Tourniquet	___	___	___	___
Condoms	___	___	___	___
Needle clippers	___	___	___	___
Sharps box	___	___	___	___
Other (say what): _____	___	___	___	___

23. How much of each type of equipment did you pick up on a typical visit in last 4 weeks?

1 ml syringe \_\_\_\_ 1/2-inch needle (white) \_\_\_\_ 1 1/4-inch needle (blue) \_\_\_\_  
 2 ml barrel \_\_\_\_ 5/8-inch needle (orange) \_\_\_\_ 1 1/2-inch needle (green) \_\_\_\_  
 5 ml barrel \_\_\_\_ 1-inch needle (orange) \_\_\_\_ Other (say what): \_\_\_\_  
 10 ml barrel \_\_\_\_ 1-inch needle (blue) \_\_\_\_ \_\_\_\_\_

24. How many days would this much equipment usually last? \_\_\_\_ days

25. Over the last four weeks, what percentage of the injecting equipment that you took out would you say that you returned? \_\_\_\_ %

IF YOU ANSWERED 100% (ALL), GO TO Q27 – IF NOT, ANSWER THE NEXT QUESTION

26. (a) Why did you not return some used equipment? \_\_\_\_\_

(b) How did you dispose of it? \_\_\_\_\_

27. In the last 4 weeks, did you ever pick up and/or return injecting equipment for other people? Never \_\_\_\_ Usually \_\_\_\_  
Sometimes \_\_\_\_ Always \_\_\_\_

If Yes, Why? \_\_\_\_\_

28. How satisfied are you with the services at this agency? [circle a number]

1	2	3	4	5
-----	-----	-----	-----	-----
very	quite	neither	quite	very
unsatisfied	unsatisfied		satisfied	satisfied

29. What do you like most about this agency? \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

30. Is there anything about the agency that you dislike? Yes \_\_\_\_ No \_\_\_\_

If Yes, Say what: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

31. Do you think any improvements could be made to the products or services provided by this agency? Yes \_\_\_\_ No \_\_\_\_

If Yes, Say what: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

32. In the last four weeks, have you obtained clean injecting equipment from any sources other than this agency? Yes \_\_\_\_ No \_\_\_\_

If Yes, Which source(s)? Other needle exchange (state): \_\_\_\_\_

[tick one or more] Pharmacy/chemists shop \_\_\_\_ Friends/associates \_\_\_\_

Other source (say what): \_\_\_\_\_

**D. HEALTH & USE OF HEALTH SERVICES**

33. Do you have any long-term health problems or disabilities? Yes \_\_\_ No \_\_\_

If Yes, Say what: \_\_\_\_\_

34. Do you presently have any other physical health problems? Yes \_\_\_ No \_\_\_

If Yes, Say what: \_\_\_\_\_

35. Do you presently have any mental health problems? Yes \_\_\_ No \_\_\_

If Yes, Say what: \_\_\_\_\_

36. In general, how happy would you say you have been feeling over the last four weeks?

1	2	3	4	5	[circle a number]
-----	-----	-----	-----	-----	
very	quite	neither	quite	very	
unhappy	unhappy		happy	happy	

37. Are you presently registered with a GP? Yes \_\_\_ No \_\_\_

If Yes, When did you last see your GP? In last 4 weeks \_\_\_ Over a year ago \_\_\_  
In last 12 months \_\_\_ Can't recall \_\_\_

38. Have you ever received treatment for a mental disorder or mental illness?

No, never \_\_\_ Yes, in past \_\_\_ Yes, at present \_\_\_

If Yes, Which mental disorder(s)? \_\_\_\_\_

39. Are you being prescribed any drugs for mental health problems, such as tranquillisers, sleeping pills or anti-depressants? Yes \_\_\_ No \_\_\_

If Yes, Say what: \_\_\_\_\_

40. Have you ever received treatment (including detox, maintenance or prescribing) for drug problems from a doctor or drug clinic? Yes \_\_\_ No \_\_\_

If Yes: (a) How many times have you been in treatment overall? \_\_\_\_\_  
(b) Are you in treatment for drug problems at present? Yes \_\_\_ No \_\_\_

IF YOU ARE NOT IN DRUG TREATMENT NOW, PLEASE GO TO QUESTION 46

IF YOU ARE IN DRUG TREATMENT, PLEASE ANSWER THE FOLLOWING QUESTIONS

41. Where do you get your treatment? GP (family doctor) \_\_\_  
Drug clinic (DDU or CDT) \_\_\_  
(say which: \_\_\_\_\_)

42. Is your drug treatment compulsory? Yes, DTTO \_\_\_ No, voluntary \_\_\_  
*[tick one only]* Yes, other (state): \_\_\_\_\_

43. How long have you been in your present episode of treatment? \_\_\_ years \_\_\_ months

44. Are you being prescribed drugs as part of your treatment? Yes \_\_\_ No \_\_\_

If Yes, (a) Tick each drug you get below, and then write the daily dose you get next to it:

	<u>Get?</u>	<u>State daily dose:</u>
Methadone mixture	___	_____ mg
Injectable methadone	___	_____ mg
Subutex tablets	___	_____ mg
Other drug(s)	___	_____ mg

(say what: \_\_\_\_\_ )

(b) On which of the following prescribing regimes is your treatment based? *[tick one]*

Detoxification (fixed drops in dose over short period) \_\_\_  
 Reduction (flexible drops in dose over longer period) \_\_\_ Don't know \_\_\_  
 Maintenance (stable dose for an indefinite time period) \_\_\_  
 Other (say what): \_\_\_\_\_

45. How satisfied are you with your drug treatment at present? *[circle a number]*

1	2	3	4	5
-----	-----	-----	-----	-----
very	quite	neither	quite	very
unsatisfied	unsatisfied		satisfied	satisfied

46. In the last 4 weeks, have you received help from any other agencies or professionals for drug-related problems? Yes \_\_\_  
 No \_\_\_

If Yes, Say which: \_\_\_\_\_

47. How would you describe your body weight right now? *[tick one only]*

Very underweight \_\_\_  
 Quite underweight \_\_\_  
 Normal/OK \_\_\_  
 Quite overweight \_\_\_  
 Very overweight \_\_\_

48. Thinking about your eating habits over the last four weeks,

(a) on average, how many meals did you eat a day? \_\_\_\_\_

(b) did you get free food from any agencies? Yes, on most days \_\_\_  
 Yes, on some days \_\_\_  
 No \_\_\_

## E. USE OF LEGAL & ILLEGAL DRUGS

49. How often do you smoke tobacco?  
[tick one only]

Never tried/given up \_\_\_  
Less than once a week \_\_\_  
1 to 3 days a week \_\_\_  
Most days of week \_\_\_  
Every day \_\_\_

50. How often do you drink alcohol?  
[tick one only]

Never tried/given up \_\_\_  
Less than once a week \_\_\_  
1 to 3 days a week \_\_\_  
Most days of week \_\_\_  
Every day \_\_\_

51. Thinking about the last time you had a 'drink' (an alcoholic beverage):

(a) How many standard units of alcohol did you consume?

[one unit = half-pint of beer/lager/cider, a small glass of wine, or a measure of spirits]

About \_\_\_\_\_ alcohol units

(b) How did this compare to the amount you usually drink? Same \_\_\_ More \_\_\_ Less \_\_\_

52. How old were you when you first took an illegal drug? \_\_\_\_\_ years

- and which drug was it: \_\_\_\_\_

53. Focusing on drug use other than injecting, how often have you done each of the following types of drug use in the last four weeks? [give one tick for each type]

	Never	Less than once a week	1 to 3 days a week	Most days	Every day
Sniffing/swallowing amphetamines (wiz)	___	___	___	___	___
Smoking cannabis (pot, weed, hash)	___	___	___	___	___
Swallowing ecstasy (XTC, E)	___	___	___	___	___
Sniffing cocaine powder (coke, charlie)	___	___	___	___	___
Smoking crack (rocks, stone, white)	___	___	___	___	___
Smoking heroin (smack, brown, gear)	___	___	___	___	___
Swallowing methadone (green, slime)	___	___	___	___	___
Swallowing tranquillisers (eg. Valium)	___	___	___	___	___
Swallowing steroids (eg. Dianabol)	___	___	___	___	___
Other types of non-injectable drug use	___	___	___	___	___
(say what: _____)					

54. In the last four weeks, how much did you spend on drugs in a typical week? Please give separate estimates for each drug listed below – state '0' (zero) if you did not buy that drug over the last four weeks

Heroin (smack, brown, gear) £ \_\_\_\_  
 Cocaine powder (coke, charlie) £ \_\_\_\_  
 Crack rocks (stone, white) £ \_\_\_\_  
 Methadone (green, slime) £ \_\_\_\_  
 Cannabis (pot, weed, hash) £ \_\_\_\_  
 Amphetamines (speed, wiz) £ \_\_\_\_  
 Other drugs £ \_\_\_\_ (say what: \_\_\_\_\_)

55. In the last four weeks, what were your main sources of money for buying drugs?  
*[tick all relevant sources]*

Social security benefits	___	Drug dealing (any level)	___
Work (wages/salary)	___	Burglary of dwellings	___
Partner/family member	___	Shoplifting	___
Borrowing money	___	Other theft (cars, etc.)	___
Begging	___	Robbery/mugging	___
Prostitution/selling sex	___	Fraud/deception (kiting)	___

Other (say what): \_\_\_\_\_

56. Do you believe that the possession of any drugs should be decriminalised (made legal)?

Yes \_\_\_ No \_\_\_ Don't know \_\_\_

If Yes, (a) Which drug(s)? \_\_\_\_\_

(b) Why? \_\_\_\_\_

## F. INJECTING DRUG USE

### INJECTING BACKGROUND

57. How old were you when you first injected? \_\_\_\_ years

- and which drug was it? \_\_\_\_\_

58. What do you think are the main reasons

(a) why you started to inject drugs? \_\_\_\_\_

(b) why you inject drugs now? \_\_\_\_\_



59. How many of your friends are presently into injecting drugs? \_\_\_\_\_

60. What proportion of your friends are injecting drug users at present? *[tick one only]*

All \_\_\_\_\_ About a quarter \_\_\_\_\_  
About three-quarters \_\_\_\_\_ None \_\_\_\_\_  
About half \_\_\_\_\_ Other: \_\_\_\_\_

### INJECTING PRACTICES

61. How often did you inject each of the following drug(s) in the last four weeks?

*[give one tick for each drug]*

	<u>Never</u>	<u>Less than once a week</u>	<u>1 to 3 days a week</u>	<u>Most days</u>	<u>Every day</u>
Heroin (smack, gear, brown)	_____	_____	_____	_____	_____
Cocaine (powder, coke)	_____	_____	_____	_____	_____
Crack (rock, stone, white)	_____	_____	_____	_____	_____
Amphetamines (speed, wiz)	_____	_____	_____	_____	_____
Steroids (eg. Dianabol)	_____	_____	_____	_____	_____
Tranquillisers (eg. Valium)	_____	_____	_____	_____	_____
Other drugs injected (state):	_____	_____	_____	_____	_____

62. If you injected HEROIN, how much did you usually put into one shot? £ \_\_\_\_\_ bag: \_\_\_\_\_  
*[state cost of bag/deal, and number or portion used e.g. one, half, third]* or NA \_\_\_\_\_

63. If you injected COCAINE, how much did you usually put into one shot? £ \_\_\_\_\_ bag: \_\_\_\_\_  
*[state cost of bag/deal, and number or portion used e.g. one, half, third]* or NA \_\_\_\_\_

64. If you injected CRACK, how much did you usually put into one shot? £ \_\_\_\_\_ bag: \_\_\_\_\_  
*[state cost of bag/deal, and number or portion used e.g. one, half, third]* or NA \_\_\_\_\_

65. How many times did you inject on an average day (24 hours) in the last 4 weeks? \_\_\_\_\_

66. In what parts of your body did you inject over the last four weeks? *[write your answer]*

67. In the last four weeks, what types of injecting did you do? *[give one tick for each type]*

	<u>Never</u>	<u>Sometimes</u>	<u>Usually</u>	<u>Always</u>
Intravenous – into a vein (mainlining)	_____	_____	_____	_____
Intradermal – under the skin (skin-popping)	_____	_____	_____	_____
Intramuscular – into muscle or fat	_____	_____	_____	_____

*If you are into intradermal injecting (skin popping), ask to see the nurse here for advice*

68. How long does it usually take you to administer an injection - from when you first insert the needle into your flesh, to when you have finished and remove the needle from your body? About \_\_\_\_ minutes

If 2 minutes or more, What do you think are the main reasons why you take so long?  
[tick one or more, as required]

Difficulty in finding a vein \_\_\_\_ Bad injecting technique \_\_\_\_

Other reason(s): \_\_\_\_\_

69. Over the last four weeks, how often did you do each of the following things, before, during and after an injection?  
[give one tick for each action] [NA: not applicable = do not inject into veins]

	Never	Sometimes	Usually	Always	
<u>BEFORE (preparation)</u>					
Washed hands with soap and water	___	___	___	___	
Cleaned injecting site with swab or soap	___	___	___	___	
Used boiled water or sterile water (amps)	___	___	___	___	
Mixed citric or Vit-C into drug solution	___	___	___	___	
Heated and stirred solution in clean spoon	___	___	___	___	
Got new needle from unopened packet	___	___	___	___	
Drew up mixture through filter	___	___	___	___	
Tapped/squirted air bubbles out of barrel	___	___	___	___	
Licked drip of liquid off end of needle	___	___	___	___	
<u>DURING (administration)</u>					
Brought up veins using hot water/heat	___	___	___	___	NA ___
Brought up veins using tourniquet	___	___	___	___	___
Got needle into vein within one minute	___	___	___	___	___
Flushed blood in and out of barrel	___	___	___	___	___
Completed injection within two minutes	___	___	___	___	___
Put finger pressure on site for 20+ seconds after withdrawing needle	___	___	___	___	___
<u>AFTER (completion)</u>					
Put plaster on injection site	___	___	___	___	
Put used syringe in sharps-box	___	___	___	___	
Cleared away all paraphernalia	___	___	___	___	

70. In the last 4 weeks, did you ever use substances other than citric acid or Vitamin-C to dissolve your drugs? No \_\_\_\_ Yes sometimes \_\_\_\_  
Yes usually \_\_\_\_ Yes always \_\_\_\_

If Yes, Which substance(s)? \_\_\_\_\_

71. In the last 4 weeks, did you ever re-use your own used syringe barrels or needles - that is, use the same syringe for two or more injections? Yes \_\_\_\_  
No \_\_\_\_

If Yes, (a) How often did you re-use your own syringes?

Never \_\_\_\_ Sometimes \_\_\_\_ Usually \_\_\_\_ Always \_\_\_\_

(b) Why did you re-use your own syringes? \_\_\_\_\_

72. In the last four weeks, have you been injected with drugs by anyone else (not counting doctors/nurses)? Yes \_\_\_  
No \_\_\_

If Yes, (a) How many different people gave you an injection in the last 4 weeks? \_\_\_  
(b) Who was it/were they? Partner \_\_\_ Friend \_\_\_ Other: \_\_\_\_\_  
(c) For what reason(s) did you let them inject you? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

73. In the last four weeks, have you injected anyone else with drugs? Yes \_\_\_ No \_\_\_

If Yes, (a) How many different people did you inject? \_\_\_  
(b) Who was it/were they? Partner \_\_\_ Friend \_\_\_ Other: \_\_\_\_\_  
(b) For what reason(s) did you inject them? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

### EQUIPMENT SHARING

74. In the last four weeks, have you injected with syringe barrels or needles already used by someone else? Yes \_\_\_  
No \_\_\_

If Yes (a) How many times? \_\_\_  
(b) Off how many different people? \_\_\_  
(c) Did you clean the equipment before using it? [tick one only]  
Never \_\_\_ Sometimes \_\_\_ Usually \_\_\_ Always \_\_\_  
(d) If you have cleaned used equipment before injecting with it, what method(s) did you use? [tick one or more]  
Rinsed with cold water \_\_\_ Other method: \_\_\_\_\_  
Rinsed with boiling water \_\_\_  
Rinsed with bleach \_\_\_  
(e) What were your main reasons for injecting with used syringe barrels or needles in the last four weeks? [tick yes or no for each reason given]

	<u>Yes</u>	<u>No</u>
Unexpectedly ran out of clean equipment	___	___
Needle exchange was closed at the time	___	___
Did it by mistake (thought it was mine)	___	___
Needles had only been used by partner	___	___
Other (say what): _____		

75. In the last four weeks, have you injected with equipment straight after it has been used by someone else (within an hour of them using it)? Yes \_\_\_  
No \_\_\_  
Not sure \_\_\_

76. In the last four weeks, have you passed on your used injecting equipment to anyone else to use? Yes \_\_\_  
No \_\_\_

If Yes, (a) To how many different people did you give your used works? \_\_\_

(b) What was/were their relationship(s) to you? [tick one or more]

Partner \_\_\_ Family member \_\_\_  
Close friend(s) \_\_\_ Stranger(s) \_\_\_  
Other associate(s) \_\_\_ Other (say what): \_\_\_\_\_

77. In the last four weeks, have you shared any of the following paraphernalia with other people while injecting? [tick yes or no for each item]

	<u>Yes</u>	<u>No</u>
Spoons/sterile cup	___	___
Filters	___	___
Glass/water	___	___
Other paraphernalia (state):	_____	

### LOCATIONS OF INJECTING

78. In what locations did you inject over the last four weeks? [give one tick for each place]

	<u>Never</u>	<u>Sometimes</u>	<u>Usually</u>	<u>Always</u>
Your room/flat/house	___	___	___	___
Someone else's home	___	___	___	___
Squat/derelict house	___	___	___	___
Public places (parks/toilets)	___	___	___	___
Other (say where):	_____			

79. Over the last four weeks, have you injected drugs while in a 'shooting gallery' (i.e. a place where lots of people all go to inject drugs)? Yes \_\_\_  
No \_\_\_

If Yes: (a) How many different shooting galleries did you inject in? \_\_\_\_\_

(b) On average, about how many people were injecting drugs in shooting galleries when you were using them? \_\_\_\_\_

(c) How often did you inject in shooting galleries over the last four weeks?

1-3 days over month \_\_\_ Most days of week \_\_\_

1-3 days a week \_\_\_ Every day \_\_\_

(d) Did you inject with used equipment in any shooting galleries over the last 4 weeks? Yes \_\_\_  
No \_\_\_

If Yes, (i) How many times? \_\_\_

(ii) Off how many different people? \_\_\_

**MULTI-DRUG INJECTING**

80. Over the last four weeks, have you injected two or more drugs together in a single shot (in the same syringe)? Yes \_\_\_  
No \_\_\_

If Yes, Which combinations of drugs have you injected together in the last four weeks?  
*[if more than one, give details of up to four of the most common combinations]*

- (a) \_\_\_\_\_
- (b) \_\_\_\_\_
- (c) \_\_\_\_\_
- (d) \_\_\_\_\_

81. What proportion of your injecting friends/associates are presently into speedballing – that is, injecting heroin with cocaine powder *or* crack rocks, together in one shot?

All \_\_\_\_\_ About a quarter \_\_\_\_\_  
About three-quarters \_\_\_\_\_ None \_\_\_\_\_  
About half \_\_\_\_\_ Other: \_\_\_\_\_

82. How often have you had any speedball injections over the last 4 weeks? *[tick one only]*

- Never injected speedball \_\_\_\_\_
- Have injected speedball, but not in last four weeks \_\_\_\_\_
- Injected speedball in last 4 weeks - less than once per week \_\_\_\_\_
  - one to three days a week \_\_\_\_\_
  - most days of the week \_\_\_\_\_
  - every day \_\_\_\_\_

IF YOU HAVE NOT INJECTED SPEEDBALLS IN LAST 4 WEEKS, GO TO QUESTION 88  
IF YOU HAVE INJECTED SPEEDBALLS IN THE LAST 4 WEEKS, CONTINUE BELOW

83. In which year did you first inject a speedball? \_\_\_\_\_

84. Over the last four weeks, which of the following types of speedball did you inject?  
*[give one tick for each type]*

	<u>Never</u>	<u>Sometimes</u>	<u>Usually</u>	<u>Always</u>
Heroin with cocaine powder	___	___	___	___
Heroin with crack rocks	___	___	___	___
Heroin with cocaine and crack	___	___	___	___
Other (say what):	_____			

85. On those days when you were speedballing over the last four weeks, how many speedball injections did you have on a typical day? \_\_\_\_\_

**86. When you injected speedballs, how much of each drug did you usually shoot up?**

*[state the cost of the bag/deal, and the number or portion used eg. one bag, half bag, etc.]*

(a) Heroin: £ \_\_\_ bag: \_\_\_ with Cocaine £ \_\_\_ bag: \_\_\_  
 and/or (b) Heroin: £ \_\_\_ bag: \_\_\_ with Crack £ \_\_\_ bag: \_\_\_

**87. When injecting speedballs in the last four weeks, how likely were the following things - compared with when you injected each drug on its own? *[give one tick for each thing]***

	<u>Less likely</u>	<u>About same</u>	<u>More likely</u>
Injecting with a used needle	___	___	___
Injecting more times over the day	___	___	___
Damaging your veins or flesh	___	___	___
Overdosing or have toxic effects	___	___	___
Get into bad state of mind (eg. paranoid, confused)	___	___	___
Do crimes to fund drug purchases	___	___	___
Don't eat or sleep enough	___	___	___
Other (say what: _____)	___	___	___

**CONSEQUENCES OF INJECTING (of any type)**

**88. Over the last 12 months, how often have you experienced each of the following problems during or just after injecting drugs? *[give one tick for each problem]***

	<u>Never</u>	<u>Once or twice</u>	<u>3 to 10 times</u>	<u>1 to 3 times a month</u>	<u>Once a week or more</u>
A 'bad hit' (sickness, headache, etc.)	___	___	___	___	___
Hitting an artery	___	___	___	___	___
Hitting a major nerve	___	___	___	___	___
Overdose (unconsciousness)	___	___	___	___	___
Seizures (fits/convulsions)	___	___	___	___	___

**89. Please indicate whether or not you have been tested for each of the following major viruses, and if so, whether you tested negative or positive *[give one tick for each virus]***

	<u>Never been tested</u>	<u>Tested negative</u>	<u>Tested positive</u>	<u>Awaiting results</u>	<u>Don't know</u>	<u>Other</u>
HIV	___	___	___	___	___	___
Hepatitis A	___	___	___	___	___	___
Hepatitis B	___	___	___	___	___	___
Hepatitis C	___	___	___	___	___	___

**90. Have you been vaccinated against:**

(a) Hepatitis A? Yes \_\_\_ No \_\_\_ Started \_\_\_  
 (b) Hepatitis B? Yes \_\_\_ No \_\_\_ Started \_\_\_

**91. Have you been infected with any of the following diseases due to injecting drug use?**

*[give one tick for each disease]*

	<u>No</u>	<u>Over a year ago</u>	<u>In last 12 months</u>	<u>In last 4 weeks</u>
Hepatitis D	___	___	___	___
Severe systemic sepsis (SSS)	___	___	___	___
Wound botulism	___	___	___	___
GAS bacteraemia	___	___	___	___
Tetanus	___	___	___	___
Septicaemia (blood poisoning)	___	___	___	___
Other injecting-related diseases (say what): _____				

**92. Have you ever had any of the following injecting-related health problems?**

*[give one tick for each problem]*

	<u>No</u>	<u>Over a year ago</u>	<u>In last 12 months</u>	<u>In last 4 weeks</u>
Ulcers/sores	___	___	___	___
Abscesses	___	___	___	___
Gangrene	___	___	___	___
Collapsed veins	___	___	___	___
Other (say what): _____				

**G. SEXUAL BEHAVIOUR & EXPERIENCES**

**93. How many people have you have had penetrative sex with in your life? \_\_\_\_\_**

**94. Do you have a regular sexual partner (spouse or boy/girlfriend)?** Yes \_\_\_ No \_\_\_

If Yes, (a) Are you presently living with them? Yes \_\_\_ No \_\_\_

(b) Is your partner a drug injector? Yes \_\_\_ No \_\_\_

(c) Have you had sex with them in the last four weeks? Yes \_\_\_ No \_\_\_

If Yes, How often did you use condoms? Never \_\_\_ Usually \_\_\_  
Sometimes \_\_\_ Always \_\_\_

**95. Have you (or your partner) ever sold sex?** *[tick one box for each]*

YOU \_\_\_\_\_

No, never \_\_\_  
Yes, but over a year ago \_\_\_  
Yes, in last 12 months \_\_\_  
Yes, in last 4 weeks \_\_\_

YOUR PARTNER \_\_\_\_\_

No, never \_\_\_  
Yes, but over a year ago \_\_\_  
Yes, in last 12 months \_\_\_  
Yes, in last 4 weeks \_\_\_  
Not applicable (no partner) \_\_\_

96. In the last four weeks, have you had sex with anyone *other* than a regular partner? Yes \_\_\_  
No \_\_\_

If Yes, (a) How many people did you have sex with in the last four weeks? \_\_\_

(b) How often did you use condoms? Never \_\_\_ Usually \_\_\_  
Sometimes \_\_\_ Always \_\_\_

97. Have you ever had a Sexually Transmitted Infection (STI)? Yes \_\_\_ No \_\_\_

If Yes, Which STIs have you had – over a year ago, or in the last 12 months?

[give one tick for each STI]

	<u>Never</u>	<u>Over a year ago</u>	<u>In the last 12 months</u>
Gonorrhoea (the clap)	___	___	___
Syphilis (the pox)	___	___	___
Non-specific urethritis (NSU)	___	___	___
Chlamydia	___	___	___
Herpes	___	___	___
Genital warts	___	___	___
Other (say what): _____			

98. Do you know any people who are HIV-positive? Yes \_\_\_ No \_\_\_

If Yes, (a) How many? \_\_\_ (b) How many of these are or were drug injectors? \_\_\_

### AND FINALLY ...

99. Thinking back over the whole questionnaire, were there any questions which you declined to answer? Yes \_\_\_  
No \_\_\_

If Yes, Which question(s) did you skip? \_\_\_\_\_

100. Do you have any comments about the questionnaire or the topics it covered?

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**THANK YOU FOR COMPLETING THIS QUESTIONNAIRE**

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## APPENDIX C

### Trends in the number and characteristics of clients of Lifeline Needle Exchange Scheme, Manchester, 2000/01 to 2005/06 [internal monitoring, except Table C5]

**Table C1: Number of visits, all clients, new clients and contact rate per quarter-year**

		Visits	All clients	New clients	Mean number of visits per client per quarter
2000/01	1	5212	934	301	5.6
	2	6369	1005	350	6.3
	3	7108	983	271	7.2
	4	7780	1105	332	7.0
2001/02	1	6797	1108	378	6.1
	2	7216	1158	367	6.2
	3	6845	1114	288	6.1
	4	6052	1098	303	5.5
2002/03	1	6422	1172	378	5.5
	2	6308	1115	260	5.7
	3	6475	1025	257	6.3
	4	5927	1009	262	5.9
2003/04	1	5607	1122	207	5.0
	2	6655	1246	258	5.3
	3	5870	1046	179	5.6
	4	5922	1032	267	5.7
2004/05	1	4723	948	238	5.0
	2	5036	941	193	5.4
	3	4528	848	149	5.3
	4	4357	871	134	5.0
2005/06	1	4764	909	243	5.2
	2	5143	891	253	5.8
	3	4617	853	221	5.4
	4	4769	854	224	5.6

#### Notes

These figures concern needle exchange episodes and clients only, and do not cover episodes and clients receiving other services at the Oldham Street agency, such as direct and telephone advice, detox assistance, etc. Each figure for annual number of clients in Table C2 is calculated by starting with the total number of individual clients in the first quarter, and adding the number of new clients in the 2<sup>nd</sup>, 3<sup>rd</sup> and 4<sup>th</sup> quarters. The mean number of visits per client per year is calculated by dividing the total number of visits per year (produced by adding the visits figure for each quarter-year) by the annual number of clients (see previous note).

**Table C2: Annual number of NES clients, and annual contact rate, 2000/01-2005/06**

	Annual number of clients	Mean number of visits per client per year
2000/01	1,887	14.0
2001/02	2,066	13.0
2002/03	1,951	12.9
2003/04	1,826	13.2
2004/05	1,424	13.1
2005/06	1,607	12.0

**Table C3: Percentage of all NES clients in key demographic groups, per quarter-year**

	Number	Race			Sex	Residence			Age-band				
		White	Black	Asian	Male	Man	Sal	Oth	15-19	20-29	30-39	40+	
2000/01	1	934	95	4	1	89	79	8	13	2	45	41	12
	2	1005	96	3	1	86	77	9	12	2	48	41	9
	3	983	96	4	*	85	79	7	12	3	44	42	11
	4	1105	96	3	1	86	78	9	13	2	43	43	12
2001/02	1	1108	96	3	1	86	74	10	16	1	41	47	10
	2	1158	95	4	1	85	74	9	17	2	41	46	12
	3	1114	95	4	1	84	74	10	16	1	40	46	12
	4	1098	95	3	1	83	74	10	16	1	40	46	13
2002/03	1	1172	94	4	1	82	74	12	14	1	37	47	15
	2	1115	94	5	1	80	77	10	13	1	35	49	14
	3	1025	93	5	1	84	77	11	12	1	34	49	15
	4	1009	93	5	1	81	76	10	12	1	36	48	15
2003/04	1	1122	93	5	1	83	75	9	16	1	33	51	15
	2	1246	93	4	2	83	76	9	16	1	32	53	14
	3	1046	94	4	1	82	76	8	15	1	29	54	15
	4	1032	94	4	1	82	76	8	16	1	31	51	17
2004/05	1	948	94	4	2	82	79	8	13	1	32	51	16
	2	941	95	3	1	83	77	7	16	2	28	53	17
	3	848	94	4	1	85	79	9	13	1	27	56	17
	4	871	95	3	1	84	81	9	10	1	27	54	18
2005/06	1	909	95	3	1	85	77	9	14	1	25	54	19
	2	891	96	3	1	86	78	7	15	1	26	53	20
	3	853	92	3	1	85	80	8	12	1	23	53	21
	4	854	95	3	1	90	82	9	15	1	27	53	20

**Notes**

Manc = Manchester      Salf = Salford      Other = other districts of Greater Manchester

Sex: percentage who are female equals 100 – %male

Race: excludes fourth category of other (invariably less than 0.5%); glosses over mixed-race category

– zero      \* less than 0.5%

**Source:**

Lifeline Needle Exchange Scheme (2006). Client Services Report, 2005/06. Manchester: Lifeline NES [and previous annual reports]

**Table C4: Percentage of new NES clients in key demographic groups, per quarter-year**

		Number	Race			Sex	Residence			Age-band			
			White	Black	Asian	Male	Man	Sal	Oth	15-19	20-29	30-39	40+
2000/01	1	301	94	4	-	88	72	11	18	4	46	38	12
	2	350	97	1	1	86	73	8	18	3	52	37	8
	3	271	94	5	*	85	73	11	16	5	45	37	13
	4	332	98	1	1	92	75	8	17	3	44	41	13
2001/02	1	378	95	4	*	88	66	11	23	3	46	42	9
	2	367	96	4	1	86	72	8	20	3	42	43	11
	3	288	95	3	2	85	67	11	22	3	43	42	11
	4	303	96	4	-	83	67	12	22	3	46	38	13
2002/03	1	378	93	6	2	81	74	13	14	2	38	43	16
	2	260	92	5	3	80	69	8	22	3	40	44	13
	3	257	93	4	2	89	72	11	18	2	38	44	16
	4	262	94	5	1	77	71	9	20	3	41	45	11
2003/04	1	207	93	5	2	83	64	10	26	2	40	48	11
	2	258	93	4	2	83	72	9	19	3	40	45	12
	3	179	95	5	-	84	72	7	21	3	33	53	11
	4	267	96	2	1	86	76	7	17	4	40	40	15
2004/05	1	238	93	4	3	83	68	8	24	3	39	46	13
	2	193	93	4	3	78	64	12	24	4	35	44	17
	3	149	97	1	1	87	70	15	15	2	36	50	12
	4	134	94	5	1	86	75	10	16	2	37	48	13
2005/06	1	243	97	3	-	87	70	14	17	3	33	46	18
	2	253	96	2	2	89	67	9	24	2	42	43	14
	3	221	94	4	2	85	73	6	21	4	30	45	21
	4	224	94	4	3	90	73	12	15	1	40	44	14

**Notes**

Manc = Manchester      Salf = Salford      Other = other districts of Greater Manchester

Sex: percentage who are female equals 100 – %male

Race: excludes fourth category of other (invariably less than 0.5%); glosses over mixed-race category

– zero

\* less than 0.5%

**Source:**

Lifeline Needle Exchange Scheme (2006). Client Services Report, 2005/06. Manchester: Lifeline NES [and previous annual reports]

**Table C5: Alternative figures for Lifeline NES (and five other Manchester NESs) in 2003/04 & 2004/05, produced by the National Drug Evidence Centre**

**(a) Number of episodes and clients**

	2003/04		2004/05	
	Episodes	All clients	Episodes	All clients
<u>Manchester</u>	<u>1567</u>	<u>1355</u>	<u>1390</u>	<u>1232</u>
Lifeline NES	605	592	503	503
B	280	265	120	119
C	268	267	318	311
D	245	233	234	228
E	118	116	140	139
F	51	50	75	72

**(b) Number (%) injecting each of four drugs – across all Manchester NESs**

	2003/04	2004/05
Heroin	774 (88)	728 (83)
Cocaine	271 (31)	270 (31)
Steroids	134 (15)	160 (18)
Amphet's	127 (15)	83 (9)
<u>All current IDUs</u>	<u>877</u>	<u>882</u>
<u>Currently sharing</u>	<u>144 (16)</u>	<u>103 (12)</u>

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**Notes:**

These figures are derived from two annual reports of the NDEC, which cover six needle exchange schemes in Manchester city, including the Lifeline NES.

**Source:**

National Drug Evidence Centre (2005). City of Manchester Syringe Exchange Schemes – Annual Reports 2003/04, and 2004/05. Manchester: NDEC.

# A Speedball Wake-Up Call

**Dr. Russell Newcombe, Senior Researcher  
Lifeline, Manchester, England**

*Launched on Lifeline website, May 2007  
[www.lifeline.org.uk](http://www.lifeline.org.uk)*



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## Aim

**This article has two objectives:**

- (1) To draw the attention of the drugs field to the neglected rise in speedballing in Britain**
- (2) To provide an introduction to speedballing, and the risks and harms involved in this injecting habit**



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# What is a speedball?

**Other slang names:** *snowballing, curry & rice, brown & white, smack & crack*

**Broad definition:** the multi-injection (in a single shot) of an opioid with a stimulant

**Strict definition:** the multi-injection (in a single shot) of heroin with crack/cocaine

**Use of ‘speedball’ to describe this multi-injecting habit goes back to at least the 1930s in the USA**



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## The 3 waves of speedballing in Britain

<u>Period</u>	<u>Drugs in speedball</u>	<u>Typical speedballer</u>
1880-1920:	morphine with cocaine HCl soldier	Upper-class or
1950-1970:	heroin with cocaine HCl	Young (esp. London)
1990-2007:	heroin with cocaine FB	<u>Socially excluded, young to middle-aged</u>

**Key:** HCl = hydrochloride (cocaine powder, aka *coke, snow*)  
FB = freebase (cocaine rocks, aka *crack, stone*)

### Other differences between speedballing ‘waves’

- (1) **Source:** in the first two waves, the two drugs were pharmaceutical (*over-the-counter pharmacy* in first wave, and *NHS prescription* in second wave); while in the third wave, they were *illicit* (Asian heroin, and South American cocaine)
- (2) **Prevalence:** numbers unknown in first wave; in 1,000s in second wave; and in 10,000s in third wave. The vast majority were male in each phase.



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## Estimated prevalence of speedballing and other injecting habits in UK, 2007, based on the available evidence

<b>Total number of IDUs</b>	<b>200,000</b>
<b>Speedballers</b>	<b>60,000</b>
<b>Heroin-only injectors</b>	<b>120,000</b>
<b>*Stimulant-only injectors</b>	<b>20,000</b>

IDUs: injecting drug users    Estimate excludes steroid injectors (Newcombe 2007a)  
\* Amphetamines, or cocaine and/or crack



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## Direct evidence of an outbreak of speedballing in Britain is limited

- (1) A survey of 100 clients of Lifeline Needle Exchange Scheme (NES) in Manchester in February 2006 found that 8 in 10 were speedballers – climbing from 2 in 10 in early 1990s, and rising notably from late 1990s (Newcombe 2007b)
- (2) A Druglink survey in March 2006 found that 8 out of 20 cities/towns in England & Wales reported a growth in speedballing - from Newcastle to Bristol and Ipswich - and new research in London also found a rise in speedballing (Rhodes et al. 2006)
- (3) At time of writing (May 2007), Turning Point published a study of 874 IDUs at 25 NESs in England & Wales in 2006/07. They found that 19% reported their main injecting habit to be speedballing, and 77% heroin only; with 33% reporting past-month speedballing (ranging from 12% to 77%).



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# Indirect evidence of outbreak of speedballing in Britain

Though direct evidence of a rise in speedballing is limited, since 2000 several studies/reports have provided indirect evidence, either by reporting:

- (a) increases in 'crack injecting'; and/or
- (b) increases in 'poly-drug use' among IDUs, notably heroin and crack – without mentioning the speedballing habit.

Yet injecting of crack on its own is fairly rare: not one of the 100 IDUs in the Lifeline NES survey in 2006 injected crack on its own - typically because the stimulant effects are too powerful without a sedative to take the 'edge' off



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## Recent national research which implies but does not mention rise in speedballing (injection of heroin and crack in same shot)

A survey of 952 IDUs in 6 English cities in 2003/04 reported that most injected heroin - and that 40% injected crack, with rates up to 70% in Manchester & Bristol (HPA et al. 2005).

A study of the prevalence of problem drug use in London, Brighton and Liverpool in 2000/2001 concluded that *“though nearly nine in ten of the IDUs in the survey injected heroin in the previous year, over half had also used crack or cocaine ... It is therefore recommended that prevalence estimation of problem drug use focus on injecting drug use, opiate and crack/cocaine use, with an assessment of the most appropriate data sources for each type”* (Hickman et al., 2004: 29).



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## Reports on North West Drug Agency Monitoring Systems which imply but do not explicitly identify a rise in speedballing

*“Evidence from historical regional monitoring data ... going back to the mid-1990s ... indicates a continuing upward trend in poly-drug use (crack and heroin combined, in particular)”*

Bullock et al. (2005). Drug treatment in North West England, 2003/04. Centre for Public Health, Liverpool JMU.

Of 35,500 PDUs on North-West Drug Treatment Monitoring System in 2005/06, 66% reported heroin use and 20% crack use. Overall, about 4 in 10 heroin-using PDUs also used crack (Khundakar et al. 2006).

Annual reports on clients of the six NESs in Manchester in 2003/04 and 2004/05 indicated that 9 in 10 injected heroin and 3 in 10 injected crack/cocaine (National Drug Evidence Centre, 2005).



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## Other major annual studies/reports which note that crack injecting or poly-drug use has increased – but do not identify speedballing

**Annual reports of National Drug Treatment Monitoring System**

***UK Drug Situation* - annual reports to EMCDDA**

**National Conference on Injecting Drug Use [with a few exceptions]**

***Shooting Up* – annual reports on drug injecting of HPA**

*“There is evidence of an increase in the injecting of crack-cocaine”*  
Peter Borriello, Director of the HPA's Centre for Infections  
(press release on *Shooting Up*, 2006)



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## Why has the growth of speedballing been ignored (or heavily neglected)?

Both routine monitoring systems for drug users (eg. National Drug Treatment Monitoring System), and the data-collection instruments used by drugs researchers are designed to record information about drug use/injecting in a singular manner – primary drug, and secondary drugs (drug by drug) - and are thus ‘blind’ to multi-drug use/injecting

This weakness in data collecting/reporting stems from the inadequacy of the standard concept of poly-drug use or poly-drug injecting for describing the different ways in which drugs can be combined.



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## The Speedball Blind-Spot

*Describing people's drug use by simply reporting the numbers/percentages using each 'primary drug' and each 'secondary drug' does not adequately measure or conceptualise their actual drug-taking behaviour/habits*

*It is like trying to describe human eating habits to aliens by saying our main foodstuff is bread, indicated by 80% as their primary food; with other food use being indicated by 60% for potatoes, 50% for cheese, 45% for eggs. etc. [invented figures!]. From this, the aliens would have no idea that humans usually eat meals three times a day, and that each meal contains two or more different foodstuffs*



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# How does poly-drug injecting differ from multi-drug injecting?

**Mono-drug injecting**: injecting one drug only across time

**Poly-drug injecting**: injecting 2+ drugs across time - 3 types:

**Singular drug injecting**: separate injections of each drug on different occasions (no overlap in main effects or after-effects)

**Serial drug injecting**: separate injections of each drug, but in same time period (some overlap in main effects or after-effects)

**Multi-drug injecting**: injection of two or more drugs in the same shot/syringe (simultaneous experience of the effects of each drug) – notably *speedballing* (*heroin with crack*)

In short: poly-use covers all 3 ways of combining drugs, while multi-use is one of the 3 types of poly-use (*use* covers injecting, or other methods of use)



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## Why has speedballing become so popular among IDUs in Britain?

**Dopamine** is the neurotransmitter responsible for pleasure in the brain, and is released when we eat food, have sex, interact with others, etc.. Most depressant and stimulant drugs boost dopamine beyond normal levels, producing euphoria – esp. heroin, cocaine & methamphetamine.

In animal research, dopamine levels are boosted 70% by heroin, and almost 400% by cocaine - but when the two drugs are injected together in a single shot (as a speedball), dopamine levels are boosted by over 1000% - called a synergistic effect (more than sum of parts)



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## Full effects of speedball on neurotransmitters in the brain, and linked mental states

The brain has over 100 neurotransmitters (chemical messengers) in four main groups: peptides, monoamines, amino acids, and endocannabinoids.

**HEROIN** mainly affects three neurotransmitters in two groups:

Peptides: (1) mimics endorphins (analgesia & sedation)

Monoamines: (2) boosts dopamine (euphoria)

(3) inhibits noradrenaline (reduced alertness)

**CRACK/COCAINE** affects three neurotransmitters in one group:

Monoamines: (1) boosts serotonin (elevated mood)

(2) boosts dopamine (euphoria)

(3) boosts noradrenaline (increased alertness)



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## What does injecting a speedball feel like?

***“ You feel the white first, sharpening your mind, boosting your energy, along with that orgasmic surge of pleasure – then, within half a minute, the brown kicks in, softening the razor edges of the crack, and soothing your overcharging brain. Your body stops aching, your mind stops hurting, and for a few brief heavenly minutes things are more than just shit or alright. The two drugs go together like men and women, yin and yang. Why is it the only thing that makes me feel good if all it’s doing is killing me? ”***

**35-year old male speedballer in Manchester, 2006**



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## **Main reasons for speedballing (injecting heroin and crack in same shot)**

- 1. Maximum pleasure: the 2 drugs produce a synergistic dopamine surge, as well as boosting endorphins and serotonin**
- 2. Complementary: the 2 drugs reduce each other's negative effects**
- 3. Convenience: one injection is easier than two**
- 4. Marketing: drug dealers sell heroin and crack together**
- 5. Sub-culture: New users pick up the habit off older users, and its an increasingly popular/prevalent habit**



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## **Risks & harms associated with speedballing compared with injecting heroin only**

**More likely to be male, single, and homeless**

**Greater injecting frequency, larger doses injected; thus more money spent, and more crime conducted**

**Greater probability of public injecting, re-using own needles, groin injecting, and '*digging and fishing*'**

**More likely to have infectious diseases (esp. HCV) and other health damage (abscesses, etc.)**

**Greater risk of overdose (fatal and non-fatal)**



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Photograph of speedball shooting gallery in NW England (Lifeline 2001)



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## Doubled-up risks of speedballing

Double analgesia effect: heroin reduces pain perception in brain, and crack acts as a local anaesthetic – leading to greater damage at injecting site (abscesses, etc.)

Double dependence: physical addiction to heroin, and strong mental dependence on crack – with underlying synergistic dopamine ‘hook’. Consequently, double-withdrawals too: heroin *cold turkey* combined with crack *come-down*

Double chance of overdosing, i.e. 2 different types:  
Cocaine OD (agitation, seizure, heart attack, etc.)  
Opioid OD (respiratory failure, unconsciousness, etc.)

Double exposure to adulterants & contaminants: purity averages 40% for heroin & 60% for crack (down from 90%). Both may contain bacteria, aflatoxins & pesticides.



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