

Shooting Up

Infections among injecting drug users in the United Kingdom 2005
An update: October 2006



GLOSSARY OF ABBREVIATIONS:

AIDS	Acquired Immunodeficiency Syndrome
anti-HBc	Antibodies to hepatitis B core antigen
anti-HCV	Antibodies to hepatitis C virus
anti-HIV	Antibodies to Human Immunodeficiency Virus
CA-MRSA	Community-associated methicillin resistant <i>Staphylococcus aureus</i>
CDSC	Communicable Disease Surveillance Centre
Cfi	Centre for Infections
CRDHB	Centre for Research on Drugs and Health Behaviour, London School of Hygiene & Tropical Medicine
DCR	Drug Consumption Room
DHSSPS	Department of Health, Social Services and Public Safety (Northern Ireland)
FSML	Food Safety Microbiology Laboratory
GAS	Group A Streptococcus
HIV	Human Immunodeficiency Virus
HPA	Health Protection Agency
HPS	Health Protection Scotland
HTLV	Human T-Cell Lymphotropic Virus
IDU	Injecting Drug User
ISD	Information and Statistics Division (Scotland)
MRSA	Methicillin resistant <i>Staphylococcus aureus</i>
MSSA	Methicillin sensitive <i>Staphylococcus aureus</i>
NEX	Needle Exchange
NHS	National Health Service
NPHS	National Public Health Services for Wales
RSIL	Respiratory and Systemic Infection Laboratory
SRU	Staphylococcus Reference Unit
UAPMP	Unlinked Anonymous Prevalence Monitoring Programme
UASSG	Unlinked Anonymous Surveys Steering Group
UK	United Kingdom

GLOSSARY OF TERMS:

AGENCY BASED NEX

A NEX service that is either a stand alone specialist agency or based in a multi-service drug agency.

COHORT STUDY

A study where a group of people are followed up over a period of time.

DIRECT SHARING

Where an injector reports passing on or receiving needles and syringes that have already been used.

DRUG CONSUMPTION ROOM (DCR)

A facility, with health care staff usually present, where users of street drugs can consume their drugs in a safe and hygienic environment.

MIXING CONTAINERS

A container, such as a spoon, in which drugs are prepared for injection. Sometimes referred to as 'cookers' as drugs are often heated during preparation.

PHARMACY-BASED NEX

A NEX service provided through a community pharmacy.

PREVALENCE

The proportion of a group, or population, that has been exposed to or has an infection.

Shooting Up

Infections among injecting drug users in the United Kingdom 2005
An Update: October 2006

Health Protection Agency, Centre for Infections

Health Protection Scotland

National Public Health Service for Wales

Communicable Disease Surveillance Centre Northern Ireland

&

Centre for Research on Drugs & Health Behaviour, London School of Hygiene & Tropical Medicine

CITATION:

Health Protection Agency, Health Protection Scotland, National Public Health Service for Wales, CDSC Northern Ireland, CRDHB, and the UASSG. **Shooting Up: Infections among injecting drug users in the United Kingdom 2005.** London: Health Protection Agency, October 2006.

ISBN 0 901144 86 X

PREFACE

This report uses data gathered by surveillance systems operated by the Health Protection Agency's Centre for Infections (CfI), Health Protection Scotland (HPS), National Public Health Service for Wales (NPHS), CDSC Northern Ireland, and other collaborating institutions. Data from research studies undertaken by these organisations in collaboration with the Centre for Research on Drugs and Health Behaviour (CRDHB) at London School of Hygiene and Tropical Medicine, the School of Social Sciences at the University of Paisley, and the Centre for Drugs Misuse Research at the University of Glasgow have also been included.

REPORT WRITTEN & PREPARED BY:

Vivian Hope (co-ordinator), Sharon Hutchinson, Koye Balogun, Susie Huntington, Julia Abernethy, Jim McLauchlin, Theresa Lamagni, Fortune Ncube, Neil Irvine, Angela Kearns, Androulla Efstratiou, Natasha Crowcroft, Noel Craine, Matthew Hickman, Tim Rhodes, Tim Chadborn, Mary Ramsay, Daniel Thomas, O. Noël Gill & David Goldberg.

With:

Maxine Hill, Avril Taylor, Sharon Barnett, Audrey McQuaid, Andrea Mann, Adrienne Testa, Ruth Smith, Julia Granerød, Shona Neal, John V. Parry, Roland Salmon & Robert George.

ACKNOWLEDGEMENTS:

We would like to thank:

the clinicians, microbiologists, public health practitioners, and other colleagues who contributed to the surveillance systems used in this report;

the specialist services for drug users which collaborate in the UAPMP and all the IDUs who took part in this survey;

Merrington Omakalwala & Jacquelyn Njoroge for their administrative support;

the ISD (Scotland) Drug Misuse Information Strategy Team; and

our colleagues at the UK Departments of Health for funding and their comments on the draft report.

Contents

Summary	4
Key Points	4
Priorities for the Commissioning of Services for Drug Users	4
Priorities for Public Health Surveillance Development and Research	5
Introduction	6
Viral Infections	6
HIV	6
Diagnosed infections	6
Prevalence	7
Hepatitis C	8
England, Wales & Northern Ireland	8
Scotland	10
Hepatitis B	11
Hepatitis A	12
HTLV-II (Human T-Cell Lymphotropic virus, Type II)	13
Bacterial Infections	13
<i>Staphylococcus aureus</i> Infections	13
Group A Streptococcal Infections	16
Clostridial Infections	16
Wound Botulism	16
Tetanus	17
Other Clostridial Infections	17
Risk and Protective Behaviours	18
England, Wales & Northern Ireland	18
Scotland	18
Comments and Conclusions	19
Appendix: Sources of information and advice on reporting infections and investigating outbreaks	23
References	24

Summary

Key Findings

HIV: The prevalence of HIV infection among injecting drug users (IDUs), in England & Wales, has increased in recent years. Overall around one in 50 IDUs are now infected, which is still low compared to many other countries. The prevalence remains elevated among IDUs in London with around one in 25 HIV infected. The recent increase in HIV prevalence has been greatest elsewhere in England and Wales: where the prevalence has risen from around one in 400 in 2003 to about one in 65 in 2005.

Hepatitis C: Overall, approaching one in two current IDUs in the UK have been infected with hepatitis C, which is also low compared to many other countries. However, there are marked regional variations in hepatitis C prevalence within the UK, with the low prevalences found in some areas suggesting that hepatitis C infection is not an inevitable consequence of injecting drug use. Surveillance and research data also indicate that the overall prevalence of hepatitis C infection among IDUs has probably increased in recent years and that levels of hepatitis C transmission remain elevated.

Voluntary confidential diagnostic testing: Uptake of testing for hepatitis C among IDUs in contact with drug services has increased in recent years. It is estimated, however, that almost half of those IDUs with hepatitis C in contact with these services still remain unaware of their infection. There will also be substantial numbers of current and former IDUs who are not in contact with services who will be unaware they have hepatitis C. Whilst most IDUs in contact with services report having had a test for HIV at some point, less than half of those with HIV are aware of their infection. There is thus a need to improve the provision of voluntary confidential testing services for both hepatitis C and HIV.

Vaccination: The proportion of IDUs reporting uptake of hepatitis B vaccination has increased markedly in recent years, with the prison vaccination programmes being a major factor in this increase. However, the transmission of hepatitis B continues among IDUs. There is a particular need to improve the provision of vaccinations to IDUs through needle exchange services, including the provision of the vaccines against hepatitis A and tetanus as well as that against hepatitis B. In England, the National Treatment Agency for Substance Misuse (NTA) is developing performance monitoring for the provision of vaccination by services for drug users.

Bacterial infections: The ongoing occurrence of wound botulism cases indicates that the environmental contamination of heroin with bacterial spores remains a problem. There are also continuing problems with injecting site infections associated with methicillin resistant *Staphylococcus aureus* and severe group A streptococcal infection.

Behaviours: Levels of reported needle and syringe sharing increased in the late 1990s, and since then have remained elevated with over a quarter of IDUs reporting sharing in the previous month. The sharing of other injecting equipment is more common. There are also indications that injecting into the groin (femoral vein) may be becoming more common. It is also apparent that there are a variety of individual and environmental factors that may affect injecting behaviour and hygiene, and that the effects on risk of factors such as homelessness, the injecting environment, and drugs injected need further investigation. In particular the role of crack-cocaine use, which has become more widespread, is a cause for concern.

Priorities for the Commissioning of Services for Drug Users

When commissioning community based services to reduce the harm associated with problem drug use, in line with the aims of the national drug strategies^{2,3,4,5,6}, primary care bodies* and Drug Action Teams or local partnerships should give priority to preventing the spread of infections among IDUs and reducing the harm that these infections cause. This should be through:

1. Continuing the development of high-quality needle-exchange (NEX) services for those unable to stop injecting, by:
 - a) ensuring sufficient distribution of injecting equipment to prevent the sharing of needles and syringes;
 - b) providing injecting-related equipment other than needles and syringes as appropriate;
 - c) ensuring an appropriate range of NEX services are provided, including provision by drug services, retail pharmacies, and mobile or outreach services; and
 - d) providing services that are easily accessible throughout the week (including evenings, at weekends, and on public holidays).NEX services should be staffed by specially trained drug workers, nurses or pharmacists.
2. Ensuring NEX, and other services working with IDUs, provide:
 - a) information and practical advice on safer injecting practices, avoiding injecting site infections, prevention of blood-borne virus transmission, and the safe disposal of used equipment.
 - b) onsite hepatitis B vaccination services, with follow-up strategies for those who have started the vaccination course in line with national service specifications⁷.
 - c) easy access to health checks, treatment for injection site infections, and diagnostic tests for hepatitis C and HIV.

* Primary Care Trust in England, Local Health Care Co-operatives and NHS Boards in Scotland, Local Health Boards in Wales, and Health and Social Services Boards supported by Local Health and Social Care Groups in Northern Ireland.

3. Developing mechanisms, with local providers, to ensure that services that aim to prevent or reduce infections among IDUs, such as NEX, can respond in a timely fashion to evolving patterns of drug use (such as increased crack-cocaine use) and risk associated with injecting practices (such as groin injecting).
4. Further improving access to diagnostic testing for hepatitis C – particularly to those who have ceased injecting – in line with strategies such as the *Hepatitis C Action Plan for England*⁸ and the *Hepatitis C Action Plan for Scotland*.
5. Developing procedures for offering the tetanus vaccine and boosters to those IDUs who may need them and offering hepatitis A vaccination where appropriate⁹.
6. Promoting a range of easily accessible drug treatment and support services that encourage drug users to reduce and cease injecting, and reduce or stop their drug use.

In England the recently revised Models of Care¹⁰, which provides a framework for the provision of treatment to drug users, sets a clear structure for the provision of all of these services across the range of service providers working with drug users.

Priorities for public health surveillance development and research

In commissioning developments to public health surveillance and research studies the following should be prioritised:

1. The UAPMP survey of IDUs continues to provide important data and needs to be maintained as services for drug users develop. Establishing a comparable unlinked anonymous survey programme in Scotland is essential to monitoring the impact of interventions on the spread of blood-borne viruses nationally, particularly hepatitis C, among IDUs. The pilot of the enhancement to the UAPMP survey of IDUs has provided useful additional data and the continuation of this enhancement should be considered.
2. It is of concern that laboratory data on hepatitis B is currently unavailable, and the quality of the data on hepatitis A is increasingly poor. Improving the quality and consistency of the surveillance of viral hepatitis, through the more complete and consistent reporting of laboratory diagnoses with risk factor information, is needed. This should build upon the surveillance standards recently developed by the Health Protection Agency (HPA)¹¹.
3. There is a need for research to examine the extent of, and risk factors associated with, bacterial infections among IDUs. In addition, there is a need to estimate the cost to UK health services of bacterial infections associated with drug injecting, and the feasibility and cost-savings associated with harm reducing interventions. Current epidemiological data on bacterial infections is focused only on the more severe cases, and there is a need for additional data in this area.
4. NEX services are key to preventing infections among IDUs. Whilst the recent NEX Audits^{12,13} have provided an informative insight, ongoing information on the extent of provision is needed. The NTA is initiating a national monitoring system of throughput of injecting equipment in England. This important initiative should be co-ordinated with existing public health surveillance of IDUs to ensure maximum impact.
5. The recent increase in infections among IDUs suggests a need to re-examine the scope and range of harm reduction services provided for IDUs. Research projects to develop, pilot and evaluate novel and improved service models, which aim to encourage and support hygienic injection practice, are needed. Research should also be undertaken to further examine the role crack-cocaine use has on risk, the possible shifts towards the use of higher risk injecting sites such as the groin (femoral vein), and on the impact of unstable housing or homelessness on health risk among IDUs. In addition there is also a need to explore the feasibility of developing and evaluating interventions to reduce transitions towards drug injecting, and specifically crack-cocaine injection.

1. Injecting drug users (IDUs) are vulnerable to a diverse range of infections, including those caused by viruses such as HIV and hepatitis C and bacteria such as *Clostridium botulinum* and group A streptococci. These infections can result in high levels of illness and death therefore the public health surveillance of infectious diseases, and the associated risk and protective behaviours, among this group are important.
2. The extent of injecting drug use in the United Kingdom (UK) is currently uncertain. Two studies funded by the Scottish Executive have provided estimates of the prevalence of problem drug misuse in Scotland: these indicated that the number of current injectors in Scotland may have reduced from around 25,000 in 2000^{14,15}, to 19,000 in 2003¹⁶ (representing 0.9% and 0.7% of those aged 15 to 54 years, respectively). Similar national estimates have been undertaken in England but are not yet available. Earlier studies in selected high prevalence cities estimated that over 1 in 100 young adults aged 15 to 44 years may be current injectors¹⁷. There are no recent published studies for Wales or Northern Ireland. A pilot back-calculation model suggested that in 2000 there may have been between 100,000 and 150,000 current IDUs (0.5% to 0.7% of those aged 15 to 44 years)¹⁸ in England. Indicators of IDU prevalence suggest an increase over the long term¹⁹. For example, the National Survey of Sexual Attitudes and Lifestyle found that the proportion of people reporting ever injecting increased from 0.8% in 1990 to 1.3% in 2000^{20,21}; and the number of opiate overdose deaths increased five-fold from 1990 to 2000²².
3. In 1998 the national drug strategy was launched - Tackling Drugs to Build a Better Britain²³- and this was updated in 2002². Scotland⁶, Wales⁴ and Northern Ireland⁵ have adopted country-specific strategies within the national one. There have also been a number of initiatives, such as the establishment of the National Treatment Agency for Substance Misuse and Models of Care^{10,24}, in England, to support the development of services to meet the strategies aims.
4. This report presents available data on the extent and trends over time of infections among IDUs in the UK up to the end of 2005. It includes data on the more severe bacterial infections affecting IDUs, on available markers of HIV and viral hepatitis prevalence and incidence, and on associated risk and protective behaviours.
5. IDUs are vulnerable to a range of viral infections through the use and sharing of contaminated injecting equipment. Some of these infections, such as hepatitis C and HIV, cause long-term chronic illnesses that have asymptomatic phases that can last many years.

HIV

6. Transmission of HIV through injecting drug use was recognised early in the HIV epidemic at the beginning of the 1980s. Explosive outbreaks of HIV infection among IDUs have occurred worldwide, with ongoing transmission in Eastern Europe. Other than an outbreak in Edinburgh in the early 1980s HIV infection among IDUs has remained relatively uncommon in the UK, probably as a result of prompt community and public health responses.

Diagnosed infections*

7. By the end of 2005 there had been a total of 4,434 HIV diagnoses reported in the UK where infection was thought to have been acquired through injecting drug use. These accounted for 5.6% of all the HIV diagnoses reported (78,639) in the UK, 4.3% (3,125 of 72,647) of the reported infections in England, 28% (1,251 of 4,453) in Scotland, 4.3% (48 of 1,121) in Wales, and 2.4% (10 of 418) in Northern Ireland.
8. The annual number of HIV diagnoses among IDUs in recent years has been low and relatively stable (Table 1), at an annual average of 131 reports during the period 1998 to 2005. So far, 147 HIV diagnoses, where infection was thought to have been acquired through injecting drug use, have been reported in the UK for 2005 (53 in London, 19 in Scotland, and 75 elsewhere). Of the diagnoses in 2005, the country of infection was reported for 98 (67%). Where reported, 53% (52) of infections were probably acquired within the UK and 47% (46) outside of the UK, mostly in southern Europe. In comparison, in 2003 only 34% (53 of 95) of infections were probably acquired in the UK, whilst in 2004 the figure was 47% (37 of 81), where reported. In 2005 country of birth was reported for 72 of the diagnoses, 44% (32) were born within the UK and 56% (40) outside of the UK, mostly in southern Europe. This is similar to the proportion in 2004 when 38% were UK born.
9. Of the reports of new HIV diagnoses in IDUs reported between 2000 and 2005, the median ages at diagnosis for men and women were 34 years and 31 years respectively. During this period the median age at diagnosis for men has increased from 32 years in 2000 to 34 years in 2005, but changed little for women (from 31 years to 31.5 years).

* Based on reports received at the Centre for Infections by the end of June 2006.

10. In 2005, 1,005 HIV-infected IDUs were seen for HIV-related treatment or care in England, Wales & Northern Ireland, a 15% increase since 2000 when 872 IDUs were seen for care. IDUs accounted for 4.0% (872 of 21,717) and 2.2% (1,005 of 45,171) of all HIV-infected individuals seen for care in 2000 and 2005 respectively. In 2005, 69% (697 of 1,005) IDUs were male and 83% (881 of 1,005) were white. One quarter of IDUs seen for HIV-related care in 2005 had at some time been diagnosed with an AIDS-defining illness (255 of 994). Whilst 30% (299 of 1,000) of IDUs were not receiving antiretroviral therapy in 2005, 53% (527) were on a combination of three drugs and 15% (151) were receiving four or more drugs (only 23 individuals were receiving mono or dual drug combinations). Of the IDUs seen for HIV-related care in 2005 around one fifth (21%, 188 of 885) had latest CD4 counts of 200 cells per mm³ or less[†]. The proportion of IDUs first seen for care in 2005 who had latest CD4 counts of 200 cells per mm³ or less was 31% (33 of 108) compared to 20% (22 of 78) in 2000.

prevalence was also 1.6% (54 of 3,328) (Figure 1). In London the prevalence was 3.2% (20 of 628), whilst elsewhere in England it was 1.1% (25 of 2,211). Combining data for 2004 and 2005 the prevalence of HIV infection among IDUs attending services taking part in the UAPMP agency survey in Northern Ireland was 2.0% (5 of 248) and in Wales was 1.6% (4 of 253).

Prevalence

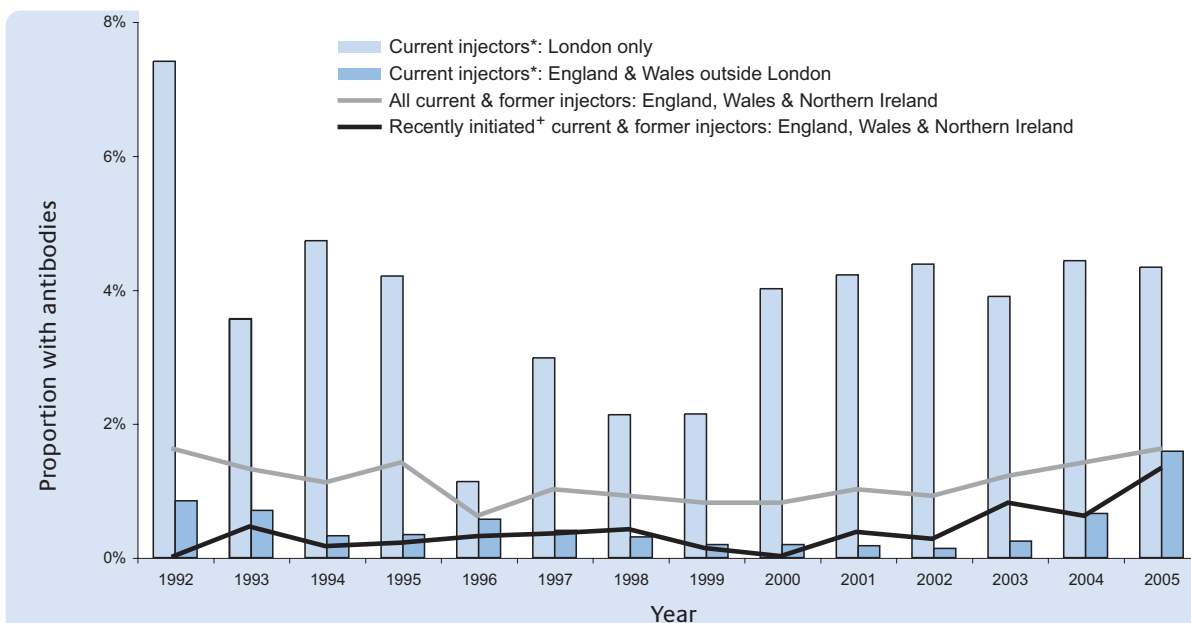
11. The Unlinked Anonymous Prevalence Monitoring Programme's (UAPMP) survey of current and former IDUs in contact with drug agencies in England, Wales & Northern Ireland found an overall HIV prevalence of 1.6% (52 of 3,176) in 2005. This is the highest HIV prevalence seen in this survey since 1992 when the

12. The prevalence amongst current IDUs (those who reported injecting in the four weeks prior to taking part in the UAPMP agency survey) in England and Wales in 2005 was 2.1% (38 of 1,833). This is the highest level ever seen amongst current IDUs in this survey, and indicates that the recent increase in HIV prevalence among current IDUs in England and Wales, previously found when examining data from both the UAPMP agency survey and the series of community recruited surveys undertaken by Centre for Research on Drugs and Health Behaviour (CRDHB) between 1990 and 2003²⁵, has continued. This found that HIV prevalence declined in the early 1990s from 5.6% in 1990 to 0.6% in 1996 before increasing to 1.4% in 2003.

13. In London the HIV prevalence among current IDUs in 2005 was 4.3% (14 of 323), which was similar to that seen in recent years (Figure 1). Elsewhere in England and Wales the prevalence was 1.6% (24 of 1,510), which is more than twice the prevalence seen in 2004 (0.66%, 8 of 1,213), and was the highest HIV prevalence ever seen in the UAPMP agency survey amongst current IDUs in England and Wales outside of London (Figure 1).

Figure 1:

Prevalence of HIV infection among current and former injecting drug users in England, Wales & Northern Ireland[^]: 1992 to 2005



[^] Includes Northern Ireland from 2002.

* Those who last injected drugs during the four weeks prior to participating in the survey.

⁺ Those who started injecting drugs during the three years prior to participating in the survey

Data source: Unlinked Anonymous Prevalence Monitoring Programme survey of injectors in contact with drug agencies.

[†] Individuals with CD4 cell counts of 200 cells per mm³ or less have an increased risk of morbidity and mortality relative to individuals with higher counts. Individuals diagnosed with low CD4 counts have a poorer response to therapy and will have missed opportunities to prevent onward transmission through clinical and behavioural preventative measures.

14. Results from the UAPMP enhancement pilot (which recruited IDUs at seven locations in England during 2003/05) found a prevalence of 0.76% (8 of 1,058) among IDUs in England outside London. The UAPMP enhancement pilot collected more detailed information on drug use than the agency survey and found that those who reported injecting crack-cocaine had a higher prevalence than those who did not [1.4% (6 of 424) and 0.32% (2 of 634) respectively].
15. In 2005, 34% of IDUs (1,023 of 3,015) who took part in the UAPMP agency survey reported **never** having had a voluntary confidential test for HIV. Of those who had antibodies to HIV, only 47% (22 of 47) were aware of their infection in 2005, which was similar to the level seen in 2004 (50%, 15 of 30). These are the lowest levels of awareness seen in this survey since this was first asked about in 1995 (the average between 1995 and 2003 was 74% (172 of 232)).
16. The prevalence of HIV in those who began injecting in the last three years is a measure of recent transmission. In 2005 among the participants in the UAPMP agency survey who began injecting in the last three years the HIV prevalence was 1.3% (5 of 397) (Figure 1). This was the highest prevalence ever seen among this group in this survey, and suggests a recent increase in transmission. Corroboration for this comes from the community recruited cohort study of recently initiated IDUs in London undertaken by the CRDHB in 2001/03. This estimated that HIV incidence was 3.4% per annum²⁶ and also found that the incidence was similar to the prevalence, which is suggestive of a recent increase in transmission. The cohort study also found evidence that the incidence of HIV was higher among those who reported injecting crack-cocaine (around 6%).
17. In 2004 the National Public Health Service for Wales (NPHS) recruited IDUs into a cohort study. The participants, who were recruited from both community and treatment settings in South Wales, were followed up after approximately one year. All of the 407 IDUs who were followed up were found to be negative for HIV²⁷.
18. In Scotland the prevalence of HIV among IDUs is monitored through the surveillance of people undergoing voluntary confidential HIV testing. This found a HIV prevalence of 0.9% (21 of 2,261) among IDUs undergoing testing in Scotland during 2005; this compares with prevalences of 1.4% to 3.2% in the early to mid-1990s and 0.5% to 0.8% during the period 1998 to 2004 (Table 1).
19. Hepatitis C is currently the most significant infectious disease affecting those who inject drugs. Very high prevalences have been reported among IDUs in many countries. Up to 80% of those acquiring hepatitis C develop chronic infection and are at risk of developing cirrhosis and liver cancer. Uptake of diagnostic testing for hepatitis C by current and former IDUs is increasingly important with the development of new and more effective antiviral therapies. At the Royal College of Physicians of Edinburgh's Consensus Conference on Hepatitis C, during April 2004, it was recommended that "a high priority for case finding should be given to former injecting drug users, especially those over 40, who are likely to have a stage of disease which would benefit from treatment"²⁸. Countries within the UK have developed strategies to respond to hepatitis C^{8,29,30}, and much of the focus of these is on current and former IDUs.

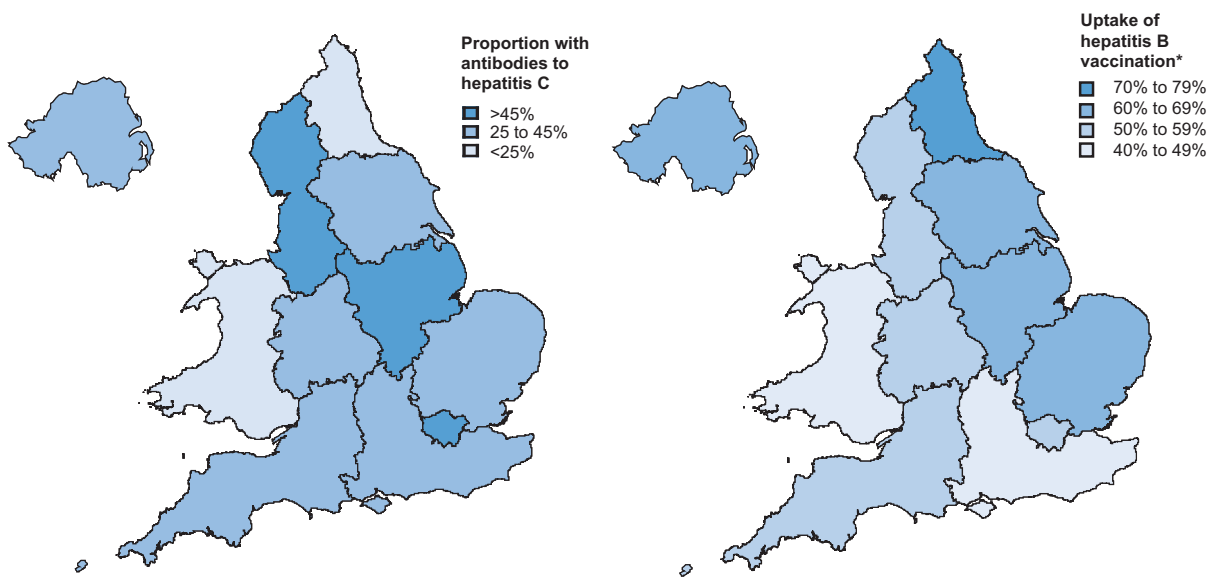
England, Wales & Northern Ireland

20. Up to the end of 2005 laboratories in England had reported a total of 54,078 diagnoses of hepatitis C infections to the Centre for Infections (CfI) since reporting began in 1992. The majority of these infections will most probably have been acquired through injecting drug use as over 90% of those diagnoses with risk factor information gave this as the route of infection (Table 1). The number of laboratory reports each year has been increasing since the introduction of diagnostic tests in the early 1990s, from under 1,000 per annum prior to 1994 to 7,578 in 2005. Most of this rise probably reflects the increasing numbers of those at risk being tested, rather than an increase in transmission.
21. Laboratories in Wales have reported a total of 3,770 diagnoses of hepatitis C infection; including 349 diagnoses in 2005. Over 90% of infections in individuals with a known risk factor were associated with injecting drug use. In Northern Ireland laboratories have reported a total of 909 diagnoses of hepatitis C infection. In 2005 there were 134 new diagnoses reported in Northern Ireland, the highest yearly total reported, and of those reports with exposure data 93% were associated with injecting drug use.

22. In 2005, 42% (1,325 of 3,175) of IDUs who took part in the UAPMP agency survey had antibodies to hepatitis C (anti-HCV)[†], which is similar to that seen in 2004 (41%, 1,103 of 2,686) (Table 1). The hepatitis C prevalence in England was 44% (1,251 of 2,838), however, there were marked regional variations (Figure 2) from 20% (111 of 552) in the North East to 55% (703 of 1,273) in London and 58% (448 of 777) in the North West (data from 2004 and 2005 combined). The prevalences in Wales and Northern Ireland (Figure 2) were lower than most of the English regions: combining data from 2004 and 2005, hepatitis C prevalence in Wales was 18% (45 of 253), and in Northern Ireland it was 28% (69 of 248).
23. Amongst current IDUs the prevalence of hepatitis C has increased from 39% (899 of 2,311) in 1998, the year hepatitis C testing was added to this survey³¹, to 44% (837 of 1,882) in 2005. In England the prevalence among current IDUs in 2005 was 46% (809 of 1,740), whilst combining data for 2004 and 2005 in Wales it was 20% (27 of 136) and in Northern Ireland, 22% (22 of 100).
24. Results from the UAPMP enhancement pilot found that 53% (566 of 1,058) of the participating current IDUs at the seven sites in England were anti-HCV positive. This is comparable to the UAPMP agency survey after allowing
- for the differences in test sensitivity and recruitment areas. Those who reported injecting crack-cocaine had a much higher prevalence than those who did not [67% (284 of 424) and 44% (282 of 634) respectively].
25. Increasing the proportion of injectors with hepatitis C who are aware of their infection is one of the aims of the 'Hepatitis C Action Plan for England'⁸ and there are signs of progress. Whilst most IDUs who took part in the UAPMP agency survey in England reported having accepted the offer of a test, 29% of IDUs (779 of 2,670) reported **never** having had a voluntary confidential test for hepatitis C in 2005, this compares with 51% (1,532 of 2,998) in 2000. Of those who were infected with hepatitis C, 48% (525 of 1,098) in 2005 were unaware of their infection, compared to 60% (615 of 1,018) in 2000. Of participants from Wales 45% (115 of 253) reported never having a voluntary confidential test for hepatitis C in 2004/05, with almost three quarters (31 of 44) of those with hepatitis C being unaware of their infection. Thirteen percent (33 of 248) of the participants from Northern Ireland in 2004/05 reported not having been tested for hepatitis C, and just over one quarter (17 of 63) of the participating IDUs with hepatitis C in the province were unaware of their hepatitis C infection.

Figure 2:

Geographic variations in the prevalence of antibodies to hepatitis C and hepatitis B vaccine uptake* among current & former injecting drug users in England, Wales & Northern Ireland (2004 and 2005 data combined)



* Self reports, those receiving one or more vaccine doses.

Data source: Unlinked Anonymous Prevalence Monitoring Programme survey of injectors in contact with drug agencies. Further regional data from this survey is available at: www.hpa.org.uk/infections/topics_az/hiv_and_sti/hiv/epidemiology/ua.htm

[†] The sensitivity of the oral fluid test used in the UAPMP agency survey is approximately 93%.

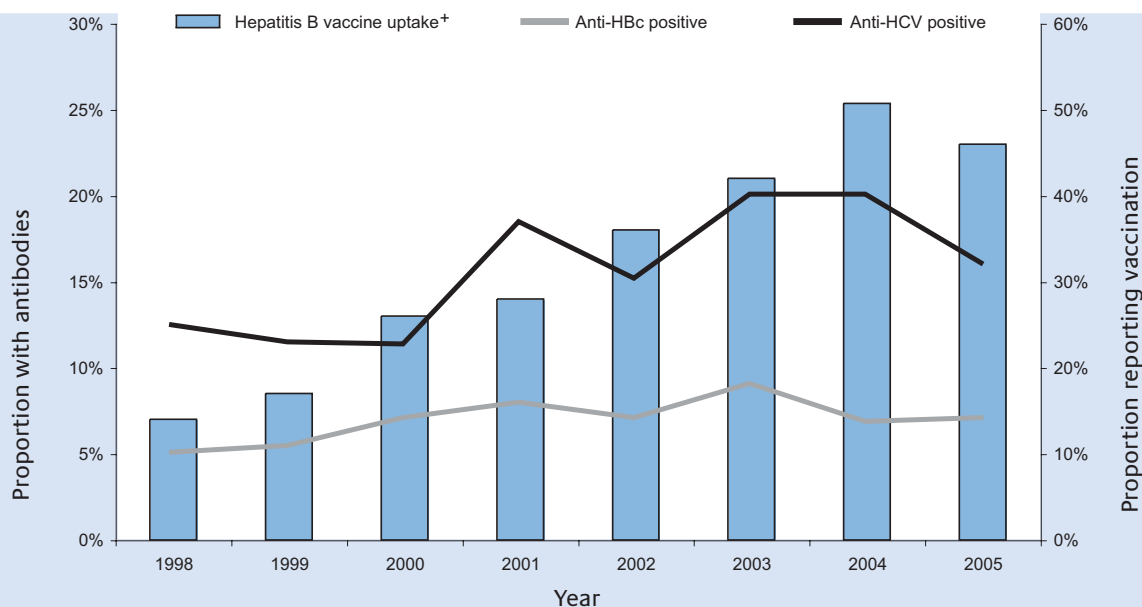
26. The prevalence of hepatitis C in those who began injecting in the last three years is a measure of recent transmission, and is also one of the outcome measures for the *Hepatitis C Action Plan for England*⁸. In 2005 among those in this group who participated in the UAPMP agency survey from throughout England, Wales and Northern Ireland the prevalence was 16% (64 of 397), which was similar to that between 2001 and 2004, but remains higher than the prevalence among this group in 2000 (11%, 89 of 787) and earlier years (Figure 3)[†]. An increase in the level of hepatitis C transmission in the early part of this decade is supported by the findings of the cohort study undertaken in London by CRDHB that estimated the annual incidence to be 42%²⁶. As this incidence is similar to the prevalence it too suggests that transmission may have recently increased in London at least.
27. The main aim of the cohort study of IDUs recently undertaken by NPHS in South Wales was to estimate the incidence of hepatitis C²⁷. It recruited 700 IDUs and followed up 407 of these over approximately one year. The estimated hepatitis C incidence was 6.5 per 100 person-years (6.5%), whilst the prevalence of hepatitis C among all the IDUs recruited at the start of the study was 26% (184 of 700).

Scotland

28. During 2004, it was estimated that approximately 50,000 people were infected with hepatitis C in Scotland (representing 1% of the population)³². Of these 50,000, it was estimated that 37,500 (75%) were chronically infected (including 33,000 individuals who had ever injected drugs) and that for between 30% and 40% their infection had been diagnosed³².
29. Of the 33,000 ever IDUs living with chronic hepatitis C in Scotland during 2004, it was estimated that 22,800, 8,400 and 1,800 had mild, moderate and severe (cirrhosis) hepatitis C disease, respectively³³. UK consensus guidelines recommend that antiviral treatment should be considered for patients who have at least moderate hepatitis C disease according to histological appearances³⁴. Assuming the continuation of current rates of hepatitis C transmission and uptake of antiviral therapy, it is predicted that in the year 2020, 19,000, 18,000 and 3,000 ever IDUs will have mild, moderate and severe hepatitis C disease, respectively³³.
30. To the end of 2005, a total of 20,163 persons had been diagnosed hepatitis C positive in Scotland. In 2005, 1,600 new diagnoses were reported; this compares with an annual average of 1,682 reports during the period 2001 to 2004 (Table 1). Among the 13,668 reports for which risk information was available, 12,296 (90%) were known to have ever injected drugs.

Figure 3:

Trends in hepatitis B vaccine uptake⁺, and past hepatitis B and C infection, among recently initiated injecting drug users* in England, Wales & Northern Ireland[^]: 1998 to 2005



⁺ Self reports, those receiving one or more vaccine doses.

^{*} Those who started injecting drugs during the three years prior to participating in the survey.

[^] Includes Northern Ireland from 2002.

Data source: Unlinked Anonymous Prevalence Monitoring Programme survey on injectors in contact with drug agencies.

[†] Data on the prevalence amongst this group for England only will be given in: '*Hepatitis C in England - The Second Health Protection Agency Annual Report*'. The prevalence and trend are very similar to that for England, Wales, and Northern Ireland combined.

31. In Scotland, residual sera from specimens provided by IDUs, originally tested for HIV, are anonymously tested for hepatitis C so as to monitor trends in hepatitis C prevalence among this group³⁵. Table 1 shows that the prevalence of hepatitis C among IDUs in Glasgow reduced substantially between 1990 (all IDUs: 89%; IDUs aged under 25 years: 91%) and 1999/2000 (62%; and 41% respectively), suggesting that there had been a decrease in hepatitis C incidence during the 1990s. Since then, the prevalence of hepatitis C among IDUs in Glasgow has remained broadly unchanged (rising only slightly in 2002/03, all IDUs: 64%; IDUs aged under 25 years: 43%).
32. In 1999/2000, the prevalence of hepatitis C among IDUs in Scotland who had undergone a voluntary confidential HIV test was 44% (946 of 2,141). The prevalence of hepatitis C among these 2,141 IDUs by health-board area ranged from 23% in Forth Valley to 62% in Greater Glasgow and 53% in Tayside¹⁴.
33. A recent review of epidemiological studies showed that the incidence of hepatitis C among IDUs in many parts of Scotland remains high (in the range 12 to 29 per 100 person-years)³⁶.
34. During 2005, a survey of 435 current IDUs recruited at needle exchanges (NEX) in Glasgow found the prevalence of hepatitis C was 68%. This compares to a prevalence of 77% among 531 current IDUs recruited during a community-wide survey in Glasgow in 2004. Among 34 IDUs surveyed in 2005 who had commenced injecting in the previous two years, the prevalence of hepatitis C was 30%; this prevalence was lower than that detected among equivalent IDUs surveyed in 2001/2002 (43% of 120) and 2004 (50% of 52).
35. In the UK hepatitis B infection is usually acquired in adulthood, with sexual activity or injecting drug use being the most commonly reported routes of infection. Infection with the hepatitis B virus typically causes an acute infection, with a small number of those infected going on to develop chronic disease. Infection with hepatitis B is however preventable using a safe and effective vaccine.
36. In England and Wales acute hepatitis B cases are reported to the Cfl. There was a substantial deterioration in the quality of hepatitis B reporting in 2004 and data for 2004 and 2005 are unavailable*. However, in 2003 injecting drug use was the main risk associated with hepatitis B infection, accounting for 34% of individuals with a known risk factor in England, and 27% in Wales.
37. In Scotland and Northern Ireland, reported hepatitis B diagnoses encompass both acute and chronic infections. In Scotland, there were 372 reports in 2005; this compares to an average annual total of 351 for the period 2000 to 2004. The proportion of case reports indicating injecting drug use as the main risk declined from 30% in 1999 – the year in which an outbreak occurred among the IDU population in Aberdeen – to 6% in 2005 (Table 1). In Northern Ireland the total number of reports (acute and chronic) of hepatitis B infection prior to 2002 had fluctuated at around 30 reports each year. There were 67 reports in 2002, 61 in 2003, 60 in 2004, and in 2005 there were 72 reports. Some of these infections will have been related to injecting drug use.
38. In 2005, 19% (613 of 3,175) of IDUs who took part in the UAPMP agency survey in England, Wales & Northern Ireland had antibodies to hepatitis B core antigen (anti-HBc, a marker of previous or current hepatitis B infection)[†]; this was similar to the level observed since 1995 (Table 1). The prevalence varied by region and country (combining 2004 and 2005 data): in England, the highest prevalence was in the North West (31%, 221 of 777) and the lowest in the Yorkshire & Humber region (5.5%, 14 of 253). In Wales and Northern Ireland the prevalences were 7.5% (19 of 253) and 9.7% (24 of 248) respectively.
39. Results from the UAPMP enhancement pilot found that 32% (332 of 1,049) of the participating current IDUs at the seven sites in England were anti-HBc positive. This is comparable to the UAPMP agency survey after allowing for the differences in test sensitivity and recruitment areas. Those who reported injecting crack-cocaine had a much higher prevalence than those who did not [43% (179 of 419) and 24% (153 of 630) respectively].

* Publication of hepatitis B surveillance data has stopped until the current problems with the routine laboratory surveillance system, some of which are currently being addressed, have been resolved. Whilst the quality of the data has been maintained in parts of the system publishing partial figures could give the false impression that cases of acute hepatitis B in England and Wales have fallen. The HPA has recently developed surveillance standards for hepatitis B surveillance¹¹.

† The sensitivity of the oral fluid test used in the UAPMP agency survey is approximately 75%.

40. Prevalence of anti-HBc among those who began injecting in the previous three years is an indicator of relatively recent transmission of the hepatitis B virus. The UAPMP agency survey found that prevalence among this group increased from 3.4% (20 of 583) in 1997 to 9.1% (35 of 386) in 2003, it was 6.7% (23 of 345) in 2004 and 7.1% (28 of 397) in 2005 (Figure 3).
41. The recent cohort study that followed up 407 IDUs recruited from South Wales in 2004 estimated the annual incidence of anti-HBc to be 2.1%²⁷. The prevalence of anti-HBc among all the IDUs recruited at the start of this study was 9.3% (65 of 700).
42. Up to the end of the 1990s, hepatitis A infection in the UK occurred most frequently in gay men and travellers to endemic countries. There is an effective vaccine that is offered to those at risk⁹. There appears to have been a change in the epidemiology of hepatitis A in the early part of the decade with significant numbers of infections occurring in IDUs who may have acquired hepatitis A infection through person-to-person contact either through poor hygiene, via blood through sharing contaminated injecting equipment, through sexual activities that increase the risk of oro-faecal contamination, or from drugs that had been contaminated with faeces during smuggling.
43. In 2005 the number of laboratory reports of hepatitis A infection in England and Wales was 457. This continues the recent downward trend in the overall number of hepatitis A cases reported annually: there were 669 in 2004, 996 in 2003 and 1,352 in 2002. This downward trend is most notable in men aged between 15 to 44 years. Over the years, there has been an increasing proportion of hepatitis A reports containing no information on risk factors. For example, in 2005, only 0.9% of reports had information on a recent history of travelling abroad being associated with hepatitis A acquisition. In the early part of the decade there had been a number of outbreaks of hepatitis A that were associated with injecting drug use and homelessness³⁸. Data since 2002 suggest that the outbreaks of hepatitis A in IDUs have been waning.
44. An outbreak of hepatitis A infection among IDUs in Scotland occurred in Aberdeen during 2000 and 2001, and involved 74 IDUs. A case-control study revealed that poor hygiene related to individuals preparing and injecting drugs together, had provided an opportunity for transmission³⁹. During June to December 2003, there was an increase in the number of notifications of hepatitis A in Ayrshire, Scotland; 13 cases among IDUs were reported⁴⁰.

45. HTLV-II is endemic among native Amerindian tribes⁴¹, and in Europe it has been documented among IDUs⁴². HTLV-II infection has been associated with neurological disorders⁴³, an increased risk of bacterial infections, and in those co-infected with HIV an increased risk of neuropathy⁴⁴.

46. Between 2002 and 2005 CfI received reports of 354 individuals who were newly diagnosed with HTLV, of whom 17 were known to be HTLV-II infected and three HTLV-I & II co-infected⁴⁵. Of the 17 individuals diagnosed with HTLV-II infection the probable route of infection was reported for eight individuals: two were infected through injecting drug use, two through heterosexual intercourse with an IDU partner, two through heterosexual intercourse with no information on the partner, one was infected through transfused blood, and one was infected by either mother to child transmission or heterosexual intercourse. Where reported (12), 10 were born in the UK, one in Europe and one in Africa. Eleven individuals were tested as blood donors. As there is no routine testing for the infection among IDUs, HTLV-II infection among this group is likely to be under-diagnosed.

47. IDUs are vulnerable to a range of bacterial infections, such as wound botulism, 'gas gangrene', and bacteraemia, as a result of non-sterile injecting or injecting contaminated drugs. In recent years these acute infections have caused growing public health problems.

Staphylococcus aureus Infections

48. *Staphylococcus aureus* is a common pathogen among IDUs, causing infections that vary in severity from minor skin and soft tissue infections through to life-threatening invasive disease such as bacteraemia and endocarditis. Typically, isolates from these individuals are methicillin sensitive *S. aureus* (MSSA), but the lack of systematic studies and active surveillance means that little is known about the extent or epidemiology of MSSA among the IDU population in the UK. More recently, methicillin resistant *S. aureus* (MRSA) has been reported in IDUs in Switzerland and the United States of America.

49. A number of laboratories in England and Wales have reported encountering MRSA as a cause of injecting drug use related sepsis in the community^{46,47}. The Health Protection Agency's (HPA) Staphylococcus Reference Laboratory (SRL) has received sporadic and small clusters of isolates for testing. Between April 2003 and March 2006 a total of 50 cases of injecting drug use related sepsis due to MRSA have been identified from geographically distinct areas throughout England and Wales. There were 36 males and 14 females; 28 presented with injection site abscesses or skin infection, 13 with bacteraemia, four with endocarditis and one with pneumonia (clinical data were not available for four). Cases are continuing to be reported.

50. Detailed analysis of the MRSA isolates has revealed that they represent a community-associated MRSA (CA-MRSA) clone that displays a number of characteristic markers*. This clone is distinct from prevalent healthcare-associated epidemic MRSA in the UK (EMRSA-15 and EMRSA-16). In accordance with international nomenclature, this clone is known as ST1-MRSA-IV and is one of the most common CA-MRSA strains currently seen in England and Wales⁴⁸ and has been reported previously in Australia⁴⁹. It is important to note that this strain does **not** encode the Panton Valentine Leukocidin (PVL) toxin that has been associated with serious, life-threatening disease. Nevertheless, as with PVL-positive CA-MRSA strains, this clone can cause skin and soft tissue infection.

51. The mainly sporadic occurrence of the MRSA strains, with their geographical and temporal distribution, does not suggest a drug contamination problem. Continued surveillance will further our understanding of the pathogenicity and epidemiology of this unusual clone.

* The MRSA exhibit a distinctive antibiogram (ciprofloxacin susceptible, but fusidic acid and erythromycin resistant), they are lysed by a broad range of bacteriophages, and encode enterotoxins A and H.

Table 1

Summary of indicators of viral hepatitis and HIV transmission among Injecting Drug Users in the United Kingdom

Indicator	Area	Sub-Category	
Hepatitis C infection			
Reported laboratory diagnoses of hepatitis C infection	England	Total number of reports: All exposures	n
		Proportion of all reports, with exposure data, indicating injecting drug use [#]	%
	Wales	Total number of reports: All exposures	n
		Proportion of all reports, with exposure data, indicating injecting drug use [#]	%
	Scotland	Total number of reports: All exposures	n
		Proportion of all reports, with exposure data, indicating injecting drug use [#]	%
	Northern Ireland	Total number of reports: all exposures	n
		Proportion of all reports, with exposure data, indicating injecting drug use [#]	%
Proportion hepatitis C antibody positive ^{‡~}	England, Wales & Northern Ireland [^]	Current & former injectors	%
Prevalence hepatitis C among those having voluntary confidential HIV tests	Glasgow	First injected during the last 3 years	%
		Injectors: All ages	%
Injectors: Age under 25 years			%
			%
Hepatitis B infection			
Reported laboratory diagnoses of hepatitis B infection	England	Total number of reports: All exposures	n
		Proportion of all reports, with exposure data, indicating injecting drug use [#]	%
	Wales	Total number of reports: All exposures	n
		Proportion of all reports, with exposure data, indicating injecting drug use [#]	%
	Scotland**	Total number of reports: All exposures	n
		Proportion of all reports, with exposure data, indicating injecting drug use [#]	%
	Northern Ireland***	Total number of reports: All exposures	n
		Proportion of all reports, with exposure data, indicating injecting drug use [#]	%
Proportion hepatitis B antibody positive ^{‡~}	England, Wales & Northern Ireland [^]	Current & former injectors	%
		First injected during the last 3 years	%
HIV infection			
Reports of new diagnoses of HIV infection through injecting drug use	London	Total number of reports: Injecting drug use	n
	Scotland	Total number of reports: Injecting drug use	n
	Rest of UK	Total number of reports: Injecting drug use	n
	UK	Total number of reports: Men who have sex with men & injecting drug use	n
Prevalence among those having voluntary confidential HIV tests	Scotland	All injectors tested	%
Proportion HIV antibody positive [~]	England, Wales & Northern Ireland [^]	Current and former injectors	%
		First injected during the last 3 years	%
Behaviour			
Passing on or receiving used needles or syringes in the last month ^{~†¶}	England, Wales & Northern Ireland [^]	Current injectors	%
		Current injectors aged ≤24	%
		Current injectors who first injected during the last 3 years	%
Sharing of needles and syringes in past month - agency reports [¶]	Scotland	Current injectors	%
Sharing of any injecting equipment in past month ^{~†}	England, Wales & Northern Ireland [^]	Current injectors	%
Markers of health care utilization			
Ever used a needle exchange ^{~†}	England, Wales & Northern Ireland [^]	Current injectors who first injected during the last 3 years	%
Ever had a voluntary confidential test for hepatitis C ^{~†}	England, Wales & Northern Ireland [^]	Current & former injectors	%
Hepatitis B vaccine uptake ^{~†}	England, Wales & Northern Ireland [^]	First injected during the last 3 years	%
		Current & former injectors	%
Proportion of those <i>unaware</i> that they have hepatitis C infection ^{~†}	England, Wales & Northern Ireland [^]	Current & former injectors anti-HCV positive	%
Proportion of those <i>unaware</i> that they have HIV infection ^{~†}	England, Wales & Northern Ireland [^]	Current & former injectors anti-HIV positive	%

* Provisional, reports are subject to reporting delay.

Data on exposure is often incomplete or missing.

^ Includes Northern Ireland from 2002.

~ Unlinked Anonymous Prevalence Monitoring Programme survey of injectors in contact with drug services.

‡ Denotes past or current infection with hepatitis B/C.

1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
-	-	228	410	796	1,463	2,116	2,652	4,101	5,294	4,892	4,666	5,547	6,341	7,993	7,578*
-	-	53	66	76	80	85	92	90	91	92	96	97	95	95	97
-	-	13	25	43	183	411	386	378	429	341	292	351	322	247	349*
-	-	13	100	100	88	84	97	93	96	97	96	99	100	100	100
36	276	375	528	841	1,142	1,238	1,529	1,999	1,954	1,890	1,682	1,791	1,629	1,626	1,600
50	31	57	84	88	86	91	91	94	94	94	94	92	92	92	90
1	13	48	7	43	63	55	54	65	46	54	65	75	84	102	134
0	9	3	50	27	43	53	64	68	78	82	75	89	86	100	93
-	-	-	-	-	-	-	-	41	35	35	36	39	42	41	42
-	-	-	-	-	-	-	-	12	11	11	18	15	20	20	16
89	-	-	-	-	77	80	68	-	-	62	-	-	64	-	-
91	-	-	-	-	59	61	43	-	-	41	-	-	42	-	-
599	555	512	605	603	584	525	621	806	712	704	554	829	676	-	-
26	21	20	25	26	39	41	48	45	51	46	37	37	38	-	-
19	17	19	24	30	28	45	31	37	38	24	44	55	25	-	-
13	11	30	13	32	55	64	53	71	54	35	39	69	27	-	-
249	200	120	186	166	152	184	215	295	386	360	357	354	342	341	372
22	25	18	9	10	9	10	11	20	30	25	19	11	6	6	6
37	28	34	22	33	30	31	22	18	24	42	37	67	61	60	72
33	31	35	34	29	22	22	18	22	20	21	21	22	22	21	19
21	7	16	13	10	5	7	3	5	5	7	8	7	9	7	7
112	121	108	90	77	101	80	76	59	55	51	53	63	72	60	53*
28	51	27	52	30	22	33	31	19	17	16	17	9	13	11	19*
61	71	53	60	59	58	62	63	55	42	47	63	44	73	62	75*
240	287	229	236	210	215	225	192	162	136	147	150	142	178	148	163*
2.8	3.2	1.9	2.9	1.5	1.5	1.5	1.4	0.8	0.7	0.7	0.7	0.5	0.6	0.5	0.9
1.3	1.8	1.6	1.3	1.1	1.4	0.6	1.0	0.9	0.8	0.8	1.0	1.0	1.2	1.4	1.6
0.8	0.0	0.0	0.4	0.1	0.2	0.3	0.3	0.4	0.1	0.0	0.4	0.3	0.8	0.6	1.3
-	24	20	18	17	17	18	17	32	33	31	33	34	29	28	28
-	35	27	25	25	26	24	25	38	40	31	36	43	37	36	38
-	26	22	23	21	22	21	22	31	31	24	28	33	28	27	28
-	-	-	-	-	-	28	28	34	34	34	35	33	34	31	27
-	-	-	-	-	-	58	55	63	63	60	59	60	55	55	53
-	-	-	-	-	-	-	-	-	-	84	86	84	86	85	84
-	-	-	-	-	-	-	-	-	-	49	54	57	63	67	71
-	-	-	-	-	-	-	-	14	17	26	28	35	42	51	46
-	-	-	-	-	-	-	-	25	29	35	37	43	50	56	59
-	-	-	-	-	-	-	-	-	-	60	59	58	53	49	48
-	-	-	-	-	13	29	38	32	16	18	40	21	31	50	53

** Scottish data can not distinguish between acute and chronic hepatitis B infection.

*** Northern Ireland data prior to 2003 could not distinguish between acute and chronic hepatitis B infection: 2003 there were 12 acute cases, 20 in 2004, and 20 in 2005.

†† Scottish drug misuse database: data are for financial years, for example, 2002 data relates to 2002/03 financial year.

† Self reported.

Group A Streptococcal Infections

52. Group A streptococci (GAS) can cause skin sepsis and necrosis, potentially leading to bacteraemia, in IDUs through the infection of injecting sites.
53. Although routine laboratory reports of invasive GAS infections to CfI rarely contain information on risk factors, isolate referrals to the HPA's Respiratory and Systemic Infection Laboratory (RSIL) do contain such information. Monitoring of these identified a rise in referrals from IDUs, from less than 10 per annum in the early to mid-1990s to 81 in the first nine months of 2002⁵⁰. A total of 286 invasive GAS reports in IDUs were received in 2003, after which time the number of referrals from IDUs fell markedly to 122 in 2004 and 46 in 2005 (Figure 4).
54. Most cases presented with skin sepsis, bacteraemia and evidence of tissue damage at the injection site, which ranged from extensive oedema to necrosis. The majority were sporadic cases but several clusters were also identified. Serotyping data have revealed a diverse range of types*. The geographical and temporal dissemination along with the serological typing data do not suggest a drug contamination problem.
55. Enhanced surveillance data gathered during the strep-EURO programme identified injecting drug use as being one of the most important risk factors for severe group A streptococcal infections in the UK, with just over one

fifth of reports being in injecting drug users. This proportion was markedly higher than for any other participating country⁵¹. Further epidemiological investigation will be undertaken to identify any clustering among these cases.

Clostridial Infections

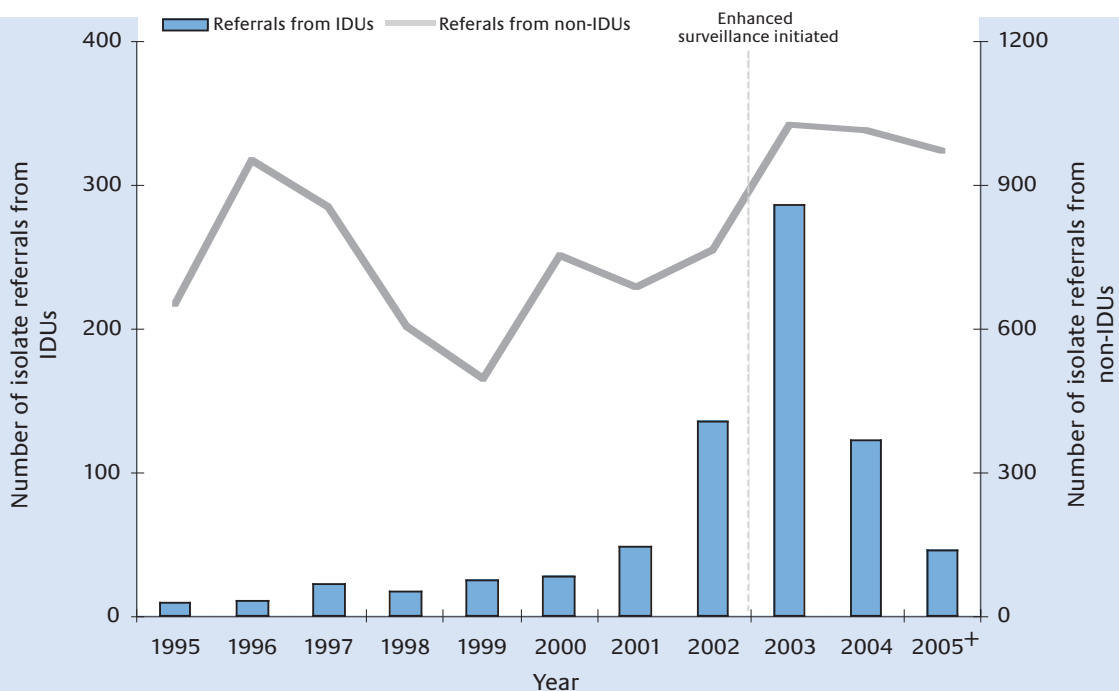
56. Clostridia are a group of spore forming bacteria that are widely found in the environment. The spores produced by these bacteria may end up in drugs, such as heroin, through environmental contamination. They may cause wound infections among IDUs, particularly if they enter an intramuscular or subcutaneous injection site**, and can then produce toxins causing illness such as tetanus or 'gas gangrene' with potentially severe or fatal outcomes.

Wound botulism

57. Botulism is an illness caused by botulinum toxin, a poison produced by the bacterium *Clostridium botulinum*. Symptoms of botulism include blurred vision, difficulty swallowing and speaking, it can also result in respiratory failure, paralysis and death. There is an antitoxin that is effective if given early. Wound botulism occurs when wounds, such as injecting sites, are infected with *C. botulinum*. Wound botulism amongst IDUs is now the most common clinical presentation of botulism in the UK.

Figure 4:

Invasive isolates of group A streptococci from injecting drug users (IDU) and non-IDU patients: United Kingdom 1995 to 2005



⁺ Provisional data.

Data source: Group A streptococci sterile site isolate referrals to the HPA Streptococcus & Diphtheria Reference Unit

* Serotypes M1, R28, M11 and M12 predominated during the years 1995 to 1998 with the emergence of 'higher types' during recent years; M78, M82, M83, M87, M89.

** Tissue damage at intramuscular or subcutaneous injection sites is more likely to lead to an anaerobic environment.

58. Prior to 2000 no cases of wound botulism had been reported among IDUs in the UK and Eire, by the end of 2005 a total of 117 suspected cases had been reported. Overall, 95 (81%) of the cases occurred in England, 14 in Scotland, five in Eire, two in Wales, and one in Northern Ireland. Of the 108 cases where material was submitted to Cfl for laboratory examination 42% (45 of 108) were laboratory confirmed either by the detection of botulinum neurotoxin in serum (36 cases), and/or by the isolation of *C. botulinum* from wounds (23 cases). Of the laboratory confirmed cases 39 were due to type A, four to type B and two to types A and B.
59. During 2005, 28 suspected cases of wound botulism among IDUs in the UK were reported to the Cfl. The majority of these cases were in England (25), with two cases reported in Scotland, and one from Northern Ireland. In two cases the patient died.

Tetanus

60. A toxin produced by *Clostridium tetani* causes tetanus. It usually presents with local fixed muscle rigidity and painful spasms confined to the area close to the site of injury or injection, however symptoms can range from mild trismus ('lockjaw'), neck stiffness and/or abdominal rigidity to generalised tetanus (a serious condition that can include respiratory difficulties and severe painful spasms). Tetanus is a vaccine preventable disease, and the vaccine is routinely offered in childhood and adolescence as well as to adults for specific indications⁹. Potential sources for tetanus infection in IDUs are contaminated drugs, injecting equipment and skin.
61. Before 2003, tetanus had rarely been reported in IDUs in the UK, with only two of the 175 cases identified in England and Wales, through enhanced surveillance between 1984 and 2000, known to be IDUs⁵². This was in contrast to reports from the United States of America where IDUs accounted for around one in six cases between 1995 and 2000⁵³. The situation changed in 2003 when an outbreak of tetanus developed amongst IDUs in the UK, with 25 cases reported between 2003 and 2004^{54,55,56}. The majority had generalised tetanus and three cases died. Most cases reported subcutaneous injection of heroin ('skin popping'), and the majority were in women with the male cases being older. Many cases were un-immunised or partially immunised and most had tetanus antibody levels below the protective threshold. The widespread distribution of the cases within the UK suggest that the outbreak may have been due to heroin being contaminated with tetanus spores relatively high up in the supply chain. This has led to vaccination guidance for IDUs being updated to ensure that their tetanus immunisation status is actively checked⁹ and that the use of human tetanus immunoglobulin is considered for IDUs with injection site infections. In 2005 four of the total of six

tetanus cases reported to the HPA in England were confirmed to have been IDUs, indicating that tetanus continues to affect IDUs, albeit at lower numbers than in 2003 and 2004.

Other clostridial infections

62. In addition to botulism and tetanus there are other serious clostridial infections that may be acquired through injecting contaminated drugs. During 2000 there was an outbreak of serious illness and death among IDUs, due to *Clostridium novyi*^{57,58}. Laboratory work has shown that *C. novyi* spores can easily survive the "cooking-up" process prior to heroin injection⁵⁹. There have been reports of *Clostridium histolyticum* infection among IDUs⁶⁰, some of whom also had tetanus. Molecular typing has revealed that isolates from cases across the UK in 2003 were indistinguishable, indicating a common source of contamination⁶⁰.

Risk and Protective Behaviours

63. Infections among IDUs are associated with a wide range of behavioural and environmental factors, such as the sharing of injecting equipment and homelessness. Preventative interventions are designed to target these factors and reduce the harm associated with drug use.

England, Wales & Northern Ireland

64. In 2005 the proportion of current IDUs reporting sharing needles and syringes (direct sharing) remained high, with 28% (504 of 1,812) of participants in the UAPMP agency survey reporting this (Table 1). The proportion reporting direct sharing varied by region and country. When data for 2004 and 2005 were combined the level of direct sharing in Northern Ireland was 24% (24 of 98), whilst in Wales 21% (29 of 135) reported this.
65. The direct sharing of needles or syringes in the last four weeks was also determined in the recent Welsh cohort study of IDUs. Approximately 9% of the 407 IDUs who were followed up in this study reported direct sharing²⁷.
66. The sharing of items such as filters, spoons and flushing water by participants in the UAPMP agency survey continued at high levels in England with 48% (799 of 1,671) of current injectors reporting this in 2005. High levels were also found in Wales (52%, 70 of 135) and in Northern Ireland (36%, 35 of 98) (2004 and 2005 data combined). The most commonly shared items in England, Wales and Northern Ireland were mixing containers such as spoons (39%, 781 of 1,996).
67. In 2005, 90% (2,806 of 3,118) of IDUs participating in the UAPMP agency survey reported that they had accessed a NEX service. In 2005 of those who had first injected in the previous three years, 84% (330 of 393) had accessed a NEX (Table 1).
68. The numbers of IDUs participating in the UAPMP agency survey self-reporting* that they had taken up the offer of the hepatitis B vaccination has more than doubled from 25% (784 of 3,114) in 1998 to 59% (1,835 of 3,103) in 2005 (Table 1). Self-reported vaccination uptake varied by region and country (combining 2004 and 2005 data, Figure 2), and in Wales was 45% (113 of 250) and in Northern Ireland 64% (156 of 244). Of those who reported vaccination, just over half self-reported receiving three or more doses of the vaccine (56%, 976 of 1,745). In 2005, among those who had first injected in the previous three years, 46% (179 of 388) reported uptake of the vaccine, which was lower than in 2004 (51%, 173 of 341).
69. In 2005, 64% (1,957 of 3,042) of IDUs participating in the UAPMP agency survey reported having ever been in prison or a young offenders' establishment, of these 42% (819 of 1,955) had been to prison at least five times. Almost half (47%, 871 of 1,839) had first been imprisoned before beginning to inject. Seventeen per

cent of those who had been in prison reported injecting whilst in prison (310 of 1,937). In 2005, almost two thirds (65%, 1,245 of 1,928) of those who reported having ever been in prison had taken up the offer of the hepatitis B vaccine compared with 38% (709 of 1,872) in 2000, when imprisonment was first asked about in the survey. Among those who had never been in prison vaccine uptake has increased from 31% (392 of 1,258) to 50%, (534 of 1,066) over the same period.

70. In 2005 the NTA commissioned a pilot visual ethnographic study in two cities in England to explore how the immediate injecting environment influences the health risks associated with drug injecting⁶². The study was undertaken by CRDHB and involved using video to film naturally occurring injection events in a variety of public (such as car parks, stairwells and off-street locations) and semi-public (such as squats and shared flats) injecting environments. The findings of this study illustrated how the injecting environment can act as a factor contributing to injection risk through poor needle hygiene, as a consequence of lack of clean surfaces and absence of light or sterile water. These were sometimes combined with a heightened sense of risk associated with the hurried or rushed nature of injecting when in public places. The study found that general needle hygiene and vein care were often poor among street-based injectors, with many injectors having considerable vein damage as well as common and severe (often untreated) injecting-related bacterial infections. Injecting into the groin (femoral vein) was commonly observed, and was cited as a preference, given a combination of vein deterioration (linked by some with crack-cocaine injection) and the need to inject quickly and without difficulty when injecting in public or semi-public environments. Surveys and other qualitative work suggest that groin injecting is becoming more common and perceived as increasingly acceptable by some street-based injectors.⁶³ These studies also emphasised the importance of exploring the role of crack-cocaine injection in mediating or elevating health risks among injectors.

Scotland

71. In the financial year 2005/06, drug treatment agency reports to the Scottish Drug Misuse Database (SDMD) indicated that 27%** of current IDUs had shared a needle and syringe in the previous month; this compares with rates in the range of 31% to 36% during previous years 1998/99 to 2004/05 (Table 1).
72. SDMD recorded data on the sharing of injecting equipment other than needles and syringes for the first time in the financial year 2001/02. The percentage of current IDUs sharing spoons, filters and water in the previous month was 42%** in 2005/06, 47% in 2004/05, 49% in 2003/04, 48% in 2002/03 and 50% in 2001/02.

* Vaccination uptake data should be interpreted with caution as they are based on self-reports.

** Provisional data.

73. Community-wide surveys of IDUs in Glasgow found a significant increase in hepatitis B vaccine uptake among those who had injected for 5 years or less in 2001/02 (52% of 387) compared to 1993, 1994 and January-March 1999 (16% of 432)⁶⁴. During 2004, a further increase in vaccine uptake was detected among IDUs surveyed in Glasgow (65% of 167 individuals who had injected for 5 years or less).
74. In a study conducted in Glasgow in 2003⁶⁵, injectors were filmed in their own homes and other settings to identify risk practices for hepatitis C and other blood borne viruses. New sterile needles and syringes were used in 54 of the 103 filmed injecting episodes. When pre-used needles/syringes were used, IDUs put themselves at risk in two ways. The first involved inadvertently using their partner's needles and syringes, mistaking it for their own. The second risk arose when previously used needles and syringes were used to prepare and draw up a drug solution that was then divided between two or more injectors. Injectors were also seen preparing drugs with previously used filters, cookers and water.
75. The evidence of a continuing increase in the prevalence of HIV infection among current IDUs is a cause for concern. Overall around one in 50 current IDUs are now infected, whilst this is low compared to many other countries, it is around twice the level of infection seen at the beginning of the decade. Whilst the prevalence remains elevated among current IDUs in London with around one in 25 infected, the recent increase in prevalence has been greatest elsewhere in England and Wales: rising from around one in 400 in 2003 to about one in 65 in 2005. In Scotland around one in 110 IDUs are probably infected with HIV.
76. There is evidence of ongoing HIV transmission within the UK and that this has most probably increased in recent years. In particular the HIV prevalence amongst those injecting for less than three years has increased since 2002. Whilst the annual number of reports of newly diagnosed HIV infections associated with injecting drug use has not changed greatly over recent years, the proportion thought to have been acquired abroad has declined. However, the recent increase in HIV infection may not be fully reflected amongst these reported new diagnoses, as more than half of IDUs surveyed anonymously who had HIV were found to be unaware of their infection in 2005, which is twice the level seen in 2003 and earlier years. These findings also indicate an increase in the level of undiagnosed HIV infection among IDUs.
77. Overall, approaching one in two current IDUs in the UK have now been infected with hepatitis C. There is also evidence indicating that the transmission of hepatitis C among IDUs may have increased since the beginning of the current decade. There are very marked regional variations in hepatitis C prevalence within the UK from one in four or less IDUs in Wales and the North East of England to more than half of IDUs in London, Glasgow, and the North West of England. The existence of lower prevalence areas suggest that hepatitis C infection is probably not an inevitable consequence of injecting drug use, despite injectors themselves often depicting hepatitis C as ubiquitous and "beyond prevention"⁶⁶. The reasons for these geographic variations in prevalence are currently unclear and require further examination. They will, in part, reflect differing levels of incidence as the recent cohort studies have found a more than six-fold difference in incidence between London²⁶ and Wales²⁷.
78. The overall hepatitis C prevalence among IDUs in the UK is, when compared with many other countries, still fairly low. The reasons for this comparatively low prevalence are not clear. It might, in part, be a benefit of the interventions introduced in the late 1980s and early 1990s in response to HIV that played a role in reducing the levels of both HIV and hepatitis B among IDUs during that period. This is supported by data from Glasgow that suggest a decline in hepatitis C prevalence during the 1990s. Exploration of longer-term trends in hepatitis C prevalence among IDUs

in England and Wales could be addressed through the testing of stored samples from surveys of IDUs undertaken in the early 1990s.

79. The proportion of IDUs in contact with drug services self-reporting having ever had a voluntary confidential test for hepatitis C has increased to over 70%. However, almost half of IDUs with hepatitis C infection in contact with drug services in England and Wales are still unaware of their infection. It is likely that an even greater proportion of those with hepatitis C who are not in contact with drug services will be unaware of their infection.
80. Associations between crack-cocaine use and higher levels of HIV and hepatitis C infection are a concern, as evidence shows that the use and injection of crack-cocaine is becoming more common⁶⁷. However, there is a need to further investigate these associations in order to inform effective harm reduction and prevention among crack-cocaine injectors and injectors of both heroin and crack-cocaine. How factors such as homelessness and the injecting environment interplay with crack-cocaine injection and related risk practices remain unclear, and need further examination.
81. Since the late 1990s the levels of needle and syringe (direct) sharing during the previous month have been elevated⁷⁹. Data from across the UK suggest that more than a quarter of IDUs reported direct sharing during the previous month in 2005. The sharing of other injecting related equipment, particularly mixing containers and filters, remains more common. The recent visual ethnography work in England and Scotland provides an insight into naturally occurring injecting practices and the factors that can influence these. In particular, the role that the environment in which the injection takes place can have on injection hygiene and practice. There is also evidence that groin injecting, which is particularly risky, is becoming more commonplace and acceptable⁶³. Together these findings highlight a need to reinvigorate harm reduction advice and intervention in relation to injection hygiene, vein care, and risk management.
82. Key to reducing infections and maintaining good injection hygiene is the provision of sterile injection equipment, advice, and related interventions through NEX schemes. In 2005 National Audits of NEX^{12,13} were undertaken throughout the UK. The results of these audits indicate a great diversity across the UK in the range of injecting related equipment offered, other interventions provided, and service accessibility (see Box). The findings also support previous concerns about the coverage of NEX services and that this might be insufficient¹⁷. The NEX audit indicated that almost 80% of NEX sites were situated in pharmacies, possibly reflecting a shift away from agency-based services (that is standalone NEXs or ones based in multi-services drug agencies) towards pharmacy-based services⁶⁸. Whereas agency-based NEX typically provides a range of other services, such as face-to-face advice and vaccination, currently this is not usually the case with most pharmacy-based services. Studies have suggested that IDUs using pharmacy-based NEX rather than agency-based ones may be more likely to share⁶⁹. Those commissioning services should monitor NEX provision to ensure adequate coverage so as to provide sufficient needles and syringes to prevent sharing, and that this provision is both accessible and responsive to changing patterns of drug use and risk. In England a national monitoring system of NEX throughput of injecting equipment is being initiated by the NTA.
83. The significant reductions in both frequency of injecting and rates of direct sharing reported among recent initiates in Glasgow⁷⁰ following revised guidelines by Scotland's Lord Advocate, allowing greater numbers of needles and syringes to be obtained per NEX visit, are encouraging. While these changes may have stemmed from factors other than the increased availability of needles and syringes, the study concluded that "it would seem prudent to continue with the current new policy on needle and syringe distribution"⁷⁰ and IDUs should be encouraged to make use of their entitlement to a greater number of sterile needles and syringes.
84. More than one in five injectors have been infected with hepatitis B, and new infections are continuing to occur. Vaccine coverage continues to increase with the majority of IDUs now having taken up the offer of vaccination. This improvement in uptake of the vaccine probably reflects improved provision through drug services and, in particular, the prison vaccination programmes. In England 104 of the 143 prison establishments reported offering hepatitis B vaccination by the end of 2005 and they administered 62,135 doses of the vaccine in 2005. Now that Primary Care Trusts are responsible for delivering prison health services, vaccine provision and uptake through prisons should continue to rise. Since the Scottish Prison Service introduced its hepatitis B vaccination programme to all inmates in 1999, there have been no outbreaks of acute hepatitis B infection among IDUs in Scotland⁶⁴.
85. Following the recent outbreaks of tetanus⁵⁴ and hepatitis A³⁸ consideration should be given to offering vaccination or boosters against these infections as appropriate. Introducing hepatitis A vaccination^{9,71} in conjunction with existing hepatitis B vaccination programmes should be examined. A combined hepatitis A and B vaccine is available and this may be more popular with clients than offering the single vaccines together⁷¹. Health professionals in contact with IDUs should also ask clients about their tetanus immunisation status. IDUs who have not received five doses of tetanus-containing vaccine, or who are unsure about their vaccination status, should be offered additional vaccination boosters as appropriate. Unvaccinated IDUs should be encouraged to complete a full course of tetanus vaccinations⁹.
86. The National NEX Audits^{12,13} indicate that amongst agency-based specialist NEX services, at most half provided on-site hepatitis B vaccination and at most one-quarter, hepatitis A vaccination (see Box). Provision of the

tetanus vaccine was even less common. These findings support earlier indications that NEX services were less likely to provide hepatitis B vaccine doses to IDUs than prisons or drug treatment services⁷². It is of concern that so few NEX services report providing onsite vaccination, given that these are likely to be the first drug service that new IDUs will come into contact with. In England the NTA is developing the performance monitoring of the offer of vaccination through drug services.

87. The continuing occurrence of wound botulism cases indicates an ongoing problem with environmental

contamination of heroin with bacterial spores. Small numbers of cases have been reported in several other countries^{73,74,75,76}. At the end of 2005 a cluster of 14 cases of wound botulism in IDUs was reported from Germany⁷⁷. The increase in reports in the UK may reflect better case recognition and monitoring, although this is unlikely to fully explain the increase seen. A similar increase in wound botulism amongst IDUs occurred in California in the mid-1990s⁷⁸, and the use of 'black tar' heroin (which differs from that generally used in the UK) was identified as a contributing factor⁷⁸. Healthcare workers should

Box:

Summary of Key Findings from the National Needle Exchange Audit

A national survey of needle exchange (NEX) facilities in the United Kingdom was undertaken during 2005. The findings from England and Scotland have recently been published by the National Treatment Agency for Substance Misuse (NTA) and the Scottish Executive^{1,2}. The results for Wales and Northern Ireland are not yet available.

Initiated in response to the Department of Health's Hepatitis C Action Plan for England³ the survey examined the extent, nature, and commissioning of NEX provision in the UK. Three postal questionnaires and three focus groups were used to collect quantitative and qualitative data from pharmacy NEX co-ordinators, non-pharmacy NEX providers and Drug Action Team (DAT) co-ordinators, commissioning managers or their equivalents. The overall response rate was good however incomplete questionnaires meant that some questions had a much lower response rate.

The majority of the NEX sites in the UK are pharmacies, these constituted approximately 80% of services in England and 72% in Scotland. The remainder were specialist services some of which were mobile or outreach in nature. There were only a small number of exchanges based in police custody suites and Accident and Emergency departments. Although there are benefits to having different types of services both reports noted that pharmacy services should be developed to compliment specialist services rather than as an alternative. Pharmacies and specialist services distributed approximately equal numbers of syringes, however, specialist services offered a wider range of injecting equipment.

England

- 1,326 NEX sites were identified by the survey, however, due to a lack of response from around a quarter of DATs it was not possible to count the total number of sites in England.
- 25% of pharmacy NEX distributed mixing containers and 19% filters.
- 49% of specialist NEX distributed mixing containers and 52% filters.
- Hepatitis C testing was offered by 43% of specialist NEX, whilst HIV testing was offered by only 31%.

- Hepatitis B vaccination was offered by 50% of specialist NEX, hepatitis A vaccination by 25%, and tetanus vaccine by 11%.
- An estimate of the total number of needles and syringes distributed was not available due to a low response rate to these questions. The overall data suggested that "on average, clients of specialist needle exchange services and pharmacy schemes were given the equivalent of approximately one syringe for every two days"¹.

There was also geographical variation in the reported provision of on-site services by specialist NEX services, for example, almost 80% of services in North-West England offered hepatitis C testing compared to under 20% in the South-West.

Scotland

- There were 188 NEX in Scotland.
- 10% of pharmacy NEX distributed mixing containers and 10% filters.
- 29% of specialist NEX distributed mixing containers and 24% filters.
- Hepatitis C testing was offered by 40% of specialist NEX, whilst HIV testing was offered by only 29%.
- Hepatitis B vaccination was offered by 29% of specialist NEX, hepatitis A vaccination by 16% and tetanus vaccine by 2%.
- Approximately 3.5 million needles and syringes were distributed by NEX during April 2004 - March 2005. The actual total is likely to be higher.

1. Findings of a survey of needle exchanges in England. National Treatment Agency for Substance Misuse. London, 2006. www.nta.nhs.uk
2. Needle Exchange Provision in Scotland: A report of the National Needle Exchange Survey. Scottish Executive, Edinburgh, 2006. www.scotland.gov.uk/Publications/2006/06/16110001/0
3. Hepatitis C Action Plan for England. Department of Health. London, 2004. www.dh.gov.uk/assetRoot/04/08/47/13/04084713.pdf

remain alert to the possibility of clostridial infections among IDUs, particularly those who inject subcutaneously or intramuscularly, a risk factor associated with wound botulism.

88. The reasons for the continuing occurrence of MRSA and severe GAS infections are unclear and need further investigation. The increased occurrence of these bacterial infections at injection sites might reflect an increased vulnerability of IDUs to skin sepsis through changes in risk behaviour⁷⁹, which might be associated with the increased use of stimulants, such as crack-cocaine⁶⁷. The increases in GAS up to 2003 may have been due, in part, to increased awareness and microbiological investigations following the severe unexplained illness amongst IDUs in 2000 due to *Clostridium novyi*^{57,80}, however, the trend pre-dates that outbreak. Furthermore, findings from a GAS cluster in London, where risk factor information and routine sampling had been undertaken consistently since 1970, argue against increased ascertainment as the sole explanation⁸¹. The subsequent recent decrease in severe GAS infection reports, particularly in specific areas in the north of England where previous increases have been reported⁸², may be attributable to the success of targeted healthcare interventions, but this has yet to be confirmed.
89. Improvements in services are needed 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. Infections, such as hepatitis C, may be reduced by the provision of sterile injecting equipment other than needles and syringes, such as mixing containers; whilst the correct use of sterile swabs before injection could help reduce bacterial infections at injecting sites. Results from the NEX Audits^{12,13} suggest that there is currently great variability in the range of injecting equipment offered to clients in addition to needles and syringes, and that this may not be related to need (see Box). Those commissioning services should monitor NEX provision to ensure appropriate local provision of ampoules of sterile water, swabs, mixing containers, citric acid, and filters.
90. Since the late 1990s the focus of policy^{2,23} around drug use has broadened from a public health perspective to the minimisation of wider social harm, including crime and anti-social behaviour⁸³. This has led to an expansion of treatment services that aim to help people stop using drugs. The current drug strategy also identifies the need for further action to “improve the health of drug misusers and drive forward action to reduce the risk of death”². Considering the current extent of injecting related infections, services should be commissioned to provide clear information and practical advice on safer injecting practices, avoiding injecting site infections, prevention of blood-borne virus transmission, and the safe disposal of used equipment; on-site access to vaccination and voluntary confidential testing services; basic health checks for injection site infections; and easy referral to treatment services for those who wish to modify and reduce their drug use. The recent update of Models of Care¹⁰ that provides a framework for the provision of treatment to drug users in England sets a clear structure for the provision of these services, and NEX, across the range of agencies working with drug users. In addition the NTA is currently developing, through an expert group, recommendations to the Department of Health on reducing drug related deaths in England.
91. There is also a need for research and development projects, to pilot and evaluate innovative intervention options for improving injection hygiene, such as novel approaches to providing practical training to IDUs on safer injecting. Such projects should draw upon the lessons learnt in other countries such as the pilots of Drug Consumption Rooms (DCR)^{84,85,86}. An expert group convened by the Joseph Rountree Foundation to access the effectiveness of DCRs recently reported its conclusions⁸⁷. This group, like the Home Affairs Select Committee in 2002⁸⁴, recommended a pilot of a safer injection facility within the UK. However, whilst there is international evidence indicating potential benefits from DCRs, particularly in reducing overdose deaths, there remain legal issues relating to their operation within the UK. Furthermore, there is also a need to examine the required mix and coverage of existing interventions that aim to prevent infections, including specialist drug treatment, NEX, and targeted outreach.
92. There would appear to be a need for research studies to explore the factors that impact on injecting risk behaviour and how these interact with one another. Factors considered should include homelessness, injecting in public and semi-public places, and the increasing acceptability of groin injection, as well as the growing use of crack-cocaine. In addition, there is a need to explore 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. Whilst crack-cocaine injection has become more common there is an absence of UK evidence on pathways into crack-cocaine injection, the factors influencing such transitions, and on interventions to prevent these transitions.
93. IDUs in the UK are continuing to contract a wide range of infections, and public health surveillance systems need to be maintained and developed to provide continued vigilance. In particular, there is a need to improve surveillance of viral hepatitis through the more consistent reporting, by laboratories, of diagnoses with complete risk factor information, in line with the recent surveillance standards¹¹. Systems to improve our understanding of the extent of injecting site infections need to be investigated and developed.
94. The UAPMP agency survey continues to provide valuable data on blood-borne viruses and associated risks among IDUs in contact with services. The UAPMP enhancement pilot has provided important additional data, particularly on behaviours and drug use, and its continuation needs to be considered. Particularly as the current development and piloting of a companion unlinked anonymous survey in Scotland could in the future provide comprehensive UK-wide data.

Appendix: Sources of information and advice on reporting infections and investigating outbreaks

Notifiable diseases

Tetanus

Laboratories are requested to report all confirmed cases to Cfl in England, to the NPHS in Wales, to CDSC in Northern Ireland and to HPS in Scotland. Information and advice for clinicians, microbiologists and injecting drug users is available at: www.hpa.org.uk/infections/topics_az/tetanus/menu.htm and from HPS for Scotland at: www.hps.scot.nhs.uk/immvax/tetanus.aspx?subjectid=126

Information on reference laboratory services for tetanus are included in the RSIL user manual at: www.hpa.org.uk/srmd/div_rsil/rsiluser.pdf

Hepatitis A

Laboratories are requested to report all confirmed cases to Cfl in England, to the NPHS in Wales, to CDSC in Northern Ireland and to HPS in Scotland. Information and advice for clinicians and injecting drug users in England and Wales is available on the HPA website at: www.hpa.org.uk/infections/topics_az/hepatitis_a/menu.htm

Hepatitis B & C

Laboratories are requested to report all confirmed cases to Cfl in England, to the NPHS in Wales, to CDSC in Northern Ireland and to HPS in Scotland.

Further information can be found for hepatitis B at: www.hpa.org.uk/infections/topics_az/hepatitis_b/menu.htm and www.hps.scot.nhs.uk/bbvsti/hepatitisb.aspx?subjectid=92

Further information can be found for hepatitis C at: www.hpa.org.uk/infections/topics_az/hepatitis_c/menu.htm and www.hps.scot.nhs.uk/bbvsti/HepatitisC.aspx?subjectid=93

Support for management of individual cases and their contacts and of outbreaks is available at local level from the Health Protection Unit and at national level from Cfl and the NPHS in Wales, CDSC Northern Ireland and HPS (Scotland). Policy advice on vaccination (tetanus, hepatitis A & B) is developed for the UK by the UK Joint Committee on Vaccination and Immunisation. Policy advice for viral hepatitis is developed for the UK by the Department of Health Advisory Group on Hepatitis.

Other infections

Wound botulism

Information and advice for clinicians and injecting drug users in England and Wales is available on the HPA website at: www.hpa.org.uk/infections/topics_az/botulism/menu.htm

Laboratory investigation of cases of botulism (detection of neurotoxin and isolation of *Clostridium botulinum*): Food Safety Microbiology Laboratory, Cfl, HPA, 61 Colindale Ave, London NW9 5EQ. Telephone: 020 8200 4400.

Other clostridia infections

Identification of other clostridial, or other anaerobic, isolates from IDU wounds, blood and cultures: Anaerobe Reference Laboratory, NPHS Microbiology Cardiff, University Hospital of Wales, Cardiff, CF14 4XW. Tel 02920 742378 or 742171.

Group A streptococci

Information and advice for clinicians in England and Wales is available on the HPA website at: www.hpa.org.uk/infections/topics_az/strepto/pyogenic/menu_a.htm

Information on reference laboratory services for GAS are included in the RSIL user manual at: www.hpa.org.uk/srmd/div_rsil/rsiluser.pdf

Staphylococcus aureus infections

Information and advice for clinicians is available on the HPA website at: www.hpa.org.uk/infections/topics_az/staphylo/menu.htm Identification and characterisation of MSSA and MRSA from IDUs: Staphylococcus Reference Unit, Cfl, HPA, 61 Colindale Avenue, London, NW9 5EQ. Telephone: 020 8327 7227.

References

- 1 Unlinked Anonymous HIV Surveys Steering Group. Prevalence of HIV in the United Kingdom, Data to end of 1998. London: Department of Health, Public Health Laboratory Service, Institute of Child Health (London), Scottish Centre for Infection and Environmental Health; 1999.
- 2 Update Drugs Strategy. Home Office, London 2002. ISBN 1-84082-9397
- 3 Tackling Drugs to Build a Better Britain: The Governments Ten-year Strategy for Tackling Drug Misuse. Stationary Office, London 1998
- 4 Tackling Substance Misuse in Wales – A Partnership Approach. The National Assembly for Wales, Cardiff, 2000. ISBN 0 7504 2438 9
- 5 Drug Strategy for Northern Ireland. Northern Ireland Office, Belfast, 1999. www.nics.gov.uk/drugs/pubs/strat.pdf
- 6 Tackling Drugs in Scotland - Action in Partnership. The Scottish Office, Edinburgh 1999. ISBN 0 7480 7293 4
www.scotland.gov.uk/library/documents-w7/tdis-00.htm
- 7 National enhanced service: Patients suffering from drug misuse. www.nhsemployers.org/primary/primary-902.cfm
- 8 Hepatitis C Action Plan for England. Department of Health, London, 2004 www.dh.gov.uk/assetRoot/04/08/47/13/04084713.pdf
- 9 Salisbury D, Begg N. Immunisation against infectious disease (The Green Book). London: HMSO, 1996.
www.dh.gov.uk/PolicyAndGuidance/HealthAndSocialCareTopics/GreenBook/GreenBookGeneralInformation/fs/en
- 10 Models of Care for the Treatment of Adult Drug Misusers. National Treatment Agency for Substance Misuse. London, 2006. MOC3.
- 11 Standards for local surveillance and follow up of hepatitis B and C. Health Protection Agency, April 2006.
http://www.hpa.org.uk/infections/topics_az/hepatitis_b/pdf/StandardsforsurveillancefollowuphepBCApril06.pdf
- 12 National Treatment Agency for Substance Misuse. Findings of a survey of needle exchanges in England. London: NTA, May 2006. [Summary report] Full report will be available at www.nta.nhs.uk
- 13 Scottish Executive. Needle Exchange Provision in Scotland: A report of the National Needle Exchange Survey. July 2006. Available at www.scotland.gov.uk/Publications/2006/06/16110001/0
- 14 Hay G, McKeganey N, Hutchinson S, on behalf of project team. Estimating the National and Local Prevalence of Problem Drug Misuse in Scotland. Edinburgh: ISD, 2001
- 15 Bird SM, Hutchinson SJ, Goldberg DJ. Drug-related deaths by region, sex, and age-group per 100 injecting drug users in Scotland, 2000-01. *Lancet* 2003;362:941-944.
- 16 Hay G, Gannon M, McKeganey N, Hutchinson S, Goldberg D. Estimating the National and Local Prevalence of Problem Drug Misuse in Scotland. Edinburgh: ISD, 2005.
- 17 Hickman M, Higgins V, Hope VD, *et al.* Injecting drug use in Brighton, Liverpool, and London: best estimates of prevalence and coverage of public health indicators. *Journal of Epidemiology & Community Health* 2004;58:766-771
- 18 De Angelis D, Hickman M, Yang S. Estimating long-term trends in the incidence and prevalence of opiate/injecting drug use and the number of ex-users: the use of back-calculation methods and opiate overdose deaths. *American Journal of Epidemiology* 2004;160:994-1004
- 19 Working Party of the Royal College of Psychiatrists and Royal College of Physicians. Drugs Dilemmas and Choices. London: Gaskell, 2000
- 20 Wadsworth J, Hickman M, Johnson AM, Wellings K, Field J. Geographic variation in sexual behaviour in Britain - implications for STD epidemiology and sexual health promotion. *AIDS* 1996;10: 193-9
- 21 Johnson AM, Mercer CH, Erens B, Copas J, McManus S, Wellings K, *et al.* Sexual behaviour in Britain: partnerships, practises, and HIV risk behaviours. *Lancet* 2001;358:1835-42
- 22 Deaths related to drug poisoning: England and Wales, 1998 –2002. *Health Statistics Quarterly* 21, Spring 2004. National Statistics, London ISSN 1465 1645
- 23 Tackling Drugs to Build a Better Britain: The Governments Ten-year Strategy for Tackling Drug Misuse. Stationary Office, London 1998
- 24 Models of Care for the treatment of drug misusers. National Treatment Agency for Substance misuse, London 2002. ISBN 0-9544534-0-9
- 25 Hope VD, Judd A, Hickman M, Sutton A, Stimson GV, Parry JV & Gill ON. HIV prevalence among Injecting Drug Users in England & Wales 1990 to 2003: Evidence for increased transmission in recent years. *AIDS* 2005; 19: 1207-1214.
- 26 Judd A, Hickman M, Jones S, McDonald T, Parry JV, Stimson GV, Hall AJ. Incidence of hepatitis C virus and HIV among new injecting drug users in London - prospective cohort study. *British Medical Journal* 2005;330:24-25
- 27 Craine N, Parry, J, McDonald T, Hickman M, Couzens Z, Lyons M, Walker M. The incidence of HCV, HBV and HIV amongst injecting drug users in Wales 2005-2006. Conference presentation at Health Protection 2006, Warwick.
www.eventsforce.net/hpa/frontend/absViewDocument.csp?documentID=30&eventID=5&CSPCHD=00300000000b39hv2Nk5003764167245
- 28 Royal College of Physicians of Edinburgh. Consensus Conference on Hepatitis C. April 2004.
www.rcpe.ac.uk/education/standards/consensus/hep_c_04.php
- 29 A Strategic Framework and Action Plan for the Prevention and Control of Hepatitis C in Northern Ireland 2004-2007. Department of Health, Social Services and Public Safety, Belfast, 2004 www.dhsspsni.gov.uk/publications/2004/HepatitisC_strategic_framework.pdf
- 30 Scottish Executive. Hepatitis C Action Plan for Scotland. Edinburgh, 2006. www.scotland.gov.uk/Publications/2006/09/15093626/0
- 31 Hope VD, Judd A, Hickman M, Lamagni T, Hunter G *et al.* Prevalence of hepatitis C virus in current injecting drug users in England and Wales: is harm reduction working? *American Journal of Public Health*, 2001; 91:38-42
- 32 Hutchinson SJ, Roy KM, Wadd S, Bird SM, Taylor A, Anderson E, Shaw L, Codere G, Goldberg DJ. Hepatitis C virus infection in Scotland: epidemiological review and public health challenges. *Scottish Medical Journal* 2006; 51: 8-13.
- 33 Hutchinson SJ, Bird SM, Goldberg DJ. Modeling the Current and Future Disease Burden of Hepatitis C among Injection Drug Users in Scotland. *Hepatology* 2005; 42: 711-723.
- 34 Booth JCL, O'Grady J, Neuberger J, on behalf of the Royal College of Physicians of London and the British Society of Gastroenterology. Clinical guidelines on the management of hepatitis C. *Gut* 2001;49(S1):11-21.
- 35 Hutchinson SJ, McIntyre PG, Molyneaux P, Cameron S, Burns S, Taylor A, Goldberg DJ. Prevalence of hepatitis C among injectors in Scotland 1989-2000: declining trends among young injectors halt in the late 1990s. *Epidemiology and Infection* 2002; 128: 473-477.
- 36 Roy KM, Hutchinson SJ, Wadd S, Taylor A, Cameron S, Burns S, Molyneaux P, McIntyre P, Goldberg D. Hepatitis C Virus infection among injecting drug users in Scotland: A review of prevalence and incidence data and the methods used to generate them. *Epidemiology and Infection* (in press)
- 37 Prof. Avril Taylor, University of Paisley, personal communication.
- 38 Perrett K, Granerød J, Crowcroft N, Carlisle R. Changing epidemiology of hepatitis A: should we be doing more to vaccinate injecting drug users? *Communicable Disease and Public Health* 2003;6:97-100.

References

- 39 Roy K, Howie H, Sweeney C, Parry J, Molyneux P, Goldberg D, Taylor A. Hepatitis A Virus and Injecting Drug Misuse in Aberdeen, Scotland: a case-control study. *Journal of Viral Hepatitis* 2004;11:277-282.
- 40 Current notes. Hepatitis A in injecting drug users in Ayrshire. *SCIEH Weekly Report* 2004; 37 (2004/03): 20.
- 41 Black FL, Biggar RJ, Neel JV, Maloney EM, Waters DJ. Endemic transmission of HTLV-II among Kayapo Indians of Brazil. *AIDS Research and Human Retroviruses* 1994;10:1165-1171
- 42 Krook A & Blomberg J. HTLV-II among injecting drug users in Stockholm. *Scandinavian Journal of Infectious Disease* 1994;26:129-132
- 43 Hall WW, Ishak R, Zhu SW *et al.* Human T cell lymphotropic virus II (HTLV-II): epidemiology, molecular properties and clinical features of infection. *Journal of AIDS* 1996;13:S204-S214
- 44 Zehender G, Colasante C, Santambrogio S, De-Maddalena C, Massetto B, Cavalli B, *et al.* Increased risk of developing peripheral neuropathy in patients coinfecting with HIV-1 and HTLV-2. *Journal of acquired immune deficiency syndromes* 2002;31:440-447
- 45 Dougan S, Tosswill JHC, Davison K, Evans B. HTLV diagnoses in England & Wales: 2002 & 2003. Presented at the HTLV European Research Network (HERN) meeting June 2004, Greece.
- 46 Methicillin resistant *Staphylococcus aureus* (MRSA) in injecting drug users. *CDR Weekly* 13(27); July 3rd 2003. www.hpa.org.uk/cdr/PDFfiles/2003/cdr2703.pdf
- 47 Kearns AM, Rathmann IR, Holmes A, Pitt TL, Cookson BD. An unusual clone of MRSA causing infection in injecting drug users. *Journal of Infection* 2004;49:49-50.
- 48 Community MRSA in England and Wales: definition through strain characterisation. *CDR Weekly* 15(11); March 17th 2005. www.hpa.org.uk/cdr/archives/2005/cdr1105.pdf
- 49 Coombs GW, Nimmo GR, Bell JM, Huygens F, O'Brien FG, Malkowski MJ, *et al.*, and the Australian group for antimicrobial resistance. Genetic diversity among community methicillin-resistant *Staphylococcus aureus* strains causing infections in Australia. *Journal of Clinical Microbiology* 2004;42:4735-4743.
- 50 Efstratiou A, Emery M, Lamagni TL, Tanna A, Warner M, George RC. Increasing incidence of group A streptococcal infections amongst injecting drug users in England and Wales. *Journal of Medical Microbiology* 2003;52:525-6
- 51 Lamagni T, Siljander T, Darenberg J, Luca B, Bouvet A, Efstratiou A, Ekelund K, Henriques B, Jasir A, Koliou M, Legakis N J, Orefici G, Schalén C, Strakova L, Straut M, Vuopio-Varkila J, and Strep-Euro. Emerging Trends In The Epidemiology Of Invasive *S. Pyogenes* Infections In Europe. 22-5-2006. Global Burden Of Streptococcal Disease And European Battle Against It; Conclusion Of Strep-Euro Project. Lund, Sweden, May 2006
- 52 Rushdy AA, White JM, Ramsay ME, Crowcroft NS. Tetanus in England and Wales 1984 – 2000. *Epidemiology & Infection* 2003; 130:71-7
- 53 CDC. Tetanus surveillance – United States, 1998-2000. *MMWR*; 52: noSS-3, 2003. www.cdc.gov/mmwr/PDF/SS/SS5203.pdf
- 54 Ongoing outbreak of tetanus in injecting drug users in the UK. *Eurosurveillance Weekly* 8(4) 22 January 2003 www.eurosurveillance.org/ew/2004/040122.asp
- 55 Beeching, NJ, Crowcroft NS. Tetanus in injecting drug users. The latest *Clostridium* infection to threaten injectors in Britain. *British Medical Journal* 2005;330:208-9
- 56 Hahné SJM, White JM, Crowcroft NS, Brett MM, George RC, Beeching NJ, *et al.* Tetanus in injecting drug users, United Kingdom [letter]. *Emerging Infectious Diseases*. 2006 12 April. <http://www.cdc.gov/ncidod/EID/vol12no04/05-0599.htm>
- 57 Jones JA, Salmon JE, Djuretic T, Nichols G, George RC, Gill ON, on behalf of an investigating team. An outbreak of serious illness and death among injecting drug users in England and Wales during 2000. *Journal of Medical Microbiology* 2002;51:978-98
- 58 McGuigan C, Penrice G, Gruer L, Ahmed S, Goldberg D, Black M, Salmon JE, Hood J. Lethal outbreak of infection with *Clostridium novyi* type A and other spore-forming organism in Scottish injecting drug users. *Journal of Medical Microbiology* 2002;51:971-977.
- 59 Brazier JS, TE Morris, Duerden BI. Heat and acid tolerance of *Clostridium novyi* Type A spores and their survival prior to preparation of heroin for injection. *Anaerobe* 2003;9:141-144
- 60 *Clostridium histolyticum* in injecting drug users. *CDR Weekly* 13(51) 18 December 2003. www.hpa.org.uk/cdr/PDFfiles/2003/cdr5103.pdf
- 61 Outbreak of *Clostridium histolyticum* infections in injecting drug users in England and Scotland. *Eurosurveillance* 2004;9:3;15-16
- 62 Rhodes T, Briggs D, Holloway G, Jones S, Kimber J. Visual assessments of injecting drug use - a pilot study. National Treatment Agency for Substance Misuse. London, 2006. RB13.
- 63 Rhodes T, Stoneman A, Hope VD, Hunt N, Martin A, Judd A. Groin injecting in the context of crack cocaine and homelessness: From 'risk boundary' to 'acceptable risk'? *International Journal of Drug Policy*, 2006; 17:164-170
- 64 Hutchinson SJ, Wadd S, Taylor A, Bird SM, Mitchell A, Morrison DS, Ahmed S, Goldberg DJ. Sudden rise in uptake of hepatitis B vaccination among injecting drug users associated with a universal vaccine programme in prisons. *Vaccine* 2004;23:210-214.
- 65 Taylor A, Fleming A, Rutherford J, Goldberg D. Examining the injecting practices of injecting drug users in Scotland. Effective Interventions Unit, Scottish Executive, 2004
- 66 Rhodes T; Davis M, Judd A. Hepatitis C and its risk management among drug injectors in London: renewing harm reduction in the context of uncertainty. *Addiction*, 2004; 99:621-33
- 67 Hope VD, Hickman M, Tilling K. Capturing crack-cocaine use: Estimating the prevalence of Crack-cocaine use in London using capture-recapture with covariates. *Addiction*, 2005; 100: 1701-1708
- 68 McVeigh J, Beynon C, Bellis MA. New challenges for agency based syringe exchange schemes: analysis of 11 years of data (1991-2001) in Merseyside and Cheshire, United Kingdom. *International Journal of Drug Policy*. 2003;14:399-405
- 69 Thein HH, Denoe M, van Beek I, Dore G, MacDonald M. Injecting behaviour of injecting drug users at needle and syringe programmes and pharmacies in Australia. *International Journal of Drug Policy*. 2003;14:425-430
- 70 Taylor A, Allen E, Hutchinson S, Roy K, Goldberg D, Ahmed S, Roberts K. Evaluation of the Lord Advocate's Guidance on the distribution of sterile needles and syringes to injecting drug users. Effective Interventions Unit, Edinburgh 2005.
- 71 Crowcroft NS, Hepatitis A virus infections in injecting drug users. *Communicable Disease and Public Health* 2003;6:82-84
- 72 Hope VD, de-Souza-Thomas L, Hickman M, Ncube F, Barnett S, McDonald T, Parry JV. Hepatitis B vaccine uptake among injecting drug users in England 1998 to 2004: are prisons driving improvements? Poster presentation at the 17th International Conference on the Reduction of Drug Related Harm, Vancouver, 2006.
- 73 Kuusi M, Hasseltvedt V, Aavitsland P. Botulism in Norway. *Eurosurveillance* 1999;4;11-12. www.eurosurveillance.org/em/v04n01/0401-225.asp
- 74 Burnens A. Cases of wound botulism in Switzerland. *Eurosurveillance Weekly* 4(5) 3 February 2000. www.eurosurveillance.org/ew/2000/000203.asp

References

- 75 Scheibe F. Wundbotulismus Nach Drogeninjektion (Wound botulism after drug injection) Deutsche Medizinische Wochenschrift 2002;127:199-202
- 76 Rundervoort RS, van der Ven AJ, Vermeulen C, van Oostenbrugge RJ. The clinical diagnosis 'wound botulism' in an injecting drug addict. Nederlands Tijdschrift Geneeskunde 2003;147:124-7.
- 77 Alpers K, van Treeck U, Frank C. Outbreak of wound botulism in injecting drug users in Germany, October-December 2005. Eurosurveillance Weekly 2005;10 (12);4 www.eurosurveillance.org/ew/2005/051215.asp#4
- 78 Werner SB, Passaro D, McGee J, Schechter R, Vugia DJ. Wound botulism in California, 1951-1998: recent epidemic in heroin injectors. Clinical Infectious Diseases 2000;31:1018-24
- 79 Hope VD, Rogers PA, Jordan L, Paine TC, Barnett S, Parry JV *et al.* Sustained increase in the sharing of needles and syringes among drug users in England and Wales. AIDS 2002;16:2494-6.
- 80 McLauchlin J, Mithani V, Bolton FJ, Nichols GL, Bellis MA, Syed Q *et al.* An investigation into the microflora of heroin. Journal of Medical Microbiology 2002;51:1001-8.
- 81 Group A streptococcal bacteraemia among injecting drug users. CDR Weekly 12(22); 30 May 2002. www.hpa.org.uk/cdr/PDFfiles/2002/cdr2202.pdf
- 82 Engler KH, Perrett K. Group A streptococcal bacteraemia in Yorkshire and the Humber: evidence of another problematic infection amongst injecting drug users. Communicable Disease and Public Health 2004;7:123-127
- 83 Stimson, GV. 'Blair declares war': the unhealthy state of British drug policy. International Journal of Drug Policy 2000;11:259-264
- 84 Select Committee on Home Affairs published its Third Report 'The Government's Drugs Policy: Is It Working? HC 318-I 22 May 2002, ISBN 0 10 500334 9
- 85 Wood E, Kerr T, Montaner JS, Strathdee SA, Wodak A, Hankins CA, Schechter MT, Tyndall MW. Rationale for evaluating North America's first medically supervised safer-injecting facility. Lancet Infectious Diseases 2004;4:310-326
- 86 Hedrich D. European report on drug consumption rooms. EMCDDA 2004. Office for Publications of the European Communities, Luxembourg. ISBN 92-9168-183-0
- 87 The Report of the Independent Working Group on Drug Consumption Rooms. Joseph Rowntree Foundation, London 2006. ISBN 185935470X

Notes

Notes

Data sources

Reports of HIV infection

Voluntary confidential reports of new HIV diagnoses in adults (15+ years) are received from laboratories and clinicians in England, Wales, Northern Ireland and Scotland. Reports are collated on a quarterly basis to form a UK dataset. Surveillance began in 1982 with AIDS case reporting, and expanded to include laboratory reporting of HIV diagnoses in 1985. In England, Wales, and Northern Ireland, clinician HIV reports were introduced in 2000 to supplement laboratory reporting, and the AIDS information is now collected on the clinician HIV report. Additionally, a cross-sectional survey is carried out to identify all individuals with diagnosed HIV infection who attend for HIV related care at NHS sites in England, Wales and Northern Ireland within a calendar year. This survey has been repeated annually since 1995.

Laboratory reports of viral hepatitis & bacterial infection

Clinically significant infections diagnosed in England, Wales and Northern Ireland are routinely reported to Cfl and held on a central system known as LabBase2. Most laboratories participate in the system, even if reporting is not mandatory. LabBase2 is therefore one of the most comprehensive sources of surveillance data, covering nearly all microbiologically-confirmed infections. Data on infections caused by group A streptococci and hepatitis A, B and C were all extracted from this reporting system. These reports contain demographic and risk information, although the risk factor information is not always provided. In Scotland, HPS collates data on all confirmed HCV antibody tests from the main HCV testing laboratories in Glasgow, Edinburgh, Dundee and Aberdeen.

The Unlinked Anonymous Prevalence Monitoring Programme's Survey of Injecting Drug Users

The UAPMP aims to measure the distribution of infection in sub-groups of the adult population. In the surveys that make up the UAPMP, samples are irreversibly unlinked from any identifying information before testing. The UAPMP's surveys have ethical approval.

The UAPMP survey of IDUs monitors HIV, hepatitis B and hepatitis C in injectors in contact with specialist services, such as needle exchanges, or on treatment programmes, such as methadone maintenance. Those who agree to participate provide an oral fluid sample and complete a behavioural questionnaire. Detailed methods used for the survey have been published previously¹. The survey of IDUs has been ongoing since 1990 in England & Wales, and was extended to Northern Ireland in 2002.

Further information about the UAPMP and comprehensive tables of data are available at:

www.hpa.org.uk/infections/topics_az/hiv_and_sti/hiv/epidemiology/ua.htm

A pilot of an enhancement to the UAPMP survey of IDUs started in 2003. This collaboration between CRDHB and the Cfl uses fieldworkers to target recruitment in settings where the UAPMP agency survey is difficult to deploy, such as mobile needle exchanges and through community recruitment. Dried blood spot specimens are collected rather than oral fluid samples.

Reference laboratory submissions

The key source of data on MRSA in IDUs is through referral of isolates to the SRU (part of Cfl) for reference microbiology.

Isolate referrals to the national reference laboratory RSIL (part of Cfl), are one of the primary sources of GAS infection reports (see strep-EURO below).

Data on clostridial infections are also available from reference microbiology work. For botulism this is carried out by FSML, and for tetanus by RSIL. For the other Clostridia this is undertaken by the Anaerobe Reference Laboratory, NPHS Microbiology Cardiff.

Strep-EURO

Data from reference laboratory isolates and routine laboratory reports have been combined as part of a two year enhanced surveillance programme. Augmented surveillance data was sought through questionnaires sent to microbiologists nationally.

Notifications of infectious diseases

Clinicians throughout the UK are required by law to report a number of defined conditions to their local communicable disease specialist. Tetanus and hepatitis A, B and C are among these notifiable diseases.

Enhanced surveillance of tetanus

Enhanced surveillance of tetanus is carried out by the Cfl Immunisation Department.
www.hpa.org.uk/infections/topics_az/tetanus/menu.htm

Surveillance of wound botulism

Surveillance of wound botulism among IDUs is carried out by the Cfl HIV & STI Department, with FSML. Reports are followed up with a surveillance questionnaire.

HTLV

The HIV & STI Department at Cfl collates reports of new HTLV diagnoses in England and Wales from laboratories and clinicians.

Health Protection Agency
Centre for Infections
Department of HIV and Sexually Transmitted Infections
61 Colindale Avenue
London NW9 5EQ
United Kingdom

Tel +44 (0)870 084 2000
Fax +44 (0)20 8200 7868
Email: HIV/STI@hpa.org.uk
www.hpa.org.uk

October 2006

ISBN 0 901144 86 X

© This report is printed on chlorine free paper