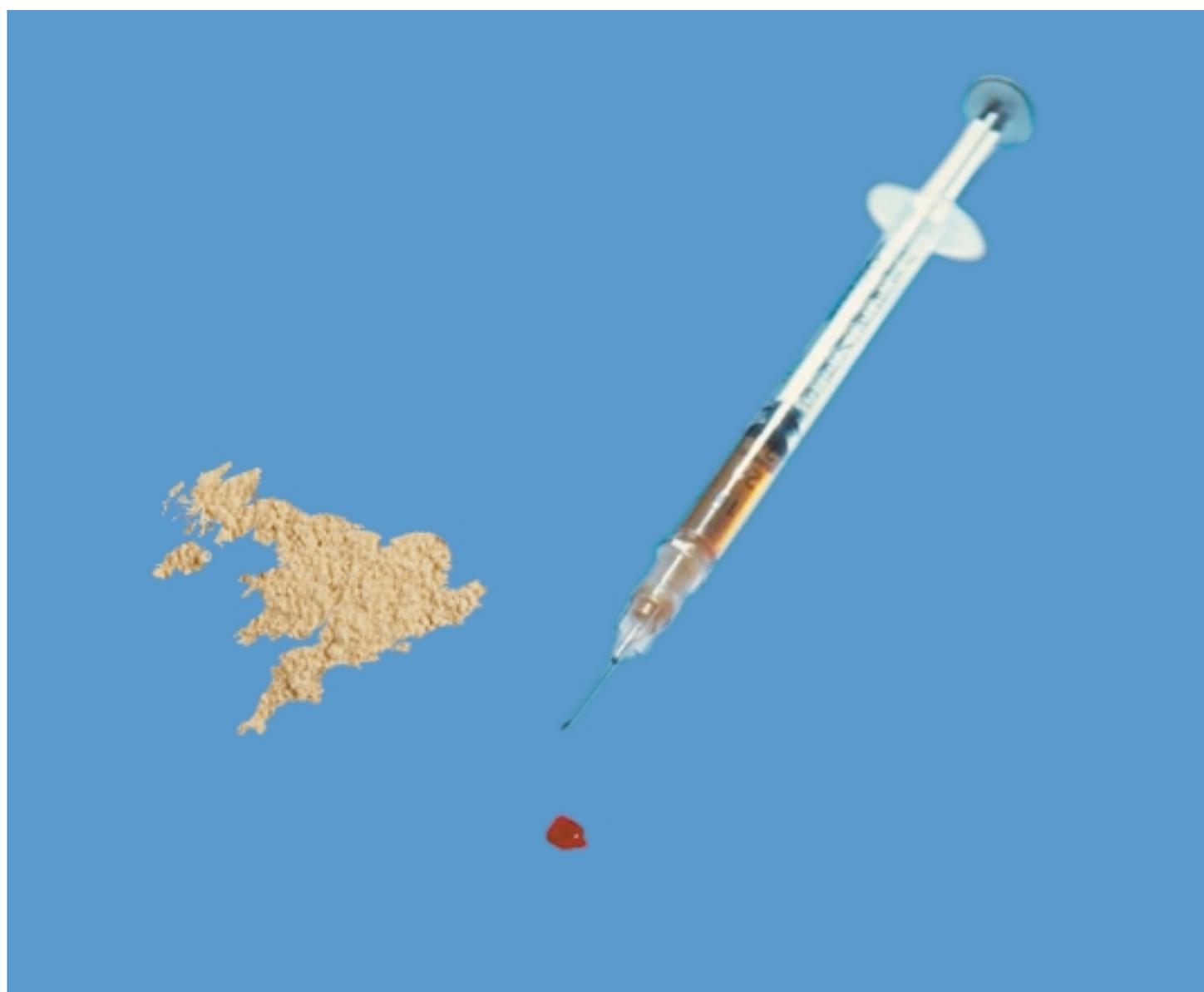


Shooting Up

Infections among injecting drug users in the United Kingdom 2002
An update: December 2003



Glossary of abbreviations

AIDS	Acquired Immune Deficiency Syndrome
anti-HBc	Antibodies to hepatitis B core antigen
anti-HCV	Antibodies to hepatitis C virus
anti-HIV	Antibodies to Human Immunodeficiency Virus
CDSC	Communicable Disease Surveillance Centre
CRDHB	Centre for Research on Drugs and Health Behaviour, Imperial College London
DHSSPS	Department of Health, Social Services and Public Safety (Northern Ireland)
HIV	Human Immunodeficiency Virus
IDU	Injecting Drug User
ISD	Information and Statistics Division (Scotland)
NHS	National Health Service
NPHSW	National Public Health Services for Wales
ONS	Office of National Statistics
SCIEH	Scottish Centre for Infection and Environmental Health
UAPMP	Unlinked Anonymous Prevalence Monitoring Programme
UASSG	Unlinked Anonymous Surveys Steering Group

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Infections among injecting drug users in the United Kingdom 2002
An update: December 2003

Communicable Disease Surveillance Centre & Specialist and Reference Microbiology Division,
Health Protection Agency Colindale

Scottish Centre for Infection and Environmental Health

National Public Health Service for Wales

and

Communicable Disease Surveillance Centre Northern Ireland

with

Centre for Research on Drugs & Health Behaviour,
Imperial College London

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

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

Data sources**Laboratory reports of HIV, hepatitis A, B and C infection**

In England, Wales, and Northern Ireland voluntary confidential case reports of HIV/AIDS are made to CDSC Colindale. New diagnoses of HIV/AIDS in Scotland are reported to SCIEH. These reports include laboratory reports of newly diagnosed HIV infections by microbiologists (since 1985) and clinicians (since 2000) and AIDS diagnoses by clinicians. They are reported through a 'stand alone' HIV surveillance system, which is subject to reporting delay.

Laboratory reports of hepatitis A, B and C diagnoses are also reported to the same organisations, and CDSC Northern Ireland, but through a routine laboratory reporting system used for many infections. These reports contain demographic and risk information, with the risk factor information not always being provided.

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

The UAPMP, which began in 1988, 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 programme has a number of objectives, including assessing the effectiveness of voluntary confidential testing for clinical diagnosis of HIV infection¹. The UAPMP data contribute to the evaluation of a number of national strategies including the *Hepatitis C Strategy for England*², which was published for consultation in August 2002. The UAPMPs surveys have ethical approval, and are overseen by the UASSG.

The UAPMP survey of injecting drug users monitors HIV, hepatitis B and hepatitis C infection levels in those injectors in contact with specialist services, such as needle exchanges, or on treatment programmes, such as methadone maintenance. Those who agree to participate provide a saliva sample and complete a behavioural questionnaire. Detailed methods used for the survey have been published previously³. 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 more comprehensive tables of data are available at: http://www.hpa.org.uk/infections/topics_az/hiv_and_sti/hiv/epidemiology/ua.htm

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Foreword

This is the first annual report to focus solely on infections among drug users in the United Kingdom – an indication of the seriousness of this issue. The report draws together the fruits of the wide-ranging collaboration between the Health Protection Agency, the Scottish Centre for Environmental Health (SCEH), the National Public Health Service for Wales Communicable Disease Surveillance Centre, the Communicable Disease Surveillance Centre Northern Ireland, the Centre for Research on Drugs and Health Behaviours, Imperial College London, the Unlinked Anonymous Surveys Steering Group and others. The aim of this work is to increase our understanding of the distribution of infections and the types of behaviour which increase the risks of exposure to them.

Hepatitis C infections are still a significant problem among injecting drug users. For hepatitis B there is an effective vaccine but many injectors remain unvaccinated which means the virus continues to be transmitted. HIV infection remains rare in this group although there are a few new cases each year. There have been outbreaks of other infections such as hepatitis A, botulism and tetanus – a reminder that injecting drug users are vulnerable to a wide range of infections. The sharing of needles is a key factor in the ongoing transmission of these infections, particularly amongst those who have started injecting in the past three years.

Most of these diseases are preventable and treatable and it is vital that we continue to make every effort to try to change the behaviours of injecting drug users in order to protect their health and also that of the wider population.

Pat Troop
Chief Executive

Summary

Key points

1. Overall more than two in five injectors have been infected with hepatitis C, and in Glasgow the estimated incidence of hepatitis C infection among recent initiates to injecting is approximately 30% per year. In England and Wales data indicate that hepatitis C transmission among injectors has increased recently, and in 2002 one in seven of those who had started to inject since the beginning of 2000 had been infected.
2. Hepatitis C infection will continue to place a growing demand on the NHS. By the end of 2002 there had been around 50,000 reported laboratory diagnoses of hepatitis C in the United Kingdom, with the majority of these reports associated with injecting drug use. However, of those injectors with hepatitis C almost three-fifths still remain unaware of their infection.
3. Transmission of hepatitis B continues among injectors even though there is an effective vaccine. Although the proportion of injectors vaccinated in England & Wales has increased in recent years many still remain unvaccinated.
4. Overall HIV infection remains rare among injectors in the United Kingdom, however there is evidence of ongoing transmission. The prevalence of HIV among injectors has remained substantially higher in London than the rest of the country.
5. Hepatitis A outbreaks have been increasingly associated with injecting drug use in recent years, and in 2002 there was an outbreak of wound botulism among injectors. These outbreaks are a reminder that injectors are at increased risk of a wide range of infections.
6. Needle and syringe sharing increased in the late 1990s, and since then has been stable with around one in three injectors reporting this activity in the last month.

Priorities for commissioning

When commissioning services to reduce the harms associated with problem drug use, in support of the aims of the Government's *'Updated Drugs Strategy 2002'*⁴, primary care bodies* and Drug Action Teams should give priority to:

1. Developing high quality needle exchange services for those unable to stop injecting, this should include:
 - a. the provision of clear information and advice on safer injecting practices, prevention of blood borne virus transmission, and on the safe disposal of used equipment;
 - b. ensuring that there is adequate service coverage so as to provide access to a new needle and syringe for each injection;
 - c. easy access to other on-site services such as vaccinations, health checks, and diagnostic tests.
2. Considering the provision of injecting related equipment other than needles and syringes through needle exchanges.
3. Ensuring hepatitis B vaccination services are easily accessible, and the development of follow-up strategies for those who have started vaccination courses.
4. Examining the incorporation of hepatitis A vaccination into community and prison vaccination programmes for injecting drug users.
5. Improving access to diagnostic testing for hepatitis C in line with the aims of the Department of Health's consultation document *'Hepatitis C Strategy for England'*².
6. Ensuring easy access to treatment and support services for all those who wish to cease injecting, or to reduce, or stop, their drug use.

* 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.

Introduction

1. Injecting drug users (IDUs) are vulnerable to a diverse range of infectious diseases, including viral hepatitis (A, B, and C), HIV, and wound botulism. These can result in considerable morbidity and mortality. The surveillance of infectious diseases, and the associated risk and protective behaviours, among this group are thus important public health functions.
2. This report brings together information on relevant markers of HIV and viral hepatitis prevalence and incidence, risk behaviour and healthcare utilisation for IDUs. It also presents information on bacterial infections among this group.
3. The data are gathered from surveillance systems operated by the Health Protection Agency's Communicable Disease Surveillance Centre (CDSC), the Scottish Centre for Infection and Environmental Health (SCIEH) and other collaborating institutions.

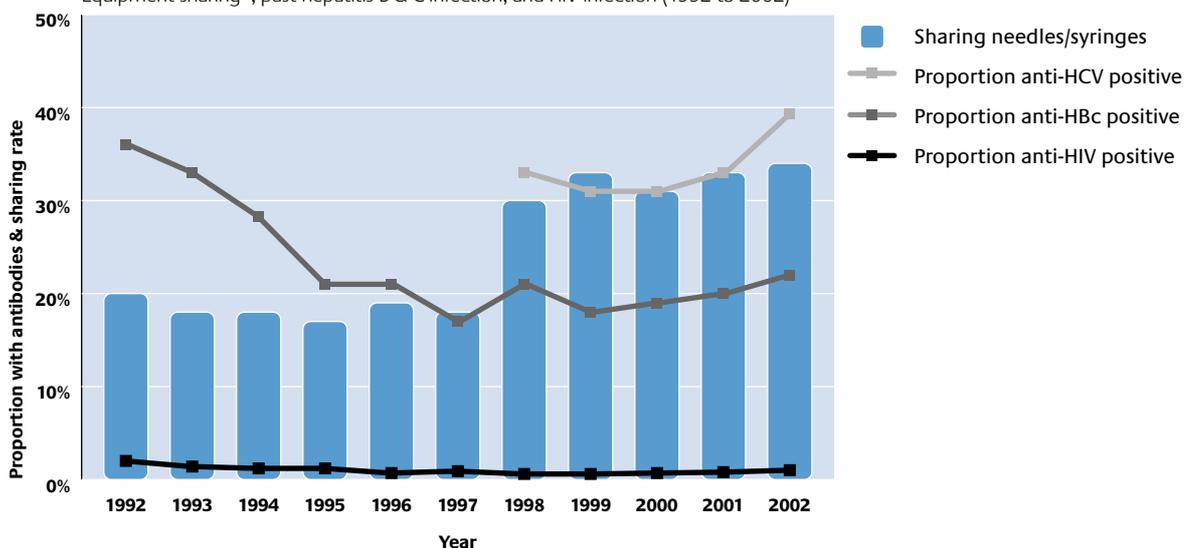
Hepatitis C

4. Hepatitis C is the most significant infectious disease affecting those who inject drugs. Very high prevalences have been reported among IDUs from many countries. Around 80% of those acquiring hepatitis C develop chronic infection and are at risk of developing cirrhosis and liver cancer. Until recently treatment options were limited. With the development of new and more effective treatments uptake of diagnostic testing for hepatitis C is increasingly important as diagnosis is a prerequisite to accessing treatment.

England and Wales

5. Laboratories had up to the end of 2002 reported a total of 35,035 diagnoses of hepatitis C infection to CDSC 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 with risk factor information gave injecting drug use as the route of infection (table 1). The number of laboratory reports

Figure 1
Current injecting drug users* in England & Wales:
 Equipment sharing[†], past hepatitis B & C infection, and HIV infection (1992 to 2002)



*Those who last injected drugs in the four weeks prior to participating in the survey.
[†]Sharing of needles or syringes in the previous four weeks.
 Data source: Unlinked Anonymous Prevalence Monitoring Programme survey of around 3,000 injectors in contact with drug services each year.

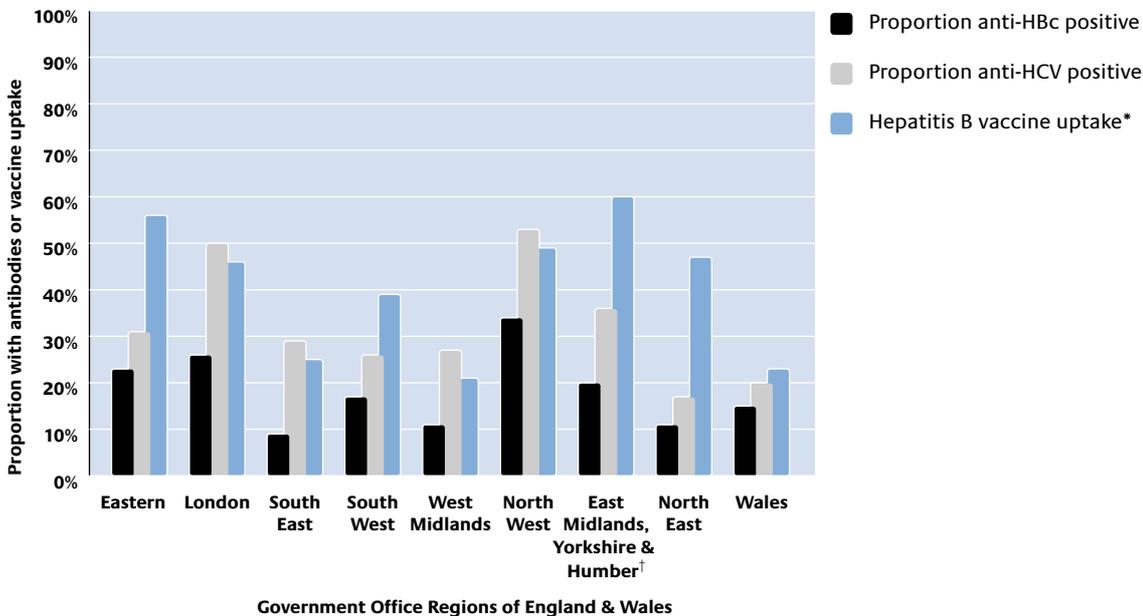
each year has been increasing, since the diagnostic tests for hepatitis C became available in the early 1990s, from under 1,000 per annum prior to 1994 to 5,901 in 2002. This rise most probably reflects the increasing numbers of those at risk being tested, rather than an increase in infection.

6. In 2002, 38% (1,057 of 2,764) of IDUs who took part in the Unlinked Anonymous Prevalence Monitoring Programme (UAPMP) survey of injecting drug users in contact with specialist services had antibodies to hepatitis C. This prevalence has not changed since hepatitis C testing was added to this survey in 1998 (table 1)⁵. However, when only current injectors (those who had injected in the four weeks prior to taking part in the survey) were considered, prevalence was found to have increased: from around 32% during the period 1998 to 2001 to 39% (717 of 1,823) in 2002 (figure 1).

7. When UAPMP survey data from 2001 and 2002 combined were considered there were marked regional variations in prevalence from 17% (101 of 582) in the North East and 20% (92 of 452) in Wales to 50% (560 of 1,123) in London and 53% (661 of 1,247) in the North West (figure 2)

8. One of the aims in the Department of Health's consultation document 'Hepatitis C Strategy for England'² is to increase the uptake of voluntary confidential testing for hepatitis C among current and past IDUs thereby increasing the proportion of IDUs who are aware of their infection. In particular, the strategy proposes a national standard of good practice that all those attending specialist drug treatment services for their drug addiction should be offered hepatitis C testing routinely. In 2002, 43% of IDUs (1,100 of 2,562) who took part in the UAPMP survey reported not having had a voluntary confidential test for hepatitis C, this compares with 51% (1,585 of

Figure 2
Current & former injecting drug users in England & Wales:
 Prevalences of hepatitis C and B, and hepatitis B vaccine uptake (2001/02 combined)



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

[†]The data for these two regions have been combined due to small sample sizes.

Data source: Unlinked Anonymous Prevalence Monitoring Programme survey of around 3,000 injectors in contact with drug services each year.

3,080) in 2000. Of those who were infected with hepatitis C, 43% (403 of 943) were aware of their infection.

9. The consultation document 'Hepatitis C Strategy for England'² proposes using the prevalence of hepatitis C in those who began injecting in the last three years as a measure of recent transmission. This measure could be a national outcome indicator of the success of prevention interventions. In 2002, among those who had begun injecting in the previous three years, the prevalence was 14% (56 of 403). Although lower than the prevalence in 2001 this is still significantly higher than the prevalence in 2000 and earlier years (figure 3).

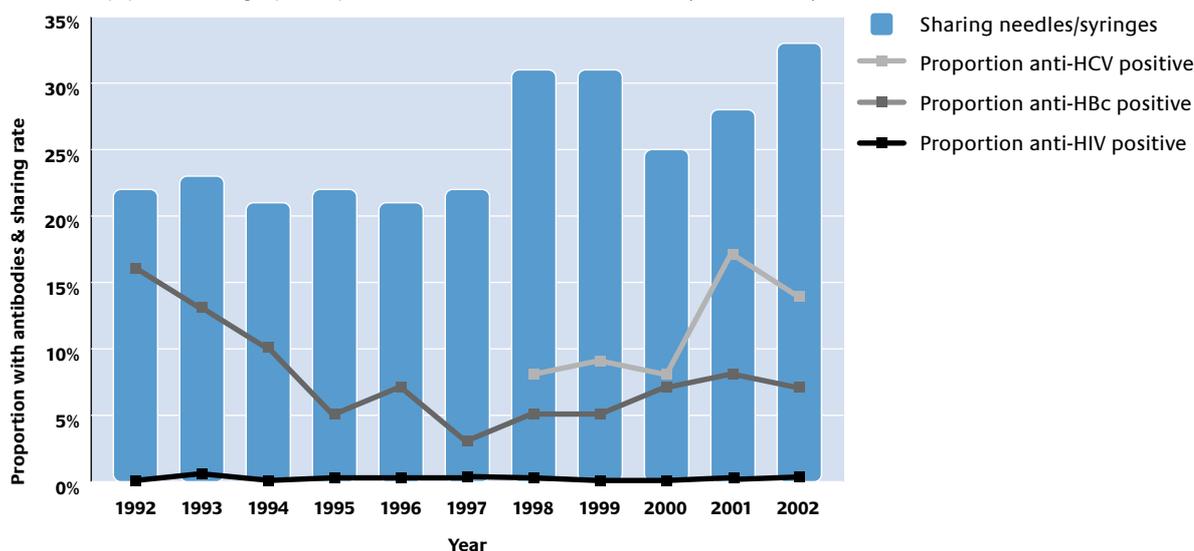
Scotland

10. To June 2002 laboratories had reported to SCIEH 14,390 diagnoses of hepatitis C infection. In 2001, 1,700 cases were reported: this figure compares with an annual average of 1,941 reports during the period 1998 to 2000 (table 1). Among the 9,728 reports for which risk information was available, 8,719 (90%) were known to have ever injected drugs.

11. The 14,390 diagnoses in Scotland to June 2002 corresponds to a rate of 32 per 10,000 adults; this contrasts with a rate of 7 per 10,000 in England and Wales. This difference may be due to the prevalence of hepatitis C (diagnosed and undiagnosed) being higher in Scotland than in England, the rate of hepatitis C antibody testing being greater in Scotland than in England, under-reporting of hepatitis C diagnoses by laboratories being greater in England than in Scotland, or a combination of all three.

12. In Scotland, residual sera from specimens provided by IDUs, originally tested for HIV, are anonymously tested for hepatitis C antibodies so that trends in the prevalence of hepatitis C among this population can be monitored⁶. In 1999/2000, the prevalence of hepatitis C was 44% (946 of 2,141); rates range from 62% in Greater Glasgow to 23% in Forth Valley (Stirling). Among under 25 year-old IDUs in Edinburgh and Glasgow, hepatitis C prevalence declined from 69% and 91% in 1990 to 13% and 43% in 1997, respectively^{7,8}; however, in both these regions, and in Tayside and

Figure 3
Recently initiated injecting drug users* in England & Wales:
 Equipment sharing[†], past hepatitis B & C infection, and HIV infection (1992 to 2002)



*Those who started injecting drugs in the three years prior to participating in the survey.
[†]Sharing of needles or syringes in the previous four weeks.
 Data source: Unlinked Anonymous Prevalence Monitoring Programme survey of around 3,000 injectors in contact with drug services each year.

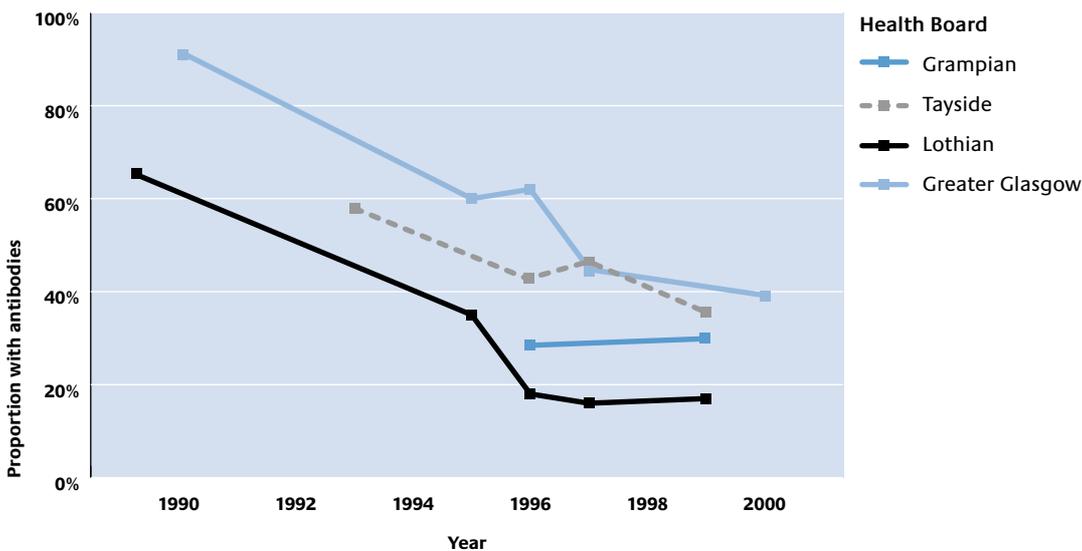
Grampian, no significant changes in prevalence were found among those aged less than 25 years between 1996/97 and 1999/2000 (figure 4). These data indicate that the incidence of hepatitis C among IDUs declined in the early to mid-1990s – during the period when harm reduction initiatives were introduced and developed – but was steady in the late 1990s.

13. A community-wide behavioural and hepatitis C prevalence survey, undertaken in Glasgow during 2001 and 2002, of 466 recent initiates to injecting, revealed an estimated incidence of 29 per 100 years of injecting⁹. Hepatitis C transmission has also been demonstrated among IDUs in the prison setting; an incidence of 12 per 100 years of incarceration was detected among 69 inmates of HMP Shotts who declared that they had ever injected drugs¹⁰.
14. These data are consistent with needle and syringe sharing rates from the Scottish Drug Misuse Database which declined in the early 1990s, but rose again during the period 1996 to 2002.

Northern Ireland

15. Laboratories in Northern Ireland have reported a total of 590 diagnoses of hepatitis C infection. In 2002 there were 75 new diagnoses the highest yearly total reported so far. Eighty nine per cent of infections in individuals with a known risk factor were associated with injecting drug use.
16. In 2002 the UAPMP survey of injectors was extended to Northern Ireland, 16% (12 of 77) of IDUs who took part had antibodies to hepatitis C. Of the participants, 84% (63 of 75) reported having a voluntary confidential test for hepatitis C. Just over half (5 of 9) of the injectors with hepatitis C from Northern Ireland in the survey were aware of their infection.
17. The Department of Health, Social Services and Public Safety is preparing a hepatitis C strategy for Northern Ireland and it is anticipated this will be available in 2004.

Figure 4
Young injecting drug users* in Scotland:
 Hepatitis C prevalence among those who had a named HIV test (1989 to 2000)



*Aged under 25 years at time of test.

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 & Wales	Total number of reports Proportion of those with exposure data indicating injecting drug use#
	Scotland	Total number of reports Proportion of those with exposure data indicating injecting drug use#
	Northern Ireland	Total number of reports
Proportion hepatitis C antibody positive†~	England & Wales	Current & former injectors First injected during the last 3 years
Hepatitis B infection		
Reported laboratory diagnoses of hepatitis B infection	England & Wales	Total number of reports Proportion of those with exposure data indicating injecting drug use#
	Scotland**	Total number of reports Proportion of those with exposure data indicating injecting drug use#
	Northern Ireland	Total number of reports
Proportion hepatitis B antibody positive†~	England & Wales	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 (Injectors)
	Scotland	Total number of reports (Injectors)
	Rest of UK	Total number of reports (Injectors)
Diagnosed HIV infections receiving care acquired through injecting drug use	England & Wales	Male injectors Female injectors
	Scotland	All injectors tested
Prevalence among those having voluntary confidential HIV tests	Scotland	All injectors tested
Proportion HIV antibody positive~	England & Wales	Current & former injectors First injected during the last 3 years
Behaviour		
Passing on or receiving used needles or syringes in the last month – self reports~	London	Current injectors
	England & Wales outside London	Current injectors
	England and Wales	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 – self reports~	London	Current Injectors
	England & Wales outside London	Current injectors
Markers of health care utilization		
Ever used a needle exchange~	England & Wales	Current injectors who first injected during the last 3 years
Ever had a voluntary confidential test for hepatitis C~	England & Wales	Current & former injectors
Hepatitis B vaccine coverage – self reported~	England & Wales	First injected during the last 3 years Current & former injectors
Proportion of those unaware that they have hepatitis C infection – self reported~	England & Wales	Current & former injectors anti-HCV positive
Proportion of those unaware that they have HIV infection – self reported~	England & Wales	Current & former injectors anti-HIV positive

* Provisional, reports are subject to reporting delay

Data on exposure is often incomplete or missing

January to June 2002

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

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
n	-	-	241	435	839	1,648	2,527	3,039	4,480	5,730	5,235	4,960	5,901*
%	-	-	50	67	77	81	85	92	91	92	93	96	97
n	37	275	382	525	833	1,142	1,254	1,468	2,006	1,953	1,866	1,700	918##
%	24	23	38	63	58	56	61	59	59	67	67	66	61
n	1	13	48	7	43	63	55	54	65	46	55	65	75
%	-	-	-	-	-	-	-	-	35	32	33	35	38
%	-	-	-	-	-	-	-	-	8	9	8	16	14
n	618	572	531	629	633	612	569	652	843	746	729	593	849*
%	25	21	21	25	26	40	43	48	48	52	46	37	40
n	249	200	120	186	166	152	184	215	295	386	360	357	354*
%	22	25	18	9	10	9	10	11	20	30	25	19	10
n	37	28	34	22	33	30	31	22	18	24	42	37	67
%	33	31	35	34	29	22	22	18	22	20	21	21	22
%	21	7	16	13	10	5	7	3	5	5	7	8	7
n	140	151	137	113	111	126	114	89	76	68	62	57	62*
n	30	53	27	53	30	23	35	33	19	18	21	17	10*
n	68	79	63	71	69	67	73	68	62	48	55	70	53*
n	-	-	-	-	-	602	539	548	584	622	577	588	591
n	-	-	-	-	-	286	262	251	289	292	275	277	285
n	-	-	559	581	519	459	424	425	430	433	434	415	405
%	2.8	3.2	1.9	2.9	1.5	1.5	1.5	1.6	0.9	0.6	0.7	0.8	0.4
%	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
%	0.8	0.0	0.0	0.4	0.2	0.2	0.3	0.3	0.4	0.1	0.0	0.4	0.3
%	-	17	22	16	16	18	20	21	35	42	41	37	36
%	-	27	19	19	18	17	18	17	31	31	29	33	33
%	-	35	27	25	25	26	24	25	38	40	31	36	43
%	-	26	22	23	21	22	21	22	31	31	24	28	33
%	-	-	-	-	-	-	28	28	34	34	34	36	32
%	-	-	-	-	-	-	60	59	66	69	69	69	63
%	-	-	-	-	-	-	57	54	62	62	59	58	60
%	-	-	-	-	-	-	-	-	-	-	84	86	84
%	-	-	-	-	-	-	-	-	-	-	49	54	57
%	-	-	-	-	-	-	-	-	14	17	26	28	35
%	-	-	-	-	-	-	-	-	25	29	35	37	43
%	-	-	-	-	-	-	-	-	-	-	60	59	57
%	-	-	-	-	-	13	29	38	32	16	18	40	21

† Includes IDUs also exposed to HIV infection through sex between men

‡ Denotes past or current infection with hepatitis B/C

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

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

Hepatitis B

18. In the United Kingdom 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 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 very easily preventable using a safe and effective vaccine.

England and Wales

19. The total number of laboratory reports of acute hepatitis B infection rose in 2002, with a 43% increase (from 593 to 849) on the previous year (table 1). Transmission of hepatitis B is continuing among IDUs who, in 2002, remained the main risk group associated with hepatitis B infection accounting for 40% of individuals with a known risk factor (table 1).
20. In 2002, 22% (617 of 2,750) of IDUs who took part in the UAPMP survey had evidence of previous or current hepatitis B infection; this was similar to the level observed in 2001 (table 1). The prevalence of antibody to hepatitis B core antigen (anti-HBc) varied by region and when data for 2001 and 2002 were combined, the highest prevalence was in the North West (34%, 421 of 1,247), and the lowest prevalences were found in the West Midlands (11%, 17 of 179), North East (11%, 63 of 580) and South East (11%, 29 of 267) regions (figure 2). In Wales the prevalence was 15% (66 of 452, 2001 and 2002 data combined).
21. Prevalence of anti-HBc among those who began injecting in the previous three years is an indicator of relatively recent transmission of hepatitis B virus. The UAPMP survey found that prevalence among this group increased from 3.4% in 1997 to 7.9% in 2001, and in 2002 it was 7% (28 of 400) (figure 3).
22. The numbers of IDUs participating in the UAPMP survey self-reporting* that they had been vaccinated against hepatitis B has increased modestly from 37% (1,087 of 2,899) in 2001 to 43% (1,160 of 2,685) in 2002 (table 1). Of those who had reported vaccination

only half self-reported receiving three or more doses of the vaccine (50%, 576 of 1,114). Self-reported vaccination uptake varied by Government Office region and in the three lowest areas, South East, West Midlands and Wales it was under 30% (figure 2).

Scotland

23. In 2002, 354 reports of hepatitis B infection (acute and chronic) were reported to SCIEH; this total is similar to those observed annually since 1999; however, the proportion of the total number of reports, for which there was evidence that cases had injected drugs, declined from 30% in 1999 – the year in which an outbreak of infection among the IDU population in Aberdeen occurred – to 10% in 2002. This decline was contemporaneous with the introduction and maintenance of a Scottish Prison Service Initiative to offer and recommend hepatitis B vaccine to inmates in prisons throughout Scotland.

Northern Ireland

24. The number of hepatitis B laboratory reports from Northern Ireland has fluctuated over time with around 30 reports each year being typical, some of these infections will have been related to injecting drug use. The total number of reports for 2002 was 67 compared with 37 in 2001.
25. In 2002 the UAPMP survey of injectors found 3% (2 of 77) of IDUs who took part had antibodies to hepatitis B core antigen. This is much lower than the prevalence found in any region of England, or in Wales. Of the injectors who took part in Northern Ireland 55% (41 of 75) reported being vaccinated against hepatitis B.

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

HIV

26. Transmission of HIV through injecting drug use was recognised early in the HIV epidemic at the start of the 1980s. Explosive outbreaks of HIV infection through injecting drug use have occurred around the globe in both developed and developing countries, with recent ones in countries of the former Soviet Union. Other than the outbreak in Edinburgh in the early 1980s HIV infection among injectors has remained relatively uncommon in the United Kingdom probably as a result of prompt community and public health responses.

England and Wales

27. By the end of 2002 in England and Wales there had been 2,757 reported HIV diagnoses where the infection had probably been acquired through injecting drug use. The annual number of new diagnoses in recent years has been fairly constant (table 1) at around one hundred a year. There were 95 HIV diagnoses in England and Wales in 2002 that were thought to have been acquired by injecting drug use, 56 of these included information on the probable country where the infection was acquired. Of these two thirds (38 of 56) were probably acquired outside of the United Kingdom, mostly in Southern Europe.
28. The prevalence of HIV infection among IDUs attending specialist agencies taking part in the UAPMP survey in London during 2002 was 3.6% (22 of 608) and 0.2% (4 of 2,111) elsewhere in England and Wales. Although the prevalence of HIV infection in IDUs has not changed in recent years, HIV infections occurred both in those who had begun injecting in the past three years (table 1) and among those aged under 25 years. This suggests that HIV transmission through injecting drug use continues albeit at a low level.
29. All (20 of 20) of the HIV-infected injecting drug users who took part in the UAPMP survey and who answered the question reported having had a voluntary confidential blood test for HIV in the past. Of those who also gave the result of their last test, 21% (4 of 19) were unaware

of their infection. Compared with other groups at risk of HIV infection IDUs are the group with the lowest proportion of HIV-infected individuals unaware of their infection¹¹.

Scotland

30. By December 2002 in Scotland, a total of 1,278 HIV diagnoses among IDUs had been made. Ten of these diagnoses were reported to SCIEH in 2002; this annual total, the lowest ever, compares with an annual average of 195 reports in the mid-1980s and 19 during the period 1999 to 2001.
31. Among 192 IDUs attending GUM clinics in Scotland during 2002, no HIV infections were detected. This is the first year since this survey began in 1990 that a zero HIV infection yield among this group has been recorded. The finding constitutes the culmination of a declining trend; prevalences ranged from 2.5% to 5.3% during the early to mid-1990s and 0.9% to 1.5% during the period 1998 to 2001.
32. Among IDUs undergoing voluntary confidential HIV testing in Scotland during 2002, the prevalence was 0.4% (8 of 2,036). This rate compares with prevalences of 1.3% to 2.9% in the early to mid-1990s and 0.6% to 0.8% during the period 1998 to 2001 (table 1).

Northern Ireland

33. There had only been eight reported HIV diagnoses where infection had probably been acquired through injecting drug use in Northern Ireland by the end of September 2003. This accounts for approximately 3% of 275 HIV infections first diagnosed in Northern Ireland.
34. In 2002 no HIV infections were found among the 77 IDUs who took part in the UAPMP survey.

Estimates of the total number of injecting drug users with HIV in the United Kingdom

35. The number of people living with HIV can be estimated by a number of approaches. The 'Direct Method' estimates numbers of undiagnosed HIV infections in the population, using data from the UAPMP, National Survey of

Sexual Attitudes and Lifestyles¹², and ONS mid-year population estimates. At the end of 2002 an estimated 49,500 adults aged 16 years and over were living with HIV in the United Kingdom, 15,200 (31%) of whom were unaware of their infection¹¹. There were an estimated 1,400 injecting drug users living with HIV infection in 2002, of whom 300 (18%) were unaware of their infection.

Other Infections

36. Injecting drug users are vulnerable to a number of other infections, such as wound botulism, tetanus, and bacteraemias, as a result of non-sterile injecting, or injecting with contaminated drugs. Whilst hepatitis A infection is transmitted through both of these routes it is also associated with poor hygiene. In recent years these infections have caused growing public health concern.

Hepatitis A

37. Injecting drug users may acquire hepatitis A infection through person-to-person contact with other infected individuals because of poor hygiene, via blood through sharing contaminated needles and other injecting equipment, through sex, or from drugs that have been contaminated with faeces during smuggling.
38. In 2002 the number of laboratory reports of hepatitis A increased to 1,352 and were 42% higher than the 789 reports in 2001¹³. Only a small proportion of hepatitis A reports contained information on risk factors, however, injecting drug use was mentioned for 67% (100 of 150) of the infections where risk factor information was included in 2002. Preliminary results of genotyping support the increase being concentrated in IDUs¹⁴, and underline the need for improved risk factor information in routine surveillance.
39. This increase in laboratory reports has been related to a number of large outbreaks that have been mainly associated with injecting drug use and homelessness. The largest increases in laboratory reports and the majority of the outbreaks have been in the South West, West Midlands and Yorkshire and Humber regions of England, although outbreaks have occurred in other regions and in Scotland¹⁵.
40. Scotland's first outbreak of hepatitis A infection among IDUs occurred in Aberdeen during 2000 and 2001. Seventy-four IDUs were affected and a case-control study revealed that a lack of hygiene, within the context of individuals preparing and injecting drugs together, had provided ample opportunity for the transmission of infection¹⁶.

41. Up to the end of the 1990's, injecting drug use was not a common factor associated with hepatitis A infection in the United Kingdom, but occurred most frequently in children and travellers to endemic countries. The number and size of the recent outbreaks in IDUs reflect a change in the epidemiology of hepatitis A in the United Kingdom. Large outbreaks can occur because most of the population of the United Kingdom is now susceptible to hepatitis A virus infection.
42. In response it has recently been suggested that hepatitis A vaccine is offered to injecting drug users¹⁷. A combined hepatitis A and B vaccine is available and this could be used rather than using the single vaccines. This would reduce the number of injections that would need to be given and so reduce staff costs. Vaccination can be offered effectively through community programmes¹⁸ and the prison service. Needle exchange services should consider supplying injecting equipment in addition to needles and syringes, such as mixing containers, as their reuse is a potential source of hepatitis A contamination^{16, 19}.
43. Botulism is an illness caused by botulinum toxin, which is a poison produced by the bacterium *Clostridium botulinum*. Symptoms of botulism include blurred vision and difficulty in swallowing and speaking, and it can also result in paralysis and death. However there is an effective antitoxin. The organism is common in the soil and can survive in the form of a resistant spore. When it infects wounds, including injecting sites, it causes wound botulism.
44. There were no reported cases of wound botulism in the United Kingdom before 2000. Since March 2000 there have been 33 clinically diagnosed cases of wound botulism in the United Kingdom and Republic of Ireland. During 2002 there were 19 cases with a clinical diagnosis of wound botulism in England and Wales, in 13 of these cases the diagnosis was confirmed by laboratory tests. Eight cases occurred during September and October 2002 and therefore may possibly have been related to a contaminated batch of heroin²⁰. In Scotland there were two cases of clinically diagnosed botulism in IDUs in 2002, one case was laboratory confirmed; both cases recovered following intensive care management.
45. In addition to botulism there are other serious bacterial infections that may be acquired through injecting contaminated drugs. For example, during 2000 there was an outbreak of serious illness and death among injecting drug users in Scotland, Ireland and England. This outbreak was most probably due to *Clostridium novyi* infection of injection sites, as a result of injecting with contaminated heroin^{21, 22}.
46. In the United Kingdom tetanus has rarely been reported in IDUs, in contrast to reports from the United States where IDUs accounted for around one in six of the tetanus cases between 1995 and 2000²³. Only two of the 175 tetanus cases identified in England and Wales through enhanced surveillance between 1984 and 2000 were known to be IDUs²⁴. Potential sources for tetanus infection in IDUs are contaminated drugs, injecting equipment and skin.
47. Injectors may also acquire other bacterial infections as a result of injecting sites becoming contaminated with bacteria. These include bacteraemias (a bacterial infection of the blood) and injecting site (wound) infections, however, little is currently known about the extent of these infections among injectors in the United Kingdom.

Bacterial infections

Injecting Behaviour and Access to Services

England and Wales

48. In 2002 the proportion of current IDUs sharing needles and syringes (direct sharing) has remained high, with 34% (582 of 1,729) reporting such practices (figure 1). Younger IDUs appear to be at particular risk, with 43% (146 of 336) of current IDUs aged under 25 years reporting direct sharing in the previous month. The proportion reporting direct sharing varied by region and when data for 2001 and 2002 were combined, the highest level was in the South West (41%, 302 of 738), and the lowest in the North West (24%, 158 of 671). In Wales 38% (110 of 286) reported direct sharing.
49. The consultation document *'Hepatitis C Strategy for England'*² reinforces the harm reduction message about the danger of sharing any injecting equipment, not just direct sharing of needles and syringes. The sharing of items such as filters, spoons and flushing water continued at high levels with 55% (972 of 1,775) of current injectors reporting this in 2002. In August 2003 legislative changes were made to allow the legal provision of injecting equipment other than needles and syringes by health services for the first time, with the aim of reducing the sharing of such equipment.
50. In 2002, 90% (2,440 of 2,723) of injectors reported that they had, at some time in their injecting career, accessed a needle exchange service. Overall, 64% (1,332 of 2,069) of injectors had accessed a needle exchange within three years of first injecting. It is encouraging that the majority of IDUs are in contact with needle exchanges.
51. In 2002, 63% (1,672 of 2,654) of IDUs reported having ever been in prison or a young offenders' establishment. Of those who had been in prison, the median number of imprisonments was three (range 1 to 80) and 30% of IDUs with a history of imprisonment had been to prison at least five times. Sixteen per cent of those who had been in prison

reported injecting whilst in prison. 46% had first been imprisoned before beginning to inject (716 of 1,566), with 54% (875 of 1,616) first imprisoned before the age of 20. The consultation document *'Hepatitis C Strategy for England'* proposes as a national standard of good practice that all young people entering juvenile and young offenders' establishments are provided with information about avoiding hepatitis C and other blood-borne infections and the risk of injecting drug use.

Scotland

52. In 2002/03 financial year, 32% of IDUs reported to Scotland's Drug Misuse Database had indicated that they had shared a needle and syringe in the previous month; this proportion compares with 36% in 2001/02, 34% during the period 1998/99 to 2000/01, and 28% in 1996/97 and 1997/98 (table 1).
53. Scotland's Drug Misuse Database recorded data on the sharing of injecting equipment other than needles and syringes for the first time in 2001/02. The proportion of IDUs sharing spoons, filters and water in the previous month was 50% in 2001/02, and 48% in 2002/03.

Northern Ireland

54. In 2002, of those current injectors who took part in the UAPMP survey in Northern Ireland, 42% (19 of 45) reported the direct sharing of needles and syringes. This was higher than found in all regions of England, and Wales. Almost two thirds (28 of 45) reported sharing injecting equipment other than needles and syringes.
55. Almost nine tenths had ever used a needle exchange service (67 of 76), and around two fifths (26 of 61) of these had done so within three years of starting to inject.
56. Just under half (37 of 76) had ever been to prison, with just over half (20 of 36) of these having been to prison prior to starting to inject. Almost one in five (7 of 37) reported injecting in prison.

Comments & Conclusions

57. It is a cause for concern that in Glasgow the estimated incidence of hepatitis C infection among recent initiates to injecting is approximately 30% per year, and in England & Wales the prevalence of hepatitis C infection amongst current injectors has increased by a fifth between 2001 and 2002. Data on the incidence of hepatitis C and HIV in London will be published shortly and will provide further insight into the extent of ongoing transmission within the United Kingdom. Overall around two in five injectors have been exposed to hepatitis C, and more than one in five to hepatitis B. Although these prevalences are low in comparison with many other developed countries, they are still substantial.
58. HIV infection remains comparatively rare among injectors in the United Kingdom, with around one in 100 infected. The majority of those with HIV would appear to have had their infection diagnosed. Although there is evidence of limited ongoing transmission in the United Kingdom, many of the new diagnoses of HIV infection associated with injecting drug use are attributed to infection acquired abroad.
59. The recent outbreaks of hepatitis A and wound botulism associated with injecting drug use suggest a growing problem with infectious diseases amongst injectors. The reasons for the occurrence of these, and the previous outbreak of *Clostridium novyi*, are unclear and need further investigation. Better understanding of the patterns of hepatitis A infection may come through extending work on the genotyping of this infection.
60. Offering vaccination against hepatitis A to injecting drug users can very effectively prevent infection. Those commissioning services should therefore explore the utility of introducing hepatitis A vaccination in conjunction with their existing hepatitis B vaccination programmes.
61. The increase in the uptake of the vaccine against hepatitis B in England & Wales is encouraging and probably reflects improved vaccine provision through drug services and the prison vaccination programme²⁵. However the majority of injectors remain unvaccinated. It is encouraging that the establishment and maintenance of a comprehensive prison-based vaccination programme in Scotland has coincided with a reduction in the number of reports of hepatitis B among IDUs in the country. Those commissioning services need to review vaccine provision to ensure easy and appropriate access for injectors. Providing on-site vaccination at drug services is probably the most effective way of achieving this.
62. In the late 1990s the reported levels of needle and syringe sharing during the previous month increased²⁶, and this higher level of sharing has been sustained since then. Data from across the United Kingdom suggest that around one in three injectors were reporting needle and syringe sharing during the previous month in 2002. This substantial level of reported risk may account for the recent rise in injecting related infections. Recent work that has estimated the number of injecting drug users in several areas of England and related these to the levels of service provision has suggested that the coverage of needle and syringe exchange service is inadequate²⁷.
63. The data presented here indicate a need to improve harm reduction services for injecting drug users so as to reduce the growing burden from injecting related infections. Those commissioning services should re-examine needle exchange provision to ensure adequate coverage such that all injectors have access to a new needle and syringe for each injection.
64. Infections, such as hepatitis A and C, may be reduced by the provision of sterile injecting equipment other than needles and syringes. In re-examining exchange provision those commissioning services should also consider what other injecting related items should be provided to their clients. Following recent legislative changes health services can now provide IDUs with ampoules of sterile water for injection, swabs, utensils for the preparation of a controlled drug (spoons, bowls, cups, dishes), citric acid, and filters¹⁹.

65. In 2002 the government launched its *'Updated Drugs Strategy'*⁴ which includes among its aims improving the provision of health services for drug users. In relation to this it identifies the need for further action to *'Improve the health of drug misusers and drive forward action to reduce the risk of death'*. Considering the range of injecting related infections, needle exchanges and other services should also be commissioned to provide clear information and advice on safer injecting, injecting related infections, and the importance of safe disposal of injecting equipment; on-site access to vaccination services; basic health checks for injection site infections; and easy referral to drug treatment services for those who wish to modify and reduce their drug use.
66. The majority of injectors in England and Wales with hepatitis C infection are still unaware of their infection. The proportion of injectors reporting having a voluntary confidential test for hepatitis C has however increased indicating that efforts to improve access to testing may be working. The Department of Health has provided the National Treatment Agency for Substance Misuse with £1 million in 2003/04, as part of implementation of *'Hepatitis C Strategy for England'*² to increase hepatitis C testing of injecting drug users. Further rises in the uptake of testing will, considering the high proportion of undiagnosed infections, lead to further growth in the number of diagnosed infections and so demand for hepatitis C treatment and care. When developing improved access to hepatitis C testing in line with the aims in the consultation document *'Hepatitis C Strategy for England'*² those commissioning services should also take into account implications for treatment and care services.
67. Injecting drug users in the United Kingdom are vulnerable to a wide range of infections, and would appear to be at increased risk of infection. Continued vigilance through the maintenance and development of public health surveillance systems is needed. There is a need for improved quality of surveillance of viral hepatitis, particularly hepatitis A, through more complete reporting of laboratory diagnoses and improved completeness of risk factor information.
68. The UAPMP survey continues to provide valuable data on blood-borne viruses and associated risks among injectors in contact with services. A complementary community recruited survey of injectors currently under way will provide further important data.

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