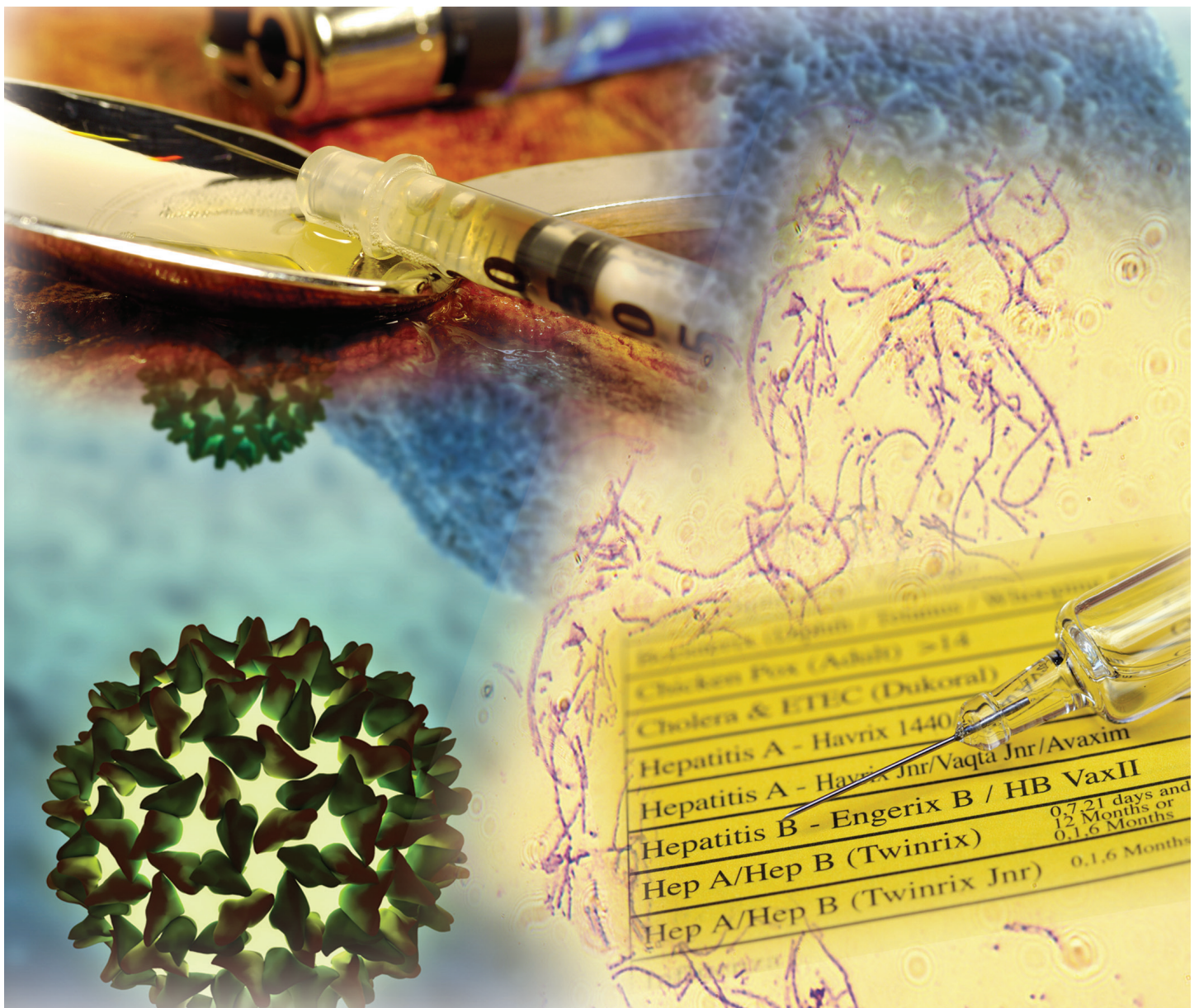


Shooting Up

Infections among people who inject drugs in the UK 2011

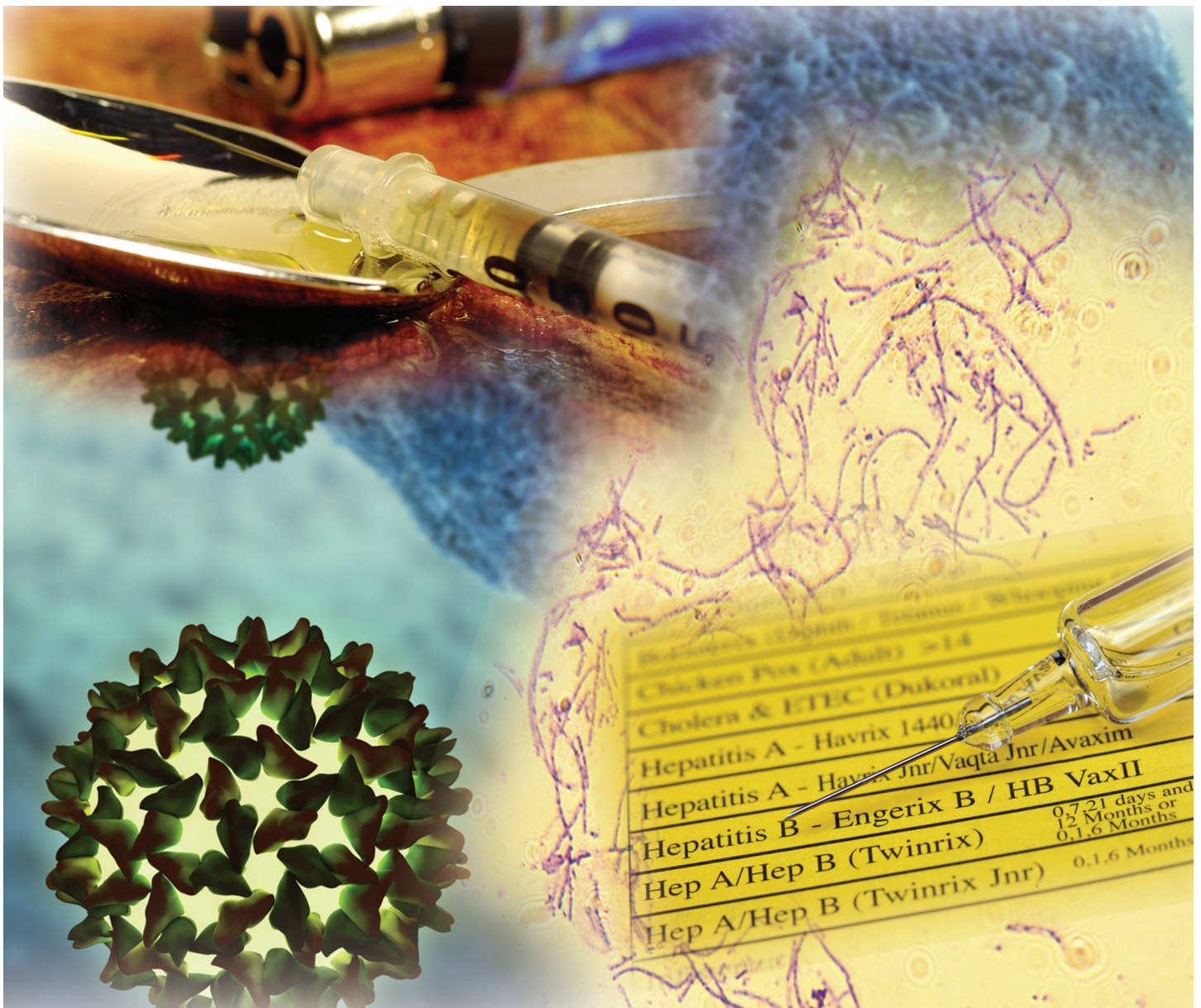
An update: November 2012



Shooting Up

Infections among people who inject drugs in the UK 2011

An update: November 2012



Key messages

- 1.** Hepatitis B infection among people who inject drugs has declined over the last decade. One in six people who inject drugs had ever been infected with the hepatitis B virus in 2011.
- 2.** This decline most probably reflects the marked increase in the uptake of the hepatitis B vaccine among people who inject drugs. Targeting vaccination to this group needs to be maintained if the current low level of new infections is to be sustained.
- 3.** Other infections remain common among people who inject drugs in the UK. Around half have been infected with hepatitis C, and around one in every 100 has HIV.
- 4.** Bacterial infections remain a problem among people who inject drugs, with almost one-third reporting a symptom of a bacterial infection (such as a sore or abscess) at an injecting site in the past year.
- 5.** Needle and syringe sharing is lower than a decade ago, although around one-sixth of people who inject drugs continue to share needles and syringes.

Suggested Citation:

Health Protection Agency, Health Protection Scotland, Public Health Wales, and Public Health Agency Northern Ireland. ***Shooting Up: Infections among people who inject drugs in the United Kingdom 2011***. London: Health Protection Agency, November 2012.

People who inject drugs (PWID) are vulnerable to a wide range of viral and bacterial infections. These infections can result in high levels of illness and in death, so public health surveillance of infectious diseases and the associated risk and protective behaviours among this group are important. This report describes time trends on the extent of infections among PWID in the UK to the end of 2011. This year's report focuses on hepatitis B virus infection.

Hepatitis B infection

In the UK, hepatitis B infection is usually acquired in adulthood, with sexual activity and 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 proportion of those infected as adults going on to develop chronic disease. Infection with hepatitis B is, however, preventable, using a safe and effective vaccine. There is also effective antiviral drug therapy to prevent those with chronic infection developing serious liver disease.

Reported diagnoses of hepatitis B

In England, a total of 589 cases of hepatitis B, classified as acute or probable acute infections, were reported from health protection units and laboratories in 2011. Of these cases, 296 (50%) had associated exposure information, and only 13 (4.4%) of these were associated with injecting drug use (Table 1). Overall heterosexual exposure (172, 58%) and homosexual exposure (59, 20%) were the most commonly reported routes of infection. In 2001, 37% of the acute hepatitis B cases reported in England were associated with injecting drug use, though it should be noted that these data were from a different system.

In Scotland and Northern Ireland, reported hepatitis B diagnoses encompass both acute and chronic infections. In Scotland, there were 846 reports in 2011, compared to a total of 357 in 2001. The increase in reports over time probably reflects a rise in chronic cases being clinically recognised. The proportion of reports indicating injecting drug use as the main risk factor has declined over time from 19% in 2001 to 0.6% in 2011 (Table 1); however, as risk factor information is rarely provided, this decline needs to be interpreted cautiously. In Northern Ireland, a total of 123 infections were reported in 2011, of which 15 were known to be acute. Some of these infections will have been related to injecting drug use; however, risk factor information is not available (Table 1).

Extent of ever infection with the hepatitis B virus

Overall in the UK, about one in six PWID have ever been infected with the hepatitis B virus. In 2011, 16% of the current and former injectors who took part in the Unlinked Anonymous Monitoring (UAM) Survey of PWID in contact with specialist services in England, Wales and Northern Ireland^a had antibodies to hepatitis B core antigen (anti-HBc, a marker of previous or current hepatitis B infection) (Figure 1, Table 1). The proportion of participants with anti-HBc was relatively stable between 2001 and 2006 (varying between 26% and 30%), but since then has declined (Figure 1, Table 1)^b. The prevalence of anti-HBc varied by country in 2011; in England the prevalence was 16% (down from 29% in 2001)^c, in Wales it was 11% (down from 23% in 2000/01)^d, and in Northern Ireland it was 10% (similar to the 13% found in 2004)^e.

^a Further details of the UAM Survey can be found on the HPA website: www.hpa.org.uk/web/HPAweb&HPAwebStandard/HPAweb_C/1202115519183. Where survey data has been previously published, just proportions are given in this report. Numerators and denominators can be found in the previous publications. Unless otherwise indicated, data comes from the survey data tables which are available from the above webpage.

^b After adjusting for age, gender, and region of recruitment in a multi-variable analysis the prevalence in 2011 was significantly different from 2001; the odds ratio in 2011 was 0.39 [95% CI: 0.34-0.46] compared to 1.00 in 2001 indicating a significant decrease overtime. Prevalence was also significantly lower in 2005 and every year from 2007 onwards. UAM Survey data tables, Table 2: www.hpa.org.uk/web/HPAweb&HPAwebStandard/HPAweb_C/1202115519183

^c After adjusting for age, gender and region of recruitment in England in a multi-variable analysis, the odds ratio in 2011 of 0.41 [95% CI: 0.35-0.48] was significantly different from the odds ratio of 1.00 in 2001 indicating a significant decrease in prevalence. The prevalence was lower than that in 2001 in all years except for 2002, 2003, 2004, and 2006. UAM Survey data tables, Table 11: www.hpa.org.uk/web/HPAweb&HPAwebStandard/HPAweb_C/1202115519183

^d After adjusting for age, gender and region of recruitment in Wales in a multi-variable analysis, the odds ratio in 2011 of 0.16 [95% CI: 0.078-0.32] was significantly different from the odds ratio of 1.00 in 2000/01 indicating a significant decrease in prevalence. The prevalence was lower than that in 2000/01 in all years except 2006, 2007, and 2008. UAM Survey data tables, Table 21: www.hpa.org.uk/web/HPAweb&HPAwebStandard/HPAweb_C/1202115519183

^e After adjusting for age, gender and region of recruitment in Northern Ireland in a multi-variable analysis, the odds ratio in 2011 of 3.1 [95% CI: 0.62-15] was not significantly different from the odds ratio of 1.00 in 2001 indicating no significant change in prevalence. UAM Survey data tables, Table 22: www.hpa.org.uk/web/HPAweb&HPAwebStandard/HPAweb_C/1202115519183

The prevalence of anti-HBc among recent initiates to injecting is likely to reflect recent transmission through injecting drug use. The UAM Survey found that prevalence among this group has fluctuated over the last decade, and was 5.9% in 2011 (Figure 1, Table1)^f. This suggests that the transmission of hepatitis B among PWID is continuing, albeit at lower levels than in the past.

Prevalence of current infection

The samples collected by the UAM Survey of PWID during 2011 that had anti-HBc detected were also tested for hepatitis B surface antigen (HBsAg), a marker of current infection. In 2011, 4.8% (21/433) of samples with anti-HBc had HBsAg detected. This represents 0.74% (21/2,829) of all the PWID surveyed in England, Wales and Northern Ireland that year. In Wales, data are also available from the monitoring of routine diagnostic testing undertaken in specialist drug services using dried blood spot samples. In 2011, of the 1,847 samples tested only 11 (0.60%)^g were positive for both HBsAg and anti-HBc. These findings indicate that the level of current hepatitis B infection among PWID is low.

Uptake of vaccination

The proportion of current and former injectors who took-up an offer of hepatitis B vaccination has increased markedly over the last ten years. In England, Wales and Northern Ireland vaccination uptake has increased from 37% in 2001 to 76% in 2011 (UAM Survey self-reported data, Figure 2, Table 3)^h. Self-reported vaccination uptake varied by country (Figure 3). In Wales uptake was 79% in 2011 (up from 17% in 2000/01), in Northern Ireland it was 68% (up from 49% in 2003/04) and in England it was 77% (up from 39% in 2001). Of those who reported vaccination in England, Wales and Northern Ireland, almost two-thirds (62%) self-reported receiving three or more doses in 2011, compared with only 49% in 2001ⁱ.

In Scotland, among individuals participating in a voluntary anonymous survey of PWID attending needle and syringe programmes (NSP)^j in 2011, 73% reported receiving at least one dose of hepatitis B vaccine (Figure 3). This compares to 69% in 2008/09.

The proportion of those PWID who had recently started injecting who took up an offer of hepatitis B vaccination is lower than among all injectors, but has increased over time. In England, Wales and Northern Ireland it has increased among this group from 28% in 2001 to 67% in 2011 (UAM Survey, Figure 2, Table 3)^k. In Scotland, 51% of the PWID who started injecting within the previous three years reported receiving at least one dose of the hepatitis B vaccine (voluntary anonymous survey of PWID attending NSP in 2011).

Update on other infections & behaviours

Information on the extent of other infections and key behaviours among those who have injected drugs can be found in the three tables appended to this report^l. Key points are summarised below.

^f After adjusting for age, gender and region of recruitment in a multi-variable analysis, the odds ratio for 2011 was 0.58 [95% CI: 0.31-1.10] compared to 1.00 in 2001 indicating a non-significant decrease in prevalence over time. UAM Survey data tables, Table 23: www.hpa.org.uk/web/HPAweb&HPAwebStandard/HPAweb_C/1202115519183

^g 95% CI: 0.3%-1.06%

^h After adjusting for age, gender and region of recruitment in a multi-variable analysis, the odds ratio for 2011 was 6.43 [95% CI: 5.69-7.26] compared to 1.00 in 2001 indicating a significant increase in uptake of the vaccine over time. UAM Survey data tables, Table 6: www.hpa.org.uk/web/HPAweb&HPAwebStandard/HPAweb_C/1202115519183

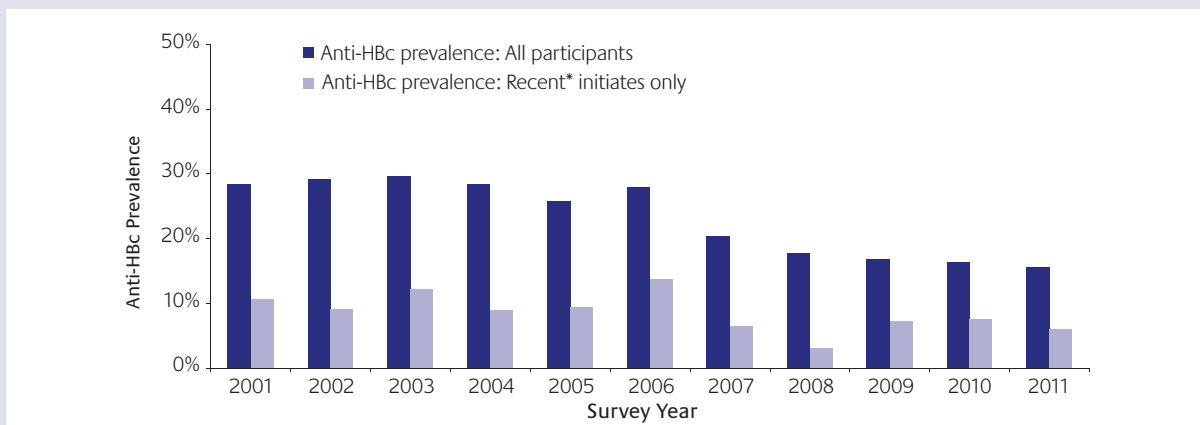
ⁱ 1,224 out of 1,972 reported three or more doses in 2011, with 517 out of 1,051 reporting this in 2001. After adjusting for age, gender and region of recruitment in a multi-variable analysis, the odds ratio for 2011 was 1.8 [95% CI: 1.5-2.1] compared to 1.00 in 2001 indicating a significant increase over time in the proportion of those taking-up the vaccine reporting they had received three or more doses.

^j The term 'Needle and Syringe Programmes (NSP)' is used in this report so as to reflect terminology used in the NICE public health guidance. However, NSP usually provide a range of drug using equipment in addition to needles and syringes. In Scotland this type of service is increasingly referred to as 'injecting equipment provision' (IEP). The term 'NSP' is used throughout this document while recognising that such services provide a range of injecting equipment, not just needles and syringes.

^k After adjusting for age, gender and region of recruitment in a multi-variable analysis, the odds ratio for 2011 was 5.1 [95% CI: 3.6-7.2] compared to 1.00 in 2001 indicating a significant increase in uptake of the vaccine over time. UAM Survey data tables, Table 23: www.hpa.org.uk/web/HPAweb&HPAwebStandard/HPAweb_C/1202115519183

^l Full data from the UAM survey can be found in the survey data tables at: www.hpa.org.uk/web/HPAweb&HPAwebStandard/HPAweb_C/1202115519183

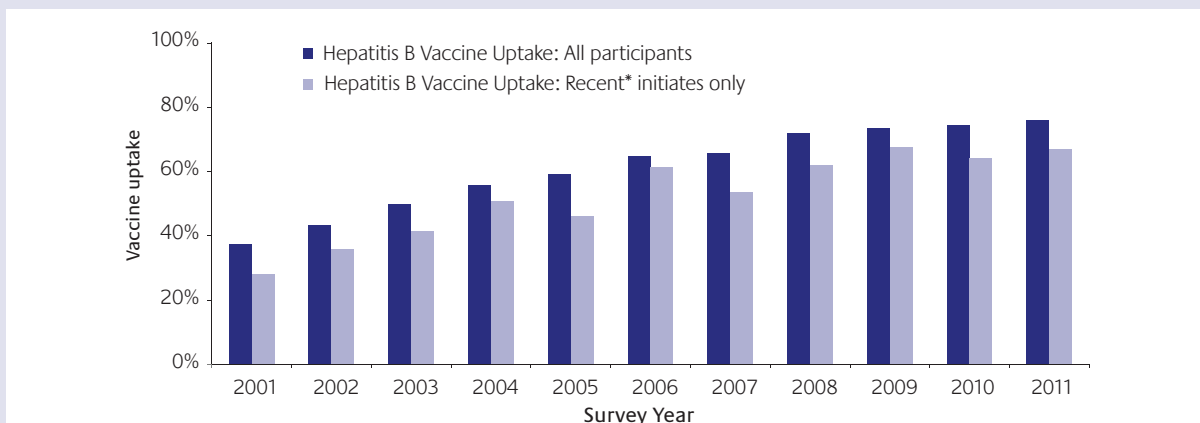
Figure 1: Prevalence of current or past hepatitis B infection among people who inject drugs, England, Wales & Northern Ireland: 2001 to 2011



* Those who first injected drugs during the three years prior to participating in the survey.

Data Source: Unlinked Anonymous Monitoring Survey of People Who Inject Drugs in contact with drug agencies. The biological sample collected in the survey was changed from an oral fluid to a dried blood spot (DBS) during 2009 and 2010. In 2011 only DBS samples were collected. The sensitivities of the tests on a DBS sample for antibodies to hepatitis B core antigen is close to 100%. However, the sensitivity of the oral fluid sample test for antibodies to the hepatitis B core antigen is about 75%. Data presented is adjusted for test sensitivity. Includes Northern Ireland from 2002.

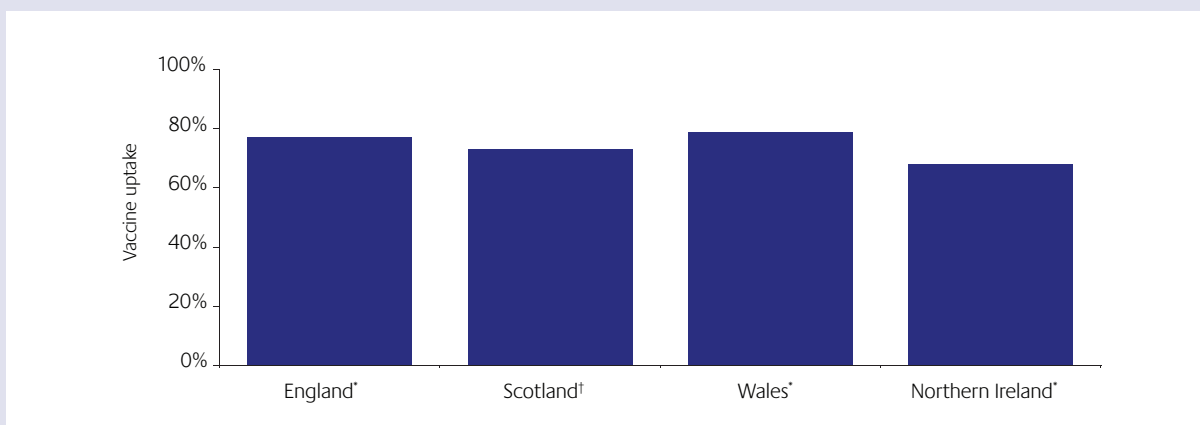
Figure 2: Uptake of the hepatitis B vaccine among people who inject drugs, England, Wales & Northern Ireland: 2001 to 2011



* Those who first injected drugs during the three years prior to participating in the survey.

Data Source: Unlinked Anonymous Monitoring Survey of People Who Inject Drugs in contact with drug agencies. Includes Northern Ireland from 2002. Self-reports.

Figure 3: Hepatitis B vaccine uptake among people who inject drugs in 2011, by country



* Unlinked Anonymous Monitoring Survey of People Who Inject Drugs in contact with drug agencies. Self-reports.

† Among individuals participating in a voluntary anonymous survey of People Who Inject Drugs attending needle and syringe programmes. Self-reports.

Hepatitis C: In 2011, 12,642 hepatitis C infections were diagnosed in the UK. Around 90% of these infections will have been acquired through injecting drug use (Table 1). UK-wide data indicate that around half of PWID are hepatitis C antibody positive: with 43% of those surveyed in England, Wales and Northern Ireland, and 53% of those surveyed in Scotland, having antibodies to hepatitis C (Table 1). Current levels of hepatitis C transmission among PWID appear to have changed little over the last decade, as 20% of recent initiates participating in the UAM Survey were infected in both 2011 and 2001 (Table 1). Uptake of voluntary confidential testing for hepatitis C has increased among current or previous injectors, with the proportion reporting having ever been tested in England, Wales and Northern Ireland rising from 54% in 2001 to 83% in 2011. Among PWID attending NSP in Scotland during 2010, 83% reported having ever been tested (Table 3).

HIV: There were 132 new HIV diagnoses associated with injecting drug use in 2011 (Table 1). HIV prevalence among PWID appears to be stable (Table 1). In England, Wales and Northern Ireland 1.2% of the participants in the UAM Survey in 2011 were infected. The HIV prevalence among PWID in the UK is low compared to many other European countries. The number of HIV-infected people seen for HIV treatment and care in the UK who had acquired their infection through injecting has increased over the past decade, with 1,636 seen in 2011 (Table 1). In 2011, 531 people who acquired their HIV-infection through injecting, and who were seen for care, had CD4 counts of 350 cells/mm³ or less; the recommended level to start anti-retroviral therapy¹. Among those seen for HIV treatment and care with CD4 counts of 350 or less in 2011, 87% of those who had acquired their infection through injecting were on anti-retroviral treatment (Table 1). HIV remains uncommon among PWID in the UK; however, there have been outbreaks of HIV among PWID elsewhere in Europe (see Box 1)

Box 1: HIV outbreaks among people who inject drugs in Europe

Two European countries – Romania & Greece – experienced outbreaks of HIV among PWID during 2011. A risk assessment² found an association between low and declining levels of prevention interventions and these outbreaks. In Romania, a switch from injecting opiates to injecting amphetamine-type stimulants, mostly synthetic cathinones, was also a factor. The risk assessment concluded that an increased focus on prevention measures, such as NSP and opiate substitution treatment, was essential to prevent further new HIV cases among PWID². Prior to the outbreaks, the HIV prevalence among PWID in Romania & Greece was similar to the low level in the UK. These outbreaks indicate the importance of maintaining adequate intervention coverage and being alert to the impact of changing patterns of drug use, which may lead to changes in high risk injecting practices.

Bacterial Infections: Symptoms of a possible injecting-site infection appear to be common among PWID. In 2011, 28% of PWID in England, Wales and Northern Ireland reported that they had experienced an abscess, sore or open wound, all possible symptoms of an injecting-site infection, during the last year (Table 2). This compares to 35% in 2006. *Staphylococcus aureus* and Group A streptococcal infections continue to cause severe illnesses (Table 2). Mandatory enhanced surveillance of meticillin-sensitive *S. aureus* (MSSA) bacteraemia cases in England started in 2011, and among the MSSA bacteraemia with risk factor information, 6.9% (190/2,740) were associated with injecting drug use (Table 2). There were no cases of anthrax, botulism and tetanus reported among PWID in the UK during 2011; however, anthrax cases among PWID re-emerged during 2012 (Box 2).

Risk Behaviours: The level of needle/syringe sharing (either borrowing or lending a used needle/syringe) reported in England, Wales and Northern Ireland has declined from 33% in 2001 to 17% in 2011 (Table 3). However in 2011, 24% of younger injectors (aged under 25 years) reported sharing.

In Scotland, among individuals attending drug treatment services who had injected in the previous month, there was a decline in needle/syringe sharing in the previous month from 22% during 2006/07 to 17% during 2010/11 (Table 3). Furthermore, in Scotland there was a decline in only borrowing used needles/syringes in the past month from 16% in 2006/07 to 11% in both 2009/10 and 2010/11. These declines have occurred during a period when NSP in the UK have been expanding; however further expansion is needed (Box 3).

Box 2: Anthrax among heroin users in Europe during 2012

Between June and the end of October 2012, 12 cases of anthrax have been reported among PWID in Europe: four cases in Germany, three in England, two in Denmark, one in France, one in Scotland, and one in Wales³. The cases are thought to be linked through exposure to heroin contaminated with anthrax spores. These are the first cases of anthrax among drug users in Europe since the outbreak during 2009/10 which principally affected Scotland (119 cases), but with cases also reported from England (five cases) and Germany (two cases). This indicates that PWID in the UK, and elsewhere in Europe, remain at risk of severe illnesses, such as anthrax, that are caused by spore forming bacteria.

Box 3: Coverage of Needle and Syringe Programmes (NSP).

NSP are providing sterile injecting equipment throughout the UK⁴. In Scotland, during 2009/10 approximately 4.7 million needles/syringes were distributed by 255 sites (up from 3.6 million by 188 sites in 2004/05). However, the estimated number distributed to each PWID during 2009/10 was approximately 200, which is less than the estimated average of 465 injections per year by each PWID⁴. Between 2008/09 and 2009/10 there was a several-fold increase in the number of items of injecting paraphernalia distributed to PWID in Scotland; the number of filters distributed increased six-fold (to approximately 2.5 million) and spoons/cookers four-fold (to approximately 2.4 million). In England, an indirect measure of NSP coverage is used. In 2011, this indicated that for 57% of PWID surveyed, the number of needles received from NSP was greater than the number of times they had injected⁴. The number of packs dispensed by NSP in Northern Ireland increased to 25,530 in 2011/12; this is around 10,000 more than in 2007/08. In Wales there were 247 NSP sites operating in 2011, which distributed 5,140,219 needles/syringes⁴. These data show that NSP provision in the UK is extensive, and that provision has increased. However, they also indicate a need to further increase the amount of equipment distributed.

Conclusions and Recommendations

The proportion of PWID who have ever been infected with hepatitis B has declined over time. In the early 1990s, around half of PWID had ever been infected with the hepatitis B virus⁵. This had declined to around one-quarter ever infected in 2001, and since then has fallen further to less than one-in-six now. This decline most probably reflects the success of public health interventions to improve the uptake of the hepatitis B vaccine among PWID^{5,6}. The routine offer of the hepatitis B vaccine to PWID attending NSP and other specialist drug services^m and prison vaccination programmes are probably responsible for the marked rise in the uptake of hepatitis B vaccination⁶. Almost four-fifths of PWID now report uptake of the vaccine compared to around one-quarter in the mid-1990s⁶.

HIV and hepatitis C infections continue to occur among PWID in the UK. Combined data from across the UK suggest that almost half have been infected with hepatitis C and that at around one

^m In England, the proportion of injectors, presenting for the first time to a drug treatment service within a given financial year, that were offered and accepted the hepatitis B vaccination (excluding those previously vaccinated, with acquired immunity or assessed as inappropriate to offer) increased from 18% in 2005/06 to 61% in 2010/11. Source: National Drug Treatment Monitoring System (NDTMS).

in 100 has HIV. Bacterial infections also remain a problem among PWID. Interventions that aim to prevent infections among PWID therefore need to be sustained, and the levels of provision reviewed to ensure adequate coverage^{7,8,9}.

Although the reported level of injecting-related equipment sharing has declined, large numbers of PWID still continue to report injecting practices that put them at risk of acquiring infections. Risk behaviours remain particularly common among younger PWID.

Those commissioning community-based services to reduce the harm associated with injecting drug use should give appropriate priority to preventing the spread of infections among PWID and reducing the harm that these infections cause. National drug strategies acknowledge that tackling drug-related harm is vital to reducing infections as a component of recovery^{10,11,12,13}. Responses should therefore be in line with these strategies, relevant action plans,^{14,15,16,17,18} related guidance,^{19,20,21,22,23,24,25,26} and local needs' assessments²⁷ through the provision of:

1. Drug treatment services, primary care services and NSP that ensure easy access to the following services:
 - a) Information and advice on safer injecting practices, avoiding injecting site infections, preventing blood-borne virus transmission and the safe disposal of used equipment.
 - b) Hepatitis B and tetanus vaccination and, where indicated, hepatitis A vaccination²⁸.
 - c) Diagnostic testing for HIV and hepatitis C, and as appropriate for hepatitis B, and care pathways for those infected. These should ensure that those who continue to inject after being diagnosed with hepatitis infection have access to antiviral treatments in line with Clinical Guidelines^{22,29}.
 - d) Health checks and treatment for injection site infections.
 - e) Interventions to decrease or stop injecting and to support safer injection practice where it continues.
2. A range of easily accessible NSP for all injectors, including those using drug treatment services in line with NICE and national guidance^{21,26}. These programmes should distribute sufficient injecting-related equipment to prevent sharing and to support hygienic injecting practice. They should also offer interventions that support entry into structured, recovery-focused treatment.
3. Drug treatment services that encourage drug users to reduce and cease injecting, reduce or stop their drug use, and support them in achieving recovery.

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Appendix

Table 1: Summary of indicators of viral hepatitis and HIV transmission among people who inject drugs in the United Kingdom

Indicator	Area	Sub-Category		2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Hepatitis C infection														
Reported laboratory diagnoses of hepatitis C infection*	England	Total number of reports: All exposures and exposure not known.	n	4,175	4,808	5,571	6,243	6,297	6,963	7,811	8,413	8,666	7,892	9,908
		Proportion of the reports with exposure data, in which injecting drug use was indicated [#]	%	95	96	95	96	96	95	98	99	97	93	97
	Wales	Total number of reports: All exposures and exposure not known.	n	256	284	262	186	278	315	317	473	335	312	474
		Proportion of the reports with exposure data, in which injecting drug use was indicated [#]	%	96	98	100	100	100	100	100	100	100	100	-
	Scotland	Total number of reports: All exposures and exposure not known.	n	1,683	1,773	1,646	1,658	1,613	1,531	1,553	1,624	2,038	2,131	2,147
		Proportion of the reports with exposure data, in which injecting drug use was indicated [#]	%	94	92	92	92	90	86	90	87	91	92	95
	Northern Ireland	Total number of reports: All exposures and exposure not known.	n	65	75	86	100	134	135	114	132	112	106	113
		Proportion of the reports with exposure data, in which injecting drug use was indicated [#]	%	75	89	86	100	93	100	100	88	-	-	-
Proportion hepatitis C antibody positive [†]	England, Wales & Northern Ireland [†]	Current & former injectors	%	39	42	46	45	45	44	43	43	47	47	43
		First injected during the preceding 3 years	%	20	16	21	21	18	23	23	24	24	23	20
Prevalence among those having voluntary confidential HIV tests [†]	Glasgow	Injectors: All ages	%	-	64		-	-	67	72	63	-	-	-
		Injectors: Age under 25 years	%	-	42		-	-	51	36	35	-	-	-
Proportion hepatitis C antibody positive [‡]	Scotland	Current & former injectors	%	-	-	-	-	-	-	-	55		57	53
		Injectors with less than 3 years since onset of injecting	%	-	-	-	-	-	-	-	24		25	19
Hepatitis B infection														
Reported laboratory diagnoses of hepatitis B infection*	England ^{††}	Total number of reports: All exposures and exposure not known.	n	554	829	676	-	-	-	-	-	-	-	-
		Proportion of the reports with exposure data, in which injecting drug use was indicated [#]	%	37	37	38	-	-	-	-	-	-	-	-
		Total number of reports: All exposures and exposure not known.	n	-	-	-	-	-	-	-	620	597	512	589
		Proportion of the reports with exposure data, in which injecting drug use was indicated [#]	%	-	-	-	-	-	-	-	10	13	2.5	4.4
	Wales ^{††}	Total number of reports: All exposures and exposure not known.	n	44	55	25	-	-	-	-	-	-	-	-
		Proportion of the reports with exposure data, in which injecting drug use was indicated [#]	%	39	69	27	-	-	-	-	-	-	-	-
	Scotland ^{††}	Total number of reports: All exposures and exposure not known.	n	357	354	342	341	372	375	475	615	775	835	846
		Proportion of the reports with exposure data, in which injecting drug use was indicated [#]	%	19	11	6.4	6.5	5.9	3.5	1.7	0.3	0.9	0.8	0.6
Northern Ireland ^{†††}	Total number of reports: All exposures	n	37	67	62	59	72	76	104	101	87	101	123	
Proportion hepatitis B antibody positive [†]	England, Wales & Northern Ireland [†]	Current & former injectors	%	28	29	30	28	26	28	20	18	17	16	16
		First injected during the preceding 3 years	%	11	9.1	12	8.9	9.4	14	6.3	3.1	7.1	7.4	5.9
HIV infection														
Reports of new diagnoses of HIV infection through injecting drug use [†]	London	Total number of reports: Injecting drug use	n	61	68	69	69	66	96	75	59	46	41	35
	Scotland	Total number of reports: Injecting drug use	n	21	12	14	12	21	17	7	15	15	16	17
	Rest of UK	Total number of reports: Injecting drug use	n	69	53	84	75	98	82	95	105	87	87	80
	UK	Total number of reports: Men who have sex with men also reporting injecting drug use	n	22	29	21	16	22	14	17	13	14	12	5
Prevalence among those having voluntary confidential HIV tests	Scotland	All injectors tested	%	0.7	0.5	0.6	0.5	0.9	0.7	0.3	0.5	0.4	0.4	-
Proportion HIV antibody positive [~]	England, Wales & Northern Ireland [†]	Current & former injectors	%	1.0	0.9	1.2	1.4	1.6	1.3	1.1	1.6	1.5	1.1	1.2
		First injected during the preceding 3 years	%	0.4	0.2	0.8	0.6	1.3	0.8	1.0	1.3	0.7	0.5	0
HIV diagnosed persons who reported injecting drug use accessing HIV related care	UK	Total number of HIV diagnosed persons who reported injecting drug use accessing HIV related care	n	1,158	1,170	1,219	1,270	1,343	1,382	1,437	1,500	1,556	1,569	1,636
		Number of HIV diagnosed persons who reported injecting drug use accessing care with CD4 counts less than 350	n	452	514	528	560	574	553	543	575	511	499	531
		Proportion HIV diagnosed persons who reported injecting drug use with CD4 counts less than 350 on anti-retroviral treatment ^{‡‡}	%	71	77	79	78	82	77	76	85	82	86	87

Data on exposure is often incomplete or missing.

^ Includes Northern Ireland from 2002.

~ Unlinked Anonymous Monitoring Survey of People Who Inject Drugs in contact with drug services: www.hpa.org.uk/web/HPAweb&HPAwebStandard/HPAweb_CJ/1202115519183

* Numbers may be subject to revision due to reporting delay.

** Scottish data cannot reliably 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, 20 in 2005, 17 in 2006, 26 in 2007, 19 in 2008, 26 in 2009, 24 in 2010 and 15 in 2011.

† Unlinked anonymous HCV testing of residual sera from PWID having a voluntary confidential HIV test.

†† Publication of hepatitis B surveillance was stopped between 2004 and 2007 due to problems with the routine laboratory surveillance system. Cases of acute hepatitis B are now reported nationally from local health protection units (HPUs) and combined with laboratory data.

‡ Denotes past or current infection with hepatitis B/C. Prior to 2009 this survey only collected oral fluid samples, however in 2009 and 2010 both oral fluid and dried blood spot (DBS) samples were collected from participants. The sensitivities of the tests on DBS samples for antibodies to hepatitis C and hepatitis B core antigen are almost 100%. However, the sensitivity of the Oral Fluid sample test for antibodies to hepatitis C is about 92% and that for antibodies to the hepatitis B core antigen is about 75%. Results presented are adjusted to allow for the poorer sensitivity of the tests on the Oral Fluids samples.

‡‡ The proportion of PWID with CD4 counts less than 350 who are on antiretroviral treatment

§ Among individuals participating in a voluntary anonymous survey of people who inject drugs attending needle and syringe programmes.

Table 2: Summary of indicators of viral hepatitis and HIV transmission among people who inject drugs in the United Kingdom

Indicator	Area	Sub-Category		2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Spore forming bacterial infections														
Reported cases of Wound Botulism	UK	Exposure injecting drug use	n	4	19	15	41	28	21	3	4	20	3	0
Reported cases of Tetanus	UK	Exposure injecting drug use	n	0	0	11	15	5	0	2	0	1	1	0
Reported cases of Anthrax	UK	Exposure injecting drug use	n	0	0	0	0	0	0	0	0	13	39	0
Group A streptococci (GAS) infections														
GAS isolate referrals to the HPA's Streptococcus and Diphtheria Reference Unit	UK	Isolates with risk factor injecting drug use	n	49	136	286	122	46	47	31	27	14	16	6
		Proportion of all sterile site isolates	%	6.7	15	22	11	4.5	3.9	3.4	2.2	0.9	1.1	0.5
Meticillin-resistant S. aureus (MRSA) infections														
Mandatory enhanced surveillance of MRSA bacteraemias*	England	Isolates with risk factor injecting drug use	n	-	-	-	-	-	31	70	47	27	19	7
		Proportion of all isolates, with exposure data, indicating injecting drug use#	%	-	-	-	-	-	2.9	3.4	3.0	3.0	2.9	1.6
Meticillin-sensitive S. aureus (MSSA) infections														
Mandatory enhanced surveillance of MSSA bacteraemias	England	Isolates with risk factor injecting drug use	n	-	-	-	-	-	-	-	-	-	-	190
		Proportion of all isolates, with exposure data, indicating injecting drug use#	%	-	-	-	-	-	-	-	-	-	-	-
Symptoms of a possible injection site bacterial infection														
Having had an abscess, sore, or open wound at an injection site in last year: self-reports~	England, Wales & Northern Ireland^	Those who had last injected during the preceding 12 months**	%	-	-	-	-	-	35	38	34	35	35	28

Data on exposure is often incomplete or missing.

^ Includes Northern Ireland from 2002.

** Abscess, sore or open wound at an injection site in last year.

~ Unlinked Anonymous Monitoring Survey of People Who Inject Drugs in contact with drug services: [www.hpa.org.uk/web/HPAweb&HPAwebStandard/HPAweb_C/120211 519183](http://www.hpa.org.uk/web/HPAweb&HPAwebStandard/HPAweb_C/1202115519183)

Table 3: Summary of indicators of risk and protective behaviours related to infections among people who inject drugs in the United Kingdom

Indicator	Area	Sub-Category		2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Risk Behaviours														
Passing on or receiving used needles or syringes in the last month: self reported~	England, Wales & Northern Ireland^	Current injectors	%	33	34	29	28	28	23	23	19	19	21	17
		Current injectors aged under 25 years	%	36	44	37	36	38	29	26	22	27	30	24
		Current injectors who first injected during the preceding 3 years	%	28	33	28	27	28	21	25	17	17	21	19
Sharing of needles and syringes in past month: agency reports [§]	Scotland	Current injectors	%	35	33	34	31	27	-	-	-	-	-	-
Sharing of any injecting equipment in past month: self reported~	England, Wales & Northern Ireland^	Current Injectors	%	59	60	55	55	53	48	47	41	37	40	37
Markers of health care utilization														
Ever used a needle and syringe programme: self reported~	England, Wales & Northern Ireland^	Current & former injectors	%	90	90	90	88	90	91	92	91	92	91	92
Ever had a voluntary confidential test for hepatitis C: self reported	England, Wales & Northern Ireland^~	Current & former injectors	%	54	58	63	67	71	75	74	77	81	82	83
	Scotland [§]	Current & former injectors	%	-	-	-	-	-	-	-	74	77	83	
Proportion of those unaware that they have hepatitis C infection: self reported	England, Wales & Northern Ireland^~	Current & former injectors anti-HCV positive	%	59	58	54	49	48	45	48	50	49	45	49
	Scotland* [§]	Current & former anti-HCV positive injectors	%	-	-	-	-	-	-	-	54	45	42	
Hepatitis B vaccine uptake (receiving at least one dose of Hepatitis B vaccine): self reported	England, Wales & Northern Ireland^~	First injected during the preceding 3 years	%	28	36	42	51	46	61	54	62	68	64	67
		Current & former injectors	%	37	43	50	56	59	65	66	72	73	74	76
	Scotland [§]	Injectors with less than 3 years since onset of injecting	%	-	-	-	-	-	-	-	51	52	51	
Ever had a voluntary confidential test for HIV: self reported~	England, Wales & Northern Ireland^	Current & former injectors	%	55	58	62	63	66	69	68	72	75	75	77
Proportion of those unaware that they have HIV infection: self reported~	England, Wales & Northern Ireland^	Current & former injectors anti-HIV positive	%	40	21	31	50	53	36	36	36	37	11	12

^ Includes Northern Ireland from 2002.

~ Unlinked Anonymous Monitoring Survey of People Who Inject Drugs in contact with drug services: www.hpa.org.uk/web/HPAweb&HPAwebStandard/HPAweb_C/1202115519183

* Figures for 2008/09 are not directly comparable to those from 2010 and 2011, as the response categories differ between the surveys.

§ Scottish drug misuse database: data are for financial years, for example, 2002 data relates to 2002/03 financial year. The data collection process for the Scottish Drug Misuse Database (SDMD) was revised in April 2006 and is not directly comparable.

§ Among individuals participating in a voluntary anonymous survey of people who inject drugs attending needle and syringe programmes.

Data Sources

Reports of HIV infection

Voluntary confidential reports of new HIV diagnoses are received from laboratories and clinicians in England, Wales, and Northern Ireland by the Health Protection Agency (HPA). Scottish and paediatric data are collected locally and incorporated with data from England, Wales and Northern Ireland on a half-yearly basis to create 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 are now collected on the clinician HIV report.

HIV-infected individuals accessing HIV-related care

Cross-sectional surveys are 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. Scottish and paediatric data are collected locally and incorporated annually to create a UK dataset.

Laboratory reports of viral hepatitis and bacterial infection

Clinically significant infections diagnosed in England, Wales and Northern Ireland are statutorily notified routinely to the HPA and held on a central system known as LabBase2. LabBase2 is, therefore, one of the most comprehensive sources of surveillance data, covering nearly all microbiologically-confirmed infections. Data on infections caused by hepatitis 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. For acute hepatitis B, laboratory surveillance data for England is combined with data collected from Health Protection Units.

In Scotland, Health Protection Scotland (HPS) collates data on all confirmed hepatitis C antibody tests from the main hepatitis C testing laboratories in Glasgow, Edinburgh, Dundee and Aberdeen. Laboratory reports of all HBsAg positive diagnosis are collated through the Electronic Communication of Surveillance in Scotland system (ECOSS).

In Northern Ireland the Public Health Agency (PHA) collates data on all confirmed hepatitis C antibody tests from the Regional Virus Laboratory in Belfast.

The Unlinked Anonymous Monitoring (UAM) Survey of PWID

The UAM Survey of PWID monitors HIV, hepatitis B and hepatitis C in PWID in contact with specialist services, such as needle and syringe programmes, or on treatment programmes, such as methadone maintenance. Those who agree to participate provide either an oral fluid sample or, since 2009, dried blood spot sample, and

complete a behavioural questionnaire. Detailed methods used for the survey have been published previously^{1,2}. The survey has been ongoing since 1990 in England and Wales and was extended to Northern Ireland in 2002.

Further information about the UAM and comprehensive tables of data are available at: www.hpa.org.uk/web/HPAweb&HPAwebStandard/HPAweb_C/1202115519183

Unlinked Anonymous Hepatitis C Testing (UAT) of stored samples from PWID in Scotland

Health Protection Scotland holds epidemiological information, including risk category (e.g. IDU) and laboratory number, on all persons who have had a named HIV antibody test in Scotland since 1989. This allows the identification of residual blood from PWID held at participating laboratories, which had been stored following their HIV antibody tests. Prior to testing for hepatitis C antibodies, patient identifiers are irreversibly unlinked from their corresponding specimens, although selected non-identifying information (gender, age group, source laboratory/geographical area) is retained for epidemiological purposes. This study ceased in 2008.

Needle Exchange Surveillance Initiative (NESI)

The aim of NESI is to measure and monitor the prevalence of hepatitis C and injecting risk behaviours among PWID in Scotland. The initiative is funded by the Scottish Government as part of the Scottish Hepatitis C Action Plan. A cross-sectional voluntary anonymous survey approach is used to recruit and interview PWID. Trained interviewers recruit participants from selected needle exchange services and pharmacies that provide injecting equipment. Clients attending these services are invited to take part if they have ever injected drugs. After providing informed consent, participants complete a short interviewer-administered questionnaire and provide a voluntary blood spot sample for anonymous hepatitis C testing³.

Reference laboratory submissions

The key source of data on MRSA infections in PWID is through referral of isolates to the Laboratory of Staphylococcus Reference Unit (part of the HPA) for reference microbiology.

Isolate referrals to the national reference laboratory, the Respiratory and Systemic Infection Laboratory (part of the HPA), are one of the primary sources of Group A Streptococcal (GAS) infection reports.

Data on clostridial infections are also available from reference microbiology work. The Foodborne Pathogens Reference Unit carries out reference microbiology work for botulism; the Respiratory and Systemic Infection Laboratory covers tetanus and the Anaerobe Reference Laboratory, NPHS Microbiology Cardiff undertakes this work for the other clostridia.

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 (hepatitis C is not notifiable in Northern Ireland). Invasive group A streptococcal infections are also notifiable, but no information on patient risk factors is requested with the notification.

Mandatory enhanced surveillance of MRSA and MSSA bacteraemia

English NHS acute and foundation trusts have been required to report diagnoses of MRSA bacteraemia to the enhanced surveillance system since October 2005. Prior to this, aggregate data were collected (from April 2001). In addition to mandatory information regarding the patient and specimen, the enhanced surveillance system also collects further information concerning the consultant specialty, risk factors (including injecting drug use) and care details at the time the blood sample was taken. Enhanced surveillance of MSSA bacteraemia was added in January 2011. Analysis of MRSA and MSSA bacteraemia data categorises episodes as “trust apportioned” and “non-trust apportioned” to provide some indication of whether or not the bacteraemia was probably acquired within that trust during that admission (trust apportioned) or not (non-trust apportioned). Non-trust apportioned bacteraemias may have been acquired during a previous healthcare interaction. Trust apportioned episodes include patients who are (i) inpatients, day-patients, emergency assessment patients; AND (ii) have had a specimen taken at an acute trust; AND (iii) specimen is three or more days after date of admission (admission date is considered day ‘1’). All other episodes are classified as non-trust apportioned.

Enhanced surveillance of tetanus

Enhanced surveillance of tetanus is carried out by the HPA Immunisation, Hepatitis and Blood Safety Department: www.hpa.org.uk/infections/topics_az/tetanus/menu.html

Surveillance of wound botulism

Surveillance of wound botulism among PWID is carried out by the HPA HIV & STI Department, with the Foodborne Pathogens Reference Unit. Reports are followed up with a surveillance questionnaire. www.hpa.org.uk/Topics/InfectiousDiseases/InfectionsAZ/Botulism/GeneralInformation/botu020WoundbotulismcasesassociatedwithIDU/

Outbreaks of Anthrax among drug users

Information on Anthrax among drug users is derived from outbreak investigations. www.hps.scot.nhs.uk/giz/anthraxoutbreakdecember2009december2010.aspx
www.hpa.org.uk/Topics/InfectiousDiseases/InfectionsAZ/Anthrax/AnthraxOutbreakInformation/

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- 2 Noone A, Durante AJ, Brady AR, Majid F, Swan AV, Parry JV, et al. HIV infection in injecting drug users attending centres in England and Wales, 1990-1991. *AIDS* 1993; 7: 1501-7
- 3 University of the West of Scotland, Health Protection Scotland and West of Scotland Specialist Virology Centre. The Needle Exchange Surveillance Initiative (NESI): Prevalence of HCV and injecting risk behaviours among injecting drug users attending needle exchanges in Scotland, 2008/2009. University of the West of Scotland, April 2010

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November 2012
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