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Unlinked anonymous HIV and viral hepatitis monitoring among PWID: 2018 report

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New data from the ongoing Unlinked Anonymous Monitoring Survey of HIV and Viral Hepatitis among People Who Inject Drugs (PWID) have been published on the PHE website; the updated sets of tables present data for the period 2007 to 2017 inclusive [1]. Data from 1990 to 2006 inclusive can be found in previous years' data tables [2]. In addition to data for the whole of England, Wales and Northern Ireland (the areas covered by this survey), the tables include data for each country and the regions of England.

This article presents an overview of the trends between 2007 and 2017 for HIV, hepatitis B, hepatitis C and risk behaviours from the main Unlinked Anonymous Monitoring Survey, which is targeted at people who inject psychoactive drugs, such as heroin, crack cocaine and amphetamines. Further data from this survey related to hepatitis C will be reported in the *Hepatitis C in the UK: 2018 report*, to be published later this year. The previous year's report can be found online [3].

HIV among people injecting psychoactive drugs

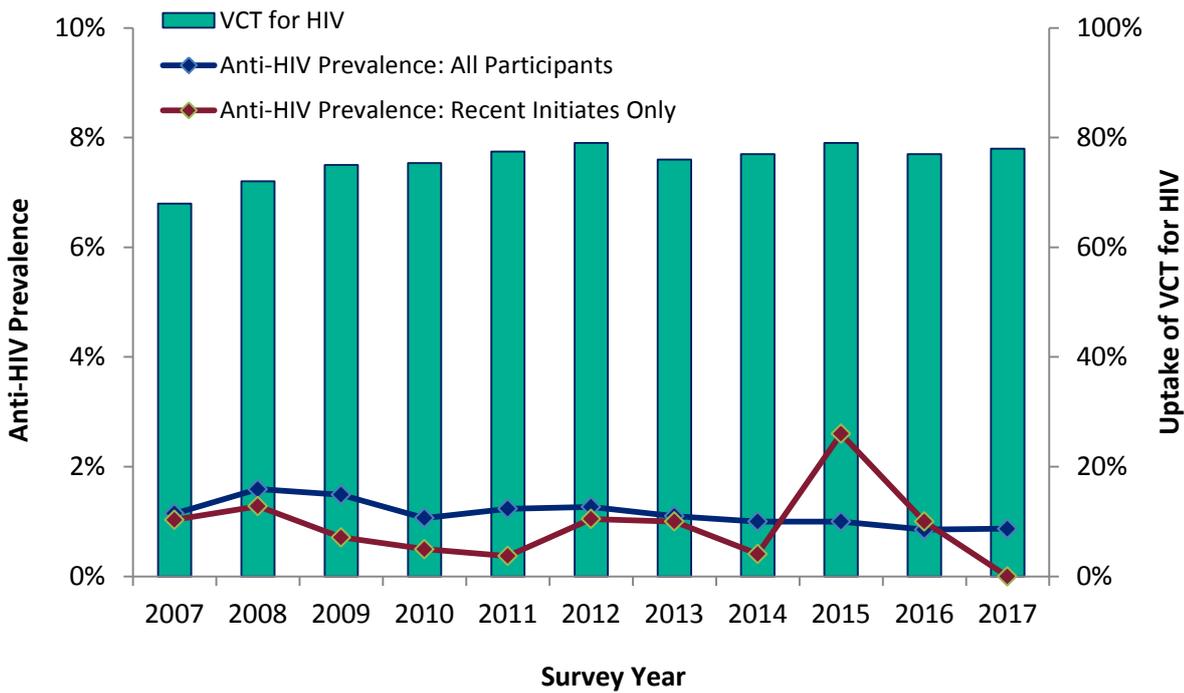
The prevalence of HIV among the 2,656 PWID who took part in the main Unlinked Anonymous Monitoring Survey across England, Wales and Northern Ireland in 2017 was 0.87% (95% CI, 0.51%-1.2%). Between 2007 and 2017, prevalence varied between 1.6% and 0.85% (see figure 1; and table 1 of the dataset). The HIV prevalence in Wales was 0.94% (95% CI, 0%-2.3%) and in Northern Ireland 0% (95% CI, 0%-5.1%) in 2017. In England, the HIV prevalence was 0.87% (95% CI, 0.51%-1.3%) in 2017; this was not significantly different from that found in 2007 when the prevalence was 1.2% (95% CI, 0.87%-1.7%); see table 11 of the data set; and statistical note a).

The HIV prevalence among "recent initiates" to injecting drug use (those who first injected during the preceding three years) is an indicator of recent transmission. The prevalence of HIV among the recent initiates taking part in the survey across England, Wales and Northern Ireland ranged from 0% to 2.6% over the time period between 2007 and 2017. In 2017, the

prevalence in this group was lower than previous years at 0% (95% CI, 0 %-2.1%; see figure 1; table 23 of the dataset; and statistical note b).

The self-reported uptake of voluntary confidential testing (VCT) for HIV among the survey participants across England, Wales and Northern Ireland has increased significantly since 2007; rising from 68% (95% CI, 66%-70%) in 2007 to 78% (95% CI, 76%-79%) in 2017 (see figure 1; table 7 of the dataset; and statistical note c). The proportion of the participants with antibodies to HIV, who reported that they were aware of their HIV infection was 90% (95% CI, 70%-97%) in 2017, which is an increase from 64% (95%CI, 47%-78%) in 2007 (see table 7 of the dataset, and statistical note d).

Figure 1. Prevalence of anti-HIV and uptake of voluntary confidential testing (VCT) for HIV among participants in the Unlinked Anonymous Monitoring Survey of PWID: England, Wales and Northern Ireland: 2007-2017



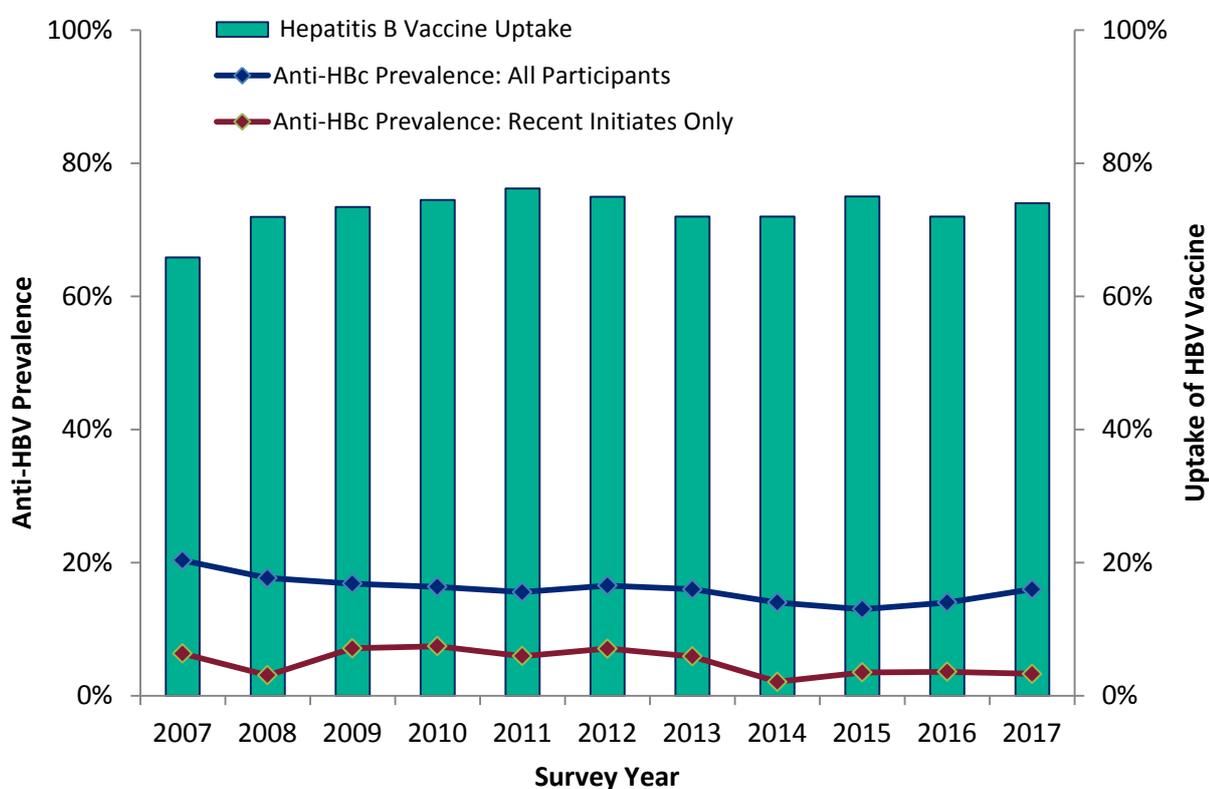
Note: A recent initiate is someone who first injected during the preceding three years.

Hepatitis B among people injecting psychoactive drugs

The prevalence of antibodies to the hepatitis B core antigen (anti-HBc, a marker of past or current infection with hepatitis B) among the survey participants across England, Wales and Northern Ireland was lower in 2017 (16%, 95% CI, 15%-17%) than in 2007 (20%, 95%CI 19%-21%) (figure 2; table 2 of the dataset; and statistical note e). By country, anti-HBc prevalence in 2017 was as follows: Northern Ireland, 4.2% (95% CI, 0.92%-12%, table 22); Wales, 8.5% (95% CI, 5.1%-13%; table 21 of the dataset); and England, 17% (95% CI, 16%-19%; table 11 of the dataset).

The prevalence of anti-HBc among the recent initiates to injecting drug use taking part in the survey across England, Wales and Northern Ireland was 3.3% (95% CI, 0.67%-5.9%) in 2017. Prevalence in this group had fluctuated between 7.4% and 2.1% between 2007 and 2017, with the prevalence in 2017 not significantly lower than that in 2007 (6.3%, 95% CI, 3.9%-9.2%; see figure 2; table 23 of the dataset; and statistical note f).

Figure 2. Prevalence of anti-HBc and uptake of the vaccine against hepatitis B among participants in the Unlinked Anonymous Monitoring Survey of PWID: England, Wales and Northern Ireland: 2007-2017



Note: A recent initiate is someone who first injected during the preceding three years.

The samples that had anti-HBc detected were also tested for hepatitis B surface antigen (HBsAg), a marker of current infection. In 2017, 1.2% (5/425, 95% CI, 0.14%-2.2%) of samples with anti-HBc had HBsAg detected. This represents 0.19% (5/2,655, 95% CI, 0%-0.44%) of all the PWID tested in England, Wales and Northern Ireland in 2017.

The survey also monitors, through self-reports, the uptake of hepatitis B vaccine (table 6 of the dataset; and statistical note g). Vaccine uptake among the survey participants, although increased from 66% (95%CI 64%-67%) in 2007, has plateaued around 72% between 2008 and 2017 (2017: 74% 95%CI 72%-75%). In 2017, hepatitis B vaccine uptake was particularly low in the under-25 age group at 64% (95%CI 52%-74%), which is a drop from 76% in 2011 (95%CI 70%-81%), and among those who began injecting in the last three years: 57% (95%CI 49%-64%; table 23), which is a drop from 67% in 2011 (95%CI 61%-72%). Vaccine uptake also decreased in the 25-34 years age group from 79% (95%CI 77%-82%) in 2011 to 72% (95%CI 69%-76%) in 2017. There was no difference in hepatitis B vaccine uptake between male (74%, 95%CI 72%-76%) and female participants (74%, 95%CI 71%-77%) in 2017.

Hepatitis C among people injecting psychoactive drugs

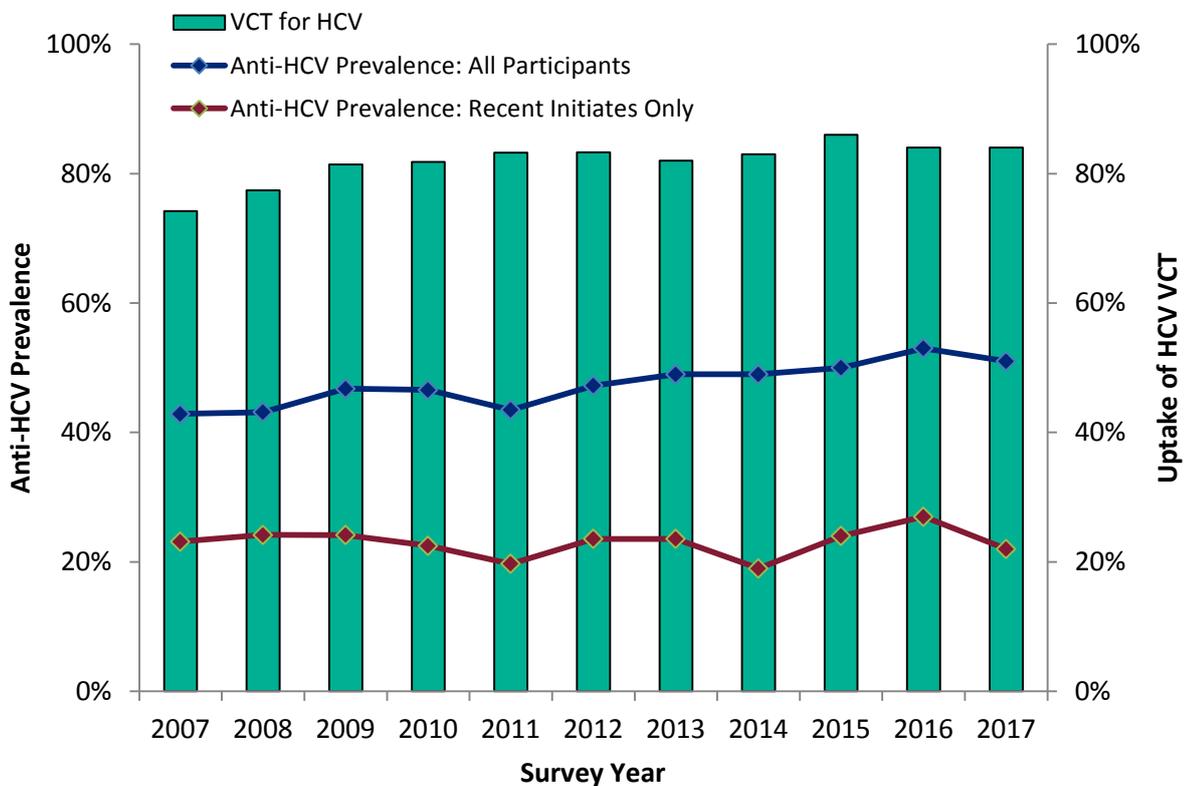
The prevalence of antibodies to the hepatitis C virus (anti-HCV) among the survey participants across England, Wales and Northern Ireland was 51% (95% CI, 50%-53%) in 2017. This is significantly higher than the anti-HCV prevalence of 43% (95% CI, 41%-45%) seen in 2017, (see figure 3; table 3 of the dataset; and statistical note h). However, the level seen during the last decade, though a little higher than at the end of the 1990s, is much lower than that found in the early 1990s when prevalence was over 60% [4]. By country, anti-HCV prevalence in 2017 was as follows: Northern Ireland, 23% (95% CI, 13%-32%; see table 22 of the dataset); Wales, 50% (95% CI, 43%-57%; see table 21 of the dataset); and England, 66% (95% CI, 50%-54%; see table 11 of the dataset). The anti-HCV prevalence in England and Wales has increased significantly over the last decade (see table 11 and 21 of the dataset; and statistical notes i and j). In Northern Ireland, anti-HCV prevalence decreased over the last decade from 31% (95%CI 23%-39%) in 2007 (see table 22 of the dataset; and statistical notes k).

The prevalence of anti-HCV among the recent initiates taking part in the survey across England, Wales and Northern Ireland was 22% (95% CI, 16%-28%) in 2017. This is a similar level to that seen in 2007 of 21% (95% CI, 16%-26%) (see figure 3; table 23 of the dataset; and statistical note l).

The prevalence of HCV RNA, an indicator of current infection, has been measured for the first time in the 2017 survey. Among those with antibodies against HCV, indicating *ever* have been infected with HCV, the prevalence of HCV RNA among the survey participants across England, Wales and Northern Ireland was 49% (95% CI, 46%-52%) in 2017 (see table 3 of the dataset). By country, HCV RNA prevalence in 2017 was as follows: Northern Ireland, 38% (95% CI 11%-64%); Wales, 41% (95% CI 31%-51%); and England, 50% (95% CI 47%-53%).

There has been a significant increase over the past decade in the self-reported uptake of VCT for hepatitis C among the survey participants, with the proportion of survey participants ever tested rising from 74% (95% CI, 73%-76%) in 2007 to 84% (95% CI, 82%-85%) in 2017 (see figure 3; table 8 of the dataset; and statistical note m). Among recent initiates to injecting, 59% (95%CI, 52%-66%) reported uptake of VCT for hepatitis C, which is similar to 56% (95%CI, 52%-60%) in 2007. The proportion of the participants with anti-HCV, who answered the questions on the uptake of VCT for hepatitis C and reported that they were aware of their hepatitis C infection was 66% (95% CI, 63%-68%) in 2017 (see table 8 of the dataset). Due to changes in survey questions regarding awareness of HCV infection status, data from 2017 are not directly comparable to previously collected data. Among recent initiates, the proportion of participants with anti-HCV who reported they were aware of their hepatitis C infection was lower at 39% (95% CI, 24%-56%), indicating that in this sub-group nearly two-thirds remain undiagnosed (see table 23 and statistical note n).

Figure 3. Prevalence of anti-HCV and uptake of voluntary confidential testing (VCT) for hepatitis C among participants in the Unlinked Anonymous Monitoring Survey of PWID: England, Wales and Northern Ireland: 2007-2017



Note: A recent initiates is someone who first injected during the preceding three years.

Symptoms of an infection at an injection site among people injecting psychoactive drugs

Symptoms of a possible injection site infection are common among PWID across England, Wales and Northern Ireland. In 2017, 50% (95% CI, 47%-52%) of PWID who had injected during the preceding year reported that they had experienced an abscess, sore or open wound at an injection site – all possible symptoms of an injection site infection - during the preceding year (see table 9 of the dataset). Questions regarding symptoms of injection site infections have been updated and as a result, data collected in 2017 is not comparable to previously collected data. Data from previous years can be found online [1]. The levels of possible injection site infection were particularly high among the over-35 year age group at 51% (95%CI, 47%-54%).

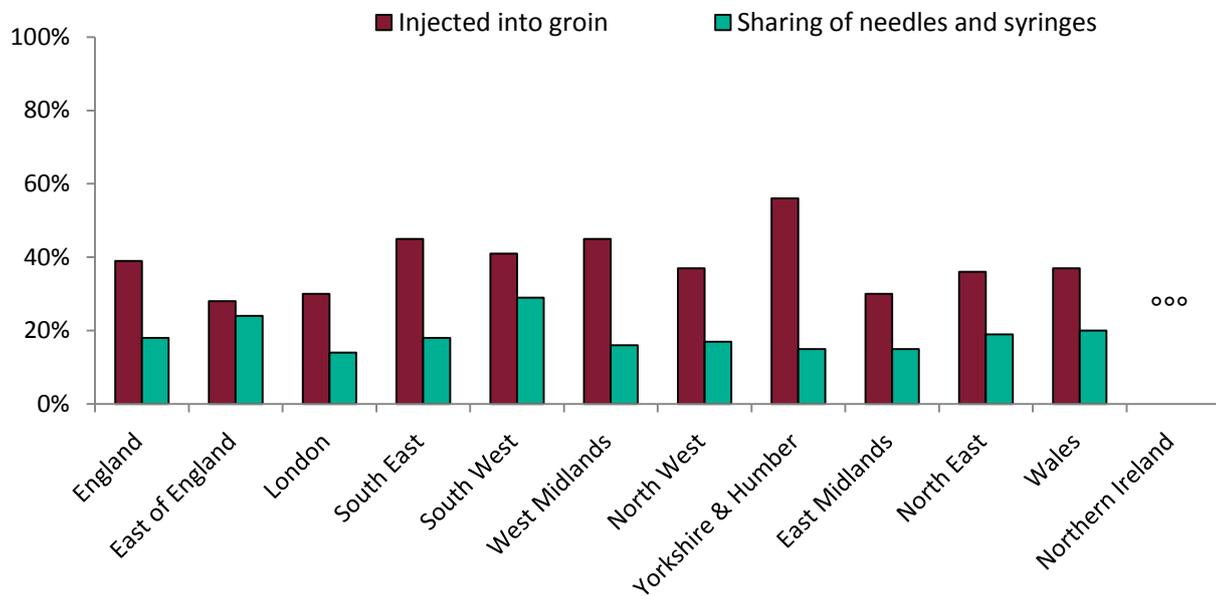
Behavioural factors among people injecting psychoactive drugs

The level of needle and syringe (direct) sharing reported by participants in the survey from across England, Wales and Northern Ireland who had injected during the preceding four weeks has declined, with sharing falling from 23% (95% CI, 22%-25%) in 2007 to 18% (95% CI, 16%-20%) in 2017 (see table 4 of the dataset; and statistical note o). Direct sharing was reported by 18% (95%CI 12%-26%) of recent initiates, which is lower than levels reported in 2007 (25%, 95%CI, 21%-30%). Throughout the period 2007 to 2017 direct sharing levels were consistently higher among female than male participants; in 2017, 22% (95% CI, 17%-26%) of females reported direct sharing compared to 17% (95% CI, 15%-19%) of males. Levels of direct sharing in the 25-34 years age-group increased in recent years: from 14% (95%CI 12%-17%) in 2012 to 23% (95% CI 19%-27%) in 2017.

Injecting into the groin has been associated with a number of health problems, including damage to the femoral vein and artery, infections and circulatory problems [4-5]. The proportion of current PWID who reported injecting into their groin during the preceding four weeks varied across England, Wales and Northern Ireland (figure 4; and see tables 11 to 22 of the dataset). By country, the proportion injecting into the groin in 2016 was as follows: England 39% (95% CI, 36%-41%); Wales, 37% (95% CI, 29%-45%); numbers for Northern Ireland were too small to be reported. Across England, there are differences in the proportion reporting injecting into their groin, ranging from 56% (95% CI, 47%-64%) in Yorkshire & Humber to 28% in the East of England (95% CI, 20%-39%).

In 2017, 65% (95% CI, 63%-67%) of the participants reported having anal or vaginal sex during the preceding year, which is a decrease from 74% (95%CI 72%-75%) in 2007 (see table 10 of the dataset and statistical note p). Of those who had sex in the preceding year, 40% (95% CI, 37%-43%) reported having had two or more sexual partners during that time and, of these, only 19% (95% CI, 16%-23%) reported always using condoms for anal or vaginal sex (see table 10 of the dataset).

Figure 4. Levels of needle and syringe sharing and injection into the groin among the participants in the Unlinked Anonymous Monitoring Survey of PWID who had injected during the preceding four weeks: England, Wales and Northern Ireland: 2017



ooo Data not provided for Northern Ireland due to small numbers.

Types of stimulant drugs used

Injection of crack increased in recent years, with 51% (95% CI, 48%-54%) of those who had injected in the preceding four weeks reporting crack injection as compared to 35% (95%CI, 33%-37%) in 2007 (see table 26 of the dataset and statistical note q). A significant increase was observed in Wales and in multiple regions in England (East of England, London, South East, South West, West Midlands, Yorkshire & Humber and East Midlands) (see tables 11-20 of the dataset). Numbers from Northern Ireland were too small to be reported. Crack injection also increased among the recent initiates, with 45% (95%CI,35%-54%) of those who had injected in the preceding four weeks reporting crack injection in 2017, vs. 26% (95%CI, 21%-31%) in 2007 (see table 26 of the dataset).

There was no significant change in the injection of cocaine (14%, 95%CI 12%-16% in 2017 vs 12%, 95%CI, 10%-13% in 2007) or amphetamine (16%,95%CI 14%-18% in 2017 vs 19%, 95%CI, 17%-20% in 2007) among those who had injected in the preceding four weeks.

Conclusion

In conclusion, data from the main Unlinked Anonymous Monitoring Survey of PWID, which is targeted at people who inject psychoactive drugs, indicate that the proportion ever infected with hepatitis B has declined and that the prevalence of HIV remains stable and low. Hepatitis C remains the commonest infection among this group and overall prevalence is currently stable. Overall, reported needle and syringe sharing has declined over the last decade, however, direct sharing has increased in recent years among the 25 to 34 year age group. Whilst the vast majority of those with HIV were aware of their status, half of PWID with antibodies to hepatitis C remain unaware of their infection, even though four-fifths reported having been tested for hepatitis C infection. Half of those participants with antibodies against HCV were positive for HCV RNA, indicating current infection. After increasing during the previous decade, the uptake of testing for hepatitis C infection has changed little over the last few years. Services should aim to have testing for blood-borne viruses available for patients at first assessment [6]. Repeat testing of people who inject drugs is recommended, and when risk is assessed as high, testing may be carried out up to once or twice a year [6-7]. Also uptake of the hepatitis B vaccine has changed little over the last few years. Hepatitis B vaccine uptake has plateaued at 72% since 2008, and was particularly low in the under-25 age group and among recent initiates, with only

approximately half reporting vaccination. Half of those who injected during the preceding year reported a swelling containing pus (abscess), sore or open wound at an injection site. Injection of crack has increased during the past decade in Wales and in multiple regions in England.

Recent initiates to injecting remain at risk of HIV and hepatitis. The level of hepatitis C infection among the recent initiates to injecting participating in this survey suggest that the extent of their transmission has probably changed little in recent years. However, recent initiates had lower levels of awareness of their HCV infection than those who had been injecting for longer. Recent initiates and those who had been injecting for longer had similar levels of sharing and of injection site infections. Vaccination for hepatitis B has declined in this group with only approximately half reporting vaccination in 2017.

Together, these findings indicate that unsafe injecting continues to be a problem and that there is a need to maintain and strengthen public health interventions that aim to reduce injection related risk behaviours. The impact of public health interventions which aim to prevent HIV and hepatitis C infection through injecting drug use by reducing these risks, such as needle and syringe programmes [8] and opioid substitution therapy [6], have been shown to be dependent on their coverage [9-12]. The provision of interventions that aim to reduce infections among PWID, including testing and vaccination programmes, should be regularly reviewed to ensure that the coverage of these is appropriate to local need.

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Statistical notes

All analyses were adjusted for age, gender and region of recruitment (English NUTS Regions, Wales, Northern Ireland) in a multi-variable analysis, unless specified otherwise. For analyses on HIV prevalence, region of recruitment was specified as London vs. elsewhere to account for the small number of positive samples. Non-aggregated regional data were used in all other analyses.

a) HIV prevalence in England: The adjusted odds ratio for 2017 vs. 2007 was 0.84 [95% CI, 0.49-1.5]; indicating no significant change in the HIV prevalence in England between these two years.

b) HIV prevalence, recent initiates (those who began injecting in the last three years): HIV prevalence among the recent initiates fluctuated between 2007 and 2017, with an adjusted odds ratio of 1.03 [95% CI, 0.17-6.4] for 2017 vs. 2007; indicating no significant change in prevalence between these two years.

c) Voluntary confidential testing (VCT) for HIV: The adjusted odds ratio for 2017 vs 2007 was 1.7 [95% CI, 1.5-1.9]; indicating a significant increase in the reported uptake of VCT for HIV when comparing 2017 to 2007.

d) Awareness of HIV infection: The adjusted odds ratio for 2017 vs. 2007 was 5.2 [95% CI, 1.0-26]; indicating a significant increase in awareness of HIV when comparing 2017 to 2007.

e) Hepatitis B core antigen antibody (anti-HBc) prevalence: The adjusted odds ratio for 2017 vs. 2007 was 0.71 [95% CI, 0.61-0.83]; indicating a significant decrease in 2017 as compared to 2007. Prevalence was significantly lower than in 2007 from 2008 onwards.

f) Hepatitis B core antigen antibody (anti-HBc) prevalence, recent initiates (those who began injecting in the last three years): Anti-HBc prevalence among recent initiates has varied over time. The adjusted odds ratio for 2017 vs. 2007 was 0.56 [95% CI, 0.21-1.5], indicating no significant decrease between these two years.

g) Hepatitis B vaccine uptake: The adjusted odds ratio for 2017 vs. 2007 was 1.5 [95% CI, 1.4-1.7]; indicating a significant increase in the reported hepatitis B vaccine uptake between these two years. The adjusted odds ratio for 2017 vs. 2008 was 1.1 [95% CI, 1.0-1.3]; indicating no significant change in hepatitis B vaccine uptake when comparing 2017 to 2008. The adjusted odds ratios for 2017 vs. 2011 amongst the under-25 age group, 25-34 age group, and among recent initiates were 0.53 [95%CI 0.30-0.95], 0.68 [95%CI 0.54-0.86], and 0.64 [95%CI 0.43-0.96] respectively, indicating significant decreases in reported vaccine uptake when comparing 2017 to 2011.

h) Hepatitis C antibody prevalence: The adjusted odds ratio for 2017 vs. 2007 was 1.3 [95% CI, 1.2-1.5]; indicating a significant increase in hepatitis C prevalence between these two years.

i) Hepatitis C antibody prevalence (England): The adjusted odds ratio for 2017 vs.2007 was 1.3 [95% CI, 1.1-1.4]; indicating a significant change in hepatitis C prevalence in England between these two years.

j) Hepatitis C antibody prevalence (Wales): The adjusted odds ratio for 2017 vs. 2007 was 2.2 [95% CI, 1.5-3.4]; indicating a significant change in hepatitis C prevalence in Wales over time. The prevalence in 2013, 2014, 2015 and 2016 was also significantly higher than in 2007.

k) Hepatitis C antibody prevalence (Northern Ireland): The adjusted odds ratio for 2017 vs. 2007 was 0.57 [95% CI, 0.28-1.2]; indicating no change in hepatitis C prevalence in Northern Ireland when comparing 2017 to 2007.

l) Hepatitis C antibody prevalence, recent initiates (those who began injecting in the last three years): The adjusted odds ratio for 2017 vs. 2007 was 0.89 [95% CI, 0.57-1.4]; indicating no change in the hepatitis C prevalence among the recent initiates between these years.

m) Voluntary confidential testing (VCT) for hepatitis C: The adjusted odds ratio for 2017 vs. 2007 was 1.8 [95% CI, 1.5-2.0], indicating a significant increase in the reported uptake of VCT for hepatitis C. Among recent initiates, the adjusted odds ratio for 2017 vs. 2007 was 1.1 [95% CI, 0.77-1.6], indicating no change in uptake of VCT for hepatitis C.

n) Awareness of hepatitis C infection: The adjusted odds ratio for those who started injecting <3 vs 3+ years ago was 0.29 [95%CI 0.14-0.61], indicating that in 2017 recent initiates had a lower awareness of their HCV infections.

o) Direct sharing (sharing of needles and syringes): The adjusted odds ratio for 2017 vs. 2007 was 0.80 [95% CI, 0.68-0.96], indicating a significant decrease in reported direct sharing in 2017 as compared to 2007. Among recent initiates, the adjusted odds ratio for 2017 vs. 2007 was 0.93 [95% CI, 0.53-1.6], indicating no change in direct sharing in 2017 as compared to 2007. The adjusted odds ratio for females vs. males in 2016 was 1.7 [95%CI 1.3-2.4], indicating significant higher levels of direct sharing in females as compared to males. Among the 25-34 years age group, the adjusted odds ratio for 2017 vs. 2012 was 1.8 (95%CI 1.2-2.6), indicating that direct sharing among this age group was significantly higher in 2017 than in 2012.

p) Reported sexual activity: The adjusted odds ratio for 2017 vs 2007 was 0.73 (95%CI 0.65-0.82), indicating that the level of having anal or vaginal sex during the preceding year was significantly lower in 2017 than in 2007.

q) Stimulant drugs injected during preceding month: Crack: The adjusted odds ratio for crack injection for 2017 vs. 2007 was 2.4 (95%CI 2.1-2.9), indicating that crack injection was higher in 2017 than in 2007. The adjusted odds ratio was 3.5 (95%CI 2.1-5.8) for recent initiates when comparing 2017 to 2007, indicating crack injection was significantly higher in 2017 than in 2007. Adjusted odds ratios and 95%CIs for crack injection in 2017 vs. 2007 by region and country: East of England: 2.4 (95%CI 1.2-4.9), London: 1.7 (1.1-2.7), South East: 4.9 (3.2-7.5), South West 7.9 (4.3-14.4), West Midlands: 1.8 (1.1-2.8), North West: 0.87 (0.58-1.3), Yorkshire & Humber: 1.7 (0.76-4.0), East Midlands: 2.8 (1.8-4.3), North East: 0.94 (0.52-1.7), Wales: 2.3 (1.4-3.9), Northern Ireland: 0.71 (0.07-7.1), indicating significant increases in East of England, London, South East, South West, West Midlands, Yorkshire & Humber and East Midlands and Wales. **Cocaine:** the adjusted odds ratio for cocaine injection for 2017 vs. 2007 was 1.4 (95%CI 1.1-1.7), indicating a significant increase in cocaine injection.

Amphetamine: the adjusted odds ratio for amphetamine injection for 2017 vs. 2007 was 0.75 (95%CI 0.61-91), indicating a significant decrease.

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Public Health England, Wellington House, 133-155 Waterloo Road, London SE1 8UG

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Queries relating to this document should be directed to:

HIV and STI Department,
National Infection Service, PHE Colindale,
61 Colindale Avenue, London NW9 5EQ.

stephanie.migchelsen@phe.gov.uk / katy.sinka@phe.gov.uk

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