GIG CYMRU NHS WALES
Iechyd Cyhoeddus Cymru
Public Health Wales

SUBSTANCE MISUSE PROGRAMME

Harm Reduction Database Wales:

Blood borne virus testing and treatment in community settings

2017-18

About Public Health Wales

Public Health Wales exists to protect and improve health and wellbeing and reduce health inequalities for people in Wales. We work locally, nationally and internationally, with our partners and communities.

The Substance Misuse Programme works to address both the current and emerging public health threats in Wales and in line with the overarching strategic objective to '**reduce health inequalities, and prevent or reduce communicable and non-communicable disease, wider harms and premature death related to drugs and alcohol**'.

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Harm Reduction Database Wales: Blood Borne Viruses 2017-18

Abbreviations

ABMUHB	Abertawe Bro Morgannwg University Health Board
Anti-HCV	Antibody against hepatitis C virus
Anti-HIV	Antibody against human immunodeficiency virus
BBV	Blood Borne Virus
BCUHB	Betsi Cadwaladr University Health Board
DBST	Dried Blood Spot Test
HBV	Hepatitis B virus
HBsAg	Hepatitis B virus surface antigen
HCV	Hepatitis C virus
HIV	Human immunodeficiency virus
HRD	Harm Reduction Database Wales
IPED	Image and Performance Enhancing Drug
LIMS	Laboratory Information Management System
NSP	Needle and Syringe Programme
PCR	Polymerase chain reaction
PWID	People who inject drugs
RNA	Ribonucleic acid
SCRA	Synthetic Cannabinoid Receptor Agonist
SMS	Substance misuse service
UAM	Unlinked Anonymous Monitoring Survey
WHO	World Health Organisation
WNDSM	Welsh National Database for Substance Misuse

1 Executive Summary

The Harm Reduction Database Wales (HRD): Blood Borne Virus module represents a new system for the surveillance of blood borne virus (BBV) infections and treatment amongst individuals accessing substance misuse services (SMS), Tiers 1-3, as well as enhanced service Community Pharmacy providers across Wales. From February 2017, Public Health Wales initiated a comprehensive training programme and phased implementation of the HRD: BBV module within 44 SMS and 10 clinical specialist treatment services throughout Wales. This report details the BBV testing activity data recorded on the HRD from 1st April 2017 until 31st March 2018, and represents the baseline year for data collection. Data represented are incomplete due to back-population requirements. Treatment data and outcomes will be reported in full in the 2018-19 report in order to ensure completeness of data and treatment outcomes.

During 2017-18, a total of 1,739 BBV tests were recorded comprising 1,075 dried blood spot and 664 venepuncture tests, completed by SMS across Wales. A total of 1,616 individuals were recorded as receiving tests.

Human Immunodeficiency Virus (HIV)

- 1,412 individuals accessing SMS were tested for HIV antibody – no cases were identified

Hepatitis B (HBV)

- 1,561 individuals accessing SMS were tested for HBV – less than one per cent of individuals tested positive for hepatitis B surface antigen (HBsAg). All were referred into clinical specialist treatment providers for onward assessment and treatment as required

- The offer of hepatitis B vaccination was recorded for 22 per cent (n=298) individuals. The UK wide shortage of hepatitis B vaccines following global manufacturing issues in 2017 was likely to have impacted significantly on vaccinations offered and provided during this period.

Hepatitis C (HCV)

- 1,606 individuals accessing SMS were tested for HCV anti-body and/or RNA. Hepatitis C antibodies (anti-HCV) were detected in 18 per cent (n=267). Of these, only 51.7 per cent received a confirmatory PCR test. Where confirmatory PCR was recorded, 67.4 per cent (n=93) individuals were confirmed HCV RNA positive. An additional 18 individuals were confirmed HCV RNA positive directly.

- 165 individuals were referred via HRD into HCV clinical specialist services by SMS in Wales - 40 per cent were referred following reactive anti-HCV test, and 60 per cent following confirmed HCV RNA positive test. An initial referral outcome was recorded in 60 per cent (n=99) of individuals.

- Amongst those tested for HCV, 32 per cent were male; median age was 38 years; ages ranged from 15-78 years; 6 per cent were aged under 25 years; 18 per cent reported having non-secure/no fixed accommodation.

- Risk factors were recorded for 74.1 per cent of individuals tested for HCV; 88 per cent reported ‘ever’ using drugs; 53 per cent ‘ever’ injecting drugs; 39 per cent ‘ever’ been in prison; and 32 per cent having

had sex with 2 or more partners in 12 months prior to testing. Further analysis was completed on each risk category.

- Prevalence rates appeared highest amongst individuals reporting injecting both heroin and stimulants in last 12 months, and having ever injected in prison. Prevalence rates were lowest in the under 25 age category, individuals who had injected IPEDs in last 12 months, and new injecting initiates (<36 months)

Recommendations

1. Key Performance Indicators should be introduced within all SMS to ensure that:
    a. All clients in contact with substance misuse services to be provided with information **and** immunisation on site, or immunisation by a third party if not available on site, against Hepatitis B
    b. All clients in contact with substance misuse services to be routinely tested on site, or tested by a third party if not available on site, for blood borne virus infection (hepatitis B, hepatitis C and HIV) on at least an annual basis
    c. All clients diagnosed with blood borne viruses be referred and access timely and appropriate treatment

2. Commissioning teams and SMS to identify methods in order to upscale BBV screening amongst all clients accessing needle and syringe programmes, including community pharmacies and housing/homelessness service. Methods should not be limited to the premises of static fixed based services, but also include outreach programmes targeted toward individuals not in contact with services

3. Public Health Wales to develop routine and regular data quality outputs from the Harm Reduction Database, for each Health Board / Area Planning Board area, in order to maximise data quality and ensure timeliness of data entry.

2 Background

2.1 Current Situation

Over the last ten years in Wales, it is estimated the overall prevalence of hepatitis C (HCV) infection amongst people who inject drugs (PWID) has doubled, from 26% in 2006 to around 52% in 2016[1]. In addition, whilst prevalence rates of HIV have remained consistently low more recent clusters of infection have been identified in PWID in recent years[2]. Whilst ongoing high risk and injecting drug use account for over 95% of current hepatitis C transmission, historic chronic blood borne virus infections are prevalent in those individuals who may no longer be engaged in high risk behaviours but who are in contact with substance misuse and other health and social care services. Current reporting figures of individuals in contact with SMS in Wales indicate that there are currently around 14,000 individuals in regular contact with needle and syringe programmes and just over 13,000 individuals currently receiving treatment from SMS services (as at 31st May 2018).

The development of new generation hepatitis C treatments and their increased availability in Wales means that highly effective and shorter duration treatment is now possible for all affected. Whilst hepatitis B and HIV remain chronic infections, effective treatment is in place to manage these. Such significant advances in treatment have prompted WHO to publish a global health sector strategy on viral hepatitis which sets out to eliminate HBV and HCV as significant public health threats by 2030[3]. Welsh Government have since committed to achieving WHO targets as outlined by Welsh Health Circular (WHC/2017/048).[4]

Active screening, diagnosis and treatment are essential components in achieving such targets. The Welsh Government Substance Misuse Delivery Plan (2016-18)[5] outlined the introduction of opt-out testing for BBVs, and HBV vaccination for all those in contact with substance misuse services including low threshold and community services. As such, individuals identified as being at ongoing risk of BBV infection should be routinely tested on at least an annual basis. Whilst some Health Board in Wales report initiating processes to initiate opt-out testing within SMS, comprehensive implementation across Wales is yet to be achieved.

The Harm Reduction Database Wales (HRD): Blood Borne Virus module has been developed to provide a comprehensive surveillance system for BBV infection amongst individuals accessing SMS in Wales. It is intended that its unique functionality will not only be used to monitor activity in relation to roll out of opt-out testing, but also in streamlining the way testing processes are delivered in Wales. This report represents the first annual report of data taken from the HRD: Blood Borne Virus module, with records incomplete from at least two health board areas for the period 2017-18.

[1] Public Health England (2017), Unlinked anonymous HIV and viral hepatitis monitoring among PWID 2017 report. https://www.gov.uk/government/statistics/people-who-inject-drugs-hiv-and-viral-hepatitis-monitoring

[2] EMCDDA (2015), Drug-related infectious diseases in Europe. http://www.drugs.ie/resourcesfiles/ResearchDocs/Europe/Research/2015/EMCDDAdrugrelatedinfectious.pdf

[3] World Health Organisation (2016). Combating hepatitis B and C to reach elimination by 2030. http://www.who.int/hepatitis/publications/hep-elimination-by-2030-brief/en/

[4] Welsh Government (2017). Attaining the WHO targets for eliminating hepatitis (B and C) as a significant threat to public health. http://www.wales.nhs.uk/sitesplus/888/news/46429

[5] Welsh Government (2016), Substance Misuse Delivery Plan 2016 – 2018. http://gov.wales/topics/people-and-communities/communities/safety/substancemisuse/publications/dplan/?lang=en

2.2 Harm Reduction Database: Blood Borne Virus Module

2.2.1 What is the Harm Reduction Database?

In 2010 the Substance Misuse Programme, Public Health Wales implemented the Harm Reduction Database Wales (HRD). The HRD is a web-based modular tool for the recording of demographic, substance use, risk and outcome data on a range of interventions and review processes, including:

- Needle and Syringe Programmes (NSPs)
- Take-home Naloxone (THN)
- Long Acting and Reversible Contraception (LARC)
- Blood Borne Viruses (BBV)
- Fatal and Non-Fatal Drug Poisonings

These modules were developed and funded by Welsh Government in line with the Substance Misuse Strategy 'Working together to reduce harm 2008-2018' and associated delivery plans.

The HRD represents the sole system in Wales for evidencing the nature and scale of these community interventions amongst those with substance misuse issues and complements the data derived from the Welsh National Database for Substance Misuse (WNDSM) for substance misuse treatment services.

In 2017- 2018, the HRD was utilised by all specialist substance misuse services, NSP services, THN registries, and relevant secondary care clinics Wales wide. As such the HRD currently includes over 380 separate sites. Current stakeholders include statutory and third sector substance misuse services, community pharmacies, Integrated Offender Intervention Services (IOIS), homelessness and housing support, prisons, and police. As such the HRD has been established as a secure and effective data recording system by service users and providers throughout Wales since 2010.

2.2.2 Blood Borne Virus (BBV) Module

The HRD: BBV module was developed to better support the collection, recording and management of data in Wales relating to BBV screening and Hepatitis B vaccination. Funded by Welsh Government, this module complements the Welsh Governments Substance Misuse Delivery Plan objective for introduction of opt-out testing within all substance misuse services[6] and commitments to elimination targets of Hepatitis C by 2030.[7,8] In addition to offering a live surveillance system that provides detailed data on the nature and scale of BBV infections in Wales, the HRD also enables front line clinicians to tailor client-centred BBV interventions and harm reduction information and advice.

[6] Welsh Government (2016), Substance Misuse Delivery Plan 2016 – 2018. http://gov.wales/topics/people-and-communities/communities/safety/substancemisuse/publications/dplan/?lang=en

[7] Welsh Government (2017), Welsh Health Circular (WHC/2017/048), Attaining the WHO targets for eliminating hepatitis (B and C) as a significant threat to public health. http://cardiffandvaleapb.org/download/media-resources/WHC-2017-048-Attaining-the-WHO-targets-for-eliminating-hepatitis-B-and-C-as-a-significant-threat-to-public-health.pdf

2.2.3 Data captured

This development supports the recording of information relating to:

- **Client details** *including – contact details*
- **Demographics** *including – age, gender, ethnicity, housing status, country of birth*
- **Assessment of risk factors / behaviours** *including – substance use, sexual activity etc.*
- **Screening, results, and vaccination history** *including – type of BBV test, date, outcomes*

Upon identification of reactive/positive test result the system automatically generates the onward referral of individuals to selected clinical specialist treatment providers. After which the following information can be recorded:

- **Referral outcomes** *including – date contact made, patient engagement, confirmatory screening*
- **Treatment milestones** *including – date treatment commenced and completed, type of treatment, treatment outcome, reinfection*

2.2.4 Implementation and back-population of HRD: BBV Module

Commencing February 2017 Public Health Wales initiated both training and phased implementation of the HRD: BBV module within all SMS and clinical specialist treatment services throughout Wales on a health board by health board basis. This process was completed in full by October 2017. In order to ensure consistency in reporting and provide a baseline of current testing conducted within SMS in Wales, all services were asked to back-populate data relating to all BBV tests conducted from point of implementation to 1st January 2017.

Back-population of all records was completed in five of the seven health board areas in Wales. Due to existing local information governance regulations and resource complications the back-population of BBV tests conducted within SMS in Cardiff and Vale University Health Board (CVUHB) and Hywel Dda University Health board (HDUHB) was not completed in full. As such all testing data outputs for these regions in this report are likely to be under-estimated. However, within these regions all BBV tests conducted post-HRD implementation have been recorded as per system requirements.

Back-populating risk factor data

Whilst some demographic, test and test outcome data was collected by all services prior to HRD implementation, both the recording and recording methodology of risk factor information was not universal and as such was not available at time of back-population. In order to ensure accuracy of data during future reports and analysis, all services have been advised to update each client record with missing data in full at time of the next BBV test or vaccination.

3 BBV Testing: Activity and Coverage

3.1 Number of tests and individuals tested

Between 1st April 2017 and 31st March 2018, a total of 1,739 BBV tests were completed by Substance Misuse Services throughout Wales involving 1,616 individuals (see *Table 1*). Whilst venepuncture methods represented a third (n=664) of BBV tests, Dried Blood Spot testing (DBST) was the most common method used in nearly two thirds (n=1,075) of all tests completed. Whilst it was observed that substantial regional variation exists in testing methods used within SMS throughout Wales (see *Figure 1*), these patterns are reflective of type of services, screening protocols, and pathways operational within each health board.

Table 1: Number of individuals tested by Health Board by Virus Type

	Hepatitis B	Hepatitis C	HIV	Total individuals Tested
ABMU	223	248	214	250
Aneurin Bevan	387	386	385	387
BCU	335	347	313	349
Cardiff and Vale*	36	41	37	41
Cwm Taf	472	474	356	479
Hywel Dda*	98	100	97	100
Powys Teaching	10	10	10	10
Wales	**1561**	**1606**	**1412**	**1616**

* Due to existing local information governance regulations and resource complications the back-population of BBV tests conducted within SMS in Cardiff and Vale, and Hywel Dda University Health Board was not completed in full.

Current data form WNDSM currently indicates that around 13,000 individuals were engaged with substance misuse treatment services in Wales for drug and alcohol use during 2017/18. In addition, over 14,000 individuals regularly attended Needle and Syringe Programmes (NSP) in Wales during the same reporting period[8]. As such considerable upscaling of BBV testing is still required throughout SMS in Wales to ensure all individuals with ongoing risk of BBV infection are routinely tested, and where required provided treatment.

[8] Public Health Wales (2018), Harm Reduction Database Wales: Needle and Syringe Programmes 2017-18. Available at: www.publichealthwales.org/substancemisuse

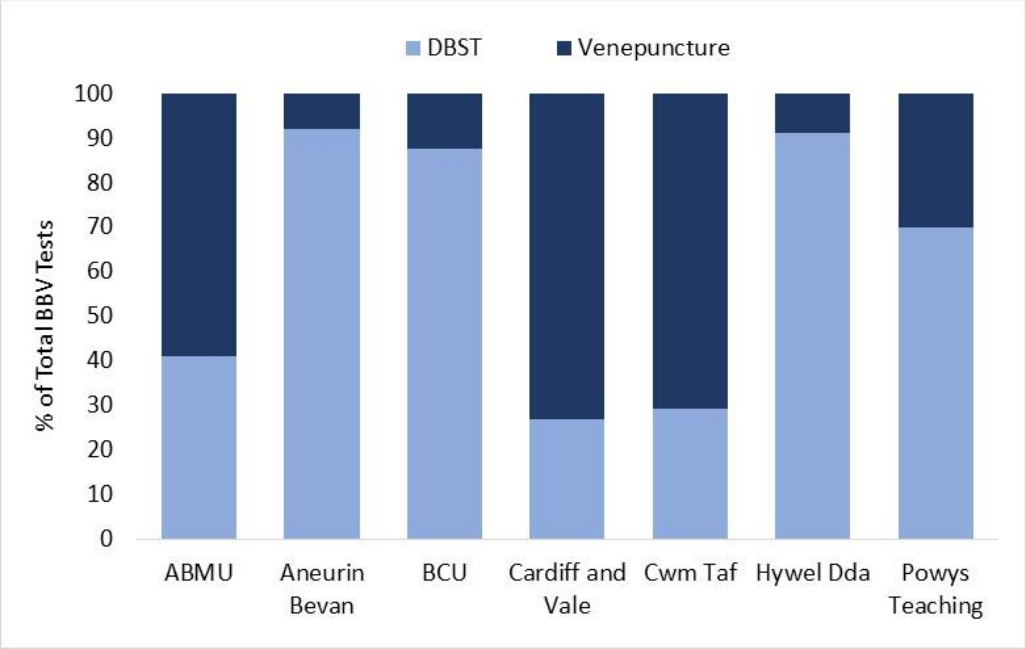

Figure 1: Proportion of BBV tests used in Substance Misuse Services by Health Board

4 Human Immunodeficiency Virus (HIV)

4.1 HIV Testing in Substance Misuse Services

A total of 1,412 individuals were tested for HIV within SMS in 2017-18. Where results were available and recorded on HRD (n=1,307), no individuals were identified as being positive for anti-HIV (see *Table 2*).

However, it is important to treat these findings with caution as previous unlinked and anonymous monitoring (UAM) surveys have indicated HIV prevalence rates of 1.4% amongst PWID in Wales,[9] along with comparable rates of infection amongst people who inject Image and Performance Enhancing Drugs (IPEDs).[10] Clusters of HIV infection have also been reported in recent years amongst PWID in Swansea, Wales and Greater Glasgow and Clyde, Scotland.[11,12] In order to better identify those individuals at risk of infection and co-infection with HCV, emphasis must be placed on front line services and professional adopting an integrated approach to substance misuse and sexual health risk taking behaviour and harm reduction approaches.

[9] Public Health England (2017), Unlinked anonymous HIV and viral hepatitis monitoring among PWID 2017 report. https://www.gov.uk/government/statistics/people-who-inject-drugs-hiv-and-viral-hepatitis-monitoring

[10] Hope V.D, Harris R. et al (2016), Risk of HIV and Hepatitis B and C Over Time Among Men Who Inject Image and Performance Enhancing Drugs in England and Wales: Results From Cross-Sectional Prevalence Surveys, 1992-2013. https://www.ncbi.nlm.nih.gov/pubmed/26361173

[11] EMCDDA (2015), Drug-related infectious diseases in Europe. http://www.drugs.ie/resourcesfiles/ResearchDocs/Europe/Research/2015/EMCDDAdrugrelatedinfectious.pdf

[12] Health Protection Scotland (2017), Needle Exchange Surveillance Initiative 2008-09 to 2015-16

Table 2: Percentage of individuals testing Anti-HIV Positive by Health Board

	Total individuals tested	% Results Recorded (n=1,307)	% anti-HIV Positive
ABMU	214	97.2	0.0
Aneurin Bevan	385	99.5	0.0
BCU	313	88.5	0.0
Cardiff and Vale*	37	70.3	0.0
Cwm Taf	356	91.9	0.0
Hywel Dda*	97	80.4	0.0
Powys Teaching	10	20.0	0.0
Wales	**1412**	**92.1**	**0.0**

* Due to existing local information governance regulations and resource complications the back-population of BBV tests conducted within SMS in Cardiff and Vale, and Hywel Dda University Health Board was not completed in full.

5 Hepatitis B

5.1 Hepatitis B testing in Substance Misuse Services

For the period 2017-18, a total of 1,561 individuals were tested for hepatitis B (HBV) within SMS in Wales. Where results were available and recorded on HRD (n=1,449), less than one per cent of individuals tested positive for hepatitis B surface antigen (HBsAg) indicating current HBV infection (see *Table 3*). Of which, all were referred into clinical specialist treatment providers for onward assessment and treatment as required.

The proportion of HBV infections identified within this client group is comparable with previous enhanced surveillance systems utilised within SMS in Wales[13] and UAM surveys conducted across England and Wales.[14]

Table 3: Percentage of individuals testing hepatitis B Surface Antigen Positive by Health Board

	Total individuals tested	% Results Recorded (n=1,449)	% HBsAg Positive
ABMU	223	97.3	0.9
Aneurin Bevan	387	99.5	0.0
BCU	335	89.3	0.3
Cardiff and Vale*	36	69.4	0.0
Cwm Taf	472	93.6	0.2
Hywel Dda*	98	80.6	0.0
Powys Teaching	10	20.0	0.0
Wales	**1561**	**92.8**	**0.3**

* Due to existing local information governance regulations and resource complications the back-population of BBV tests conducted within SMS in Cardiff and Vale, and Hywel Dda University Health Board was not completed in full.

[13] Public Health Wales (2017), Enhanced surveillance of blood borne viruses in drug users in Wales: Annual report 2016. https://www.wales.nhs.uk/sites3/page.cfm?orgid=457&pid=62269

[14] Public Health England (2017), Unlinked anonymous HIV and viral hepatitis monitoring among PWID 2017 report. https://www.gov.uk/government/statistics/people-who-inject-drugs-hiv-and-viral-hepatitis-monitoring

5.2 Hepatitis B vaccination in Substance Misuse Services

The mechanism to record the offer and outcome of HBV vaccinations was introduced on to the HRD: BBV Module in August 2017. This facility provides the opportunity to document a range of options relating to the uptake of HBV vaccination including: *accepted and provided on-site; accepted and referred to third party; vaccine completed elsewhere; and, vaccine declined*. Where offer of vaccine is accepted and provided on-site, the facility to record each dose is provided generating a log of HBV vaccinations for the individual.

Of the total of 1,348 individuals accessing SMS in Wales that were tested for BBVs since August 2017, the offer of HBV vaccination was recorded for 22.1 per cent (n=298) individuals (see *Figure 2*). The announcement in mid-2017 of UK wide shortage of HBV vaccines due to global manufacturing issues[15] is likely to have impacted significantly on volume of vaccinations offered and provided during this period. In particular, those individuals identified as not being at immediate and ongoing risk of HBV exposure. Implementation of a phased recovery plan in March 2018[16] indicates that vaccination shortages have since improved, and as such increases in availability and provision within SMS for the forthcoming year is anticipated.

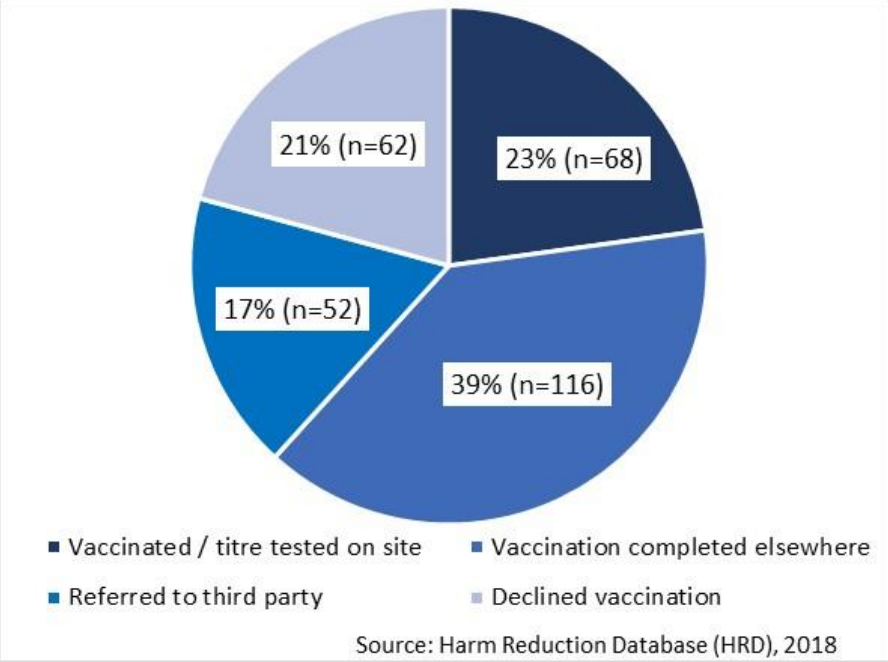

Figure 2: Number of individuals offered hepatitis B vaccination at time of BBV testing within Substance Misuse Services in Wales, by vaccination outcome

Previous UAM surveys conducted across England and Wales have previously indicated uptake of HBV vaccination within high risk populations such as PWID has traditionally been high. However, reduced levels of

[15] Public Health England (2017), Hepatitis B vaccination in adults and children: temporary recommendations from 21st August 2017. https://www.gov.uk/government/publications/hepatitis-b-vaccine-recommendations-during-supply-constraints

[16] Chief Medical Officer for Wales (2018), Plan for phased re-introduction of hepatitis B vaccine for lower priority groups. http://nww.immunisation.wales.nhs.uk/sitesplus/documents/1124/Public%20Health%20Link%20-%20Hepatitis%20B%20Vaccine%20Shortage%20-%2014%20March%202018.pdf

uptake has been observed in recent years amongst younger people, new initiates (injecting career <36 months),[17]and individuals reporting use of Image and Performance Enhancing Drugs (IPEDs).[18] Given the volume of individuals accessing both high and low threshold SMS considerable work is required to ensure all individuals at risk of HBV infection are vaccinated to prevent infection. Further considerations are also required to ensure HBV vaccination is made available to those individuals not in contact with specialist services including PWID only accessing community pharmacy NSPs.

6 Hepatitis C

Between 1st April 2017 until 31st March 2018, 1,606 individuals were tested for hepatitis C (HCV) via SMS in Wales. The following section with detail demographic profile and characteristics of those individuals tested for HCV, along with relevant outcomes.

7.1 Demographics of clients tested

6.1.1 Gender profile:

Of the 1,606 individuals tested for HCV, 31.6 per cent were female (n=508) and 68.3 per cent male (n=1098).

6.1.2 Age profile:

The median age for individuals tested for HCV was 38 years, where ages ranged from 15-78 years. The most common age group, 35-39 years, accounting for 20.3 per cent (n=326) of individuals. See *Figure 3* for age/gender profile.

Young people: Individuals under 25 years of age accounted for 6.5 per cent of the total tested for HCV. Less than one per cent of individuals tested were under the age of 18 years.

Older people: Those aged 50+ years accounted for 13.6 per cent (n=218) of those tested. Two per cent of individuals were aged 60 or above.

[17] Public Health England (2017), Unlinked anonymous HIV and viral hepatitis monitoring among PWID 2017 report. https://www.gov.uk/government/statistics/people-who-inject-drugs-hiv-and-viral-hepatitis-monitoring
[18] Public Health Institute (2017), Image and Performance Enhancing Drugs: 2016 National Survey Results. http://www.ipedinfo.co.uk/resources/downloads/2016%20National%20IPED%20Info%20Survey%20report%20FINAL.pdf

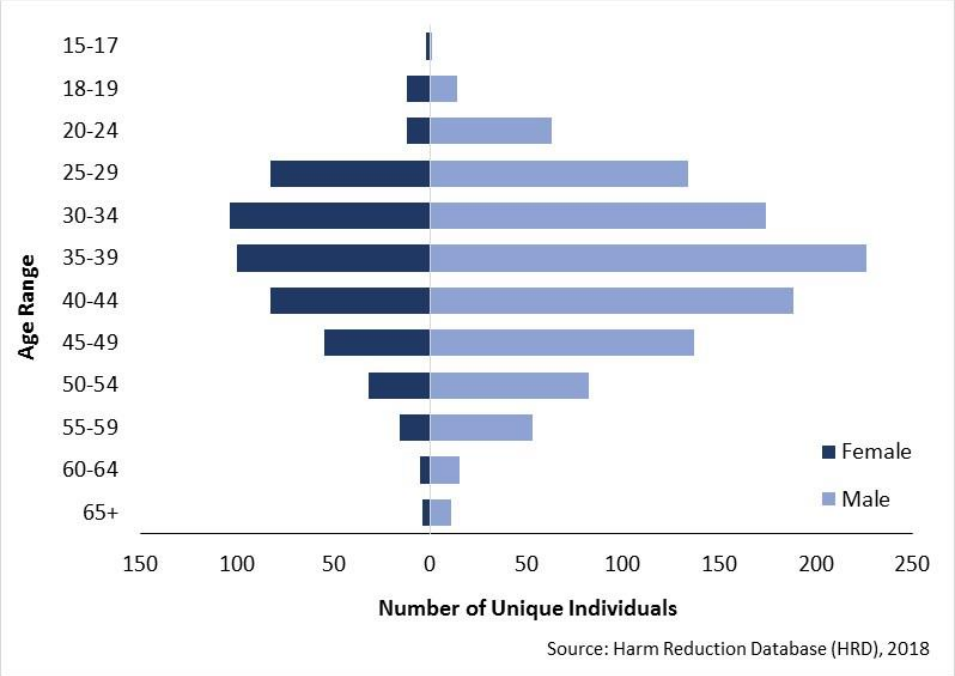

Figure 3: Age and gender profile of individuals tested for hepatitis C across Wales 2017-18

6.1.3 Ethnicity & Country of Birth

Ethnicity was reported for 69.1 per cent (n=1,110) of individuals tested for HCV, of which 94.1 per cent (n=1,044) of individuals were White Welsh or White British. Of the remaining 6 per cent (n=66) the largest groups were recorded as Arab, Asian Other, White Eastern European, and White Other.

Country of birth was recorded for 68.2 per cent (n=1,095) of individuals tested for HCV, of which United Kingdom was recorded as county of birth in 96.2 per cent (n=1,053) of individuals.

Amongst those individuals born outside of the UK (n=42), nearly 90 per cent of individuals were born in countries indicated as having high prevalence for HBV and/or HCV.[19]

6.1.4 Housing status & employment

Housing status was recorded for 65.9 per cent of cases (n=1,059). Detail of which is presented in *Table 4*. Whilst the majority of individuals, 81.9 per cent, reported living within secure accommodation, over 18.2 percent reported having non-secure / no fixed accommodation.

Employment status was recorded for 67.9 per cent (n=1,090) of individuals tested. Of which, 15.1 per cent (n=165) of individuals were in full / part time employment or education.

[19] World Health Organisation (2017), Global Hepatitis Report, 2017. http://apps.who.int/iris/bitstream/handle/10665/255016/9789241565455-eng.pdf;jsessionid=4F538BB13D1880680DD2BE8EACE52D6F?sequence=1

Table 4: Self-reported housing status of individuals tested for hepatitis C

Housing Status	Total	% by housing type
Owner	64	81.9% in secure accommodation
Private rented	141	
Council rented	416	
Housing Association rented	64	
Live with family	182	
B & B / Foster Home / Care Home	15	9.3% in non-secure accommodation
Hostel (including probation)	58	
Live with friends	25	
NFA – Friends / Relatives House	44	8.9% with no-fixed accommodation
NFA – Mixed	22	
NFA – Street Homeless / Squat	28	

6.2 Summary of risk factors

Of all individuals tested for HCV (N=1,606), 74.1 per cent (n=1,190) reported during pre-test discussions having had at least one recorded risk factor / behaviour which may have put them at risk of acquiring a blood borne virus. Of which, 83.4 per cent (n=992) of individuals had a record of multiple risk factors (see *Figure 4*).

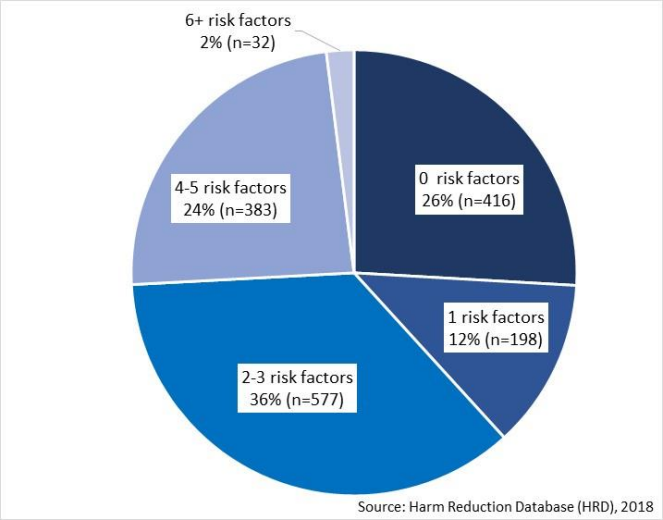

Figure 4: Number of risk factors reported by individuals tested for hepatitis C within Substance Misuse Services in Wales

As indicated above, no risk factors were recorded by 26 per cent (n=416) of individuals at time of testing. As stated previously, a back-population exercise was completed within Health Boards where the BBV module was implemented later in the reporting period. Over 75 per cent (n=318) of individuals with no risk factors were recorded originated from these health board areas. **As such these gaps in risk information reflect differences in data collection and recording processes prior to implementation of the BBV Module.** It is anticipated that fewer individuals with no risk factors recorded will feature in future reports. The remainder

of this section will only draw comparisons between those individuals with at least one recorded risk factor reported during pre-test discussions.

Where one or more risk factor was recorded the most common risk categories identified were having 'ever' used drugs (n=1,051), followed by having 'ever' injected drugs (n=635), and 'ever' been in prison (see *Figure 5)*.

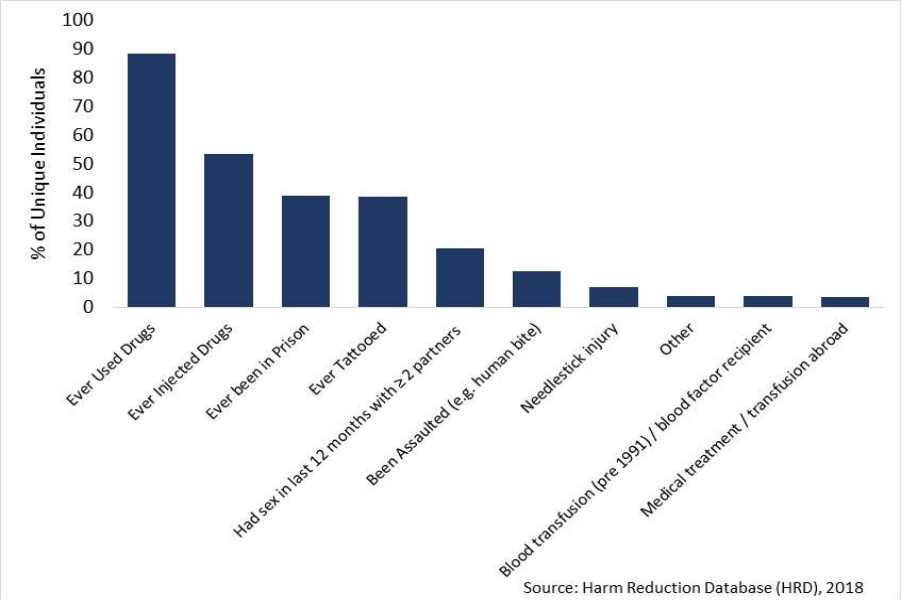

Figure 5: Proportion of individuals tested for hepatitis C within Substance Misuse Services in Wales reporting one or more risk factor, by risk factor category

6.2.1 People who use drugs

Amongst those in Wales tested for HCV reporting 1 or more risk factor (n=1,190), 88.3 per cent (n=1051) of individuals reported having 'ever' used drugs (*See Figure 6*).

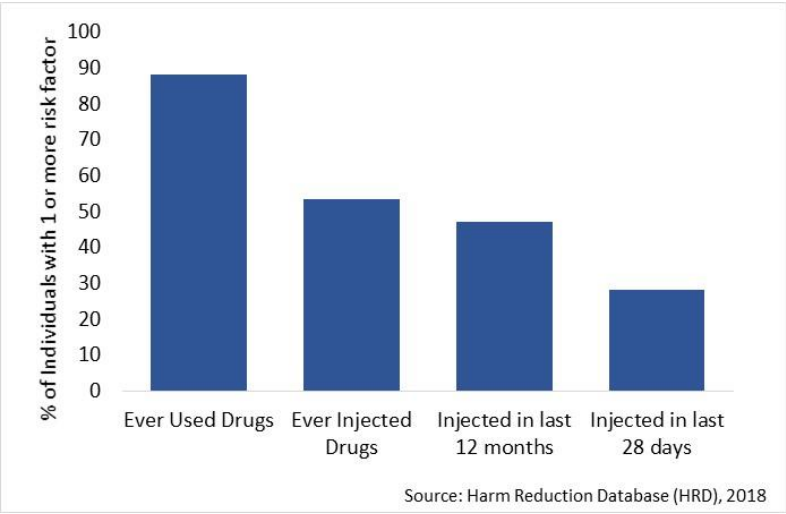

Figure 6: Proportion of individuals tested for hepatitis C within Substance Misuse Services in Wales reporting having ever used drugs

6.2.2 Drug and alcohol use – non injectable

The use of drugs (via non-injecting methods) and alcohol within 12 months prior to testing was reported by 82.3 per cent (n=979) of individuals with 1 or more risk factor. Alcohol represented the most frequently recorded substance (see *Figure 7*), with a third of individuals reported drinking every day (see *Figure 8*). High levels of alcohol consumption pose additional risks in relation to liver disease, and likely to accelerate disease progression in individuals infected with HBV and HCV. Heroin (smoked) was the most frequently reported drug, with 43.8 per cent of individuals reporting its use within last 12 months.

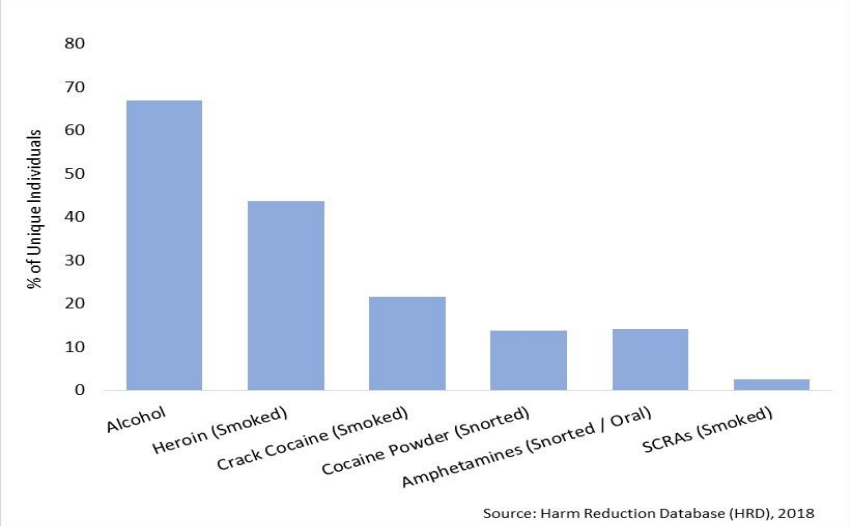

Figure 7: Proportion of individuals tested for hepatitis C within Substance Misuse Services in Wales reporting use of non-injectable drugs in last 12 months, by substance

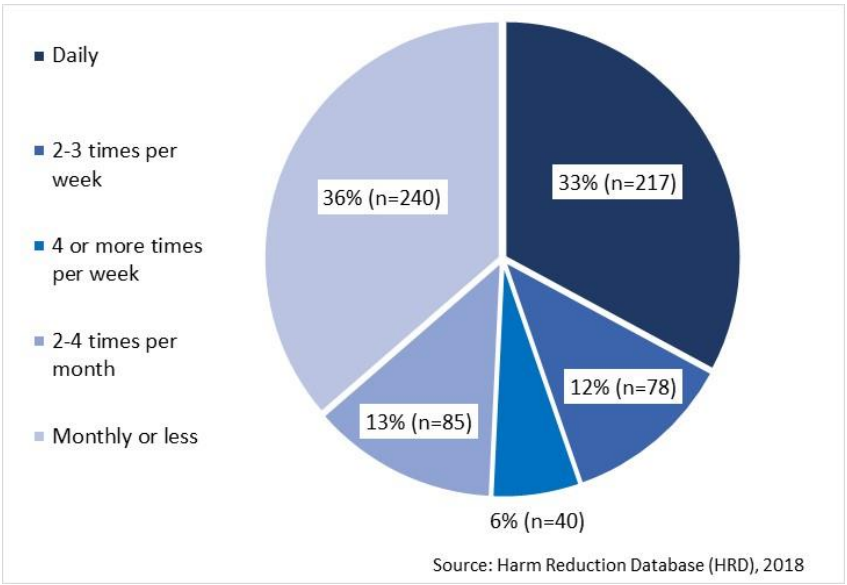

Figure 8: Frequency of alcohol consumption where reported by individuals tested for hepatitis C within Substance Misuse Services in Wales

6.2.3 People who inject drugs (PWID)

As noted previously, 53.4 per cent (n=635) individuals with 1 or more risk factor tested for HCV reported having 'ever' injecting drugs. Analysis of key demographics e.g. age and gender, indicate little variation between PWID and the overall demographic profile of all individuals tested for HCV (see *Table 5*). However, an increased proportion of individuals living in unsecure / no fixed accommodation was observed amongst PWID when compared to all individuals tested (24.4% vs 18.2% respectively).

Further details surrounding the type of substances, frequency and route of administration was collected for all individuals reporting having injected within 12 months prior to testing. Heroin was the most commonly recorded substance, with 77.6 per cent (n=434) of PWID reporting having injected within the last 12 months. Stimulant injecting was reported by 28.1 per cent of PWID (n=157), of which the injection of amphetamines and cocaine/crack was reported by 55.4 per cent (n=87) and 45.2 per cent (n=71) respectively. Mephedrone (MCAT) injecting appeared uncommon, having been reported by less than 5 per cent of all PWID injecting in last 12 months.

Over 18 per cent (n=101) of PWID injecting in last 12 months reported used of both heroin and stimulant based substances. Analysis of key demographics and characteristics indicates increased levels of non-secure/no fixed accommodation, history of being in prison, injecting in the groin, and having had multiple sexual partners within last 12 months when compared to individuals reporting having only injected heroin or stimulant based substance (see *Table 5* for details). Fewer new initiates (injecting for less than 36 months) were also reported amongst PWID who injected both heroin and stimulants.

Table 5: Demographics and characteristics of individuals tested for hepatitis C reporting injecting drug use in last 12 months, by substance type

	Injecting Any Substance	Injecting Heroin only	Injecting Stimulants* only	Injecting Heroin & Stimulants*	Injecting IPEDs
Number reporting use (%)	635	334 (59.7%)	56 (10%)	101 (18.1%)	65 (11.6%)
% injected last 12 months	88%	-	-	-	-
% injected last 28 days	52.9%	54.2%	62.5%	69.3%	69.2%
% Male	70.2%	70.4%	67.9%	76.2%	100%
Median age	38 Years	38 Years	37 Years	38 Years	30 Years
% <25 years	<5%	<5%	7.1%	<5%	12.3%
% >50 years	8.8%	8.4%	12.5%	5%	< 5%
% Non-secure / no fixed accommodation†	24.4%	27.1%	34%	34.3%	8.3%
% Full-time / part-time employment or education†	13.6%	6%	< 5%	5.7%	78.3%
% Been in prison previously	51.9%	53.9%	55.4%	64.4%	24.6%
Median length of injecting career	10 Years	10 Years	14.5 Years	13 Years	5 Years
% New initiates (<36 months)	16.2%	17.4%	14.3%	8.9%	33.9%
% Groin injectors	11.3%	13.5%	8.9%	21.8%	-
% ≥ 2 sexual partners last 12 months	24.3%	21.3%	26.8%	30.7%	40%
% Always using a condom	13.6%	22.5%	6.6%	12.9%	0%

***** Stimulants include: Amphetamines, Cocaine Powder, Crack Cocaine, Mephedrone (MCAT), and Stimulant Other
† Where recorded on the Harm Reduction Database (HRD) Wales

Image and Performance Enhancing Drugs (IPEDs)

Approximately ten per cent (n=65) of individuals who injected in last 12 months reported injecting IPEDs. Latest estimates indicate that over 7,600 individuals regularly attending NSP services in Wales report use of IPEDs.[17]

When compared to other injecting subgroups both demographics and characteristics of those individuals reporting injecting IPEDs differed considerably (see *Table 5*). People injecting IPEDs were more likely to have had two or more sexual partners in 12 months prior to screening and have participated in unprotected sex. these findings appear to be consistent with profile of individuals currently accessing NSPs in Wales[20] and UAM survey conducted across England and Wales.[21]

[20] Public Health Wales (2018), Harm Reduction Database Wales: Needle and Syringe Programmes 2017-18. Available at: www.publichealthwales.org/substancemisuse
[21] Public Health England (2017), Unlinked anonymous HIV and viral hepatitis monitoring among PWID 2017 report. https://www.gov.uk/government/statistics/people-who-inject-drugs-hiv-and-viral-hepatitis-monitoring

Low levels of BBV screening and HBV vaccination amongst people injecting IPEDs have been commonly reported over recent years[22]. As such **further considerations are required to identify methods in order to upscale BBV screening amongst this population.**

6.2.4 Sexual risk taking

Over 460 individuals tested for HCV reported having had vaginal or anal sex within 12 months prior to testing, of which 31.6% (n=245) reported having had at least 2 sexual partners (see *Table 6*). Condom use was low, with less than 14 per cent reporting 'always' using condoms during sexual intercourse. High levels of injecting drug history amongst individuals reporting having had 2 or more sexual partners highlights the crossover between both substance use and sexual risk.

Table 6: Demographics and characteristics of individuals tested for hepatitis C reporting sexual risk taking in last 12 months

Number reporting having had sex in last 12 months	461
% ≥ 2 sexual partners last 12 months	31.6%
% Always using a condom	13.1%
% <25 years	13.9%
% 25-39 years	64.1%
% 40-49 years	20.4%
% >50 years	5.7%
% Male	71.4%
% Men who have sex with men (MSM)	7.4%
% Drinks alcohol daily	17.1%
% Ever injected drugs	62.9%
% ≥ 5 sexual partners last 12 months	7%
% Ever received money, goods or drugs in exchange for sex	8%
% Female	64.9%
% Ever exchanged money, goods or drugs in exchange for sex	6.5%
% Male	76.7%

6.2.5 History of prison

Amongst those in Wales tested for HCV reporting 1 or more risk factor (n=1,190), 38.7 per cent (n=461) reported having 'ever' been in prison. Further analysis indicates nearly half of individuals reporting having 'ever' used drugs whilst in prison, with nearly 15 per cent of which having injected in prison (see *Table 7*).

[22] Public Health Institute (2017), Image and Performance Enhancing Drugs: 2016 National Survey Results. http://www.ipedinfo.co.uk/resources/downloads/2016%20National%20IPED%20Info%20Survey%20report%20FINAL.pdf

Due to limited availability and access to sterile injecting equipment and paraphernalia, injecting whilst in prison poses serious risk of BBV infection and transmission.

Table 7: Demographics and characteristics of individuals tested for hepatitis C reporting 'ever' been in prison

Number reporting 'ever' been in prison	**461**
% released within last 12 months	29.1%
% Male	80.7%
Median age	38 Years
% <25 years	<5%
% >50 years	12.4%
% Non-secure / no fixed accommodation†	28%
% Full-time / part-time employment or education†	5.8%
% Ever injected drugs	71.6%
Median length of injecting career	13 Years
% New initiates (<36 months)	11.8%
% Ever used drugs whilst in prison	45.6%
% Ever injected drugs whilst in prison (where use was reported)	13.3%
% ≥ 2 sexual partners last 12 months	24.3%
% Always using a condom	14.3%

† Where recorded on the Harm Reduction Database (HRD) Wales

6.3 Test Outcomes

6.3.1 Hepatitis C Antibodies

Overall prevalence in 2017-18 of hepatitis C antibodies (anti-HCV) amongst individuals tested within SMS in Wales was 18.4 per cent (n=267) (see *Table 8*). Whilst these rates are comparable with previous enhanced surveillance systems utilised within SMS in Wales[23], testing coverage continues to be under-representative of the number of individuals in contact with SMS. As stated previously, considerable upscaling of HCV testing is required to ensure all individuals in contact with SMS in Wales, including NSPs, are routinely tested. It is therefore anticipated in future reports that as testing coverage is expanded the overall prevalence of anti-HCV will increase.

[23] Public Health Wales (2017), Enhanced surveillance of blood borne viruses in drug users in Wales: Annual report 2016. https://www.wales.nhs.uk/sites3/page.cfm?orgid=457&pid=62269

Table 8: Proportion of individuals that tested reactive for hepatitis C virus antibodies by Health Board

	Total individuals tested for anti-HCV	% Results Recorded (n=1,452)	% anti-HCV Reactive
ABMU	230	97.6	39.7
Aneurin Bevan	386	99.2	8.6
BCU	334	89.6	17.1
Cardiff and Vale*	38	73.2	22.2
Cwm Taf	471	93.5	18.6
Hywel Dda*	97	81.0	7.7
Powys Teaching	10	20.0	0.0
Wales	**1566**	**92.7**	**18.4**

* Due to existing local information governance regulations and resource complications the back-population of BBV tests conducted within SMS in Cardiff and Vale, and Hywel Dda University Health Board was not completed in full.
† Where recorded on the Harm Reduction Database (HRD) Wales

Prevalence rates of anti-HCV varied between demographic and risk factor characteristics recorded at time of HCV testing (see *Table 9*). Amongst these, anti-HCV reactivity appeared highest amongst individuals reporting 'ever' injected drugs, especially those who had injected heroin & stimulants in last 12 months, and ever injected whilst in prison. Individuals under 25 years old, who had injected IPEDs in last 12 months, and were new injecting initiates demonstrated the lowest rates of anti-HCV.

As outlined in *7.2 – Summary of Risk Factors*, over 990 individuals tested for HCV reported having multiple risk factors. Therefore, further analysis is required in order to fully assess any relationship between key demographics and risk factors.

Table 9: Proportion of individuals that tested reactive for hepatitis C antibodies, by demographics and risk factors

	n	% anti-HCV Reactive
Total individuals tested for anti-HCV with results	1452	**18.4%**
Male	996	18.2%
Female	456	18.9%
<25 years	91	7.7%
25-39 years	742	17.4%
40-49 years	421	22.1%
>50 years	198	19.2%
Lives in non-secure / no fixed accommodation†	176	27.3%
Not in full-time / part-time employment or education†	841	20.6%
Ever injected drugs	552	31.3%
New initiates (<36 months)	90	14.4%
Injected Heroin only	290	33.8%
Injected Stimulants* only	49	32.7%
Injected Heroin & Stimulants*	87	42.5%
Injected IPEDs	59	<5%
Been in Prison	404	26.5%
Used drugs whilst in prison	179	30.7%
Injected drugs whilst in prison	<30	40.9%
Had sex last 12 months	680	18.2%
≥ 2 sexual partners last 12 months	219	18.7%
Never / infrequently use condoms (≥ 2 sexual partners)	189	18.5%
Had tattoo in UK	404	20.7%

***** Stimulants include: Amphetamines, Cocaine Powder, Crack Cocaine, Mephedrone (MCAT), and Stimulant Other
† Where recorded on the Harm Reduction Database (HRD) Wales

6.3.2 Hepatitis C RNA confirmed cases

As recorded on the HRD, 111 individuals were identified as having confirmed HCV infection in 2017-18, of which 16.2 per cent (n=18) were identified via direct confirmatory PCR (i.e. no anti-HCV testing) indicating evidence of previous known anti-HCV reactive status from previous years.

Of those who tested reactive for anti-HCV, only 51.7 per cent of individuals were recorded as having received a confirmatory PCR test in order to establish current infection. Where confirmatory PCR was recorded, 67.4 per cent (n=93) individuals were confirmed HCV RNA positive and identified as being actively infected with hepatitis C virus and requiring treatment (see *Table 10*).

Amongst the individuals reactive for anti-HCV where no confirmatory PCR had been recorded (n=129), 51.2 per cent of individuals were referred to clinical specialist services for onward assessment and confirmatory screening. For the remaining 48.8 per cent confirmatory screening was to be completed within SMS.

Table 10: Proportion of individuals who are anti-HCV reactive that were also confirmed RNA positive, by Health Board

	Individuals tested for anti-HCV†	% anti-HCV Reactive	% anti-HCV Reactive with PCR†	% HCV RNA Positive
ABMU	224	39.7	80.9	73.6
Aneurin Bevan	383	8.6	12.1	75.0
BCU	298	17.1	41.2	61.9
Cardiff and Vale*	27	22.2	50.0	66.7
Cwm Taf	440	18.6	46.3	57.9
Hywel Dda*	78	7.7	-	-
Powys Teaching	2	0.0	-	-
Grand Total	**1452**	**18.4**	**51.7**	**67.4**

* Due to existing local information governance regulations and resource complications the back-population of BBV tests conducted within SMS in Cardiff and Vale, and Hywel Dda University Health Board was not completed in full.
† with results recorded on the Harm Reduction Database (HRD) Wales

6.4 Repeat testing and new cases

Since implementation of the HRD, 79 individuals were repeated tested for HCV following a previous anti-HCV negative result. HCV incidence within those re-tested was measured at 5 per 100 person years. Routine and repeat testing needs to be embedded amongst all SMS to ensure all individuals at continued risk of BBV infection are tested as a minimum once every year.

6.5 Clients referred to clinical specialist services

Between 1st April 2017 until 31st March 2018, 165 individuals were referred via HRD into HCV clinical specialist services by SMS in Wales. Of which, 40 per cent were referred after testing reactive for anti-HCV, and remaining 60 per cent after being confirmed HCV RNA positive (see *Figure 9*).

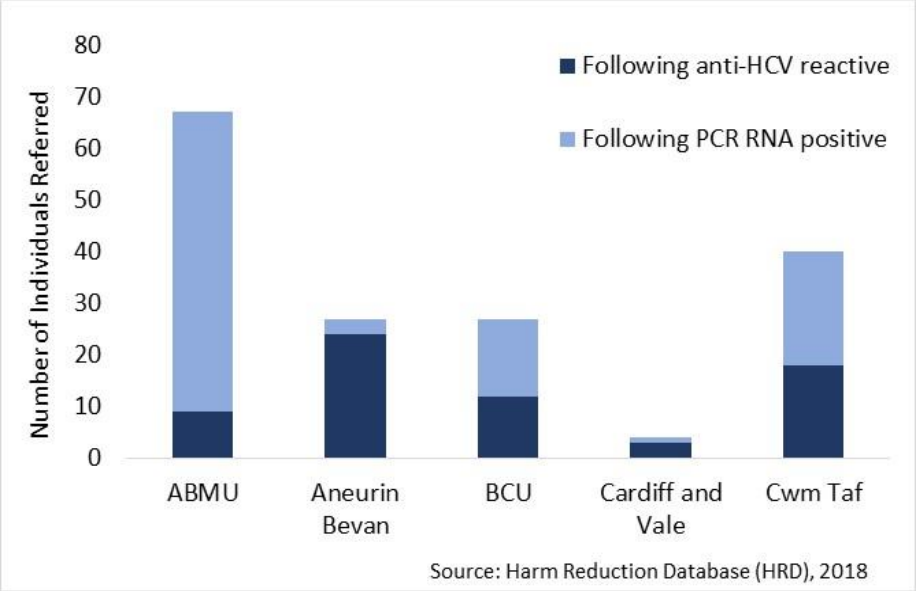

Figure 9: Number of individuals tested for hepatitis C within Substance Misuse Services in Wales and referred into clinical specialist services, by Health Board (2017-18)

In addition to the HCV testing process, the HRD also enables the recording of referral outcomes and key treatment milestones by clinical specialist services following referral. This feature of the HRD has been designed to support joint working partnerships between SMS and clinical specialist services post referral and to support engagement with individuals during treatment. For individuals referred into clinical specialist services (n=165) by SMS in 2017-18, an initial referral outcome was recorded in 60 per cent (n=99) of individuals (see *Figure 10*).

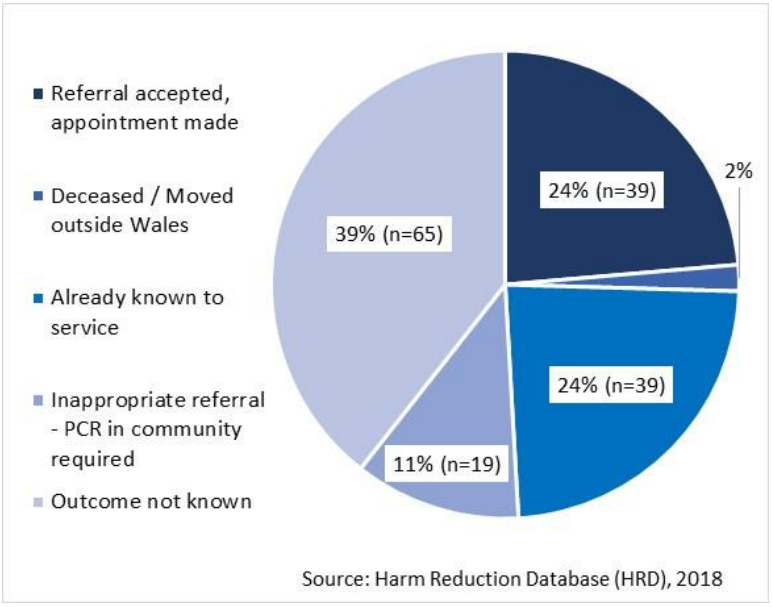

Figure 10: Initial outcomes following referral of individuals tested for hepatitis C into clinical specialist services in 2017-18

It should be noted that at time of reporting this section of the HRD did not facilitate the back-population of referral outcomes. As such, missing data within this section is likely to reflect any referrals that were made as part of the back-population exercise outlined section *3.2.5.*

7 Data quality and validation

7.1 Data quality

Table 11 provides the data completion rates across all seven Health Boards / APBs for key data fields for those individuals tested during the period 1st April 2017 – 31st March 2018. For all other data items the HRD has been configured to impose mandatory data recording prior to the completion of subsequent sections of the database.

As of May 2018, new developments have been introduced to the BBV module enabling the recording of 'not asked' option for all risk factor data items. This development has been made in order to support expansion and recording of BBV testing within settings where full assessment of risk prior to testing is not practical e.g. Community Pharmacies. As Wales moves forward towards the elimination of Hepatitis B & C, the ability to identify testing coverage within high risk populations will become a crucial factor in maximising both testing and treatment. Therefore, all risk factor fields will be monitored and subject to routine data quality reporting in future years.

Table 11: Completeness of data for individuals tested for BBVs by Health Board /APB 2017-18

	ABMU (n=250)	**Aneurin Bevan** (n=387)	**BCU** (n=349)	**Cardiff and Vale** (n=41)	**Cwm Taf** (n=479)	**Hywel Dda** (n=100)	**Powys Teaching** (n=10)
Ethnicity	41%	76%	49%	76%	92%	71%	40%
Housing status	40%	81%	42%	73%	91%	62%	80%
Employment status	40%	73%	44%	88%	92%	73%	100%
Country of birth	41%	75%	47%	68%	92%	71%	40%
Test results recorded	98%	99%	89%	75%	95%	81%	20%
Results given to individual	80%	51%	65%	28%	66%	14%	0%
Results given to individual where reactive/positive	81%	85%	65%	57%	68%	0%	-

7.2 Data validation

In order to assess completeness of tests recorded on HRD: BBV module, a validation and cross-comparison exercise was completed utilising BBV testing data as recorded on the Welsh Laboratory Information Management System (LIMS) for the period 2017-18. Data was provided detailing number of individuals tested by SMS and SMS were identified utilising unique LIMS location ID. Comparison of both datasets indicates some discrepancy between HRD: Blood Borne Virus module and LIMS extracts. For SMS in Wales,

larger numbers of individuals were recorded as having received BBV test on the HRD for all test types (see *Figure 11*).

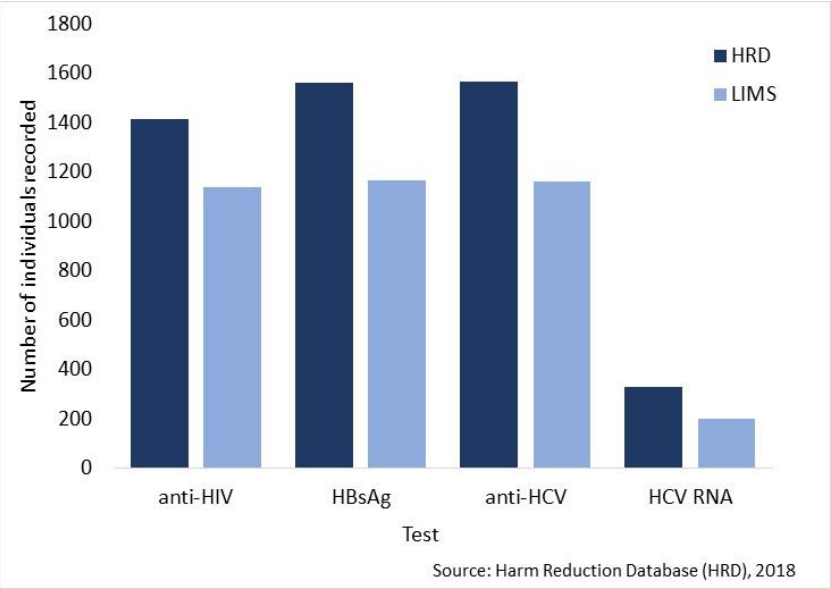

Figure 11: Number of individuals recorded as having received BBV test within Substance Misuse Services in Wales, by data source (HRD, LIMS), and by test

Onward exploration of this discrepancy has highlighted an inconsistency in the use of valid location IDs within SMS as test samples are submitted for laboratory analysis. Where valid location IDs are not provided it is likely tests have recorded under generic IDs e.g. “Illegible location”, “Location not on system”, “Not stated”. Additionally, where SMS are located in same premises as other health services e.g. community hospitals, primary care services the use of an alternative code is likely. All such hypotheses will have resulted in the reduced number of individuals being reported within the LIMS extract. **In order to support onward validation and future developments of HRD, all SMS and laboratories receiving BBV test samples to ensure appropriate assignation and use of valid location ID. This work will be taken forward by Public Health Wales over the coming year.**