

Blood Borne Virus Health Needs Assessment

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Part of the JSNA family



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Summary

This Health Needs Assessment (HNA) was developed to better understand the rate of infection of the population of Wiltshire with the three main blood borne viruses (BBVs): Hepatitis B (HBV), Hepatitis C (HCV) and HIV. This paper describes the epidemiology of BBVs and establishes a baseline for current services delivered, identifies the unmet health needs and gaps in service provision, and makes recommendations to improve the diagnosis, treatment and management of BBVs in Wiltshire. This HNA will inform the development of a Wiltshire Blood Borne Virus Strategy.

This HNA reviewed data from a number of sources already in the public domain. There were some gaps in the data collected and the need for further data is considered in the recommendations. Without accurate data we are unable to develop and coordinate an effective response to either support residents living with BBVs or reduce the potential for them to inadvertently transmit infection to others.

Wiltshire has low prevalence for all three BBVs. However, the often asymptomatic nature of these infections means that the risk of transmission is high; the availability of appropriate services to provide vaccination, testing and treatment will minimise the long-term health impacts.

There are a number of recommendations within this HNA for commissioners to consider and for service providers to action. Implementation of these recommendations via a Wiltshire BBV strategy will enable a much clearer understanding of the impact of BBVs on people's lives in Wiltshire and how we can work across the system to reduce transmission and encourage earlier diagnosis and treatment.

Contents

Summary	2
Background	4
National Policy	4
Local Health Needs	6
Local demographics.....	6
The Epidemiology of Blood Borne Virus's.....	7
Hepatitis B.....	7
Hepatitis C	9
HIV	11
Local Service Providers.....	14
Sexual Health Services	14
Substance Misuse Services	15
Prison Healthcare.....	16
Military Healthcare	17
Public Health	17
Wider Stakeholder Feedback	17
Identification of Health Gaps	19
Recommendations	21
References	22
Acknowledgements	25

Background

There are a range of BBVs which can cause ill health. As the greatest burden of ill-health is produced by hepatitis B virus (HBV), hepatitis C virus (HCV) and the human immunodeficiency virus (HIV), this HNA will consider only these 3 forms of BBV

Hepatitis B (HBV) causes inflammation of the liver ^[1] which can lead to liver cirrhosis and cancers. Transmission of the virus is by a number of blood-borne or bodily fluid transfer routes, including sexual intercourse, sharing of drug-injecting equipment, needle stick injuries, transfusions of blood and blood products, mother-to-baby transmission, skin piercing, sharing contaminated toothbrushes or razors, bites and scratches ^[1]. HBV is a vaccine preventable disease and vaccination is currently recommended for a number of groups at higher risk of infection

Hepatitis C (HCV) also causes inflammation of liver. Unlike HBV, acute HCV infection is often asymptomatic, jaundice is uncommon and serious disease is rare. Transmission is from contact with blood or bodily fluids from an infected person ^[1]. There is no vaccination for HCV.

HIV weakens the immune system against infections and some types of cancer. Infected people gradually become immunodeficient, resulting in increased susceptibility to a wide range of infections and diseases which can ordinarily be overcome. Transmission is via contact with blood or bodily fluids from an infected person, as a result of sexual contact, sharing of drug-injecting equipment and transfusions of blood and blood products ^[5]. Without prophylactic treatment 15% to 30% of infants born to HIV infected mothers are infected with HIV (before, during or shortly after birth through breastfeeding) ^[5]. HIV can also be transmitted by skin piercing with inadequately sterilised equipment and through needle stick injuries. There is no vaccination for HIV, but transmission can be prevented by practicing safer sex methods. HIV is treatable and with prompt diagnosis and treatment those living with HIV can expect a normal lifespan. When no virus is detectable in the blood, the virus can no longer be passed on.

National Policy

There are a number of BBV policies in place at a national level. Policies and guidance documents of greatest relevance to the Wiltshire population include:

Hepatitis B antenatal screening and new-born immunisation programme – Best practice guidance (2011) ^[26]. This guidance was developed to provide assistance to commissioners in improving the uptake rate of existing infant HBV immunisation programmes for new-borns who are at risk of HBV infection.

The Hepatitis B: migrant health guide (2014) ^[27] provides advice and guidance on the health needs of migrant patients for healthcare practitioners. In addition, there is also a **Hepatitis C: migrant health guide** ^[27] which provides information to healthcare practitioners on how to support patients who are/have been diagnosed with this condition.

The Hepatitis C in the UK (2017) report is the annual report which brings together national level data from all four countries of the UK on HCV infection, prevalence, burden of disease, prevention, awareness, testing & diagnosis and treatment & care [7].

The Infectious Diseases in Pregnancy Screening (2016): program overview guidance document published by PHE explains the NHS program, its policies and services [28].

Improving Testing Rates for Blood Borne Viruses in Prisons and Other Secure Settings (2014) [29]. This document provides information and resources regarding the new 'opt-out' testing policy being rolled out across prisons and other secure settings.

A Framework for Sexual Health Improvement in England (2013) a guidance document which explores the government's ambitions for improving sexual health and reducing the levels of new HIV infection [30].

Health Promotion for Sexual and Reproductive Health and HIV: Strategic Action Plan 2016 to 2019 (2015) which details PHE's approach to reversing the HIV epidemic [31]. It identifies the key areas for PHE action, and describes how PHE can work with partners at a national and regional level to improve health and reduce inequalities.

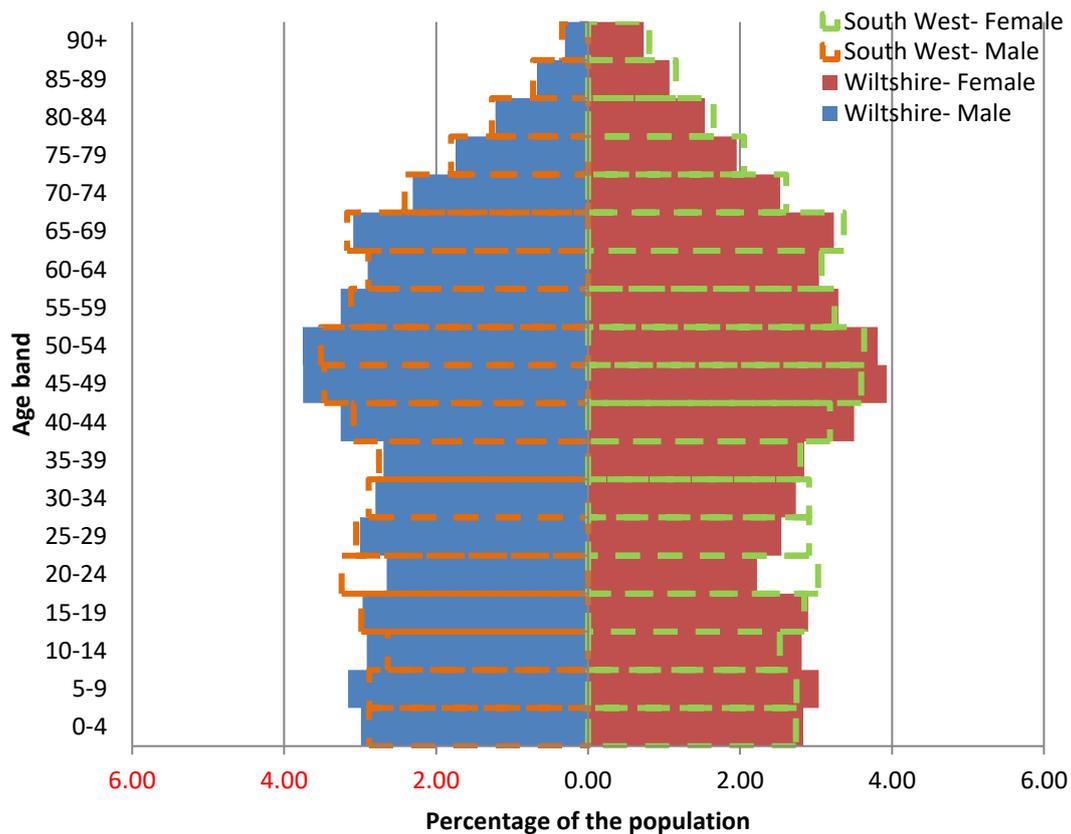
Although there are national policies in relation to BBVs there are no regional or local policies from which action plans can be devised and implemented. Following the publication of this HNA, the first BBV strategy Wiltshire will be developed.

Local Health Needs

Local demographics

There are an estimated 488,409¹ people living in the Wiltshire Local Authority area. The population is expected to grow. 51% of the population is female. Wiltshire is predominantly White British (93%). In 2016 ONS published population projections² which estimated Wiltshire's population will steadily grow to 516,000 by 2026. Figure 1 depicts the most recent population pyramid of Wiltshire and the South West region.

Figure 1: Population pyramid for Wiltshire and South West region



The age structure of Wiltshire is similar to the South West region. However, Wiltshire has a slightly smaller proportion of 20 to 24 year olds which might be a reflect the absence of a University. It is thought that the population pyramid in Wiltshire will become top heavy with a larger proportion of elderly and that in 2026 the number of people over the age of 65 will for the first time outnumber those under the age of 20.

The Epidemiology of Blood Borne Virus's

Hepatitis B

HBV causes inflammation of the liver [1]. With acute infection some people may experience flu-like symptoms including sore throat, joint pains, tiredness and nausea as well as abdominal pain, jaundice (yellowing of the skin and eyes) and liver failure. Long-term complications of being a HBV carrier include cirrhosis (scarring of the liver) and liver cancer.

Transmission of the virus is by a number of blood-borne or bodily fluid transfer routes, including sexual intercourse, sharing of drug-injecting equipment, needle stick injuries, transfusions of blood and blood products, mother-to-baby transmission, skin piercing, sharing contaminated toothbrushes or razors, bites and scratches [1]. In the UK, 95% of new chronic HBV infections occur in migrant populations, having been acquired through mother-to-baby transmission in the country of birth. The main high risk groups for HBV can be found in table one below [1].

Table 1: Main high-risk groups for HBV infection [1]

- People born or brought up in a country with an intermediate or high prevalence (2% or greater) of chronic HBV including all countries in Africa, Asia, the Caribbean, Central and South America, Eastern and Southern Europe, the Middle East and the Pacific islands
- Babies born to mothers infected with HBV
- People who have ever injected drugs
- Men who have sex with men (MSM)
- Anyone who has had unprotected sex, particularly:
 - people who have had multiple sexual partners
 - people reporting unprotected sexual contact in areas of intermediate and high prevalence
 - people diagnosed with a sexually transmitted infection
 - commercial sex workers
- Looked-after children and young people, including those living in care homes
- Foster carers and people who adopt children from medium and high prevalence countries
- Prisoners, including young offenders
- Healthcare workers and laboratory staff
- Immigration detainees
- Close contacts of someone known to be chronically infected with HBV

HBV is a vaccine preventable disease and it is currently recommended for a number of groups at higher risk of infection, including most of those outlined in the above table and is particularly important in the context of babies born to infected mothers as infection can take place in 90% of these children.

Prevalence estimates of chronic HBV infection in the South West ^[22] suggest that 0.49% of the population is infected with HBV. When modelled against the Wiltshire population there were an estimated 1,958 people living with chronic HBV in 2015 ^[6].

Since not all infected individuals will present to be tested and diagnosed, the real number of new acute infections occurring in Wiltshire is likely to be greater than the number reported. It is estimated that the annual incidence of HBV is 7.4 per 100,000 people ^[16]. Applying this rate to Wiltshire's population results in an estimated 36 new cases occurring each year, of which only about 4 cases will be diagnosed ^[22]. The remaining individuals will be unaware, given the asymptomatic nature of the infection, increasing the risk of further transmission.

There appears to be an increasing number of men contracting HBV with data extracted from the Public Health England HPZone database indicating that of the acute cases recorded 69.8% ^[22] were in men compared to only 30.2% ^[22] of women. HBV is a vaccine preventable condition and vaccination is widely available for those groups who are at increased risk of contracting the virus. The vaccination programme generally consists of three injections spread over a number of months. Unfortunately this has the consequence of individuals not returning for the second or third dose of vaccine and therefore not being fully protected. Table two below outlines this using information from the sexual health service.

Table 2: Number of HBV vaccinations received in sexual health services for Wiltshire residents, 2011-16 ^[25]

HBV vaccination	2011	2012	2013	2014	2015	2016
1st dose	95	100	121	106	124	163
2nd dose	62	101	115	100	112	142
3rd dose	62	114	103	83	103	114

Information from the Wiltshire Substance Misuse Service shows that not all individuals at risk of HBV infection are willing to accept and complete the vaccination course. However, vaccine coverage in HMP Erlestoke from 2007 to 2013 has sharply increased from 16% to 94% ^[22].

All pregnant women are offered screening for HBV at the earliest contact with their midwife. If the initial offer of screening is declined screening is re-offered at 28 weeks. Pregnant women diagnosed with HBV are notified by the laboratory lead to the Antenatal Screening Coordinator who will then arrange for the patient to have an early consultant obstetrician outpatient appointment and referral to a specialist hepatology clinic. The lead paediatrician in this area will also be informed as they will make clinical decisions about the baby's needs. Unfortunately, local data on the proportion of pregnant women who accept a HBV test is not available.

A national KPI surrounding antenatal screening exists and is the proportion of pregnant women who are HBV positive that attend for specialist assessment within 6

weeks of screening positive. The acceptable target is set at $\geq 70.0\%$ and the achievable target at $\geq 90.0\%$ [14]. In 2015-16, England achieved a level of 73.4% [14] and the South West 72.2% [14]. Performance at the GWH and SDH were both below the acceptable target at 50.0% and 50.0% [14], respectively. However, the actual numbers of women attending for specialist assessment are too small to be reported and therefore there is uncertainty around these figures. The performance at the RUH was 100%, although again actual numbers are low [14].

All clients are offered an HBV test at the same time as they are offered other BBV testing in substance misuse services. The take up rate may be slightly lower as the availability of a trained individual to perform the test at the time of offer is not always possible.

Universal testing for HBV can identify those in the population who have been infected with the virus and these tests can be undertaken in primary care and specialist service settings. There is no reliable data available in relation to the number of tests carried out for individuals at risk of HBV infection, although the numbers of individuals diagnosed is available. Although the long-term health consequences of HBV infection can be mild for most with the condition, serious ill health or death can result for some. The crude mortality rate of HBV related end-stage liver disease/hepatocellular carcinoma in persons less than 75 years of age is 0.076 per 100,000 [6].

Hepatitis C

HCV also causes inflammation of liver. Unlike HBV, acute HCV infection is often asymptomatic, jaundice is uncommon and serious disease is rare. About 80% of those with acute infection will go on to become chronically infected and of those 75% will have some degree of active liver disease. Long-term complications of chronic infection include cirrhosis (scarring of the liver) and liver cancer [1][4].

Transmission is from contact with blood or bodily fluids from an infected person [1]. In the UK, over 90% of chronic HCV infections are seen in people who currently or previously have injected or shared drug taking paraphernalia [1][4], with other risk groups for HCV found in table three below.

Table 3: Main high-risk groups for HCV infection [1]

- People who received a blood transfusion before 1991 or blood products before 1986
- People born or brought up in a country with an intermediate or high prevalence (2% or greater) of chronic HCV including all countries in Africa, Asia, the Caribbean, Central and South America, Eastern and Southern Europe, the Middle East and the Pacific islands
- Babies born to mothers infected with HCV
- Prisoners, including young offenders
- Looked-after children and young people, including those living in care homes
- People living in hostels for the homeless or sleeping on the streets
- HIV-positive MSM

-
- Close contacts of someone known to be chronically infected with HCV
-

There is no robust estimate of new cases of HCV per year at a national or local level but available estimates suggest that incidence has remained relatively stable in the UK over recent years. The most recent estimates of the prevalence of chronic HCV infection in England ^[11] suggest that 160,000 adults are chronically infected with HCV, equating to 0.4% of the adult population. If this prevalence figure is applied to the Wiltshire population for 2016, it is estimated that there are 1,952 people living with chronic HCV in Wiltshire ^[21].

HCV infection is primarily seen within individuals who have previously injected drugs (54% of recorded local cases), followed by people who currently inject drugs (26% of recorded local cases) ^[1] ^[4]. However, during 2016/17 figures received from the Wiltshire Substance Misuse Service indicate that only 53.2% ^[24] of their active client group actually received a HCV test which may impact on the local data as individuals living with the virus may not be identified,

In 2013, 10% of offenders new to HMP Erlestoke had a HCV test performed within 31 days of reception ^[20] which may impact on the numbers of individuals who are being identified as already infected with HCV.

There is no vaccine or other medication available which can prevent or reduce the risk of infection from HCV. However, there are harm reduction methods which can reduce the risk of infection; these methods include a needle exchange programme which reduces risk of sharing injecting equipment. Unlike HBV there are effective treatments available that, once infection has taken place, which clear the virus and minimise any long-term health impacts. Treatments for HCV are changing and developing fairly rapidly and consequently the numbers of people able to access and complete treatment is increasing.

Data from Public Health England has identified the numbers of individuals living within Wiltshire who have contracted HCV, but this information cannot be used to determine whether these infections are acute cases (where infection has taken place recently) or chronic cases (where the individual may have been infected some time ago). This data shows that in 2015 there were 39 newly recorded cases of HCV in Wiltshire ^[21].

As with HBV, one of the key elements of providing services to people at risk of contracting a BBV is the availability of testing. This is especially important in relation to HCV for individual's accessing substance misuse services. Wiltshire Substance Misuse Service (WSMS) offers testing to its clients, however the numbers who are actually testing is relatively low compared to those who accept the offer of a test and could also reflect the rates actually testing for HBV. In 2016-17, 1122 clients were offered HCV testing from WSMS (approximately 56% of all clients seen by the service) of which 1062 completed the test.

Unlike HBV, the long-term health impact of infection with HCV is more serious. Without effective treatment most patients will experience some form of liver disease which may even lead to death. The crude mortality rate of HCV related end-stage liver

disease/hepatocellular carcinoma in persons less than 75 years of age in Wiltshire is 0.46 per 100,000 [7].

HIV

HIV weakens the immune system against infections and some types of cancer. Infected people gradually become immunodeficient, resulting in increased susceptibility to a wide range of infections and diseases which can ordinarily be overcome. During the first few weeks after initial infection, individuals may be asymptomatic or experience a flu-like illness including fever, headache, rash or sore throat.

Transmission is via contact with blood or bodily fluids from an infected person as a result of sexual contact, sharing of drug-injecting equipment and transfusions of blood and blood products [5]. Without prophylactic treatment 15% to 30% of infants born to HIV infected mothers are infected with HIV (before, during or shortly after birth through breastfeeding) [5]. HIV can also be transmitted by skin piercing with inadequately sterilised equipment and through needle stick injuries.

Having another sexually transmitted infection and having multiple sexual partners puts individuals at greater risk of contracting HIV [5]. Transmission is especially efficient between MSM, in whom receptive anal intercourse is a particular risk factor and MSM remain the group most at risk of HIV in the UK. HIV prevalence in the UK is higher among people of black African ethnicity. those groups at high-risk of HIV infection are included in table four below.

Table 4: Main high-risk groups for HIV [1]

- People born or brought up in a country with an intermediate or high prevalence
- Babies born to mothers infected with HIV
- People who have ever injected drugs
- Men who have sex with men (MSM)
- Anyone who has had unprotected sex, particularly:
 - people who have had multiple sexual partners
 - people reporting unprotected sexual contact in areas of intermediate and high prevalence
 - people diagnosed with a sexually transmitted infection
 - commercial sex workers
- Prisoners, including young offenders

In 2015, 9 adult residents were newly diagnosed with HIV in Wiltshire and the rate of new HIV diagnosis per 100,000 population among people aged 15 or above was 2.3 per 100,000 [23]. This brought the total number of people diagnosed as living with HIV in Wiltshire to 221 [23]. Nationally there are an estimated additional 18% of people who have contracted the virus but are unaware of their infection; this would translate itself to an additional 39 individuals within Wiltshire bringing the total number to 260 [12].

In 2015, the prevalence rate of diagnosed HIV infection per 1,000 residents was 0.72 for Wiltshire. This was lower than the South West prevalence of 1.13 per 1,000 and lower than the England prevalence of 2.26 per 1,000 ^[12]. None of the Middle Super Output Areas (MSOA) in Wiltshire had a prevalence rate higher than 2 per 1,000 which is the NICE trigger for more intensive testing and screening systems to be put into place ^[23].

From 2011 to 2015 there was a decrease in the rate of new HIV diagnosis from 6.4 to 2.3 per 100,000 within Wiltshire, with the rate being consistently lower than the England rate currently at 12.1 and lower or similar to the South West rate which is currently at 4.5 ^[12].

In 2015, a breakdown in the demographic profile of the 221 individuals who were receiving treatment shows us that 151 were men and 70 were women, the majority (76.9%) were of white ethnicity, followed by black African ethnicity (17.2%), other ethnicity (4.55%), and black Caribbean ethnicity (1.35%) ^[23].

With regards to route of infection the majority of people living with HIV probably acquired their infection through sex between men and women (47.96%), followed by sex between men (46.15%), other/not known (4.99%) and injecting drug use (0.90%) ^[23].

If an individual is at risk of infection there are medications which reduce the likelihood of the virus successfully infecting the body. It takes a few days for HIV to become established in the body following exposure. Post-Exposure Prophylaxis (PEP) drugs given at this time may help the body's immune system to stop the virus from replicating (multiplying) in the infected cells of the body. The cells originally infected would then die naturally within a short period of time without producing more copies of HIV. PEP is a month-long course of drugs and the sooner someone starts taking the medication after exposure to infection the better, but it must be started within 72 hours after a possible exposure to the virus. The PEP drugs are the same drugs that HIV-positive people use to reduce its impact on their body.

A recently approved range of medications known as 'PrEP' is also now available. Pre Exposure Prophylaxis (PrEP) is a course of HIV drugs taken by HIV negative people before being exposed to the HIV virus to reduce the chance of becoming infected. Results in trials have been very successful, with PrEP significantly lowering the risk of becoming HIV positive and without causing major side effects.

One of the key aspects of identifying HIV infection is the availability of testing services. In 2015, an HIV test was offered at 82.7% of eligible attendances at sexual health clinics and 77.7% of those individuals chose to proceed with testing, consequently only 69.2% of eligible individuals attending received a test ^[12].

All pregnant women are offered screening for HIV at the earliest contact with their midwife. If the initial offer of screening is declined, screening is re-offered at 28 weeks. Pregnant women diagnosed with HIV are notified by the laboratory lead to the antenatal screening coordinator. The antenatal screening coordinator will then arrange

for the patient to have an early consultant obstetrician appointment at which point she is informed of her result and a referral made to the consultant in HIV/GUM. The paediatrician leading in this area will also be informed and an appointment will be offered to discuss the care of the baby. Antenatal screening rates have consistently been above the target rate of 90% at each of the three hospitals, who provide maternity services to the women of Wiltshire.

Although rates of HIV within injecting drug users in Wiltshire are relatively low, it is essential that we monitor this situation and ensure that testing opportunities are provided at every opportunity. In 2016/17 1,995 clients were seen by the main substance misuse provider but only 1,035 (51.9%) were tested for HIV [24].

There was no local data available for HMP Erlestoke on the proportion of new prisoners being tested for HIV or the prevalence of HIV in the population. Testing for HIV is covered by the National Offender Management Service and the recently implemented PHE national prison opt-out BBV testing policy should increase rates of testing.

One of the indicators on the PHE Sexual Health and Reproductive Profiles and the Public Health Outcomes Framework is the percentage of adults (aged 15 or above) newly diagnosed with HIV with a CD4 count <350 cells per mm^3 , as this represents those people who are diagnosed only after their immune systems have been damaged – late diagnosis. From 2013-15, in Wiltshire 44.1% of those with newly diagnosed HIV were diagnosed late, which was similar although slightly higher to the figures for the South West (41.1%) and England (40.3 %) [8]. Late diagnosis of HIV is the most important predictor of HIV-related morbidity and short term mortality. Individuals who are diagnosed late have a ten-fold increased risk of death within 1 year of their eventual diagnosis due to probable damage to their immune system which has already taken place, and therefore it is essential these rates as low as possible.

During 2015 Wiltshire Council in partnership with PHE launched an online screening programme for HIV. This enables individuals to order a kit online and to perform the test at home before returning it to an approved laboratory for processing. The result is provided via text or phone call depending on the outcome with follow up support available for results that come back as reactive. This additional method of testing enables those individuals who are unwilling or unable to attend traditional services to access HIV testing services to test and provides a further opportunity for those who are living with HIV but remain undiagnosed to access the treatment and care they require.

Local Service Providers

To understand the current provision of services related to BBVs in Wiltshire and any gaps in service delivery, detailed information about services was collected by use of a provider survey. Questions were adapted according to which service/organisation it was sent to and an appropriate member of staff from each organisation was contacted by email to explain the purpose of the BBV HNA and purpose of the questionnaire.

Information on sexual health services was obtained from consultants in sexual health and HIV and managers of sexual health services. Information on drug and alcohol services was obtained from either the team leader or a health professional part of the organisation. Information on antenatal screening and neonatal vaccination was sought from the antenatal screening coordinator and screening and immunisation manager of NHS England South Central. Information on prison healthcare was sought from the Clinical Liaison Manager, Healthcare HMP Erlestoke, and Inspire Better Health.

It covered the following broad areas:

- Service and organisation details
- Geographical catchment
- Access and availability
- Staffing and capacity
- HBV, HCV and HIV testing
- HBV vaccination
- Referral to specialist services
- Gaps in service and suggestions for improvement

Sexual Health Services

There are three main sexual health services that provide BBV services to Wiltshire residents:

- Department of Sexual Health, Salisbury District Hospital (SDH), Salisbury NHS Foundation Trust
- Swindon Sexual Health, Great Western Hospital (GWH) Great Western Hospitals NHS Foundation Trust
- Contraceptive and Sexual Health Department, Royal United Hospital (RUH), Royal United Bath Hospitals NHS Trust

All of the sexual health clinics are open access venues and patients may self-refer, these account for the majority of patients; the clinics will also take referrals from other health professionals. Appointments at sexual health clinics are available on all days of the week at, at least one of the clinic sites. There is less availability of walk-in clinics but there are slots available at, at least one of the clinic sites, on all weekdays in Wiltshire and four weekdays in Swindon. Evening clinics are available at, at least one of the clinic sites, on four weeknights in Wiltshire and three weeknights in Swindon. The clinic at GWH is the only clinic to offer weekend appointments (Saturday morning).

The sexual health services are well-staffed with multidisciplinary teams consisting of Consultants in GUM and HIV medicine, specialty doctors training in GUM medicine, general practice trainees, band 5 to 7 nurses, health care assistants and health advisors.

No sexual health or BBV outreach services are provided by Salisbury NHS Foundation Trust. Swindon Sexual Health provides outreach contraception nurses for young people and people at risk of sexual exploitation who liaise with clinic nurses and the police and encourage BBV testing. Swindon Sexual Health also holds a clinic once per month for commercial sex workers in Swindon town centre.

The sexual health service provided by Salisbury NHS Foundation Trust refers patients with newly diagnosed HBV or HCV infection directly to the Specialist Hepatology Nurse at SFT and a letter is also sent to the patient's GP. Swindon Sexual Health and the Sexual Health Service at the RUH refer patients with newly diagnosed HBV or HCV infection back to their GP and the GP is asked to refer the patient on to the relevant hepatologist.

For any patient who provisionally tests positive for HIV infection, they are recalled for an urgent repeat test and a discussion with one of the HIV/GUM consultants or one of the specialist nurses. The patient will then be seen within two weeks (or more urgently if required) by a HIV/GUM consultant in clinic for the results and to discuss treatment options

All of the sexual health teams from the three main hospitals in and around Wiltshire undertake awareness raising sessions throughout the year. This includes the provision of training sessions to groups of individuals, displays and public awareness interventions, or media interviews as and when appropriate. This is particularly evident during National HIV Testing Weeks held in November and World AIDS Days in December.

Substance Misuse Services

In Wiltshire there are two main drug & alcohol services, one for adults (Turning Point, Wiltshire Substance Misuse Service) and one for young people aged 17 and under (Motiv8 provided by Developing Health and Independence (DHI)). The Motiv8 service does not provide any testing services for BBVs although they will discuss these infections with clients.

Turning Point is open Monday to Friday 09:00 to 17:00. Access to the service is via drop-in, self-referrals or referrals from a health professional. The service has trained most staff to undertake testing for HBV, HCV and HIV using dried blood spot testing. However, on occasion the service is unable to test clients at the same appointment a test is offered if there are no trained staff available; this results in clients having to be invited back to be tested. A nurse is the BBV lead for the service and she provides positive test results and refers clients on to specialist services.

The service also provides different forms of outreach work. They actively encourage new referrals and clients into treatment by attending GP surgeries and 'Doorway' a drop in project for the homeless. The service also makes use of a mobile recovery bus

and attends local festivals to promote testing for BBVs. Other aspects of the service that are provided are listed below:

- 1:1 support
- Substitute prescribing and recovery based prescribing
- Comprehensive 3 phase group work programme
- Motivational Enhancement Therapy
- 12 sessions of counselling
- Needle & Syringe exchange
- Peer led interventions
- Peer mentoring & volunteering opportunities
- Housing, debt management and benefits advice/support
- Multi-agency working to support individual's needs outside of their substance misuse
- Sign posting & support for carers

Prison Healthcare

In response to evidence of significant under-testing of prisoners for BBVs NHS England, the National Offender Management Service and PHE published their National Partnership Agreement in 2013, which has as one of its priorities the introduction of a national prison opt-out BBV testing policy. Prisoners at reception are informed that tests for BBVs will be performed unless they actively refuse. All prisoners will be tested unless:

- They have been tested in the last 12 months and have NOT subsequently been at risk of infection.
- They are known to be positive for a BBV.
- For HBV If a patient has documented evidence of a negative result and has been fully vaccinated against HBV they do not require further testing for this BBV infection.

If a positive result is received cases are referred on to secondary care for assessment and treatment follow up by a relevant specialist.

In Wiltshire, HMP Erlestoke is the only prison and the opt-out policy is being followed in that all prisoners entering HMP Erlestoke are tested for HBV, HCV and HIV using venous blood samples by the associated primary care team, unless they refuse. Prisoners can also self-refer for BBV testing at any stage. The prison offers ultra-rapid HBV vaccination or combined hepatitis A (HAV) and HBV vaccine to all prisoners depending on clinical need. All newly diagnosed cases of HBV or HCV are referred for specialist care to a clinical nurse specialist at GWH, who visits HMP Erlestoke on alternate Tuesdays. All new diagnoses of HIV are referred for specialist care at SFT and there are no visiting clinicians for HIV care.

In addition to the above the prison's Substance Misuse team also raises awareness of BBVs with prisoners. They discuss BBVs as part of their initial assessment with patients and they perform harm minimisation sessions with them as well. The Substance Misuse team can refer patients for BBV testing at any stage.

Military Healthcare

Wiltshire has a number of military barracks including Larkhill, Bulford, Tidworth, Perham Down, Upavon and Salisbury. There is no Ministry of Defence policy on BBV screening on recruitment but personnel should be screened by army clinicians if they are considered to be at high risk of infection. Recently, the SDH sexual health team have provided training for army clinicians based in the Tidworth, Bulford and Larkhill camp medical centres on testing for sexually transmitted infections, including HBV and HCV and point of care testing for HIV. Post-exposure prophylaxis is also offered by army medical centres if required. If a case of HBV or HCV occurred within one of the personnel in a Wiltshire barrack the PHE Health Protection Team (HPT) North will be informed.

HBV vaccination is offered to all personnel on entry to the UK armed forces unless clinically contraindicated. The traditional vaccination schedule is usually used, as per the 'Green Book', with a booster dose at 5 years. Only in exceptional circumstances are accelerated and super-accelerated schedules used. Testing for sero-conversion is offered 1– 4 months after completion of the primary course to all personnel who are considered to be at high occupational risk of HBV infection.

Public Health

Currently the Public Health team within Wiltshire Council does not have a work stream looking specifically at BBVs. Some local campaign work including the development and distribution of posters together with the distribution of resources developed by Public Health England has taken place, however to date no large initiative has been planned.

Wider Stakeholder Feedback

In addition to asking for information in relation to service provision, additional feedback from professional stakeholders was also sought. This survey was distributed to a wide range of organisations including drug and alcohol support services, sexual health clinics, hepatology departments, primary care and maternity units. Due to the difficulty in identifying and supplying individuals who are living with a BBV a patient / client survey was not completed as part of this HNA.

The sexual health clinics report that walk-in clinics are very popular and sometimes over-subscribed. They are able to meet demand when the team is at full capacity but struggle when they are not fully staffed. Swindon Sexual Health are unable to deliver the sexual health outreach clinics previously being held in the male sauna in Swindon but the team hope to be able to deliver this again in the future. While Swindon Sexual Health provide a once monthly clinic for commercial sex workers there is no specific service in Wiltshire.

In terms of the neonatal HBV vaccination, there was concern that babies who are at high risk of being infected with HBV, due to factors other than being born to a HBV positive mother, may not necessarily be receiving the HBV vaccination at birth. Other risk factors may include a HBV positive household family member or a parent that

injects drugs but is not currently infected with HBV. The antenatal booking form used in the community for SDH does include a question about other family members having hepatitis but apart from this there is not a formalised pathway/guideline for this to happen.

At HMP Erlestoke, there has recently been no link nurse, which means there is no formal handover for ongoing community care to nursing staff from the hepatology specialist nurse. Once a link nurse has been identified this should allow for better communication between primary and secondary care. In addition, blood test requests from the hepatology specialist nurse are not on ICE (electronic pathology system) and have to be handwritten on request forms, which often get returned to be corrected and delay patient care. Finally, there is also some reported concern that only a low level of screening is occurring at HMP Erlestoke Prison although it has been reported that the opt-out BBV screening has now been implemented.

One of the general points made by stakeholders for how BBV services in Wiltshire could be improved was that there should be greater linkage and partnership working between services. There was a suggestion that a Wiltshire-wide BBV working group could be created where professionals could meet to discuss referrals, build closer links and develop understanding of what is happening county-wide. This would also allow for sharing of challenges faced and best practice.

Although this HNA has been developed to ensure that we are able to provide the most effective level of service to local residents, we were not able to consult with them in the preparation of the document. This was due to a number of reasons including the difficulty in identifying individuals who would be willing and able to participate in stakeholder feedback due to the stigma and discrimination which individuals who are living with these infections face. Instead we asked service providers to feedback anecdotal information from their clients to identify what is working well and what needs improving.

Identification of Health Gaps

Need identified	Demand requested	Current supply	Gaps
Reliable, accurate and meaningful data on levels of HBV infection should be available	Service planning should use the correct data to ensure services are provided from an effective evidence base	Data is available from providers upon request for specific information	Data is not coherent and has to be requested on a piecemeal basis
Effective HBV vaccination programmes should be in place with all relevant service providers	HBV is a vaccine preventable infection, with increased vaccination levels fewer individuals will contract the virus	Vaccine is available from specialist providers such as primary care, sexual health clinics and drug and alcohol services	Vaccination levels remain low in certain providers such as drug and alcohol services.
No data is available on the numbers of pregnant women accepting or declining HBV screening	Service planning should use the correct data to ensure services are provided from an effective evidence base	No data is available from any of the three acute trusts providing maternity services for Wiltshire residents	Data should be routinely collected on the number of women offered, accepting or declining HBV screening
Effective referral pathways should be in place for pregnant women diagnosed as HBV positive	All women diagnosed as HBV positive should be referred for specialist care	Referral pathways exist but are not always adhered to within specific timescales	Only one of the three acute trusts providing maternity services is meeting the national target for referral.
Lack of awareness of BBVs, how they are transmitted and treatments available	Greater awareness levels will reduce transmission rates and improve treatment access	Awareness of HIV has improved over recent years; however there remains a lack of awareness around Hepatitis.	Additional information resources should be made available to inform individuals about testing, treatment and prevention initiatives

Need identified	Demand requested	Current supply	Gaps
Reliable, accurate and meaningful data on levels of HCV infection should be available	Service planning should use the correct data to ensure services are provided from an effective evidence base	Data is available from providers upon request for specific information	Data is not coherent and has to be requested on a piecemeal basis
Reliable and accurate data on HCV testing rates should be available from all providers	Effective testing programmes should be developed targeting groups most at risk	Data is currently being provided per individual organisation conducting testing	Data provided is not accurate and is being received from a number of providers with no consolidation
Reduction of HIV late diagnosis rate	People diagnosed with HIV 'late' have reduced life expectancy and poor health	Testing to reduce levels of undiagnosed HIV exist in a variety of settings including primary care, sexual health clinics and via home sampling systems	Current awareness of the range of HIV testing opportunities should be improved and the stigma associated with testing reduced.

Recommendations

1. We need to identify with all provider services what information they are collecting and how it is reviewed for accuracy and completeness.
2. Discussions need to take place with NHS England (Health and Justice) on the collection and provision of data from HMP Erlestoke.
3. An effective range of data should be collected by commissioned drug and alcohol agencies to ensure data is accurate and provides a clear evidence base of BBV testing and vaccinations which have taken place.
4. Development of local BBV awareness raising campaigns should take place using both local and national resources using consistent messaging.
5. Develop support programmes to increase the level of HBV vaccinations within specialist services such as sexual health units and substance misuse services.
6. Develop effective follow up mechanisms for patients who fail to attend for the second or third dose of vaccination.
7. Seek information on the number of HBV screens offered and accepted within maternity services.
8. Improve links with primary care partners to ensure those at greater risk of infection are screened for BBVs.
9. All client facing staff within commissioned drug and alcohol services should be trained to undertake point of care testing for BBVs.
10. Improvements in the referral process for pregnant women who test positive for HBV into specialist hepatology services should take place to meet national targets.
11. Develop a system to monitor referrals into specialist services from non-statutory service providers to minimise those individuals 'lost to follow up'.
12. Information should be uploaded by HMP Erlestoke into the PHE GUMCAD system to ensure effective monitoring of testing and vaccination levels.
13. Increase awareness of the HIV home sampling programme to facilitate additional testing opportunities.
14. Develop local awareness raising campaigns to inform residents how and where they can undertake BBV testing and also to raise general levels of knowledge.
15. Develop resources which 'normalise' attitudes towards those individuals infected with a BBV to reduce levels of stigma and discrimination.

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