Public Health England

Protecting and improving the nation's health

Hepatitis B in the South East
2016 data

March 2019

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Public Health England
Wellington House
133-155 Waterloo Road
London SE1 8UG
Tel: 020 7654 8000
www.gov.uk/phe
Twitter: @PHE_uk
Facebook: www.facebook.com/PublicHealthEngland

Prepared by: Hannah Hume, Hikaru Bolt and Karthik Paranthaman. Field Epidemiology South East and London, Field Service, National Infection Service

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Notes on the report

Intended audience

This report is aimed at healthcare professionals involved in the diagnosis and/or treatment of patients with hepatitis B, commissioners, providers and public health professionals involved in planning and provision of preventative and treatment services for hepatitis B services, and other stakeholders working in the field of hepatitis B.

Aim of report

The aim of this report is to describe the epidemiology of hepatitis B in the South East up to 2016. The report provides an update on trends, areas of high burden of disease and at-risk population groups, and identifies opportunities for interventions to reduce disease burden.

Data sources

This report presents data from a number of sources including: laboratory data and sentinel surveillance data collated by PHE's blood safety, hepatitis, sexually transmitted infections (STI) and HIV service including data from the unlinked anonymous monitoring survey of HIV and hepatitis in people who inject drugs; neonatal vaccination data from NHS digital; vaccination data from the National Drug Treatment Monitoring System (NDTMS).

Useful references

Data tables of the Unlinked Anonymous Monitoring Survey of HIV and Hepatitis in People Who Inject Drugs available at:
www.gov.uk/government/publications/people-who-inject-drugs-hiv-and-viral-hepatitis-monitoring

Public Health England Liver Disease Profiles available at:
https://fingertips.phe.org.uk/profile/liver-disease

Executive summary

Hepatitis B is a vaccine preventable infection and is an important cause of chronic liver disease and liver cancer (hepatocellular carcinoma). Globally, the primary transmission routes for hepatitis B infection are vertical (from infected mother to newborn) or through unsafe medical practices. However, in the UK hepatitis B is mainly transmitted by contact with blood and other infected bodily fluids, particularly during sex or by needle sharing in people who inject drugs (PWIDs). The majority of chronic infections are acquired abroad in people who were born or have lived in endemic countries but are now resident in the UK. Prevention strategies in the UK include vaccination of all babies (born since August 2017) and individuals at an increased risk, along with interventions aimed at reducing sharing of needles and injecting equipment amongst PWIDs. Public Health England (PHE) Health Protection Teams (HPTs) follow-up individuals with acute hepatitis B infection in order to promote vaccination of close contacts and prevent further transmission.

The incidence rate of acute hepatitis B in the South East is the lowest in England. It has decreased at 0.49 per 100,000 population (44 cases) in 2016 compared to 0.69 in 2015 (61 cases) in 2015. For comparison, the incidence rate for England in 2016 was 0.82 per 100,000. The highest number of acute hepatitis B infections were reported in Portsmouth, Southampton, Surrey and Medway.

Chronic hepatitis B infections, the majority of which are acquired abroad, have the most substantial impact on morbidity and mortality. Among 685 new laboratory reports of Hepatitis B among South East residents in 2016, chronic hepatitis B infection constituted the overwhelming majority (93.6%). Number of tests conducted at sentinel surveillance laboratories has remained relatively stable since 2012, as have the proportion of hepatitis B positive tests. Among the sentinel surveillance laboratories, the majority of hepatitis B testing is being conducted in General Practice (34.0%) and Other Ward Types (16.5%). The highest positivity was in patients tested in prisons (6.6%), HIV specialist services (3.4%) and specialist liver services (2.2%).

Men aged 25-44 years have a higher burden of hepatitis B compared to other age groups and women. Compared to those who identified as white ethnicity, those who identified as other or mixed ethnicity who were tested for hepatitis B were over 15 times more likely to test positive, black ethnicity were eleven times more likely to test positive and Asians 5 times as likely to test positive. Testing among South Asians has remained stable at sentinel surveillance sites; however, there was a decrease in the percentage of positive tests in 2016.

People who inject drugs continue to experience a high burden of hepatitis B. In 2016, anti-HBc prevalence among PWID in the South East decreased to 9%, compared to

18% in 2015. This is lower than the prevalence among PWID in England (13%). Direct or indirect sharing of injecting equipment, an important risk factor for transmission, has increased to 50% in 2016 up from 45% in 2015.

From the National Antenatal Infections Screening Monitoring data, the percentage of pregnant women attending antenatal services testing positive for hepatitis B infection has remained relatively stable at 0.26% in 2016 compared with 0.29% in 2012. Among those testing positive, the vast majority were of white ethnicity (89.4%).

While uptake of antenatal screening for hepatitis B in England in 2016 remains very high at 98%, figures for the South East were not available at the time of production of this report. In 2017/18, 14 local authorities in the South East reported 100% uptake of 3 doses of vaccine at 12 months. Of the 3 local authorities with less than 100% coverage, Kent, Medway and Surrey reported 96.8%, 93.5% and 88.9%, respectively. For coverage at 24 months, 6 local authorities (West Berkshire, Southampton, Oxfordshire, Reading, Kent and Surrey) reported less than 100% uptake. It is important that commissioners and providers in local areas where information is incomplete, or vaccination uptake is less than 100%, work to improve this.

Vaccination uptake in people who inject drugs (PWID) has increased overall in the past decade, with 67% of people in the South East in the unlinked anonymous survey reported as having received hepatitis B vaccination in 2016, compared to 57% in 2007. Of the people beginning a new treatment journey in structured drug treatment centres in the South East, 7.1% of those eligible were offered and completed a course of the hepatitis B vaccinations in 2016/17; this figure is similar to the overall uptake in England (8.1%).

In late 2019, coverage data is expected for infants receiving hepatitis B vaccine as part of routine childhood immunisation in 2018/19. Given that, 95% of children in the South East received DTaP-IPV-Hib vaccine by 12 months of age in 2017/18, it is likely that a high proportion of infants will benefit from protection against hepatitis B following implementation of the universal infant programme.

1. Recommendations

Health care practitioners should be aware of those at greater risk of hepatitis B infection, including those who were born in or have lived in endemic areas, and have a low threshold for testing. General Practitioners (GPs) should offer testing to new registrants who are at increased risk.

Health care providers should have appropriate measures in place to identify patients at high risk of hepatitis B infection and ensure that they are vaccinated accordingly. This includes those who may be at risk through sexual activity, PWID and household contacts of a case with acute and/or chronic infection.

Providers of antenatal care and vaccination of at risk babies should ensure that information materials on hepatitis B are available in languages most frequently spoken by their local clients.

Commissioners, providers and public health professionals should work together to ensure that there are robust pathways for the identification of babies born to hepatitis B positive mothers to ensure timely vaccination. Guidance and promotional material are available from the PHE website (1).

Commissioners and providers in local areas where the neonatal vaccination information was incomplete or uptake of vaccination was below 100% should work to improve completeness and uptake.

Commissioners and providers of prison health services should offer testing for those at risk of hepatitis B and where the reported uptake of hepatitis B vaccination was less than 80% should work to improve reported uptake.

Commissioners and providers of drug treatment services should offer testing for those at risk of hepatitis B and work to increase further hepatitis B vaccination uptake in former and current injecting drug users.

Commissioners and providers of drug treatment services should ensure that household contacts and children of PWID are screened and offered vaccination directly or through other healthcare services.

Commissioners and providers should continue to ensure that injecting drug users have good access to needle exchange services, and that a full set of clean injecting equipment is provided for every injecting episode to reduce further transmission.

All services diagnosing chronic hepatitis B are advised to ensure that GPs are aware of their patients' diagnosis. All services managing patients with hepatitis B should be aware of guidelines and referral pathways for management of patients and their close contacts who might require screening and vaccination.

Commissioners, providers and public health professionals should work together to ensure that systems exist to support clinical practitioners in detecting chronic hepatitis B infection in patients at increased risk. This should include being able to identify the country of birth, a key risk factor for hepatitis B infection.

Diagnostic laboratories and PHE should continue to work closely to improve reporting of acute and chronic infections.

Commissioners and providers of prison health services who did not report hepatitis B vaccination data should work to ensure that data are reported.

2. Background

Hepatitis B is a vaccine preventable infection that can cause chronic liver disease and liver cancer (hepatocellular carcinoma). The virus is transmitted via contact with blood and other infected bodily fluids. Although the incidence in the UK is low, hepatitis B is of public health concern. Virtually all the morbidity and mortality associated with hepatitis B is a result of the long-term consequences of chronic infection. Symptoms of acute infection include general malaise, nausea, abdominal pain, inflammation of the liver (hepatitis) and jaundice at later stages of disease. Acute infection can be asymptomatic, especially among younger children. Clearance of the virus is highly related to the age at which the infection is acquired. Chronic infection is more likely in those infected at a very young or at an older age with 70% to 90% of those infected within the first year of life developing chronic infection (2). In contrast, around 3-5% of adults acquiring hepatitis B will fail to clear the virus and develop a chronic infection. Many people with chronic infection are asymptomatic and unaware of their infection. Unless they are tested, they will remain undiagnosed until they present with late stage disease. Around 20-25% chronic carriers develop progressive liver disease (3). Liver disease is the only disease group with an increasing mortality rate in England and hepatitis B is an important contributory cause for this increase (4).

While the incidence of acute hepatitis B is generally low in the UK, certain groups are at an increased risk. The majority of cases who acquire hepatitis B in the UK and the South East acquire it through sexual contact, either heterosexual or sex between men. People who have an increased risk of being exposed to blood and other body fluids of infected individuals through their occupations e.g. healthcare workers, and those exposed through tattooing, piercing, acupuncture, sharing of injecting equipment including needles and associated paraphernalia are also at higher risk. Infants born to infected mothers and those in prisons are other key at-risk groups for acute hepatitis B (3).

The prevalence of chronic infection in the UK estimated from the sentinel surveillance programme is 1.1%; this remains low by international standards (5, 6). Globally, estimated prevalence of chronic infection in the general population is 3.5%, and an estimated 257 million people are living with HBV. HBV prevalence is higher in the Western Pacific regions (6.2%), Africa region (6.1%), Eastern Mediterranean region (3.3%) and South-East Asia region (2.0%) (7). Annual deaths worldwide from hepatitis B were estimated to be 900,000 people in 2015 and were predominantly due long term complications of hepatocellular carcinoma or cirrhosis (7).

Sentinel surveillance and survey of UK blood donors suggest migrants are disproportionately affected by chronic hepatitis B (8). The majority of migrants with chronic infection likely acquired their infection at birth or during childhood where

infection risks are considerably higher than the UK. Uninfected UK residents visiting friends and relatives in endemic countries who may access healthcare while abroad are also at risk. Hence, pre-travel vaccination is recommended for this group.

Interventions to prevent transmission of hepatitis B include vaccination of at risk groups, reducing sharing of needles and injecting equipment among people who inject drugs (PWID), health care infection control policies including vaccination of staff, identifying and removing common sources of infection, screening contacts and providing infection control information to newly diagnosed cases.

Since August 2017, the UK routine childhood immunisation programme includes hepatitis B to protect against future exposure risks. Hepatitis B vaccine is also offered to those at higher risk of contracting the virus and for those at risk of liver related complications (3).

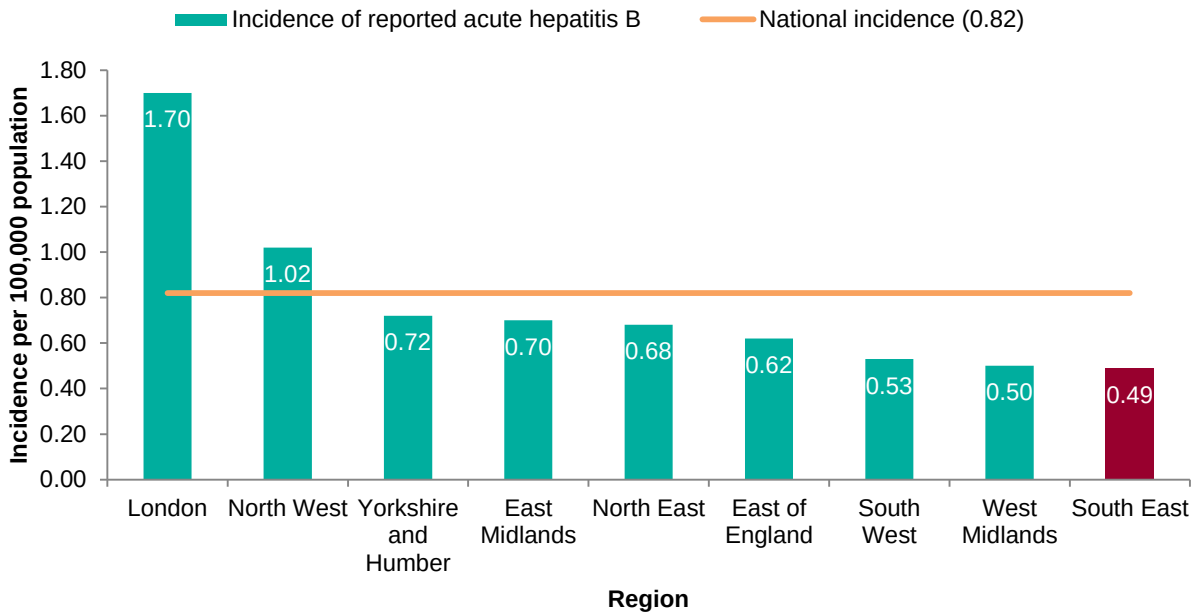
PHE Health Protection Teams (HPTs) coordinate the public health response to newly reported cases of acute hepatitis B, as per the agreed standards for surveillance and follow-up (9). For acute infections, HPTs attempt to identify the most likely transmission route(s), provide infection control advice to the case and recommend appropriate testing and vaccination of close contacts. HPTs support local partners in developing systems to improve detection and management of undiagnosed hepatitis B infection.

3. Acute hepatitis B

Information on acute hepatitis B is derived mainly from the national PHE acute hepatitis B surveillance system, which combines data from diagnostic laboratories and HPZone, a database that captures all cases reported to PHE HPTs. Further details are available in Appendix 1.

National surveillance shows that the South East had an incidence rate of acute hepatitis B of 0.49 per 100,000 population in 2016 (44 cases), which is lower than the rate seen nationally (England rate 0.82 per 100,000) (5) (Figure 1).

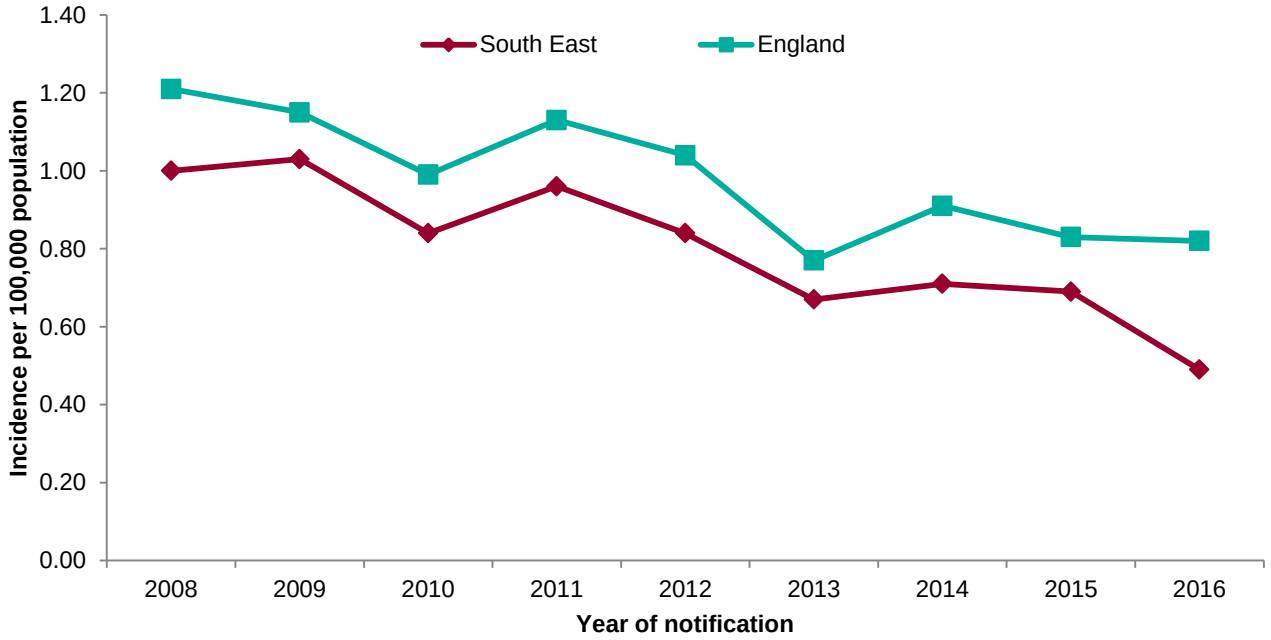
Figure 1: Incidence of reported acute hepatitis B by region of residence per 100,000 population, 2016



Source: PHE Acute Hepatitis B surveillance

Incidence of acute hepatitis B in the South East has steadily decreased over time (1.00 per 100,000 in 2008 to 0.49 per 100,000 in 2016). The national rate seen in England has a very similar pattern but has consistently been higher (Figure 2).

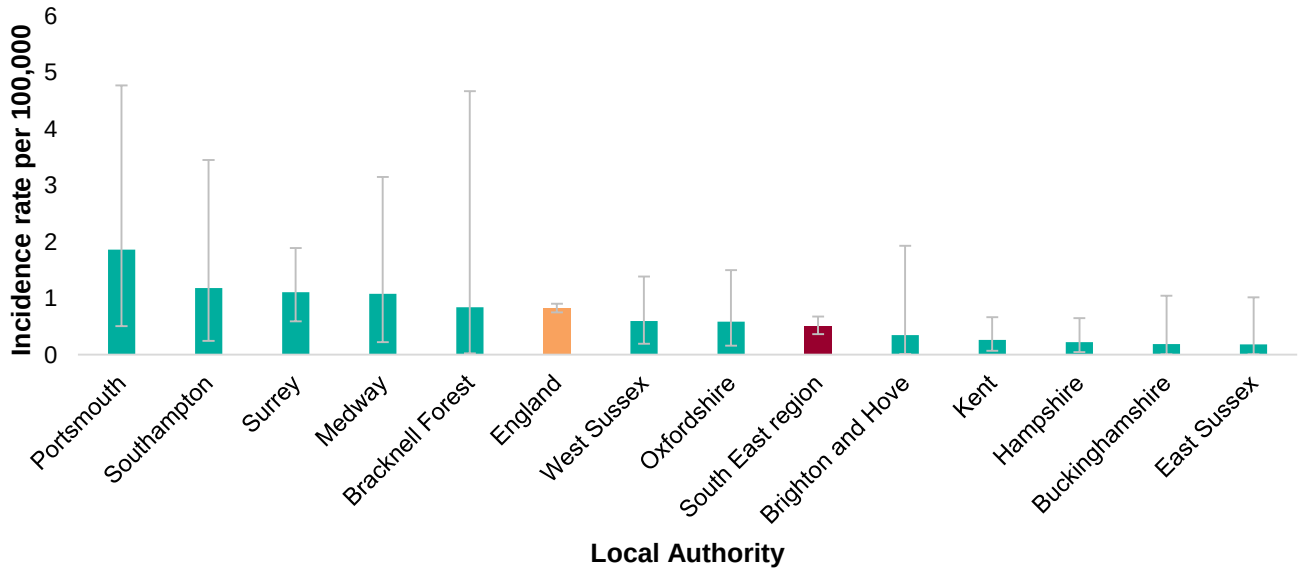
Figure 2: Incidence of reported acute hepatitis B per 100,000 population in the South East and England, 2008-2016



Source: PHE Acute Hepatitis B surveillance

Portsmouth, Southampton, Surrey and Medway local authorities reported the highest incidence of acute hepatitis B in 2016 (Figure 3). Six local authorities (West Berkshire, Reading, Slough, Windsor and Maidenhead, and Wokingham) had rates that were too low to report.

Figure 3: Acute hepatitis B incidence rate per 100,000 by local authority, 2016



Source: PHE Acute Hepatitis B surveillance

4. Chronic hepatitis B prevalence estimates and trends in testing

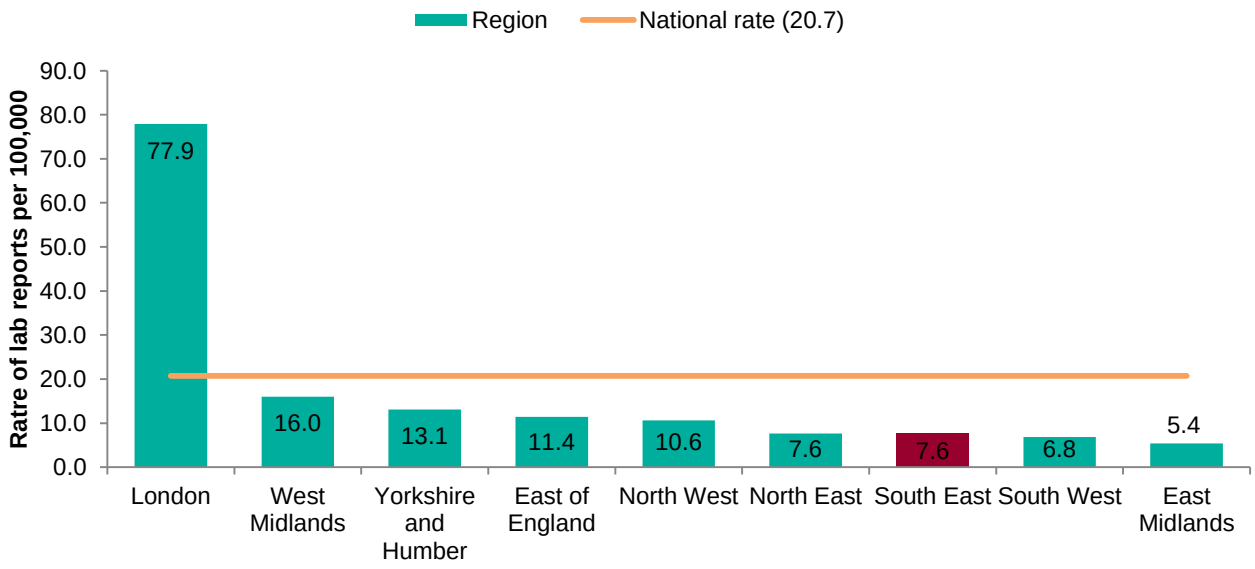
Information on chronic hepatitis B is derived from a range of PHE data sources, including the laboratory surveillance, the sentinel surveillance of blood-borne virus testing, unlinked anonymous monitoring survey of PWID, the national antenatal infections screening monitoring and enhanced surveillance of antenatal hepatitis B. Further details are available in Appendix 1.

4.1 Laboratory reports

There are certain caveats to note when interpreting data on laboratory reports. If patient postcode or GP information is unavailable, the patient will be assigned to the postcode of the testing laboratory. In 2016, patient postcode was available in 78.1% of South East laboratory reports compared to 76.4% in 2015 (11). Laboratory reporting arrangements vary and are likely to be incomplete.

There were 685 new laboratory reports of hepatitis B in South East England residents in 2016. The corresponding rate of new laboratory reports per 100,000 residents in the South East (7.6) is considerably lower than the England rate overall (20.7 per 100,000) (Figure 4) (11).

Figure 4: Rate of laboratory reports of hepatitis B (acute and chronic), by PHE centre of residence, 2016



Source: PHE Laboratory Surveillance. Data include laboratory reports for both acute and chronic hepatitis B infections and therefore cannot be used to estimate incidence

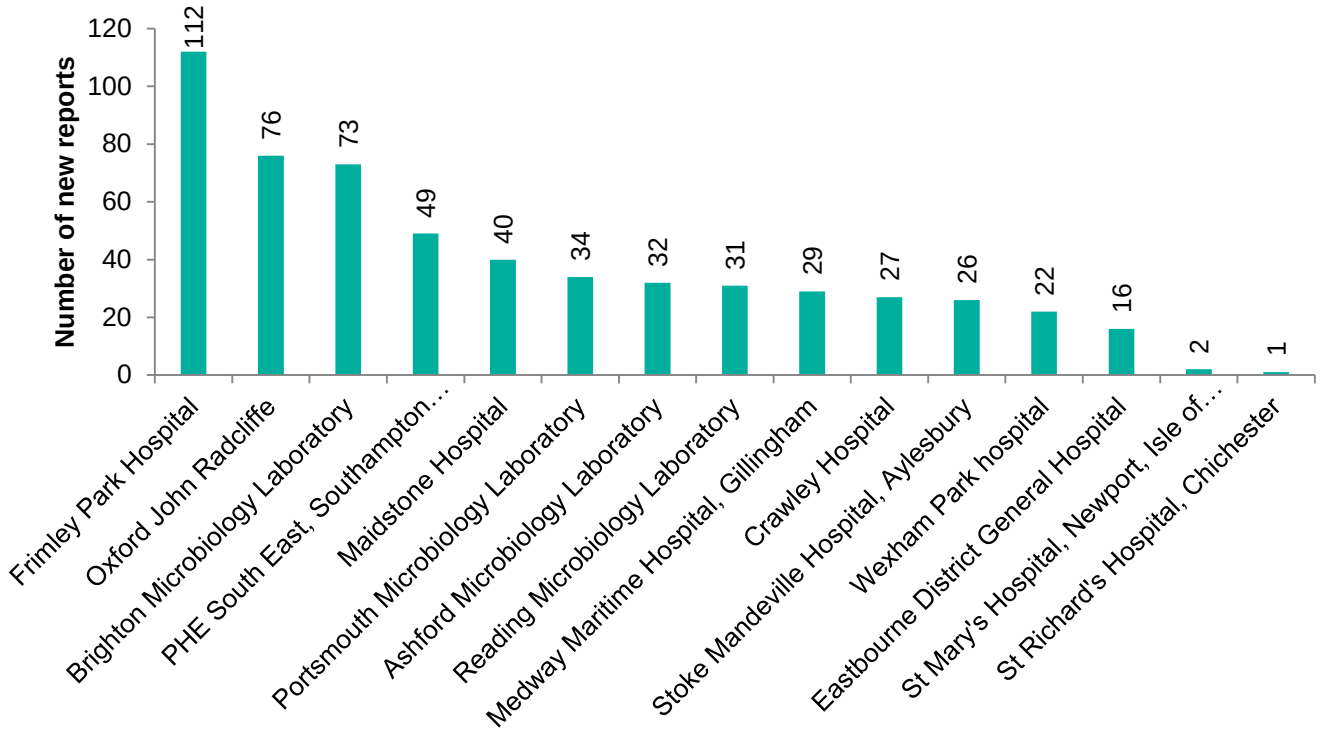
The number of reports in 2016 is lower than 2015, and is the lowest number since 2007 (Figure 5) (11). Trends in laboratory reports may reflect more testing or reporting since laboratory reporting became a statutory requirement in 2010. The majority of reports are chronic infections, with only 6.4% of the reports in 2016 being identified as acute infections.

Figure 5: Number of laboratory reports of hepatitis B assigned to residents of the South East, 2007-2016

Source: PHE Laboratory Surveillance. Data include laboratory reports for both acute and chronic hepatitis B infections and therefore cannot be used to estimate incidence.

In 2016, 3 hospitals (Frimley Park, Oxford John Radcliffe and Brighton) reported more cases than all other laboratories (Figure 6) (11). This is partly affected by reconfiguration of microbiology services in Berkshire and Surrey. The extremely low number of reports from some laboratories serving non-specialist centres indicates that reporting is probably incomplete. It is important to note that laboratory testing arrangements are determined by the NHS commissioning process and therefore, the figures provided below do not reflect the burden by laboratory catchment or geography.

Figure 6: Number of hepatitis B (acute and chronic) reports by reporting laboratory in the South East PHE centre, 2016

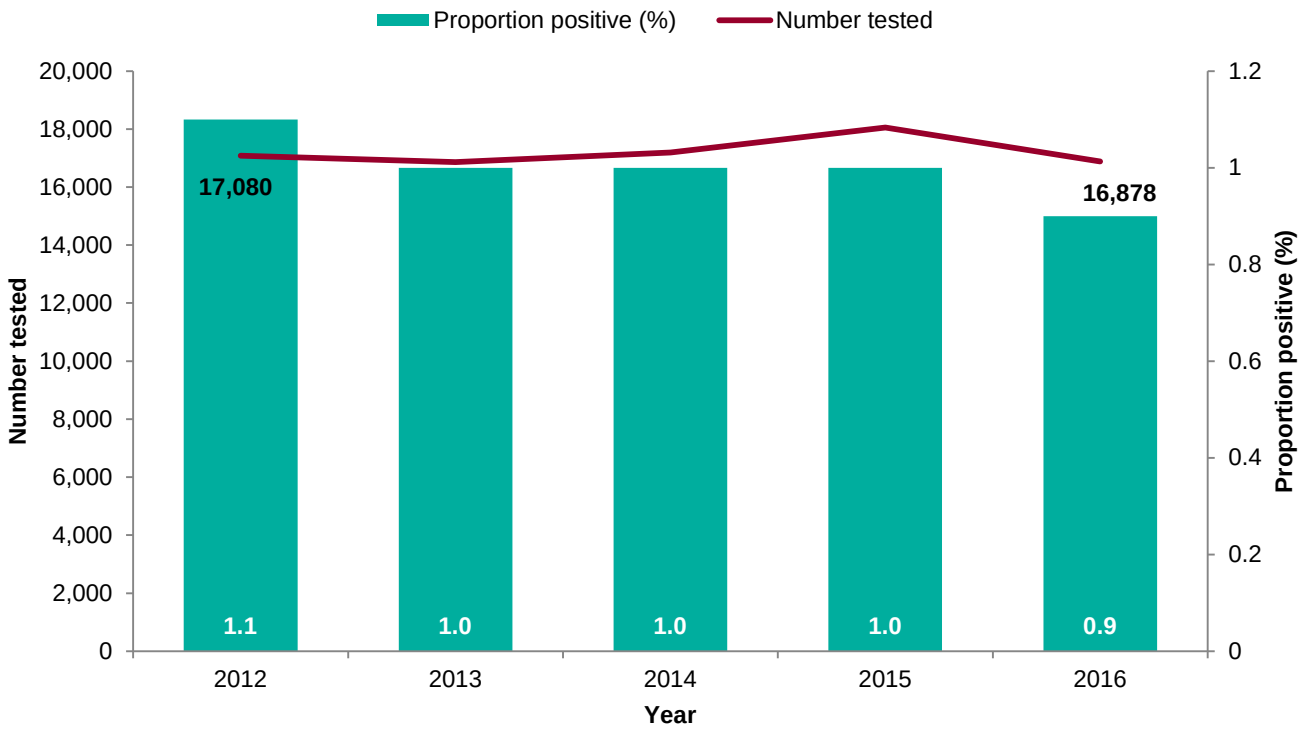


Source: PHE Laboratory Surveillance. Please note this may include reports from non-South East residents. These data include laboratory reports for both acute and chronic hepatitis B infections.

4.2 Trends in testing

The number of hepatitis B tests conducted at the sentinel surveillance laboratories in the South East has decreased by 1.2% since 2012 (excluding routine antenatal screening tests). During this time, the positivity rate has also declined from 1.1% in 2012 to 0.9% in 2016 (Figure 7) (5).

Figure 7: Number of tests in sentinel surveillance laboratories in the South East (excluding routine antenatal testing) and proportion positive for hepatitis B, by year, 2012-2016

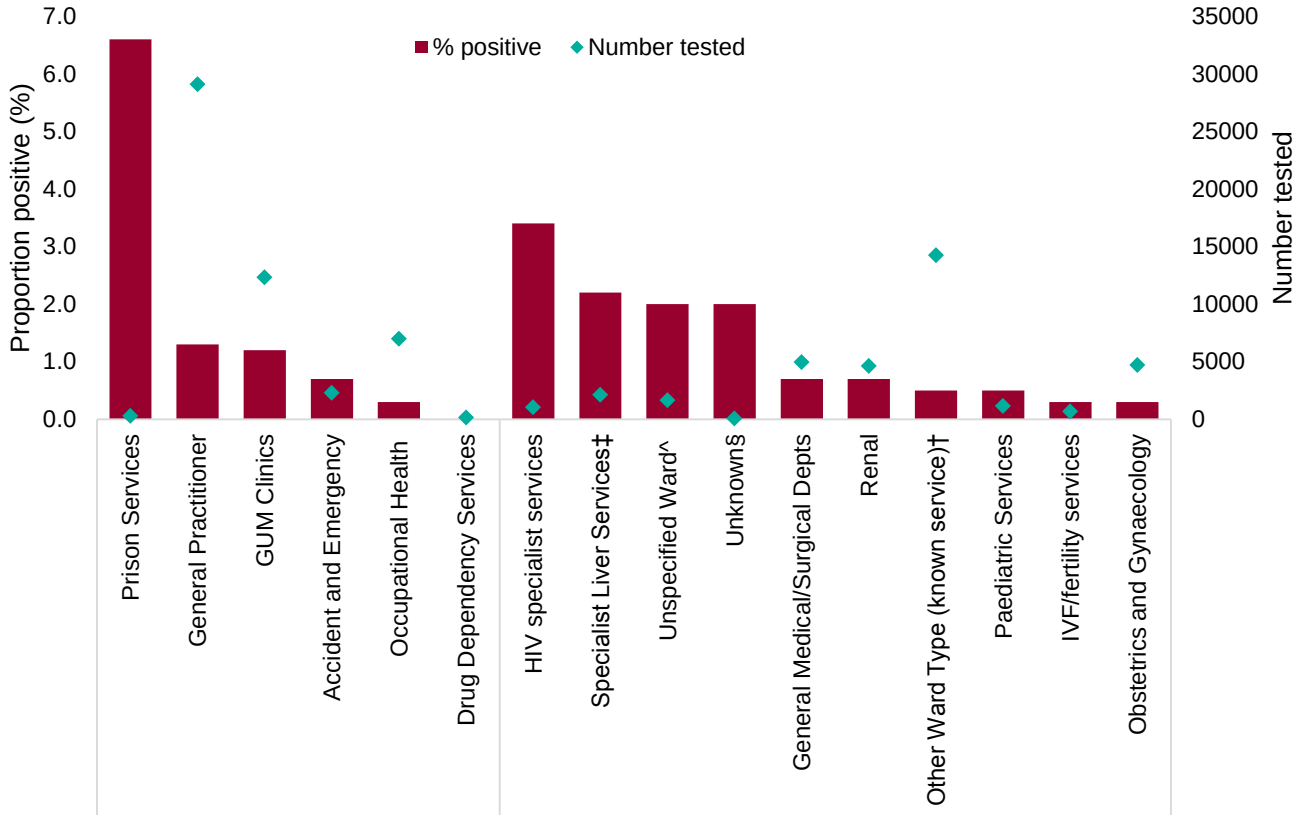


Source: PHE Sentinel Surveillance of Blood–borne Virus testing. Excludes dried blood spot, oral fluid, reference testing, and testing from hospitals referring all samples.

4.3 Hepatitis B positivity by clinical setting

The National Institute for Health and Care Excellence (NICE) guidance on hepatitis B recommends that people at increased risk of infection should be offered testing for hepatitis B in primary care, prisons and youth offender institutions, immigration removal centres, drug services, and in sexual health and genitourinary medicine clinics (10). Outside of routine antenatal screening, the majority of hepatitis B testing in the South East was conducted in General Practice (34.0%) and “Other Ward Types” (16.5%) (Figure 8) (5).

Figure 8: HBsAg positivity by service type in sentinel surveillance laboratories in South East PHE centre, 2012-2016 (excludes antenatal screening)



Source: PHE Sentinel Surveillance of Blood–borne Virus testing. Excludes dried blood spot, oral fluid, reference testing, and testing from hospitals referring all samples.

† Other ward types includes cardiology, dermatology haematology, ultrasound, x-ray. ‡ This refers to infectious disease services, hepatology departments and gastroenterology departments. ^ These are hospital services that are currently being investigated to identify specific service type, and may include any of the secondary care services mentioned.

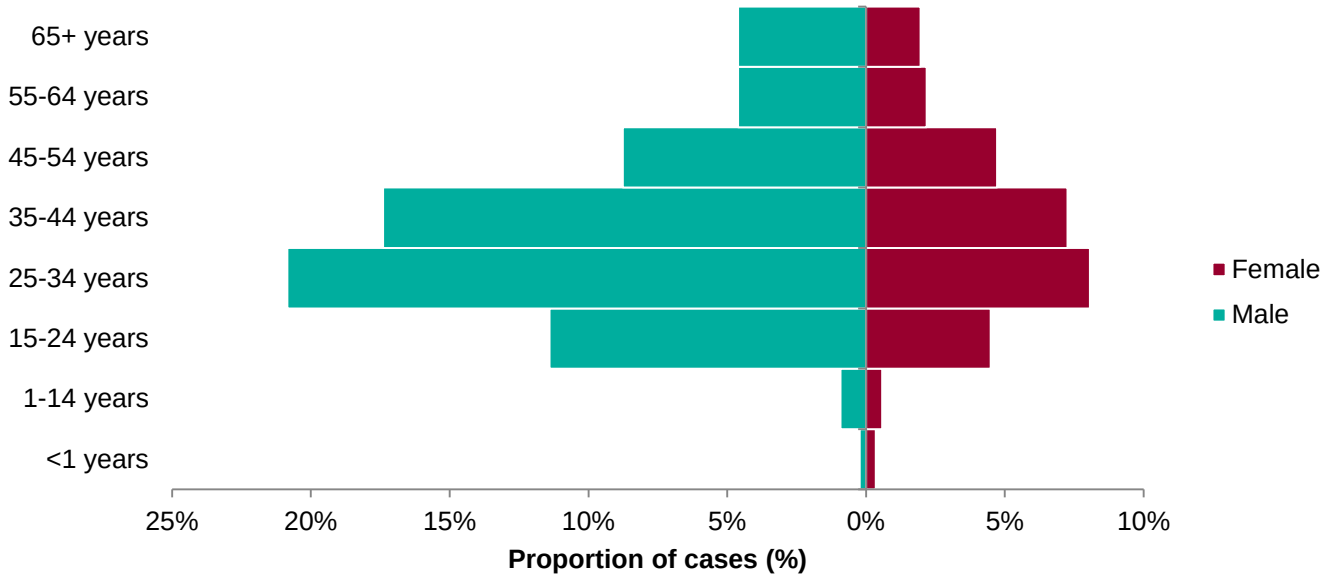
Results from sentinel laboratories in the South East indicate that 1.0% of all tested samples was positive for HBsAg (5). This included 1.3% (1 in 78) people tested by GPs and 1.2% (1 in 86) tested in GUM clinics (Figure 8). The highest positivity was in patients tested in prisons (6.6%), HIV specialist services (3.4%) and specialist liver services (2.2%) (5). People undergoing occupational health testing in a low risk population drives down the overall positivity. The majority of the positive tests came from General Practice (44.9%) and GUM clinics (16.6%) (2012 to 2016 data, excluding routine antenatal screening) (5). Roughly a third of positive tests were from secondary care (32.4%) (5).

5. Population groups at increased risk

5.1 Age and sex of people testing positive for chronic hepatitis B

Information from the 3 sentinel surveillance laboratories in the South East shows that almost three-quarters of people testing positive for HBsAg were male (69.9%) and those aged 25 to 44 years predominated (Figure 9) (5)

Figure 9: Age and sex of those testing positive for HBsAg in sentinel surveillance laboratories in the South East, 2012-2016, n=854



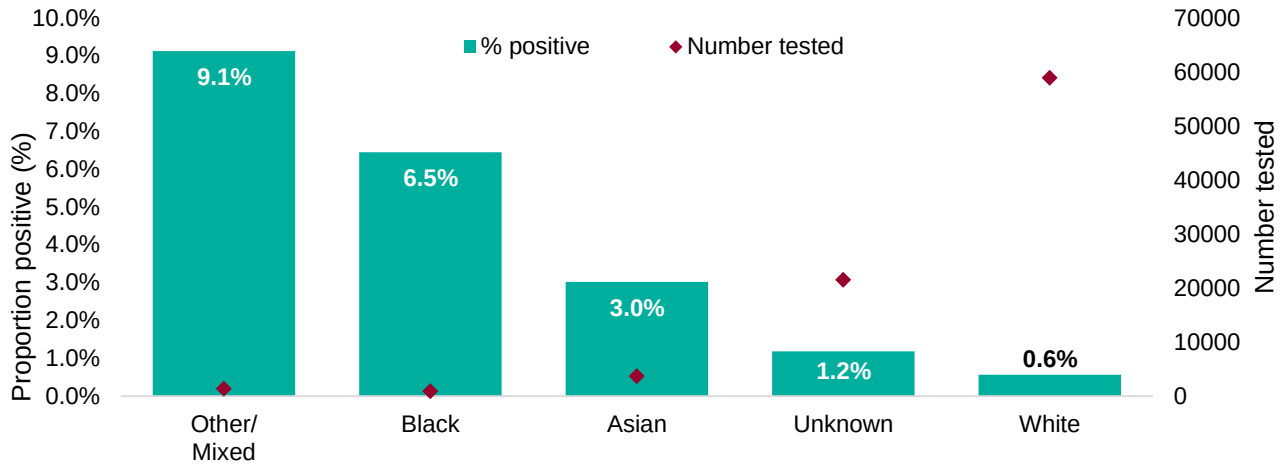
Source: PHE Sentinel Surveillance of Blood–borne Virus testing

5.2 Ethnic minority groups

As ethnicity is not routinely available from the participating sentinel laboratory information systems, a combination of self-reported ethnicity and name analysis software have been used to classify individuals as belonging to a broad ethnic group (5).

Analysis of sentinel surveillance data shows that hepatitis B positivity is higher in certain minority ethnic groups in the South East (Figure 10). Compared to those who identified as white ethnicity (positivity 0.6%), those who identified as other or mixed ethnicity were over 15 times more likely to test positive (9.1%), black ethnicity were eleven times more likely to test positive (6.5%), and Asians were 5 times as likely to test positive (3.0%) (5).

Figure 10: HBsAg positivity by ethnic group in sentinel surveillance laboratories in the South East, 2012-2016 (excludes antenatal screening)

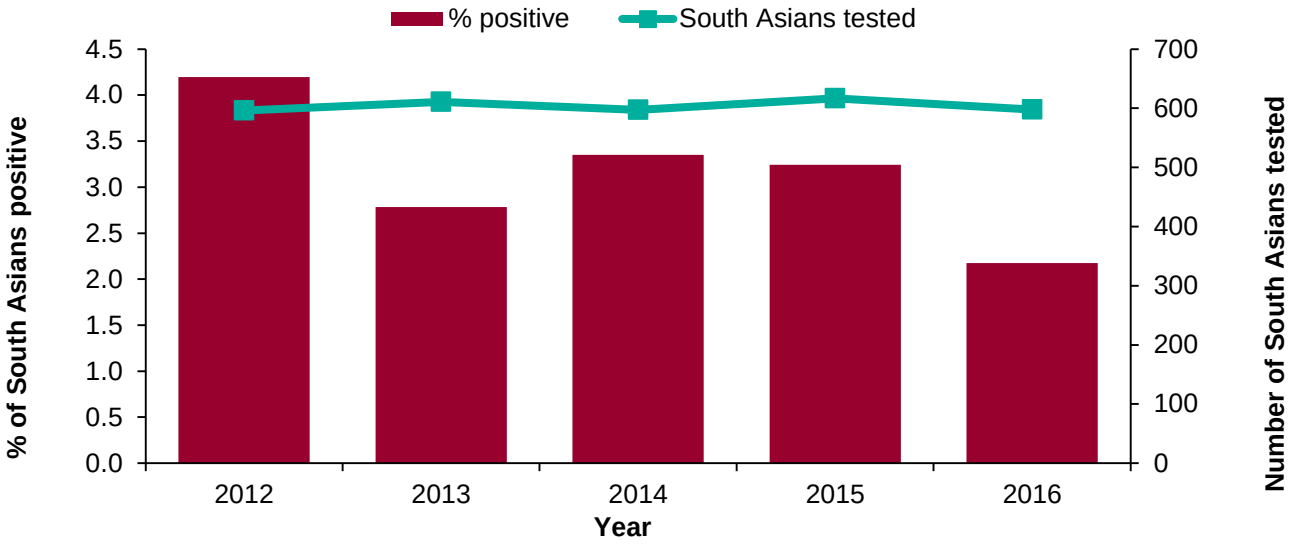


Source: PHE Sentinel Surveillance of Blood–borne Virus testing

These sentinel surveillance data exclude dried blood spot, oral fluid, reference testing and testing from hospitals referring all samples. Data are de-duplicated subject to availability of date of birth, soundex and first initial. All data are provisional. A combination of self-reported ethnicity, and OnoMap and NamPehchan name analyses software were used to classify individuals according to broad ethnic group.

The percentage of positive HBsg test result is higher in individuals of South Asian origin (2.2%) compared to those of non-South Asian origin (1.2%) in 2016. Of note, the percentage of positive results in those of South Asian origin has reduced from 4.2% in 2012 to 2.2% in 2016.

Figure 11: Number of South Asian* individuals tested and testing positive for HBsAg in sentinel laboratories in South East PHE centre (excluding antenatal testing), 2012-2016**



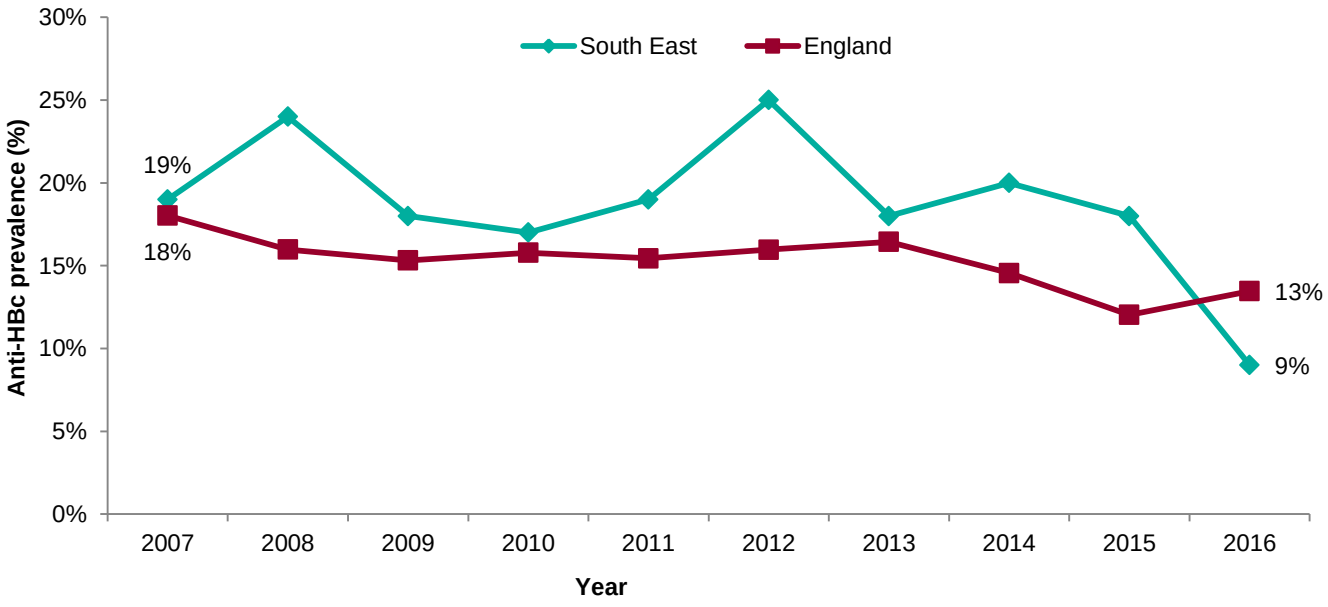
Source: PHE Sentinel Surveillance of Blood–borne Virus testing

*NamPehchan was used to identify individuals of South Asian origin as ethnicity is not routinely available from the participating laboratory information systems.
**Excludes dried blood spot, oral fluid, reference testing and testing from hospitals referring all samples. Data are de-duplicated subject to availability of date of birth, soundex and first initial. All data are provisional.

5.3 People who inject drugs (PWID)

Anti-HBc is a marker for past or current hepatitis B infection. In the South East 9% of PWID surveyed in 2016 had evidence of past or current hepatitis B infection, which is lower than that seen in England (13%) (Figure 12). With the exception of fluctuations in some recent years trends in the South East have been similar to those seen nationally.

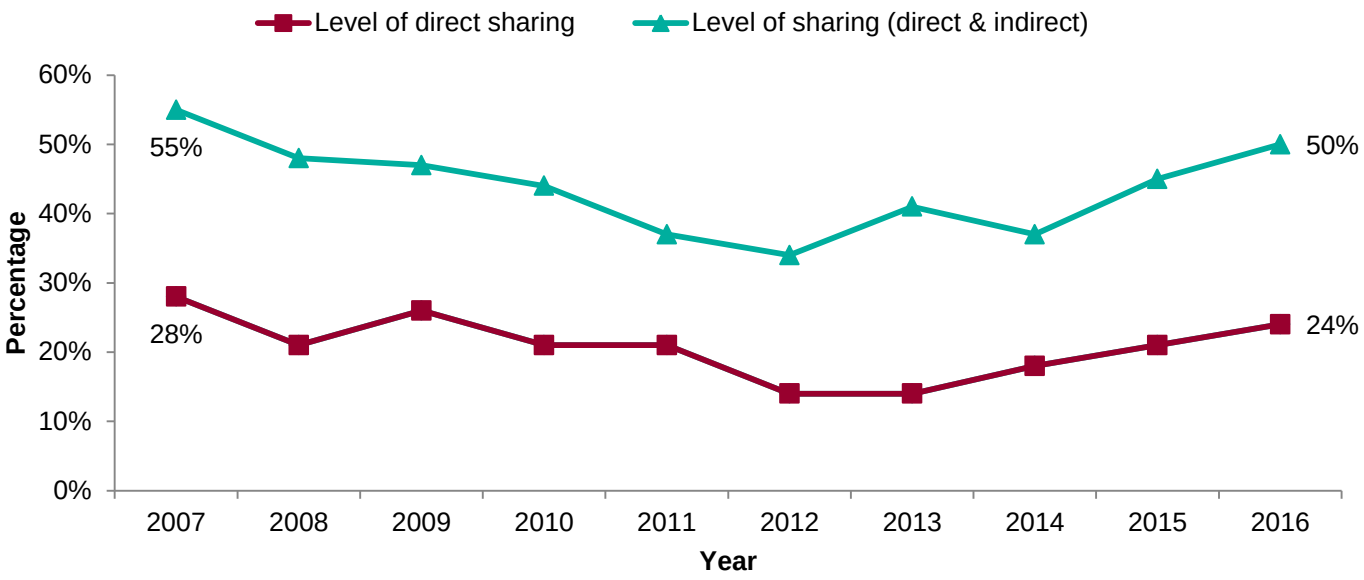
Figure 12: Anti-HBc prevalence among PWID in the South East and England, 2007-2016



Source: PHE Unlinked Anonymous Monitoring Survey of People Who Inject Drugs. For comparison to England, data for 2005/2006 and 2008/2009 are aggregated as some regions only report joint years.

The UAM survey measures the level of needle and syringe (direct) sharing and the level of sharing of mixing containers and filters (indirect sharing) among those who injected during the 4 weeks preceding participation in the survey. Following a steady decline in the proportion of PWID who directly or indirectly share injecting equipment in the South East between 2007 (55%) and 2012 (34%), levels of sharing have increased again to 50% - almost back to 2007 levels (Figure 13). The initial decline is likely to be due to increased access to needle exchange services.

Figure 13: Levels of direct and indirect sharing of injecting equipment in PWID in the South East, 2007-2016



Source: PHE Unlinked Anonymous Monitoring Survey of People Who Inject Drugs

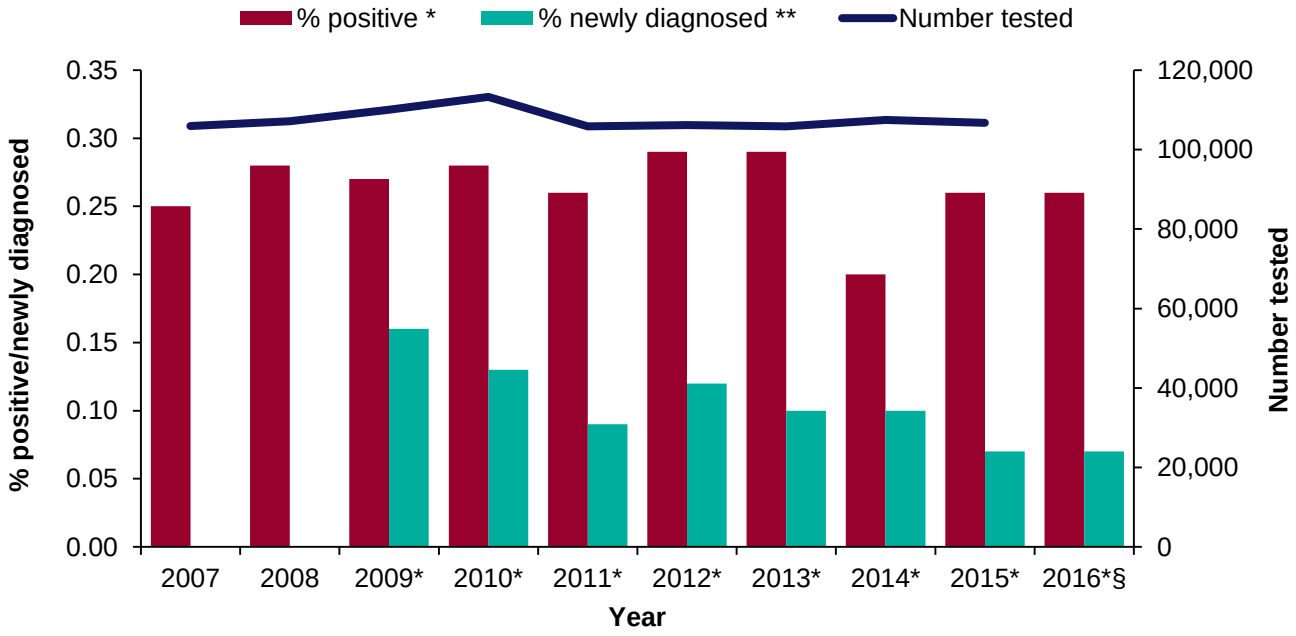
In 2016, in England, Wales and Northern Ireland 91% of people who have ever injected drugs reported using needle and syringe programmes (NSP) (11). Adequate provision of injecting equipment is important, not only to reduce sharing of injecting equipment, but also to reduce the re-use of equipment by the same individual which could lead to accidental sharing in situations where people store injecting equipment together (12). Needle and syringe provision is considered 'adequate' when the reported number of needles and syringes received met or exceeded the number of times the individual injected. In 2016, the proportion of PWID in the UK reporting adequate needle needle/syringe provision was sub-optimal; around half (46%) of PWID who had injected during the preceding 28 days reported adequate needle/syringe provision in England, Wales and Northern Ireland (13).

5.4 Antenatal testing in women

The aim of antenatal screening is to prevent the perinatal transmission of hepatitis B from mother to child. Infection acquired in the neonatal period results in 90% of those infected becoming chronically infected (usually lifelong) compared to only 10% of those who acquire hepatitis B in adulthood. The risk of infection to the newborn is dependent on the mother's infectivity. Without interventions and preventative measures, between 70-90% of mothers who are hepatitis B e-antigen (HBeAg) positive will transmit hepatitis B virus to their infants. This figure drops to approximately 10% when there is maternal antibody to HBeAg.

In 2016, the hepatitis B positivity rate among women attending antenatal services was 0.26%, similar to the rate in 2007 (0.25%) (Figure 14). Due to change in reporting between Q1 and Q2 2016, data were not available on the proportion of new diagnoses in women testing positive in this setting in the South East in 2016 (14). The positivity rate in the South East among pregnant women has consistently been considerably less than that observed across England over the last 10 years (Figure 14).

Figure 14: Number of pregnant women tested during the antenatal period and testing positive for hepatitis B in the South East, 2007-2016

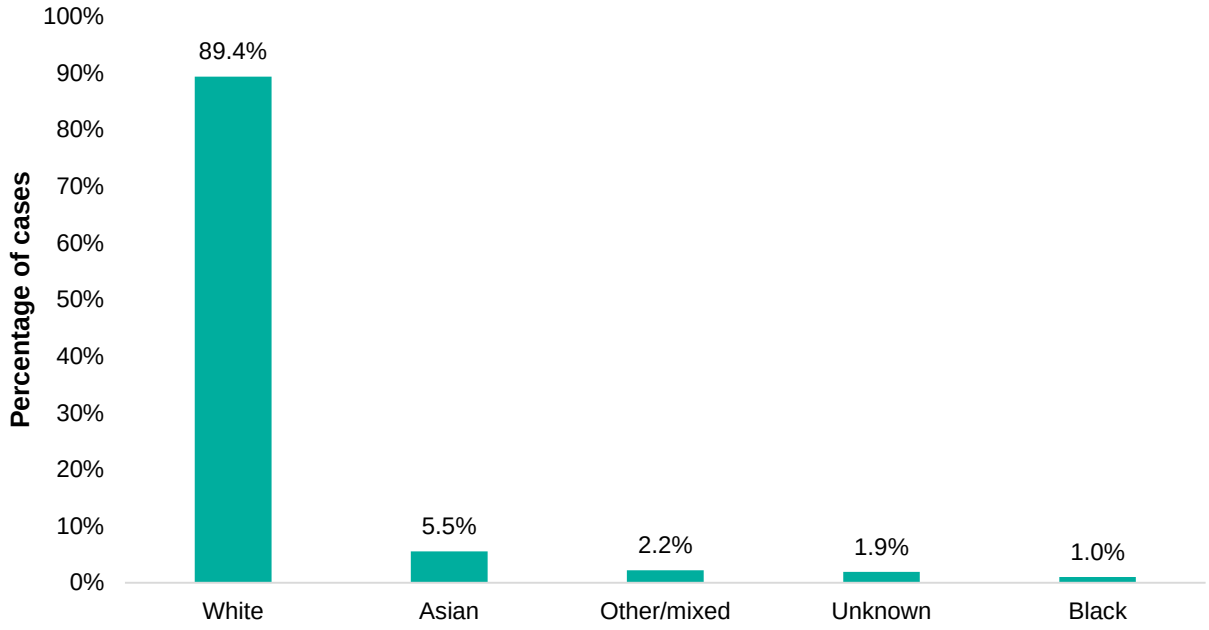


Source: PHE National Antenatal Infections Screening Monitoring. § Data for 2016 only account for Q1 2016, due to a change to reporting between Q1 and Q2 2016

* Beginning in 2009, additional data were collected regarding women who were previously diagnosed with hepatitis B. From 2009, the % positive refers to those previously diagnosed and not retested in the current pregnancy, those who were previously diagnosed and retested in this pregnancy and newly diagnosed women.
** Percentage of women for whom information is available as to whether their diagnosis was made previous to or during this pregnancy.

The vast majority of those testing positive were white (89.4%) (Figure 15), although it is important to note that among women of white ethnicity tested, only 0.1% of were positive. Among Black, Other/mixed and Asian ethnicities, the corresponding figures were 2.0%, 1.8% and 0.7% respectively. (18).

Figure 15: Ethnicity of antenatal women testing positive for hepatitis B*, South East, 2012-2016, n=125



Source: PHE Sentinel Surveillance of Blood–borne Virus testing

*Includes routine antenatal screening for HBsAg of women aged between 13 and 49 years. Data are de-duplicated subject to availability of date of birth, soundex and first initial. All data are provisional. A combination of self-reported ethnicity, and OnoMap and NamPehchan name analyses software were used to classify individuals according to broad ethnic group.

6. Vaccination and other public health interventions

Vaccination is the most effective method in the control of hepatitis B. Pre-exposure immunisation is offered to infants born after August 2017 as part of the routine childhood immunisation programme and to individuals at an increased risk of infection or complications of the disease. Post-exposure immunisation is given to individuals who have been exposed to hepatitis B virus, including infants born to hepatitis B infected mothers (3). In the following sections, data on targeted vaccination of babies born to hepatitis B positive mothers and PWID are presented.

Groups where pre-exposure hepatitis B vaccination is recommended in the UK (3):

- infants born after August 2017
- injecting drug users, non-injecting drug users who live with injectors and children of injectors
- individuals who change sexual partners frequently
- household and family contacts of a case or individual with acute and chronic hepatitis B infection
- families adopting children from countries with a high or intermediate prevalence of hepatitis B
- foster carers and their household contacts
- individuals receiving regular blood or blood products and their carers
- patients with chronic renal failure
- patients with chronic liver disease
- inmates of custodial institutions
- individuals in residential accommodation for those with learning difficulties
- people travelling to or going to reside in areas of high or intermediate prevalence
- individuals at high risk of requiring medical or dental procedures in such countries
- individuals at occupational risk, including: healthcare workers in the UK and overseas; staff of residential and other accommodation for those with learning difficulties; laboratory staff; other occupational risk groups including morticians, embalmers, prison service staff who are in regular contact with people in prisons

6.1 Infants born after August 2017

In late 2019, coverage data is expected for infants receiving hepatitis B vaccine as part of routine childhood immunisation in 2018/19. For comparison, 95% of children in the South East received DTaP-IPV-Hib vaccine by 12 months of age in 2017/18.

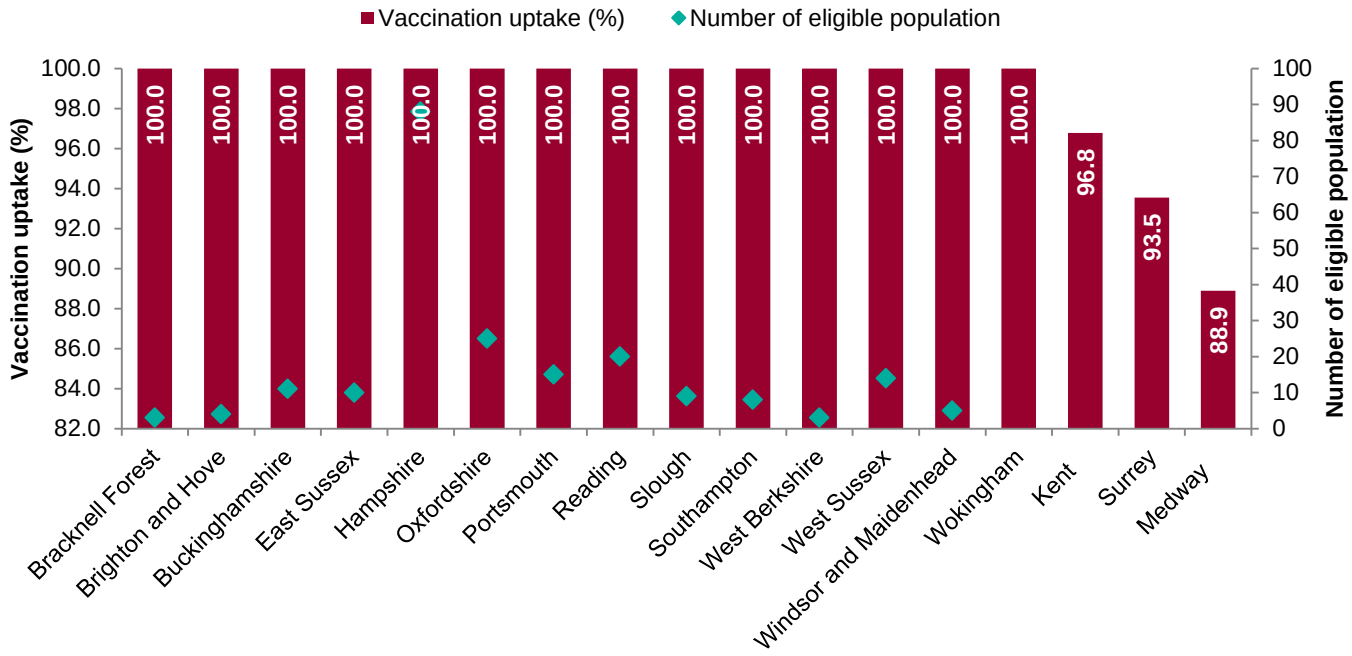
6.2 Babies born to hepatitis B positive mothers

Vaccination of the new born at birth (within 24 hours) and at 1, 2 and 12 months of age from mothers positive for surface antigen (HBsAg) is highly effective at preventing transmission of the infection at birth. Vaccination alone will reduce the risk of infection by 70% and the addition of hepatitis B immunoglobulin (HBIG) in high-risk infants further reduces the risk of infection to 10%. All babies born to hepatitis B mothers should receive a complete course of vaccine on time; the first dose of vaccine should be given as soon as possible, ideally within 24 hours of birth. Arrangements should be in place to ensure that information is shared with appropriate local agencies to facilitate follow up (3). Child health information departments in England have a statutory duty to report data by local authority within the range of childhood immunisations monitored by the COVER programme. The COVER programme collected data by former PCT area up to April 2016, despite changes to the NHS health structures. This is because it allows historical comparison of PCT coverage data and allows monitoring for long-term trends. In addition, it will take time for the COVER return for LA resident population to be accurate and complete, and therefore, the PCT output remains the most reliable dataset.

In 2017/18, 14 local authorities in the South East reported 100% uptake of 3 doses of vaccine at 12 months. Of the 3 local authorities with less than 100% coverage, Kent, Medway and Surrey reported 96.8%, 93.5% and 88.9%, respectively (Figure 16). For coverage at 24 months, 6 local authorities (West Berkshire, Southampton, Oxfordshire, Reading, Kent and Surrey) reported less than 100% uptake (Figure 17). It is important that commissioners and providers in local areas where information is incomplete, or vaccination uptake is less than 100%, work to improve this.

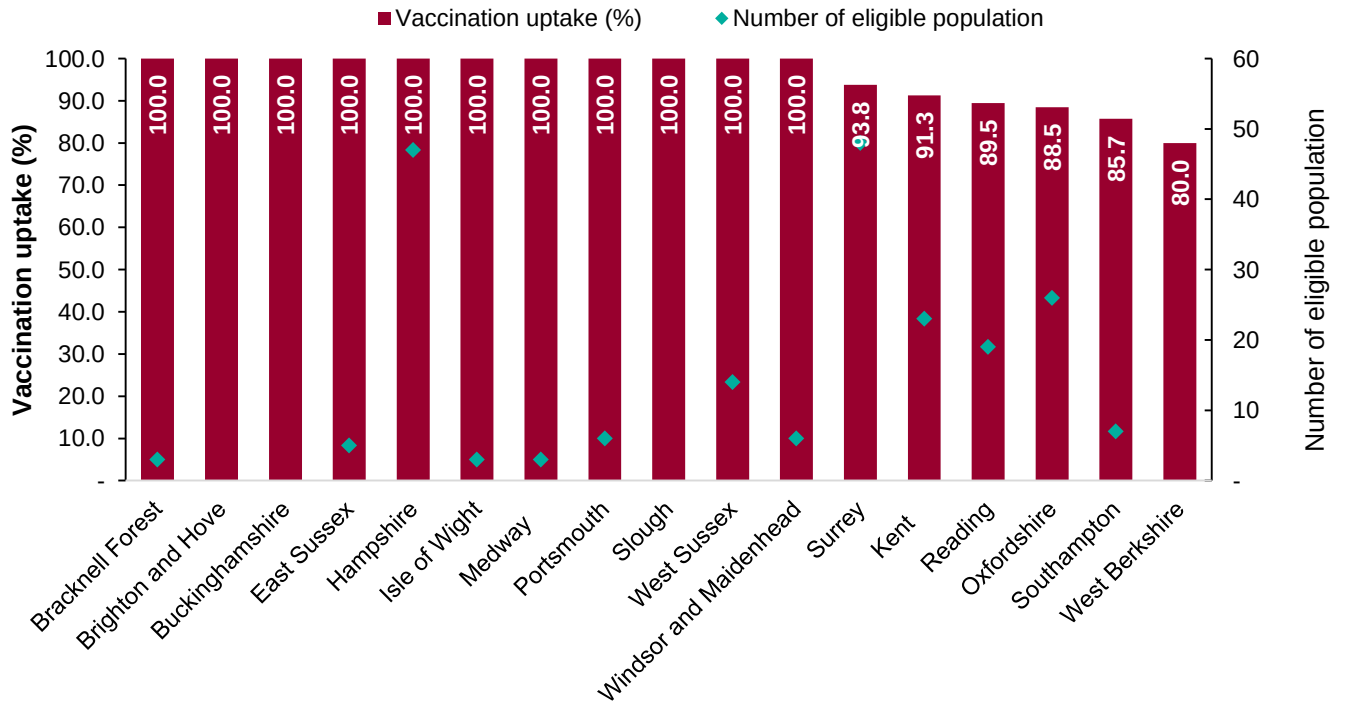
It is therefore important that commissioners, providers and HPTs work together to ensure there are robust pathways to transfer information from maternity services to community services to enable completion of the vaccination course in a timely manner. Providers of antenatal care and vaccination of at risk babies should ensure that information materials on hepatitis B are available in languages most frequently spoken by their local clients.

Figure 16: Neonatal hepatitis B vaccine coverage of 3 doses at 12 months by Local Authority, South East 2017/2018



Source: COVER. Please see Appendix 2 for information that is more detailed; some data are not shown due to suppression of small numbers, or where data was not available or was not applicable.

Figure 17: Neonatal hepatitis B vaccine coverage of 4 doses at 24 months by Local Authority, South East 2017/2018

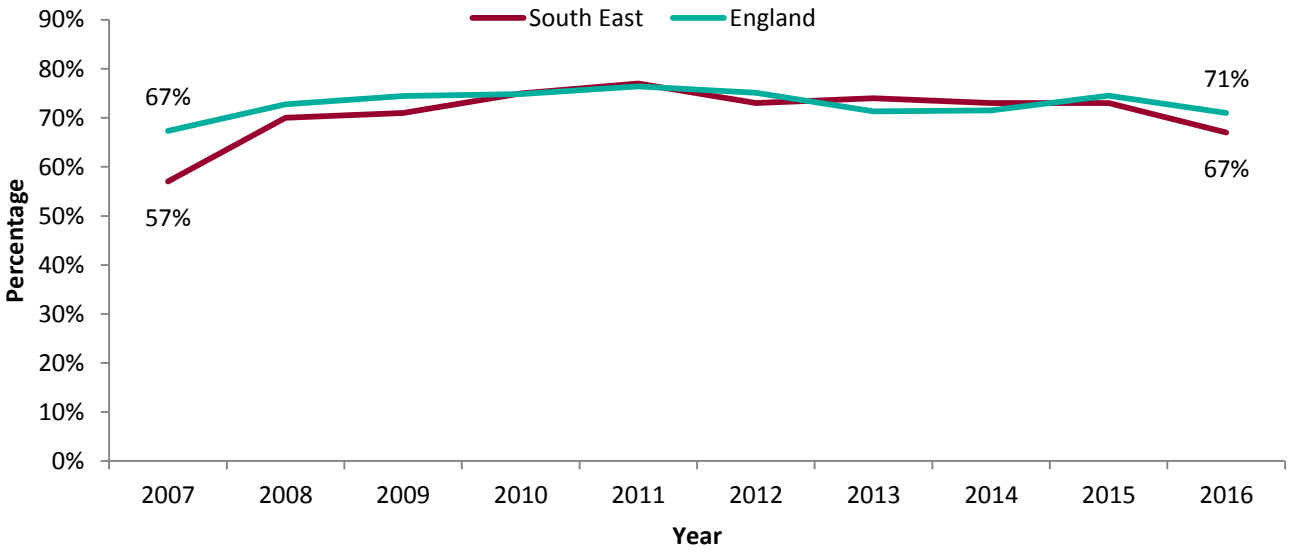


Source: COVER. Please see Appendix 2 for information that is more detailed; some data are not shown due to suppression of small numbers, or where data was not available or was not applicable.

6.3 People who inject drugs (PWID)

Hepatitis B vaccination uptake in PWID in the South East has been remained steady over the past decade, with two-thirds of patients in the unlinked anonymous survey reporting HBV vaccination (Figure 18). The uptake rate in the South East closely mirrors the England rate (13, 14). As injecting drug use is an important factor for hepatitis B infection, it is important to maintain and improve high levels of vaccination in PWID.

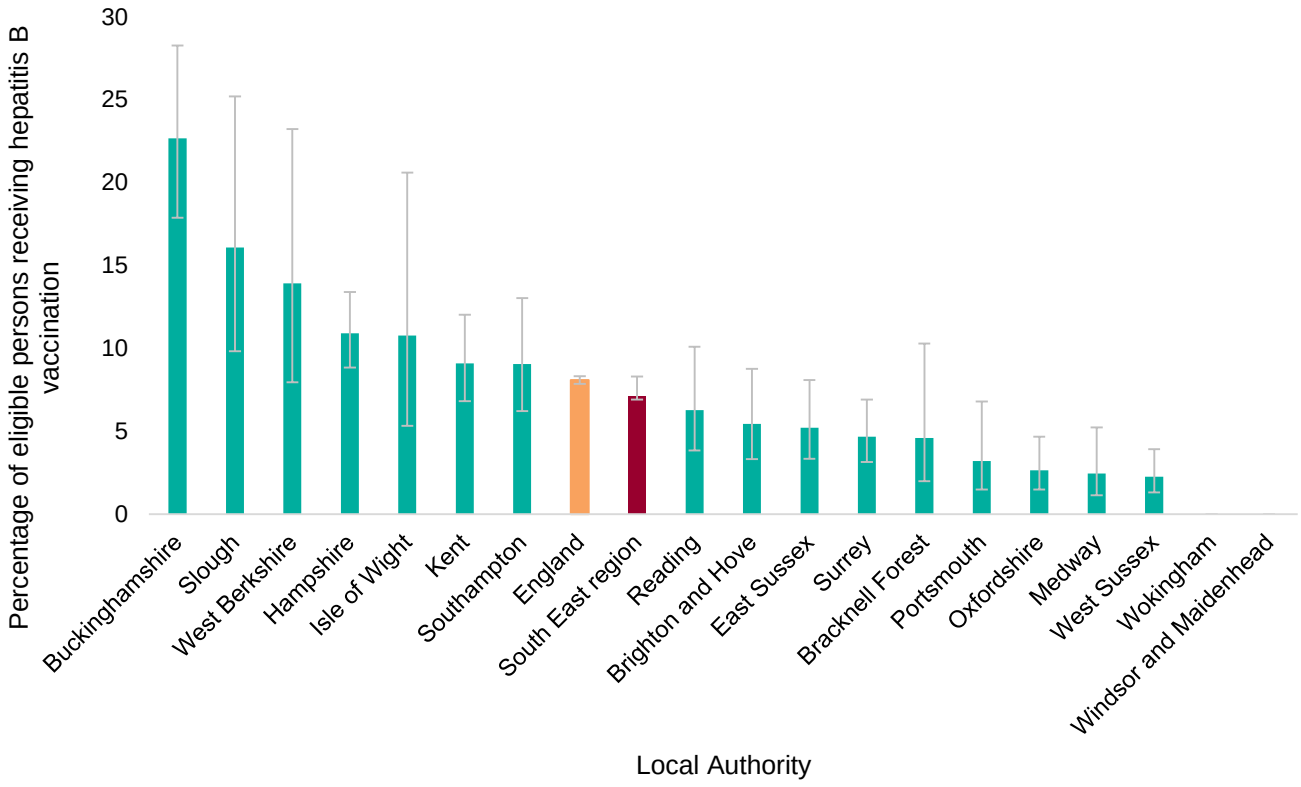
Figure 18: Hepatitis B vaccine uptake in PWID in the South East and England, 2007 to 2016



Source: PHE Unlinked Anonymous Monitoring Survey of People Who Inject Drugs

Of the people beginning a new treatment journey in structured drug treatment centres in the South East, 7.1% of those eligible were offered and completed a course of the hepatitis B vaccinations; this figure is similar to the overall uptake in England (8.1%) (Figure 19). All individuals entering treatment are considered eligible unless their hepatitis B intervention status in their current treatment journey in NDTMS is any of the following: 'immunised already','acquired immunity','assessed as not appropriate to offer'.

Figure 19: Persons entering drug misuse treatment - Percentage of eligible persons completing a course of hepatitis B vaccination, 2016-2017



Source: National Drug Treatment Monitoring System. Some data not included due to suppression of small numbers.

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Abbreviations

Anti-HBc	Hepatitis B core antibody - appears at onset of symptoms in acute hepatitis B and persists for life; presence indicates resolving or resolved infection if the individual is HBsAg negative.
CIDSC	Centre for Infectious Disease Surveillance and Control
COVER	Cover of Vaccination Evaluated Rapidly
ESAHB	Enhanced Surveillance of Antenatal Hepatitis B
ESLD	End Stage Liver Disease
FES	PHE Field Epidemiology Service, National Infection Service
GP	General Practitioner
GUM	Genito-Urinary Medicine
HBcAb	Hepatitis B core Antibody – used in epidemiological studies as a marker of previous or current hepatitis B infection
HBeAg	Hepatitis B e antigen, The presence of HBeAg is associated with relatively high infectivity and severity of disease
HBIG	Hepatitis B Immunoglobulin
HBsAg	Hepatitis B surface Antigen (a protein on the surface of the hepatitis B virus) - detected during acute or chronic hepatitis B virus infection.
HBV	Hepatitis B virus
HPT	Health Protection Team
IgM	IgM antibody to hepatitis B core antigen (IgM anti-HBc); positivity indicates recent infection with hepatitis B virus; however it may also remain positive in chronic infection
KPI	Key Performance and Quality Indicator
LA	Local authority
MSM	Men who have sex with men
Nam PehChan	A computer program used to identify individuals of South Asian origin based on their name. It has a sensitivity of 91% and a positive predictive value of 63.2% (Cummins, 1999)
NICE	National Institute for Health and Care
Onomap	Name analysis software
PCT	Primary Care Trust
PHE	Public Health England
PWID	People who inject drugs
SAO	(Individuals of) South Asian Origin
UK	United Kingdom
UTLA	Upper tier local authority
WHO	World Health Organisation

Appendix 1: Information sources

This report uses several data sources to describe the epidemiology of hepatitis B. These are summarised below:

Clinical hepatitis notifications: Acute viral hepatitis is a statutorily notifiable disease in the UK. Clinicians are required to report cases of acute viral hepatitis based on clinical suspicion to Public Health England (PHE): www.gov.uk/government/publications/hepatitis-b-annual-report-for-2013

Laboratory notifications of hepatitis B: Since 2010 laboratories have a statutory requirement to report all diagnoses of hepatitis B, both chronic and acute, to PHE. They usually differentiate between acute and chronic cases.

Sentinel Surveillance of Blood-borne Virus testing: Three laboratories in the South East region collected additional information on all hepatitis B testing in 2016 (Ashford laboratory, Brighton laboratory and Portsmouth laboratory): www.gov.uk/government/publications/sentinel-surveillance-of-blood-borne-virus-testing-in-england-2017

Antenatal infection surveillance: the National Antenatal Infections Screening Monitoring (NAISM) programme monitored the uptake and test results of antenatal screening for hepatitis B susceptibility in England: www.gov.uk/government/publications/national-antenatal-infections-screening-monitoring-annual-data-tables

The Unlinked Anonymous Monitoring Survey of HIV and Hepatitis in people who inject drugs (PWID) aims to measure the changing prevalence of HIV, hepatitis B and hepatitis C in PWID who are in contact with specialist drug agencies (e.g. needle exchange services and treatment centres). The programme also monitors levels of risk and protective behaviours among PWID. The data are used to assess and develop appropriate preventative and health education campaigns, evaluate the impact of such interventions, and to assist in the provision of services for PWID in the United Kingdom: www.gov.uk/government/publications/people-who-inject-drugs-hiv-and-viral-hepatitis-monitoring

Infants born to hepatitis B positive mothers: Information on childhood immunisation coverage at ages 1, 2 and 5 years is collected through the Cover of Vaccination Evaluated Rapidly (COVER) data collection for Upper Tier Local Authorities (LAs): https://digital.nhs.uk/data-and-information/publications/statistical/nhs-immunisation-statistics/childhood-vaccination-coverage-statistics-england-2016-17

Liver Disease Profiles: the website contains data health indicators relating to hepatitis B for Upper Tier Local Authorities. This includes hospital admission and mortality data from the Hospital Episode Statistics (HES) and Office for National Statistics (ONS). Data from the National Drug Treatment Monitoring System are also included. Further details on each data source can be found on the website: https://fingertips.phe.org.uk/profile/liver-disease

Due to a lack of routinely collected data sources, no information is available on the prevalence of hepatitis B in the general population and the proportion of infected persons who are receiving treatment for hepatitis B. Antenatal testing of pregnant women provides a good estimate of prevalence in women of childbearing age.

Appendix 2: Hepatitis B vaccination uptake in at-risk babies by LA, South East, 2017/18

Local Authority	Coverage at 12 months			Coverage at 24 months		
	Number immunised with 3 vaccines by 12 months	Number at risk (eligible population)	Uptake at 12 months (%)	Number immunised with 3 vaccines by 24 months	Number at risk (eligible population)	Uptake at 24 months (%)
Bracknell Forest	3	3	100.0	3	3	100.0
Brighton and Hove	4	4	100.0	9	9	100.0
Buckinghamshire	11	11	100.0	16	16	100.0
East Sussex	10	10	100.0	5	5	100.0
Hampshire	88	88	100.0	47	47	100.0
Isle of Wight	*	*	*	3	3	100.0
Kent	31	30	96.8	23	21	91.3
Medway	9	8	88.9	3	3	100.0
Oxfordshire	25	25	100.0	26	23	88.5
Portsmouth	15	15	100.0	6	6	100.0
Reading	20	20	100.0	19	17	89.5
Slough	9	9	100.0	13	13	100.0
Southampton	8	8	100.0	7	6	85.7
Surrey	31	29	93.5	48	45	93.8
West Berkshire	3	3	100.0	5	4	80.0
West Sussex	14	14	100.0	14	14	100.0
Windsor and Maidenhead	5	5	100.0	6	6	100.0
Wokingham	3	3	100.0	4	3	75.0

Uptake refers to babies born to hepatitis B positive mothers (not all babies).
* = Data has been supressed due to potential disclosure issues associated with small numbers.