



Public Health
England

Protecting and improving the nation's health

Annual report from the sentinel surveillance of blood borne virus testing in England: data for January to December 2020

Health Protection Report
Volume 15 Number 13
28 July 2021

Contents

Sentinel surveillance of BBV testing in England: background to annual report for 2020.....	3
Impact of COVID-19.....	4
Hepatitis A IgM testing	5
Hepatitis B surface antigen testing.....	7
Antenatal HBsAg screening.....	7
Non-antenatal HBsAg testing	8
Hepatitis C antibody testing	11
Hepatitis D total antibody testing.....	14
Hepatitis E IgM testing	15
HIV testing	16
Antenatal HIV screening.....	16
Non-antenatal HIV screening	16
HTLV testing	19

Sentinel surveillance of BBV testing in England: background to annual report for 2020

This report provides summary data for individuals who had tests reported to the sentinel surveillance programme during 2020. The following sections describe testing and demographic information for individuals tested by venepuncture and dried blood spot for hepatitis A to E, HIV, and HTLV.

The sentinel surveillance of blood borne virus testing began in 2002, with the aim of supplementing the routine surveillance of hepatitis. Information on the testing carried out in participating centres is collected irrespective of test result and can therefore be used as a basis for estimating prevalence among those tested. These data have enhanced our knowledge and understanding of hepatitis testing, in terms of who is being tested and from which service types individuals are accessing testing, and in interpreting trends in the number of positive individuals identified over time. In 2020, sentinel surveillance captured front-line testing for hepatitis A, B, C and HIV, covering approximately 40% of the population, and over 80% of the population from all 9 PHECs tested for hepatitis D, E and HTLV.

Number of tests for a year includes all tests for an individual until an individual is diagnosed positive, no tests are counted after a positive test, therefore an individual can be counted more than once. The proportion positive is calculated among individuals tested.

The supplementary tables referred to in this report are available on the GOV.UK website page [Sentinel surveillance of blood borne virus testing in England](#).

Impact of coronavirus (COVID-19)

Following the first cases of SARs-CoV-2 detected in England at the end of January 2020, social and physical distancing measures were introduced in March, requiring people to stay at home; closing businesses and venues. These measures and the redeployment of health staff led to a reduction and/or reconfiguration of testing among those at high risk of blood borne viruses and clinical services providing care. For further information on this theme, see [COVID-19: impact on STIs, HIV and viral hepatitis](#).

For viral hepatitis, between January and April 2020 during the first lockdown, the number of tests declined by 62% for HAV IgM, 61% for HBsAg and 74% for anti-HCV, followed by an increase in testing from May 2020, as lockdown restrictions were lifted. However, the number of tests performed in May and June 2020, remained substantially lower than in May and June 2019. By the end of the year, the average number of tests for October, November, and December for HAV IgM, HBsAg, and anti-HCV had increased by 100%, 80% and 167% respectively compared to April, however these figures were still lower than for 2019.

Overall, when comparing testing which occurred in 2019 with 2020, a decline in testing was observed across all blood borne viruses, in particular among those testing for HBsAg, HIV, and anti-HCV with 56%, 45% and 36% respectively. Testing in antenatal services experienced the least impact in 2020 with a 12% and 7.1% reduction among individuals tested for HBV and HIV respectively compared to 2019, however, this may reflect an overall decrease in pregnancy rates in England during the pandemic. Declines in testing were observed across all age groups and genders, and drug services, prisons, sexual health services and general practice had the largest decline, with slower recovery seen after lockdown in drug services.

Declines in testing and diagnoses will be multifactorial, including but not restricted to re-deployment of staff, disruption to services, impact of social and physical distancing measures resulting in fewer opportunities for onward transmission, and disruption to laboratory consumables due to increases in demand during the pandemic. However, the true impact on those at risk of blood borne viruses and the associated burden will need to be monitored over the coming years.

Hepatitis A IgM testing

In 2020, 16 participating centres supplied hepatitis A-specific IgM antibody (anti-HAV IgM) testing data (a marker of acute infection). Overall 35,477 individuals were tested at least once for anti-HAV IgM, of whom 184 (0.52%) tested positive. The age and gender of individuals tested was well reported (more than 99.7% complete). Regional distribution can be found in Supplementary Table 1.

Males accounted for 53.0% of individuals testing, with a positivity of 0.53% for females and 0.46% for males. Among all individuals testing, the highest proportion of tests were among those aged 65 years and older (22.5%). However, positivity was highest among children aged between 1 and 14 years (1.5%) (Supplementary Table 2). The median age of individuals undergoing testing was 47 years (IQR 32 – 63) whereas the median age of individuals testing positive was 51 years (IQR 32– 67).

The type of service which requested the hepatitis test was identified using the record location of the requestor (Table 1). Where known (n= 36,298), general practice tested the greatest proportion of individuals for anti-HAV IgM (39.2%), with a further 25.7% tested in secondary care category “Other ward type”, and 9.6% tested in general medical and surgical departments. Positivity was highest in individuals testing in occupational health (2.7%), drug dependencies services (2.5%), unspecified ward and in specialist HIV services (both 1.9%). The high positivity in individuals testing in occupational health and drug services is a reflection on the low numbers tested, compared with other settings.

A combination of self-reported ethnicity and name analysis software was used to classify most individuals tested for anti-HAV IgM as belonging to 1 of 4 broad ethnic groups (n=33,400) (Supplementary Table 3). Where known, the majority of individuals were classified as being of white or white British ethnic origin (82.4%), a further 12.5% were classified as Asian or Asian British origin, 2.4% were classified as black or black British origin and 2.6% were classified as other and/or mixed ethnic origin. The greatest proportion positive was among individuals of Asian or Asian British origin (0.67%) and of black or black British origin (0.50%).

Table 1. Number of individuals tested, and testing positive for anti-HAV IgM in participating centres by service type, January to December 2020*

Service type	Number of individuals tested	Number positive (%)
Primary Care		
Accident and emergency	2,550	24 (0.9)
Drug dependency services	40	1 (2.5)
General practitioner	14,231	36 (0.3)
GUM clinic	1,311	3 (0.2)
Occupational health	37	1 (2.7)
Prison services	64	0 (0.0)
Pharmacy	0	0 (0.0)
Total primary care [≠]	18,191	65 (0.4)
Secondary Care		
Antenatal	498	1 (0.2)
Fertility services	131	0 (0.0)
General medical/surgical departments	3,490	32 (0.9)
Obstetrics and gynaecology	866	3 (0.3)
Other ward type (known service) [†]	9,312	36 (0.4)
Paediatric services	932	6 (0.6)
Renal	497	2 (0.4)
HIV	52	1 (1.9)
Specialist infectious disease services	1,552	16 (1.0)
Unspecified ward [§]	735	14 (1.9)
Total secondary care [≠]	17,681	111 (0.6)
Unknown [#]	45	8 (17.8)

* Excludes 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. An individual can test in more than one service type.

[≠] Totals for individuals testing in primary and secondary care, does not equal the sum of the individuals testing in each setting within primary and secondary care, as an individual can test in more than one setting.

[†] Other ward types includes cardiology, coroner, dermatology, haematology, ultrasound, x-ray.

[§] These are hospital services which are currently being investigated to identify specific service type, and may include any of the secondary care services mentioned above.

[#] These services are currently being investigated to identify specific service type, where possible.

Hepatitis B surface antigen testing

Sentinel surveillance collects data on testing for hepatitis B surface antigen (HBsAg). All pregnant women in the UK are offered hepatitis B virus (HBV) screening as part of their antenatal care. Data from the test request location and free text clinical details field accompanying the test request were reviewed to distinguish individuals tested for HBsAg as part of routine antenatal screening from those tested in other settings and for other reasons. It is possible that some women undergoing antenatal screening may not be identified as such and may therefore be included in section 2b as non-antenatal testing.

Antenatal HBsAg screening

In 2020, 11,720 women aged between 12 and 49 years old were identified as undergoing at least one antenatal screening for HBsAg, representing 21.3% of all individuals tested for HBsAg in participating sentinel centres. Overall 224 (0.2%) of these women tested positive. The median age of women tested was 31 years (IQR 27 – 34) and the median age of women testing positive was 31 years (IQR 28 – 36). The regional distribution can be found in Supplementary Table 4.

A HBeAg result was available for 86.2% (193) of HBsAg positive women, and of these, 8.3% (16) were HBeAg positive. Most women who underwent antenatal screening were classified as belonging to 1 of 4 broad ethnic groups (n= 108,209) (Table 2). Where known, the majority of individuals were classified as being of white or white British ethnic origin (81.0%), a further 13.4% were classified as Asian or Asian British origin, 3.1% were classified as other and/or mixed ethnic origin, and 2.5% were classified as black or black British origin. The proportion testing positive was higher among women of black or black British origin or other and/or mixed origin (0.8% and 1.3% respectively) than women of Asian or Asian British origin and white or white British origin (0.3% and 0.1% respectively).

The proportion of HBeAg positive women among those who were positive for HBsAg and tested for HBeAg also differed by ethnic group, with 18.4% of other and/or mixed ethnic origin women testing positive, 7.9% of white or white British women, 5.9% or Black or Black British women, and 2.9% of Asian or Asian British women.

Table 2. Number of antenatal women (12 to 49 years) tested and testing positive for HBsAg, and number of HBsAg positive women tested and testing positive for HBeAg by ethnic group, January to December 2020*

Ethnic group	Number of women (12-49 years) tested	Number HBsAg positive (%)	Number HBsAg positive tested for HBeAg	% HBsAg positive tested	Number HBeAg positive (%)
Asian or Asian British origin	14,547	38 (0.3)	35	92.1	1 (2.9)
Black or black British origin	2694	21 (0.8)	17	81.0	1 (5.9)
Other and/or mixed origin	3315	42 (1.3)	38	90.5	7 (18.4)
White or white British origin	87,653	107 (0.1)	89	83.2	7 (7.9)
Unknown ethnic origin	3511	16 (0.5)	14	87.5	0 (0.0)

* Excludes dried blood spot testing, oral fluid testing, reference testing and testing from hospitals referring all samples. Only women aged 12 to 49 years old are included. Data are de-duplicated subject to availability of date of birth, soundex and first initial. All data are provisional

Non-antenatal HBsAg testing

In 2020, 370,549 samples were tested for HBsAg, excluding antenatal screening, in 19 participating sentinel centres, equating to 302,135 individuals. Overall, 2,611 (0.9%) individuals tested positive. Regional distributions can be found in Supplementary Table 5. This may reflect more targeted testing of risk groups and/or genuinely higher prevalence of HBV in people being tested in this PHEC.

The age and gender of individuals tested for HBsAg was well reported (>98.5% complete). Where known, a similar proportion of males (51.5%) were tested than females (Supplementary Table 6). The number of females tested may include some undergoing routine antenatal screening who could not be identified as such from the information provided. Positivity was higher among males compared to females (1.1% vs 0.6% $p < 0.001$). Among all individuals testing the highest proportion of tests (26.1%) were among those aged between 25 and 34 years, followed by those aged between 35 and 44 years (21.1%). The highest positivity was among those aged under 1 and between 35 and 44 (both 1.2%), followed by those aged between 45 and 54 years (1.1%). The median age of individuals tested was 39 years (IQR 30 – 55) and testing positive was 38 years (IQR 31 – 48).

Where known (n=312,505), the greatest proportion of individuals tested for HBsAg were secondary care category “Other ward type” (23.9%), with a further 22.0% tested in general practice and 8.1% tested in prison services (Table 3). Positivity was highest among individuals testing in drug dependency service, unspecified ward and Specialist liver services (2.0%, 1.7% and 1.4% respectively).

Table 3. Number of individuals tested, and testing positive for HBsAg in participating centres by service type (excluding antenatal testing), January to December 2020*

Service type	Number of tests	Number of individuals tested	Number positive (%)
Primary Care			
Accident and emergency	14,608	14,167	92 (0.6%)
Drug dependency services	16,465	16,127	324 (2.0%)
General practitioner	71,039	68,777	579 (0.8%)
GUM clinic	25,224	23,243	239 (1.0%)
Occupational health	12,864	12,417	76 (0.6%)
Prison services	29,042	25,284	301 (1.2%)
Pharmacy ^β	–	–	–
Total primary care [≠]	169,248	159,251	1612 (1.0%)
Secondary Care			
Fertility services	14,814	13,708	56 (0.4%)
General medical/surgical departments	1056	1037	9 (0.9%)
Obstetrics and gynaecology	13,706	12,254	43 (0.4%)
Other ward type (known service) [†]	13,677	13,173	25 (0.2%)
Paediatric services	83,974	74,694	454 (0.6%)
Renal	4497	4083	18 (0.4%)
Specialist HIV services	46,314	15,485	77(0.5%)
Specialist liver services	9855	9030	127 (1.4%)
Unspecified ward [§]	11,342	9020	156 (1.7%)
Total secondary care [≠]	199,235	145,468	965 (0.7%)
Unknown [#]	2066	1950	34 (1.7%)

* Excludes 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. An individual can test in more than one service type.

≠ Totals for individuals testing in primary and secondary care, does not equal the sum of the individuals testing in each setting within primary and secondary care, as an individual can test in more than one setting.

† Other ward types includes cardiology, coroner, dermatology, haematology, ultrasound, x-ray.

§ These are hospital services which are currently being investigated to identify specific service type, and may include any of the secondary care services mentioned above.

These services are currently being investigated to identify specific service type, where possible.

^β Data for pharmacy testing are not presented due to low numbers.

85.5% of individuals tested for HBsAg were classified as belonging to 1 of 4 broad ethnic groups (n=258,444) (Table 4). Most individuals of unknown ethnic origin were tested by GUM clinics, from which only minimal demographic data are available, resulting in poor ethnic classification. Where known, the majority of individuals were classified as being of white or white British ethnic origin (80.5%), a further 13.6% were classified as Asian or Asian British origin, 3.1% were classified as black or black British origin and 2.8% were classified as other and/or mixed ethnic origin. The proportion positive varied by ethnic group; 3.3% of individuals of other and/or mixed ethnicity tested positive compared to 3.0% of black or black British origin individuals, 1.2% of Asian or Asian British origin individuals and 0.5% of white or white British origin individuals.

Table 4. Number of tests, individuals tested, and individuals testing positive for HBsAg in participating centres by ethnic group (excluding antenatal testing), January to December 2020*

Ethnic group	Number of tests	Number of individuals tested	Number positive (%)
Asian or Asian British origin	44,753	35,197	433 (1.2)
Black or black British origin	9,398	7,300	222 (3.0)
Other and/or mixed origin	9,395	7,932	260 (3.3)
White or white British origin	259,478	208,015	1,024 (0.5)
Unknown ethnic origin	47,525	43,691	672 (1.5)

* 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. The proportion positive is calculated using number of individuals. Number of tests includes all tests until a person is diagnosed positive, no tests are counted after a positive test, a person can be counted more than once.

Hepatitis C antibody testing

Sentinel surveillance collects data on testing for hepatitis C-specific antibodies (anti-HCV), a marker of ever having a hepatitis C (HCV) infection. It is important to note that no laboratory methods are currently available to distinguish definitively between acute or chronic HCV infections. Therefore, positive anti-HCV results do not necessarily represent incident or current infections, with a HCV PCR test required to identify a current infection.

In 2020, 338,082 samples were tested for anti-HCV in 19 participating sentinel centres, equating to 283,134 individuals. Overall, 7,634 (2.7%) individuals tested positive. This varied by PHEC and ODN (Supplementary Table 8).

Of those individuals testing positive for anti-HCV (n=7,634), 6,456 were tested for HCV RNA on the same day or after their anti-HCV positive test. Among those HCV RNA tested after a positive anti-HCV test, 45.6% (n= 2,924) were positive, of whom 14.3 % (n=417) had a HCV genotype recorded; 43.6% were genotype 1, with a further 50.1% genotype 3.

Age and gender were well reported (>98.5% complete). Males represented 58.1% of all persons tested, with a higher positivity in males compared to females (3.2% vs 1.9% respectively, $p<0.001$). Where known, the highest proportion of tests (23.5%) were among those aged between 25 and 34 years, followed by those aged between 35 and 44 years (20.9%). The highest positivity was among those aged between 45 and 54 years with 4.7%. (Supplementary Table 9). The median age of those tested was 41 years (IQR 30 – 56 years), whereas the median age of those tested positive was 42 years (IQR 36 – 51 years).

Where known (n=292,213), the greatest proportion of individuals tested for anti-HCV were from secondary care category “Other ward type” (24.0%), with a further 20.1% from general practice and 10.5% from GUM (Table 5). The highest positivity was among individuals testing in specialist drug services (23.3%) and in prisons (4.2%).

Table 5. Number of individuals tested, and testing positive for anti-HCV in participating centres by service type, January to December 2020*

Service type	Number of tests	Number of Individuals tested	Number positive (%)
Primary Care			
Accident and emergency	14,617	14,179	168 (1.2)
Drug dependency services	15,994	15,796	3677 (23.3)
General practitioner	60,838	58,760	882 (1.5)
GUM clinic	37,513	30,702	299 (1.0)
Occupational health	12,158	11,448	38 (0.3)
Prison services	26,889	23,816	1012 (4.2)
Pharmacy	–	–	–
Total primary care [‡]	168,015	153,993	6077 (3.9)
Secondary Care			
Antenatal	1,353	1,314	19 (1.4)
Fertility services	13,919	12,531	30 (0.2)
General medical/surgical departments	14,332	13,363	149 (1.1)
Obstetrics and gynaecology	3,650	3,431	27 (0.8)
Other ward type (known service) [†]	78,206	70,018	782 (1.1)
Paediatric services	3,662	3,340	20 (0.6)
Renal	33,032	14,875	60 (0.4)
Specialist HIV services	2,249	2,107	49 (2.3)
Specialist liver services	9,807	8,972	245 (2.7)
Unspecified ward [§]	8,404	7,555	147 (1.9)
Total secondary care [‡]	168,614	131,590	1528 (1.2)
Unknown [#]	1,453	1,378	29 (2.1)

* Excludes 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. An individual can test in more than one service type.

‡ Totals for individuals testing in primary and secondary care, does not equal the sum of the individuals testing in each setting within primary and secondary care, as an individual can test in more than one setting.

† Other ward types includes cardiology, coroner, dermatology, haematology, ultrasound, x-ray.

§ These are hospital services which are currently being investigated to identify specific service type, and may include any of the secondary care services mentioned above.

These services are currently being investigated to identify specific service type, where possible.

β Data for pharmacy testing are not presented due to low numbers.

Most individuals tested for anti-HCV were classified as belonging to 1 of 4 broad ethnic groups (n=282,281) (Table 6). The majority of individuals were classified as being of white or white British ethnic origin (80.6%), a further 13.5% were classified as Asian or Asian British origin, 2.9% were classified as black or black British origin and 2.8% were classified as other and/or mixed ethnic origin. The proportion positive varied slightly by ethnic group: 2.2% in white or white British origin individuals, 1.1% in individuals of Asian or Asian British ethnic origin tested positive, 1.1% in other or mixed ethnic origin individuals and 0.6% in black or black British origin individuals.

Table 6. Number of tests, individuals tested, and individuals testing positive for anti-HCV in participating centres by ethnic group, January to December 2020*

Ethnic group	Number of tests	Number of Individuals tested	Number positive (%)
Asian or Asian British origin	38,294	31,997	342 (1.1)
Black or black British origin	8,269	7,066	43 (0.6)
Other and/or mixed origin	8,016	7,002	80 (1.1)
White or white British origin	227,702	188,892	4063 (2.2)
Unknown ethnic origin	55,801	48,177	3106 (6.4)

* Excludes dried blood spot testing, oral fluid testing, reference testing and testing from hospitals referring all samples. Excludes individuals aged less than one year, in whom positive tests may reflect the presence of passively-acquired maternal antibody rather than true infection. Data are de-duplicated subject to availability of date of birth, soundex and first initial. All data are provisional. The proportion positive is calculated using number of individuals. Number of tests includes all tests until a person is diagnosed positive, no tests are counted after a positive test, a person can be counted more than once.

Hepatitis D total antibody testing

Sentinel surveillance collects data on testing for hepatitis D-specific total antibody (HDV TA) and A-specific IgM antibody (anti-HDV IgM), a marker of acute hepatitis D (HDV) infection among those positive for Hepatitis B. Seven sentinel laboratories provide HDV testing facilities. Given the small number of tests, individuals tested for HDV TA and/or HDV IgM are aggregated, and therefore do not necessarily represent incident infections, and should be interpreted accordingly. Data are shown by region of the requesting service.

In 2020, 773 individuals were tested at least once for HDV TA and/or HDV IgM, and 28 (3.6%) individuals tested positive. Regional distributions are found in Supplementary Table 10.

The age and gender of individuals tested for HDV was well reported (>96.3% complete). Where known, slightly more males were tested than females (52.3%). The positivity among males and females testing for HDV TA and/or HDV IgM was similar (4.6% and 2.8% respectively, $p=0.20$). The highest proportion of tests were among those aged between 35 and 44 years (32.7%), with a similar proportion among those aged between 25 and 34 years (26.4%). Positivity was highest among those aged between 15 and 24 years (6.1%), followed by those aged between 25 and 34 at (5.0%) and 55 and 64 years at (5.0%). The median age of individuals tested was 39 years (IQR 33 – 49) and the median age of individuals testing positive was 40 years (IQR 31 – 49).

The greatest proportion of individuals (59.3%) were tested by a hospital which referred all HDV samples to a sentinel centre. In these cases the service that originally requested the test could not be determined. A further 14.2% tested in other known hospital wards, and 9.2% tested in general practice. Most individuals tested for hepatitis D were classified as belonging to 1 of 4 broad ethnic groups ($n=662$) (Supplementary Table 11). Just under half of individuals were classified as being of white or white British ethnic origin (40.9%), a further 23.0% were classified as Asian or Asian British ethnic origin, 18.1% were classified as other and/or mixed origin, and 18.0% were classified as black or black British origin. The proportion positive varied by ethnic group; 3.3% of white or white British origin individuals tested positive, 6.6% of persons Asian or Asian British, 2.5% of individuals of black or black British ethnic origin and 1.7% of other or mixed ethnic origin individuals.

Hepatitis E IgM testing

Sentinel surveillance collects data on testing for hepatitis E-specific IgM antibody (anti-HEV IgM), a marker of acute hepatitis E (HEV) infection. Ten sentinel laboratories provide HEV testing facilities which includes Ashford, Birmingham, Cambridge, CPHL, Chelsea and Westminster, Royal Free Hospital, Grimsby, Homerton, Leeds, and Nottingham. Recent HEV testing guidelines and increased disease awareness have resulted in more sentinel laboratories testing for HEV.

In 2020, 19,453 individuals were tested at least once for anti-HEV IgM. Overall, 575 (3.0%) individuals tested positive. The age and gender of individuals tested for anti-HEV IgM was well reported (>98% complete). Where known, slightly more males were tested than females (51.8%), with a higher positivity among males compared to females (3.6% vs. 2.2% respectively, $p < 0.001$). The highest proportion of tests were among those aged 65 years and older (28.1%), followed by those aged between 55 and 64 years, with 17.3% of tests. Positivity was also highest in those aged 65 years and older (4.1%) and 3.9% for those aged between 55 and 64 years old. The median age of individuals tested was 52 years (IQR 36 – 66) and the median age of individuals testing positive was 60 years (IQR 47 – 71).

Overall 4.8% (267/5550) of males aged 50 or over tested for anti-HEV IgM were positive, compared to 2.1% (93/4480) among those under the age of 50. A similar pattern was seen among females, where 2.6% (129/4960) of females aged 50 or over tested positive compared to 1.7% (76/4373) among those under the age of 50. Where known ($n=19,686$), the greatest proportion of individuals (44.0%) were tested by a hospital which referred all HEV samples to a sentinel centre. In these cases the service that originally requested the test could not be determined. A further 15.5% tested in other known hospital wards, and 9.0% tested in unknown hospital wards.

Most individuals tested for anti-HEV IgM were classified as belonging to 1 of 4 broad ethnic groups ($n=18,943$) (Supplementary Table 13). The majority of individuals were classified as being of white or white British ethnic origin (83.9%), a further 12.5% were classified as Asian or Asian British origin, 2.2% were classified as other and/or mixed ethnic origin, and 1.4% were classified as black or black British origin. The proportion positive varied by ethnic group; 2.1% of Asian or Asian British origin individuals tested positive compared to 3.2% of individuals of white or white British origin, 0.7% of other or mixed ethnic origin and 2.2% of black or black British origin.

HIV testing

Sentinel surveillance collects data on testing for HIV. All pregnant women in the UK are offered HIV screening as part of their antenatal care. Data from the test request location and free-text clinical details field accompanying the test request were reviewed to distinguish individuals tested for HIV as part of routine antenatal screening from those tested in other settings and for other reasons. It is possible that some women undergoing antenatal screening may not be identified as such and may therefore be included as “non-antenatal testing”.

Antenatal HIV screening

In 2020, 93,276 women aged between 16 and 49 years old were identified as undergoing antenatal screening at least once for HIV, representing 19.6% of all individuals tested for HIV in participating sentinel centres. Overall, 104 (0.1%) of these women tested positive, regional distributions can be found in Supplementary Table 14. The median age of women tested was 31 years (IQR 27 – 34) and the median age of women testing positive was 32 years (IQR 28 – 35).

Non-antenatal HIV screening

In 2020, 443,555 samples were tested for HIV, excluding antenatal screening, in 17 participating sentinel centres, equating to 381,732 individuals (adults aged 16 years and over). Overall, 2,140 (0.6%) individuals tested positive, with regional distribution found in Supplementary Table 15. The age and gender of adults tested for HIV was well reported (>99.6% complete). Where known, similar numbers of females (52.7%) were tested compared to males (47.3%) (Supplementary Table 16). The number of females tested may include some undergoing routine antenatal screening who could not be identified as such from the information provided. Positivity was higher in males compared to females (0.9% vs 0.3% $p < 0.001$). A third of all individuals tested (29.4%) were aged between 25 and 34 years followed by 19.3% aged between 35 and 44 years. Positivity was highest in those aged between 45 and 54 years (1.1%), followed by those aged between 55 and 64 years, and 35 and 44 years (0.7% and 0.7%, respectively). The median age of individuals tested was 36 years (IQR 27 – 51) and the median age of individuals testing positive was 41 years (IQR 31 – 52).

Where known ($n=392,233$), the greatest proportion of individuals tested for HIV were from GUM clinics (20.9%), with a further 17.5% tested in accident and emergency departments and 16.9% tested in other ward type (Table 7). The highest positivity was among individuals tested in specialist HIV services (2.0%) and GUM clinics (1.5%).

Table 7. Number of adults (16+ years old) tested and testing positive for HIV in participating centres by service type (excluding antenatal testing), January to December 2020*†

Service type	Number of tests	Number of individuals tested	Number positive (%)
Primary Care			
Accident and emergency	79,543	68,600	411 (0.6)
Drug dependency services	7114	7028	7 (0.1)
General practitioner	55,830	53,620	143 (0.3)
GUM clinic	95,055	82,087	733 (0.9)
Occupational health	10,305	9856	15 (0.2)
Prison services	12,944	11,634	43 (0.4)
Pharmacy	–	–	–
Total primary care‡	260,794	231,335	1353 (0.6)
Secondary Care			
Fertility services	20,258	18,118	74 (0.4)
General medical/surgical departments	16,643	15,617	56 (0.4)
Obstetrics and gynaecology	17,088	16,751	58 (0.3)
Other ward type (known service)†	72,611	66,420	235 (0.4)
Paediatric services	3743	3637	8 (0.2)
Renal	21,329	11,865	21 (0.2)
Specialist HIV services	5272	5262	104 (2.0)
Specialist liver services	6965	6295	92 (1.5)
Unspecified ward§	16,833	15,440	100 (0.6)
Total secondary care‡	180,742	154,239	748 (0.5)
Unknown#	2,019	1,934	39 (2.0)

* Excludes 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. An individual can test in more than one service type.

‡ Totals for individuals testing in primary and secondary care, does not equal the sum of the individuals testing in each setting within primary and secondary care, as an individual can test in more than one setting.

† Other ward types includes cardiology, coroner, dermatology, haematology, ultrasound, x-ray.

§ These are hospital services which are currently being investigated to identify specific service type, and may include any of the secondary care services mentioned above.

These services are currently being investigated to identify specific service type, where possible.

β Data for pharmacy testing are not presented due to low numbers.

Two-thirds of adults tested for HIV were classified as belonging to 1 of 4 broad ethnic groups (n=261,917) (Table 8). Where known, the majority of individuals were classified as being of white or white British ethnic origin (76.6%), a further 14.4% were classified as Asian or Asian British origin, 5.0% were classified as black or black British origin and 4.0% were classified as other and/or mixed ethnic origin. Most individuals of unknown ethnic origin were tested in GUM clinics, hence the lack of demographic information. The proportion positive varied by ethnic group; 1.0% of individuals of black or black British origin tested positive compared to 0.5% of individuals of white or white British origin, 0.5% of other and/or mixed origin individuals and 0.4% of Asian or Asian British origin individuals.

Table 8. Number of tests, adults (16+ years old) tested, and, adults (16+ years old) testing positive for HIV in participating centres by ethnic group (excluding antenatal testing), January to December 2020*

Ethnic group	Number of tests	Number of individuals tested	Number positive (%)
Asian or Asian British origin	43,917	37,664	163 (0.4)
Black or black British origin	15,660	13,210	130 (1.0)
Other and/or mixed origin	11,811	10,429	55 (0.5)
White or white British origin	236,191	200,614	1,077 (0.5)
Unknown ethnic origin	135,976	119,815	715 (0.5)

* Excludes individuals aged under 16, antenatal screening, dried blood spot testing, oral fluid testing, 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. The proportion positive is calculated using number of individuals. Number of tests includes all tests until a person is diagnosed positive, no tests are counted after a positive test, a person can be counted more than once.

HTLV testing

In 2020, 10,250 individuals were tested at least once for HTLV-1 specific antibodies in 10 participating sentinel centres. Overall, 115 (1.1%) individuals tested positive, the region distribution can be found in Supplementary Table 17.

The age and gender of individuals tested for HTLV-1 was well reported (>97.2% complete) (Supplementary Table 18). Where known, slightly more males were tested than females (55.9%), with positivity higher in females compared to males (1.4% vs. 0.9% respectively, $p=0.02$). The highest proportion of tests were among those aged between 55 and 64 years, and those aged 65 years and over (22.5% and 21.3%, respectively). Positivity was highest among those aged 35 to 44 years (1.7%), followed by those aged 45 to 54 (1.1%), and those aged 25 to 34 and 65 years and over (both 0.8%). The median age of individuals tested was 52 years (IQR 35 – 63) and the median age of individuals testing positive was 49 years (IQR 37 – 63).

The greatest proportion of individuals (41.5%) were tested in secondary care category “Other ward type”, with a further 16.8% in renal services and 16.0% by a hospital which referred all HTLV samples to a sentinel centre.

Most individuals tested for HTLV-1 were classified as belonging to 1 of 4 broad ethnic groups ($n=9738$) (Supplementary Table 19). The majority of individuals were classified as being of white or white British ethnic origin (85.7%), a further 9.7% were classified as Asian or Asian British origin, 2.8% were classified as black or black British origin, and 1.8% were classified as other and/or mixed ethnic origin. The proportion positive varied by ethnic group; 2.2% of individuals of black or black British origin tested positive compared to 1.7% of other and/or mixed origin individuals, 5.3% of both Asian or Asian British origin individuals and 6.0% of white or white British origin individuals.

About Public Health England

Public Health England exists to protect and improve the nation's health and wellbeing, and reduce health inequalities. We do this through world-leading science, research, knowledge and intelligence, advocacy, partnerships and the delivery of specialist public health services. We are an executive agency of the Department of Health and Social Care, and a distinct delivery organisation with operational autonomy. We provide government, local government, the NHS, Parliament, industry and the public with evidence-based professional, scientific and delivery expertise and support.

Public Health England
Wellington House
133-155 Waterloo Road
London SE1 8UG
Tel: 020 7654 8000

www.gov.uk/phe

Twitter: [@PHE_uk](https://twitter.com/PHE_uk)

www.facebook.com/PublicHealthEngland

© Crown copyright 2021

Queries relating to this document should be directed to:
Blood Safety, Hepatitis, Sexually Transmitted Infections (STI) and HIV Division,
National Infection Service, PHE Colindale,
61 Colindale Avenue, London NW9 5EQ

OGL

You may re-use this information (excluding logos) free of charge in any format or medium, under the terms of the Open Government Licence v3.0. To view this licence, visit [OGL](https://www.ogil.io). Where we have identified any third party copyright information you will need to obtain permission from the copyright holders concerned.

Published July 2021

PHE gateway number: GOV-9149



PHE supports the UN Sustainable Development Goals

