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Annual report from the sentinel surveillance study of blood borne virus testing in England: data for January to December 2014

This report provides summary data for individuals who were first reported to the sentinel surveillance programme during 2014. Sections 1 to 7 describes testing and demographic information for individuals tested by venepuncture 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 also 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 also in interpreting trends in the number of positive individuals identified over time. In 2014, sentinel surveillance captured front-line testing for hepatitis A, B, C and HIV among 13 out of 15 PHECs in England, covering approximately 40% of the population, and over 80% of the population from all 15 PHECs tested for hepatitis D, E and HTLV (*Supplementary Figure 1*).

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: 2014".

1. Hepatitis A IgM testing

In 2014, 21 participating centres supplied hepatitis A-specific IgM antibody (anti-HAV IgM) testing data (a marker of acute infection). Overall 29,274 individuals were tested for anti-HAV IgM, of whom 116 (0.4%) tested positive (*Supplementary Table 1*). The age and gender of individuals tested was well reported (>99.7% complete). Where known, more males (54.5%) were tested than females. Half of all individuals tested and almost one-third of those who tested positive were aged between 25 and 54 years old (*Supplementary Table 2*). The median age of individuals undergoing testing was 46.0 years (IQR 30.8 – 62.0) whereas the median age of individuals testing positive was 30.0 years (IQR 12.9 – 57.3). As seen in previous years, the greatest proportion positive was among children aged 1-14 years (4.1%).

The type of service which requested the hepatitis test was identified using the record location of the requestor (table 1). Where known (n=29,211), general practice tested the greatest proportion of individuals for anti-HAV IgM (55.2%), with a further 16.8% tested in other known hospital wards, and 10.9% tested in general medical surgical wards. The highest proportion of positive tests were from paediatric services (2.5%), and accident and emergency (1.8%).

A combination of self-reported ethnicity and name analysis software was used to classify most individuals tested for anti-HAV IgM as belonging to one of four broad ethnic groups (n=28,547) (*Supplementary table 3*). Where known, the majority of individuals were classified as being of white or white British ethnic origin (82.0%), a further 13.2% were classified as Asian or Asian British origin, 3.1% were classified as other and/or mixed ethnic origin, and 1.7% were classified as black or black British origin. The greatest proportion positive was among individuals of other and/or mixed origin (0.7%).

Table 1. Number of individuals tested, and testing positive for anti-HAV IgM in participating centres by service type, January – December 2014*

Service type	Number tested	Number positive (%)
Primary Care		
Accident and emergency	1,088	20 (1.8)
Drug dependency services	49	0 (0.0)
General practitioner	16,140	40 (0.2)
GUM clinic	288	1 (0.3)
Occupational health	18	0 (0.0)
Prison services	489	0 (0.0)
Total primary care	18,072	61 (0.3)
Secondary Care		
Antenatal	577	0 (0.0)
Fertility services	13	0 (0.0)
General medical / surgical departments	3,183	19 (0.6)
Obstetrics and gynaecology	226	0 (0.0)
Other ward type (known service)†	4,918	7 (0.1)
Paediatric services	692	17 (2.5)
Renal	190	0 (0.0)
HIV	98	0 (0.0)
Specialist infectious disease services	906	6 (0.7)
Unspecified ward§	335	4 (1.2)
Total secondary care	11,138	53 (0.5)
Unknown#	64	2 (3.1)
Total	**29,274**	**166 (0.4)**

* 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.

† 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.

2. 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 screening as part of their antenatal care. Data from the test request location and freetext clinical details field accompanying the test request were reviewed to distinguish individuals tested for HBsAg as part of routine antenatal screening (section 2a) from those tested in other settings and for other reasons (section 2b). 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.

a. Antenatal HBsAg screening

In 2014, 86,964 women aged between 12 and 49 years old were identified as undergoing antenatal screening for HBsAg, representing 29.2% of all individuals tested for HBsAg in participating sentinel centres *(Supplementary Table 4)*. Overall 375 (0.4%) of these women tested positive. The median age of women tested was 29.5 years (IQR 25.2– 33.4) and the median age of women testing positive was 30.1 years (IQR 26.2 – 34.3).

A HBeAg result was available for all HBsAg positive women (375), and of these, 8.5% were HBeAg positive (table 2). Most women who underwent antenatal screening were classified as belonging to one of four broad ethnic groups (n= 85,171) (table 2). The majority of individuals were classified as being of white or white British ethnic origin (78.4%), a further 15.4% were classified as Asian or Asian British origin, 4.0% were classified as other and/or mixed ethnic origin, and 2.2% were classified as black or black British origin. The proportion testing positive was higher among women of black or black British origin and other and/or mixed origin (2.1% and 2.0% respectively) than women of Asian or Asian British origin and white or white British origin (0.5% and 0.2% respectively).

The proportion of HBeAg positive women also differed by ethnic group with 30.9% of other and/or mixed ethnic origin women testing positive, 4.4% of Asian or Asian British women and 3.3% of white or white British women; there were no positive black or black British women.

Table 2. Number of antenatal women tested and testing positive for HBsAg, and number of HBsAg positive women tested and testing positive for HBeAg by ethnic group, January – December 2014*

Ethnic group	Number tested HBsAg	Number positive (%)	Number HBsAg positive tested for HBeAg	% HBsAg positive tested	Number HBeAg positive (%)
Asian or Asian British origin	13,104	68 (0.5)	68	100.0	3 (4.4)
Black or black British origin	1,862	39 (2.1)	39	100.0	0 (0.0)
Other and/or mixed origin	4,340	68 (2.0)	68	100.0	21 (30.9)
White or white British origin	66,775	151 (0.2)	151	100.0	5 (3.3)
Unknown ethnic origin	1,793	49 (2.7)	49	100.0	3 (6.1)
Total	**86,946**	**375 (0.4)**	**375**	100.0	**32 (8.5)**

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

b. Non-antenatal HBsAg testing

In 2014, 210,685 individuals were tested at least once for HBsAg, excluding antenatal screening, in 21 participating sentinel centres. Overall, 2,692 (1.3%) of individuals tested positive, with the highest proportion of positive tests in the West Midlands (2.2%) *(Supplementary Table 5)*. This may reflect more targeted testing of risk groups and/or genuinely higher prevalence of hepatitis B in people being tested in this PHEC.

The age and gender of individuals tested for HBsAg was well reported (>99.2% complete). Where known, slightly more males (52.5%) were tested compared to 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. Males had a greater proportion testing positive compared to females (1.6% vs 0.9% $p<0.001$). Almost half of all individuals tested and three fifths of individuals testing positive were aged between 25 and 44 years old. The median age of individuals tested and positive were similar with 35.3 years (IQR 26.6 – 50.4) and 35.7 years (IQR 28.9 – 45.6) respectively.

Where known (n=210,379), general practice tested the greatest proportion of individuals for HBsAg (31.6%), with a further 22.8% tested in GUM clinics, and 15.5% tested in other known hospital wards (table 3). The highest proportion of positive tests were among unspecified wards, specialist liver services and in general practice (4.1%, 1.7% and 1.6% respectively).

Three-quarters of individuals tested for HBsAg were classified as belonging to one of four broad ethnic groups (n=156,687) (table 4). The majority of individuals were classified as being of white or white British ethnic origin (76.6%), a further 16.7% were classified as Asian or Asian British origin, 4.0% were classified as other and/or mixed ethnic origin, and 2.7% were classified as black or black British origin. Most individuals of unknown ethnic origin were tested by GUM clinics, from which only minimal demographic data are available, resulting in poor ethnic classification. The proportion positive varied by ethnic group; 6.4% of individuals of other and/or mixed ethnicity tested positive compared to 5.7% of black or black British origin individuals, 1.8% of Asian or Asian British origin individuals and 0.7% of white or white British origin individuals.

Table 3. Number of individuals tested, and testing positive for HBsAg in participating centres by service type (excluding antenatal testing), January – December 2014*

Service type	Number tested	Number positive (%)
Primary Care		
Accident and emergency	4,101	55 (1.3)
Drug dependency services	1,103	12 (1.1)
General practitioner	66,577	1,063 (1.6)
GUM clinic	47,876	661 (1.4)
Occupational health	12,465	58 (0.5)
Prison services	3,301	49 (1.5)
Total primary care	135,423	1,898 (1.4)
Secondary Care		
Fertility services	7,742	28 (0.4)
General medical / surgical departments	9,463	118 (1.2)
Obstetrics and gynaecology	8,616	24 (0.3)
Other ward type (known service)†	32,706	351 (1.1)
Paediatric services	2,909	30 (1.0)
Renal	5,201	32 (0.6)
Specialist HIV services	861	13 (1.5)
Specialist liver services	4,629	79 (1.7)
Unspecified ward§	2,829	116 (4.1)
Total secondary care	74,956	791 (1.1)
Unknown#	306	3 (1.0)
Total	**210,685**	**2,692 (1.3)**

* 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.

† 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

Table 4. Number of individuals tested, and testing positive for HBsAg in participating centres by ethnic group (excluding antenatal testing), January – December 2014*

Ethnic group	Number tested	Number positive (%)
Asian or Asian British origin	26,109	467 (1.8)
Black or black British origin	4,292	245 (5.7)
Other and/or mixed origin	6,315	403 (6.4)
White or white British origin	119,971	831 (0.7)
Unknown ethnic origin	53,998	746 (1.4)
Total	**210,685**	**2,692 (1.3)**

* 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.

3. Hepatitis C antibody testing

Sentinel surveillance collects data on testing for hepatitis C-specific antibodies (anti-HCV). It is important to note that no laboratory methods are currently available to distinguish between acute or chronic hepatitis C virus infections. Therefore, positive anti-HCV results do not therefore necessarily represent incident infections.

In 2014, 183,001 individuals were tested at least once for anti-HCV in 21 participating sentinel centres. Overall, 3,372 (1.8%) of individuals tested positive. This varied by PHEC with the highest proportion of positive tests were from the West Midlands (3.0%) (*Supplementary Table 7)*. This may reflect more targeted testing of risk groups and/or genuinely higher prevalence of hepatitis C in people being tested in this PHEC. Of those individuals testing positive for anti-HCV 71.6% were tested for HCV RNA by PCR, of whom 48.8% tested positive (n=1,644). Of the PCR positive individuals 53.1% had a HCV genotype recorded; 49.3% were genotype 1, with a further 41.9% genotype 3.

Age and gender were well reported (>99.1% complete). Where known, slightly more males (56.1%) were tested than females (*Supplementary Table 8*). Almost half of all individuals tested and around half testing positive were aged between 25 and 54 years old. A greater proportion of males tested positive compared to females (2.2% vs 1.3% respectively, $p<0.001$). The median age of those tested was 37.3 years (IQR 27.8 – 52.6 years), whereas the median age of those tested positive was 41.8 years (IQR 32.8 – 51.5 years).

Where known (n=182,783), general practice tested the greatest proportion of individuals for anti-HCV (32.1%), with a further 19.1% tested in GUM clinics and 17.5% tested in other known hospital wards (table 5). The highest proportion of positive tests were among specialist drug (9.3%) and prison services (8.0%).

Table 5. Number of individuals tested, and testing positive for anti-HCV in participating centres by service type, January – December 2014*

Service type	Number tested	Number positive (%)
Primary Care		
Accident and emergency	4,176	95 (2.3)
Drug dependency services	1,136	106 (9.3)
General practitioner	58,675	1,139 (1.9)
GUM clinic	34,878	569 (1.6)
Occupational health	10,413	27 (0.3)
Prison services	4,089	327 (8.0)
Total primary care	113,367	2,263 (2.0)
Secondary Care		
Antenatal	1,763	42 (2.4)
Fertility services	7,675	27 (0.4)
General medical / surgical departments	8,916	187 (2.1)
Obstetrics and gynaecology	3,523	19 (0.5)
Other ward type (known service)†	31,898	448 (1.4)
Paediatric services	2,080	11 (0.5)
Renal	5,199	36 (0.7)
Specialist HIV services	1,000	38 (3.8)
Specialist liver services	4,584	140 (3.1)
Unspecified ward§	2,778	153 (5.5)
Total secondary care	69,416	1,101 (1.6)
Unknown#	218	8 (3.7)
Total	**183,001**	**3,372 (1.8)**

* Excludes dried blood spot, oral fluid, reference testing and testing from hospitals referring all samples. Individuals aged less than one year are excluded since positive tests in this age group 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.

† 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

Most individuals tested for anti-HCV were classified as belonging to one of four broad ethnic groups (n=142,357) (table 6). The majority of individuals were classified as being of white or white British ethnic origin (77.8 %), a further 15.9% were classified as Asian or Asian British origin, 3.7% were classified as other and/or mixed ethnic origin, and 2.5% were classified as black or black British origin. The proportion positive varied slightly by ethnic group: 2.0% of individuals of Asian or Asian British ethnic origin tested positive compared to 1.9% of white or white British origin individuals, 1.2% of other or mixed ethnic origin individuals and 0.8% of black or black British origin individuals.

Table 6. Number of individuals tested, and testing positive for anti-HCV in participating centres by ethnic group, January – December 2014*

Ethnic group	Number tested	Number positive (%)
Asian or Asian British origin	22,676	449 (2.0)
Black or black British origin	3,622	29 (0.8)
Other and/or mixed origin	5,258	65 (1.2)
White or white British origin	110,801	2,116 (1.9)
Unknown ethnic origin	40,644	713 (1.8)
Total	**183,001**	**3,372 (1.8)**

* 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.

4. 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-HAV IgM), a marker of acute hepatitis D infection. Six sentinel laboratories provide hepatitis D 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 be interpreted accordingly. Data are shown by region of the requesting service.

In 2014, 2,457 individuals were tested at least once for HDV TA and/or HDV IgM in six participation sentinel centres (*Supplementary Table 9*). Overall 97 (3.9%) of individuals tested positive, although this varied by PHEC with the highest proportion of positive tests in the West Midlands (8.4%).

The age and gender of individuals tested for hepatitis D was well reported (>98.3% complete). Where known, slightly more males were tested than females (56.4% male). The proportion of females testing positive was not significantly greater when compared to males (4.3% vs 3.6%, p=0.39). Over three-fifths of all individuals tested and testing positive were aged between 25 and 44 years old. The median age of individuals tested was 35.4 years (IQR 29.0 – 45.7) and the median age of individuals testing positive was 36.1 years (IQR 30.0 – 44.7).

Where known (n=2,456), almost two-thirds of individuals were tested by a hospital which referred all hepatitis D samples to a sentinel centre (64.5%). In these cases the original service that initially requested the test could not be determined.

Most individuals tested for hepatitis D were classified as belonging to one of four broad ethnic groups (n=2,096). Over two-fifths of individuals were classified as being of white or white British ethnic origin (45.2%), a further 23.8% were classified as Asian or Asian British ethnic origin, 20.5% were classified as other and/or mixed origin, and 10.5% were classified as black or black British origin (table 7). The proportion positive varied by ethnic group; 6.6% of Asian or Asian British origin tested positive compared to 3.2% of individuals of black or black British ethnic origin individuals, 3.4% of white or white British origin individuals and 2.3% of other or mixed ethnic origin individuals.

Table 7. Number of individuals tested, and testing positive, for HDV-TA and/or HDV IgM in participating centres by ethnic group, January – December 2014*

Ethnic group	Number tested	Number positive (%)
Asian or Asian British origin	498	33 (6.6)
Black or black British origin	221	7 (3.3)
Other and/or mixed origin	429	10 (2.3)
White or white British origin	948	32 (3.4)
Unknown ethnic origin	361	15 (4.2)
Total	**2,457**	**97 (3.9)**

* Excludes reference testing. Data are de-duplicated subject to availability of date of birth, soundex and first initial. All data are provisional.

5. Hepatitis E IgM testing

Sentinel surveillance collects data on testing for hepatitis E-specific IgM antibody (anti-HEV IgM), a marker of acute hepatitis A infection. Six sentinel laboratories provide anti-HEV IgM testing facilities.

In 2014, 11,039 individuals were tested at least once for anti-HEV IgM in six participating sentinel centres (*Supplementary Table 10*). This represents a 28% increase in the number of individuals tested in 2014 compared to that reported in 2013. This increase in testing is likely to reflect a substantial increase in confirmed HEV cases since 2010. Overall, 803 (7.3%) of individuals tested positive, although this varied by PHEC with the highest proportion of positive tests in the Avon, Gloucestershire and Wiltshire (32.0%).

The age and gender of individuals tested for anti-HEV IgM was well reported (>99.2% complete). Where known, slightly more males were tested than females (53.0% male). A greater proportion of males tested positive compared to females (8.9 % vs. 5.5% respectively, $p<0.001$). Almost half of all individuals tested and two-fifths of individuals testing positive were aged between 25 and 54 years old. The median age of individuals tested was 51.1 years (IQR 34.5 – 66.6) and the median age of individuals testing positive was 59.9 years (IQR 47.5 – 69.9).

Overall 12.1% (369/3050) of males aged 50 or over tested positive for HEV, compared to 5.4% (149/2,738) among those under the age of 50. A similar pattern was seen among females, where 7.3% (193/2,635) of females aged 50 or over tested positive compared to 3.5% (89/2,512) among those under the age of 50.

Where known (n=11,033), most individuals were tested by a hospital which referred all anti-HEV IgM samples to a sentinel centre (63.6%). In these cases the original service that initially requested the test could not be determined. The highest proportion of positive tested through general medical surgical (6.7%) and GP services (4.8%).

Most individuals tested for anti-HEV IgM were classified as belonging to one of four broad ethnic groups (n=10,577). The majority of individuals were classified as being of white or white British ethnic origin (82.6%), a further 13.7% were classified as Asian or Asian British origin, 2.5% were classified as other and/or mixed ethnic origin, and 1.2% were classified as black or black British origin (table 8). The proportion positive varied by ethnic group; 8.0% of individuals of white or white British origin tested positive compared to 4.1% of Asian or Asian British origin individuals and 1.9% of other or mixed ethnic origin individuals.

Table 8. Number of individuals tested, and testing positive, HEV IgM in participating centres by ethnic group, January – December 2014*[*]

Ethnic group	Number tested	Number positive (%)
Asian or Asian British origin	1,451	60 (4.1)
Black or black British origin	129	0 (0.0)
Other and/or mixed origin	265	5 (1.9)
White or white British origin	8,732	699 (8.0)
Unknown ethnic origin	462	39 (8.4)
Total	**11,039**	**803 (7.3)**

6. 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 (section 6a) from those tested in other settings and for other reasons (section 6b). It is possible that some women undergoing antenatal screening may not be identified as such and may therefore be included in section 6b as non-antenatal testing.

a. Antenatal HIV screening

In 2014, 67,016 women aged between 16 and 49 years old were identified as undergoing antenatal screening for HIV, representing 19.0% of all individuals tested for HIV in participating sentinel centres *(Supplementary Table 11)*. Overall, 76 (0.1%) of these women tested positive. The median age of women tested was 29.8 years (IQR 25.6 – 33.7) and the median age of women testing positive was 35.0 years (IQR 28.4 – 41.6).

b. Non-antenatal HIV testing

In 2014, 285,902 adults aged 16 and over years old were tested at least once for HIV, excluding antenatal screening, in 14 participating sentinel centres. Overall, 2,460 (0.9%) of individuals tested positive, although this varied by PHEC with the highest proportion of positive tests in Avon, Gloucestershire and Wiltshire (4.0%) *(Supplementary Table 12)*, although few individuals were tested from this PHEC

The age and gender of adults tested for HIV was well reported (>99.0% complete). Where known, similar numbers of females (51.1%) were tested compared to males (*Supplementary Table 13*). The number of females tested may include some undergoing routine antenatal screening who could not be identified as such from the information provided. A greater proportion of males tested positive compared to females (1.4% vs 0.4% $p<0.001$). A third of all individuals tested and testing positive were aged between 25 and 34 years old. The median age of individuals tested was 30.0 years (IQR 23.9 – 40.0) and the median age of individuals testing positive was 36.3 years (IQR 29.1 – 45.7).

Where known (n=284,936), GUM clinics tested the greatest proportion of individuals for HIV (56.2%), with a further 16.3% tested in general practice, and 10.1% tested in other known hospital wards (table 9). The highest proportion of positive tests were among specialist HIV services, unspecified wards and specialist liver services (44.3%, 3.2% and 1.7% respectively).

Table 9. Number of adults (16+ years old) tested and testing positive for HIV in participating centres by service type (excluding antenatal testing), January – December 2014*†.

Service type	Number tested	Number positive (%)
Primary Care		
Accident and emergency	7,901	63 (0.8)
Drug dependency services	524	2 (0.4)
General practitioner	46,505	204 (0.4)
GUM clinic	160,026	1,556 (1.0)
Occupational health	8,474	19 (0.2)
Prison services	2,834	16 (0.6)
Total primary care	226,264	1,860 (0.8)
Secondary Care		
Fertility services	7,274	7 (0.1)
General medical / surgical departments	7,128	69 (1.0)
Obstetrics and gynaecology	4,476	7 (0.2)
Other ward type (known service)†	28,647	187 (0.7)
Paediatric services	1,248	6 (0.5)
Renal	3,529	12 (0.3)
Specialist HIV services	384	170 (44.3)
Specialist liver services	3,667	63 (1.7)
Unspecified ward§	2,319	75 (3.2)
Total secondary care	58,672	596 (1.0)
Unknown#	966	4 (0.4)
Total	**285,902**	**2,460 (0.9)**

* 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.

§ 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

Two-fifths of adults tested for HIV were classified as belonging to one of four broad ethnic groups (n=115,679) (table 10). Where known, the majority of individuals were classified as being of white or white British ethnic origin (80.3%), a further 12.6% were classified as Asian or Asian British origin, 4.1% were classified as other and/or mixed ethnic origin, and 3.1% were classified as black or black British 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; 2.9% of individuals of black or black British origin tested positive compared to 1.0% of individuals of white or white British origin, 0.8% of other and/or mixed origin individuals and 0.7% of Asian or Asian British origin individuals.

Table 10. Number of adults (16+ years old) tested, and testing positive for HIV in participating centres by ethnic group (excluding antenatal testing), January – December 2014*

Ethnic group	Number tested	Number positive (%)
Asian or Asian British origin	14,560	99 (0.7)
Black or black British origin	3,587	103 (2.9)
Other and/or mixed origin	4,692	39 (0.8)
White or white British origin	92,840	952 (1.0)
Unknown ethnic origin	170,223	1,267 (0.7)
Total	**285,902**	**2,460 (0.9)**

* 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.

7. HTLV testing

In 2014, 5,969 individuals were tested at least once for HTLV-1 specific antibodies in 11 participating sentinel centres (*Supplementary Table 14*). Overall, 99 (1.7%) of individuals tested positive, although this varied by PHEC with the highest proportion of positive tests in the Avon, Gloucestershire and Wiltshire (15.4%), although few individuals were tested from this region.

The age and gender of individuals tested for HTLV-1 was well reported (>93.4% complete) (*Supplementary Table* 15). Where known, slightly more males were tested than females (53.7% male), with no significant difference in the proportion of females testing positive compared to males (2.0% vs. 1.5% respectively, *p*=0.15). Over half of all individuals tested and two-thirds of those testing positive, were aged 45 years and older. The median age of individuals tested was 47.6 years (IQR 32.4 – 60.6) and the median age of individuals testing positive was 54.6 years (IQR 42.5 – 69.0).

Where known (n=5,966), a quarter of individuals were tested by a hospital which referred all HTLV-1 samples to a sentinel centre (24.7%). In these cases the original service that initially requested the test could not be determined.

Most individuals tested for HTLV-1 were classified as belonging to one of four broad ethnic groups (n=5,098) (table 11). The majority of individuals were classified as being of white or white British ethnic origin (85.7%), a further 8.9% were classified as Asian or Asian British origin, 3.3% were classified as black or black British origin, and 2.1% were classified as other and/or mixed ethnic origin (table 11). The proportion positive varied by ethnic group; 3.0% of individuals of black or black British origin tested positive compared to 1.8% of Asian or Asian British origin individuals, 1.5% of individuals of white or white British origin and 0.9% of other and/or mixed origin individuals.

Table 11. Number of individuals tested, and testing positive for HTLV in participating centres by ethnic group, January – December 2014*

Ethnic group	Number tested	Number positive (%)
Asian or Asian British origin	455	8 (1.8)
Black or black British origin	167	5 (3.0)
Other and/or mixed origin	109	1 (0.9)
White or white British origin	4,367	64 (1.5)
Unknown ethnic origin	871	21 (2.4)
Total	**5,969**	**99 (1.4)**

* Excludes reference testing. Data are de-duplicated subject to availability of date of birth, soundex and first initial. All data are provisional.

8. Dried blood spot testing

Dried blood spot testing data is not yet complete for 2014. Please contact us directly if you have any queries or would like any further information.

Reference

1. Judd A, *et al.* Evaluation of a modified commercial assay in detecting antibody to hepatitis C virus in oral fluids and dried blood spots. *J Med Virol.* 2003; 71: 49-55.