Public Health England

Health Protection Report
weekly report

Infection report

Volume 9 Number 3 Published on: 23 January 2015

Immunisation

Quarterly report from the sentinel surveillance study of hepatitis, HIV and HTLV testing in England: data for July to September 2014

The sentinel surveillance study of hepatitis testing in England began in 2002, and provides information on trends in testing, individual risk exposures and clinical symptoms, as a supplement to the routine surveillance of hepatitis A, B and C. The study collects information on hepatitis A, B and C testing carried out in participating sentinel centres regardless of test result and therefore can also be used to estimate prevalence in those individuals tested. Data from 24 centres are detailed in this report. The data presented here are for individuals who were first reported to the sentinel surveillance scheme during the third quarter (July to September) of 2014.

1. Hepatitis A IgM testing

During the third quarter of 2014, 6,973 individuals were tested at least once for anti-HAV IgM. Overall, 0.4% (n=26) of individuals tested positive, which varied by region.

Table 1 shows the age-group and gender of individuals tested, and testing positive, for anti-HAV IgM. Gender and age were reported for the majority of individuals (>99.8%). As in previous quarters, where available, a higher proportion of those tested were males (56.6% vs. 44.4%). The mean age of individuals tested was 47.2 years (range 0.0-101.8 years), whereas the mean age of those testing positive was 31.6 years (range 3.3-88.0 years). The largest age-group tested were aged 65 and over and the highest overall percentage of individuals testing positive was among those aged 1-14 years, although few were tested in this age-group.

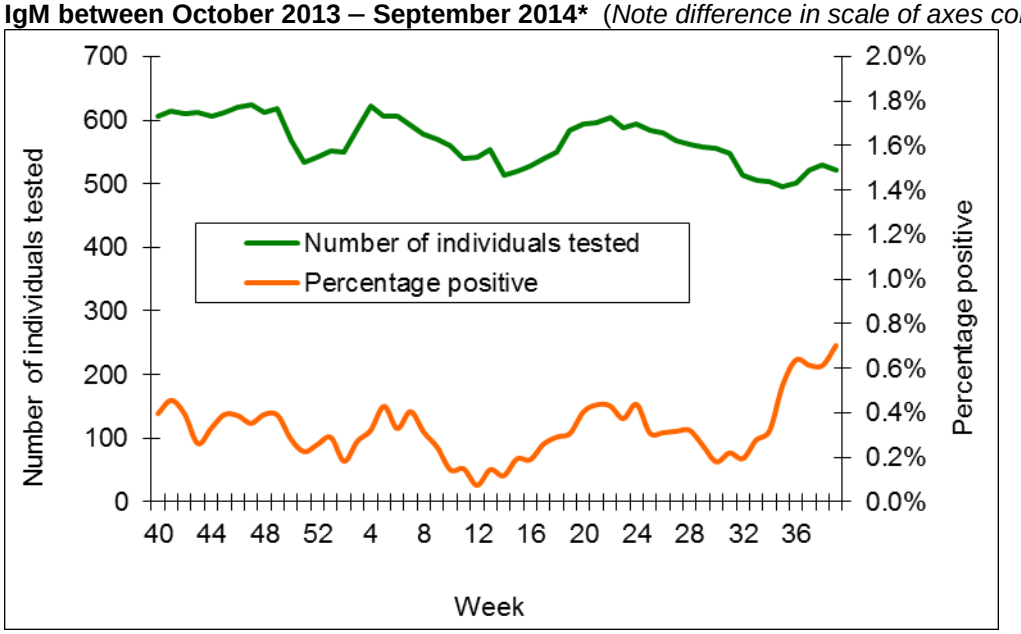
Table 1. Number of individuals tested, and testing positive, for anti-HAV IgM in participating centres, July - September 2014*.

Age group	Female		Male		Unknown		Total	
	Number tested	Number positive (%)	Number tested	Number positive (%)	Number tested	Number positive (%)	Number tested	Number positive (%)
Under 1 year	19	0 (0.0)	39	0 (0.0)	~	~	58	0 (0.0)
1-14 years	75	5 (6.7)	106	4 (3.8)	~	~	181	9 (5.0)
15-24 years	356	4 (1.1)	405	0 (0.0)	1	0 (0.0)	762	4 (0.5)
25-34 years	510	2 (0.4)	699	1 (0.1)	3	0 (0.0)	1,212	3 (0.2)
35-44 years	397	1 (0.3)	666	2 (0.3)	4	0 (0.0)	1,067	3 (0.3)
45-54 years	516	0 (0.0)	691	1 (0.1)	1	0 (0.0)	1,208	1 (0.1)
55-64 years	464	1 (0.2)	505	1 (0.2)	~	~	969	2 (0.2)
≥65 years	747	3 (0.4)	753	1 (0.1)	~	~	1,500	4 (0.3)
Unknown	6	0 (0.0)	10	0 (0.0)	~	~	16	0 (0.0)
Total, all age groups	**3,090**	**16 (0.5)**	**3,874**	**10 (0.3)**	**9**	**0 (0.0)**	**6973**	**26 (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.

To provide an indication in the trends in testing, and in the number testing positive, figure 1 shows the five-weekly moving average for number of people tested for anti-HAV IgM and percentage positive between October 2013 and September 2014, inclusive, for 24 participating sentinel centres.

Figure 1. Five-weekly moving average of number of people tested, and percentage positive, for anti-HAV IgM between October 2013 – September 2014* (*Note difference in scale of axes compared with figures 2 and 3)*



* 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.

2. Hepatitis B surface antigen (HBsAg) testing

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

During the third quarter of 2014, a total of 22,078 women were identified as undergoing antenatal screening for HBsAg, representing 29.6.% (22,078/74,470) of all individuals tested in participating sentinel centres. Overall 0.4% (n=88) of women tested positive. Among the 88 HBsAg positive women identified, 85 (96.6%) had HBeAg results available, and of these, 9.4% were HBeAg positive.

a) Non-antenatal HBsAg testing

During the third quarter of 2014, excluding dried blood-spot and antenatal testing, 52,392 individuals were tested for HBsAg in participating sentinel centres. Overall, 1.3% (n=658) of individuals tested positive. South Midlands and Hertfordshire Public Health England Centre (PHEC) had the highest proportion of individuals testing positive (3.8%), although few individuals were tested in this PHEC.

Table 2 shows the age-group and gender of individuals tested, and testing positive, for HBsAg. Gender and age-group were reported for the majority of individuals (>99.2%), and where available, slightly more males were tested compared to females (52.5% and 47.5% respectively). However, the number of females tested may include some antenatal testing that cannot be identified as such from the information provided. As reported previously the proportion testing positive for HBsAg was higher among males than females (0.9% v 1.5%). The greatest number of tests were performed among those aged 25-34 years whereas the highest percentage of individuals testing positive where age was known, was among those

aged 25-34 and 35-44. The mean age of individuals tested was 39.9 years (range 0.0-104.2 years) and of those testing positive was 38.8 years (range 1.1-91.5 years). The prevalence of HBsAg among tested individuals of unknown gender (2.8%) is higher than both males and females (1.5% and 0.9% respectively). This may reflect a change to the testing of individuals in settings such as prisons, drug services and GUM clinics where few demographic details on patients (such as gender) were available and where service users may be at higher risk of hepatitis B infection.

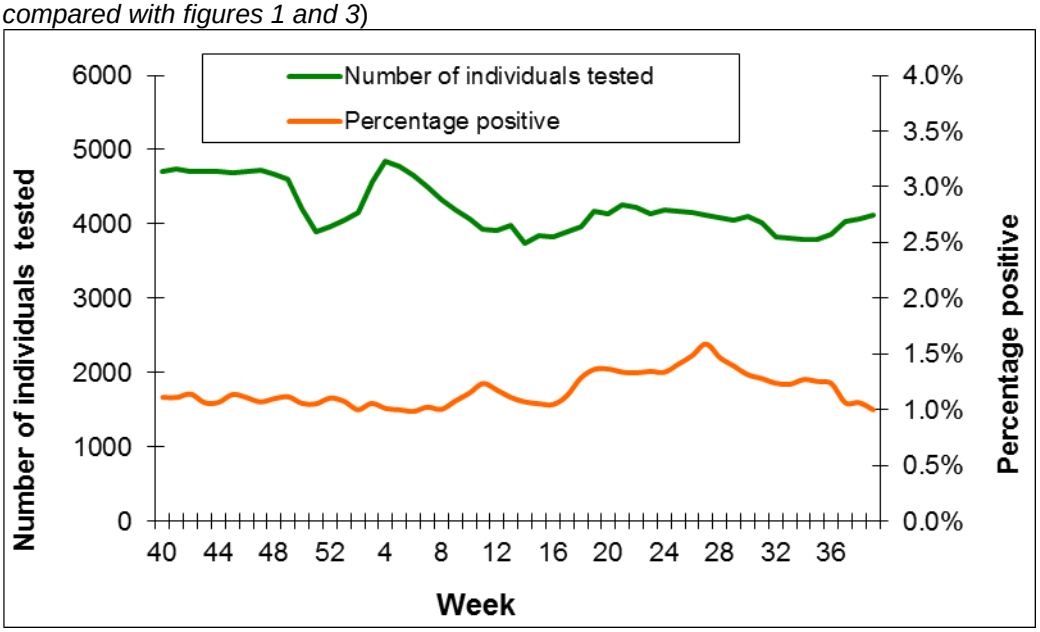
Table 2. Age and gender of individuals tested for HBsAg in participating centres (excluding antenatal testing), July – September 2014*

Age group	Female		Male		Unknown		Total	
	Number tested	Number positive (%)	Number tested	Number positive (%)	Number tested	Number positive (%)	Number tested	Number positive (%)
Under 1 year	61	0 (0.0)	90	0 (0.0)	~	~	151	0 (0.0)
1-14 years	399	4 (1.0)	462	7 (1.5)	5	0 (0.0)	866	11 (1.3)
15-24 years	4,990	36 (0.7)	4,244	41 (1.0)	150	1 (0.7)	9,384	78 (0.8)
25-34 years	7,434	87 (1.2)	7,731	136 (1.8)	105	6 (5.7)	15,270	229 (1.5)
35-44 years	4,062	49 (1.2)	5,327	92 (1.7)	49	2 (4.1)	9,438	143 (1.5)
45-54 years	2,886	20 (0.7)	3,866	82 (2.1)	28	1 (3.6)	6,780	103 (1.5)
55-64 years	2,051	11 (0.5)	2,429	34 (1.4)	5	1 (20.0)	4,485	46 (1.0)
≥65 years	2,757	17 (0.6)	3,099	26 (0.8)	8	0 (0.0)	5,864	43 (0.7)
Unknown	49	2 (4.1)	55	3 (5.5)	50	0 (0.0)	154	5 (3.2)
Total, all age groups	**24,689**	**226 (0.9)**	**27,303**	**421 (1.5)**	**400**	**11 (2.8)**	**52,392**	**658 (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.

To provide an indication in the trends in testing, and in the number testing positive Figure 2 shows the five-weekly moving average for number of people tested for HBsAg and percentage positive between October 2013 and September 2014 inclusive, for 24 participating sentinel centres.

Figure 2. Five-weekly moving average of number of individuals tested, and percentage positive, for HBsAg between October 2013 – September 2014* (excluding antenatal testing)* (*Note difference in scale of axes compared with figures 1 and 3*)



* 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.

3. Hepatitis C testing

During the third quarter of 2014, excluding dried blood spot testing, a total of 45,914 individuals were tested at least once for hepatitis C-specific antibodies (anti-HCV). Overall, 1.7% (n=786) of individuals tested positive, although this varied by region. The highest proportion of positive tests in England were from South Midlands and Hertfordshire PHEC (20.7%), although few individuals were tested in this region. This may reflect changes in testing patterns and/or in the prevalence of hepatitis C in people being tested in these regions. Of the 786 individuals testing positive for anti-HCV during the third quarter of 2014, 495 (63.0%) were also tested for HCV RNA by PCR (qualitative and/or quantitative), of whom, 327 were PCR positive (66.1%).

Table 3 shows the age-group and gender of individuals tested, and testing positive, for anti-HCV. Gender and age were reported for the majority of individuals (>99.1%), and where available, there was a slightly higher proportion males tested (56.1%) compared to females (43.9%). As reported previously the proportion testing positive was also higher among males than among females (2.1% vs.1.3%). The mean age of individuals tested was 41.4 years (range 1.0-103.9 years) and of those testing positive was 43.3 years (range 12.8-92.5 years). As with the previous quarter the largest group tested were aged 25-34 years. The percentage of individuals testing positive was highest among 45-54 year olds (3.2%). As with HBsAg testing, individuals with unknown gender and age have a higher proportion testing positive (3.3%) when compared to those of known gender and age. This may reflect a change in testing of individuals in settings such as prisons, drug services and GUM clinics where fewer demographic details on patients are routinely available.

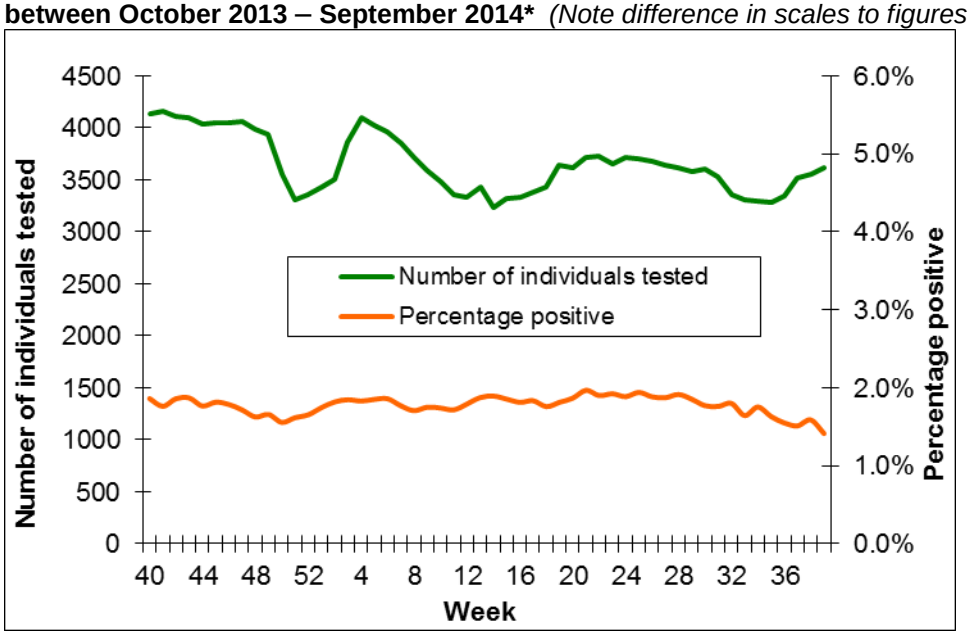
Table 3. Age and gender of individuals tested for anti-HCV in participating centres, July - September 2014*

	Female		Male		Unknown		Total	
Age group	**Number tested**	**Number positive (%)**	**Number tested**	**Number positive (%)**	**Number tested**	**Number positive (%)**	**Number tested**	**Number positive (%)**
1-14	303	0 (0.0)	339	2 (0.6)	1	0 (0.0)	643	2 (0.3)
15-24	3,567	17 (0.5)	3,672	32 (0.9)	154	0 (0.0)	7,393	49 (0.7)
25-34	5,346	61 (1.1)	7,066	111 (1.6)	93	2 (2.2)	12,505	174 (1.4)
35-44	3,408	67 (2.0)	5,253	149 (2.8)	51	0 (0.0)	8,712	216 (2.5)
45-54	2,647	56 (2.1)	3,808	146 (3.8)	22	3 (13.6)	6,477	205 (3.2)
55-64	1,971	38 (1.9)	2,309	54 (2.3)	3	0 (0.0)	4,283	92 (2.1)
≥65	2,718	17 (0.6)	3,023	26 (0.9)	8	0 (0.0)	5,749	43 (0.7)
Unknown	47	1 (2.1)	55	4 (7.3)	50	0 (0.0)	152	5 (3.3)
Total, all age groups	**20,007**	**257 (1.3)**	**25,525**	**524 (2.1)**	**382**	**5 (1.3)**	**45,914**	**786 (1.7)**

* Excludes dried blood spot, oral fluid, reference testing and testing, hospitals referring all samples and individuals aged less than one year (as positive tests may reflect 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.

To provide an indication in the trends in testing, and in the number testing positive, figure 3 shows the five-weekly moving average for number of people tested for anti-HCV and percentage positive between October 2013 and September 2014 inclusive, for 24 participating sentinel centres. Overall a slight decline in the proportion positive overtime is apparent.

Figure 3. Five-weekly moving average of number of people tested, and percentage positive, for anti-HCV between October 2013 – September 2014* *(Note difference in scales to figures 1 and 2)*



* Excludes dried blood spot, oral fluid, reference testing and testing, hospitals referring all samples and individuals aged less than one year (as positive tests may reflect 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 testing

The sentinel surveillance study collects data on testing for hepatitis D-specific total antibody (HDV TA). A positive HDV results does not necessarily represent an incident infection and these data should be interpreted accordingly.

During the third quarter of 2014, a total of 517 individuals were tested at least once for HDV TA. Overall 3.9% (n=20) of individuals tested positive, although this varied by region. Where gender was available (>99.2%), a higher proportion of males were tested (59.4%) than females. The mean age of individuals tested was 38.8 years (range 6.9-95.6 years), whereas the mean age of those testing positive was 35.2 years (range 17.4-68.7 years).

5. Hepatitis E IgM testing

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

During the third quarter of 2014, a total of 2,812 individuals were tested at least once for anti-HEV IgM. Overall, 7.7% (n=216) of individuals tested positive, although this varied by region. Where gender was available (>99.8%), a higher proportion of males (54.9%) were tested than females. The mean age of individuals tested was 51.0 years (range 0.1-101.0 years), whereas the mean age of those testing positive was 58.3 years (range 15.3-94.0 years).

6. HIV testing

All pregnant women in the UK are offered HIV 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 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. Data are presented throughout for adults aged >=16 years old at the time of test.

a) Antenatal HIV screening

During the third quarter of 2014, a total of 13,521 women were identified as undergoing antenatal screening for HIV, representing 15.5.% (13,521/87,057) of all individuals tested in participating sentinel centres. Overall 0.1% (n=17) of women tested positive.

b) Non-antenatal HIV testing

The sentinel surveillance study collects data on testing for HIV excluding dried blood-spot and antenatal testing, 22 sentinel laboratories provide HIV testing facilities. During the third quarter of 2014, a total of 73,536 individuals were tested at least once for HIV. Overall, 0.8% (n=623) of individuals tested positive, although this varied by region. South Midlands and Hertfordshire PHEC had the highest proportion of individuals testing positive (28.6%), although few individuals were tested in this region and Greater Manchester also had a high proportion of individuals testing positive (1.1%). This may reflect more targeted testing of risk groups and/or genuinely higher prevalence in people being tested in these regions.

Table 4 shows the age-group and gender of individuals tested, and testing positive, for HIV. Gender and age were reported for the majority of individuals (>99.1%), and a slightly higher proportion of females (51.0%) were tested than males, although the proportion testing positive was higher among males than among females (1.4% vs.0.4%). The mean age of individuals tested was 34.2 years (range 16.0-103.9 years), whereas the mean age of those testing positive was 37.8 years (range 16.3-87.1 years).The largest group tested were aged 25-34 years. The percentage of individuals testing positive was highest among 45-54 year olds (1.9%).

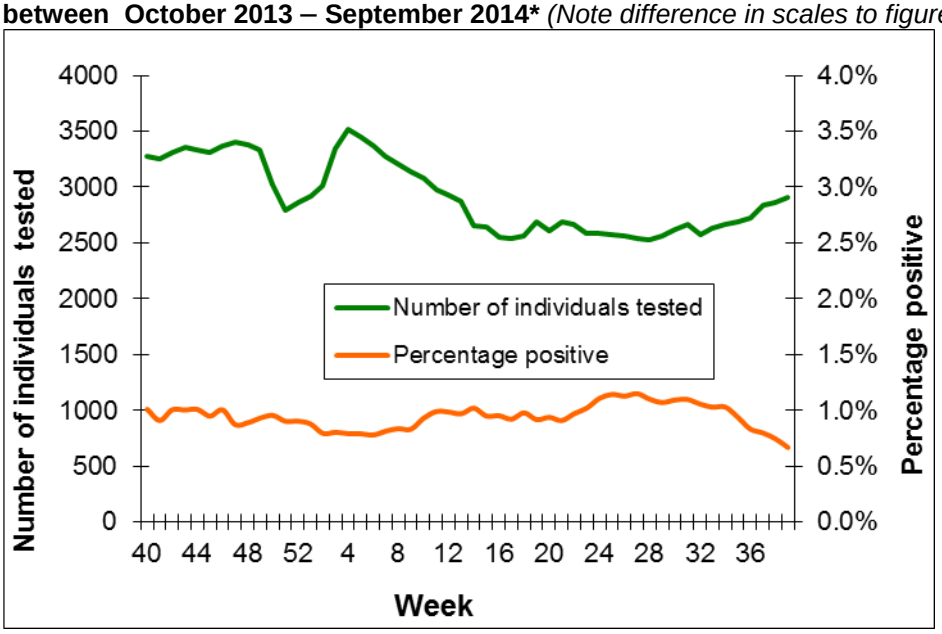
Table 4. Age and gender of individuals tested for HIV in participating centres (excluding antenatal testing), July – September 2014*

Age group	Female		Male		Unknown		Total	
	Number tested	Number positive (%)	Number tested	Number positive (%)	Number tested	Number positive (%)	Number tested	Number positive (%)
16-24 years	12,440	17 (0.1)	8,840	52 (0.6)	289	2 (0.7)	21,569	71 (0.3)
25-34 years	13,408	33 (0.2)	12,522	181 (1.4)	198	2 (1.0)	26,128	216 (0.8)
35-44 years	5,655	46 (0.8)	6,401	123 (1.9)	92	1 (1.1)	12,148	170 (1.4)
45-54 years	2,771	28 (1.0)	3,775	94 (2.5)	40	0 (0.0)	6,586	122 (1.9)
55-64 years	1,369	6 (0.4)	1,960	24 (1.2)	8	1 (12.5)	3,337	31 (0.9)
≥65 years	1,490	2 (0.1)	2,114	11 (0.5)	9	0 (0.0)	3,613	13 (0.4)
Unknown	50	0 (0.0)	54	0 (0.0)	51	0 (0.0)	155	0 (0.0)
Total, all age groups	**37,183**	**132 (0.4)**	**35,666**	**485 (1.4)**	**687**	**6 (0.9)**	**73,536**	**623 (0.8)**

* 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.

Data are presented throughout for adults aged >=16 years old at the time of test. Figure 4 shows the five-weekly moving average for number of people tested for HIV and percentage positive between October 2013 and September 2014 inclusive, for 22 participating sentinel centres.

Figure 4. Five-weekly moving average of number of people tested, and percentage positive, for HIV between October 2013 – September 2014* *(Note difference in scales to figures 1 and 2)*



* Excludes dried blood spot, oral fluid, reference testing and testing, 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

The sentinel surveillance study collects data on testing for HTLV. Twelve sentinel laboratories provide HTLV testing facilities. During the third quarter of 2014, a total of 1,570 individuals were tested at least once for HTLV. Overall, 1.5% (n=24) of individuals tested positive, although this varied by region. Where gender was available (>95.3%), a slightly higher proportion of females (51.5%) were tested than males. The mean age of individuals tested was 45.5 years (range 0.4-92.0 years), whereas the mean age of those testing positive was 57.0 years (range 18.1-82.9 years).

8. Dried blood spot testing

Three sentinel laboratories provide dried blood spot testing facilities. During the third quarter of 2014, a total of 1,600 individuals were tested at least once for HBsAg by dried blood spot testing. Overall, 0.4% (n=6) of individuals tested positive, although this varied by region. During the same quarter of 2014, 1,737 individuals were tested for hepatitis C-specific antibodies (anti-HCV) by dried blood spot testing by sentinel laboratories, of whom 9.2% (n=159) tested positive. The comparatively lower proportion of positive test results among individuals who were tested by sentinel laboratories may reflect differences in testing; for example dried blood spot testing has been trialled in pharmacies and other primary care settings as well as by specialist drug services.

References

1. Health Protection Agency (2014). Quarterly report from the sentinel surveillance study of hepatitis testing in England: data for April to June 2014 (quarter 2). *HPR* **8**(42) immunisation. Available at: https://www.gov.uk/government/publications/sentinel-surveillance-of-blood-borne-virus-testing-in-england-2014

2. Judd A, Parry J, Hickman M, McDonald T, Jordan L, Lewis,K, *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**(1) 49–55.