

## Quarterly report from the sentinel surveillance study of hepatitis testing (England): data for July to September 2011 (quarter 3)

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 22 centres are detailed in this report. Limited first-line testing of individuals from Wales, Scotland, and Northern Ireland is performed by sentinel centres in the North West. These results are included where available. The data presented here are for individuals who were first reported to the sentinel surveillance scheme during the third quarter (July to September) of 2011.

As presented in the previous quarter [1], hepatitis D (HDV total antibody) and hepatitis E (HEV IgM) testing data are presented in sections 4 and 5 respectively. Dried blood spot testing [2] data from three sentinel laboratories are presented in section 6. Concateno Plc. have kindly made oral fluid and dried blood spot testing data available which are presented in sections 6 and 7. Please note that these data represent indicative results only and are performed to identify individuals that should seek specialist services and where necessary, access treatment.

### 1. Hepatitis A IgM testing

The sentinel surveillance study collects data on testing for hepatitis A-specific IgM antibody (anti-HAV IgM), a marker of acute hepatitis A infection. During the third quarter of 2011, a total of 6,848 individuals were tested at least once for anti-HAV IgM. Overall, 0.3% (n=21) of individuals tested positive, which varied by region (table 1). The highest proportion of positive tests were from the South Central region. These results do not necessarily reflect a comparatively greater incidence of HAV infection in this region; few individuals were tested due to highly targeted testing for anti-HAV IgM by the laboratory.

**Table 1. Number of individuals tested, and testing positive, for anti-HAV IgM in participating centres, July - September 2011\***

Region (number of centres)	Number tested	Number positive (%)
East Midlands (1)	1,202	2 (0.2)
East of England (1)	474	1 (0.2)
London (6)	1,265	3 (0.2)
North East (2) <sup>†</sup>	246	2 (0.8)
North West (5)	981	2 (0.2)
South Central (1)	53	1 (1.9)
South East Coast (2)	761	2 (0.3)
South West (1)	709	2 (0.3)
Wales* <sup>†</sup>	13	0 (0.0)
West Midlands (1)	346	3 (0.9)
Yorkshire & the Humber (2)	798	3 (0.4)
<b>Total, all regions (22)</b>	<b>6,848</b>	<b>21 (0.3)</b>

\* 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.

<sup>†</sup> The low number of individuals tested in the North East is due to changes in sample referral patterns which mean that most of the testing carried out by the sentinel laboratory in this region is referred from other hospitals and is therefore excluded from these quarterly analyses.

\*<sup>†</sup> Although there are no sentinel centres outside England, limited first-line testing from general practices in Wales is carried out by sentinel centres in the North West and is therefore included here.

Table 2 shows the age-group and gender of individuals tested, and testing positive, for anti-HAV IgM in sentinel laboratories between July and September 2011. Gender and age were reported for the majority of individuals tested (>99%). As in previous quarters, where available, a higher proportion of males were tested than females (57.0% vs. 43.0%). The mean age of individuals tested was 46.7 years (range 0.0 - 100.9 years), whereas the mean age of those testing positive was 44.8 years (range 9.0 - 83.5 years). The largest group tested were aged 65 years and over (n=1,327). There was no difference in the proportion of males testing positive compared to females (0.3%).

**Table 2. Number of individuals tested, and testing positive, for anti-HAV IgM in participating centres, July - September 2011\*†**

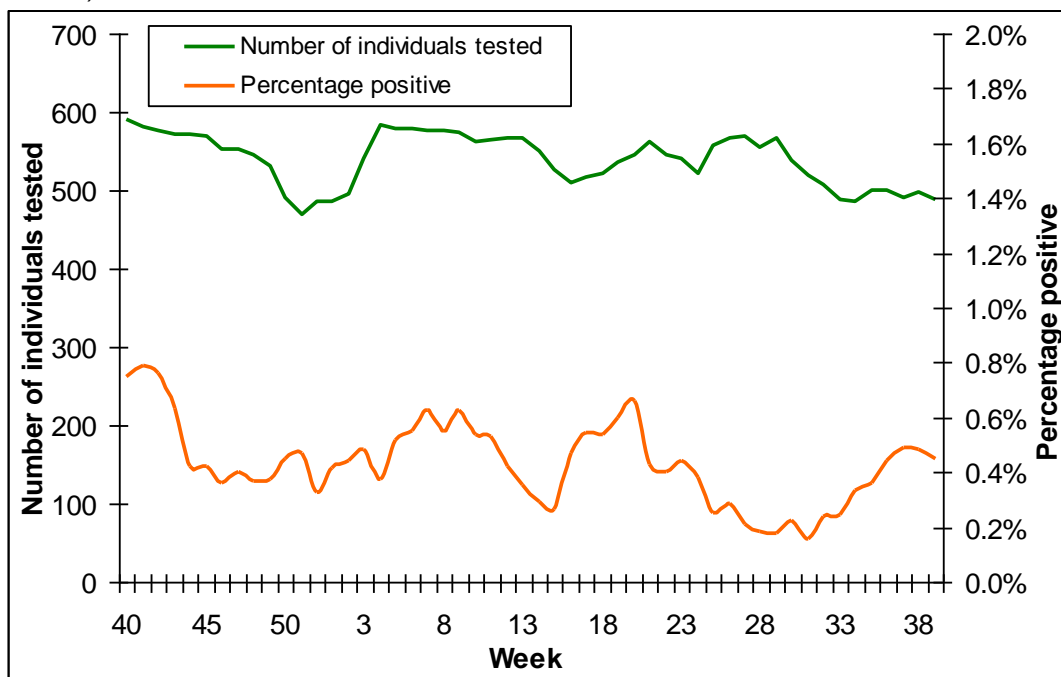
Age group	Female		Male		Unknown		Total	
	Number tested	Number positive (%)	Number tested	Number positive (%)	Number tested	Number positive (%)	Number tested	Number positive (%)
Under 1 year	22	– (0.0)	39	– (0.0)	0	– (0.0)	61	– (0.0)
1-14 years	74	1 (1.4)	84	1 (1.2)	4	– (0.0)	162	2 (1.2)
15-24 years	312	2 (0.6)	412	2 (0.5)	1	– (0.0)	725	4 (0.6)
25-34 years	439	1 (0.2)	736	2 (0.3)	4	– (0.0)	1,179	3 (0.3)
35-44 years	400	1 (0.3)	793	1 (0.1)	6	– (0.0)	1,199	2 (0.2)
45-54 years	531	1 (0.2)	663	– (0.0)	4	– (0.0)	1,198	1 (0.1)
55-64 years	491	1 (0.2)	489	3 (0.6)	–	– (0.0)	980	4 (0.4)
≥65 years	660	2 (0.3)	665	3 (0.5)	2	– (0.0)	1,327	5 (0.4)
Unknown	7	– (0.0)	7	– (0.0)	3	– (0.0)	17	– (0.0)
<b>Total, all age groups</b>	<b>2,936</b>	<b>9 (0.3)</b>	<b>3,888</b>	<b>12 (0.3)</b>	<b>24</b>	<b>– (0.0)</b>	<b>6,848</b>	<b>21 (0.3)</b>

\* 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 of trends in testing, data for the period July to September 2011 (0.3%; 21/6,848) were compared to data received for the same time periods of 2010 and 2009. These show a reduction in the number of individuals tested over time and in the proportion testing positive in 2011 compared to 2010 (0.6%; 46/7,907) and 2009 (0.6%; 49/8,089).

Figure 1 shows the five-weekly moving average for number of individuals tested for anti-HAV IgM and percentage positive between July and September 2011, inclusive. There were noticeable troughs in testing during the Christmas, New Year, Easter, and summer holiday periods, which has contributed to an overall decline in testing over the past 12 months. Although there were several of peaks in the proportion of individuals testing positive during September, February, and June the overall proportion positive has also declined.

**Figure 1. Five-weekly moving average of number of individuals tested, and percentage positive, for anti-HAV IgM between July and September 2011\* (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 2011, a total of 17,907 women were identified as undergoing antenatal screening for HBsAg, representing 27.3% (17,907/65,558) of all individuals tested in participating sentinel centres (table 3). Overall 0.5% (n=87) of women tested positive. Among the 87 HBsAg positive women identified, 71 (81.6%) had HBeAg results available, and of these 11 (15.5%) were HBeAg positive.

**Table 3. Number of women tested, and testing positive, for HBsAg through antenatal screening in participating laboratories, July - September 2011\***

Region (number of centres)	Number tested	Number positive (%)
East Midlands (1) <sup>†</sup>	173	2 (1.2)
East of England (1)	1,170	21 (1.8)
London (6)	3,535	14 (0.4)
North East (2)	544	3 (0.6)
North West (5)	2,650	21 (0.8)
South Central (1)	720	4 (0.6)
South East Coast (2)	1,994	4 (0.2)
South West (1)	1,847	3 (0.2)
West Midlands (1) <sup>†</sup>	2,749	5 (0.2)
Yorkshire & the Humber (2)	2,525	10 (0.4)
<b>Total, all regions (22)</b>	<b>17,907</b>	<b>87 (0.5)</b>

\* 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.

<sup>†</sup> In those regions where few samples were tested (e.g. East and West Midlands) it is likely that routine antenatal screening was performed by another laboratory that does not participate in sentinel surveillance and that the sentinel laboratory is performing reference testing.

### b) Non-antenatal HBsAg testing

During the third quarter of 2011, excluding dried blood-spot and antenatal testing, 47,651 individuals were tested for HBsAg in participating sentinel centres (table 4). Overall, 1.4% (n= 681) of individuals tested positive. London had the highest proportion of individuals testing positive (2.1%) in England for the fourteenth consecutive quarter [1]. The West Midlands also had a high proportion of individuals testing positive (1.5%), which is consistent with previous quarters. This may reflect more targeted testing of risk groups and/or genuinely higher prevalence in individuals being tested in these regions. Few individuals from Scotland and Wales were tested by a sentinel laboratory. These results should be treated with caution as they are unlikely to be representative of HBsAg testing or prevalence in these countries.

**Table 4. Number of individuals tested, and testing positive, for HBsAg in participating centres (excluding antenatal testing), July - September 2011\***

Region (number of centres)	Number tested	Number positive (%)
East Midlands (1)	3,728	34 (0.9)
East of England (1)	1,949	28 (1.4)
London (6)	16,940	356 (2.1)
North East (2)	2,348	26 (1.1)
North West (5)	7,608	91 (1.2)
Scotland†	16	1 (6.3)
South Central (1)	1,160	16 (1.4)
South East Coast (2)	3,409	32 (0.9)
South West (1)	3,102	18 (0.6)
Wales†	23	– (0.0)
West Midlands (1)	2,367	36 (1.5)
Yorkshire & the Humber (2)	5,001	43 (0.9)
<b>Total, all regions (22)</b>	<b>47,651</b>	<b>681 (1.4)</b>

\* Excludes dried blood spot, oral fluid, reference testing and testing from hospitals referring all samples. Individuals aged less than one year are included. Data are de-duplicated subject to availability of date of birth, soundex and first initial. All data are provisional.

† Although there are no sentinel centres outside England, limited first-line testing from general practices in Scotland and Wales is carried out by sentinel centres in the North West and is therefore included here.

Table 5 shows the age-group and gender of individuals tested, and testing positive, for HBsAg in sentinel laboratories between July and September 2011. Gender and age were reported for the majority of individuals (>98%). Slightly more males were tested compared to females (52.9% and 47.1% respectively) however, the number females tested may include some antenatal testing that cannot be identified as such from the information provided. As reported previously [1] the proportion testing positive for HBsAg was higher among males than females (1.9% vs. 0.9%). The largest group tested were aged 25-34 years (n=14,069). The percentage of individuals testing positive was highest among those aged 35-54 years of age (1.8%). The mean age of individuals tested was 38.4 years (range 0 - 101.4 years) and of those testing positive was 37.4 years (range 0.1 - 82.8 years). As reported last quarter [1], the prevalence of HBsAg among individuals of unknown gender (0.8%) was less than for males (1.8%) and females (0.9%). 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 5. Age and gender of individuals tested for HBsAg in participating centres (excluding antenatal testing), July - September 2011\*†**

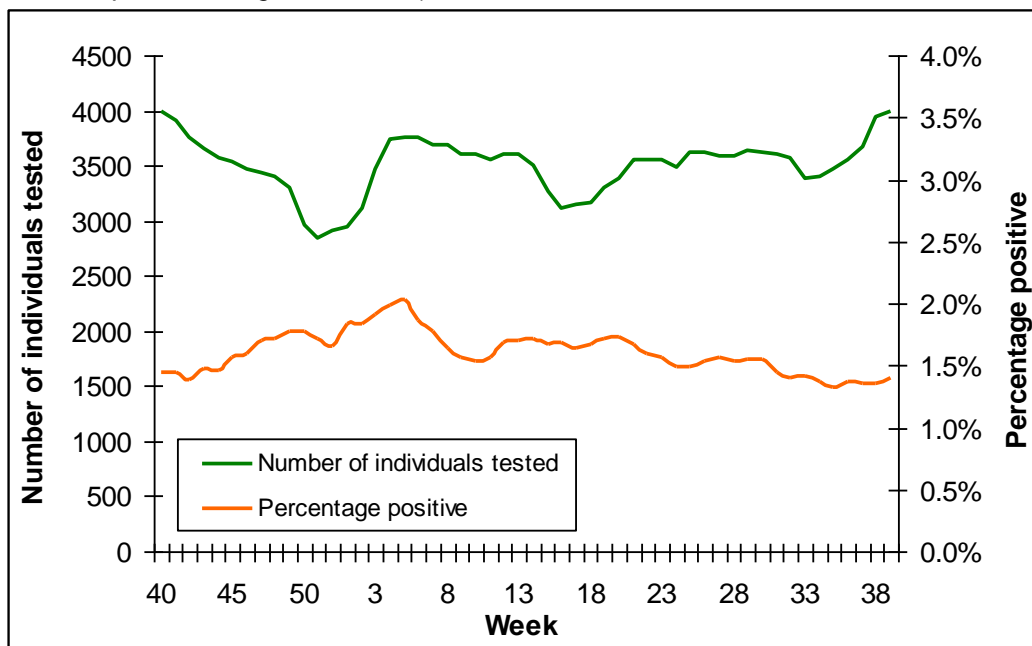
Age group	Female		Male		Unknown		Total	
	Number tested	Number positive (%)	Number tested	Number positive (%)	Number tested	Number positive (%)	Number tested	Number positive (%)
Under 1 year	65	– (0.0)	88	1 (1.1)	1	– (0.0)	154	1 (0.6)
1-14 years	433	2 (0.5)	423	4 (0.9)	14	– (0.0)	870	6 (0.7)
15-24 years	5,011	35 (0.7)	4,261	69 (1.6)	249	2 (0.8)	9,521	106 (1.1)
25-34 years	6,766	68 (1.0)	7,086	164 (2.3)	217	1 (0.5)	14,069	233 (1.7)
35-44 years	3,781	42 (1.1)	5,242	119 (2.3)	108	3 (2.8)	9,131	164 (1.8)
45-54 years	2,297	24 (1.0)	3,116	73 (2.3)	59	– (0.0)	5,472	97 (1.8)
55-64 years	1,655	18 (1.1)	2,058	27 (1.3)	22	– (0.0)	3,735	45 (1.2)
≥65 years	2,057	11 (0.5)	2,456	18 (0.7)	10	– (0.0)	4,523	29 (0.6)
Unknown	41	– (0.0)	54	– (0.0)	81	– (0.0)	176	– (0.0)
<b>Total, all age groups</b>	<b>22,106</b>	<b>200 (0.9)</b>	<b>24,784</b>	<b>475 (1.9)</b>	<b>761</b>	<b>6 (0.8)</b>	<b>47,651</b>	<b>681 (1.4)</b>

\* 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 of trends in testing, data for the period July to September 2011 (1.4%; 681/47,651) were compared to data received for the same time periods of 2010 and 2009. There was a decline in the number of individuals tested and the proportion of individuals testing positive for HBsAg in 2011 when compared to 2010 and 2009 (1.6%; 728/50,248 and 1.5%; 800/51,999 respectively).

Figure 2 shows the five-weekly moving average for number of individuals tested for HBsAg and percentage positive between July and September 2011, inclusive. Testing increased very slightly during the past 12 months, with seasonal troughs during the Christmas, New Year, Easter and summer holiday periods. The overall proportion positive has fallen slightly over the last twelve months.

**Figure 2. Five-weekly moving average of number of individuals tested, and percentage positive, for HBsAg between July 2011 – September 2011 (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. Data from one sentinel laboratory are excluded.

### 3. Hepatitis C testing

During the third quarter of 2011, excluding dried blood spot testing, a total of 41,351 individuals were tested at least once for hepatitis C-specific antibodies (anti-HCV). Overall, 2.3% (n=957) of individuals tested positive, although this varied by region (table 6). The highest proportion of positive tests were from the North West region (3.3%) which is consistent with previous quarters [1]. This may reflect more targeted testing of risk groups and/or genuinely higher prevalence in individuals being tested in these regions.

It is important to note that no laboratory methods are currently available to distinguish between acute or chronic hepatitis C virus infections. These positive anti-HCV results do not therefore necessarily represent incident infections.

**Table 6. Number of individuals tested, and testing positive, for anti-HCV in participating centres, July - September 2011\***

Region (number of centres)	Number tested	Number positive (%)
East Midlands (1)	3,158	63 (2.0)
East of England (1)	1,748	43 (2.5)
London (6)	13,576	271 (2.0)
North East (2)	2,421	31 (1.3)
North West (5)	6,946	226 (3.3)
Scotland <sup>†</sup>	16	– (0.0)
South Central (1)	1,095	16 (1.5)
South East Coast (1)	2,985	89 (3.0)
South West (1)	2,901	60 (2.1)
Wales <sup>†</sup>	18	– (0.0)
West Midlands (1)	2,143	44 (2.1)
Yorkshire & the Humber (2)	4,344	114 (2.6)
<b>Total, all regions (21)</b>	<b>41,351</b>	<b>957 (2.3)</b>

\* Excludes dried blood spot, oral fluid, 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.

<sup>†</sup> Although all sentinel centres are in England, a small amount of first-line testing from general practices in Wales and Scotland carried out by laboratories in the North West.

Of the 957 individuals testing positive for anti-HCV during the third quarter of 2011, 679 (71.0%) were also tested for HCV RNA by PCR (qualitative and/or quantitative). Of these individuals, 481 were PCR positive (70.8%)

Table 7 shows the age-group and gender of individuals tested, and testing positive, for anti-HCV in sentinel laboratories between July and September 2011. Gender and age were reported for the majority of individuals (>98%), and where available, there was a higher proportion of males tested (54.7%) than females (45.3%). As reported previously [1] the proportion testing positive was higher among males than females (2.9% vs. 1.6%, respectively). The mean age of individuals tested was 39.9 years (range 1.0 - 101.4 years) and of those testing positive was 41.8 years (range 5.7 - 86.7 years). The largest age group tested were aged between 25-34 years (n=11,557) whilst the percentage of individuals testing positive was highest among 45-54 year olds (4.4%). As reported last quarter [1], the prevalence of HCV among individuals of unknown gender (2.6%) was less than for males (2.9%). 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 7. Age and gender of individuals tested for anti-HCV in participating centres, July - September 2011\***

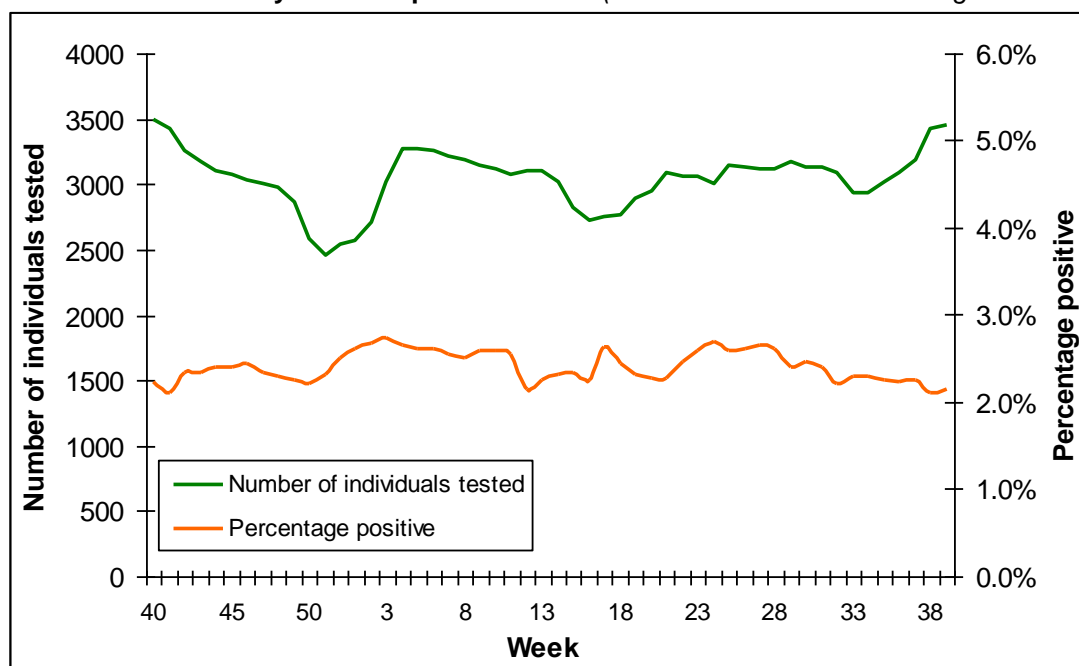
Age group	Female		Male		Unknown		Total	
	Number tested	Number positive (%)	Number tested	Number positive (%)	Number tested	Number positive (%)	Number tested	Number positive (%)
1-14	322	2 (0.6)	315	– (0.0)	8	1 (12.5)	645	3 (0.5)
15-24	3,819	25 (0.7)	3,445	21 (0.6)	269	6 (2.2)	7,533	52 (0.7)
25-34	5,130	87 (1.7)	6,199	152 (2.5)	228	8 (3.5)	11,557	247 (2.1)
35-44	3,230	56 (1.7)	4,927	232 (4.7)	108	4 (3.7)	8,265	292 (3.5)
45-54	2,146	70 (3.3)	2,972	158 (5.3)	58	2 (3.4)	5,176	230 (4.4)
55-64	1,625	27 (1.7)	1,924	63 (3.3)	19	– (0.0)	3,568	90 (2.5)
≥65	2,053	18 (0.9)	2,354	18 (0.8)	11	– (0.0)	4,418	36 (0.8)
Unknown	36	2 (5.6)	59	5 (8.5)	94	– (0.0)	189	7 (3.7)
<b>Total, all age groups</b>	<b>18,361</b>	<b>287 (1.6)</b>	<b>22,195</b>	<b>649 (2.9)</b>	<b>795</b>	<b>21 (2.6)</b>	<b>41,351</b>	<b>957 (2.3)</b>

\* 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.

To provide an indication of trends in testing, data for the period July to September 2011 (2.3%; 957/41,351) were compared to data received for the same time periods of 2010 and 2009. There was a reduction in the number of individuals tested and in the proportion testing positive in 2011 compared with 2010 (2.5%; 1,036/42,039) and 2009 (2.6%; 1,143/43,936).

Figure 3 shows the five-weekly moving average for the number of individuals tested for anti-HCV and percentage positive between July and September 2011 inclusive. Apart from troughs during the Christmas, Easter, and summer holiday periods, testing has increased slightly over the past 12 months. In contrast to previous quarters, proportion positive has remained relatively consistent, with no noticeable peaks.

**Figure 3. Five-weekly moving average of number of individuals tested, and percentage positive, for anti-HCV between July 2011 - September 2011\*** (Note difference in scales to figures 1 and 2)



\* 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. Data from one sentinel laboratory are excluded. 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.

#### 4. Hepatitis D testing

The sentinel surveillance study collects data on testing for hepatitis D-specific total antibody (HDV TA). Three sentinel laboratories provide HDV TA testing facilities. A positive HDV result does not necessarily represent an incident infection and these data should be interpreted accordingly. These data are described here, shown by region of the requesting clinician.

During the third quarter of 2011, a total of 482 individuals were tested at least once for HDV TA. Overall 3.3% (n=16) of individuals tested positive, although this varied by region (table 8). Gender and age were reported for the majority of individuals tested (>97%), and where available, there was a slightly higher proportion of males tested (57.7%) than females. The mean age of individuals tested was 37.4 years (range 0.1 - 86.5 years), whereas the mean age of those testing positive was 39.4 years (range 11.7 - 83.1 years).

**Table 8. Number of individuals tested, and testing positive, for HDV TA in participating centres, July – September 2011\***

Region	Number tested	Number positive (%)
Channel Islands <sup>†</sup>	1	– (0.0)
East Midlands	35	– (0.0)
East of England	83	3 (3.6)
London**	229	8 (3.5)
North East	12	– (0.0)
North West	37	1 (2.7)
South Central	13	1 (7.7)
South East Coast	21	2 (9.5)
South West	11	1 (9.1)
Wales <sup>†</sup>	1	– (0.0)
West Midlands	14	– (0.0)
Yorkshire & the Humber	25	– (0.0)
<b>Total, all regions</b>	<b>482</b>	<b>16 (3.3)</b>

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

<sup>†</sup> Although all sentinel centres are in England, a small amount of first-line testing from Wales, Northern Ireland, and the Channel Islands are carried out by sentinel laboratories.

#### 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. Six sentinel laboratories provided anti-HEV IgM testing facilities. These data are described here and are shown by region of the requesting clinician.

During the third quarter of 2011, a total of 1,308 individuals were tested at least once for anti-HEV IgM. Overall, 8.6% (n=112) of individuals tested positive, although this varied by region. Gender and age were reported for the majority of individuals tested (>97%), and where available, a slightly higher proportion of males (51.1%) were tested than females (48.9%). The mean age of individuals tested was 47.8 years (range 0.3 – 100.1 years), whereas the mean age of those testing positive was 52.8 years (range 16.8 – 89.6 years).

**Table 9. Number of individuals tested, and testing positive, for anti-HEV IgM in participating centres, July – September 2011\***

Region	Number tested	Number positive (%)
Channel Islands <sup>†</sup>	1	– (0.0)
East Midlands	57	5 (8.8)
East of England	145	14 (9.7)
London	277	21 (7.6)
North East	62	3 (4.8)
North West	153	8 (5.2)
Northern Ireland <sup>†</sup>	11	1 (9.1)
South Central	93	11 (11.8)
South East Coast	43	2 (4.7)
South West	98	15 (15.3)
Wales <sup>†</sup>	88	4 (4.5)
West Midlands	205	24 (11.7)
Yorkshire & the Humber	75	4 (5.3)
<b>Total, all regions</b>	<b>1,308</b>	<b>112 (8.6)</b>

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

<sup>†</sup> Although all sentinel centres are in England, a small amount of first-line testing from Wales, Northern Ireland, and the Channel Islands are carried out by sentinel laboratories.

## 6. Dried blood spot testing

Three sentinel laboratories provide dried blood spot testing facilities. Anti-HCV dried blood spot testing data have also been made available by Concateno Plc. Data are shown by region of the requesting clinician.

### a) HBsAg testing

During the third quarter of 2011, a total of 756 individuals were tested at least once for HBsAg by dried blood spot testing. Overall, 0.8% (n=6) of individuals tested positive, although this varied by region (table 10).

**Table 10. Number of individuals tested, and testing positive, for HBsAg by dried blood spot (sentinel surveillance laboratories only), July – September 2011\***

Region of test request	Number tested	Number positive (%)
East Midlands	16	– (0.0)
East of England	34	– (0.0)
London	80	1 (1.3)
North East	170	– (0.0)
North West	156	2 (1.3)
South Central	25	– (0.0)
South East Coast	98	– (0.0)
South West	76	2 (2.6)
West Midlands	70	1 (1.4)
Yorkshire and Humberside	31	– (0.0)
<b>Total, all regions</b>	<b>756</b>	<b>6 (0.8)</b>

\* Dried blood spot testing only. Data are de-duplicated subject to availability of date of birth, soundex and first initial. All data are provisional.

## b) Anti-HCV testing

During the third quarter of 2011, a combined total of 1,484 individuals were tested at least once for hepatitis C-specific antibodies (anti-HCV) by dried blood spot testing (table 11). Concateno Plc tested 109 individuals from drug action teams (DAT) of whom 36.7% (n=40) had a reactive test result. A further 997 individuals were tested by sentinel laboratories, of whom 20.4% (n=203) 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 trials of dried blood spot testing have been ongoing in pharmacies and other primary care settings as well as by specialist drug services. All samples tested by DBS by Concateno were taken in/by drug action teams.

**Table 11. Number of individuals tested, and testing positive, for anti-HCV by dried blood spot, July – September 2011\*.**

Region of test request	Data from sentinel surveillance		Data from Concateno Plc. <sup>†</sup>		Total	
	Number tested	Number positive (%)	Number tested	Number reactive <sup>†</sup> (%)	Number tested	Number reactive (%)
East Midlands	16	– (0.0)	61	22 (36.1)	77	22 (28.6)
East of England	34	8 (23.5)	–	– (0.0)	34	8 (23.5)
London	82	9 (11.0)	61	4 (6.6)	143	13 (9.1)
North East	173	13 (7.5)	14	3 (21.4)	187	16 (8.6)
North West	330	90 (27.3)	–	– (0.0)	330	90 (27.3)
South Central	25	1 (4.0)	11	3 (27.3)	36	4 (11.1)
South East Coast	97	18 (18.6)	103	36 (35.0)	200	54 (27.0)
South West	90	27 (30.0)	106	24 (22.6)	196	51 (26.0)
West Midlands	114	28 (24.6)	–	– (0.0)	136	28 (20.6)
Yorkshire and Humberside	36	9 (25.0)	22	4 (18.2)	145	13 (9.0)
<b>Total, all regions</b>	<b>997</b>	<b>203 (20.4)</b>	<b>109</b>	<b>40 (36.7)</b>	<b>1,484</b>	<b>243 (16.4)</b>

\* Dried blood spot testing only. Data 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.

<sup>†</sup> Please note that testing data provided by Concateno Plc represents indicative results only and is not intended to be used for diagnosis

## 7. Anti-HCV oral fluid testing

Aggregate oral fluid testing data have been provided by Concateno Plc. Data are shown by region of the requesting clinician.

During the third quarter of 2011, 1,020 individuals were tested at least once for hepatitis C-specific antibodies (anti-HCV) by oral fluid, of whom 15.9% (n=162) had a reactive test result (table 12).

**Table 12. Number of individuals tested, and testing reactive, for anti-HCV by oral fluid, July – September 2011\***

Region of test request	Number tested	Number reactive <sup>†</sup> (%)
East Midlands	214	23 (10.7)
East of England	159	23 (14.5)
London	39	14 (35.9)
North East	56	1 (1.8)
North West	24	5 (20.8)
South Central	31	6 (19.4)
South East Coast	51	8 (15.7)
South West	19	1 (5.3)
West Midlands	8	– (0.0)
Yorkshire and Humberside	419	81 (19.3)
<b>Total, all regions</b>	<b>1,020</b>	<b>162 (15.9)</b>

\* Oral fluid testing only. Some duplication of patients may occur as only aggregate numbers are supplied by Concateno Plc. therefore duplication checks could not be made and some patients may have been tested more than once during the time period. All data are provisional.

<sup>†</sup> Please note that testing data provided by Concateno Plc represents indicative results only and is not intended to be used for diagnosis

## References

1. Health Protection Agency. Quarterly report from the sentinel surveillance study of hepatitis testing in England: data for April to June 2011 (quarter 2). *Health Protection Report* [serial online] 2011; **5** (43) immunisation. Available at: <http://www.hpa.org.uk/hpr/archives/2011/hpr4311.pdf>
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.