Health Protection Report
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News

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HPA study aims to better assess meningococcal disease burden and inform vaccination policy

A unique “proof of concept” study, funded jointly by the Meningitis Research Foundation and Meningitis UK, is currently under way and aims to provide a cost-effective approach to linking epidemiological, clinical, microbiological and outcome data on Invasive Meningococcal Disease (IMD) in England through use of multiple national datasets. Due to be completed during the coming year, the study is being conducted by the HPA Immunisation, Hepatitis and Blood Safety Department (IHBSD) in collaboration with the Agency’s Meningococcal Reference Unit (MRU) [1,2]. By developing a standardised methodology for routine linkage of national datasets, it is hoped that this innovative project will provide a model for other public health surveillance programmes for vaccine-preventable infections.

IMD is caused by the bacterium, *Neisseria meningitidis*, which can be characterised into different groups depending on the properties of their outer sugar (polysaccharide) capsule. Five capsular groups (A, B, C, W and Y), however, are responsible for almost all IMD, although group C disease has now been virtually eliminated in the UK through routine vaccination that was introduced in 1999. Other capsular groups, especially group B which is currently responsible for >85% of all IMD cases, continue to cause serious infections such as meningitis and septicaemia, usually in healthy individuals. Although IMD occurs in all ages, the highest incidence is in children under 5 years of age and, to a lesser extent, adolescents. Around 5% of IMD cases are fatal and a significant proportion of survivors will develop long-term complications. Those with meningococcal septicaemia may, for example, require limb amputations while those with meningococcal meningitis may develop epilepsy, hearing loss, cerebral palsy, learning difficulties or behavioural problems.

The HPA MRU receives isolates and clinical samples from hospital laboratories throughout England, Wales and Northern Ireland. Although referral is very complete, the total number of IMD cases in England is higher because some cases of clinically diagnosed IMD are never confirmed, perhaps because the patient had already received antibiotics before samples were taken. In addition, some laboratories undertake their own testing and/or fail to refer samples from positive cases to the HPA MRU.

In order to better estimate the total burden of IMD in England, the HPA will attempt to link a number of different national data sources – including hospital admissions, electronic laboratory reports and death registrations – to collect more detailed clinical information about the laboratory-confirmed cases, their stay in hospital, any serious complications and whether they survived their infection. This is of particular importance for some of the less common capsular groups which can cause serious illness with a more varied clinical presentation. Capsular groups W and Y, for example, can cause meningococcal pneumonia in older adults who often have significant underlying co-morbidities and are more likely to die of their infection.

The collection of clinical data onlaboratory-confirmed cases will also allow linkage with detailed molecular and other typing data collected by the HPA MRU. Such information could play a vital role in identifying key components within the bacteria that may important for causing serious infections in humans and could form potential targets for future vaccines. The information collected as part of this project will also facilitate modelling of the potential impact (including cost-effectiveness) of new vaccines which, in turn, can be used to inform national vaccination policy. In addition to two conjugate vaccines against meningococcal groups A, C, W and Y, a broad-spectrum protein-based meningococcal vaccine (4CMenB, Bexsero™, Novartis) has recently received its marketing licence from the European Medicines Agency. Bexsero™ is the first vaccine licensed to protect against MenB in all age groups, including infants as young as two months of age. The information collected as part of the linkage project could play an important role in decisions relating to the introduction of these vaccines into the national immunisation programme.

References

1. HPA MRU provides a national service for meningococcal species confirmation and sero-/geno-grouping of invasive clinical isolates as well as a free national polymerase chain reaction (PCR) service for detecting meningococcal DNA in clinical specimens.

2. The study began in January 2013 and is due to be completed during 2013. For further information please contact the Dr Shamez Ladhani, the lead investigator, email: shamez.ladhani@hpa.org.uk.

3. For more information about Meningitis UK and Meningitis Research Foundation, and the research they fund, see: www.meningitisuk.org and www.meningitis.org.

Revised ACDP guidance on decontamination of endoscopes

Advisory Committee on Dangerous Pathogens (ACDP) guidance on endoscopy decontamination for TSE infection control has been revised.

Previously, guidance advised that endoscopes used for invasive procedures on patients at risk of variant CJD should be removed from general use (and quarantined or destroyed). This affected procedures carried out on individuals notified of an increased risk of vCJD, including a cohort of individuals treated with UK sourced plasma products in the 1980s and 90s.

The updated guidance now allows such endoscopes to go back into general use (in most cases) provided they have been decontaminated according to national guidelines [1].

Reference

1. DH. Guidance from the ACDP TSE Risk Management Subgroup (formerly TSE Working Group), January 2013 update: http://www.dh.gov.uk/health/2012/11/acdp-guidance/.

Infection reports

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Immunisation

Laboratory reports of hepatitis A and C (England and Wales): July-September 2012

Hepatitis A

There were a total of 72 laboratory reports of hepatitis A reported to the HPA during the third quarter of 2012 (July-September). This was a 5.9% increase on the number of reports during the second quarter of 2012 (n=68) and no change compared to the same quarter in 2011 (n= 72).

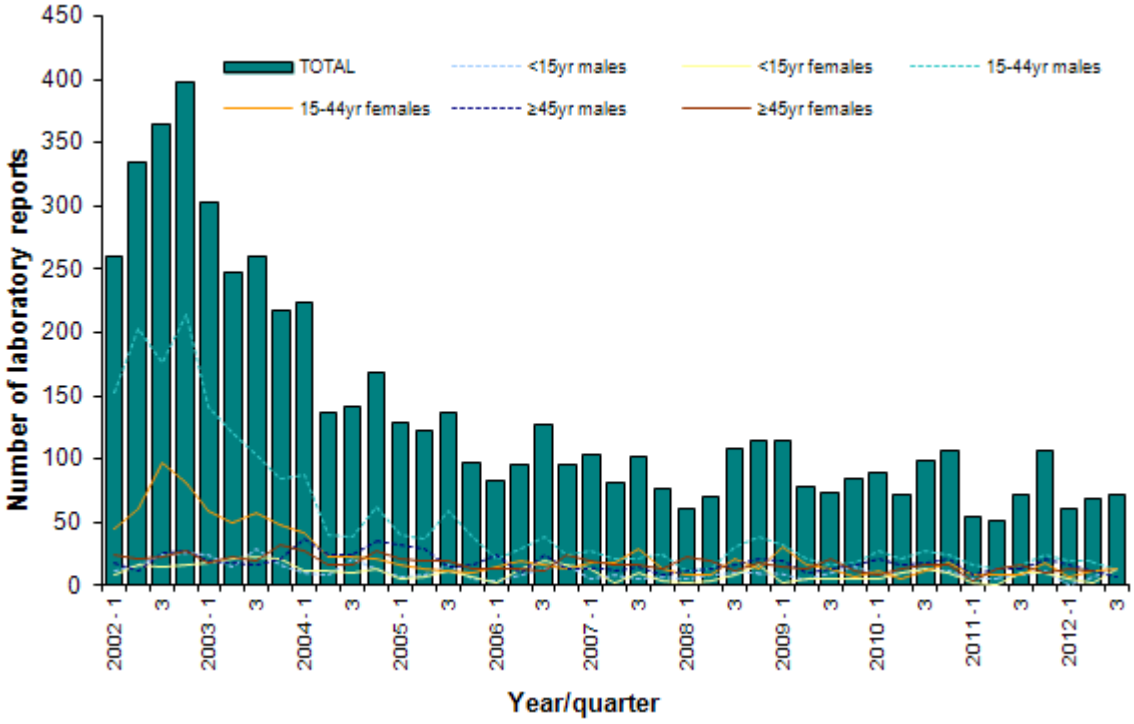
Age-group and sex were well reported (100% complete). Twenty-eight (48.4%) reports were among the under-15 year age group, a further 26 (37,5%) reports were among those aged 15-44 years old and 18 (14.1%) reports were from the over 45 year old age group.

Males accounted for 49.0% of all reports. A similar proportion of males and females were reported among those aged under 15 years old and over 44 years old (47.4% and 50% males respectively). However, more females were reported in the 15-44 year age group (64.0% females).

Table 1. Laboratory reports of hepatitis A in England and Wales, July-September 2012

Age group	Male	Female	Unknown	Total
<1 year	–	–	–	**–**
1-4 years	2	4	–	**6**
5-9 years	8	5	–	**13**
10-14 years	5	4	–	**9**
15-24 years	7	5	–	**12**
25-34 years	4	6	–	**10**
35-44 years	2	2	–	**4**
45-54 years	1	3	–	**4**
55-64 years	2	4	–	**6**
≥65 years	4	4	–	**8**
Unknown	–	–	–	**0**
Total	**35**	**37**	**–**	**72**

Figure 1. Laboratory reports of hepatitis A by age and sex (England and Wales): January 2002 to September 2012



Hepatitis C

There were a total of 2,862 laboratory reports of hepatitis C reported to the HPA between July and September 2012. This was an 11.1% increase on the previous quarter (n=2,576), and an 8.3% increase on the same quarter in 2011 (n=2,642).

Age-group and sex were well reported (>97% complete). Where known males accounted for 65.7% of reports (1,842/2,783), which is consistent with previous quarters. Adults aged 25-44 years accounted for 53.7% of the total number of hepatitis C reports.

Table 2. Laboratory reports of hepatitis C in England and Wales, July-September 2012

Age group	Male	Female	Unknown	Total
<1 year	3	4	–	**7**
1-4 years	–	3	–	**3**
5-9 years	–	–	–	**–**
10-14 years	2	1	–	**3**
15-24 years	78	57	7	**142**
25-34 years	411	292	22	**725**
35-44 years	555	228	16	**799**
45-54 years	463	194	14	**671**
55-64 years	228	103	6	**337**
≥65 years	79	70	4	**153**
Unknown	5	2	15	**22**
Total	**1,824**	**954**	**84**	**2,862**

Infection reports

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Immunisation

Quarterly report from the sentinel surveillance study of hepatitis testing in England and Wales: data for July to September 2012

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 18 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 2012.

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. 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 2012, a total of 4,676 individuals were tested at least once for anti-HAV IgM. Overall, 0.6% (n=27) of individuals tested positive, which varied by region (table 1). The highest proportion of positive tests were from the North West, although few individuals were tested in this region.

Table 1. Number of individuals tested, and testing positive, for anti-HAV IgM in participating centres, July - September 2012*.

Region (number of centres)	Number tested	Number positive (%)
East Midlands (1)	984	2 (0.2)
East of England (0) ~	n/a	n/a
London (6) ~	844	8 (0.9)
North East (2)†	240	4 (1.7)
North West (1) ~	69	2 (2.9)
South Central (1)	58	0 (0.0)
South East Coast (2)	790	2 (0.3)
South West (1)	642	1 (0.2)
West Midlands (2)	271	4 (1.5)
Yorkshire & the Humber (2)	778	4 (0.5)
Total, all regions (18)	**4,676**	**27 (0.6)**

* 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.
† 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.
~ Due to data discrepancies data were not available for Manchester, Chelsea and Westminster, and Cambridge centres

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 2012. Gender and age were reported for the majority of people tested (>99.7%). As in previous quarters, where available, a slightly higher proportion of males were tested than females (55.2% vs. 44.8%). The mean age of individuals tested was 46.1 years (range 0.0-100.5 years), whereas the mean age of those testing positive was 25.3 years (range 2.0-68.6 years). The largest age-group tested was aged 65 plus years. The highest overall percentage of individuals testing positive was among those of 1-14 years, although few were tested in this age-group.

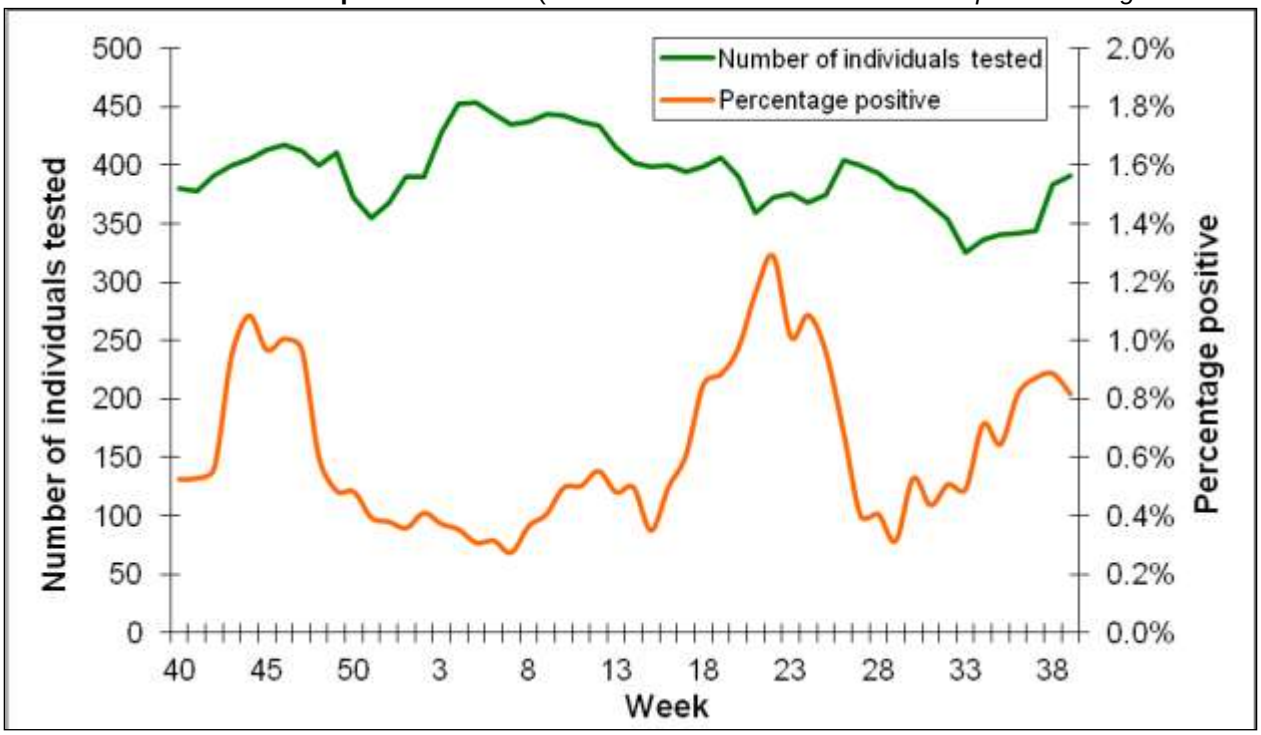
Table 2. Number of individuals tested, and testing positive, for anti-HAV IgM in participating centres, July - September 2012*.

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	12	– (0.0)	23	– (0.0)	0	– (0.0)	35	0 (0.0)
1-14 years	65	7 (10.8)	70	5 (7.1)	1	– (0.0)	136	12 (8.8)
15-24 years	285	2 (0.7)	267	5 (1.9)	1	– (0.0)	553	7 (1.3)
25-34 years	290	– (0.0)	520	1 (0.2)	5	– (0.0)	815	1 (0.1)
35-44 years	250	– (0.0)	499	1 (0.2)	1	– (0.0)	750	1 (0.1)
45-54 years	372	1 (0.3)	439	1 (0.2)	0	– (0.0)	811	2 (0.2)
55-64 years	364	2 (0.5)	310	– (0.0)	2	– (0.0)	676	2 (0.3)
≥65 years	444	– (0.0)	443	2 (0.5)	0	– (0.0)	887	2 (0.2)
Unknown	6	– (0.0)	6	0 (0.0)	1	– (0.0)	13	– (0.0)
Total, all age groups	**2,088**	**12 (0.6)**	**2,577**	**15 (0.6)**	**11**	**– (0.0)**	**4,676**	**27 (0.6)**

* 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.
" – " Indicates that testing yielded no positives.

To provide an indication of trends in testing, data for the period July to September 2012 (0.6%; 27/4,676) were compared to data received for the same time periods of 2011 and 2010. These show a reduction in the number of people tested over time, while a greater proportion tested positive in 2012 compared to 2011 (0.4%; 21/5,189) and 2010 (0.5%; 28/5,704). Figure 1 shows the five-weekly moving average for number of people tested for anti-HAV IgM and percentage positive between October 2011 and September 2012, inclusive, for 18 participating sentinel centres. Testing has declined over recent months; as well as noticeable troughs during the Christmas and Easter holiday periods. The overall proportion positive has increased slightly, with several peaks in November and a pronounced increase during April to July.

Figure 1. Five-weekly moving average of number of people tested, and percentage positive, for anti-HAV IgM between October 2011 - September 2012*. (*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 2012, a total of 12,626 women were identified as undergoing antenatal screening for HBsAg, representing 27.3% (12,626/46,242) of all individuals tested in participating sentinel centres (table 3). Overall 0.4% (n=54) of women tested positive. Among the 54 HBsAg positive women identified, 52 (96.3%) had HBeAg results available, and of these, 13.5% were HBeAg positive.

Table 3. Number of women tested, and testing positive, for HBsAg through antenatal screening in participating laboratories, July and September 2012*.

Region (number of centres)	Number tested	Number positive (%)
East Midlands (1)†	128	1 (0.8)
East of England (0)~	n/a	n/a
London (6)~	3,138	31 (1.0)
North East (2)	574	2 (0.3)
North West (1)~	13	– (0.0)
South Central (1)	660	2 (0.3)
South East Coast (2)	1,851	4 (0.2)
South West (1)	1,869	5 (0.3)
West Midlands (2)†	2,301	3 (0.1)
Yorkshire & the Humber (2)	2,092	6 (0.3)
Total, all regions (18)	**12,626**	**54 (0.4)**

* 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.
† 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 the sentinel surveillance study and that the sentinel laboratory is performing reference testing.
~ Due to data discrepancies data were not available for Manchester, Chelsea and Westminster and Cambridge centres.
" – " Indicates that testing yielded no positives.

a) Non-antenatal HBsAg testing

During the first quarter of 2012, excluding dried blood-spot and antenatal testing, 33,618 individuals were tested for HBsAg in participating sentinel centres, (table 4). Overall, 1.2% (n=388) of individuals tested positive.

London had the highest proportion of individuals testing positive (1.4%), which is consistent with previous quarters. The North West also had a high proportion of individuals testing positive (1.3%). This may reflect more targeted testing of risk groups and/or genuinely higher prevalence in people being tested in these regions.

Table 4. Number of individuals tested, and testing positive, for HBsAg in participating centres (excluding antenatal testing), July - September 2012*.

Region (number of centres)	Number tested	Number positive (%)
East Midlands (1)	3,544	34 (1.0)
East of England (0)~	n/a	n/a
London (6)~	12,301	175 (1.4)
North East (2)	2,168	27 (1.2)
North West (1)~	1,194	15 (1.3)
Scotland	14	–
South Central (1)	1,309	10 (0.8)
South East Coast (2)	3,154	32 (1.0)
South West (1)	3,085	29 (0.9)
Wales†	n/a	n/a
West Midlands (2)	2,243	13 (0.6)
Yorkshire & the Humber (2)	4,606	53 (1.2)
Total, all regions (18)	**33,618**	**388 (1.2)**

* 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 Northern Ireland and Wales is carried out by sentinel centres in the North West and is therefore included here.
~ Due to data discrepancies data were not available for Manchester, Chelsea and Westminster and Cambridge centres.
" – " Indicates that testing yielded no positives.

Table 5 shows the age-group and gender of individuals tested, and testing positive, for HBsAg in sentinel laboratories between July and September 2012. Gender and age-group were reported for the majority of individuals (>98.4%), and where available, slightly more males were tested compared to females (52.3% and 47.7% respectively) (table 5). 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 (1.5% v 0.7%).The greatest number of tests were performed among those aged 25-34 years where as the highest percentage of individuals testing positive were among those under 1 year old. The mean age of individuals tested was 39.1 years (range 0.0-102.0 years) and of those testing positive was 37.3 years (range 0.0-80.7 years). The prevalence of HBsAg among tested individuals of unknown gender (1.5%) was the same for males (1.5%). 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 2012*.

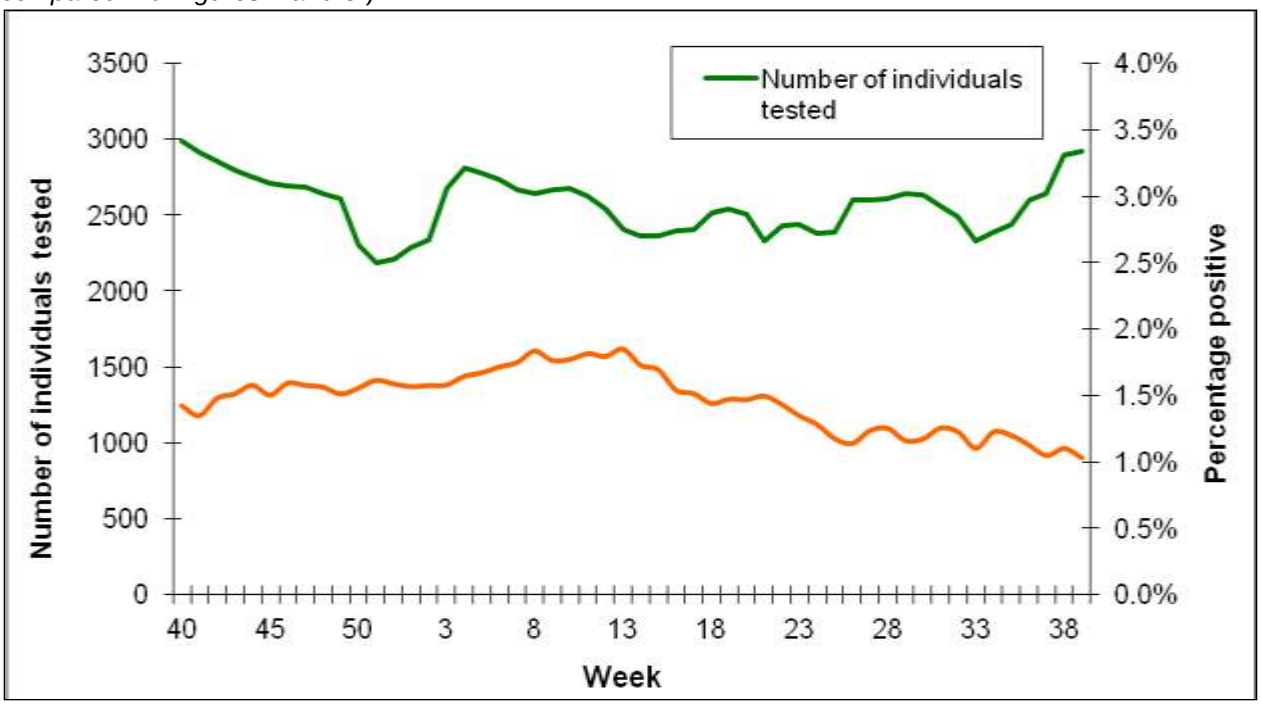
Age group	Female		Male		Unknown		Total	
	Number tested	Number positive (%)	Number tested	Number positive (%)	Number tested	Number positive (%)	Number tested	Number positive (%)
Under 1 year	60	2 (3.3)	81	2 (2.5)	3	– (0.0)	144	4 (2.8)
1-14 years	335	– (0.0)	355	1 (0.3)	1	– (0.0)	691	1 (0.1)
15-24 years	3,473	24 (0.7)	2,852	32 (1.1)	211	3 (1.4)	6,536	59 (0.9)
25-34 years	4,591	29 (0.6)	4,780	100 (2.1)	142	4 (2.8)	9,513	133 (1.4)
35-44 years	2,585	23 (0.9)	3,443	74 (2.1)	51	– (0.0)	6,079	97 (1.6)
45-54 years	1,758	17 (1.0)	2,266	26 (1.1)	25	1 (4.0)	4,049	44 (1.1)
55-64 years	1,340	11 (0.8)	1,546	16 (1.0)	15	– (0.0)	2,901	27 (0.9)
≥65 years	1,622	6 (0.4)	1,906	14 (0.7)	8	– (0.0)	3,536	20 (0.6)
Unknown	29	1 (3.4)	59	2 (3.4)	81	– (0.0)	169	3 (1.8)
Total, all age groups	**15,793**	**113 (0.7)**	**17,288**	**267 (1.5)**	**537**	**8 (1.5)**	**33,618**	**388 (1.2)**

* 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 2012 (1.2%; 388/33,618) were compared to data received for the same time periods of 2011 and 2010. As reported last quarter [1] this indicated a slight decrease in the number of individuals tested and in the proportion of individuals testing positive for HBsAg in 2012 when compared to both 2011 (1.4%; 476/34,155) and 2010 (1.5%; 563/36,532).

Figure 2 shows the five-weekly moving average for number of people tested for HBsAg and percentage positive between October 2011 and September 2012 inclusive, for 18 participating sentinel centres. Testing has declined slightly over the past 12 months, with seasonal troughs during the Christmas and Easter holiday periods. The overall proportion positive has also declined.

Figure 2. **Five-weekly moving average of number of individuals tested, and percentage positive, for HBsAg between October 2011 - September 2012 (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.
" – " Indicates that testing yielded no positives.

3. Hepatitis C testing

During the third quarter of 2012, excluding dried blood spot testing, a total of 28,845 individuals were tested at least once for hepatitis C-specific antibodies (anti-HCV). Overall, 2.0% (n=591) of individuals tested positive, although this varied by region. The highest proportion of positive tests in England were from the South East Coast (2.5%) and the East Midlands (2.4%) (table 6)

It is important to note that no laboratory methods are currently available to distinguish between acute and 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 2012*.

Region (number of centres)	Number tested	Number positive (%)
East Midlands (1)	2,849	68 (2.4)
East of England (0)~	n/a	n/a
London (6)~	9,497	204 (2.1)
North East (2)	2,207	33 (1.5)
North West (1)~	1,240	17 (1.4)
Scotland†	14	– (0.0)
South Central (1)	1,243	19 (1.5)
South East Coast (2)	2,858	71 (2.5)
South West (1)	2,784	64 (2.3)
West Midlands (2)	2,049	35 (1.7)
Yorkshire & the Humber (2)	4,104	80 (1.9)
Total, all regions (18)	**28,845**	**591 (2.0)**

* 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.
† Although all sentinel centres are in England, a small amount of first-line testing from general practices in Scotland is carried out by laboratories in the North West and West Midlands.
~ Due to data discrepancies data was not available for Manchester, Chelsea and Westminster and Cambridge centres
" – " Indicates that testing yielded no positives.

Of the 591 individuals testing positive for anti-HCV during the third quarter of 2012, 434 (73.4%) were also tested for HCV RNA by PCR (qualitative and/or quantitative). Of these individuals, 282 were PCR positive (65.0%).

Table 7 shows the age-group and gender of individuals tested, and testing positive, for anti-HCV in sentinel laboratories between July and September 2012. Gender and age were reported for the majority of individuals (>98.2%), and where available, there was a slightly higher proportion of males tested (54.5%) compared to females (45.5%). As reported previously the proportion testing positive was also higher among males than among females (2.5% vs.1.5%). The mean age of individuals tested was 40.4 years (range 1.0-101.4 years) and of those testing positive was 42.0 years (range 4.5-90.2 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 (3.6%). As with HBsAg testing, individuals with unknown gender and age did not have a higher proportion testing positive 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 7. Age and gender of individuals tested for anti-HCV in participating centres, July - September 2012*.

	Female		Male		Unknown		Total	
Age group	Number tested	Number positive (%)	Number tested	Number positive (%)	Number tested	Number positive (%)	Number tested	Number positive (%)
1-14	243	– (0.0)	264	1 (0.4)	1	– (0.0)	508	1 (0.2)
15-24	2,668	10 (0.4)	2,451	19 (0.8)	206	1 (0.5)	5,325	30 (0.6)
25-34	3,333	63 (1.9)	4,160	98 (2.4)	136	4 (2.9)	7,629	165 (2.2)
35-44	2,172	48 (2.2)	3,158	112 (3.5)	47	2 (4.3)	5,377	162 (3.0)
45-54	1,610	45 (2.8)	2,151	90 (4.2)	30	3 (10.0)	3,791	138 (3.6)
55-64	1,275	19 (1.5)	1,435	46 (3.2)	13	– (0.0)	2,723	65 (2.4)
≥65	1,570	9 (0.6)	1,753	16 (0.9)	7	– (0.0)	3,330	25 (0.8)
Unknown	26	1 (3.8)	55	3 (5.5)	81	1 (1.2)	162	5 (3.1)
Total, all age groups	**12,897**	**195 (1.5)**	**15,427**	**385 (2.5)**	**521**	**11 (2.1)**	**28,845**	**591 (2.0)**

* 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.
" – " Indicates that testing yielded no positives.

To provide an indication of trends in testing, data for the period July to September 2012 (2.0%; 591/28,845 were compared to data received for the same time periods of 2011 and 2010. These show a reduction in the number of people tested over time and a decrease in the proportion tested positive compared to 2011 (2.2%; 671/30,190) and 2010 (2.4%; 706/29,895).

Figure 3 shows the five-weekly moving average for number of people tested for anti-HCV and percentage positive between October 2011 and September 2012 inclusive, for 18 participating sentinel centres. Testing has declined slightly over the past 12 months, with seasonal troughs during the Christmas and Easter holiday periods. In contrast to previous quarters, there are no noticeable peaks in the proportion positive. Overall a slight decrease 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 2011 - September 2012*. *(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. 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.
" – " Indicates that testing yielded no positives.

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 2012, a total of 436 individuals were tested at least once for HDV TA. Overall 3.0% (n=13) of individuals tested positive, although this varied by region (table 8). Where available, there was a greater proportion of males were tested (62.3%) than females. The mean age of individuals tested was 37.6 years (range 2.6-91.5 years), where as the mean age of those testing positive was 33.2 years (range 21.6-77.7 years).

Table 8. Number of individuals tested, and testing positive, for HDV TA in participating centres, July - September 2012*.

Region	Number tested	Number positive (%)
Channel Islands†	1	– (0.0)
East Midlands	17	– (0.0)
East of England	22	1 (4.5)
London	208	6 (2.9)
North East	17	– (0.0)
North West	28	1 (3.6)
South Central	23	0 (0.0)
South East Coast	16	0 (0.0)
South West	4	1 (25.0)
Wales†	10	– (0.0)
West Midlands	8	– (0.0)
Yorkshire & the Humber	82	4 (4.9)
Total, all regions	**436**	**13 (3.0)**

† Although all sentinel centres are in England, a small amount of first-line testing from Wales and the Channel Islands are carried out by sentinel laboratories.
* Excludes reference testing. Data are de-duplicated subject to availability of date of birth, soundex and first initial. All data are provisional.
" – " Indicates that testing yielded no positives.

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. Five sentinel laboratories provide anti-HEV IgM testing facilities. Data are shown by region of the requesting clinician.

During the third quarter of 2012, a total of 1,634 individuals were tested at least once for anti-HEV IgM. Overall, 6.7% (n=110) of individuals tested positive, although this varied by region. Where available, a higher proportion of males (56.5%) were tested than females. The mean age of individuals tested was 48.4 years (range 0.0-100.5 years), where as the mean age of those testing positive was 55.4 years (range 12.1-92.3 years).

Table 9. Number of individuals tested, and testing positive, for anti-HEV IgM in participating centres, July - September 2012*.

Region	Number tested	Number positive (%)
East Midlands	101	11 (10.9)
East of England	178	16 (9.0)
London	273	15 (5.5)
North East	83	6 (7.2)
North West	162	4 (2.5)
Northern Ireland†	6	– (0.0)
South Central	174	8 (4.6)
South East Coast	83	4 (4.8)
South West	103	16 (15.5)
Wales†	112	8 (7.1)
West Midlands	262	17 (6.5)
Yorkshire & the Humber	97	5 (5.2)
Total, all regions	1,634	110 (6.7)

† 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.
* Excludes reference testing. Data are de-duplicated subject to availability of date of birth, soundex and first initial. All data are provisional.
" – " Indicates that testing yielded no positives.

Reference

1. Health Protection Agency. Quarterly report from the sentinel surveillance study of hepatitis testing in England: data for January to March 2012. *Health Protection Report* **6**(34) immunisation: http://www.hpa.org.uk/hpr/archives/2012/hpr3412.pdf