



# Health Protection Report

weekly report

Volume 4 Number 16 Published on: 23 April 2010

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*\* This section was amended on 27 September 2010.*

## News

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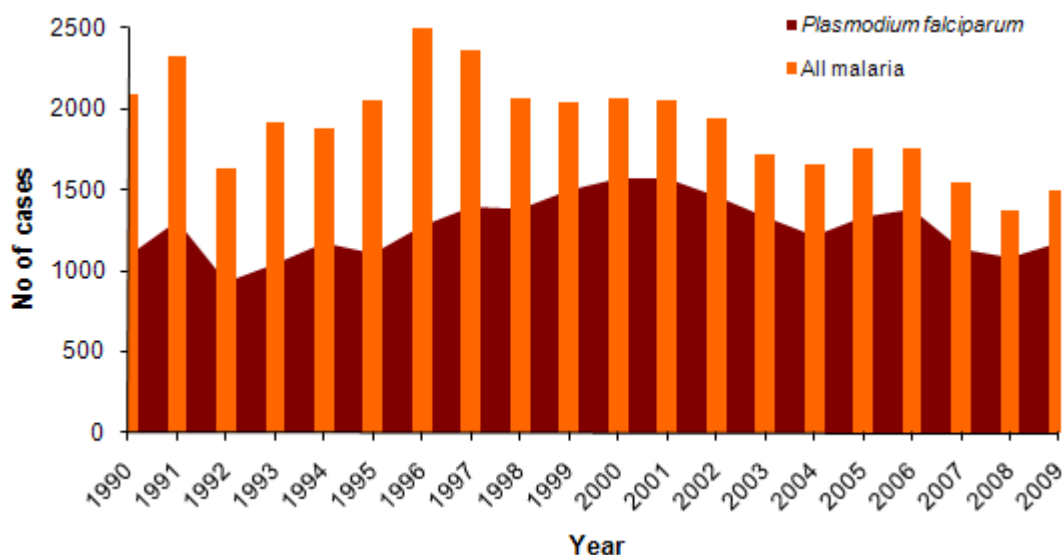
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### Malaria data for 2009 published by HPA

Data from the HPA Malaria Reference Laboratory on malaria incidence in the UK in 2009 has been published on the HPA website [1]. Details of methods of data collection for malaria have been published elsewhere [2].

There were 1495 cases of malaria reported in 2009, a slight increase on the 1370 cases reported in 2008. Seventy nine per cent of malaria cases in 2009 were caused by the potentially fatal *Plasmodium falciparum* form of the disease – a high proportion that has been sustained over many years (see figure).

### Imported malaria cases (with *P. falciparum* cases), United Kingdom: 1990–2009



It should be noted that there is under-reporting of malaria cases in the UK. A capture-recapture study estimated that the Malaria Reference Laboratory (MRL) notification system captured 56% of cases (66% for *P. falciparum* and 62% for London cases) [3].

Malaria is a notifiable disease and analysis of notification data informs the UK malaria prevention strategy [4]; clinical and laboratory staff are therefore reminded of the need to report the cases they diagnose to the MRL. A form for this purpose is available at [www.malaria-reference.co.uk](http://www.malaria-reference.co.uk).

### References

1. HPA. Data from the HPA Malaria Reference Laboratory. Available from the [Malaria Epidemiological Data](#) pages on the Agency website.
2. Smith AD, Bradley DJ, Smith V, Blaze M, Behrens RH, Chiodini PL, Whitty CJM. Imported malaria and high risk groups: observational study using UK surveillance data 1987-2006. *BMJ*. 2008; 337.
3. Cathcart SJ, Lawrence J, Grant A, Quinn D, Whitty CJM, Jones J, et al. Estimating unreported malaria cases in England: a capture-recapture study. *Epidemiol Infect*. 2009 Nov 18: 1-7.
4. HPA. Chiodini P, Hill D, Laloo D, Lea G, Walker E, Whitty CJM and Bannister B. Guidelines for malaria prevention in travellers from the United Kingdom. January 2007. Available from the HPA website: Home › Topics › Infectious Diseases › Infections A-Z › Malaria › Guidelines › [Malaria prevention guidelines](#).

## Infection reports

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### Immunisation

- ▶ **Laboratory reports of invasive meningococcal infections: weeks 01-13/2010**
- ▶ **Laboratory reports of hepatitis A and C infections: October to December 2009**
- ▶ ***Haemophilus influenzae* laboratory reports by age group and serotype: England and Wales, January to March 2010 (2009)**
- ▶ **Quarterly report from the sentinel surveillance study of hepatitis testing in England: October to December 2009 (quarter 4)**

### Laboratory reports of invasive meningococcal infections: weeks 40-53/2009 (2009)

	Method of diagnosis						Cumulative totals	
	CSF and blood Culture		Non-culture		Other sites			
	2009	2008	2009	2008	2009	2008	To 13/2010	To 13/2009
<b>Group A</b>	–	–	–	–	–	–	1	1
<b>B</b>	81	144	186	198	2	8	950	1105
<b>C</b>	2	4	2	2	–	–	10	22
<b>W135</b>	6	5	2	2	–	–	23	18
<b>X</b>	–	–	–	–	–	–	2	–
<b>Y</b>	12	13	7	4	–	–	62	44
<b>Z/29E</b>	–	1	–	–	–	–	–	3
<b>Non-groupable</b>	1	–	–	–	1	1	2	2
<b>Ungrouped</b>	–	–	4	5	–	–	15	37
<b>Total</b>	<b>102</b>	<b>167</b>	<b>201</b>	<b>211</b>	<b>3</b>	<b>9</b>	<b>1065</b>	<b>1232</b>

Source: HPA Meningococcal Reference Unit

### *Haemophilus influenzae* laboratory reports by age group and serotype: England and Wales, January to March 2010 (2009)

Type	Age					Total
	<1y	1-4y	5-14y	15+	nk	
b	1 (2)	1 (3)	– (–)	8 (6)	– (–)	<b>10</b> (11)
nc	5 (15)	7 (15)	3 (1)	69 (108)	– (–)	<b>84</b> (139)
a,e,f	– (1)	2 (1)	– (1)	21 (16)	– (1)	<b>23</b> (20)
not typed	7 (7)	1 (4)	– (4)	59 (67)	1 (–)	<b>68</b> (82)
<b>Total</b>	<b>13</b> (25)	<b>11</b> (23)	<b>3</b> (6)	<b>157</b> (197)	<b>1</b> (1)	<b>185</b> (252)

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## Laboratory reports of hepatitis A and C in England and Wales: October to December 2009\*

### Laboratory reports of hepatitis A infection in England and Wales

A total of 85 cases of hepatitis A virus were reported to HPA/CfI during the fourth quarter of 2009 (October-December); a 16.4% rise on the previous quarter (which had 73 cases), but a 26.1% decrease on the same quarter of 2008.

Males accounted for more reports in the younger age groups: the female to male ratio was 1:3.0 among under-15s, 1:2.6 in 15-44 year olds, but 1:0.7 among over 45 year olds. Over 45 year olds accounted for 44.7% of reports, while 15 to 44 year olds accounted for 29.4%, and under-15s 23.5%.

Of the total number of laboratory reports during the fourth quarter, 18.8% (16) and 25.9% (22) were in males and females, respectively, aged over 45 years old. Among those aged 15-44 years old, 21.2% (18) and 8.2% (7) were male and female, respectively, while 17.6% (15) were male and 5.9% (5) female, in the under-15 age group.

### Laboratory reports of hepatitis A infection in England and Wales: October to December 2009

Age group	Male	Female	Unknown	Total
<1 year	–	–	–	–
1-4 years	6	–	–	6
5-9 years	4	5	–	9
10-14 years	5	–	–	5
15-24 years	7	2	1	10
25-34 years	8	4	–	12
35-44 years	3	1	–	4
45-54 years	7	7	–	14
55-64 years	3	4	–	7
≥65 years	6	11	–	17
Unknown	–	–	1	1
<b>Total</b>	<b>49</b>	<b>34</b>	<b>2</b>	<b>85</b>

\* This section was amended on 27 September 2010.

## Hepatitis C

A total of 1868 cases of hepatitis C were reported to HPA/CfI during the final quarter of 2009 (October-December). This was an 8.4% decrease on the previous quarter, and a 7.4% decrease on the same quarter in 2008. As with previous quarters, the majority of reports (58.9%) were among those aged 25-44 years old. The ratio of reports in females to males was 1:2.3.

### Laboratory reports of hepatitis C in England and Wales: October to December 2009

Age group	Male	Female	Unknown	Total
<1 year	1	2	–	3
1-4 years	1	3	–	4
5-9 years	5	–	–	5
10-14 years	5	–	1	6
15-24 years	42	48	6	96
25-34 years	336	176	14	526
35-44 years	432	131	11	574
45-54 years	301	101	10	412
55-64 years	107	49	2	158
≥65 years	28	37	3	68
Unknown	9	4	3	16
<b>Total</b>	<b>1267</b>	<b>551</b>	<b>50</b>	<b>1868</b>

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## Quarterly report from the sentinel surveillance study of hepatitis testing in England: October to December 2009 (quarter 4)

The sentinel surveillance study of hepatitis testing, which began in 2002, aims to supplement routine surveillance of hepatitis A, B and C infections in England by providing information on trends in testing, individual risk exposures and clinical symptoms. The study collects information on hepatitis A, B and C testing carried out in participating centres regardless of test result and therefore can also be used to estimate prevalence in those individuals tested.

Over recent months, dried blood spot testing [1] has started to be rolled out in some of the laboratories that participate in the sentinel surveillance study. Early data indicates that individuals undergoing dried blood spot testing are at increased risk of Hepatitis C infection when compared the general population undergoing hepatitis testing. Therefore, these data are excluded from the main analysis of HBsAg and anti-HCV testing and will be presented separately in future reports.

### 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 2009, a total of 7,744 individuals were tested at least once for anti-HAV IgM in 21 participating sentinel centres (table 1). This is the first time these individuals had been reported to the sentinel surveillance scheme.

As in the second quarter, 0.6% of individuals tested for anti-HAV IgM during the third quarter were positive, though this varied by region. The highest proportion of positive tests was in South East Coast and the London regions (table 1). This may represent more targeted testing of individuals at risk in these areas or an increase in the incidence of HAV during the third quarter. The relatively low proportion positive in South Central and the West Midlands, when compared to the second quarter of 2009, may suggest either a decline in HAV or a change in people undergoing testing toward those at lower risk of infection.

**Table 1. Number of individuals tested, and testing positive, for anti-HAV IgM in participating centres, July – September 2009\***

Region (number of centres)	Number tested	Number positive
East Midlands (1)	1,153	– (–)
East of England (1)	494	4 (0.8)
London (7)	2,179	21 (1.0)
North East † (1)	16	– (–)
North West (5)	1,174	11 (0.9)
South Central (1)	240	– (–)
South East Coast (1)	378	4 (1.1)
South West (1)	752	6 (0.8)
Wales *†	9	– (–)
West Midlands (1)	479	2 (0.4)
Yorkshire & the Humber (2)	870	– (–)
<b>Total, all regions (21)</b>	<b>7,744</b>	<b>48 (0.6)</b>

\* Excludes reference and confirmatory testing. Individuals aged less than one year are included. Some duplication of individual patients may occur due to limitations of the information supplied. 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.

\*† 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 and gender of individuals tested, and testing positive, for anti-HAV IgM in sentinel laboratories between July to September 2009. Gender and age were reported for the majority of people tested (>99%). Slightly more males were tested than females (55.3% male), which is the same as previous quarters. The mean age of individuals tested was 46.3 years (range 0-97 years), where as the mean age of those testing positive was 38.8 years (range 2-91 years). The largest group tested were aged 35-44 years (n=1,487). The highest overall percentage of individuals testing positive was among 25-34 year olds and children aged 1-14 years although few people were tested in this latter age group. These results are constant with those reported for the second quarter of 2009.

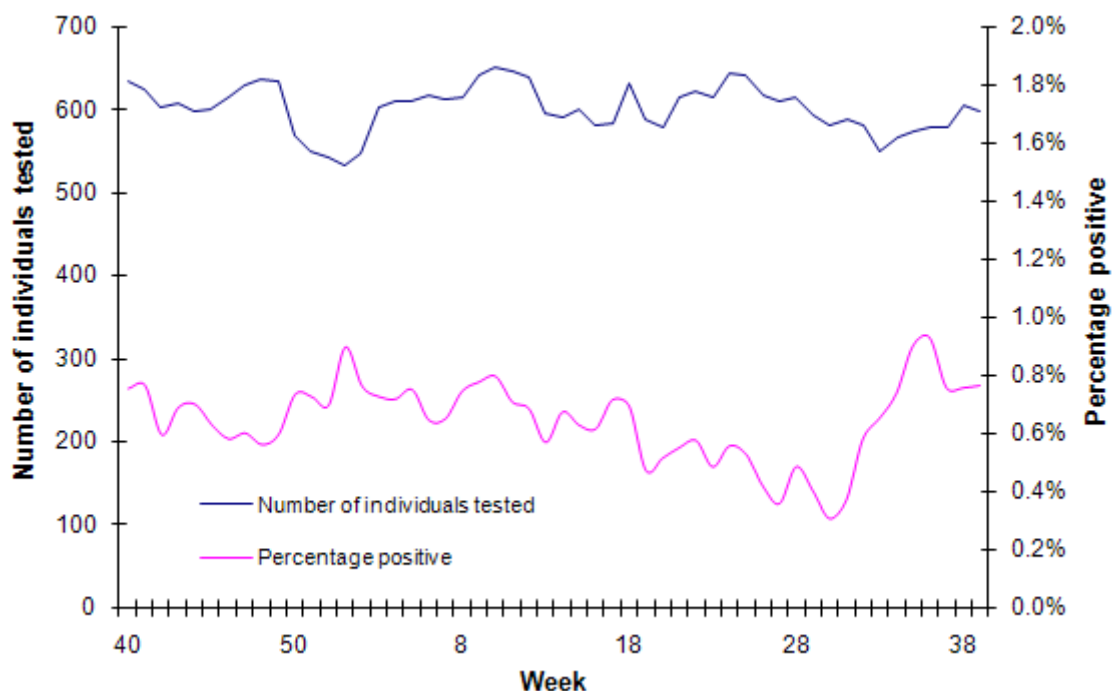
**Table 2. Number of individuals tested, and testing positive, for anti-HAV IgM in participating centres, July – September 2009\***

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	25	– (–)	22	– (–)	–	– (–)	47	– (–)
1-14 years	68	5 (7.4)	111	7 (6.3)	3	– (–)	182	12 (6.6)
15-24 years	379	4 (1.1)	395	2 (0.5)	6	– (–)	780	6 (0.8)
25-34 years	573	2 (0.3)	756	7 (0.9)	9	– (–)	1,338	9 (0.7)
35-44 years	531	3 (0.6)	939	1 (0.1)	17	– (–)	1,487	4 (0.3)
45-54 years	596	3 (0.5)	765	1 (0.1)	7	– (–)	1,368	4 (0.3)
55-64 years	557	2 (0.4)	598	3 (0.5)	6	– (–)	1,161	5 (0.4)
≥65 years	678	2 (0.3)	690	6 (0.9)	3	– (–)	1,371	8 (0.6)
Unknown	3	– (–)	4	– (–)	3	– (–)	10	– (–)
<b>Total, all age groups</b>	<b>3,410</b>	<b>21 (0.6)</b>	<b>4,280</b>	<b>27 (0.6)</b>	<b>54</b>	<b>– (–)</b>	<b>7,744</b>	<b>48 (0.6)</b>

\* Excludes reference and confirmatory testing. Some duplication of individual patients may occur due to limitations of the information supplied. All data are provisional. To provide an indication of trends in testing, data from 21 sentinel centres for which full data were available were compared for the third quarters of 2008 and 2009. In the period July to September 2009, 42 of 7,076 (0.6%) people tested positive for anti-HAV IgM compared to 31 of 7,066 (0.4%) for the same period and centres in 2008. This shows a slight increase in the proportion of individuals testing positive, while the level of testing remained stable.

Figure 1 shows the five-weekly moving average for number of people tested for anti-HAV IgM and percentage positive over the last year (October 2008 to September 2009 inclusive) for the 21 sentinel centres from which full data were available. Testing has remained stable over the last year with noticeable troughs during the Easter, summer and Christmas holiday periods. The proportion positive fluctuated, although a slight decline is suggested from May 2009. Data from forth quarter of 2009 may show if this trend continues.

**Figure 1. Five-weekly moving average of number of people tested, and percentage positive, for anti-HAV IgM between October 2008 to September 2009 (Note difference in scale of axes compared with Figures 2 and 3)**



## 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 testing

During the third quarter of 2009, a total of 13,470 individuals were identified as undergoing antenatal screening for HBsAg in 21 participating sentinel centres (table 3). Of these, 0.7% (n=92) were positive. This is the first time these individuals had been reported to the sentinel surveillance scheme.

Individuals identified as undergoing antenatal screening comprised 20.4% of all individuals tested for HBsAg in participating laboratories during the third quarter of 2009.

In those regions where few samples were tested (eg 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.

**Table 3. Number of individuals tested, and testing positive, for HBsAg through antenatal screening in participating laboratories, July –September 2009\***

Region (number of centres)	Number tested	Number positive (%)
East Midlands (1)	19	5 (26.3)
East of England (1)	738	1 (0.1)
London (7)	3,527	43 (1.2)
North East (1)	–	– (–)
North West (5)	1,963	14 (0.7)
South Central (1)	896	2 (0.2)
South East Coast (1)	1,262	3 (0.2)
South West (1)	2,164	6 (0.3)
West Midlands (1)	109	4 (3.7)
Yorkshire & the Humber (2)	2,792	14 (0.5)
<b>Total, all regions (21)</b>	<b>13,470</b>	<b>92 (0.7)</b>

\* Excludes reference and confirmatory testing. Some duplication of individual patients may occur due to limitations of the information supplied. All data are provisional.

#### ***b) Non-antenatal HBsAg testing***

This includes all individuals tested for HBsAg at participating centres who are not identified from the test request location or the clinical details accompanying the test request as undergoing antenatal screening.

During the third quarter of 2009, a total of 52,651 individuals were tested for HBsAg in 21 participating sentinel centres, excluding antenatal testing (table 4) and dried blood spot testing. Of these, 1.8% (n=951) were positive. This is the first time these individuals had been reported to the sentinel surveillance scheme.

London had the highest proportion of individuals testing positive 2.7% for the sixth consecutive quarter. The North West and West Midlands also had a high proportion of individuals testing positive (1.7% and 2.4% respectively), which is consistent with previous quarters. This may reflect more targeted testing of risk groups and/or genuinely higher prevalence in people being tested in this region.

**Table 4. Number of individuals tested, and testing positive, for HBsAg in participating centres (excluding antenatal testing), July – September 2009\***

Region (number of centres)	Number tested	Number positive (%)
East Midlands (1)	4,674	47 (1.0)
East of England (1)	2,745	25 (0.9)
London (7)	20,954	564 (2.7)
North East (1)	726	9 (1.2)
North West (5)	7,407	126 (1.7)
South Central (1)	1,789	22 (1.2)
South East Coast (1)	3,137	19 (0.6)
South West (1)	4,220	40 (0.9)
Wales †	24	– (–)
West Midlands (1)	1,972	47 (2.4)
Yorkshire & the Humber (2)	5,003	52 (1.0)
<b>Total, all regions (20)</b>	<b>52,651</b>	<b>951 (1.8)</b>

\* Excludes dried blood spot, reference and confirmatory testing. Individuals aged less than one year are included. Some duplication of individual patients may occur due to limitations of the information supplied. 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.

Excluding individuals identified from the test request location or clinical details as undergoing antenatal testing, similar numbers of men and women were tested for HBsAg (table 5). The number of women tested may include some antenatal testing that cannot be identified as such from the information provided, or may reflect similar levels of testing among men and women.

Gender and age were reported for the majority of people tested (>98%). As reported previously the proportion testing positive for HBsAg was higher among men than women (2.3% v 1.4%). The largest group tested were aged 25-34 years (n= 15,971); where as the percentage of individuals testing positive was highest among people aged 35-44 years (2.3%). The mean age of individuals tested was 37.4 years (range 0-108 years) and of those testing positive was 36.8 years (range 2-93 years). As with previous quarters, the relatively high prevalence of HBsAg among tested individuals of unknown gender or age (2.1% and 2.6% respectively) may reflect 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 high risk of hepatitis B infection.

**Table 5. Age and sex of individuals tested for HBsAg in participating centres (excluding antenatal testing), July – September 2009\***

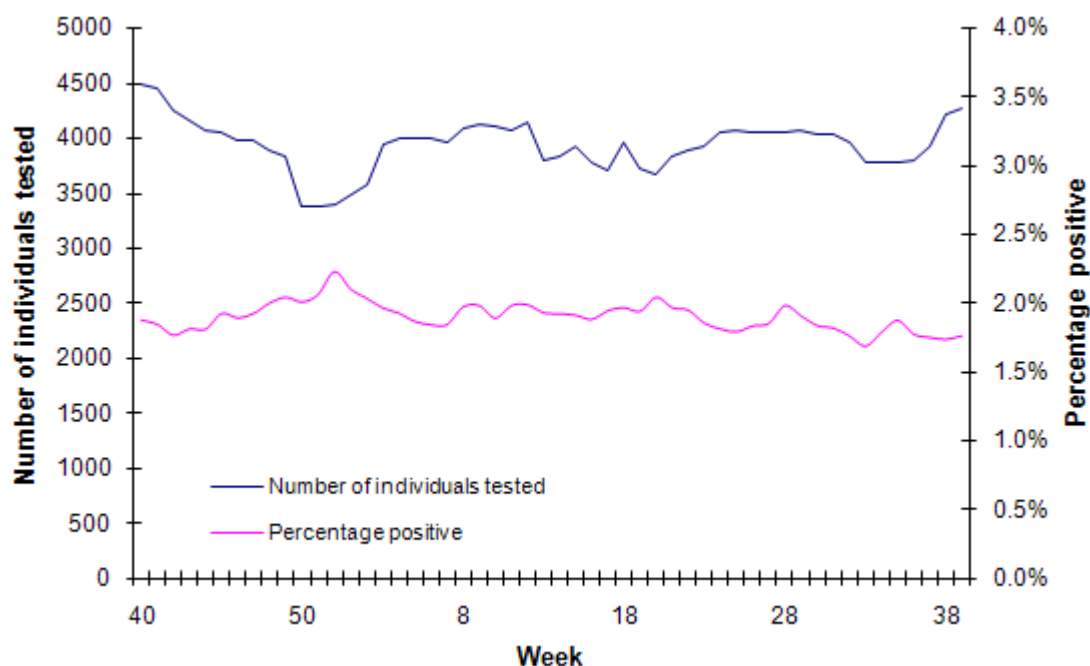
Age group	Female		Male		Unknown		Total	
	Number tested	Number positive (%)	Number tested	Number positive (%)	Number tested	Number positive (%)	Number tested	Number positive (%)
Under 1 year	79	– (–)	77	– (–)	2	– (–)	158	– (–)
1-14 years	369	6 (1.6)	428	9 (2.1)	9	– (–)	806	15 (1.9)
15-24 years	6,383	72 (1.1)	4,147	79 (1.9)	354	3 (0.8)	10,884	154 (1.4)
25-34 years	8,827	118 (1.3)	6,885	200 (2.9)	259	10 (3.9)	15,971	328 (2.1)
35-44 years	4,844	82 (1.7)	5,469	150 (2.7)	155	5 (3.2)	10,468	237 (2.3)
45-54 years	2,456	43 (1.8)	3,234	66 (2.0)	63	1 (1.6)	5,753	110 (1.9)
55-64 years	1,743	26 (1.5)	2,100	38 (1.8)	29	– (–)	3,872	64 (1.7)
≥65 years	2,079	19 (0.9)	2,487	20 (0.8)	17	– (–)	4,583	39 (0.9)
Unknown	31	– (–)	49	3 (6.1)	76	1 (1.3)	156	4 (2.6)
<b>Total, all age groups</b>	<b>26,811</b>	<b>366 (1.4)</b>	<b>24,876</b>	<b>565 (2.3)</b>	<b>964</b>	<b>20 (2.1)</b>	<b>52,651</b>	<b>951 (1.8)</b>

\* Excludes dried blood spot, reference and confirmatory testing. Some duplication of individual patients may occur due to limitations of the information supplied. All data are provisional.

To provide an indication of trends in testing, data from the 21 sentinel centres for which full data were available were compared for the third quarters of 2008 and 2009. In the period July to September 2009, 951 of 52,651 (1.8%) people tested positive for HBsAg (excluding antenatal testing), compared to 974 of 51,446 (1.9%) for the same period in 2008. This shows a slight increase in the number of people tested and decline in the proportion of individuals testing positive for HBsAg which is consistent with results previously reported for 2009.

Figure 2 shows the five-weekly moving average for number of people tested for HBsAg and percentage positive over the last year (excluding antenatal testing; October 2008 to September 2009 inclusive) for the 21 sentinel centres from which full data were available. Although the level of testing drops during the Christmas and Easter holiday period testing overall has remained stable over the past year. In contrast to the second quarter 2009 report the proportion positive now shows a very slight decline over the past 12 months.

**Figure 2. Five-weekly moving average of number of people tested, and percentage positive, for HBsAg between October 2008 and September 2009 (excluding antenatal testing) (Note difference in scale of axes compared with Figures 1 and 3)**



### 3 Hepatitis C testing

During the third quarter of 2009, a total of 42,838 individuals were tested at least once for hepatitis C-specific antibodies (anti-HCV) in 21 participating sentinel centres (table 7), excluding dried blood spot testing. This is the first time these individuals had been reported to the sentinel surveillance scheme.

Overall, 2.9% of individuals tested for anti-HCV were positive, though this varied by region. This shows a decline in the number and proportion of positive individuals identified when compared with the previous quarter [2]. As with previous quarters the highest proportion of positive tests in England were from the North West (table 6). This may reflect a higher prevalence in people being tested in this region.

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 2009\***

Region (number of centres)	Number tested	Number positive (%)
East Midlands (1)	4,117	92 (2.2)
East of England (1)	1,785	56 (3.1)
London (7)	14,823	397 (2.7)
North East (1)	598	11 (1.8)
North West (5)	7,250	300 (4.1)
South Central (1)	1,225	23 (1.9)
South East Coast (1)	3,056	53 (1.7)
South West (1)	3,736	129 (3.5)
Wales †	15	1 (6.7)
West Midlands (1)	1,765	51 (2.9)
Yorkshire and Humberside (2)	4,468	134 (3.0)
<b>Total, all regions (19)</b>	<b>42,838</b>	<b>1,247 (2.9)</b>

\* Excludes dried blood spot, reference and confirmatory testing. Excludes individuals aged less than one year, in whom positive tests may reflect the presence of passively-acquired maternal antibody rather than true infection. Some duplication of individual patients may occur due to limitations of the information supplied. All data are provisional.

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

Of the 1,247 individuals testing positive for anti-HCV during the third quarter of 2009, 765 (61.3%) were also tested for HCV RNA by PCR (qualitative and/or quantitative). Of these individuals, 533 were PCR positive (69.7%).

Gender was reported for the majority of people tested (>98%) (table 7). Slightly more males (51.3%) were tested than females. As reported previously the proportion testing positive was nearly twice as high among men as among women (3.8% vs. 2.0%). The mean age of individuals tested was 39.5 years (range 1-107 years) and of those testing positive was 41.2 years (range 1-87 years). As with the previous quarter the largest group tested were aged 25-34 years (n=11,516). The percentage of individuals testing positive was highest among 45-54 year olds (5.0%). The relatively high level of individuals with unknown age testing positive (4.9%) may reflect testing of individuals in settings such as prisons, drug services and GUM clinics where fewer demographic details on patients were available and where service users may be at high risk of hepatitis C infection.

**Table 7. Age and sex of individuals tested for anti-HCV in participating centres, July – September 2009\***

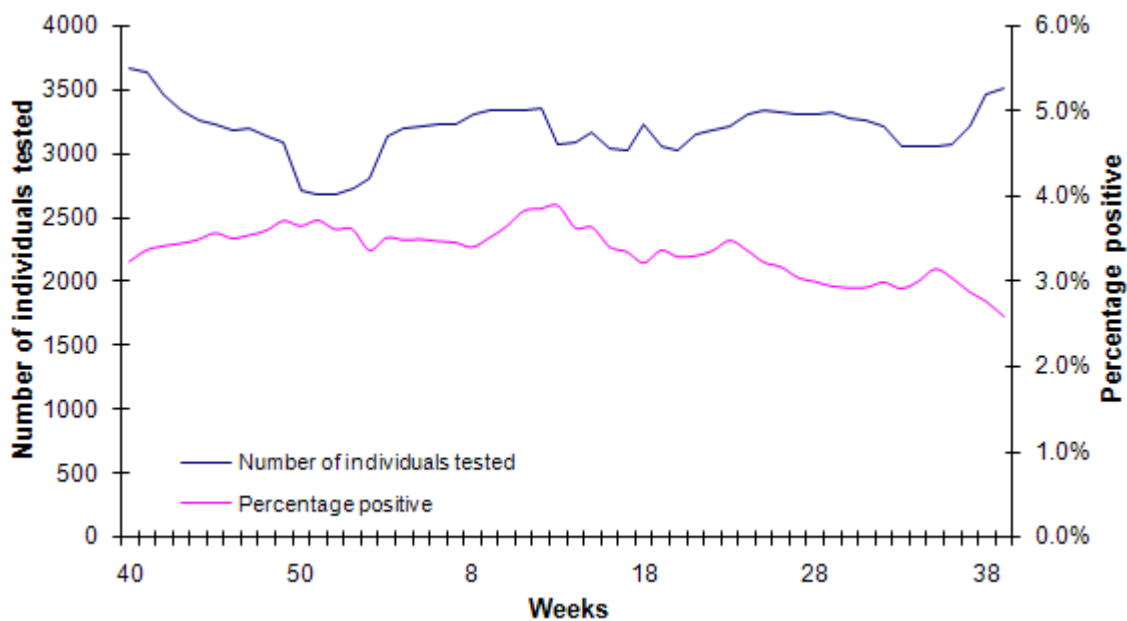
Age group	Female		Male		Unknown		Total	
	Number tested	Number positive (%)	Number tested	Number positive (%)	Number tested	Number positive (%)	Number tested	Number positive (%)
1-14	282	2 (0.7)	320	2 (0.6)	6	– (–)	608	4 (0.7)
15-24	4,571	35 (0.8)	3,467	23 (0.7)	328	2 (0.6)	8,366	60 (0.7)
25-34	5,403	128 (2.4)	5,899	210 (3.6)	214	4 (1.9)	11,516	342 (3.0)
35-44	3,806	118 (3.1)	5,059	300 (5.9)	134	4 (3.0)	8,999	422 (4.7)
45-54	2,207	70 (3.2)	2,901	188 (6.5)	56	1 (1.8)	5,164	259 (5.0)
55-64	1,655	37 (2.2)	1,939	71 (3.7)	24	1 (4.2)	3,618	109 (3.0)
≥65	2,078	18 (0.9)	2,325	27 (1.2)	14	– (–)	4,417	45 (1.0)
Unknown	25	2 (8.0)	45	4 (8.9)	80	– (–)	150	6 (4.0)
<b>Total, all age groups</b>	<b>20,027</b>	<b>410 (2.0)</b>	<b>21,955</b>	<b>825 (3.8)</b>	<b>856</b>	<b>12 (1.4)</b>	<b>42,838</b>	<b>1,247 (2.9)</b>

\* Excludes reference and confirmatory testing. 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. Some duplication of individual patients may occur due to limitations of the information supplied. All data are provisional.

To provide an indication of trends in testing, data from the 21 sentinel centres from which full data were available were compared for the third quarters of 2008 and 2009. In the period July to September 2009, 1,247 of 42,838 (2.9%) people tested were positive for anti-HCV, compared to 1,464 of 41,783 (3.5%) for the same period in 2008. This may suggest a greater proportion of people at lower risk of infection were tested during the third quarter of 2009, and/or the prevalence of hepatitis C was decreasing among the individuals tested.

Figure 3 shows the five-weekly moving average for number of people tested for anti-HCV and percentage positive over the last year (October 2008 to September 2009 inclusive) for the 21 sentinel centres from which full data were available. Apart from a trough during the Christmas and Easter holiday periods, there was a decline in testing from the beginning of October 2008 to the end of November 2008. As observed over the previous quarters, several peaks in testing correspond to simultaneous troughs in the percentage positive; perhaps suggesting increased testing of people at low risk of infection. The proportion of people testing positive increased slightly in March, then declined. As reported previously this decline may be due in part to the role out of dried blood spot testing to high risk individuals who are difficult to bleed, mainly intravenous drug users. An overall decline in the percentage positive over the past year is still apparent, in line with the long-term annual trend in declining percentage positive among individuals tested for anti-HCV observed over the course of the study.

Figure 3. Five-weekly moving average of number of people tested, and percentage positive, for anti-HCV between October 2008 and September 2009 (Note difference in scales to Figures 1 and 2.)



#### References

1. 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.
2. Health Protection Agency. Quarterly report from the sentinel surveillance study of hepatitis testing in England: data for April to June 2009 (quarter 2). *Health Protection Report* **3**(42) immunisation. Available at: <http://www.hpa.org.uk/hpr/archives/2009/hpr4209.pdf>