



Health Protection Report

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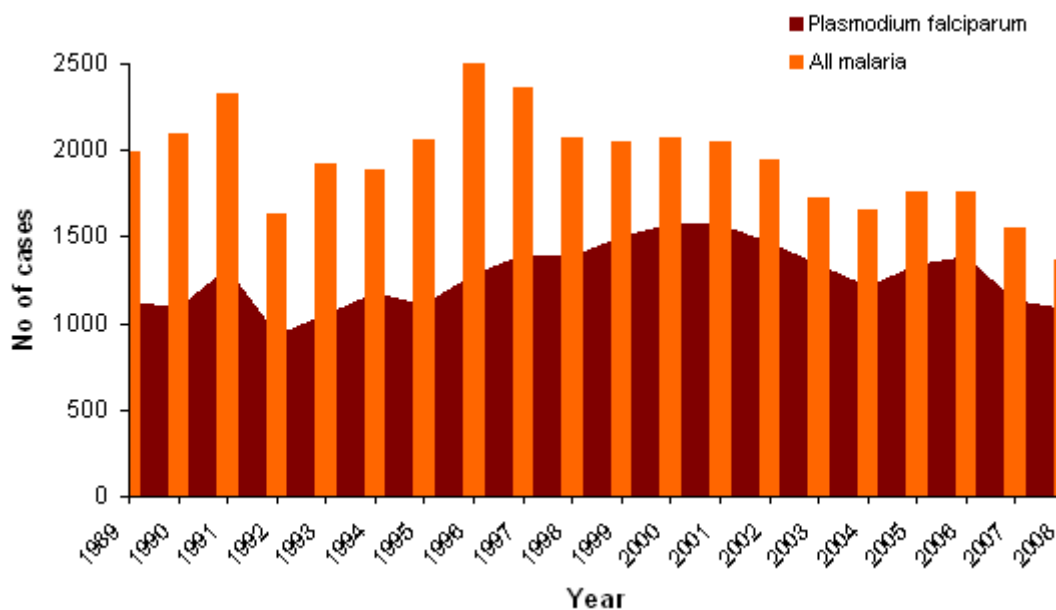
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Malaria imported into the United Kingdom in 2008: implications for those advising travellers

Recently published data on cases of malaria reported to the Health Protection Agency (HPA) Malaria Reference Laboratory in 2008 [1] show that travellers visiting friends and family abroad, particularly in Nigeria and Ghana, continue to be the most likely group of United Kingdom (UK) residents to acquire the infection. Data on malaria imported into the UK in recent years are summarised below; they indicate that the potentially fatal disease, although almost completely preventable, remains a significant issue for UK travellers. Details of methods of data collection for malaria have been published elsewhere [2].

Figure 1. Cases of malaria in the United Kingdom: 1989 to 2008



There were 1370 cases of malaria reported in 2008, a slight decline on the 1548 cases reported in 2007 and 1758 cases of malaria reported in 2006. It is possible that a few cases have still to be reported. This may be random variation, but there is evidence of a recent decline in malaria transmission in some malaria-endemic countries visited by travellers, in both West and East Africa, which could have an impact on UK imported cases [3, 4].

Over 70% of malaria cases are caused by (the potentially fatal) *Plasmodium falciparum* and this high proportion of falciparum malaria has been sustained over many years, reflecting the fact most malaria imported to the UK is acquired in Africa. The breakdown of malaria cases reported by region of travel and parasite species is shown in table 1.

Table 1. Cases of malaria by species of parasite and primary region of travel, UK: 2008

Geographic Area	<i>P.falci-parum.</i>	<i>P. vivax</i>	<i>P. malariae</i>	<i>P. ovale</i>	<i>Pf/Pv</i>	<i>Pf/Pm</i>	<i>Pf/Po</i>	<i>P. sp unspfd</i>	Total	2007
West Africa	763	1	10	38	–	3	3	–	818	808
East Africa	73	10	5	7	–	–	–	–	95	123
Southern Africa	27	2	–	4	–	–	–	–	33	34
Central Africa	23	–	–	6	–	–	–	–	29	27
North Africa	–	–	–	–	–	–	–	–	–	–
Africa - unspec.	20	–	–	5	–	–	–	–	25	14
Asia	8	118	–	–	1	–	–	–	127	194
Far East/SE Asia	1	3	–	–	1	–	–	–	5	5
Oceania	–	10	–	–	1	–	–	–	11	15
Central/S. America	–	3	–	–	–	–	–	–	3	14
Middle East	1	–	–	–	–	–	–	–	1	1
Not given	171	30	5	16	–	–	–	1	223	313
Total	1087	177	20	76	3	3	3	1	1370	1548

Six deaths from malaria in 2008 have been reported to date, one of uncertain origin, the rest from Africa. Vivax malaria deaths are rare, and are often associated with co-morbidity. There is a small variation in the number of deaths from malaria in the UK every year but the number for 2008 is broadly similar to the annual average since 2000 (nine).

Among patients with malaria where the history of prophylaxis was obtained, 668/809 (83%) had not taken prophylaxis, and a high proportion of the remainder took prophylaxis not recommended for their travel destination by the [HPA Advisory Committee on Malaria Prevention in UK Travellers \(ACMP\)](#). This high proportion is very similar to recent years. Some groups are at particular risk of acquiring malaria and are not being reached by health messages about the importance of antimalarial prophylaxis. Of those who had malaria diagnosed in the UK, where ethnicity was known, 129 were reported as white British, compared with 924 who were reported as African or of African descent and 131 reported as south Asian or of south Asian decent. The overall trend has been for the proportion of malaria in those of south Asian descent to decrease markedly due to a reduction in malaria imported from South Asia (especially vivax malaria), while the proportion in those of African descent has increased over time. The burden of falciparum malaria in particular falls heavily on those of African ethnicity [2,3]. These trends have been explored in more detail in other recent HPA publications [5,6].

Among cases who were travellers from the UK (rather than normally resident in an endemic area), where reason for travel was known, 552/716 (77%) were visiting friends and relatives (table 2), an almost identical proportion to previous years. The ratio of malaria in UK residents visiting friends and relatives compared with malaria cases acquired in holiday travellers was around 7:1; this group presents the greatest public health challenge [6]. As with all routinely collected data, exact figures should be treated with caution. It seems likely that those travelling to visit friends and relatives are either not seeking or not able to access medical advice on malaria prevention before they travel, or they are not being given good advice, or they are not adhering to it; they may not perceive themselves to be at risk because the destination is familiar to them. Probably all these factors contribute. Targeting these groups, and their healthcare providers, should be considered a priority.

Table 2. Cases of malaria by stated reason for travel, UK: 2008

Population group	P.f.	P.v.	P.m.	P.o.	Pf/Pv	Pf/Pm	Pf/Po	P. sp unspfd	Total
Visiting family in country of origin	460	60	7	21	1	2	1	–	552
Holiday travel	55	17	3	3	–	1	–	–	79
Foreign visitor ill while in UK	71	12	2	3	–	–	–	–	88
New entrant	37	13	1	7	–	–	1	–	59
Business/professional travel	35	9	–	3	1	–	–	–	48
UK citizen living abroad	17	6	1	3	1	–	–	–	28
Foreign student studying in UK	16	6	–	3	–	–	1	–	26
Civilian sea/air crew	6	–	–	–	–	–	–	–	6
Children visiting parents living abroad	1	–	–	–	–	–	–	–	1
Other	1	–	–	–	–	–	–	–	1
British armed services	–	–	–	1	–	–	–	–	1
Not stated	388	54	6	32	–	–	–	1	481
Total	1087	177	20	76	3	3	3	1	1370

These data indicate that malaria, an almost completely preventable disease but one which can be fatal, remains a significant issue for UK travellers. Failure to take prophylaxis is associated with the majority of cases in UK residents travelling to malarial areas. There is continuing evidence that those of African or Asian ethnicity going to visit friends and relatives are at increased risk, and those providing advice should engage with these travellers wherever possible. The ACMP guidelines [7] and resources available from the National Travel Health Network and Centre [8] should assist clinicians in helping travellers to make rational decisions about protection against malaria.

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Radon in dwellings in Scotland: 2008 Review and Atlas

A Scottish Government-funded, Health Protection Agency report [1] has provided the first radon "probability map" for the whole of Scotland, identifying a number of Radon Affected Areas (RAA) where there is a more than 1% probability of the naturally-occurring radon level being above the Action Level [2] above which it is recommended that remedial measures be taken.

The Scottish Government has announced a programme of help, advice and training, including free radon tests, for householders in areas with a five or more percent chance of the radon Action Level being exceeded.

Measurements were taken in a representative sample of dwellings (more than 19,000) across the whole country, including the western and northern isles, for the purposes of the mapping exercise. The areas with the highest number of possibly affected homes include Aberdeenshire, Highland, Orkney and the Scottish Borders. However, out of a total of 62,000 dwellings in RAAs, it is estimated that only 1-3,000 will show radon levels above the Action Level.

The Agency report presents the data from the radon measurements including maps showing the location of RAAs in relation to council boundaries, settlements and major roads, and broken down by local authority and by various divisions of the postcode system.

The Scottish Government will be working with the Agency and others to offer information and advice in the areas most affected by radon. The Scottish Government's free testing programme, which will be carried out by the Agency, has the twin objectives of identifying particular homes with high radon levels and encouraging owners and landlords to reduce such levels [3].

An equivalent Agency report for England and Wales was published in 2007 [4] and recommendations for UK dwellings made last year [5].

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Infection reports

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Laboratory reports of hepatitis A and C infection in England and Wales: July to December 2008

Laboratory reports of hepatitis A infection in England and Wales (third quarter 2008)

During the third quarter of 2008, 195 cases of hepatitis A were reported to the Health Protection Agency Centre for Infections. This was in contrast to a total of 55 and 77 cases that were reported in the first and second quarters of 2008 respectively and indicates a rise in the number of cases of hepatitis A. Provisional analysis of this data indicates that the rise was mainly due to an increase in reports from the London region.

In the third quarter, 31% of the cases were in men aged 15-44 years (table 1) and females also accounted for 31% of the cases in this age group. Of those aged 45 years and over 14% of cases were males and 14% females. In those aged under 15, males and females accounted for 6% and 4% of cases respectively. The previously-noted overall decline in the number of hepatitis A cases has not continued and the third quarter marked a substantial increase in the reported number of cases.

Table 1. Laboratory reports of hepatitis A infection in England and Wales: July to September 2008

Age group	Male	Female	Unknown	Total
<1 year	–	–	–	–
1-4 years	1	–	–	1
5-9 years	5	5	1	11
10-14 years	5	3	–	8
15-24 years	20	18	–	38
25-34 years	18	18	–	36
35-44 years	22	24	–	46
45-54 years	10	10	–	20
55-64 years	9	6	–	15
≥65 years	6	13	1	20
Unknown	–	–	–	–
Total	96	97	2	195

Laboratory reports of hepatitis A infection in England and Wales (fourth quarter 2008)

During the fourth quarter of 2008, 129 cases of hepatitis A were reported, lower than the 195 reported in quarter 3 but still higher than the total of 55 and 77 cases reported in the first and second quarters, respectively. Although the rise in quarter 3 was due to an increase in the number of reports from London, this regional impact from London was not so apparent in quarter 4.

In the fourth quarter, 33% of the total number of cases were in men aged 15-44 years (table 2) and females accounted for 16% of the cases in this age group. Of those aged 45 years and over, 19% of cases were males and 12% females. In those aged under 15, males and females accounted for 8% and 12% of cases respectively. The number of reports has declined compared to the previous quarter but the overall number of reports for this quarter are higher than quarter 1 and 2. Further analysis is required to review the total number of cases reported throughout 2008.

Table 2. Laboratory reports of hepatitis A infection in England and Wales: October to December 2008

Age group	Male	Female	Unknown	Total
<1 year	–	–	–	–
1-4 years	3	4	–	7
5-9 years	4	7	–	11
10-14 years	3	4	–	7
15-24 years	15	8	–	23
25-34 years	19	10	1	30
35-44 years	8	3	–	11
45-54 years	10	4	–	14
55-64 years	3	5	–	8
≥65 years	11	6	1	18
Unknown	–	–	–	–
Total	76	51	2	129

Laboratory reports of hepatitis C infection in England and Wales (third and fourth quarters)

A total of 2325 cases of hepatitis C infection were reported to HPA/CfI in the third quarter of 2008 (table 3). The majority of reports (60%, 1376/2301) were, as in previous quarters, amongst those aged 25-44 years. The ratio of males to females was 2.3:1.

Table 3. Laboratory reports of hepatitis C infection in England and Wales: July to September 2008

Age group	Male	Female	Unknown	Total
1-4 years	1	3	–	4
5-9 years	1	1	–	2
10-14 years	5	2	–	7
15-24 years	71	70	6	147
25-34 years	424	208	36	668
35-44 years	505	182	21	708
45-54 years	347	124	23	494
55-64 years	118	45	4	167
≥65 years	56	41	7	104
Unknown	11	4	9	24
Total	1539	680	106	2325

In quarter 4, a total of 2027 cases of hepatitis C infection were reported, slightly lower than the 2325 cases reported in the third quarter of 2008 (table 4). The majority of reports (62%, 1246/2015) were, as in previous quarters, amongst those aged 25-44 years. The ratio of males to females is 2.1:1.

**Table 4. Laboratory reports of hepatitis C infection in England and Wales:
October to December 2008**

Age group	Male	Female	Unknown	Total
1-4 years	–	1	–	1
5-9 years	2	–	–	2
10-14 years	1	–	–	1
15-24 years	67	67	4	138
25-34 years	395	200	29	624
35-44 years	440	157	25	622
45-54 years	256	105	20	381
55-64 years	106	43	11	160
≥65 years	44	38	4	86
Unknown	8	3	1	12
Total	1319	614	94	2027

Quarterly report from the sentinel surveillance study of hepatitis testing in England: December 2008 (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.

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 last quarter of 2008, a total of 7286 individuals were tested at least once for anti-HAV IgM in 20 participating sentinel centres (table 1). This is the first time these individuals had been reported to the sentinel surveillance scheme.

Overall, 0.6% of individuals tested for anti-HAV IgM were positive, though this varied by region with the highest proportion of positive tests in London and the West Midlands (table 1). This may reflect more targeted testing of risk groups and/or genuinely higher prevalence in people being tested in this region.

Table 1. Number of individuals tested, and testing positive, for anti-HAV IgM in participating centres, October – December 2008.

Region (number of centres)	Number tested	Number positive
East Midlands (1)	1067	2 (0.2)
East of England (1)	526	2 (0.4)
London (6)	1593	14 (0.9)
North East (1)*	11	– (–)
North West (5)	1097	5 (0.5)
South Central (1)	252	1 (0.4)
South East Coast (1)	415	3 (0.7)
South West (1)	1056	7 (0.7)
Wales †	6	– (–)
West Midlands (1)	461	4 (0.9)
Yorkshire & the Humber (2)	802	5 (0.6)
Total, all regions (20)	7286	43 (0.6)

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 October to December 2008. Gender was reported for the majority of people tested; the ratio of males to females tested was 1.3:1. The highest overall percentage of individuals testing positive was among children aged 1-14 years (4.9%); however, only a small number of people were tested in this age group.

Table 2. Number of individuals tested, and testing positive, for anti-HAV IgM in participating centres, October – December 2008

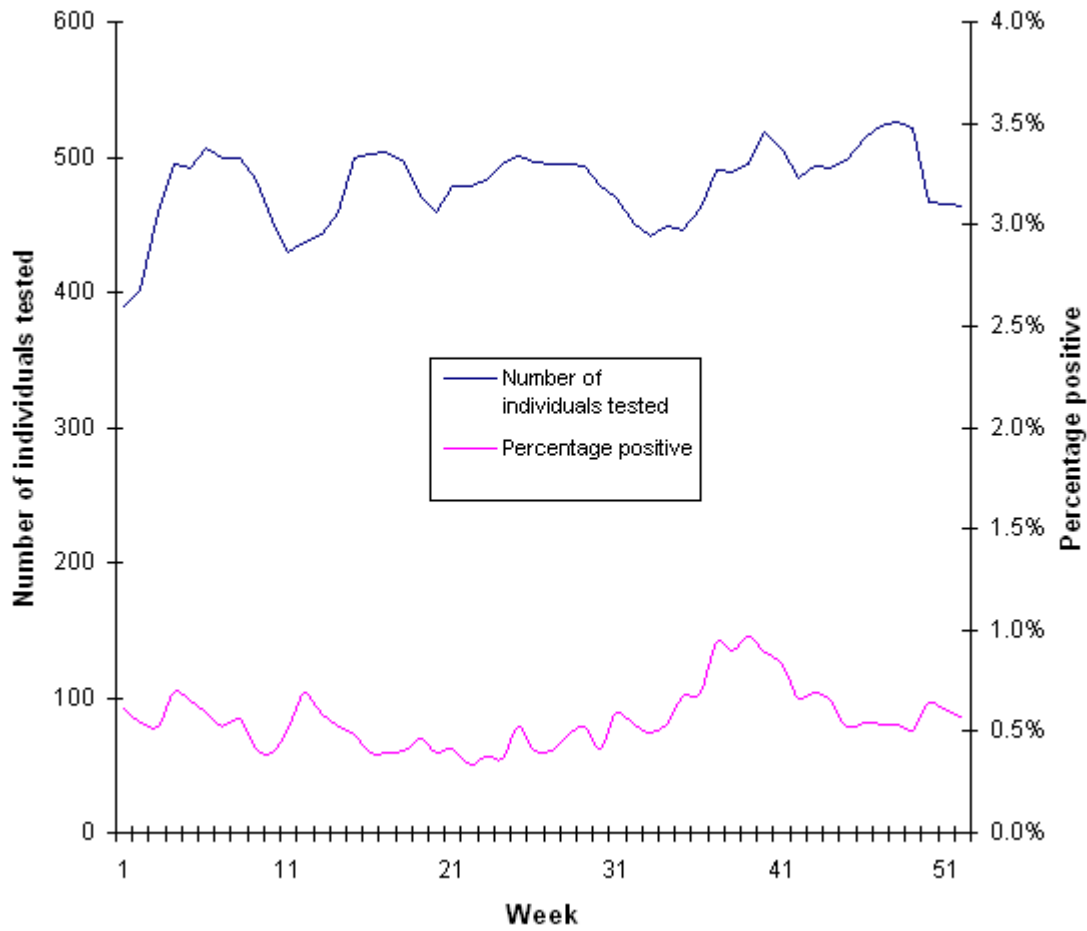
Age group	Female		Male		Unknown		Total	
	Number tested	Number positive (%)	Number tested	Number positive (%)	Number tested	Number positive (%)	Number tested	Number positive (%)
Under 1 year	20	– (–)	35	– (–)	0	– (–)	55	– (–)
1-14 years	76	5 (6.6)	85	3 (3.5)	1	– (–)	162	8 (4.9)
15-24 years	361	1 (0.3)	391	6 (1.5)	13	– (–)	765	7 (0.9)
25-34 years	524	4 (0.8)	743	7 (0.9)	8	– (–)	1275	11 (0.9)
35-44 years	524	1 (0.2)	869	4 (0.5)	15	– (–)	1408	5 (0.4)
45-54 years	528	2 (0.4)	741	3 (0.4)	8	– (–)	1277	5 (0.4)
55-64 years	506	2 (0.4)	597	1 (0.2)	6	– (–)	1109	3 (0.3)
≥65 years	592	3 (0.5)	631	1 (0.2)	6	– (–)	1229	4 (0.3)
Unknown	2	– (–)	4	– (–)	0	– (–)	6	– (–)
Total, all age groups	3133	18 (0.6)	4096	25 (0.6)	57	– (–)	7286	43 (0.6)

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.

To provide an indication of trends in testing, data from 18 sentinel centres for which full data were available were compared for the fourth quarters of 2007 and 2008. In the period October to December 2008, 39 of 6412 (0.6%) people tested positive for anti-HAV IgM compared to 20 of 5637 (0.4%) for the same period in 2007. This shows a slight increase in the number of people tested and number of positive tests.

Figure 1 shows the five-weekly moving average for number of people tested for anti-HAV IgM and percentage positive over the last year (January 2008 to December 2008 inclusive) for the 18 centres from which full data were available. This shows little variation in the number of individuals tested, apart from a trough during the Christmas, Easter, and summer holiday periods with corresponding small peaks shortly after. The proportion of people testing positive increased slightly from week 34 to 43.

Figure 1. Five-weekly moving average of number of people tested, and percentage positive, for anti-HAV IgM between January 2008 to December 2008 (Note difference in scales 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 last quarter of 2008, a total of 16452 individuals were identified as undergoing antenatal testing for HBsAg in 20 participating sentinel centres (table 3). Of these, 0.6% (n=100) were positive. This is the first time these individuals had been reported to the sentinel surveillance scheme.

Variation in levels of testing by region will reflect local antenatal testing arrangements in each area; for example, in some areas the majority of antenatal screening is carried out by NHS Blood and Transplant (NHSBT) laboratories or other hospital laboratories which do not participate in sentinel surveillance.

Individuals identified as undergoing antenatal testing comprised 24.2% of all individuals tested for HBsAg in participating laboratories during the last quarter of 2008.

Table 3. Number of individuals tested, and testing positive, for HBsAg through antenatal screening in participating laboratories, October – December 2008.

Region (number of centres)	Number tested	Number positive (%)
East Midlands (1)	20	2 (10.0)
East of England (1)	879	3 (0.3)
London (6)	3603	47 (1.3)
North East (1)	–	– (–)
North West (5)	3603	10 (0.4)
South Central (1)	2620	10 (0.4)
South East Coast (1)	1163	2 (0.2)
South West (1)	1725	10 (0.6)
West Midlands (1)	2753	8 (0.3)
Yorkshire & the Humber (2)	86	4 (4.7)
Total, all regions (20)	16452	100 (0.6)

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 last quarter of 2008, a total of 51446 individuals were tested for HBsAg in 20 participating sentinel centres, excluding antenatal testing (table 4). Of these, 2.1% (n=1082) 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 in England for the fourth consecutive quarter (excluding Wales due to the small number of samples). 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), October - December 2008.

Region (number of centres)	Number tested	Number positive (%)
East Midlands (1)	4379	50 (1.1)
East of England (1)	2955	34 (1.2)
London (6)	17435	573 (3.3)
North East (1)	592	4 (0.7)
North West (5)	8652	217 (2.5)
South Central (1)	1489	15 (1.0)
South East Coast (1)	3776	16 (0.4)
South West (1)	5222	45 (0.9)
Wales*	24	1 (4.2)
West Midlands (1)	1992	49 (2.5)
Yorkshire & the Humber (2)	4930	78 (1.6)
Total, all regions (20)	51446	1082 (2.1)

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.

* 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.

Excluding individuals identified from the test request location or clinical details as undergoing antenatal testing, slightly more women than men were tested for HBsAg (table 5). This slight excess of women may represent antenatal testing that cannot be identified as such from the information provided, or may reflect genuinely higher levels of testing among women.

As was reported in the previous quarters of 2008 the proportion testing positive for HBsAg was higher among men than women (2.5% v 1.7%). The percentage of individuals overall testing positive was highest among people aged 35-44 years (2.8%). The relatively high prevalence of HBsAg among tested individuals of unknown gender 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), October – December 2008

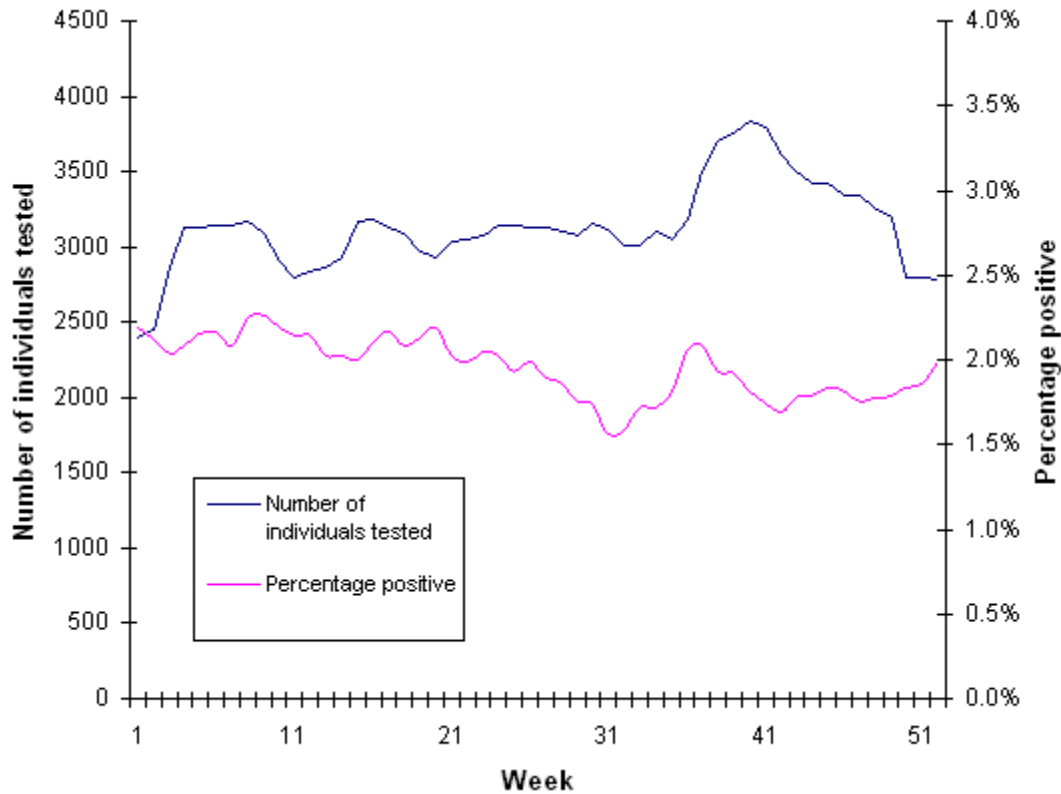
Age group	Female		Male		Unknown		Total	
	Number tested	Number positive (%)	Number tested	Number positive (%)	Number tested	Number positive (%)	Number tested	Number positive (%)
Under 1 year	52	– (–)	84	– (–)	1	– (–)	137	– (–)
1-14 years	367	11 (3.0)	368	8 (2.2)	15	– (–)	750	19 (2.5)
15-24 years	6678	78 (1.2)	4658	73 (1.6)	196	4 (2.0)	11532	155 (1.3)
25-34 years	7883	160 (2.0)	6519	220 (3.4)	215	6 (2.8)	14617	386 (2.6)
35-44 years	4747	103 (2.2)	5531	178 (3.2)	138	6 (4.3)	10416	287 (2.8)
45-54 years	2310	52 (2.3)	3206	90 (2.8)	82	3 (3.7)	5598	145 (2.6)
55-64 years	1648	15 (0.9)	2134	42 (2.0)	33	1 (3.0)	3815	58 (1.5)
≥65 years	1978	10 (0.5)	2471	21 (0.8)	27	– (–)	4476	31 (0.7)
Unknown	25	– (–)	36	1 (2.8)	44	– (–)	105	1 (1.0)
Total, all age groups	25688	429 (1.7)	25007	633 (2.5)	751	20 (2.7)	51446	1082 (2.1)

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.

To provide an indication of trends in testing, data from the 18 sentinel centres for which full data were available were compared for the fourth quarters of 2007 and 2008. In the period October to December 2008, 758 of 42,726 (1.8%) people tested positive for HBsAg (excluding antenatal testing), compared to 911 of 36321 (2.2%) for the same period in 2007. This shows a slight increase in the number of people tested with a decrease in the proportion of individuals testing positive for HBsAg during 2008.

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; January 2008 to December 2008 inclusive) for the 18 centres from which full data were available. This shows little variation in the number of individuals tested prior to week 36, apart from a trough during Easter and both Christmas holiday periods and a peak around week 41. There has been a slight decrease in the proportion of individuals testing positive for HBsAg during 2008.

Figure 2. Five-weekly moving average of number of people tested, and percentage positive, for HBsAg between January 2008 and December 2008 (excluding antenatal testing). (Note difference in scales compared with figures 1 and 3)



3. Hepatitis C testing

During the last quarter of 2008, a total of 41894 individuals were tested at least once for hepatitis C-specific antibodies (anti-HCV) in 20 participating sentinel centres (table 6). This is the first time these individuals had been reported to the sentinel surveillance scheme.

Overall, 3.9% of individuals tested for anti-HCV were positive, though this varied by region with the highest proportion of positive tests in the North West (table 6). This may reflect more targeted testing of risk groups and/or genuinely 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, October – December 2008

Region (number of centres)	Number tested	Number positive (%)
East Midlands (1)	3793	122 (3.2)
East of England (1)	1924	55 (2.9)
London (5)	12821	497 (3.9)
North East (1)	425	20 (4.7)
North West (6)	8106	455 (5.6)
South Central (1)	1065	8 (0.8)
South East Coast (1)	3658	62 (1.7)
South West (1)	4209	186 (4.4)
Wales*	21	1 (4.8)
West Midlands (1)	1536	31 (2.0)
Yorkshire and Humberside (2)	4336	200 (4.6)
Total, all regions (20)	41894	1637 (3.9)

Excludes 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 1637 individuals testing positive for anti-HCV during the last quarter of 2008, 947 (57.8%) were also tested for HCV RNA by PCR (qualitative and/or quantitative). Of these individuals, 642 were PCR positive (67.8%).

Gender was reported for the majority of people tested. As in previous quarters, similar numbers of males and females were tested (table 7); the ratio of males to females tested was 1.1:1. The ratio of males to females testing positive was 2:1. The largest group tested were aged 25-34 years (n=10768). The percentage of individuals overall testing positive was highest among 45-54 year olds (6.6%). The high level of individuals with unknown age testing positive (5.3%) may reflect testing of individuals in settings such as prisons, drug services and GUM clinics where few 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, October – December 2008

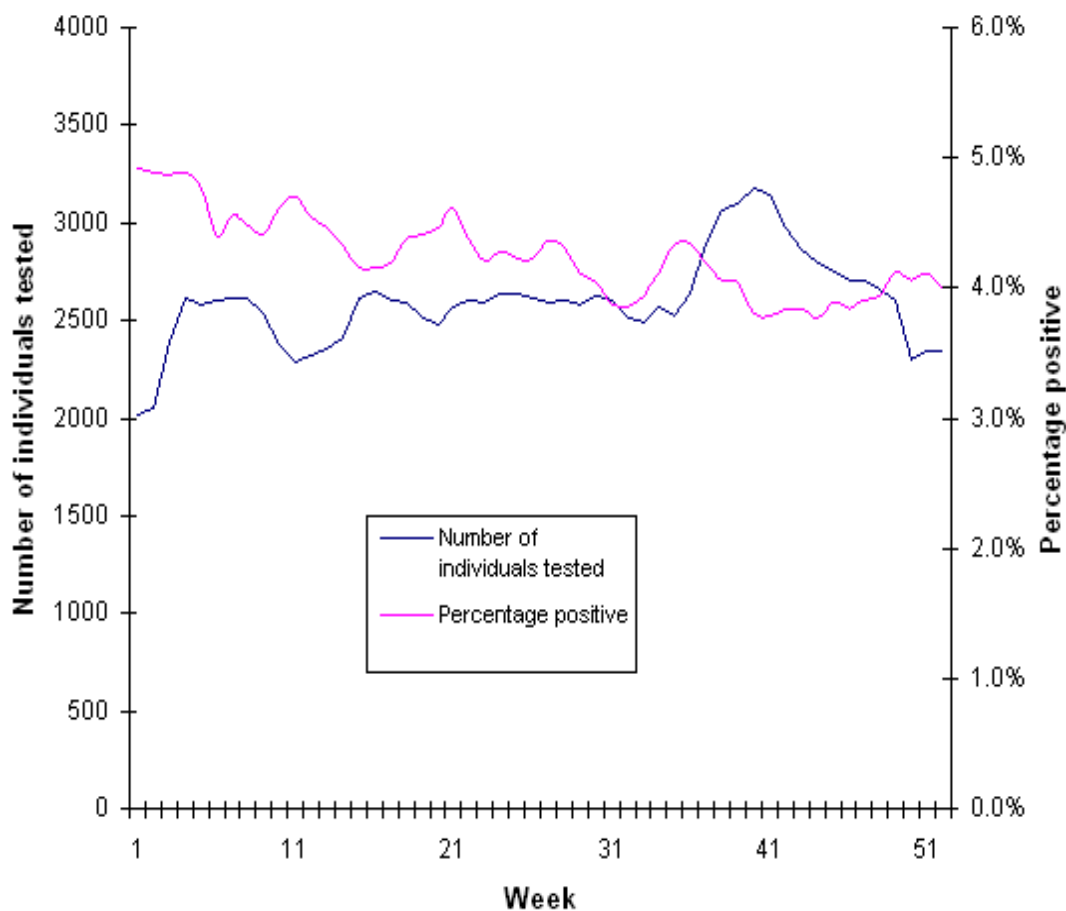
Age group	Female		Male		Unknown		Total	
	Number tested	Number positive (%)	Number tested	Number positive (%)	Number tested	Number positive (%)	Number tested	Number positive (%)
1-14	279	2 (0.7)	268	3 (1.1)	5	– (–)	552	5 (0.9)
15-24	4550	48 (1.1)	3693	36 (1.0)	166	– (–)	8409	84 (1.0)
25-34	5043	174 (3.5)	5569	272 (4.9)	156	5 (3.2)	10768	451 (4.2)
35-44	3784	156 (4.1)	5233	397 (7.6)	111	6 (5.4)	9128	559 (6.1)
45-54	2122	86 (4.1)	2963	250 (8.4)	55	2 (3.6)	5140	338 (6.6)
55-64	1565	44 (2.8)	1951	87 (4.5)	29	1 (3.4)	3545	132 (3.7)
≥65	1926	22 (1.1)	2308	39 (1.7)	24	2 (8.3)	4258	63 (1.5)
Unknown	23	1 (4.3)	34	4 (11.8)	37	– (–)	94	5 (5.3)
Total all age groups	19292	533 (2.8)	22019	1088 (4.9)	583	16 (2.7)	41894	1637 (3.9)

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 18 sentinel centres from which full data were available were compared for the fourth quarters of 2007 and 2008. In the period October to December 2008, 1355 of 34844 (3.9%) people tested were positive for anti-HCV, compared to 1462 of 30436 (4.8%) for the same period in 2007. This suggests a greater proportion of people at lower risk of infection were tested during the last quarter of 2008.

Figure 3 shows the five-weekly moving average for number of people tested for anti-HCV and percentage positive over the last year (January 2008 to December 2008 inclusive) for the 18 centres from which full data were available. Apart from a trough during the Christmas and Easter holiday periods, there was a slight increase in the number of people tested for anti-HCV up until week 36. Testing between weeks 36 to 41 showed a more marked increase which declined to previous levels by week 49. 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. An overall decline in the percentage positive over the past year is 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 January 2008 and December 2008. (Note difference in scales compared with figures 1 and 2)



References

1 Health Protection Agency. *Quarterly report from the sentinel surveillance study of hepatitis testing in England: data for July to September 2008 (quarter 3)*. *Health Protection Report* [serial online] 2006; **3**(4): immunisation. Available at: <http://www.hpa.org.uk/hpr/archives/2009/hpr0409.pdf>

Laboratory Invasive meningococcal infections, England and Wales: laboratory reports, weeks 40-52/2008

	Method of diagnosis						Cumulative* totals to week to week	
	CSF and blood Culture		Non-culture		Other sites		26/2008	26/2007
	2008	2007	2008	2007	2008	2007		
Group A	–	–	–	–	–	–	1	1
B	122	124	172	167	7	10	1024	1137
C	3	4	2	5	–	–	20	40
W135	4	8	2	2	–	–	16	34
X	–	–	–	–	–	–	–	1
Y	9	3	4	–	–	–	39	34
Z/29E	–	–	–	–	–	–	3	1
Ungroupable	–	–	–	–	1	–	2	2
Ungrouped	–	–	3	30	–	–	38	81
Total	139	139	183	204	8	10	1143	1331

* Source: Health Protection Agency Meningococcal Reference Unit.

Zoonoses

Common animal associated infections, England and Wales: laboratory reports, weeks 01-13/2009

Organism	Total reports for week 01- 13		Cumulative totals for weeks 01- 13	
	2008	2009*	2008	2009*
<i>Borrelia burgdorferi</i> *, #	109	98	109	98
<i>Leptospira hardjo</i> **,###	–	–	–	–
<i>Leptospira icterohaemorrhagiae</i> **,###	2	2	2	2
<i>Leptospira</i> other **, ###	7	3	7	3
<i>Pasteurella haemolytica</i>	–	–	–	–
<i>Pasteurella multocida</i>	1	81	1	81
<i>Pasteurella pneumotropica</i>	–	1	–	1
<i>Pasteurella</i> other/ spp	–	30	–	30
<i>Toxocara canis</i>	–	–	–	–
<i>Toxocara</i> other/ spp	–	–	–	–
<i>Toxoplasma gondii</i> §	2	13	2	13
<i>Coxiella burnetii</i>	4	8	4	8
<i>Chlamydia (Chlamydophila) psittaci</i>	–	12	–	12
<i>Capnocytophaga</i> spp	–	8	–	8
<i>Mycobacterium marinum</i>	–	5	–	5
Orf virus	–	–	–	–
<i>Echinococcus granulosus</i>	–	4	–	4

* Provisional data; ** By specimen date; # Lyme Diagnostic Unit and LabBase; ## LabBase only.

Borrelia burgdorferi (Lyme borreliosis): (109)

Age group	Female	Male	Unknown	Total: weeks 01- 13/2008	Cumulative total: weeks 01- 13/2008
<10	3	2	–	5	5
10-14	1	1	–	2	2
15-24	5	2	–	7	7
25-44	21	19	1	41	41
45-64	15	28	–	43	43
≥65	6	5	–	11	11
Not stated	–	–	–	–	–
Total weeks 01- 13/2009	51	57	1	109	109
Cum. total weeks 01- 13/2009	51	57	1	109	109

Country visited (First quarter reports)	Number of cases
France	1
Sweden	1
Czech Republic	1
USA (Eastern seaboard)	2
Poland	1
Slovakia	2
Other (unspecified)	2

Leptospirosis: (1)*Indigenous cases (1):*

Age group	Female	Male	Unknown	Total: weeks 01- 13/2009	Cumulative total: weeks 01- 13/2009
<10	–	–	–	–	–
10-14	–	–	–	–	–
15-24	–	–	–	–	–
25-44	1	1	–	2	2
45-64	2	1	–	3	3
≥65	–	1	–	1	1
Not stated	–	–	–	–	–
Total weeks 01- 13/2009	3	3	–	6	6
Cum. total weeks 01- 13/2009	3	3	–	6	6

Overseas acquired infections (3):

Age group	Female	Male	Unknown	Total: weeks 01- 13/2009	Cumulative total: weeks 01- 13/2009
<10	–	–	–	–	–
10-14	–	–	–	–	–
15-24	1	–	–	1	1
25-44	–	1	–	1	1
45-64	–	1	–	1	1
≥65	–	–	–	–	–
Not stated	–	–	–	–	–
Total weeks 01- 13/2009	1	2	–	3	3
Cum. total weeks 01- 13/2009	1	2	–	3	3

Countries visited: Antigua, Grenada and Samoa.

Pasteurella: (1)

Pasteurella haemolytica: (–)

Pasteurella multocida: (1)

Pasteurella pneumotropica: (–)

Pasteurella aerogenes: (–)

Pasteurella spp.: (–)

Age group	Female	Male	Unknown	Total: weeks 01- 13/2009	Cumulative total: weeks 01- 13/2009
<10	–	–	–	–	–
10-14	–	–	–	–	–
15-24	–	–	–	–	–
25-44	–	–	–	–	–
45-64	–	–	–	–	–
≥65	–	–	–	–	–
Not stated	–	–	–	–	–
Total weeks 01- 13/2009	–	1	–	1	1
Cum. total weeks 01- 13/2009	–	1	–	1	1

Toxocara: Nil report

Toxoplasmosis: The next *Toxoplasma* report will be published on 8 May.

Coxiella burnetii: (3)

Age group	Female	Male	Unknown	Total: weeks 01- 13/2009	Cumulative total: weeks 01- 13/2009
<10	–	–	–	–	–
10-14	–	–	–	–	–
15-24	–	–	–	–	–
25-44	–	–	–	–	–
45-64	–	2	–	2	2
≥65	–	2	–	2	2
Not stated	–	–	–	–	–
Total weeks 01- 13/2009	–	4	–	4	4
Cum. total weeks 01- 13/2009	–	4	–	4	4

Patients were reported by laboratories in the south west of England.

Chlamydia (Chlamydophila) psittaci: Nil report

Capnocytophaga spp: Nil report

Mycobacterium marinum: Nil report

Orf: Nil report

Echinococcus granulosus: Nil report