Public Health England

Health Protection Report
weekly report

Volume 8 Numbers 29 Published on: **25 July 2014**

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Transfusion transmitted infections, UK 2013

Details of possible transfusion-transmitted infection incidents that were investigated by the United Kingdom Blood Service in 2013 have been published in the latest Serious Hazards of Transfusion (SHOT) annual report [1].

The risks of a component potentially infectious for hepatitis B virus (HBV), hepatitis C virus (HCV) or HIV being released for use in the UK are very low. However, haemovigilance is maintained and investigations performed if a recipient is suspected of having been infected via transfusion.

UK Blood Service investigations in 2013 confirmed:

- one probable transfusion-transmitted HBV incident investigated in 2013 following a transfusion in 2012;
- one hepatitis E virus (HEV) transfusion-transmitted incident pending from a 2012 investigation;
- no proven bacterial transfusion-transmissions reported in 2013;
- one ‘near-miss' bacterial incident.

Bacterial contamination of a component remains possible despite screening of platelets and the Blood Service should be informed immediately of all adverse reactions and events, including those suspected of being the result of bacterial contamination of a component.

The UK Blood Service's Standing Advisory Committee on Transfusion Transmitted Infection (SACTTI) is alerted to any new infectious threats to the UK blood supply through a wide range of reporting mechanisms, and will commission risk assessments where necessary to inform decisions on whether action should be taken to protect the safety of the blood supply [2].

A retrospective hepatitis E virus (HEV) study – conducted jointly by NHSBT and Public Health England to address the growing concern about HEV and blood safety – detected high HEV-RNA incidence (0.03%) in blood donors in England at the time of donation. This was associated with HEV transmission to 42% of recipients, with eventual clearance confirmed in those cases where prolonged follow-up was possible [3].

The SHOT annual report [1] provides a fuller description of incidents investigated in 2013 and a cumulative table of UK TTIs between 1996 and 2013.

Further information is available from the NHSBT/PHE Epidemiology Unit at: epidemiology@nhsbt.nhs.uk.

References

1. Serious Hazards of Transfusion (SHOT) annual report, 9 July 2014. Available at: http://www.shotuk.org/shot-reports/report-summary-supplement-2013/

2. Joint UK Blood Transfusion and Tissue Transplantation Services Professional Advisory Committee (JPAC) Position Statement on Emerging Infections (June 2013).

3. Hewitt PE, Ijaz S, Brailsford SR, Brett R, Dicks S, Haywood B, *et al*. "Hepatitis E virus in blood components: a prevalence and transmission study in southeast England", *The Lancet* (in press).

Legionnaires' disease in England and Wales 2012

The latest annual report on Legionnaires Disease in residents of England and Wales has been published by Public Health England on the www.gov.uk website describing the epidemiological features of confirmed cases with onset of symptoms in 2012 [1,2].

A total of 309 confirmed cases of were reported in 2012 of which 54.9% were deemed to be community-acquired (a category which includes cases that may have been associated with travel within the UK) . Forty one per cent of all cases (127) were associated with travel abroad. Eleven cases (3.6%) were thought to have been healthcare-associated/nosocomial.

Cases associated with travel abroad fell as a proportion of all England-and-Wales cases – from 49% (116) of all cases in 2011 to 41% (127) in 2012. Sea cruises, and travel to Turkey and Greece ranked highly, taking account of the extent of travel/participation by England and Wales residents. However, in terms of absolute numbers, travel to Spain was the destination associated with the highest number of cases (41) in England and Wales residents.

Legionnaires' disease remains an important cause of both morbidity and mortality in England and Wales. The elderly continue to account for most infections and deaths, for which the age profile is heavily weighted to the over-sixties. Those aged between 60 and 69 account for the highest proportion of cases overall. At least one underlying condition/risk factor was found in 193 of the 306 cases in 2012. Heart disease is the most commonly recorded underlying condition followed by smoking, diabetes and immunosuppression.

Over recent years the overall case/fatality ratio has remained high and little-changed. By type of exposure, fatality rate is highest for nosocomial cases (25% in 2012), more than twice the rate for all-exposures (10%), and nearly five times the rate for cases linked to travel abroad (95% CI). Those aged 70 years and over show by far the highest fatality rate of any age group.

Cases were detected in all regions of England and PHE has published separate epidemiological reports for each area covered by its 16 Centres, and a report for Wales. These are mainly concerned with analyses of data relating to cases with onset of symptoms in 2012, but data describing trends over recent years are also presented.

Sixteen clusters/outbreaks were identified in England and Wales in 2012. During the three years 2010 to 2012 – for which time-averaged incidence data is presented in the report – two particular outbreaks were identified and investigated that impacted on peak incidence data: one in Wales in 2010 [3], and one in the West Midlands in 2012 [4].

References

1. Legionnaires' disease in England and Wales 2012, https://www.gov.uk/government/publications/legionnaires-disease-in-england-and-wales-2012.

2. PHE news story “Latest Legionnaires' disease data published for England and Wales”, at: https://www.gov.uk/government/news/latest-legionnaires-disease-data-published-for-england-and-wales.

3. Public Health Wales report on “Heads of the Valleys” LD outbreak, *HPR* **6**(31), August 2011.

4. HSE notice on management of legionella risks following Stoke-on-Trent outbreak, *HPR* **7**(32), August 2012.

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Infection Reports

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- Laboratory reports of hepatitis A infection, and hepatitis C, England and Wales, 2013
- Annual report from the sentinel surveillance study of blood borne virus testing in England: data for January to December 2013
- Appendix to the annual report from the sentinel surveillance study of blood borne virus testing in England (supplementary tables and map of surveillance centres) *

* Published 29 July.

Infection reports
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Immunisation

Laboratory reports of hepatitis A infection, and hepatitis C: 2013

1. Laboratory reports of hepatitis A infection: 2013

During 2013, there were 283 confirmed laboratory reports of hepatitis A virus (HAV) infection in England and Wales (table 1). The greatest number of reports were among the 25 to 34 years age group (n=53), no cases of hepatitis A were reported in the under-1-year of age group. More reports were received for females than males during the second and third quarter of 2013, with more reports among males during the fourth quarter, and the same number of reports received for female and males during the first quarter (table 1).

Table 1. Laboratory reports of hepatitis A by age, sex, and quarter, England and Wales, 2013*

Age group (years)	Q1 Jan-Mar			Q2 Apr-Jun			Q3 Jul-Sep			Q4 Oct-Dec			Total
	Female	Male	NK	Female	Male	NK	Female	Male	NK	Female	Male	NK	
<1	0	0	0	0	0	0	0	0	0	0	0	0	0
1 to 4	1	1	0	5	2	0	0	1	0	1	0	0	11
5 to 9	0	5	0	6	5	0	3	2	0	6	3	0	30
10 to 14	1	4	0	4	4	0	4	1	0	2	3	0	23
15 to 24	7	5	0	6	2	0	9	3	0	3	5	0	40
25 to 34	4	8	0	17	8	0	3	5	0	2	6	0	53
35 to 44	5	2	0	4	4	0	1	2	0	2	3	0	23
45 to 54	2	2	0	5	0	0	0	3	0	4	6	0	22
55 to 64	6	5	0	0	0	0	4	2	0	4	4	0	25
≥65	10	4	0	11	5	0	10	3	0	4	8	0	55
NK	0	0	0	0	0	0	0	0	0	0	0	1	1
Total	**36**	**36**	**0**	**58**	**30**	**0**	**34**	**22**	**0**	**28**	**38**	**1**	**283**

* Due to late reporting, numbers for each quarter may have changed slightly since their HPR quarterly reports.

The number of laboratory reports by PHE Centre is presented below. Reports were assigned to a PHE Centre according to i) the patient's place of residence ii) the postcode of the patient's registered GP practice, iii) the postcode of the source laboratory. In 2013, the greatest number of hepatitis A reports were from the London (n=91) and West Midlands (n=29) regions (table 2). The comparatively high number of reports from London and the West Midlands was consistent with previous years. Overall, there was a similar number of reports received during 2013 (n=283) compared to 2012 (n=288).

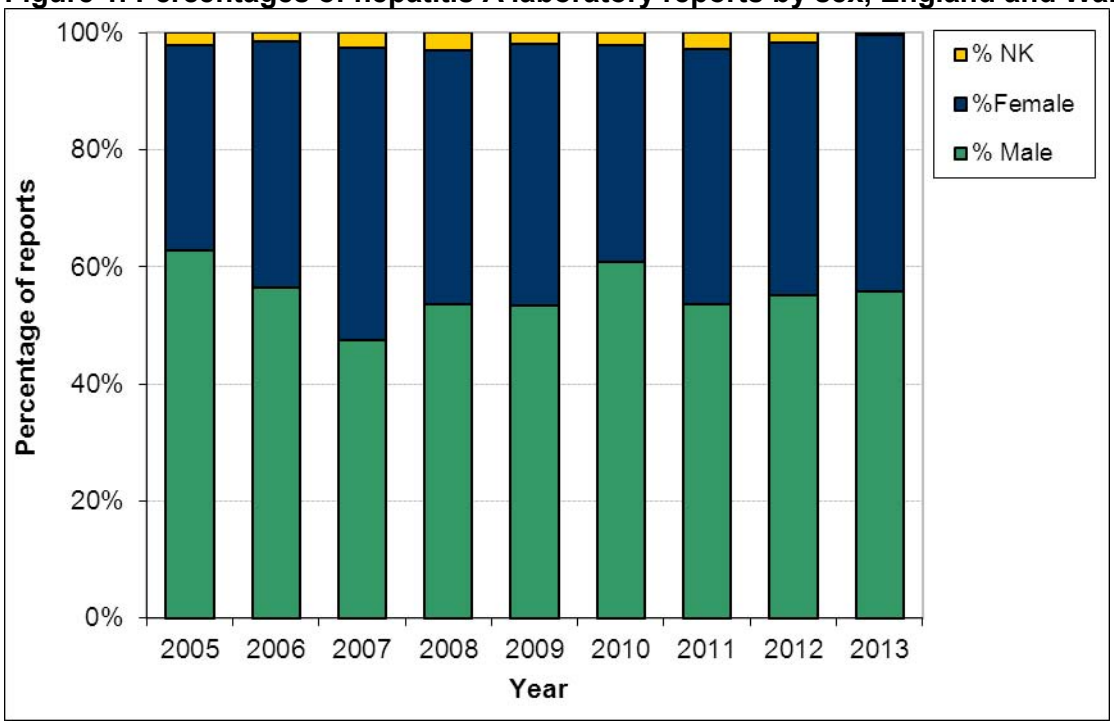
The overall trend has been a decline in the number of reports since 2005. The increased number of reports during 2010 was due to unrelated outbreaks of hepatitis A in the London and the South West regions. Due to the small number of laboratory reports per PHE Centre for all centres apart from London trends in sub-national data over time should be interpreted with caution.

Table 2. Laboratory reports of hepatitis A by PHE Centre, England and Wales (2005-2013)

PHE Centre	Year								
	2005	2006	2007	2008	2009	2010	2011	2012	2013
Anglia & Essex	27	22	24	23	28	25	17	17	17
Avon, Gloucestershire & Wiltshire	27	24	23	20	11	23	7	6	14
Cheshire & Merseyside	33	14	5	5	11	10	5	7	9
Cumbria & Lancashire	34	18	5	14	13	15	4	5	12
Devon, Cornwall & Somerset	12	10	7	6	8	15	3	9	8
East Midlands	25	14	13	17	11	8	6	7	8
Greater Manchester	69	38	53	29	40	31	15	16	13
Kent, Surrey & Sussex	15	14	19	24	30	17	23	23	15
London	29	47	50	54	54	72	69	72	91
North East	31	12	14	5	8	12	10	13	10
South, Midlands & Hertfordshire	18	19	7	13	13	11	7	7	6
Thames Valley	8	11	10	35	14	9	14	9	11
Wessex	16	10	6	11	12	12	8	9	10
West Midlands	58	66	71	67	59	63	41	44	29
Yorkshire & Humber	67	54	36	27	34	40	23	36	19
Wales	16	25	20	10	12	9	5	8	11
Total	**485**	**398**	**363**	**360**	**358**	**372**	**257**	**288**	**283**

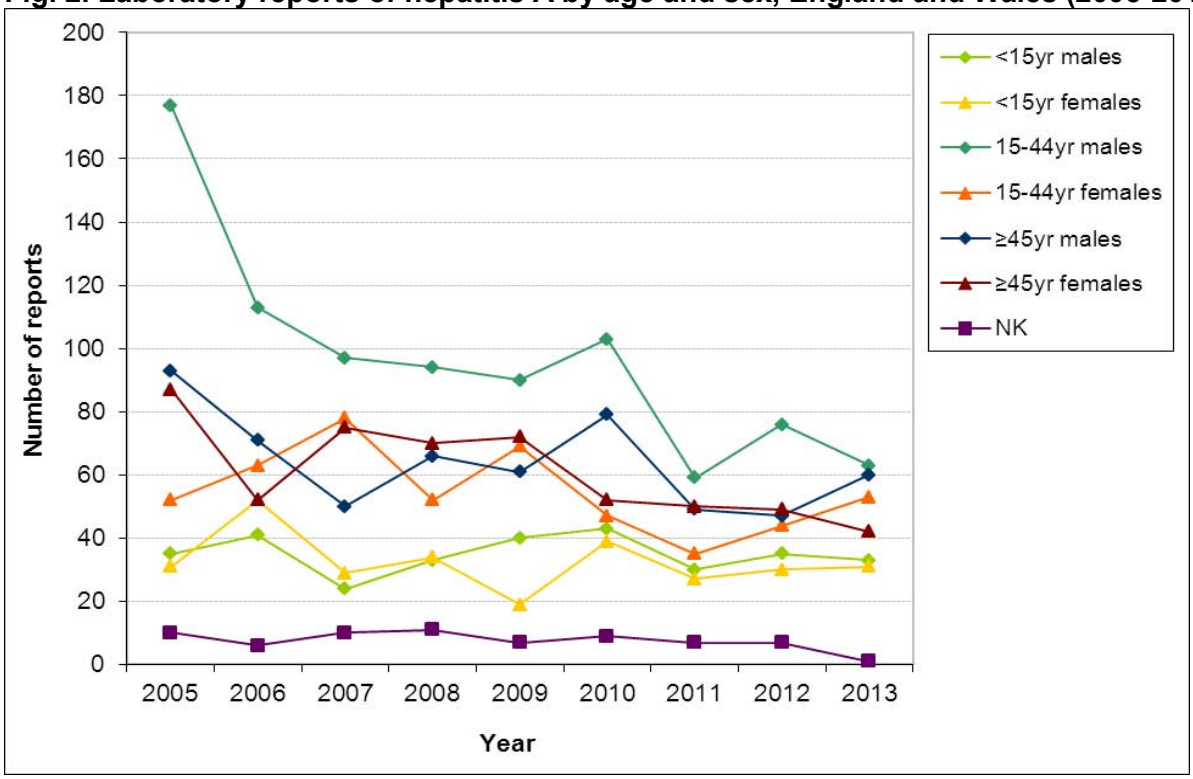
Age and gender were well completed each year (>96% complete) (figure 1). Where known, males accounted for 56% (156/280) of reports during 2013 (figure 1). As reported last year, since 2005 the majority of reports were among males for all years excluding 2007 (figure 1). The proportion of reports among males has varied slightly each year; overall males have accounted for 57% of hepatitis A laboratory reports during this period (range 49-64%).

Figure 1. Percentages of hepatitis A laboratory reports by sex, England and Wales (2005-2013)



In 2013, the number of reports received from 15 to 44 year old males declined compared to 2012, whereas the number of reports received from males 45 years and over increased (figure 2). In comparison previously reported increase in the number of reported received from 15 to 44 year old females was sustained. During 2013, males accounted for 69% of reports among the 45 years and over age group, 54% of reports in the 15 to 44 age group, and 52% of reports in the under 15 years age group. In comparison during 2012 males accounted for 63% of reports in the 15 to 44 years age group.

Fig. 2. Laboratory reports of hepatitis A by age and sex, England and Wales (2005-2013)



As reported previously, there was no risk factor information reported for anything other than recent travel in 2013. Travel history was available for only 14% of reported cases, compared to 2012 when 21% had a known travel history (table 3). Overall, risk factor information including travel history remains rare, which limits the conclusions that can be drawn from these data. More complete risk factor information would enable a better understanding of the current epidemiology of hepatitis A virus infection in England and Wales.

Table 3. Trends in hepatitis A laboratory reports, England and Wales (2005-2013)

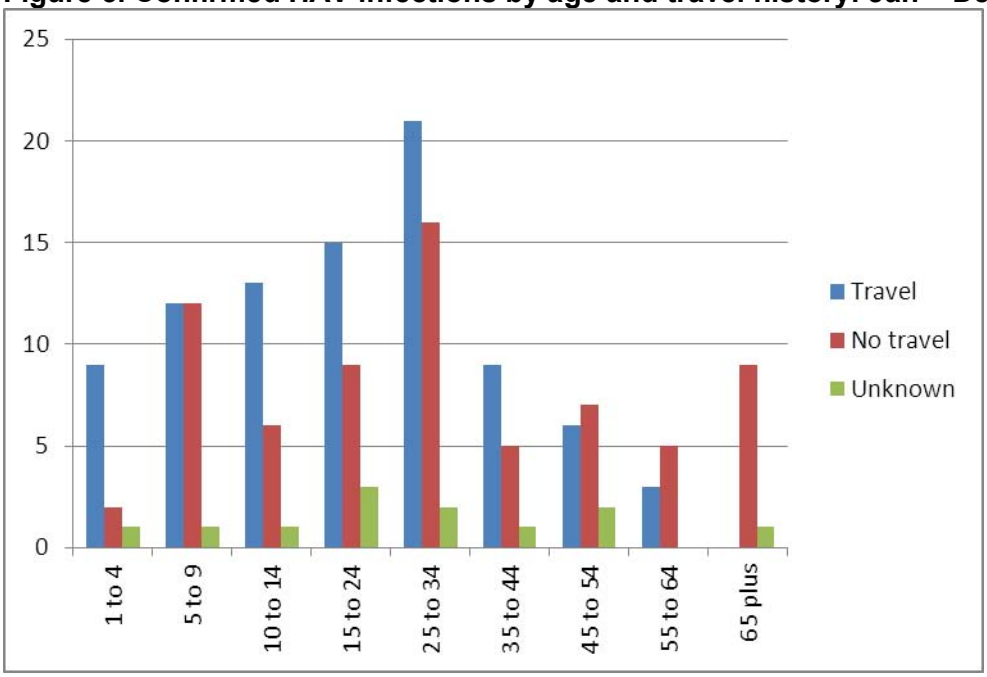
Year	2005	2006	2007	2008	2009	2010	2011	2012	2013
Number of reports	**485**	**398**	**363**	**360**	**358**	**372**	**257**	**288**	**283**
Number (%) aged 15-44 years	236 (48%)	181 (46%)	178 (50%)	151 (43%)	161 (46%)	154 (42%)	96 (38%)	120 (43%)	116 (43%)
Number (%) male	305 (63%)	225 (57%)	172 (47%)	193 (54%)	191 (53%)	226 (61%)	138 (54%)	159 (56%)	156 (55%)
Number (%) with travel history	15 (3.1%)	37 (9.3%)	49 (13.5%)	58 (16.4%)	61 (17.3%)	64 (17.4%)	58 (23%)	58 (21%)	41 (14%)

Reference laboratory confirmation and phylogeny of hepatitis A infection: 2013

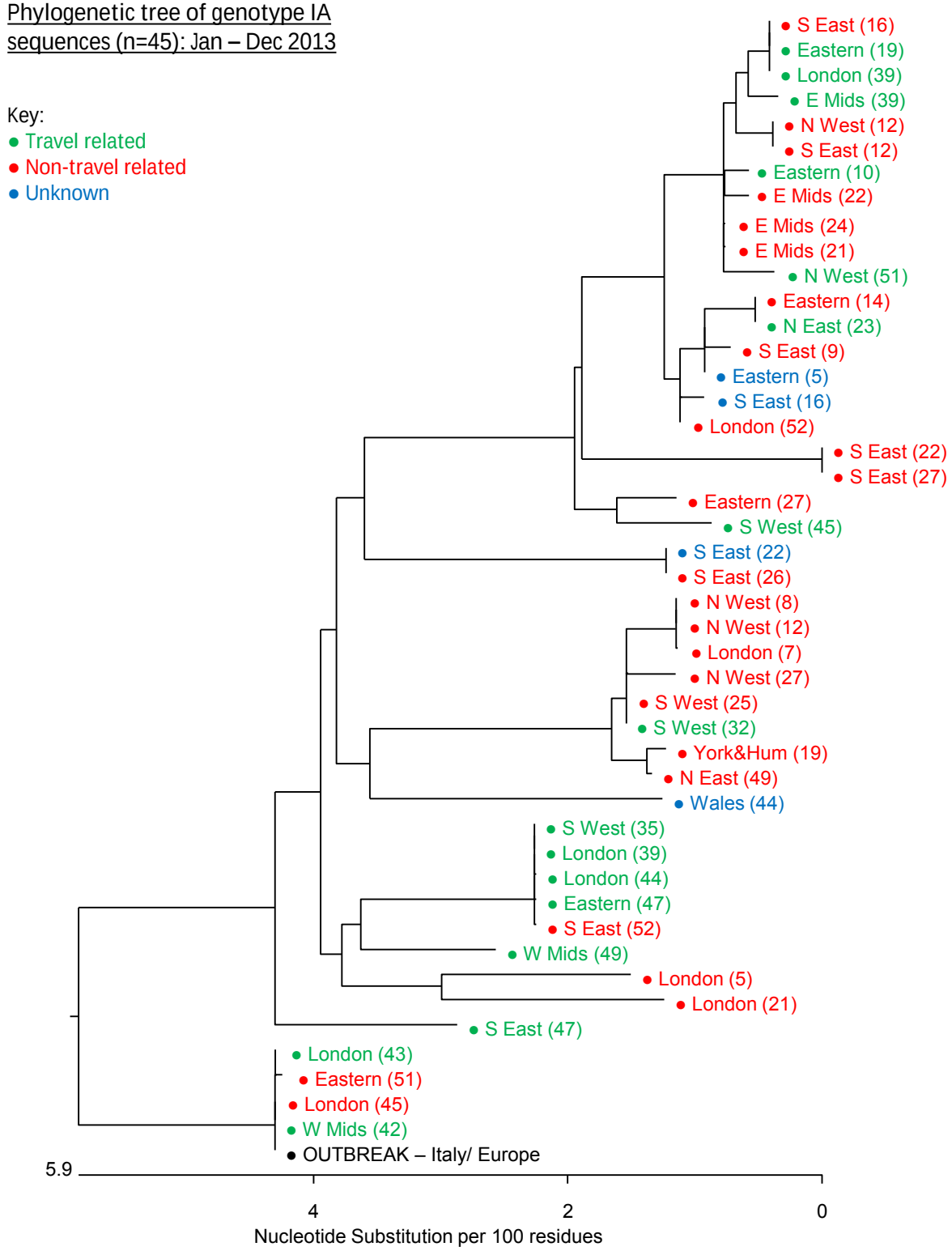
Of the 283 laboratory reports of acute HAV infection during 2013, 195 (68.9%) had samples forwarded to the Virus Reference Department (VRD) for confirmation by serology or by HAV RNA or by both. Of the 88 (31.1%) cases who did not have a sample forwarded to VRD for confirmation, one was a duplicate entry and 10 had samples forwarded for HEV testing, one of which was confirmed as a case of acute HEV infection.

Acute HAV infection was not confirmed in 29.7% (58/195) of the forwarded samples. The remaining 137 (70.3%) cases were confirmed to have acute HAV infection. In addition 34 cases were confirmed to have acute HAV infection that had not been reported through the laboratory reporting system although, with the exception of one case from Wales, they were recorded in HPzone. Of the 171 confirmed cases, 88 (51.5%) reported a travel history, 70 (40.9%) had no travel history and 13 (7.6%) had no information. The age of the cases ranged from 1 to 78 years of age with travel associated infections peaking in young adults and then declining with older age.

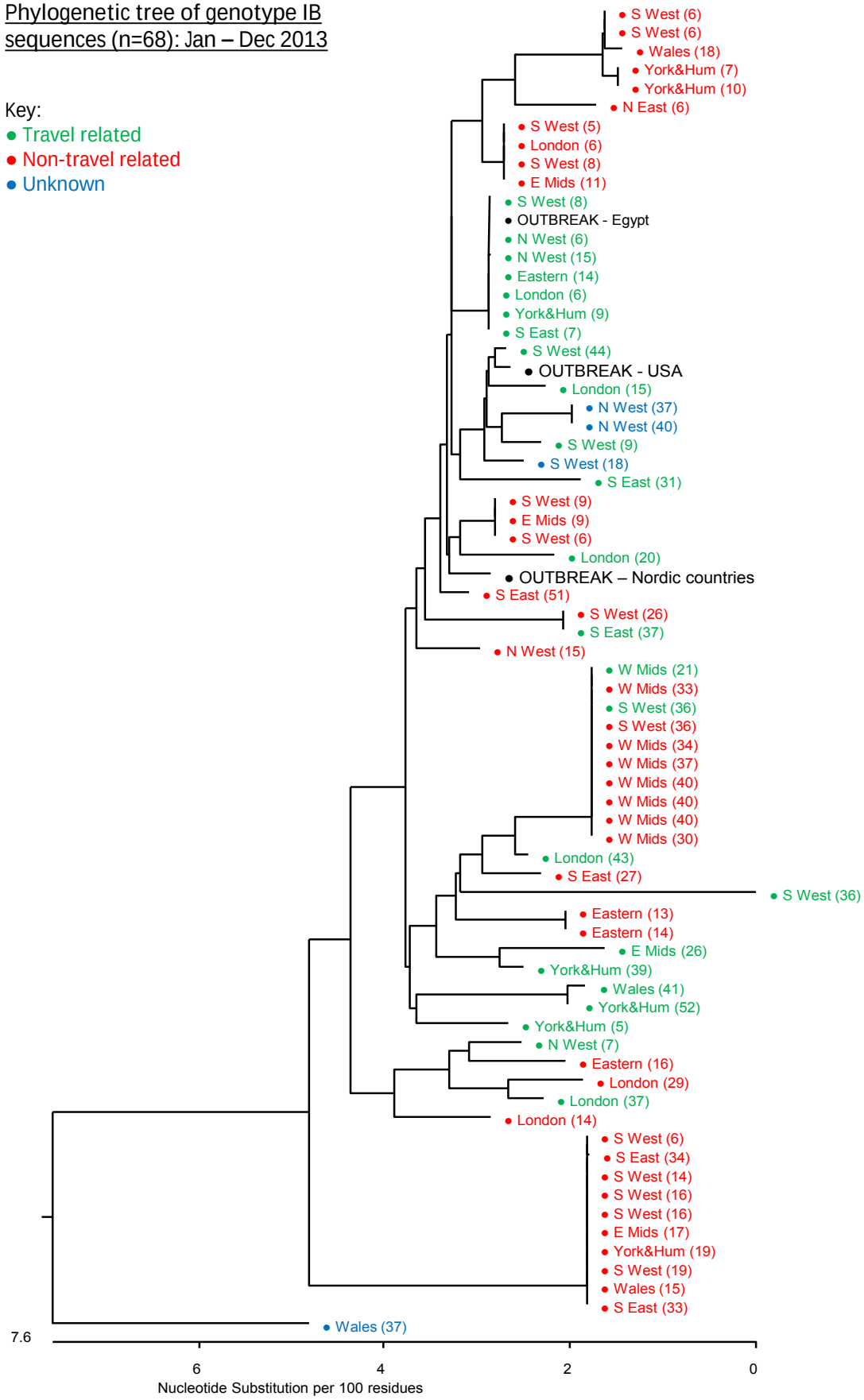
Figure 3. Confirmed HAV infections by age and travel history: Jan – Dec 2013



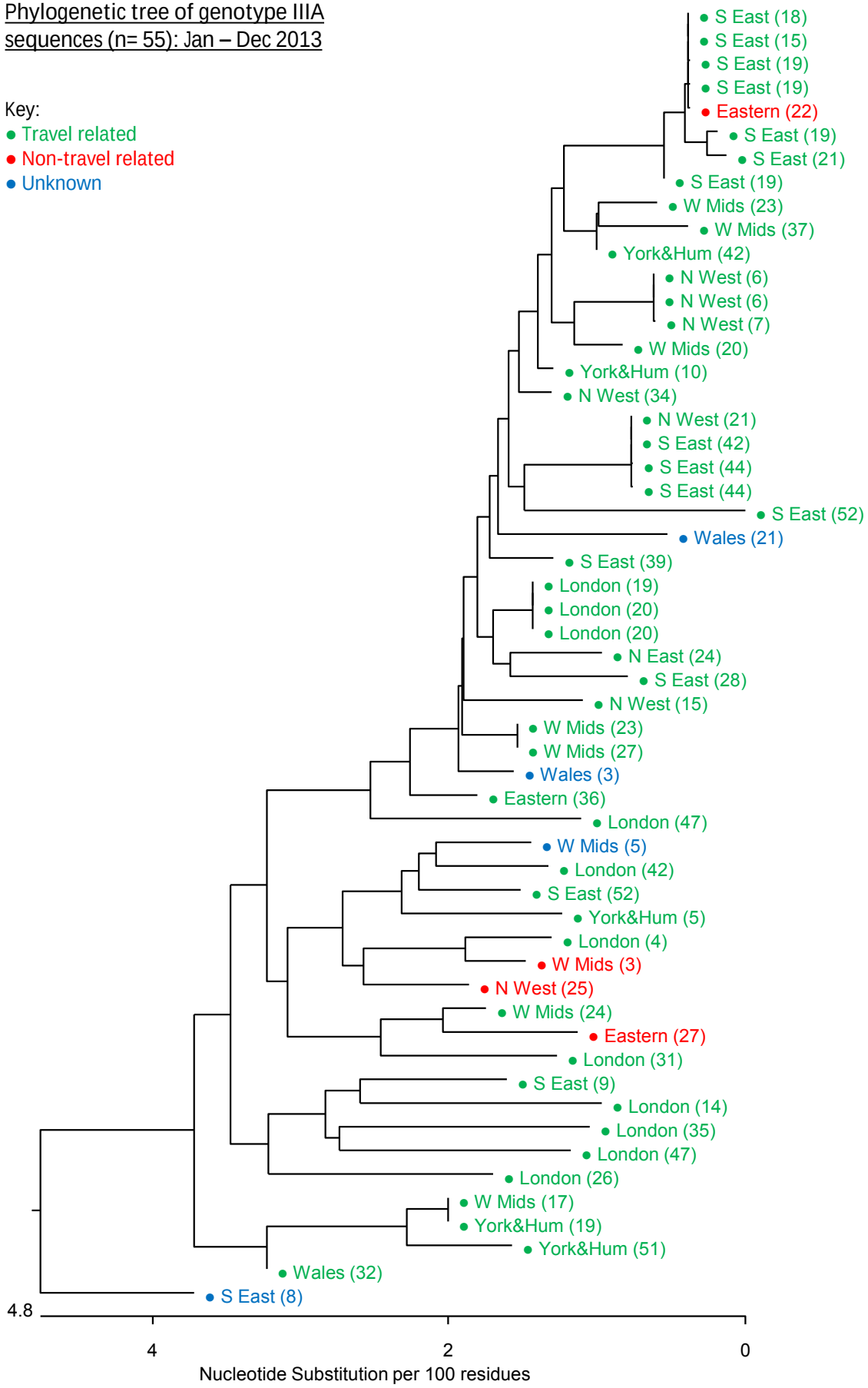
It was possible to genotype samples from 168 cases of the 171 confirmed infections; 45 (26.8%) were genotype IA, 68 (40.5%) were genotype IB and 55 (32.7%) were genotype IIIA. This sequence information for each genotype is presented as phylogenetic trees. Each sequence is represented by a dot with the patient region and the week of sampling in brackets.



Just over half of the cases with genotype IA had no travel history (25/45, 55.5%). During 2013 there was a large European outbreak involving genotype IA which was first identified in Italy [1]. The strain involved in this outbreak was observed in four cases reported in England, two who had travelled to Italy and two who had no travel history. One other sequence was observed in five cases reported in England; this strain has commonly been seen in Eastern Europe [2] and four of these individuals reported travel to countries in this region.



As with genotype IA the majority of genotype IB samples had no travel history (40/68, 58.8%). During 2013 there were three international outbreaks involving different IB strains, one affecting travellers to Egypt [3], one food-borne outbreak in the USA [4] and one food-borne outbreak affecting the Nordic countries [5]. England and Wales were only affected by the Egyptian outbreak with seven patients returning from holiday infected by the outbreak strain. Nationally there were two outbreaks affecting multiple individuals who had no travel history. The first was a community outbreak mainly in the West Midlands with 10 cases where the most likely source was a non-immune traveller returning from Kenya. The second cluster comprised10 cases in England and Wales and also cases in Ireland and Scotland; the source was never identified.



In contrast to genotypes IA and IB, the majority of cases with genotype IIIA had a travel history (47/55, 85.5%). There were no international outbreaks involving genotype IIIA during 2013 but there were at least five outbreaks in England caused by non-immune travellers most of whom were children. Each of these outbreaks could have been prevented by pre-holiday immunisation but travellers may not perceive themselves to be at risk if they grew up in an endemic area and are travelling “home” to visit friends and relatives [6].

Summary

Typing of hepatitis A virus is an invaluable tool and has increased our understanding of the molecular epidemiology of the virus; this is only possible by the continued submission of samples by laboratories from both travel associated and non-travel associated cases. It is clear that there are significant numbers of non-travel related cases which may indicate that contaminated food stuffs may be a common occurrence than is thought and our ability to determine the origins of these non-travel associated strains is based on typing of strains from cases with a known travel history. Typing has also enabled seemingly unrelated cases to be linked and has identified numerous clusters over the year. All laboratories should send hepatitis A serum samples to PHE Colindale's Virus Reference Department for confirmation.

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2. Laboratory reports of hepatitis C: 2013

During 2013, there were 11,692 confirmed laboratory reports of hepatitis C in England and Wales (table 1). The demographic breakdown of individuals with reported hepatitis C per quarter was relatively consistent with more reports among males and in the 25 to 54 years old age group.

Table 1. Laboratory reports of hepatitis C by age, sex, and quarter, England and Wales, 2013*

Age group (years)	Q1 Jan-Mar			Q2 Apr-Jun			Q3 Jul-Sep			Q4 Oct-Dec			Total
	Female	Male	NK	Female	Male	NK	Female	Male	NK	Female	Male	NK	
<1	3	3	0	3	3	0	2	6	0	4	3	0	27
1 to 4	1	3	0	1	1	0	1	5	1	1	1	0	15
5 to 9	0	1	0	1	0	0	1	1	0	1	2	0	7
10 to 14	1	1	0	0	6	0	0	1	0	1	3	0	13
15 to 24	72	72	3	64	88	4	60	71	4	59	59	3	559
25 to 34	264	466	13	302	520	12	260	468	17	247	457	11	3,037
35 to 44	239	611	11	251	661	16	203	624	12	196	571	12	3,407
45 to 54	167	503	13	172	507	7	169	483	5	186	501	8	2,721
55 to 64	81	219	6	133	217	0	104	227	2	89	212	3	1,293
≥65	56	69	2	53	73	2	59	85	1	51	62	1	514
NK	6	6	6	3	8	33	7	13	4	2	8	3	99
Total	**890**	**1,954**	**54**	**983**	**2,084**	**74**	**866**	**1,984**	**46**	**837**	**1,879**	**41**	**11,692**

* Laboratory reports are not reliable for differentiating acute and chronic infections. Due to late reporting, numbers for each quarter may have changed slightly since their HPR quarterly reports.

Overall, there was a 12% increase in the number of reports received during 2013 compared to 2012 (11,692/11,360).

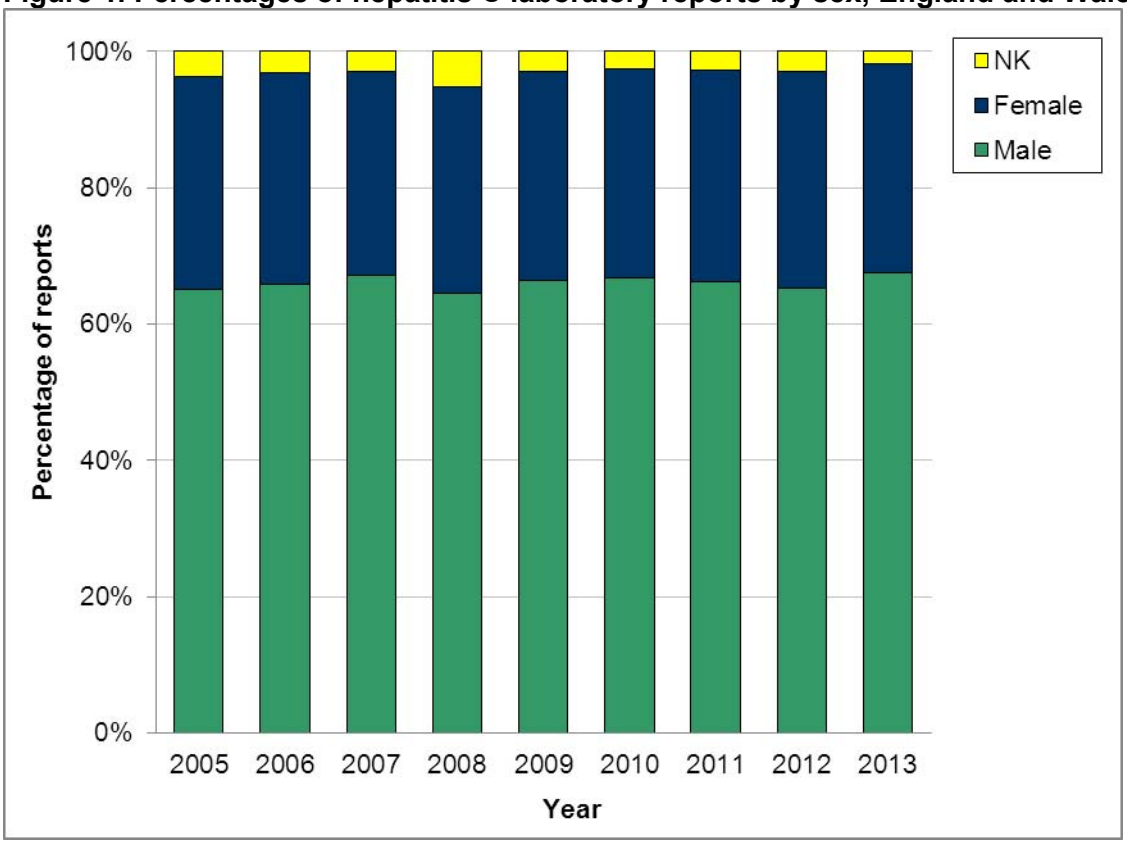
The number of laboratory reports by PHE Centre is presented below. Reports were assigned to a PHE Centre according to i) the patient's place of residence ii) the postcode of the patient's registered GP practice, iii) the postcode of the source laboratory. During 2013, the greatest number of hepatitis C reports were received from the London (n=3,079) and Yorkshire and Humber (n=1,453) PHE Centres (table 2). The comparatively high number of reports from these regions was consistent with previous years.
Apart from 2010, the overall trend is of a year on year increase in the number of hepatitis C reports. This may be due to in part to more complete reporting and/or more targeted testing of individuals.

Table 2. Laboratory reports of hepatitis C by region, England and Wales (2005-2013)

PHE Centre	Year								
	2005	2006	2007	2008	2009	2010	2011	2012	2013
Anglia & Essex	482	500	500	566	499	447	533	522	507
Avon, Gloucestershire & Wiltshire	296	515	693	661	595	285	484	687	511
Cheshire & Merseyside	447	442	410	318	320	287	243	234	403
Cumbria & Lancashire	448	412	497	499	639	556	517	527	486
Devon, Cornwall & Somerset	214	219	237	300	244	273	275	284	298
East Midlands	439	258	395	590	578	507	672	669	542
Greater Manchester	608	518	838	848	1,189	1,014	790	1,072	1,103
Kent, Surrey & Sussex	217	257	569	663	752	752	871	887	715
London	807	1,193	1,015	962	848	954	1,998	2,754	3,079
North East	283	247	140	168	272	296	298	299	361
South Midlands & Hertfordshire	168	181	202	226	204	155	313	235	191
Thames Valley	29	34	127	298	253	270	207	264	255
Wessex	262	237	196	277	301	325	435	341	331
West Midlands	574	490	612	674	864	783	770	739	777
Yorkshire & Humber	1,021	1,456	1,372	1,346	1,090	980	1,511	1,371	1,453
Wales	277	318	325	481	342	309	477	475	680
Total	**6,572**	**7,277**	**8,128**	**8,877**	**8,990**	**8,193**	**10,394**	**11,360**	**11,692**

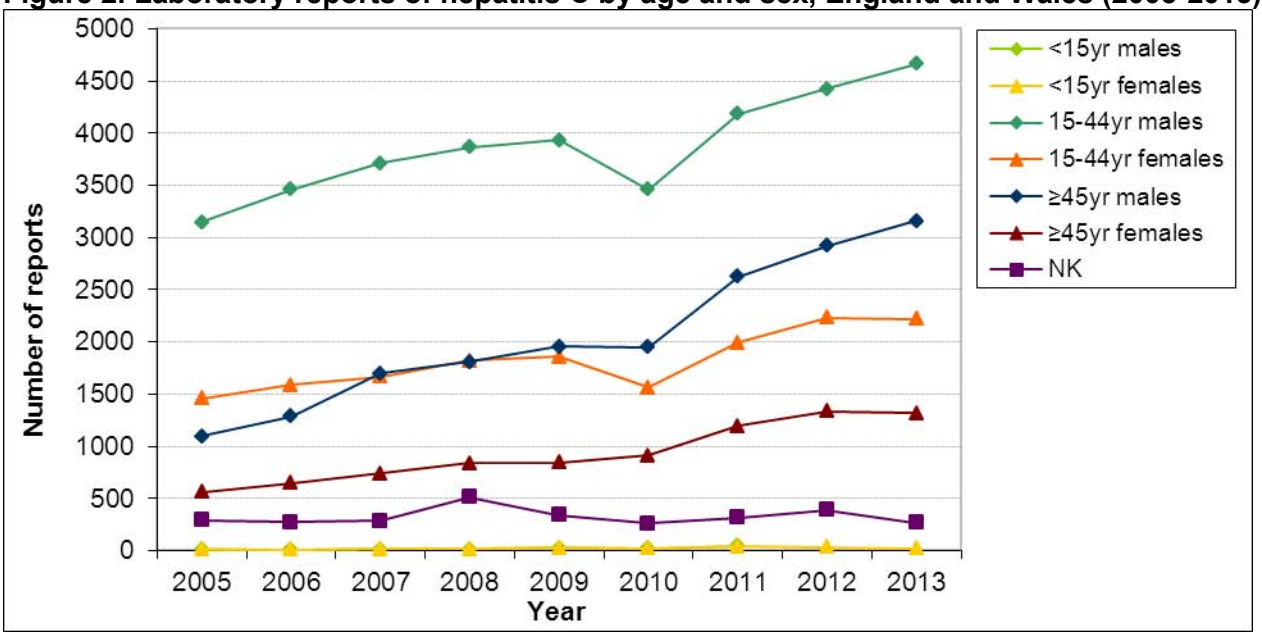
Age and gender were well completed each year (>94% complete) (figure 1). Where known, males accounted for 69% (7,901/11,477) of reports during 2013 which was consistent with previous years (figure 1). In total, males have accounted for 68% of reports during this period.

Figure 1. Percentages of hepatitis C laboratory reports by sex, England and Wales (2005-2013)



During 2013, where known 60% of hepatitis C reports were among the 15 to 44 year old age group, a further 39% were among the 45 over age group with under 1% of reports among the under 15 years old age group. Since 2005 the highest number of reports has consistently been in the 15 to 44 year age group (figure 2). However there has been a year on year decline in the proportion of hepatitis C reports among the 15 to 44 year old age group and a corresponding increase in reports among the 45 years and over age group. The proportion of reports among the under 15 years old age group has remained low at less than 1% per year.

Figure 2. Laboratory reports of hepatitis C by age and sex, England and Wales (2005-2013)



Infection reports

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Immunisation

Annual report from the sentinel surveillance study of blood borne virus testing in England: data for January to December 2013

The sentinel surveillance of blood borne virus testing began in 2002, with the aim of supplementing the routine surveillance of hepatitis. Information on the testing carried out in participating centres is collected irrespective of test result and can therefore also be used as a basis for estimating prevalence among those tested. These data have enhanced our knowledge and understanding of hepatitis testing, in terms of who is being tested and from which service types individuals are accessing testing, and also in interpreting trends in the number of positive individuals identified over time. In 2013, sentinel surveillance captured front-line testing for hepatitis A, B, C and HIV among 13 out of 15 PHE Centres in England, covering approximately 40% of the population, and over 80% of the population from all 15 PHECs tested for hepatitis D, E and HTLV (see map of surveillance centres in 2013 in appendix).

This report provides summary data for individuals who were first reported to the sentinel surveillance programme during 2013. Sections 1 to 7 describes testing and demographic information for individuals tested by venepuncture for hepatitis A to E, HIV, and HTLV. Section 8 describes dried blood spot testing [1] of hepatitis B, C and HIV, and section 9 describes oral fluid testing of hepatitis B, C and HIV.

The supplementary tables referred to in this report are contained in the appendix that follows.

1. Hepatitis A IgM testing

In 2013, 22 participating centres supplied hepatitis A-specific IgM antibody (anti-HAV IgM) testing data (a marker of acute infection). Overall 29,085 individuals were tested for anti-HAV IgM, of whom 124 (0.4) tested positive (*supplementary table 1*). The age and gender of individuals tested was well reported (>99.7% complete). Where known, more males (55.4%) were tested than females. Just over half of all individuals tested and one-third of those who tested positive were aged between 25 and 54 years old (*supplementary table 2*). The median age of individuals undergoing testing was 46.1 years (IQR 30.9 – 61.6) whereas the median age of individuals testing positive was 32.8 years (IQR 20.6 – 66.5). As seen in previous years, the greatest proportion positive was among children aged 1-14 years (3.6%).

The type of service which requested the hepatitis test was identified using the record location of the requestor (table 1). Where known (n=29,059), general practice tested the greatest proportion of individuals for anti-HAV IgM (54.5%), with a further 17.5% tested in other known hospital wards, and 11.0% tested in general medical surgical wards. The highest proportion of positive tested were from occupational health services (3.8%), and paediatric services (2.1%).

A combination of self-reported ethnicity and name analysis software was used to classify most individuals tested for anti-HAV IgM as belonging to one of four broad ethnic groups (n=28,280) (*supplementary table 3*). Where known, the majority of individuals were classified as being of white or white British ethnic origin (83.2%), a further 12.4% were classified as Asian or Asian British origin, 2.7% were classified as other and/or mixed ethnic origin, and 1.7% were classified as black or black British origin. The greatest proportion positive was among individuals of Asian or Asian British origin (1.1%).

Table 1. Number of individuals tested, and testing positive for anti-HAV IgM in participating centres by service type, January – December 2013*

Service type	Number tested	Number positive (%)
Primary Care		
Accident and emergency	922	17 (1.8)
Drug dependency services	40	0 (0.0)
General practitioner	15,828	43 (0.3)
GUM clinic	372	0 (0.0)
Occupational health	26	1 (3.8)
Prison services	566	3 (0.5)
Total primary care	17,754	64 (0.4)
Secondary Care		
Antenatal	462	0 (0.0)
Fertility services	15	0 (0.0)
General medical / surgical departments	3,192	21 (0.7)
Obstetrics and gynaecology	265	1 (0.4)
Other ward type (known service)†	5,099	15 (0.3)
Paediatric services	776	16 (2.1)
Renal	220	1 (0.5)
HIV	72	0 (0.0)
Specialist infectious disease services	971	2 (0.2)
Unspecified ward§	233	4 (1.7)
Total secondary care	11,305	60 (0.5)
Unknown#	26	0 (0.0)
Total	**29,085**	**124 (0.4)**

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

† Other ward types includes cardiology, coroner, dermatology, haematology, ultrasound, x-ray.

§ These are hospital services which are currently being investigated to identify specific service type, and may include any of the secondary care services mentioned above.

These services are currently being investigated to identify specific service type, where possible.

2. Hepatitis B surface antigen testing

Sentinel surveillance collects data on testing for hepatitis B surface antigen (HBsAg). 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

In 2013, 72,832 women aged between 12 and 49 years old were identified as undergoing antenatal screening for HBsAg, representing 25.0% of all individuals tested for HBsAg in participating sentinel centres *(supplementary table 4)*. Overall 267 (0.4%) of these women tested positive. The median age of women tested was 29.2 years (IQR 24.7– 33.2) and the median age of women testing positive was 29.0 years (IQR 25.3 – 32.2).

Among the 267 HBsAg positive women identified, 251 (94.0%) had HBeAg results available, and of these, 10.4% were HBeAg positive (table 2). Most women who underwent antenatal screening were classified as belonging to one of four broad ethnic groups (n= 71,476) (table 2). The majority of individuals were classified as being of white or white British ethnic origin (80.6%), a further 13.4% were classified as Asian or Asian British origin, 3.8% were classified as other and/or mixed ethnic origin, and 2.2% were classified as black or black British origin. The proportion testing positive was higher among women of black or black British origin and other and/or mixed origin (2.4% and 2.2% respectively) than women of Asian or Asian British origin and white or white British origin (0.5% and 0.2% respectively).

The proportion of HBeAg positive women also differed by ethnic group with 26.8% of other and/or mixed ethnic origin women testing positive compared to 5.4% of white or white British women, 5.3% of black or black British women and 6.4% of Asian or Asian British women.

Table 2. Number of antenatal women tested and testing positive for HBsAg, and number of HBsAg positive women tested and testing positive for HBeAg by ethnic group, January – December 2013*

Ethnic group	Number tested HBsAg	Number positive (%)	Number HBsAg positive tested for HBeAg	% HBsAg positive tested	Number HBeAg positive (%)
Asian or Asian British origin	9,591	49 (0.5)	47	95.9	3 (6.4)
Black or black British origin	1,581	38 (2.4)	38	100.0	2 (5.3)
Other and/or mixed origin	2,686	59 (2.2)	56	94.9	15 (26.8)
White or white British origin	57,618	103 (0.2)	93	90.3	5 (5.4)
Unknown ethnic origin	1,356	18 (1.3)	17	94.4	1 (5.9)
Total	**72,832**	**267 (0.4)**	**251**	**94.0**	**26 (9.7)**

* Excludes dried blood spot testing, oral fluid testing, reference testing and testing from hospitals referring all samples. Only women aged 12-49 years old are included. Data are de-duplicated subject to availability of date of birth, soundex and first initial. All data are provisional.

b. Non-antenatal HBsAg testing

In 2013, 218,554 individuals were tested at least once for HBsAg, excluding antenatal screening, in 22 participating sentinel centres. Overall, 2,491 (1.1%) of individuals tested positive, although this varied by PHEC with the highest proportion of positive tests in London (1.5%) *(supplementary table 5)*. This may reflect more targeted testing of risk groups and/or genuinely higher prevalence of hepatitis B in people being tested in this PHEC.

The age and gender of individuals tested for HBsAg was well reported (>98.9% complete). Where known, slightly more males (52.8%) were tested compared to females (*supplementary table 6*). The number of females tested may include some undergoing routine antenatal screening who could not be identified as such from the information provided. Males had a greater proportion testing positive compared to females (1.5% vs 0.8% $p<0.001$). Almost half of all individuals tested and three fifths of individuals testing positive were aged between 25 and 44 years old. The median age of individuals tested was 34.6 years (IQR 26.2 – 49.2) whereas the median age of individuals testing positive was 35.2 years (IQR 27.7 – 44.9).

Where known (n=218,119), general practice tested the greatest proportion of individuals for HBsAg (29.8), with a further 25.4% tested in GUM clinics, and 14.9% tested in other known hospital wards (table 3). The highest proportion of positive tests were among specialist HIV services, unspecified ward and specialist liver services (2.2%, 1.8% and 1.8% respectively).

Three-quarters of individuals tested for HBsAg were classified as belonging to one of four broad ethnic groups (n=155,103) (table 4). The majority of individuals were classified as being of white or white British ethnic origin (76.6%), a further 16.6% were classified as Asian or Asian British origin, 4.1% were classified as other and/or mixed ethnic origin, and 2.7% were classified as black or black British origin. Most individuals of unknown ethnic origin were tested by GUM clinics, from which only minimal demographic data are available, resulting in poor ethnic classification. The proportion positive varied by ethnic group; 6.8% of individuals of other and/or mixed ethnicity tested positive compared to 4.8% of black or black British origin individuals, 1.5% of Asian or Asian British origin individuals and 0.6% of white or white British origin individuals.

Table 3. Number of individuals tested, and testing positive for HBsAg in participating centres by service type (excluding antenatal testing), January – December 2013*

Service type	Number tested	Number positive (%)
Primary Care		
Accident and emergency	3,227	38 (1.2)
Drug dependency services	1,506	8 (0.5)
General practitioner	64,984	922 (1.4)
GUM clinic	55,376	632 (1.1)
Occupational health	12,723	55 (0.4)
Prison services	3,477	51 (1.5)
Total primary care	141,293	1706 (1.2)
Secondary Care		
Fertility services	8,637	33 (0.4)
General medical / surgical departments	9,329	88 (0.9)
Obstetrics and gynaecology	8,502	38 (0.4)
Other ward type (known service)†	32,535	401 (1.2)
Paediatric services	3,420	24 (0.7)
Renal	5,537	37 (0.7)
Specialist HIV services	862	19 (2.2)
Specialist liver services	5,267	95 (1.8)
Unspecified ward§	2,737	49 (1.8)
Total secondary care	76,826	784 (1.0)
Unknown#	73	0 (0.0)
Total	**218,192**	**2490 (1.1)**

* 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.

† Other ward types includes cardiology, coroner, dermatology haematology, ultrasound, x-ray

§ These are hospital services which are currently being investigated to identify specific service type, and may include any of the secondary care services mentioned above.

These services are currently being investigated to identify specific service type, where possible

Table 4. Number of individuals tested, and testing positive for HBsAg in participating centres by ethnic group (excluding antenatal testing), January –December 2013*

Ethnic group	Number tested	Number positive (%)
Asian or Asian British origin	25,785	395 (1.5)
Black or black British origin	4,189	202 (4.8)
Other and/or mixed origin	6,326	432 (6.8)
White or white British origin	118,803	749 (0.6)
Unknown ethnic origin	63,451	713 (1.1)
Total	**218,554**	**2491 (1.1)**

* 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.

3. Hepatitis C antibody testing

Sentinel surveillance collects data on testing for hepatitis C-specific antibodies (anti-HCV). It is important to note that no laboratory methods are currently available to distinguish between acute or chronic hepatitis C virus infections. Therefore, positive anti-HCV results do not therefore necessarily represent incident infections.

In 2013, 188,364 individuals were tested at least once for anti-HCV in 22 participating sentinel centres. Overall, 3,431 (1.8%) of individuals tested positive. This varied by PHEC with the highest proportion of positive tests were from Cumbria and Lancashire (3.0%) (*supplementary table 7)*. This may reflect more targeted testing of risk groups and/or genuinely higher prevalence of hepatitis C in people being tested in this PHEC.
Of those individuals testing positive for anti-HCV 73.2% were tested for HCV RNA by PCR, of whom 65.3% tested positive (n=1,640). Of the PCR positive individuals 47.5% had a HCV genotype recorded; 44.7% of whom were genotype 1 with a further 43.9% genotype 3.

Age and gender were well reported (>99.0% complete). Where known, slightly more males (55.0%) were tested than females (*supplementary table 8*). Just over half of all individuals tested and testing positive were aged between 25 and 54 years old (61.0%). A greater proportion of males tested positive compared to females (2.3% vs 1.2% respectively, $p<0.001$). The median age of those tested was 36.8 years (IQR 27.6 – 51.5 years), whereas the median age of those tested positive was 41.7 years (IQR 32.9 – 51.8 years).

Where known (n=188,296), general practice tested the greatest proportion of individuals for anti-HCV (29.9%), with a further 18.4% tested in GUM clinics and 17.1% tested in other known hospital wards (table 5). The highest proportion of positive tests were among specialist drug (10.1%) and prison services (9.4%).

Table 5. Number of individuals tested, and testing positive for anti-HCV in participating centres by service type, January – December 2013*

Service type	Number tested	Number positive (%)
Primary Care		
Accident and emergency	3,263	85 (2.6)
Drug dependency services	1,536	155 (10.1)
General practitioner	56,318	1,162 (2.1)
GUM clinic	34,613	586 (1.7)
Occupational health	11,094	24 (0.2)
Prison services	4,242	400 (9.4)
Total primary care	111,066	2,412 (2.2)
Secondary Care		
Antenatal	4,678	35 (0.7)
Fertility services	9,913	38 (0.4)
General medical / surgical departments	9,009	184 (2.0)
Obstetrics and gynaecology	3,551	19 (0.5)
Other ward type (known service)†	32,149	468 (1.5)
Paediatric services	2,679	10 (0.4)
Renal	5,676	39 (0.7)
Specialist HIV services	1,516	46 (3.0)
Specialist liver services	5,418	133 (2.5)
Unspecified ward§	2,641	45 (1.7)
Total secondary care	77,230	1,017 (1.3)
Unknown#	68	2 (2.9)
Total	**188,364**	**3,431 (1.8)**

* 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.

† Other ward types includes cardiology, coroner, dermatology haematology, ultrasound, x-ray

§ These are hospital services which are currently being investigated to identify specific service type, and may include any of the secondary care services mentioned above.

These services are currently being investigated to identify specific service type, where possible

Most individuals tested for anti-HCV were classified as belonging to one of four broad ethnic groups (n=146,526) (table 6). The majority of individuals were classified as being of white or white British ethnic origin (78.0%), a further 15.8% were classified as Asian or Asian British origin, 3.7% were classified as other and/or mixed ethnic origin, and 2.6% were classified as black or black British origin. The proportion positive varied slightly by ethnic group: 1.8% of individuals of white or white British ethnic origin tested positive compared to 1.8% of Asian or Asian British origin individuals, 1.1% of other or mixed ethnic origin individuals and 0.8% of black or black British origin individuals.

Table 6. Number of individuals tested, and testing positive for anti-HCV in participating centres by ethnic group, January –December 2013*

Ethnic group	Number tested	Number positive (%)
Asian or Asian British origin	23,086	410 (1.8)
Black or black British origin	3,794	32 (0.8)
Other and/or mixed origin	5,428	57 (1.1)
White or white British origin	114,218	2,107 (1.8)
Unknown ethnic origin	41,838	825 (2.0)
Total	**188,364**	**3,431 (1.8)**

* Excludes dried blood spot testing, oral fluid testing, 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.

4. Hepatitis D total antibody testing

Sentinel surveillance collects data on testing for hepatitis D-specific total antibody (HDV TA) and A-specific IgM antibody (anti-HAV IgM), a marker of acute hepatitis D infection. Six sentinel laboratories provide hepatitis D testing facilities. Given the small number of tests individuals tested for HDV TA and/or HDV IgM are aggregated, and therefore do not necessarily represent incident infections, and be interpreted accordingly. Data are shown by region of the requesting service.

In 2013, 2,104 individuals were tested at least once for HDV TA and/or HDV IgM in six participation sentinel centres (*supplementary table 9*). Overall 97 (4.6%) of individuals tested positive, although this varied by PHEC with the highest proportion of positive tests in Cheshire and Merseyside (10.0%) and Devon, Cornwall and Somerset (10.0%) although few individuals were tested from this PHEC.

The age and gender of individuals tested for hepatitis D was well reported (>98.1% complete). Where known, slightly more males were tested than females (57.8% male). The proportion of females testing positive was slightly greater when compared to males (5.3% vs 4.2%). Three-fifths of all individuals tested and testing positive were aged between 25 and 44 years old. The median age of individuals tested was 34.8 years (IQR 28.2 – 44.6) and the median age of individuals testing positive was 35.8 years (IQR 28.2 – 42.9).

Where known (n=2,104), over half of individuals were tested by a hospital which referred all hepatitis D samples to a sentinel centre (63.6%). In these cases the original service that initially requested the test could not be determined.

Most individuals tested for hepatitis D were classified as belonging to one of four broad ethnic groups (n=1,694). Two-fifths of individuals were classified as being of white or white British ethnic origin (44.5%), a further 24.1% were classified as other and/or mixed ethnic origin, 21.1% were classified as Asian or Asian British origin, and 10.2% were classified as black or black British origin (table 7). The proportion positive varied by ethnic group; 4.6% of black or black British origin tested positive compared to 4.5% of individuals of Asian or Asian British ethnic origin individuals, 4.4% of white or white British origin individuals and 2.2% of other or mixed ethnic origin individuals.

Table 7. Number of individuals tested, and testing positive, for HDV-TA and/or HDV IgM in participating centres by ethnic group, January – December 2013*

Ethnic group	Number tested	Number positive (%)
Asian or Asian British origin	358	16 (4.5)
Black or black British origin	173	8 (4.6)
Other and/or mixed origin	409	9 (2.2)
White or white British origin	754	33 (4.4)
Unknown ethnic origin	410	31 (7.6)
Total	**2,104**	**97 (4.6)**

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

5. Hepatitis E IgM testing

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

In 2013, 8,117 individuals were tested at least once for anti-HEV IgM in six participating sentinel centres (*supplementary table 10*). This represents a 36% increase in the number of individuals tested in 2013 compared to that reported in 2012. This increase in testing is likely to reflect a substantial increase in confirmed HEV cases since 2010. Overall, *523* (6.4%) of individuals tested positive, although this varied by PHEC with the highest proportion of positive tests in the Avon and Gloucestershire (43.3%), although few individuals were tested from this PHEC.

The age and gender of individuals tested for anti-HEV IgM was well reported (>97.0% complete). Where known, slightly more males were tested than females (52.9% male). A greater proportion of males tested positive compared to females (7.8% vs. 4.1% respectively, $p<0.001$). Almost half of all individuals tested and two-fifths of individuals testing positive were aged between 25 and 54 years old. The median age of individuals tested was 49.4 years (IQR 33.6 – 64.3) and the median age of individuals testing positive was 56.7 years (IQR 46.5 – 67.9).

Overall 11% (234/2118) of males aged 50 or over tested positive for HEV, compared to 4.4% (91/2047) among those under the age of 50. A similar pattern was seen among females, where 5.3% (94/1758) of females aged 50 or over tested positive compared to 3.0% (59/1952) among those under the age of 50.

Where known (n=8,116), most individuals were tested by a hospital which referred all anti-HEV IgM samples to a sentinel centre (75.5%). In these cases the original service that initially requested the test could not be determined. The highest proportion of positive tested through general medical surgical (9.7%) and GP services (9.5%).

Most individuals tested for anti-HEV IgM were classified as belonging to one of four broad ethnic groups (n=7,562). The majority of individuals were classified as being of white or white British ethnic origin (08.4%), a further 14.9% were classified as Asian or Asian British origin, 3.0% were classified as other and/or mixed ethnic origin, and 1.6% were classified as black or black British origin (table 8). The proportion positive varied by ethnic group; 6.2% of individuals of white or white British origin tested positive compared to 5.0% of Asian or Asian British origin individuals, 2.6% of other or mixed ethnic origin individuals and 0.8% of black or black British origin individuals.

Table 8. Number of individuals tested, and testing positive, HEV IgM in participating centres by ethnic group, January – December 2013*

Ethnic group	Number tested	Number positive (%)
Asian or Asian British origin	1130	56 (5.0)
Black or black British origin	120	1 (0.8)
Other and/or mixed origin	230	6 (2.6)
White or white British origin	6,082	378 (6.2)
Unknown ethnic origin	555	82 (14.8)
Total	**8,117**	**523 (6.4)**

6. HIV testing

Sentinel surveillance collects data on testing for HIV. All pregnant women in the UK are offered HIV screening as part of their antenatal care. Data from the test request location and free-text clinical details field accompanying the test request were reviewed to distinguish individuals tested for HIV as part of routine antenatal screening (section 6a) from those tested in other settings and for other reasons (section 6b). It is possible that some women undergoing antenatal screening may not be identified as such and may therefore be included in section 6b as non-antenatal testing.

a. Antenatal HIV screening

In 2013, 60,141 women aged between 16 and 49 years old were identified as undergoing antenatal screening for HIV, representing 15.9% of all individuals tested for HIV in participating sentinel centres *(supplementary table 11)*. Overall, 68 (0.1%) of these women tested positive. The median age of women tested was 29.7 years (IQR 25.3 – 33.7) and the median age of women testing positive was 31.3 years (IQR 26.8 – 35.6).

b. Non-antenatal HIV testing

In 2013, 319,242 adults aged 16 and over years old were tested at least once for HIV, excluding antenatal screening, in 14 participating sentinel centres. Overall, 2,528 (0.8%) of individuals tested positive, although this varied by PHEC with the highest proportion of positive tests in Avon, Gloucestershire (7.1%) *(supplementary table 12)*, although few individuals were tested from this PHEC

The age and gender of adults tested for HIV was well reported (>98.8% complete). Where known, similar numbers of females (51.0%) were tested compared to males (*supplementary table 13*). The number of females tested may include some undergoing routine antenatal screening who could not be identified as such from the information provided. A greater proportion of males tested positive compared to females (1.2% vs 0.4% $p<0.001$). A third of all individuals tested and testing positive were aged between 25 and 34 years old. The median age of individuals tested was 29.6 years (IQR 23.6 – 39.3) and the median age of individuals testing positive was 36.7 years (IQR 29.1 – 45.3).

Where known (n=319,180), GUM clinics tested the greatest proportion of individuals for HIV (59.8%), with a further 13.6% tested in general practice, and 9.6% tested in other known hospital wards (table 9). The highest proportion of positive tests were among specialist HIV, liver services and paediatric services (34.2%, 1.9% and 1.5% respectively).

Table 9. Number of adults (16+ years old) tested and testing positive for HIV in participating centres by service type (excluding antenatal testing), January - December 2013*†.

Service type	Number tested	Number positive (%)
Primary Care		
Accident and emergency	8,009	83 (1.0)
Drug dependency services	587	1 (0.2)
General practitioner	43,529	178 (0.4)
GUM clinic	190,787	1,649 (0.9)
Occupational health	7,957	10 (0.1)
Prison services	3,627	19 (0.5)
Total primary care	254,496	1,940 (0.8)
Secondary Care		
Pharmacy	12	0 (0.0)
Antenatal	216	0 (0.0)
Fertility services	9,608	13 (0.1)
General medical / surgical departments	7,091	68 (1.0)
Obstetrics and gynaecology	5,060	17 (0.3)
Other ward type (known service)†	30,746	178 (0.6)
Paediatric services	1,300	20 (1.5)
Renal	3,744	14 (0.4)
Specialist HIV services	520	178 (34.2)
Specialist liver services	4,095	78 (1.9)
Unspecified ward§	2,292	39 (1.7)
Total secondary care	64,684	605 (0.9)
Unknown#	62	0 (0.0)
Total	**319,242**	**2,545 (0.8)**

* Excludes individuals aged under 16, antenatal screening, dried blood spot testing, oral fluid testing, 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.

§ These are hospital services which are currently being investigated to identify specific service type, and may include any of the secondary care services mentioned above.

These services are currently being investigated to identify specific service type, where possible

Two-fifths of adults tested for HIV were classified as belonging to one of four broad ethnic groups (n=120,650) (table 10). Where known, the majority of individuals were classified as being of white or white British ethnic origin (80.6%), a further 12.5% were classified as Asian or Asian British origin, 3.7% were classified as other and/or mixed ethnic origin, and 3.1% were classified as black or black British origin. Most individuals of unknown ethnic origin were tested in GUM clinics, hence the lack of demographic information. The proportion positive varied by ethnic group; 3.1% of individuals of black or black British origin tested positive compared to 0.9% of individuals of white or white British origin, 0.9% of Asian or Asian British origin individuals and 0.8% of other and/or mixed origin individuals.

Table 10. Number of adults (16+ years old) tested, and testing positive for HIV in participating centres by ethnic group (excluding antenatal testing), January – December 2013*

Ethnic group	Number tested	Number positive (%)
Asian or Asian British origin	15,127	129 (0.9)
Black or black British origin	3,718	114 (3.1)
Other and/or mixed origin	4,521	37 (0.8)
White or white British origin	97,284	850 (0.9)
Unknown ethnic origin	198,592	1,415 (0.7)
Total	**319,242**	**2,545 (0.8)**

* Excludes individuals aged under 16, antenatal screening, dried blood spot testing, oral fluid testing, 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.

7. HTLV testing

In 2013, 6.863 individuals were tested at least once for HTLV-1 specific antibodies in 11 participating sentinel centres (*supplementary table 14*). Overall, 99 (1.4%) of individuals tested positive, although this varied by PHEC with the highest proportion of positive tests in the East Midlands, (9.1%), although few individuals were tested from this region.

The age and gender of individuals tested for HTLV-1 was well reported (>93.5% complete) (*supplementary table* 15). Where known, slightly more males were tested than females (53.2% male), with a higher proportion of females testing positive compared to males (1.8% vs. 1.3% respectively, p=0.117). Half of all individuals tested and two-thirds of those testing positive, were aged 45 years and older. The median age of individuals tested was 46.7 years (IQR 31.2 – 60.4) and the median age of individuals testing positive was 51.3 years (IQR 33.7 – 60.4).

Where known (n=6,863), a quarter of individuals were tested by a hospital which referred all HTLV-1 samples to a sentinel centre (25.0%). In these cases the original service that initially requested the test could not be determined.

Most individuals tested for HTLV-1 were classified as belonging to one of four broad ethnic groups (n=6,015) (table 11). The majority of individuals were classified as being of white or white British ethnic origin (87.0%), a further 8.4% were classified as Asian or Asian British origin, 2.6% were classified as black or black British origin, and 1.7% were classified as other and/or mixed ethnic origin (table 11). The proportion positive varied by ethnic group; 3.8% of individuals of black or black British origin tested positive compared to 1.7% of other and/or mixed origin individuals, 1.4% of individuals of white or white British origin and 1.4% of Asian or Asian British origin individuals.

Table 11. Number of individuals tested, and testing positive for HTLV in participating centres by ethnic group, January – December 2013*

Ethnic group	Number tested	Number positive (%)
Asian or Asian British origin	506	7 (1.4)
Black or black British origin	156	6 (3.8)
Other and/or mixed origin	118	2 (1.7)
White or white British origin	5,235	72 (1.4)
Unknown ethnic origin	848	12 (1.4)
Total	**6,863**	**99 (1.4)**

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

8. Dried blood spot testing

Three sentinel laboratories provide dried blood spot (DBS) testing facilities. Aggregate HBsAg, anti-HCV, and HIV DBS testing data have also been made available by Alere Toxicology Plc. Data are shown by region of the requesting clinician.

a. HBsAg testing

During 2013, a total of 11,695 individuals were tested at least once for HBsAg by DBS testing, 218 (1.9%) of whom had a reactive test result *(supplementary Table 16)*. This included 6961 individuals tested by Alere Toxicology Plc from drug action teams (DATs) of whom 2.7% has a reactive test result, and 4,734 individuals tested through sentinel laboratories, of whom 0.7% tested positive.

b. Anti-HCV testing

During 2013, a total of 10,590 individuals were tested at least once for anti-HCV by DBS testing, 2,378 (22.5%) of whom had a reactive test result *(supplementary table 17*). This included 5,910 individuals tested by Alere Toxicology Plc from drug action teams (DATs) of whom 27.9% has a reactive test result and 4,680 individuals tested through sentinel laboratories, of whom 15.6% tested positive. The comparatively lower proportion of positive test results among individuals who were tested by sentinel laboratories may reflect differences in testing; for example DBS testing has been trialled in pharmacies and other primary care settings as well as by specialist drug services, where as all samples tested by DBS by Alere Toxicology Plc. were taken in/by drug action teams.

c. HIV testing

During 2013, a total of 4,165 individuals were tested at least once for HIV by DBS testing, 0.3% of which had a reactive result *(supplementary table 18)*.

9. Oral fluid testing

Aggregate HBsAg, anti-HCV, and HIV oral fluid testing data have been provided by Concateno Plc. Data are shown by region of the requesting clinician.

a. HBsAg testing

During 2013, a total of 1,381 individuals were tested at least once for HBsAg by oral fluid testing, 2.6% of which had a reactive result *(supplementary table 19)*.

b. Anti-HCV testing

During 2013, a total of 1,291 individuals were tested at least once for anti-HCV by oral fluid testing, of which 14.1% had a reactive result *(supplementary table 20)*.

c. HIV testing

During 2013, a total of 1,265 individuals were tested at least once for HIV by oral fluid testing, none of which had a reactive result *(supplementary table 21)*.

References

1. Judd A, *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: 49-55.

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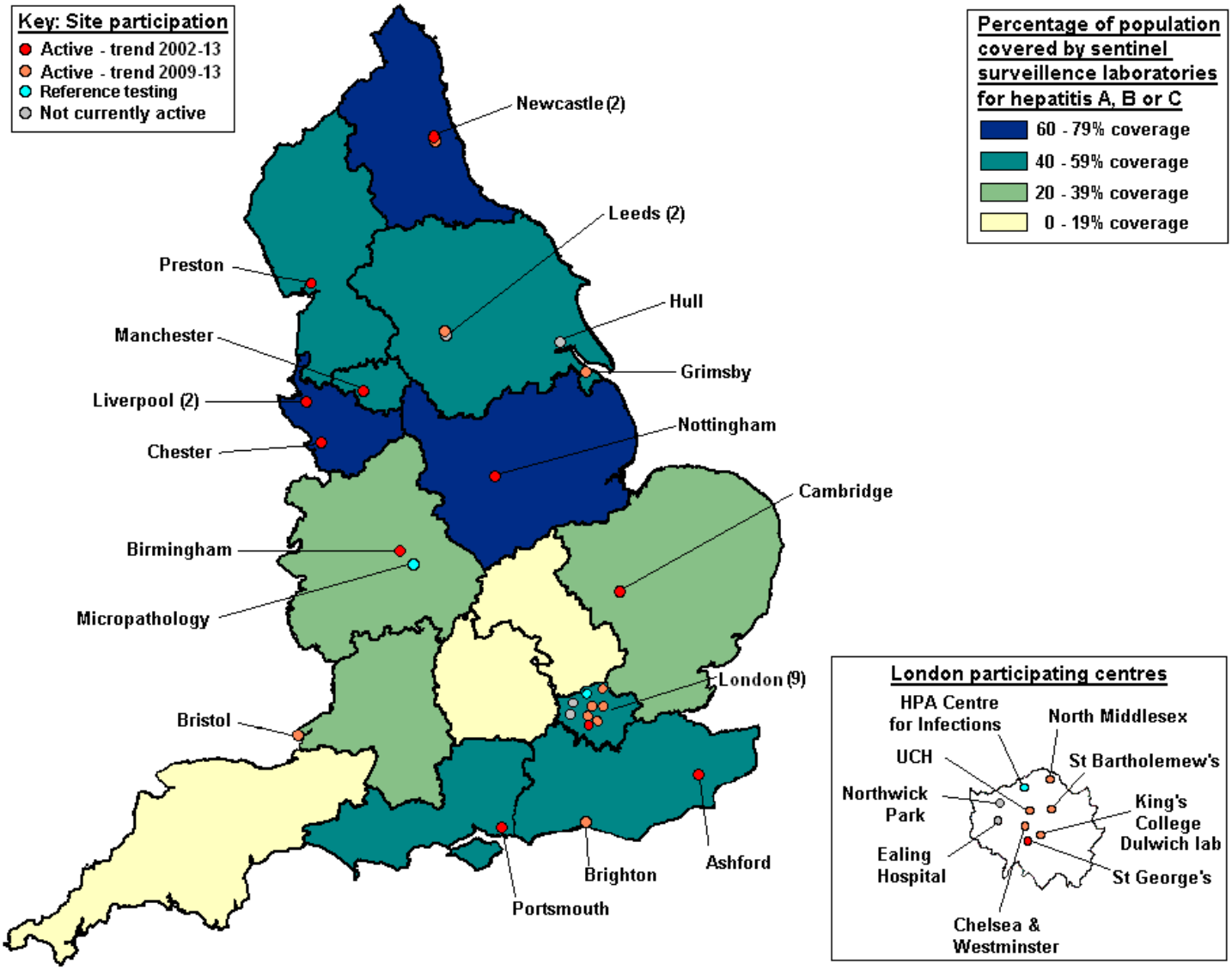
Immunisation appendix

Annual report from the sentinel surveillance study of blood borne virus testing in England: supplementary tables for January to December 2013 and map of surveillance centres

Map of sentinel surveillance centres in 2013



1. Hepatitis A IgM testing

Supplementary table 1. Number of individuals tested, and testing positive, for anti-HAV IgM in participating centres, January – December 2013*

PHE centre	Number tested	Number positive (%)
Anglia and Essex	2,232	7 (0.3)
Avon, Gloucestershire and Wiltshire	2,953	18 (0.6)
Cheshire and Merseyside	1,288	13 (1.0)
Cumbria and Lancashire	1,270	5 (0.4)
East Midlands	4,252	5 (0.1)
Greater Manchester	1,645	5 (0.3)
London	6,451	36 (0.6)
North East	1,116	5 (0.4)
Sussex, Surrey and Kent	3,395	11 (0.3)
Wessex	262	0 (0.0)
West Midlands	943	11 (1.2)
Yorkshire and Humber	3,278	8 (0.2)
Total	**29,085**	**124 (0.4)**

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

Supplementary table 2. Number of individuals tested, and testing positive, for anti-HAV IgM in participating centres, January - December 2013*†

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	115	0 (0.0)	147	0 (0.0)	0	0 (0.0)	262	0 (0.0)
1-14 years	341	12 (3.5)	412	15 (3.6)	1	0 (0.0)	754	27 (3.6)
15-24 years	1,564	10 (0.6)	1,725	7 (0.4)	9	0 (0.0)	3,298	17 (0.5)
25-34 years	2,091	6 (0.3)	2,874	15 (0.5)	14	0 (0.0)	4,979	21 (0.4)
35-44 years	1,675	4 (0.2)	2,983	5 (0.2)	5	0 (0.0)	4,663	9 (0.2)
45-54 years	2,168	2 (0.1)	2,816	5 (0.2)	8	0 (0.0)	4,992	7 (0.1)
55-64 years	2,043	5 (0.2)	2,087	6 (0.3)	3	0 (0.0)	4,133	11 (0.3)
≥65 years	2,926	24 (0.8)	3,985	9 (0.3)	4	0 (0.0)	5,915	32 (0.5)
Unknown	36	0 (0.0)	52	0 (0.0)	1	0 (0.0)	89	0 (0.0)
Total, all age groups	**12,959**	**63 (0.5)**	**16,081**	**61 (0.4)**	**45**	**0 (0.0)**	**29,085**	**124 (0.4)**

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

Supplementary table 3. Number of individuals tested and testing positive for anti-HAV by ethnic group, January – December 2013*

Ethnic group	Number tested	Number positive (%)
Asian or Asian British origin	3,525	40 (1.1)
Black or Black British origin	474	2 (0.4)
Other and/or mixed origin	765	2 (0.3)
White or White British origin	23,517	78 (0.3)
Unknown ethnic origin	805	2 (0.2)
Total	**29,085**	**124 (0.4)**

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

2. Hepatitis B surface antigen testing

a. Antenatal HBsAg screening

Supplementary table 4. Number of women tested, and testing positive for HBsAg through antenatal screening in participating centres, January – December 2013*

PHE centre	Number tested	Number positive (%)
Anglia and Essex	4,473	8 (0.2)
Avon, Gloucestershire and Wiltshire	9,124	11 (0.1)
Cheshire and Merseyside	7,558	16 (0.2)
Cumbria and Lancashire	2,393	5 (0.2)
East Midlands	418	8 (1.9)
Greater Manchester	7,305	20 (0.3)
London	13,239	122 (0.9)
North East	2,309	13 (0.6)
Sussex, Surrey and Kent	7,179	19 (0.3)
Wessex	2,442	4 (0.2)
West Midlands	7,842	4 (0.1)
Yorkshire and Humber	8,550	37 (0.4)
Total	**72,832**	**267 (0.4)**

* Excludes dried blood spot testing, oral fluid testing, reference testing and testing from hospitals referring all samples. Only women aged 12-49 years old are included. Data are de-duplicated subject to availability of date of birth, soundex and first initial. All data are provisional.

b. Non-antenatal HBsAg testing

Supplementary table 5. Number of individuals tested, and testing positive for HBsAg in participating centres (excluding antenatal testing), January –December 2013*

PHE centre	Number tested	Number positive (%)
Anglia and Essex	8,686	75 (0.9)
Avon, Gloucestershire and Wiltshire	18,282	108 (0.6)
Cheshire and Merseyside	11,602	128 (1.1)
Cumbria and Lancashire	3,223	32 (1.0)
East Midlands	13,220	114 (0.9)
Greater Manchester	19,892	213 (1.1)
London	89,648	1,313 (1.5)
North East	9,956	87 (0.9)
Sussex, Surrey and Kent	11,494	128 (1.1)
Wessex	4,722	38 (0.8)
West Midlands	9,225	54 (0.6)
Yorkshire and Humber	18,604	201 (1.1)
Total	**218,554**	**2,491 (1.1)**

* Excludes antenatal screening, dried blood spot testing, oral fluid testing, 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.

Supplementary table 6. Age and gender of individuals tested for HBsAg in participating centres (excluding antenatal testing), January - December 2013*

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	390	2 (0.5)	485	7 (1.4)	198	3 (1.5)	1,073	12 (1.1)
1-14 years	1,948	11 (0.6)	2,133	22 (1.0)	25	0 (0.0)	4,106	33 (0.8)
15-24 years	21,334	132 (0.6)	19,054	189 (1.0)	646	13 (2.0)	41,034	335 (0.8)
25-34 years	31,854	260 (0.8)	32,288	571 (1.8)	508	11 (2.2)	64,650	842 (1.3)
35-44 years	17,198	182 (1.1)	23,084	460 (2.0)	268	8 (3.0)	40,550	650 (1.6)
45-54 years	11,232	105 (0.9)	15,305	256 (1.7)	125	3 (2.4)	26,662	364 (1.4)
55-64 years	7,789	47 (0.6)	9,566	98 (1.0)	38	0 (0.0)	17,393	146 (0.8)
≥65 years	10,206	33 (0.3)	11,884	70 (0.6)	26	1 (3.8)	22,116	104 (0.5)
Unknown	184	3 (1.6)	313	4 (1.3)	473	0 (0.0)	970	7 (0.7)
Total, all age groups	**102,135**	**775 (0.8)**	**114,112**	**1677 (1.5)**	**2,307**	**39 (1.7)**	**218,554**	**2491 (1.1)**

* 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.

3. Hepatitis C antibody testing

Supplementary table 7. Number of individuals tested, and testing positive for anti-HCV in participating centres, January – December 2013*

PHE centre	Number tested	Number positive (%)
Anglia and Essex	8,262	94 (1.1)
Avon, Gloucestershire and Wiltshire	16,125	265 (1.6)
Cheshire and Merseyside	12,555	332 (2.6)
Cumbria and Lancashire	3,249	97 (3.0)
East Midlands	10,903	208 (1.9)
Greater Manchester	14,177	264 (1.9)
London	72,357	1,269 (1.8)
North East	10,265	106 (1.0)
Sussex, Surrey and Kent	11,043	269 (2.4)
Wessex	4,185	56 (1.3)
West Midlands	8,489	137 (1.6)
Yorkshire and Humber	16,754	334 (2.0)
Total	**188,364**	**3,431 (1.8)**

* Excludes dried blood spot testing, oral fluid testing, 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.

Supplementary table 8. Age and gender of individuals tested for anti-HCV in participating centres, January - December 2013*

	Female		Male		Unknown		Total	
Age group	Number tested	Number positive (%)	Number tested	Number positive (%)	Number tested	Number positive (%)	Number tested	Number positive (%)
1-14	1,501	1 (0.1)	1,643	5 (0.3)	21	0 (0.0)	3,165	6 (0.2)
15-24	14,805	84 (0.6)	14,683	112 (0.8)	573	1 (0.2)	30,061	197 (0.7)
25-34	23,875	296 (1.2)	27,851	552 (2.0)	451	14 (3.1)	52,177	862 (1.7)
35-44	15,127	233 (1.5)	22,057	677 (3.1)	252	13 (5.2)	37,436	9,263 (2.5)
45-54	10,391	212 (2.0)	15,037	560 (3.7)	117	12 (10.3)	25,545	784 (3.1)
55-64	7,719	118 (1.5)	9,361	304 (3.2)	35	2 (5.7)	17,115	424 (2.5)
≥65	10,249	82 (0.8)	11,659	131 (1.1)	21	0 (0.0)	21,929	213 (1.0)
Unknown	169	0 (0.0)	304	20 (6.6)	463	2 (0.4)	936	22 (2.4)
Total, all age groups	**83,943**	**1026 (1.2)**	**102,595**	**2364 (2.3)**	**1,933**	**44 (2.3)**	**188,364**	**3438 (1.8)**

* 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.

4. Hepatitis D total antibody testing

Supplementary table 9. Number of individuals tested, and testing positive, for HDV-TA and/or HDV IgM in participating centres, January – December 2013*

PHE centre	Number tested	Number positive (%)
Anglia and Essex	181	6 (3.3)
Avon, Gloucestershire and Wiltshire	25	2 (8.0)
Cheshire and Merseyside	20	2 (10.0)
Cumbria and Lancashire	10	0 (0.0)
Devon, Cornwall and Somerset	10	1 (10.0)
East Midlands	165	7 (4.2)
Greater Manchester	121	5 (4.1)
London	980	41 (4.2)
North East	67	4 (6.0)
South Midlands and Hertfordshire	34	3 (8.8)
Sussex, Surrey and Kent	89	5 (5.6)
Thames Valley	73	2 (2.7)
Wessex	43	4 (9.3)
West Midlands	95	5 (5.3)
Yorkshire and Humber	191	10 (5.2)
Total	**2,104**	**97 (4.6)**

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

5. Hepatitis E IgM testing

Supplementary table 10. Number of individuals tested, and testing positive, for anti-HEV IgM in participating centres, January – December 2013*

PHE centre	Number tested	Number positive (%)
Anglia and Essex	849	49 (5.8)
Avon, Gloucestershire and Wiltshire	120	52 (43.3)
Cheshire and Merseyside	115	14 (12.2)
Cumbria and Lancashire	76	6 (7.9)
Devon, Cornwall and Somerset	347	50 (14.4)
East Midlands	492	33 (6.7)
Greater Manchester	639	13 (2.0)
London	2,229	112 (5.0)
North East	117	12 (10.3)
South Midlands and Hertfordshire	373	22 (5.9)
Sussex, Surrey and Kent	389	22 (5.7)
Thames Valley	403	16 (4.0)
Wessex	222	31 (14.0)
West Midlands	1,202	54 (4.5)
Yorkshire and Humber	544	37 (6.8)
Total	**8,117**	**523 (6.4)**

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

6. HIV testing

a. Antenatal HIV screening

Supplementary table 11. Number of women tested, and testing positive for HIV through antenatal screening in participating centres, January – December 2013*

PHE centre	Number tested	Number positive (%)
Anglia and Essex	4,118	2 (0.0)
Cheshire and Merseyside	6,130	4 (0.1)
London	23,859	36 (0.2)
North East	2,789	5 (0.2)
Sussex, Surrey and Kent	7,153	5 (0.1)
Wessex	2,425	1 (0.0)
West Midlands	7,844	8 (0.1)
Yorkshire and Humber	5,823	7 (0.1)
Total	**60,141**	**68 (0.1)**

* Excludes dried blood spot testing, oral fluid testing, reference testing and testing from hospitals referring all samples. Only women aged 16-49 years old are included. Data are de-duplicated subject to availability of date of birth, soundex and first initial. All data are provisional. Data are presented for PHEC where testing coverage is broadly representative of the PHEC as a whole.

b. Non-antenatal HIV testing

Supplementary table 12. Number of adults (16+ years old) tested, and testing positive for HIV in participating centres (excluding antenatal testing), January – December 2013*

PHE centre	Number tested	Number positive (%)
Anglia and Essex	11,721	47 (0.4)
Avon, Gloucestershire and Wiltshire	28	2 (7.1)
Cheshire and Merseyside	15,240	97 (0.6)
Cumbria and Lancashire	5,252	29 (0.6)
East Midlands	20,057	76 (0.4)
Greater Manchester	29,657	295 (1.0)
London	141,922	1,331 (0.9)
North East	18,198	67 (0.4)
Sussex, Surrey and Kent	30,178	293 (1.0)
Wessex	11,611	52 (0.4)
West Midlands	14,537	108 (0.7)
Yorkshire and Humber	20,858	148 (0.7)
Total	**319,242**	**2,545 (0.8)**

* Excludes individuals aged under 16, antenatal screening, dried blood spot testing, oral fluid testing, 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.

Supplementary table 13. Age and gender of adults (16+ years old) tested for HIV in participating centres (excluding antenatal testing), January - December 2013*

Age group	Female		Male		Unknown		Total	
	Number tested	Number positive (%)	Number tested	Number positive (%)	Number tested	Number positive (%)	Number tested	Number positive (%)
16-24 years	56,557	77 (0.1)	41,311	220 (0.5)	1,463	6 (0.4)	99,331	303 (0.3)
25-34 years	56,861	160 (0.3)	53,925	654 (1.2)	1,115	7 (0.6)	111,901	821 (0.7)
35-44 years	23,646	196 (0.8)	27,994	556 (2.0)	499	5 (1.0)	52,139	757 (1.5)
45-54 years	11,293	103 (0.9)	15,727	368 (2.3)	214	3 (1.4)	27,234	474 (1.7)
55-64 years	5,148	36 (0.7)	8,158	103 (1.3)	61	1 (1.6)	13,367	140 (1.0)
≥65 years	5,878	14 (0.2)	8,290	29 (0.3)	25	0 (0.0)	14,193	43 (0.3)
Unknown	281	1 (0.4)	322	6 (1.9)	474	0 (0.0)	1,077	7 (0.6)
Total, all age groups	**159,664**	**587 (0.4)**	**155,727**	**1,936 (1.2)**	**3,851**	**22 (0.6)**	**319,242**	**2,545 (0.8)**

* Excludes individuals aged under 16, antenatal screening, dried blood spot testing, oral fluid testing, 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.

7. HTLV testing

Supplementary table 14. Number of individuals tested, and testing positive, for HTLV in participating centres, January – December 2013*

PHE centre	Number tested	Number positive (%)
Avon, Gloucestershire and Wiltshire	21	0 (0.0)
Cheshire and Merseyside	135	1 (0.7)
Cumbria and Lancashire	176	2 (1.1)
Devon, Cornwall and Somerset	2	0 (0.0)
East Midlands	11	1 (9.1)
Greater Manchester	1,370	6 (0.4)
London	2,619	67 (2.6)
North East	494	0 (0.0)
South Midlands and Hertfordshire	39	2 (5.1)
Sussex, Surrey and Kent	622	4 (0.6)
Thames Valley	64	2 (3.1)
Wessex	210	1 (0.5)
West Midlands	358	10 (2.8)
Yorkshire and Humber	108	4 (3.7)
Avon, Gloucestershire and Wiltshire	21	0 (0.0)
Total	**6,904**	**101 (1.5)**

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

Supplementary table 15. Number of individuals tested, and testing positive, for HTLV in participating centres, January - December 2013*

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	33	2 (6.1)	35	4 (11.4)	9	0 (0.0)	77	6 (7.8)
1-14 years	103	2 (1.9)	159	4 (2.5)	27	0 (0.0)	289	6 (2.1)
15-24 years	253	2 (0.8)	267	0 (0.0)	60	0 (0.0)	580	2 (0.3)
25-34 years	612	7 (1.1)	497	5 (1.0)	52	0 (0.0)	1,161	12 (1.0)
35-44 years	437	2 (0.5)	500	6 (1.2)	28	0 (0.0)	965	8 (0.8)
45-54 years	537	12 (2.2)	673	11 (1.6)	9	0 (0.0)	1,219	23 (1.9)
55-64 years	532	15 (2.8)	667	8 (1.2)	3	1 (33.3)	1,202	24 (2.0)
≥65 years	487	12 (2.5)	587	6 (1.0)	1	0 (0.0)	1,075	18 (1.7)
Unknown	25	2 (8.0)	50	0 (0.0)	261	0 (0.0)	336	2 (0.6)
Total, all age groups	**3,019**	**56 (1.9)**	**3,435**	**44 (1.3)**	**450**	**1 (0.2)**	**6,904**	**101 (1.5)**

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

8. Dried blood spot testing

a. HBsAg testing

Supplementary table 16. Number of individuals tested, and testing positive, for HBsAg by dried blood spot, January – December 2013*

PHE centre of test request	Data from sentinel surveillance[§]		Data from Alere Toxicology Plc[†]		Total	
	Number tested	Number positive (%)	Number tested	Number reactive[†] (%)	Number tested	Number reactive (%)
Anglia and Essex	74	0 (0.0)	443	5 (1.1)	517	5 (1.0)
Avon, Gloucestershire and Wiltshire	313	1 (0.3)	142	4 (2.8)	455	5 (1.1)
Cheshire and Merseyside	217	0 (0.0)	647	41 (6.3)	864	41 (4.7)
Cumbria and Lancashire	308	0 (0.0)	437	7 (1.6)	745	7 (0.9)
East Midlands	0	0 (0.0)	653	11 (1.7)	653	11 (1.7)
Greater Manchester	697	6 (0.9)	62	4 (6.5)	759	10 (1.3)
London	9	0 (0.0)	1,139	34 (3.0)	1,148	34 (3.0)
North East	584	1 (0.2)	187	6 (3.2)	771	7 (0.9)
Sussex, Surrey and Kent	654	5 (0.8)	658	28 (4.3)	1,312	33 (2.5)
Thames Valley	0	0 (0.0)	30	1 (3.3)	30	1 (3.3)
Wessex	746	4 (0.5)	115	2 (1.7)	861	6 (0.7)
West Midlands	787	10 (1.3)	1,142	18 (1.6)	1,929	28 (1.5)
Yorkshire and Humber	345	4 (1.2)	1,306	26 (2.0)	1,651	30 (1.8)
Total, all regions	**4,734**	**31 (0.7)**	**6,961**	**187 (2.7)**	**11,695**	**218 (1.9)**

* Dried blood spot testing only.
[§]Sentinel surveillance data excludes individuals aged less than one year, in whom positive tests may reflect the presence of passively-acquired maternal antibody rather than true infection. Data are de-duplicated subject to availability of date of birth, soundex and first initial. All data are provisional.
[†] Please note that testing data provided by Alere Toxicology Plc represents indicative results only and is not intended to be used for diagnosis. Some duplication of individuals may occur, aggregate numbers are supplied by Alere Toxicology Plc. therefore duplication checks could not be made and some individuals may have been tested more than once during the time period. All data are provisional.

b. Anti-HCV testing

Supplementary table 17. Number of individuals tested, and testing positive, for anti-HCV by dried blood spot, January – December 2013*

PHE centre of test request	Data from sentinel surveillance§		Data from Alere Toxicology Plc†		Total	
	Number tested	Number positive (%)	Number tested	Number reactive† (%)	Number tested	Number reactive (%)
Anglia and Essex	73	18 (24.7)	322	84 (26.1)	395	102 (25.8)
Avon, Gloucestershire and Wiltshire	326	37 (11.3)	207	56 (27.1)	533	93 (17.4)
Cheshire and Merseyside	35	1 (2.9)	529	156 (29.5)	564	157 (27.8)
Cumbria and Lancashire	329	79 (24.0)	334	90 (26.9)	663	169 (25.5)
East Midlands	0	0 (0.0)	597	192 (32.2)	597	192 (32.2)
Greater Manchester	794	139 (17.5)	206	77 (37.4)	1,000	216 (21.6)
London	10	0 (0.0)	803	173 (21.5)	813	173 (21.3)
North East	583	54 (9.3)	123	20 (16.3)	706	74 (10.5)
Sussex, Surrey and Kent	642	80 (12.5)	521	167 (32.1)	1,163	247 (21.2)
Thames Valley	0	0 (0.0)	99	26 (26.3)	99	26 (26.3)
Wessex	748	156 (20.9)	91	28 (30.8)	839	184 (21.9)
West Midlands	868	85 (9.8)	986	270 (27.4)	1,854	355 (19.1)
Yorkshire and Humber	272	80 (29.4)	1,092	310 (28.4)	1,364	390 (28.6)
Total, all regions	**4,680**	**729 (15.6)**	**5,910**	**1,649 (27.9)**	**10,590**	**2,378 (22.5)**

* Dried blood spot testing only.
§Sentinel surveillance data are de-duplicated subject to availability of date of birth, soundex and first initial. All data are provisional.
† Please note that testing data provided by Alere Toxicology Plc represents indicative results only and is not intended to be used for diagnosis. Some duplication of individuals may occur, aggregate numbers are supplied by Alere Toxicology Plc. therefore duplication checks could not be made and some individuals may have been tested more than once during the time period. All data are provisional.

c. HIV testing

Supplementary table 18. Number of individuals tested, and testing reactive, for HIV by dried blood spot, January – December 2013*

PHE centre	Number tested	Number positive (%)†
Anglia and Essex	292	0 (0.0)
Avon, Gloucestershire and Wiltshire	181	0 (0.0)
Cheshire and Merseyside	493	2 (0.4)
Cumbria and Lancashire	300	0 (0.0)
East Midlands	349	0 (0.0)
Greater Manchester	93	1 (1.1)
London	542	5 (0.9)
North East	65	1 (1.5)
Sussex, Surrey and Kent	389	2 (0.5)
Thames Valley	11	0 (0.0)
Wessex	29	0 (0.0)
West Midlands	749	0 (0.0)
Yorkshire and Humber	672	2 (0.3)
Total	**4,165**	**13 (0.3)**

* Dried blood spot testing only. Some duplication of individuals may occur, aggregate numbers are supplied by Alere Toxicology Plc. therefore duplication checks could not be made and some individuals may have been tested more than once during the time period. All data are provisional.
† Please note that testing data provided by Alere Toxicology Plc represents indicative results only and is not intended to be used for diagnosis.

9. Oral fluid testing

a. HBsAg testing

Supplementary table 19. Number of individuals tested, and testing reactive, for HBsAg by oral fluid, January – December 2013*

PHE centre	Number tested	Number positive (%)†
Anglia and Essex	78	0 (0.0)
Avon, Gloucestershire and Wiltshire	0	0 (0.0)
East Midlands	408	13 (3.2)
London	201	6 (3.0)
Wessex	45	0 (0.0)
West Midlands	8	0 (0.0)
Yorkshire and Humber	641	17 (2.7)
Total	**1,381**	**36 (2.6)**

* Oral fluid testing only. Some duplication of individuals may occur, aggregate numbers are supplied by Alere Toxicology Plc. therefore duplication checks could not be made and some individuals may have been tested more than once during the time period. All data are provisional.
† Please note that testing data provided by Alere Toxicology Plc represents indicative results only and is not intended to be used for diagnosis.

b. Anti-HCV testing

Supplementary table 20. Number of individuals tested, and testing reactive, for anti-HCV by oral fluid, January – December 2013*

PHE centre	Number tested	Number positive (%)†
Anglia and Essex	102	16 (15.7)
Avon, Gloucestershire and Wiltshire	0	0 (0.0)
East Midlands	307	37 (12.1)
London	178	32 (18.0)
Sussex, Surrey and Kent	3	1 (33.3)
Thames Valley	31	4 (12.9)
Wessex	102	17 (16.7)
West Midlands	20	3 (15.0)
Yorkshire and Humber	548	72 (13.1)
Total	**1,291**	**182 (14.1)**

* Oral fluid testing only. Some duplication of individuals may occur, aggregate numbers are supplied by Alere Toxicology Plc. therefore duplication checks could not be made and some individuals may have been tested more than once during the time period. All data are provisional.
† Please note that testing data provided by Alere Toxicology Plc represents indicative results only and is not intended to be used for diagnosis.

c. HIV testing

Supplementary table 21. Number of individuals tested, and testing reactive, for HIV by oral fluid, January – December 2013*

PHE centre	Number tested	Number positive (%)†
Anglia and Essex	119	0 (0.0)
East Midlands	264	0 (0.0)
London	25	0 (0.0)
Sussex, Surrey and Kent	3	0 (0.0)
Wessex	100	0 (0.0)
West Midlands	70	0 (0.0)
Yorkshire and Humber	684	0 (0.0)
Total	**1,265**	**0 (0.0)**

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

† Please note that testing data provided by Alere Toxicology Plc represents indicative results only and is not intended to be used for diagnosis.