Public Health England

Health Protection Report
weekly report

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Salmonella Enteritidis PT14B outbreak: an update

PHE is continuing to investigate a national outbreak of *Salmonella* Enteritidis PT14B, associated with a European outbreak [1], in respect of which overall case reporting in England slowed over the past week. Total reported numbers in England reached 247 cases, as at 22 August 2014 [2].

The additional cases are not new infections from the last seven days, but historical cases reported to PHE during the past week.

There is now evidence to indicate that cases in Europe with the same strains of salmonella infection were associated with consumption of eggs from a single source. This egg supply also reached distributors and food outlets in England, but at this stage it cannot conclusively be demonstrated that this is the infection source in this country.

References

1. "International outbreak of *Salmonella* Enteritidis affecting England, France and Austria", *HPR* **8**(32).
2. "Salmonella outbreak investigation: update", PHE press release, 22 August.

HPR is moving to the GOV.UK/PHE domain

This will be the last issue of the *Health Protection Report* to be published on the hpa.org.uk website, which is being de-commissioned on 2 September 2014. From 5 September onwards, new editions of *HPR* will be published only on the PHE pages of the gov.uk domain, ie at: www.gov.uk/government/organisations/public-health-england (where issues published to date in 2014 will shortly also be available).

Editions of *HPR* published between 2007 to July 2014 have been archived on the British Library National Archives (BLNA) and will continue to be accessible via the HPR Archives URL: www.hpa.org.uk/hpr/archives/.

Archived copies of past PHLS and HPA publications (ie *CDR*, *CDR (Weekly)*, and *CPDH*) are also, for the most part, available via the BLNA, as follows:

- *CDPH* (1998-2004) via www.hpa.org.uk/CDPH/pages/back_issues.html) and http://webarchive.nationalarchives.gov.uk/+/http://www.hpa.org.uk/cdph/index.html.
- both *CDR (Weekly)* (1991-2006) and *CDR Review* (1991-1997) via the CDR Weekly Back Issues List page at: http://webarchive.nationalarchives.gov.uk/+/http://www.hpa.org.uk/cdr/archives/back_issues_list.htm.

Although the *HPR* microsite will be decommissioned, the weekly bulletin will continue to be emailed to subscribers, with links to the relevant news and reports on the gov.uk/phe domain. Although its primary focus will remain communicable disease surveillance and control, *HPR* will endeavour to reflect the full range of activity of PHE's Health Protection Directorate.

An archive copy of the legacy HPA website, as at end-July 2014, will be available from 2 September at: http://webarchive.nationalarchives.gov.uk/20140714084352/http://www.hpa.org.uk.

Radiation

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Radon detector performance annual report

The results of the latest annual inter-laboratory comparison of radon detector performance have been published by PHE, covering data gathered from 25 participating laboratories in 12 countries [1].

Stringent quality assurance is vital in the measurement of environmental radon levels, particularly when passive radon detector technology is used, and the scheme operated by PHE's CRCE (previously NRPB) since 1982 provides participants with a routine benchmark performance standard, with agreed test and interpretation protocols.

Participating laboratories are invited to submit sets of detectors to CRCE that are then exposed to a range of radon concentrations before being returned for processing. Laboratories, who are not informed of the details of the exposures until results have been submitted to CRCE, are ranked according to the degree of measurement error recorded.

The latest report covers the results of inter-comparisons carried out in 2013, covering all types of passive detector.

Reference

1. Results of the 2013 PHE intercomparison of passive radon detectors (PHE-CRCE-011), 22 August 2014, ISBN 978-0-85951-7577.

Infection reports

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Immunisation

Laboratory confirmed cases of measles, mumps and rubella (England and Wales): April-June 2014

Data presented here are for the second quarter of 2014 (i.e. April to June). Cases include those confirmed by oral fluid testing (IgM antibody tests and/or PCR) at the Virus Reference Department, Colindale and national routine laboratory reports (mumps infections only) (table 1). Analyses are by date of onset and regional breakdown figures relate to Government Office Regions.

Quarterly figures for cases confirmed by oral fluid antibody detection only from 1995 and annual total numbers of confirmed cases by region and age are available from:

- http://www.hpa.org.uk/web/HPAweb&HPAwebStandard/HPAweb_C/1195733778332
- http://www.hpa.org.uk/web/HPAweb&HPAwebStandard/HPAweb_C/1195733841496
- http://www.hpa.org.uk/web/HPAweb&HPAwebStandard/HPAweb_C/1195733752351.

Table 1. Laboratory-confirmed cases of measles, mumps and rubella and oral fluid IgM antibody tests in notified cases: weeks 14-26/2014

Notified and investigated cases				Confirmed cases				
Infecting virus	Cases reported to HPUs in England*	Oral fluid testing					Other samples	Total
		Number tested	% of reported cases tested	*Total positive*	*Recently vaccinated*	Confirmed infections		
Measles	707	518	73.2	*27*	*17*	10	6	16
Mumps	3214	2086	64.9	*810*	*6*	804	76	880
Rubella	137	84	61.3	*2*	*1*	1	–	1

* This represents the number of infections reported as possible cases and investigated by individual PHE centres in England.

Measles

Sixteen measles infections with onset dates in the April to June 2014 quarter were confirmed in England compared to 70 cases in the first quarter of the year [1].

Seven of the confirmed infections were identified in London with 4 cases reported from West Midlands, 3 cases the South East and one case each from Eastern and East Midlands regions. Across the UK, Scotland reported one case linked to recent travel to Vietnam but there were no measles cases reported from Wales or Northern Ireland.

Seven of the 16 English cases in the period reported a history of recent travel; 5 cases to the Far East (China and Vietnam) one each to Malawi and United Arab Emirates. Measles virus sequence was obtained from 11 out of the 16 English cases and the single Scottish case which either confirmed the importation of infection or suggested links to an importation.

Seven cases this quarter were in children aged 1 to 4 years and the remaining 9 cases were adults aged 20 to 64 years. Only one case reported previously receiving a measles-containing vaccine.

In the 12-month period July 2013 to June 2014, countries within the European Union and European Economic Area (EU/EEA) reported a total of 7,116 cases. More than three quarters of the cases were reported from three countries; the Netherlands 34.4%, Italy 30.7% and Germany 12.2%. The previously reported outbreak in the Hague, in the Netherlands is now over [1] but new outbreaks have been reported recently in Sweden and Belgium. Several outbreaks in EU Member States have a serological and epidemiological link to the large ongoing outbreak in the Philippines with 47,000 cases. Significant nosocomial transmission occurred in the three recent measles outbreaks reported from the Czech Republic, Latvia and Spain, demonstrating the continued presence of susceptible healthcare workers in EU Member States [2].

Mumps

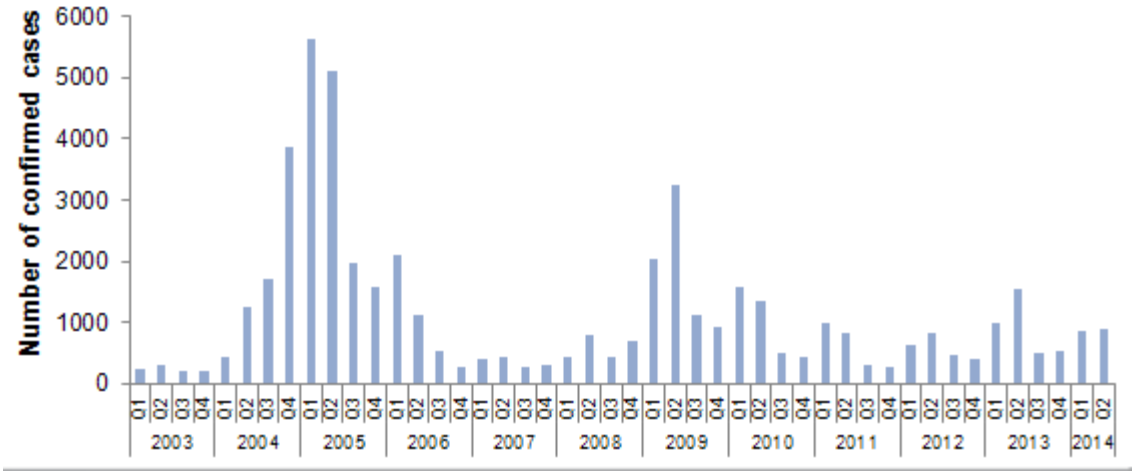
There were 880 laboratory confirmed cases of mumps in England with onset in the second quarter of 2014 bringing the total number of mumps infections for the first half of the year to 1,734. This follows the trend observed over the last decade of an increase in cases in first two quarters of the year (figure) [1]. Additionally, 199 samples were confirmed from Wales this quarter bringing the Welsh total number of cases for the first half of 2014 to 349.

Cases continue to be identified predominantly in young adults between 16 and 30 years of age (647/880 74%, Table 2). Over 40% of all cases this quarter have reported receiving at least one dose of MMR vaccination in childhood, suggesting that some waning immunity may be contributing to transmission. Mumps cases were identified in all regions of England although greater numbers were identified in London, and the South East regions (table 2).

Table 2. Laboratory confirmed cases of mumps by age group and region, England: weeks 14-26/2014

Region	<1	1-4	5-9	10-14	15-19	20-24	25+	Total
North East	–	–	–	–	2	4	4	10
North West	–	1	–	2	15	24	31	73
Yorkshire & Humber	1	6	2	1	12	15	23	60
East Midlands	–	1	1	7	37	57	26	129
West Midlands	–	1	2	6	37	31	45	122
East of England	–	–	–	3	10	21	25	59
London	–	3	3	11	23	47	91	178
South East	1	2	5	7	34	54	68	171
South West	–	1	–	3	18	25	31	78
Total	2	15	13	40	188	278	344	880

Laboratory confirmed cases of mumps by quarter, England, 2003-2014



Rubella

This quarter, the only confirmed rubella infection was in a newborn whose unvaccinated mother was infected during pregnancy and had acquired the infection abroad.

Countries within the EU/EEA with established rubella surveillance identified very few rubella infections. The outbreak in Poland is continuing, affecting predominately young male adults consistent with the country's selective vaccination of girls only between 1989 and 2004 [2].

References

1. PHE. Laboratory confirmed cases of measles, mumps and rubella, England: January to March 2014. *HPR* 8(20): immunisation, http://www.hpa.org.uk/hpr/archives/2014/hpr2014.pdf.

2. European Centre for Disease Prevention and Control (July 2014). Measles and rubella monitoring October 2013.

Laboratory reports of *Haemophilus influenzae* by age group and serotype (England and Wales): April-June 2014

In the second quarter of 2014 (April to June) there were a total of 206 laboratory reports of invasive *Haemophilus influenzae*. This represents a 16% decrease in cases compared to the previous quarter (n=206) and a 24% increase compared to the second quarter of 2013 (n=140).

Of the samples which underwent serotyping (n=142), 84% were non-capsulated *Haemophilus influenzae* (ncHi), a further 12% were serotype a, e, or f, and 4% were serotype b (Hib). These results indicate a slight decrease in the proportion of ncHi cases compared to the second quarter of 2013, when: 91% of serotyped samples were ncHi, 6% were serotype a, e, or f, and 3% were Hib.

Age group was well reported (table). Of the laboratory reports during the second quarter of 2014: 83% were aged 15 years and over; 7% were under one year of age; and 6% were among 1-4 year olds and 3% were aged 5-14 years. The age distribution was similar to that in the second quarter of 2013, where: 80% were aged 15 years and over; 12% were under one year of age; and 4% were among both 1-4 year olds and 5-14 year olds. The overall increase in numbers in the second quarter of 2014, compared to the second quarter of 2013, was largely due to a 30% increase in cases in the 15+ age group (from 111 to 144); cases also increased in the 1-4 year age group, from five to 11 cases (an increase of 120%) whilst they case fell in infants under one year of age.

During this quarter 92% of cases in children under 15 years were ncHi (n=22/24). There was one cases of Hib this age-group; an infant, who was too young to have received the first dose of the DTaP/IPV/Hib vaccine, who presented with fever and made a full recovery. This was comparable to the second quarter of 2013 were one case in a child under one years old was confirmed.

Age distribution of laboratory-confirmed cases of *Haemophilus influenzae* by serotype England and Wales, second quarter 2014 (*and 2013*)

Serotype	Age-group					Total, second quarter 2014 *(2014)*
	<1y	1-4y	5-14y	15+	nk	
b	1 *(1)*	– *(–)*	– *(–)*	5 *(3)*	– *(–)*	**6** *(4)*
nc	9 *(13)*	7 *(4)*	6 *(3)*	97 *(87)*	– *(1)*	**119** *(108)*
a,e,f	1 *(–)*	– *(–)*	– *(2)*	16 *(5)*	– *(–)*	**17** *(7)*
not typed	1 *(3)*	4 *(1)*	– *(1)*	26 *(16)*	– *(–)*	**31** *(21)*
Total	**12** ***(17)***	**11** *(5)*	**6** *(6)*	**144** *(111)*	– *(1)*	**173** *(140)*

Notes: " –" Indicates that testing yielded no positives. Percentages may not add up to 100 due to rounding.

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Immunisation

Laboratory reports of hepatitis A and C (England and Wales): January-March 2014

Laboratory reports of hepatitis A in England and Wales (January-March 2014)

There were a total of 69 laboratory reports of hepatitis A reported to Public Health England (PHE) during the first quarter of 2014 (January-March). This was a similar number of reported compared to the fourth quarter of 2013 (n=67) and a 5.8% increase on the same quarter in 2013 (n=73).

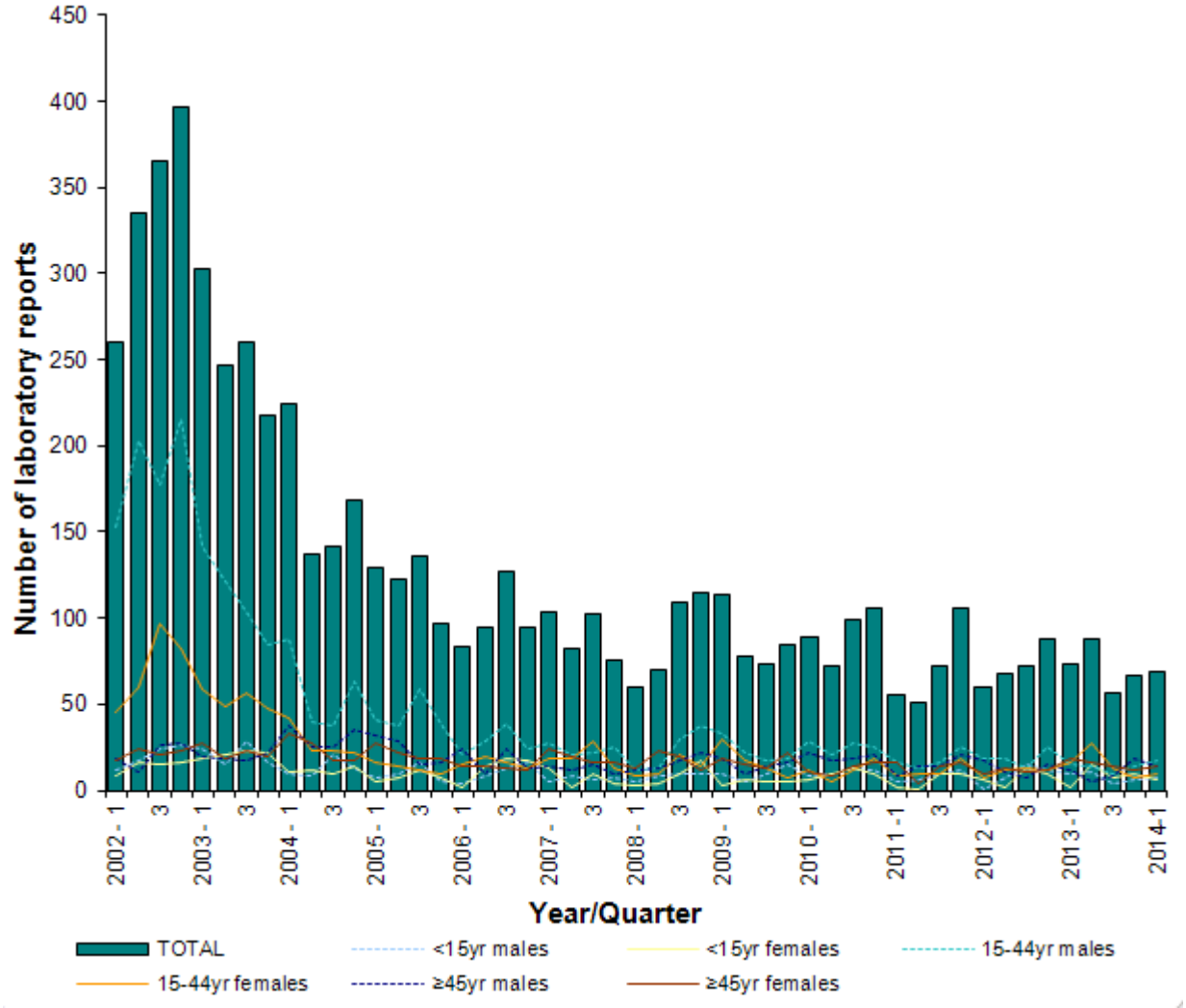
Age-group and sex were well reported (>98% complete). Twenty-eight (40.6%) reports were among those aged over 44 years, a further 27 (39.1%) reports were among the 15-44 year old age group and 14 (20.3%) reports were from the under 15 year age group.

Males accounted for 55.9% of all reports. A similar proportion of males and females were reported among those aged over 44 years old (50.0% males). However, more males than females were reported in the under 15 years age group (63.0% males) and in the under 15 year age group (53.8% males).

Table 1. Laboratory reports of hepatitis A in England and Wales, January to March 2014

Age group	Male	Female	Unknown	Total
<1 year	0	0	0	**0**
1-4 years	2	0	1	**3**
5-9 years	3	3	0	**6**
10-14 years	2	3	0	**5**
15-24 years	4	7	0	**11**
25-34 years	10	0	0	**10**
35-44 years	3	3	0	**6**
45-54 years	8	3	0	**11**
55-64 years	2	3	0	**5**
>65 years	4	8	0	**12**
Unknown	0	0	0	**0**
Total	**38**	**30**	**1**	**69**

Figure 1. Laboratory reports of hepatitis A by age and sex (England and Wales): 2002-2014

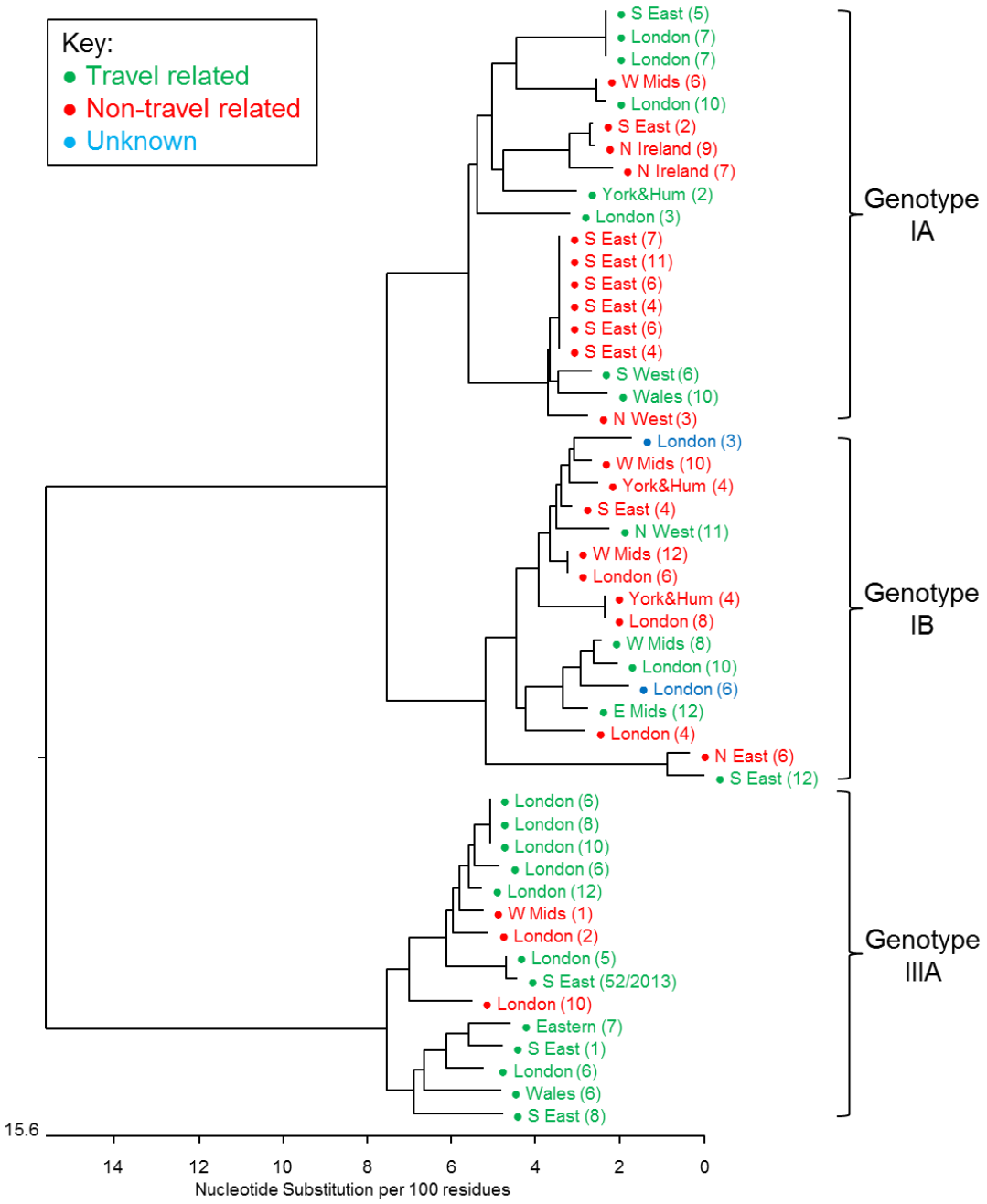


Reference laboratory confirmation and phylogeny of hepatitis A infection

Of the 69 patients notified as having acute HAV infection during the first quarter of 2014, 56 had samples forwarded to the Virus Reference Department for confirmation either by serology or by HAV RNA or by both. Fifteen of the patients were not confirmed to have acute HAV infection; 13 were tested by serology and two were tested by HAV RNA. The remaining 41 patients were confirmed to have acute HAV infection; 16 were confirmed by serology and HAV RNA and 25 by HAV RNA alone. In addition seven patients were confirmed to have acute HAV infection that had not been reported through the laboratory reporting system although they were recorded in HPzone. Two patients from Northern Ireland were also confirmed to have acute HAV infection..

A total of 50 patients were genotyped over this period; 19 were genotype IA (38%), 16 were genotype IB (32%) and 15 were genotype IIIA (30%). Of these samples 25 had travel history (50%), 23 had no travel history (46%) and 2 had no information (4%). This information is presented as a phylogenetic tree (figure 2). Each sequence is represented by a dot with the patient region and the week of sampling in brackets.

Figure 2. Phylogentic tree of genotype IA, IB, and IIIA sequences January to March 2014 (n=50)



Laboratory reports of hepatitis C in England and Wales (January-March 2014)

There were a total of 2,782 laboratory reports of hepatitis C reported to the PHE between January and March 2014. This was a similar number of reported compared to the fourth quarter of 2013 (n=2,757), and a 3.6% increase on the same quarter in 2013 (n=2,881).

Age-group and sex were well reported (>98% complete). Where known males accounted for 69.4% of reports (1,920/2,776), which is consistent with previous quarters. Adults aged 25-44 years accounted for 55.7% of the total number of hepatitis C reports.

Table 1. Laboratory reports of hepatitis C in England and Wales, January to March 2014

Age group	Male	Female	Unknown	Total
<1 year	1	1	0	**2**
1-4 years	2	0	0	**2**
5-9 years	4	1	0	**5**
10-14 years	1	2	0	**3**
15-24 years	64	74	2	**140**
25-34 years	485	256	6	**747**
35-44 years	576	213	5	**794**
45-54 years	490	157	0	**647**
55-64 years	236	87	1	**324**
>65 years	50	52	0	**102**
Unknown	11	3	2	**16**
Total	**1,920**	**846**	**16**	**2,782**

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Immunisation

Acute hepatitis B (England): annual report for 2013

Introduction

Hepatitis B is a blood borne infection of the liver caused by the hepatitis B virus (HBV). The virus can provoke an acute illness characterised by nausea, malaise, abdominal pain, and jaundice but can also produce a chronic infection that is associated with an increased risk for chronic liver disease and hepatocellular carcinoma. Transmission is by parenteral exposure to infected blood and body fluids, most often through sexual contact, blood to-blood contact and perinatal transmission from mother to child. HBV infection can be prevented by vaccination and in the UK immunisation is used for individuals at high risk of exposure to the virus or complications of the disease e.g. people who inject drugs (PWID), healthcare workers. Immediate post-exposure vaccination is used to prevent infection, especially in babies born to infected mothers or following needle-stick injuries. [1]

Surveillance of acute hepatitis B is essential to target prevention and control activities such as the immunisation programme. Public Health England (formerly The Health Protection Agency (HPA) implemented national surveillance standards [2] for hepatitis B in 2007 which provided the framework for more consistent reporting of cases from PHE Centres. Available data on confirmed acute infections reported from laboratories can then be used to augment the epidemiological data collected from the local centres. The first report was published in 2008, and this report provides an update and presents acute hepatitis B surveillance data for 2013.

Methods

The surveillance definition for acute hepatitis B [2] is

> "HBsAg positive *and* anti-HBc IgM positive *and* abnormal liver function tests with a pattern consistent with acute viral hepatitis."

As information on liver function is usually not available to PHE, for the purpose of this analysis:

- those cases classified as acute hepatitis by the local PHE Centre or the laboratory and/or with a documented positive anti-HBc IgM were classified as acute infections;
- those classified as acute infections by the PHE Centre but without anti-HBc IgM results, or not classified but with a positive anti-HBc IgM were assumed to be probable acute cases;
- those classified as acute by the PHE Centre but with contradictory evidence e.g. positive hepatitis serology results dated before July 2012 were reclassified as chronic infections;
- cases classified as chronic infections or those not classified where anti-HBc IgM was negative or equivocal were assumed to be chronic infections;
- and those cases that remained unclassified and without anti-HBc IgM results were excluded from further analysis.

PHE Centre cases with a date entered from 1 January 2013 to 31 December 2013 were extracted from HP Zone and matched to a laboratory dataset using Microsoft Access and algorithms comparing combinations of the following variables: Surname, First name, soundex, date of birth, sex, clinic number and NHS number. The laboratory database contained all confirmed hepatitis B infections reported to PHE by laboratories in England and Wales (LabBase).The LabBase data was used to augment laboratory results and determine final status of any matching cases reported from the PHE Centre. A final reconciled dataset included cases classified as acute or probable acute and reported from the PHE Centre and/or from the laboratory to LabBase. After follow up with the clinician and/or the patient, PHE Centre staff assigned a probable route of exposure and collected information on other possible exposure routes. For the analysis, where the probable route of exposure had not been assigned, the most likely route was assigned hierarchically (injecting drug use, followed by homosexual exposure, then heterosexual exposure, etc).

Results

The PHE Centres reported 5711 hepatitis B cases from 1 January to 31 December 2013 to the PHE Immunisation, Hepatitis and Blood Safety Department. The matching and classification exercise resulted in 335 of these being confirmed as acute and 36 re-classified as probable acute cases with the remainder classified as chronic or excluded. Nineteen cases reported as acute from the PHE Centres were excluded or reclassified because they had no anti-HBc IgM result, were matched to a case classified as chronic in the laboratory database were duplicate episodes, or had been declassified (discarded) by the centre. A total of 9899 confirmed hepatitis B infections were reported from laboratories to LabBase in the same period, 358 (3.6%) of which were classified as acute cases, 48 (0.5%) as probable acute cases, 8479 (85.7%) were classified as chronic and 1014 (10.2%) remained unclassified. After the two databases were linked and reconciled, a total of 414 acute or probable acute cases of hepatitis B were reported for England in 2013. This gives an annual incidence of 0.77 per 100,000 population, lower than the incidence of 1.04 per 100,000 reported for 2012. London is still the region with the highest incidence (1.22 per 100,000) although this has almost halved from the previous year (2.02 per 100,000); the East Midlands now has the lowest incidence (0.35 per 100,000). In eight regions incidence was similar or declined from last year; in two slight increases were observed (table 1). The largest increase (0.26) since 2012 was observed in the North West. There continues to be regional variation in the contribution of the different sources to the overall total, although the overlap between sources has continued to improve suggesting that completeness of reporting by laboratories and local clinicians has also improved. As in previous years, the majority of cases were in men (72%) who had an overall incidence of 1.12 per 100,000 – a decrease from 1.45 per 100,000 in 2012 and continuing a decline from the previous year [3]. The corresponding incidence in women in 2013 was 0.42 per 100,000 -also a decrease from 0.64 per 100,000 in the previous year. Men aged 45-54 years had the highest incidence of acute hepatitis B at 1.82 per 100,000 but all age groups except males aged 15-24 had a lower incidence than in 2012 .The incidence in children remains very low (table 2).

Only 89 (21%) of the total acute or probable acute hepatitis B cases had their ethnicity recorded, a lower proportion than the previous year. Fifty nine percent of the cases were white, followed by Asian or Asian British (18%) and Black or Black British (12%), the latter lower than in 2012.

Of the total 414 acute and probable acute cases of hepatitis B, 249 (60%) had associated exposure information recorded (with the most probable route of acquisition assigned by the PHE Centre in 196 (47%)); the same proportion had exposure information available in 2012. As in previous years the commonest reported risk attributed was heterosexual exposure, implicated as the probable route of exposure in 141 (57%), similar to 56% in this category in 2012 (n=191). Cases attributed to sex between men were reported in 40 (16%); a similar proportion to the 58 (17%) reported in 2012. Eleven cases (4.4%) with known exposure were attributed to PWID – an increase from 1.5% in the previous year. A further two cases reported injecting drug use during their lifetime but had been assigned to either heterosexual or homosexual exposure as the most likely risk by the PHE centre. In all, 18 (7%) cases had health care related exposures including, surgery, dental treatment, blood transfusion, and dialysis (of which 5 cases were reported to have been exposed abroad) – a decrease from the 33 cases assigned to medical risk factors last year.

Skin piercing, tattooing and acupuncture combined were listed as probable exposures for seventeen cases (6.8%) and a range of other risks were reported for the remaining 22 cases.

Discussion

In 2013, reporting of acute cases of hepatitis B from PHE Centres has continued to exceed the number reported from laboratories but the proportion of cases reported by both PHE Centres and laboratory systems is high at 71% (294/414). This increase in overlap may be due to improved matching because of better quality identifiers or it may reflect more complete reporting from both sources. The latter explanation is plausible given the introduction of statutory laboratory reporting in October 2010 and the continued decline in the proportion of cases of unknown status reported from laboratories. Combining data from both sources does minimise under ascertainment and improve the completeness of associated data for analysis. Interpretation of trends should be made with caution, but based on this combined data, the incidence of acute symptomatic hepatitis B is low and decreasing. Given the improved quality and completeness of data provided in 2013, it is likely that there has been a continued gradual decline in incidence since 2008 which has become more apparent in the last year.

It is known that anti-HBc IgM, normally a marker of acute infection, may be detected during flares in chronic infections. To minimise misclassification, matching to historical laboratory reports can identify those chronic infections detected previously. However, there is still likely to be some misclassification of chronic cases as acute infections in both datasets. Given the large number of chronic cases diagnosed each year, even a small proportion of cases misclassified as acute can substantially increase the estimated incidence of acute hepatitis B, and confuse the attribution of exposures. Further testing using anti-HBc avidity is now being offered at PHE Colindale, to enable better distinction between acute and chronic infection. Local laboratories can send samples from IgM positive cases to the national reference laboratory where both genotyping and avidity testing will be undertaken [5].

Risk factor data were available in 60% of cases. The interpretation of these data is difficult because in many instances, more than one possible exposure is listed and a probable exposure had not been assigned by the local unit. Despite this, the data suggest that the number of cases in PWID has remained low in 2013, although higher than the number reported in 2012. The overall low incidence in this group is supported by the 2012 unlinked anonymous survey among PWID in contact with drug services which showed that anti-HBc prevalence has remained low and self-reported uptake of hepatitis B vaccine has remained high since 2009, particularly in recent initiates [6].

The incidence of acute hepatitis B continues to remain higher in males than females. This excess of male cases is partly explained by cases in men who have sex with men (MSM); the number of cases with this exposure reported has remained high again this year, following a large increase in 2010. Such cases are more likely to be diagnosed in GUM clinics, reinforcing the important role of GUM clinics in providing opportunistic hepatitis B immunisation to MSM and individuals with multiple sexual partners. In 2010 the HPA worked with the British Association of Sexual Health and HIV (BASHH) to introduce a standard form for GUM clinics to report acute hepatitis to their local health protection team [7]. This may have helped to increase the reporting of cases diagnosed in this group. This year, a lower proportion of cases were attributed to medical exposure. It is still likely that many of these attributions are incorrect, as further investigation may have been undertaken – for example by NHS Blood and Transplant and excluded transmission by this route. It is therefore recommended that cases with these exposures assigned are checked prior to reporting.

References

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2. Standards for local surveillance and follow up of hepatitis B and C, London. Health Protection Agency, 2006. https://www.gov.uk/government/publications/hepatitis-b-and-c-local-surveillance-standards

3. Acute hepatitis B (England): annual report for 2012 http://www.hpa.org.uk/hpr/archives/2013/hpr3513_acthpb12.pdf

4. Mid-2013 population estimates for England, Office of National Statistics, 2013.

5. Enhanced surveillance of acute hepatitis B virus infection sample referral form:

http://www.hpa.org.uk/Topics/InfectiousDiseases/InfectionsAZ/HepatitisB/Forms/

6. Shooting Up: Infections among people who inject drugs in the UK 2012. An update: November 2013 http://www.hpa.org.uk/Publications/InfectiousDiseases/BloodBorneInfections/ShootingUp/1311ShootingupInfectionsamongIDUS/

7. Forms for reporting cases of acute hepatitis A, acute hepatitis B and acute hepatitis C diagnosed in Genitourinary Medicine Clinics (GUM) to local health protection teams (HPTs). https://www.gov.uk/government/publications/hepatitis-form-for-reporting-cases-from-gum-to-hpts

Table 1. Acute or probable acute hepatitis B cases by region and source of report, 2013 (incidence 2008-2013 – mid 2013 population ONS [4]**)**

REGION	HPU	Laboratory	BOTH	TOTAL	**Incidence of reported acute hepatitis B per 100,000 in 2013**	Incidence of reported acute hepatitis B per 100,000 in 2012	Incidence of reported acute hepatitis B per 100,000 in 2011	Incidence of reported acute hepatitis B per 100,000 in 2010	Incidence of reported acute hepatitis B per 100,000 in 2009	Incidence of reported acute hepatitis B per 100,000 in 2008
EAST MIDLANDS	5		11	16	**0.35**	0.77	0.76	0.74	0.85	1.3
EAST OF ENGLAND	9		39	48	**0.81**	0.89	1.08	0.78	0.85	0.97
LONDON	35	9	59	103	**1.22**	2.02	2.06	1.82	1.8	1.83
NORTH EAST	1		16	17	**0.65**	0.46	0.54	0.54	1.28	0.7
NORTH WEST	6	15	41	62	**0.87**	0.61	0.99	0.96	1.64	1.79
SOUTH EAST	7	13	39	59	**0.67**	0.84	0.96	0.84	1.03	1
SOUTH WEST	5	2	27	34	**0.63**	1.40	1.16	1.05	0.78	0.85
WEST MIDLANDS	4	4	23	31	**0.55**	0.98	0.90	0.66	0.74	0.76
YORKS and HUMBER	5		39	44	**0.82**	0.83	1.06	0.97	1.05	1.18
National	**77**	**43**	**294**	**414**	**0.77**	**1.04**	**1.13**	**0.99**	**1.15**	**1.21**

Table 2. Age and sex breakdown of acute or probable acute hepatitis B reports, 2013 (mid-2013 population ONS) [4]**.**

	Female		Male		NK		TOTAL	
Age group	Number of cases	Incidence of reported acute hepatitis B per 100,000 population	Number of cases	**Incidence of reported acute hepatitis B per 100,000 population**	Number of cases	Incidence of reported acute hepatitis B per 100,000 population	Number of cases	Incidence of reported acute hepatitis B per 100,000 population
<15	2	0.04	6	0.12		-	8	0.08
15-24	39	1.16	39	1.11	1	-	79	1.15
25-34	30	0.81	66	1.80		-	96	1.30
35-44	21	0.58	62	1.74		-	83	1.16
45-54	13	0.34	68	1.82	1	-	82	1.09
55-64	3	0.10	36	1.21		-	39	0.64
GE65	6	0.12	20	0.48		-	26	0.28
NK	-	-	1	-		-	1	-
Total	**114**	0.42	**298**	**1.12**	**2**	**-**	**414**	**0.77**