Public Health England

Health Protection Report
weekly report

Volume 9 Numbers 5 Published on: **13 February 2015**

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Ebola virus disease: international epidemiological summary (at 8 February 2015)

As of 8 February 2015, the World Health Organization reports a total of 22,894 clinically compatible cases (CCC) of Ebola virus disease (EVD), including 9,177 deaths, associated with the West African outbreak (see table). Provided case totals and, particularly, deaths are known to still under-represent the true impact of the outbreak in West Africa. While the majority of cases have been reported from Guinea, Liberia and Sierra Leone, cases have also been reported from Mali, Nigeria, Senegal, Spain, the United Kingdom (UK) and the United States of America (USA).

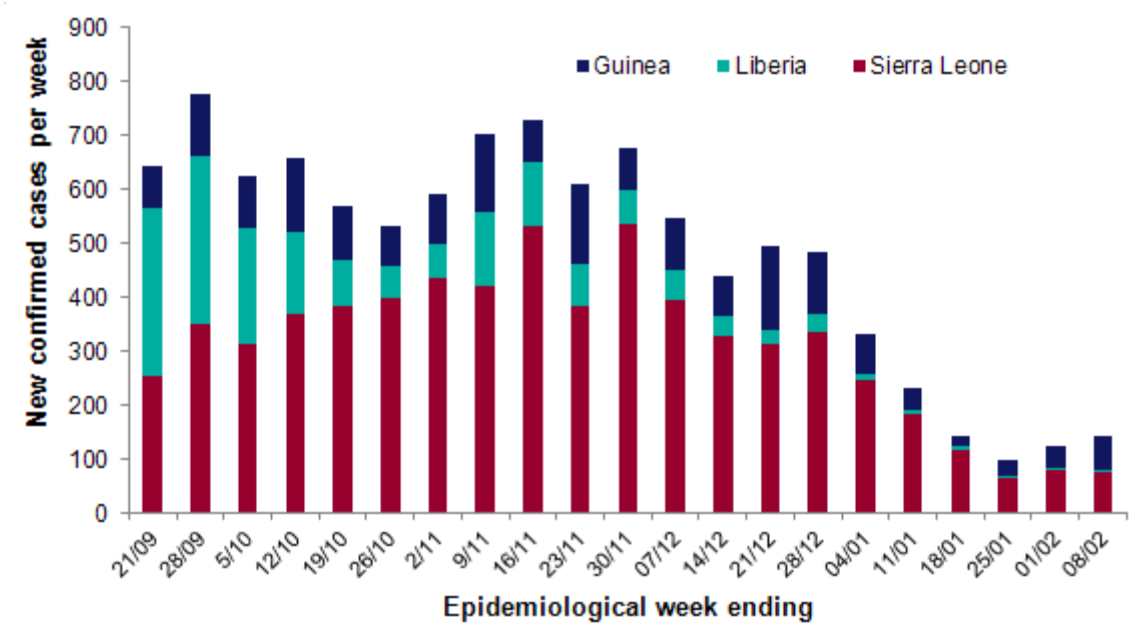
Summary of Ebola virus disease international epidemiological information as at 8 February 2015

Country	Total CCCs	Total deaths	Current status
Guinea	3044	1995	Ongoing transmission
Liberia	8881	3826	Ongoing transmission
Sierra Leone	10,934	3341	Ongoing transmission
Mali	8	6	EVD free
Nigeria	20	8	EVD free
Senegal	1	0	EVD free
Spain	1	0	EVD free
UK	1	0	Single imported case
USA	4	1	Awaiting EVD-free status
TOTAL	**22,894**	**9177**	

Substantial improvements in the epidemiological situation in Guinea, Liberia and Sierra Leone have been observed in the last two months. However, the complex nature of this outbreak means that control of EVD in West Africa continues to face significant challenges. In the last week, 144 new confirmed cases were reported from Guinea (65, 45%), Liberia (3, 2%) and Sierra Leone (76, 53%) (see figure).

In Guinea, an increase in national incidence was reported for the third consecutive week. The geographical distribution of cases continues to vary and shift, with eight prefectures reporting confirmed cases in the last week. While the majority of cases were reported from Forécariah, on the Sierra Leone border, Conakry the capital continues to record intense transmission. Reports of unsafe burials and incidents of community resistance remain an issue and may be impeding progress in EVD control.

Summary of Ebola virus disease international epidemiological information as at 8 February 2015



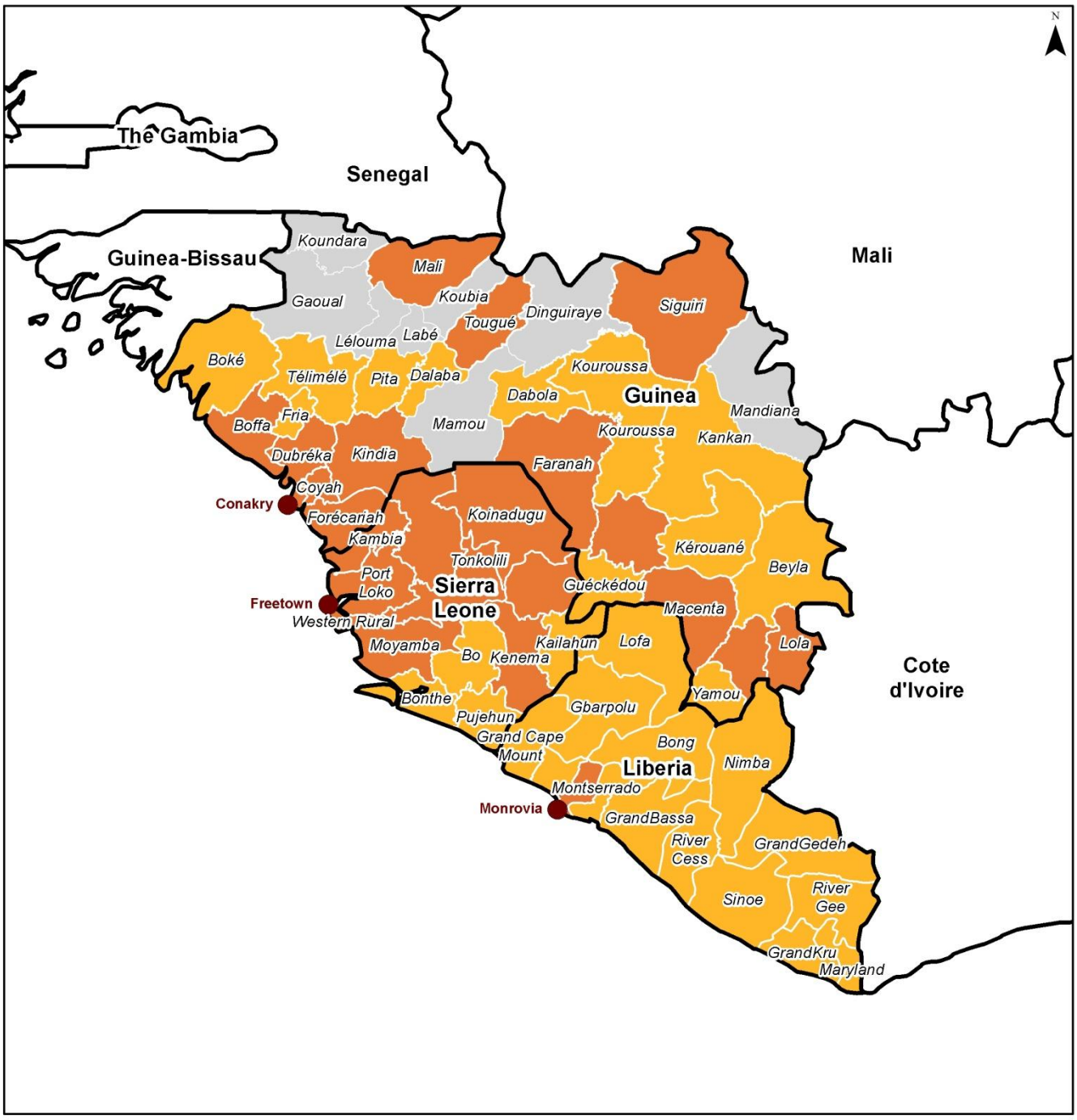
In Liberia, reported case incidence remains at a low level with three confirmed cases reported in the last week; all cases were reported from Montserrado county. The situation in Liberia appears to be entering the final stages of control yet incidents of community resistance, EVD deaths in the community and unsafe burials continue to be reported. Careful monitoring of all cases and contacts is required to ensure all chains of transmission are stopped.

Sierra Leone continues to record the majority of new cases in the West African EVD outbreak. Currently, Port Loko, Freetown and Kambia are the worst affected districts. While there has been substantial improvement in national incidence in Sierra Leone in the last two months, the fluctuating trend in new cases in certain districts, as well as ongoing reports of community resistance and reports of unsafe burials, may impede control measures and eventual cessation of the outbreak.

Further information on the international epidemiological situation can be found in PHE's weekly Ebola Epidemiological Update at: https://www.gov.uk/government/publications/ebola-virus-disease-epidemiological-update.

See also Ebola Outbreak Distribution Map below.

Ebola Outbreak Distribution Map



Capital Cities

Country Boundaries

WHO data as of 8 Februray (7 February for Liberia)

Confirmed cases by district in the last 21 days

- Newly affected area
- Active transmission
- No longer active transmission
- Unaffected

Group A streptococcal infections: update on seasonal activity, 2014/15

Public Health England is continuing to monitor notifications of scarlet fever in England following the substantial elevation in notifications reported last season (2013/14). The early part of the current season indicates continued elevated activity, with a steep increase being reported in the first few weeks of 2015.

According to the latest report on Group A Streptococcus activity for the 2014/15 season [1] (see the Infection Reports section of this issue), as of end-January 2015, national scarlet fever activity is showing a typical seasonal pattern, gradually increasing from a low level of notifications each week. Most parts of England are reporting elevated levels of scarlet fever compared with previous years, including the exceptional levels of activity noted last year. National invasive disease rates remain within the norm for this time of year, although above average activity is being reported in some parts of the country.

Reference

1. PHE (13 February 2015). Group A streptococcal infections: update on seasonal activity, 2014/15, *HPR* **9**(5), infection report: bacteraemia.

Wound botulism among people who inject drugs in Scotland and Norway

From 21 December 2014 to 9 February 2015, there have been 15 probable or confirmed cases of wound botulism among people who inject drugs (PWID) reported in Scotland [1]. In the cases where information is available, all of the individuals had either obtained their heroin in, or sourced it via, Glasgow. Among the six that have been confirmed microbiologically, three are type B. Overall, a total of 21 people in Scotland have been admitted to hospital since 21 December 2014, with a severe illness where botulism has been suspected. Two of these 21 illnesses had other causes, and four remain under investigation [1].

There is also an ongoing cluster of cases in Norway. As of 10 February 2015, the Norwegian Institute of Public Health had reported eight probable or confirmed cases of wound botulism in people who inject heroin in the Oslo area [2]. Prior to the present cases, 16 cases had been reported among PWID in Norway, including a cluster of 3 cases in 1997 [3] and one of seven cases in 2013 [4].

It is currently not known if the current clusters of wound botulism among PWID in Scotland and Oslo are linked. The contamination of heroin with *Clostridium botulinum* spores is thought to be an on-going and probably common occurrence, as the spores are widely found in the

environment. These two clusters suggest that one or more batches of heroin with probably higher-than-usual levels of spore contamination are in circulation.

In the UK a total of 167 cases of wound botulism among PWID were reported between 2000 and 2013; no cases were reported before 2000 [5,6]. Prior to the current cluster in Scotland there had been a single sporadic case (laboratory confirmed, type B) in England, in 2014. So far this year, 2015, one case of wound botulism among PWID has been reported in England (laboratory confirmed, type B). Although investigations are ongoing, this case is currently being managed as a sporadic case with no links to the cases in Scotland or Norway. There have been no cases in Wales or Northern Ireland in recent years.

As *C. botulinum* is an anaerobe, infection only occurs when the spores enter a suitable anaerobic environment, such as can be found in damaged tissues. In PWID such tissue damage can result from missed 'hits' (ie missing the vein when trying to inject intravenously) or when intentionally injecting intramuscularly or subcutaneously. In the UK, heroin is predominantly a brown powder that requires an acidifier for solubilisation. The acidic solution that results can increase the tissue damage at injection sites, particularly when injecting intramuscularly or subcutaneously. Most people who inject drugs do so intravenously and are unlikely to become infected when exposed to botulism spores because of the aerobic environment in the blood stream.

It is important that awareness of botulism infection among PWID is maintained, as promptly seeking healthcare can reduce the severity of the illness and prevent death. Updated materials on botulism for PWID, and those who work with them, have been produced and cascaded to appropriate services in England; these documents [7] and those on the management of suspected cases of wound botulism are also available [8].

References

1. Health Protection Scotland (10 February 2015). Botulism alert for people who inject drugs - update

2. Folkehelseintituttet N (2015). Åtte tilfeller av botulisme hos injiserende rusmisbrukere i Oslo-området.

3. Kuusi M, Hasseltvedt V, Aavitsland P (1999). Botulism in Norway. *Euro Surveill.* **4**(1): 11-12.

4. MacDonald E, Arnesen TM, Brantsaeter AB, Gerlyng P, Grepp M, Hansen BÅ, et al (2013). Outbreak of wound botulism in people who inject drugs, Norway, October to November 2013. *Euro Surveill.* **18**(45): 20630.

5. Wound botulism among PWID. *HPR* **7**(43), 25 October 2013.

6. PHE, Health Protection Scotland, Public Health Wales, and Public Health Agency Northern Ireland (November 2014). Shooting Up: Infections among people who inject drugs in the United Kingdom 2013.

7. PHE website. Botulism: infection in people who inject drugs.

8. PHE website. Botulism: clinical and public health management.

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Dr Alison Bermingham

Dr Alison Bermingham, a clinical virologist who joined the then Public Health Laboratory Service, Colindale, in 2003, died suddenly and unexpectedly on 5 February after an emergency admission to hospital in France, near Geneva, where she was on secondment to the World Health Organization.

Before joining PHLS, Dr Bermingham had a research background in respiratory viruses, especially RSV. For more than a decade she was involved at national level in many different major and minor outbreaks and epidemics of respiratory viruses, starting with SARS in 2003, pandemic influenza in 2009 and the coronavirus "MERS" in 2012, as well as contributing to the national preparations for the Olympics in 2012. With increasing seniority she played important roles in developing national surveillance programmes, culminating in her pivotal role in 2012 in the identification of the new human Middle East Respiratory Syndrome coronavirus and then assisting in the development of a national detection capability for this infection.

Bermingham was seconded to WHO Geneva in 2014 when it became clear that the international fight to control MERS-CoV needed to be strengthened by scientists with technical expertise to assist the affected countries. She soon made important contributions to the global disease control effort and her achievements were such that the WHO asked to extend her secondment.

Within the global Taskforce Bermingham provided her technical expertise to laboratory support for MERS-CoV affected countries, including laboratory standards, biosafety, appropriate diagnostics and their evaluation, and in building collaborations with external laboratory scientists. She travelled extensively to affected countries to strengthen the rapid diagnosis of the disease – a key achievement in the management of the outbreak. At the same time, she maintained many of her interests within Colindale, continuing to direct technical developments within the respiratory unit from a distance and keeping her finger on the pulse of activities in PHE, including developing projects as a theme lead within the newly formed Respiratory Health Protection Research Unit at Imperial College.

In a message to staff, PHE chief executive Duncan Selbie said Dr Bermingham would be remembered for her commitment to her work and her desire to do the best in all circumstances.

A mini scientific symposium will be held at Colindale during the spring in her honour to record her scientific interests and contribution to public health.

Public Health England

Health Protection Report
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Infection Reports

Bacteraemia

Group A streptococcal infections: update on seasonal activity, 2014/15

Enteric

- General outbreaks of food-borne illness, laboratory reports of common GI infections and hospital norovirus outbreaks (E&W, weeks 1-4/2015); and salmonella infections (E&W, December 2014, provisional)
- Enteric fever surveillance quarterly report (EWNI): Q4/2014

Zoonoses

Common animal associated infections quarterly report (England and Wales): fourth quarter 2014

CJD

CJD biannual update, February 2015

Infection reports

Volume 9 Number 5 Published on: 13 February 2015

Bacteraemia

Group A streptococcal infections: update on seasonal activity, 2014/15

Following the substantial elevation in scarlet fever notifications last season, the early part of the current 2014/15 season indicates continued elevated activity [1]. Steep increases in scarlet fever activity have been noted in a number of areas in England since the beginning of 2015. However national in-hours GP consultations for scarlet fever show weekly levels only slightly above average at this time [2]. Routine laboratory reports of invasive group A streptococcal (iGAS) disease are currently within normal seasonal levels indicating the need for heightened vigilance over the coming months as we enter peak season.

Scarlet fever

Following the substantial increase in scarlet fever during the 2013/14 season, the number of notifications remain elevated across most parts of England into the 2014/15 season. The increasing numbers of notifications currently being seen are in line with the usual seasonal pattern (figure 1). A total of 1265 notifications of scarlet fever with onset dates during weeks 1 to 6 of 2015 were made to Public Health England (PHE) compared to 762 for this period last year and an average of 592 for the past four years (range: 402 to 762; figure 1). Most parts of England are reporting higher rates of scarlet fever in the first part of 2015 than this time last year, around double for most areas and three-fold higher for Cumbria and Lancashire (table 1). Only three areas have lower rates of scarlet fever compared to the same period last year. The age distribution of cases notified so far for this season remains similar to previous years, with 89% being children under 10 years (median 4 years).

Figure 1. Weekly scarlet fever notifications in England, 2008/09 onwards

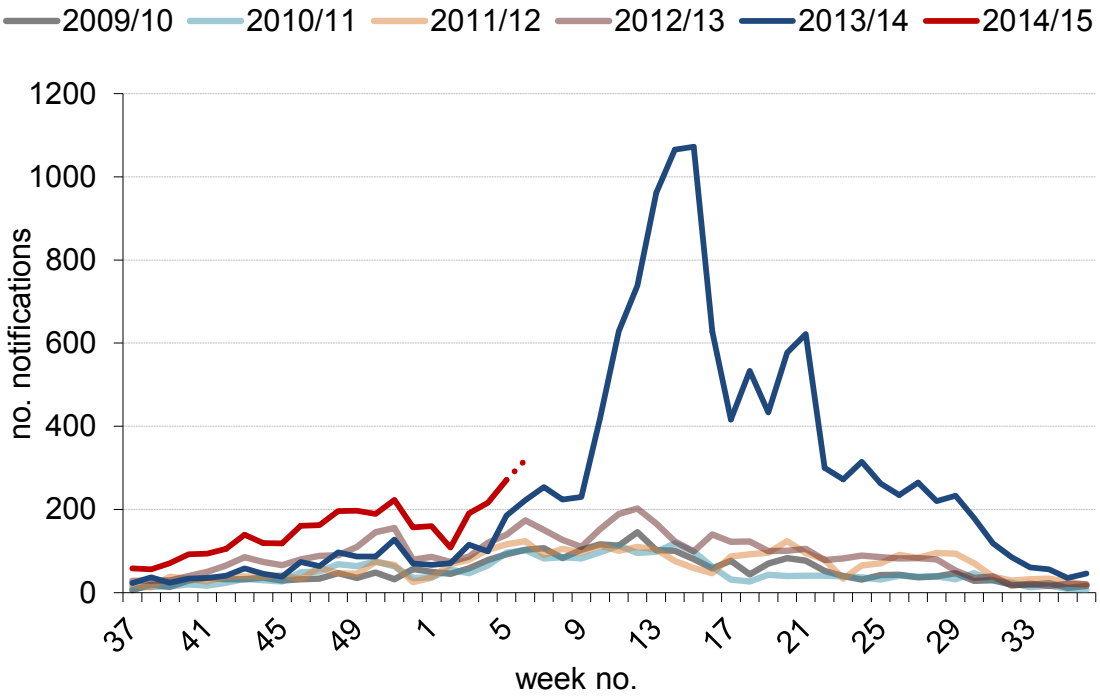


Table 2. Scarlet fever notifications and rate per 100,000 population by PHE Centre in 2014/15 (weeks 01 to 06)

	2013/14 season 2014, weeks 1 to 6		2014/15 season 2015, weeks 1 to 6		
PHE Centre Name	**No. cases**	**Rate**	**No. cases**	**Rate**	**Rate Ratio**
Anglia and Essex	45	1.1	53	1.3	1.2
Avon, Gloucestershire and Wiltshire	62	2.6	74	3.1	1.2
Cheshire and Merseyside	5	0.2	97	4.0	19.4
Cumbria and Lancashire	28	1.4	91	4.6	3.3
Devon, Cornwall and Somerset	33	1.5	24	1.1	0.7
East Midlands	56	1.4	135	3.5	2.4
Greater Manchester	53	2.0	40	1.5	0.8
Kent, Surrey and Sussex	60	1.3	84	1.8	1.4
London	67	0.8	115	1.4	1.7
North East	64	2.5	104	4.0	1.6
South Midlands and Hertfordshire	42	1.6	67	2.6	1.6
Thames Valley	53	2.6	48	2.3	0.9
Wessex	32	1.2	57	2.1	1.8
West Midlands	67	1.2	118	2.1	1.8
Yorkshire and the Humber	95	1.8	158	3.0	1.7
England	**762**	**1.4**	**1265**	**2.4**	**1.7**

Invasive Group A Streptococcus

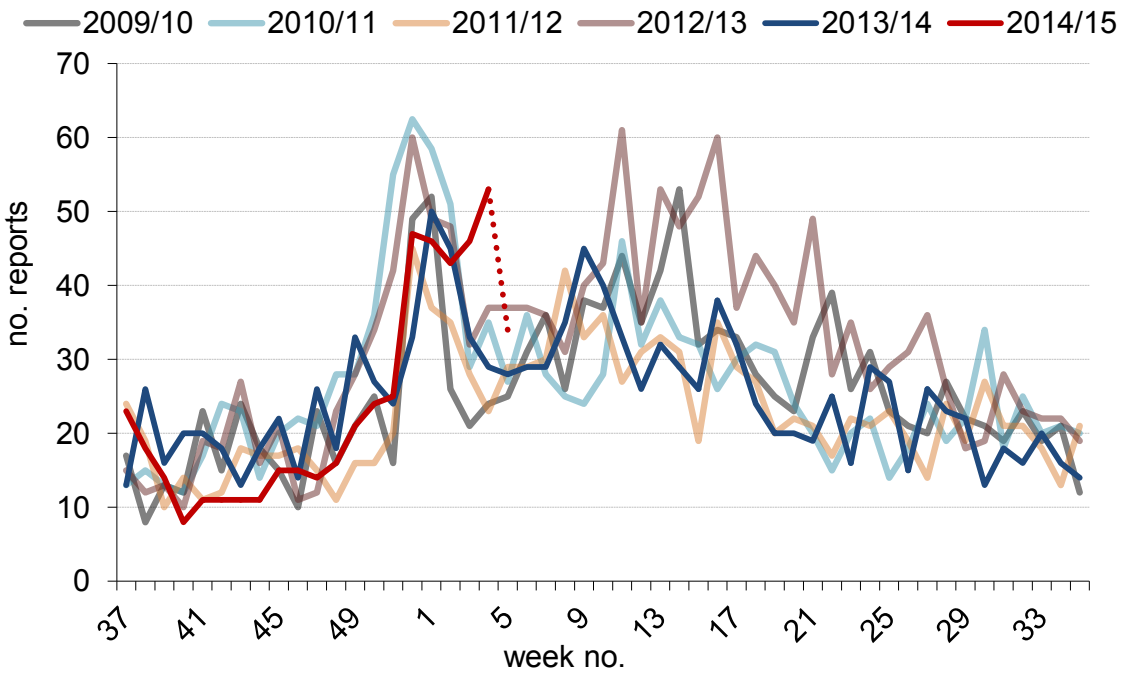
The number of routine laboratory reports of invasive GAS in England is within normal levels, with a total of 517 cases reported so far this season (week 37, 2014, to week 6, 2015; figure 2). This is slightly below the average for the same period over the last five years (549) but within range for this period (464 to 640).

Analysis of iGAS *emm* strain diversity remains similar to what is normally seen with *emm* st1 (24% of referrals) and *emm* st3 (12%) and *emm* st12 (12%) the most common types identified so far this season (October 2014 to January 2015).

Six English regions have reported higher than average (2010 to 2014) iGAS cases so far this year (weeks 1 to 6), London (32), West Midlands (34), Devon, Cornwall & Somerset (14), Surrey, Sussex & Kent (21) North East (13) and Yorkshire & Humber (29).

Antimicrobial susceptibility results from routine iGAS laboratory reports for the season so far indicate erythromycin non-susceptibility within the usual range at 4%. The susceptibility testing of iGAS isolates against other key antimicrobials (tetracycline (8%), clindamycin (2%) and penicillin (0%)) indicate no changes in resistance.

Figure 2. Weekly routine laboratory reports of iGAS, England, 2008/09 onwards



This increase in scarlet fever notification is slightly earlier than observed in the 2013/14 season although in line with other years. Since the peak reported last season, levels of scarlet fever have remained elevated. Whilst this might reflect heightened awareness and improved diagnosis and/or notification practices, the high number of cases being currently notified is of concern. Over 14,000 cases of scarlet fever were notified in England last year, the highest total since the late 1960s. Historical peak years of activity have been preceded by a season of elevated activity and as such, it remains foreseeable that this year could exceed last year. Given this considerable uncertainty, close monitoring, rapid and decisive response to potential outbreaks and early treatment of scarlet fever remains essential, especially given the potential complications associated with GAS infections.

Whilst invasive GAS disease reports remained within the usual bounds last season, current activity is slightly elevated in some parts of the country. As such, clinicians, microbiologists and Health Protection Teams should continue to be mindful of potential increases in invasive disease and maintain a high index of suspicion in relevant patients. Early recognition and prompt initiation of specific and supportive therapy for patients with iGAS infection can be life-saving. Invasive disease isolates and those from suspected clusters or outbreaks should be submitted to the Respiratory and Vaccine Preventable Bacteria Reference Unit at Public Health England, 61 Colindale Avenue, London NW9 5HT. Relevant guidelines/FAQs are available on the PHE website, as follows:

- Guidelines on infection control in schools and other childcare settings, including recommended exclusion periods for scarlet fever and guidelines on management of scarlet fever outbreaks, can be found at:
  https://www.gov.uk/government/publications/scarlet-fever-managing-outbreaks-in-schools-and-nurseries
  https://www.gov.uk/government/publications/infection-control-in-schools-poster

- FAQs on scarlet fever can be found at: https://www.gov.uk/government/collections/scarlet-fever-guidance-and-data

- Guidelines for the management of close community contacts of invasive GAS cases and the prevention and control of GAS transmission in acute healthcare and maternity settings are also available here: https://www.gov.uk/government/collections/group-a-streptococcal-infections-guidance-and-data

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1. PHE (November 2014). Group A streptococcal infections: seasonal activity, 2014/15. *Health Protection Report* **8**(44): Infection (News) Report.

2. PHE. GP in-hours consultations bulletin: 11 February 2015 week 6.

3. PHE (2014). Group A streptococcal infections: seventh update on seasonal activity, 2013/14. *Health Protection Report* **8**(27): Infection (News) Report.

Infection reports

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Enteric

General outbreaks of foodborne illness in humans, England and Wales: weeks 1-4/2015

Preliminary information has been received about the following outbreaks.

PHE Centre/ Health Protect'n Team	Organism	Location of food prepared or served	Month of outbreak	Number ill	Cases positive	Suspect vehicle	Evidence
North East London	Scombrotoxin	Food outlet	January	2	2	Tinned tuna	D

D = Descriptive epidemiological evidence: suspicion of a food vehicle in an outbreak based on the identification of common food exposures, from the systematic evaluation of cases and their characteristics and food histories over the likely incubation period by standardised means (such as standard questionnaires) from all, or an appropriate subset of, cases.

Common gastrointestinal infections, England and Wales, laboratory reports: weeks 1-4/15

Laboratory reports	Number of reports received				Total reports	Cumulative total	
	01/15	02/15	03/15	04/15	1-4/15	1-4/15	1-4/14
Campylobacter	804	1000	1030	1149	3983	3983	3604
Escherichia coli O157 *	5	5	7	2	19	19	17
Salmonella †	43	73	50	18	184	184	159
Shigella sonnei	24	32	43	26	125	125	75
Rotavirus	59	51	66	81	257	257	274
Norovirus	220	192	172	258	842	842	733
Cryptosporidium	66	69	79	38	252	252	152
Giardia	62	83	89	117	351	290	83

*Vero cytotoxin–producing isolates: data from PHE's Gastrointestinal Bacteria Reference Unit (GBRU).
† Data from GBRU.

Salmonella infections (faecal specimens) England and Wales, reports to Public Health England (salmonella data set): December 2014

Details of 502 serotypes of salmonella infections recorded in December are given in the table below.

In January 2015, 167 salmonella infections were recorded.

Organism	Cases: December 2014
S. Enteritidis PT4	5
S. Enteritidis (other PTs)	116
S. Typhimurium	101
S. Virchow	12
Others (typed)	268
Total salmonella (provisional data)	**502**

Note: Following the introduction of a new laboratory reporting system (SGSS) in December 2014, direct comparisons with data generated by the previous system (LabBase2) may not be valid.

Suspected and laboratory-confirmed reported norovirus outbreaks in hospitals, with regional breakdown: outbreaks occurring in weeks 1-4/15

The hospital norovirus outbreak reporting scheme (HNORS) recorded 62 outbreaks occurring between weeks 1 and 4, 2015, all of which (57%) led to ward/bay closures or restriction to admissions. Thirty-five outbreaks (57%) were recorded as laboratory confirmed due to norovirus (see table following page). For the calendar year 2014 – between week 1 (January) and week 52 (week beginning 22 December) – 689 outbreaks were reported. Ninety-three per cent (642) of reported outbreaks resulted in ward/bay closures or restrictions to admissions and 67% (459) were laboratory confirmed as due to norovirus (see table following page).

Seasonal comparison of laboratory reports of norovirus (England and Wales)

In the current season to date† (from week 27, 2014, to week 4, 2015), there were 3726 laboratory reports of norovirus. This is 6% lower than the average number of laboratory reports for the same period in the seasons between 2009/10 and 2013/2014 (3951, see table following pages). The number of laboratory reports in the most recent weeks will increase as further reports are received.

† The norovirus season runs from July to June (week 27 in year one to week 26 in year two) in order to capture the winter peak in one season.

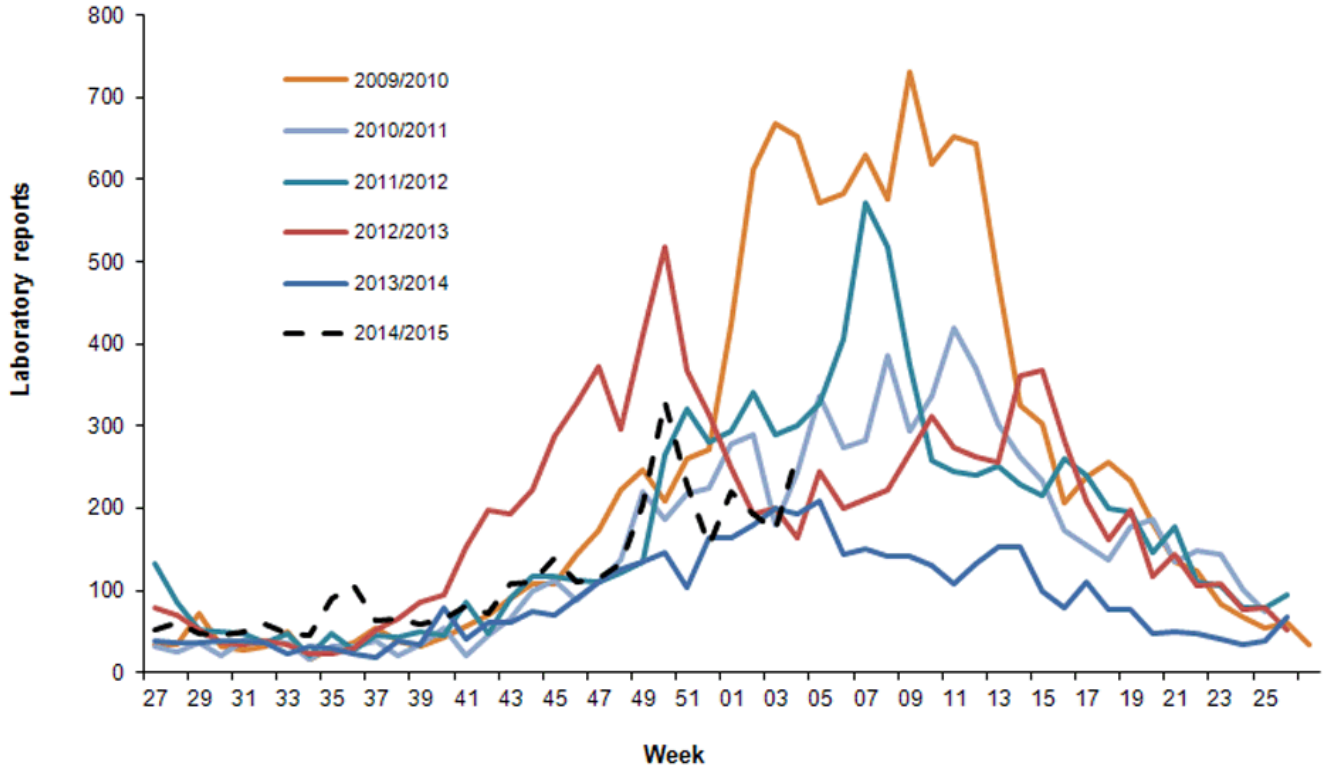
Notes: The number of laboratory reports in the most recent weeks will increase as further reports are received. A new laboratory reporting system was commissioned on 1 December 2014; as a result, direct comparisons between the earlier report (based on LabBase2) and the new system (SGSS) may not be valid.

Suspected and laboratory-confirmed reported norovirus outbreaks in hospitals, with regional breakdown: outbreaks occurring in weeks 1-4/2015 (and 1-52/2014)

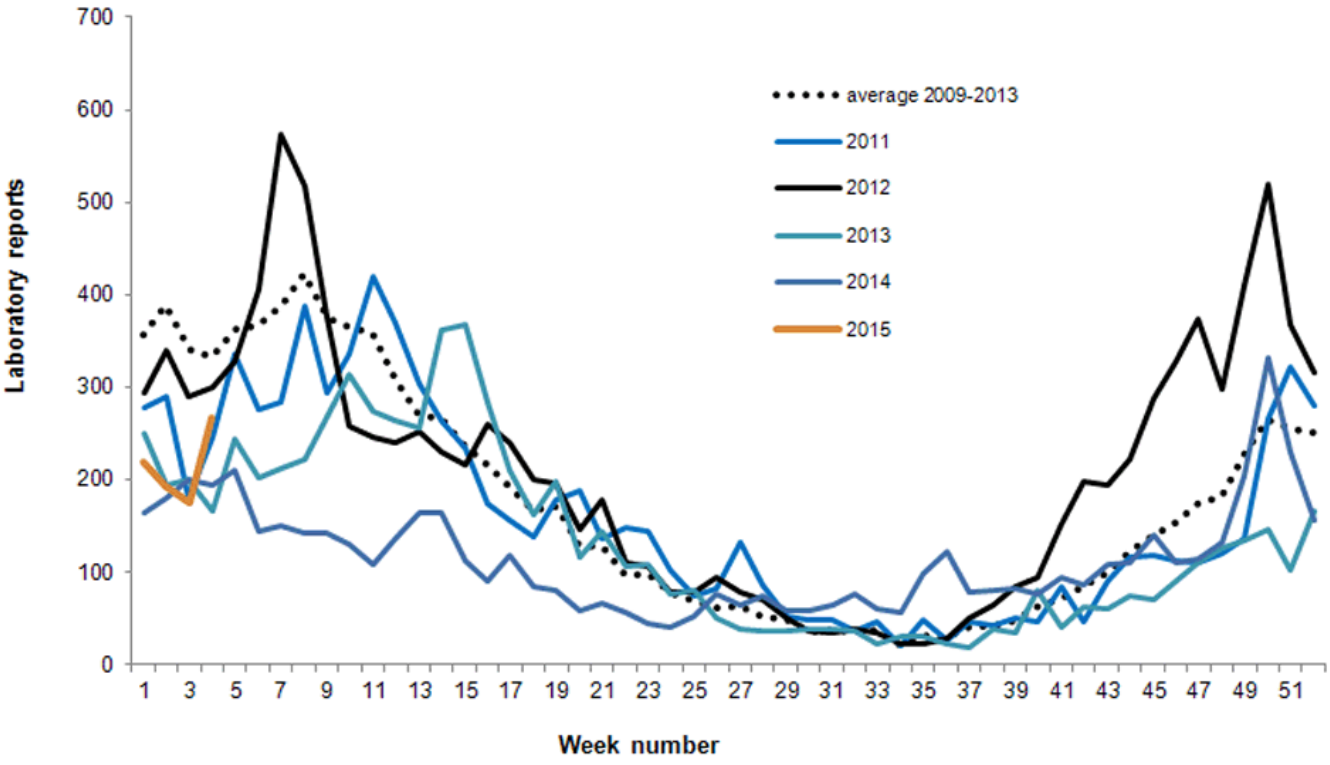
Region/ PHE Centre	Outbreaks between weeks 1-4/2015			Total outbreaks 1-52/2014		
	Outbreaks	Ward/bay closure*	Lab-confirmed	Outbreaks	Ward/bay closure*	Lab-confirmed
Avon, Gloucestershire and Wiltshire	2	2	1	83	81	52
Bedfordshire, Hertfordshire and Northamptonshire	4	4	3	–	–	–
Cheshire and Merseyside		–	–	–	3	2
Cumbria and Lancashire	9	9	2	23	23	12
Devon, Cornwall and Somerset	6	6	3	86	83	54
Greater Manchester	4	4	1	20	18	7
Hampshire, Isle of Wight and Dorset	4	4	4	42	42	31
Lincolnshire, Leicestershire, Nottinghamshire and Derbyshire	1	1	–	52	50	42
London	1	1	–	7	7	–
Norfolk, Suffolk, Cambridgeshire and Essex	–	–	–	–	–	5
North east	9	9	5	86	75	57
Sussex, Surrey and Kent	–	–	–	28	28	19
Thames Valley	–	–	–	17	14	6
West Midlands	20	20	14	115	111	64
Yorkshire and the Humber	2	2	2	127	108	108
Total	**62**	**62**	**35**	**689**	**642**	**459**

* Note: not all outbreaks result in whole wards closures, some closures are restricted to bays only.

Seasonal comparison of laboratory reports of norovirus (England and Wales), to week 4, 2015



Current-year (to week 4) norovirus laboratory reports compared to weekly average 2006/2010



Infection reports

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Enteric

Enteric fever surveillance quarterly report (England, Wales and Northern Ireland): fourth quarter 2014

This quarterly report summarises the epidemiology of laboratory confirmed cases of typhoid and paratyphoid reported in England, Wales and Northern Ireland between October and December 2014. It includes both reference laboratory and enhanced enteric fever surveillance data. All data for 2014 presented below are provisional; more detailed reports will be produced on an annual basis. More information about enteric fever surveillance, including previous reports, is available on the PHE website [1].

National summary

In the fourth quarter (Q4) of 2014, 60 laboratory confirmed cases of enteric fever were reported in England (table 1), 13% lower than the fourth quarter of 2013 and 33% below the rolling mean (89) for Q4 2007 to 2014 (figure 1). There were no provisional cases reported in Wales and Northern Ireland for Q4. A decrease in case numbers has been seen for *S*. Typhi, 33 in Q4 2014 compared to 50 in Q4 2013, 34% lower (table 1).

Figure 1 Laboratory confirmed cases of enteric fever by organism, England, Wales and Northern Ireland: fourth quarter 2007 - 2014

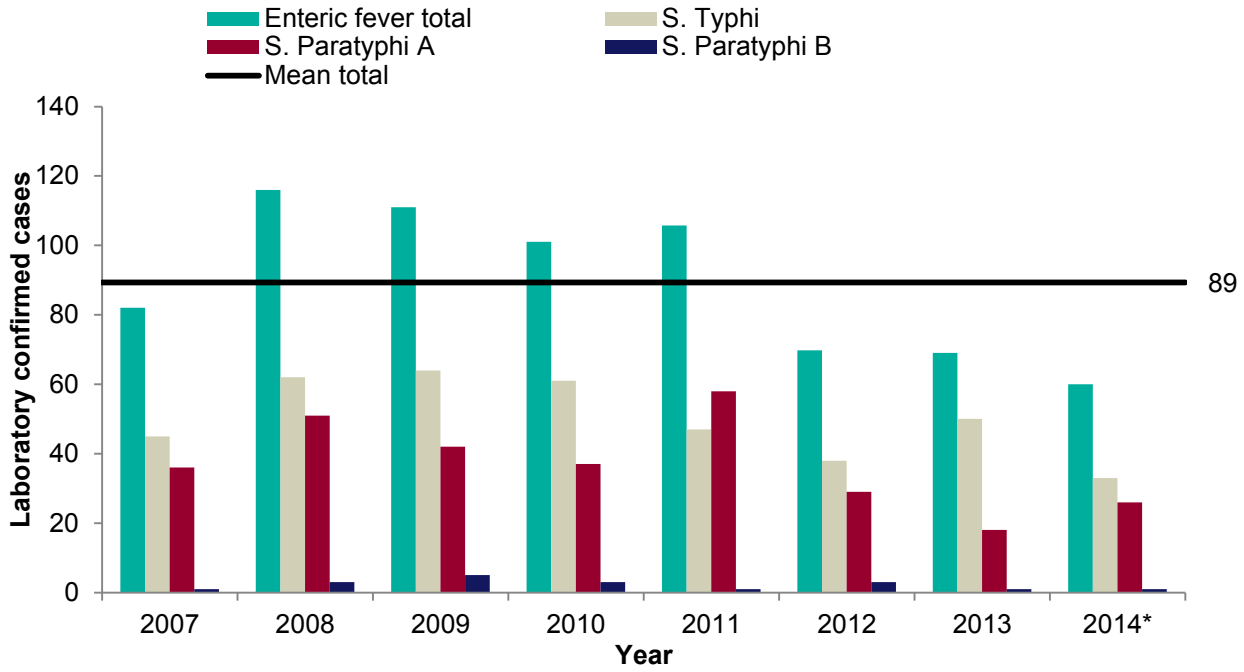


Table 1 Laboratory confirmed cases of enteric fever, England, Wales and Northern Ireland: fourth quarter 2007 – 2014

Organism	Laboratory confirmed cases							
	Q4 2014	Q4 2013	Q4 2012	Q4 2011	Q4 2010	Q4 2009	Q4 2008	Q4 2007
Salmonella Typhi	33	50	38	47	61	64	62	45
Salmonella Paratyphi A	26	18	29	58	37	42	51	36
Salmonella Paratyphi B	1	1	3	1	3	5	3	1
Salmonella Paratyphi C	-	-	-	-	-	-	-	-
Salmonella Typhi and Paratyphi A	-	-	-	-	-	-	-	1
Enteric fever total	**60**	**69**	**70**	**106**	**101**	**111**	**116**	**83**

Table 2 Laboratory confirmed cases of enteric fever by organism and phage type, England, Wales and Northern Ireland: fourth quarter 2014

Phage type	*S*. Paratyphi A
PT 13	9
PT 1	4
PT 1a	4
PT 4	3
PT 6a	2
PT 14	2
PT 2	2
Total	**26**

Phage type	*S*. Typhi
PT E1	12
PT E9 Var.	9
Untyp.VI	7
PT E14	2
VI Neg.	1
PT C4	1
PT F1	1
Total	**33**

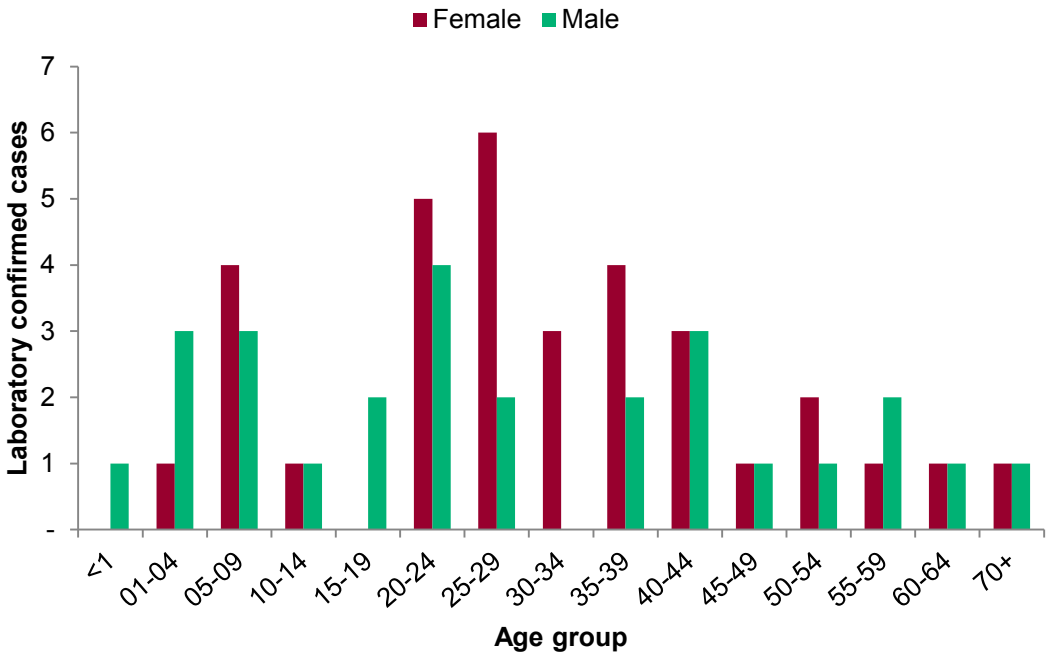
Phage type	*S*. Paratyphi B
Taunton	1
Total	**1**

In general, *S.* Typhi phage types E1, Untyp. VI and E9 Var and *S*. Paratyphi A phage types 1, and 13 occur most frequently (table 2) [2].

Age/sex distribution

In the fourth quarter of 2014, the median age of cases was 29 years and 25% (33% for males and 18% for females) were aged 16 years and under. Females represented 55% of all cases and males 45%, which is unusual as typically there are slightly more males with typhoid consistent with the proportion who travel (figure 2), however this may be artefactual due to the smaller numbers reported in Q4.

Figure 2 Laboratory confirmed cases of enteric fever by age and sex (N=60): fourth quarter 2014



Geographical distribution

London PHE Region reported 32% of the total cases during the fourth quarter of 2014 (table 3). Only regions are shown in this report as the numbers are too small to disaggregate by PHE Centre; between one and 19 cases were reported by each of 13 PHE Centres during the fourth quarter in 2014. PHE Centre data is available for local PHE teams on request.

Table 3. Laboratory confirmed cases of enteric fever by region: fourth quarter 2014

Region	Q4 2014	Q4 2013	% change
London	19	35	-45.7%
North of England	15	13	15.4%
South of England	12	16	-25.0%
Midlands and East of England	14	23	-39.1%
Wales	-	2	-100.0%
Northern Ireland	-	-	-
Grand total	**60**	**89**	**-32.6%**

Travel history

In the fourth quarter, travel history was known for 54 (90%) cases; of which 52 cases were presumed to be acquired abroad and two cases had not travelled outside the UK in the 28 days prior to symptoms.

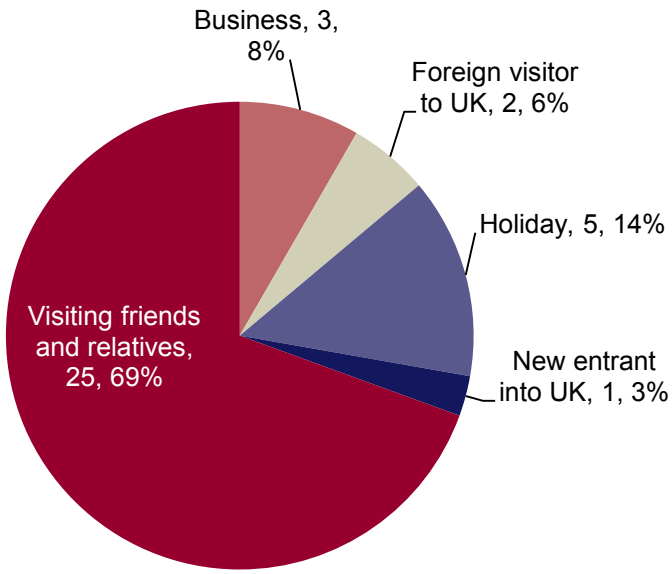
Travel-associated cases

Travel-associated cases were likely to have acquired their infection in: India (20); Pakistan (24); Bangladesh (five); Zimbabwe (three); Turkey and Nepal (two each); China, Cambodia, South Africa, Afghanistan, Peru (one each). For two cases, country of travel was not stated. Some cases travelled to more than one country so totals will not equal the number of total cases that travelled. Where multiple countries of travel have been stated by the case, only risk countries, as identified by the National Travel Health Network and Centre [3], were included for analysis. If a case travelled to multiple risk countries each country was counted individually. India and Pakistan continue to be the most frequently reported countries of travel for the fourth quarter.

Reason for travel

Of the 52 cases that had travelled abroad, reason for travel was known for 36. Among those, 69% of cases travelled to visit friends and relatives (figure 4).

Figure 4 Laboratory-confirmed cases of enteric fever that have travelled abroad (N=36) by reason for travel: fourth quarter 2014



Non-travel-associated cases

Two cases in the fourth quarter had enhanced information available stating they had not travelled abroad within 28 days of developing symptoms. One of the cases was suspected to have acquired *S.* Typhi infection from a microbiology lab where the case worked. Neither of the two cases had links to known cases or travellers from endemic countries and no other possible sources have been identified.

Data sources and acknowledgements

Data were collated and analysed by the Travel and Migrant Health Section, Centre for Infectious Disease Surveillance and Control, Colindale. Laboratory data were provided by Gastrointestinal Bacterial Reference Unit, Microbiology Services, Colindale. Other surveillance data were provided by Environmental Health Officers and local health protection colleagues in PHE through enteric fever enhanced surveillance.

References

1. PHE website. Enhanced surveillance of enteric fever, https://www.gov.uk/government/collections/typhoid-and-paratyphoid-guidance-data-and-analysis
2. PHE website. Typhoid and paratyphoid: laboratory confirmed cases in England, Wales and Northern Ireland, https://www.gov.uk/government/publications/typhoid-and-paratyphoid-laboratory-confirmed-cases-in-england-wales-and-northern-ireland
3. National Travel Health Network and Centre (NaTHNaC) website, http://www.nathnac.org/.

Infection reports

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Zoonoses

Common animal associated infections quarterly report (England and Wales) – fourth quarter 2014

This quarterly report, produced by the Emerging Infections and Zoonoses Section at Public Health England Centre for Infectious Disease Surveillance and Control, and the Health Protection Division of Public Health Wales, summarises confirmed cases of zoonoses reported in England and Wales between October and December 2014 (fourth quarter; weeks 40-52).

Animal associated infections in England and Wales: laboratory reports to SGSS† (unless otherwise specified) by specimen date, Q4 (weeks 40-52/14)

Disease (Organism)	Reports for weeks 01-13		Reports for weeks 14-26		Reports for weeks 27-39		Reports for weeks 40-52		Total weeks 01-52	
	2014*	2013	2014*	2013	2014*	2013	2014*	2013	2014*	2013
Anthrax (*Bacillus anthracis*)	–	1	–	–	–	–	–	–	–	1
Brucellosis** *(Brucella spp.)*	2	1	2	6	4	5	2	–	10	12
Hepatitis E**	217	148	249	155	234	184	169	205	869	692
Hydatid** (*Echinococcus granulosus*)	6	3	2	3	1	3	5	1	14	10
Leptospirosis** *(Leptospira spp.)*	7	14	9	5	30	18	30	10	76	47
Lyme borreliosis** # (*Borrelia burgdorferi*)	136	106	188	201	323	287	N/A	221	N/A	815
Pasteurellosis *(Pasteurella spp.)*	129	136	146	168	175	149	137	125	587	578
Psittacosis (*Chlamydophila psittaci)*	7	7	4	5	6	7	9	10	26	29
Q-fever *(Coxiella burnetii)*	11	8	14	11	14	11	14	13	53	43
Toxoplasmosis**# *(Toxoplasma gondii)*	79	70	94	86	98	71	80	83	351	310

†Second Generation Surveillance System has now replaced LabBase

* Provisional data

** Enhanced surveillance system

Based on date specimen received

N/A=Not Available

Anthrax

There were no cases reported in 2014.

Brucellosis (data from the Brucella Reference Laboratories)

There were two reports of brucellosis reported during the fourth quarter of 2014, compared with none during the fouth quarter of 2013. One of the cases was male and sex was not stated for the other case. Cases were aged 34 and 75 years). Both were confirmed as *Brucella melitensis* by APHA Weybridge. One had recently returned from a visit to rural Iraq where he had been previously resident. He denied consumption of dairy products whilst overseas. He presented with epigastric pain, weight loss, pyrexia and night sweats. No clinical or epidemiological details were available for the second case who is understood to be from a country where brucellosis is endemic.

In total there were 10 cases in 2014 compared with 12 cases in 2013. The age range of the cases was 28 to 75 years. All are understood to have come from countries where brucellosis is endemic. There was little information on clinical presentation but all appeared to have an insidious illness and were investigated for pyrexia of unknown origin (PUO).

Hepatitis E (data from Public Health Laboratory Birmingham, and Blood Borne Virus Unit Colindale)

There were 169 cases of hepatitis E in the fourth quarter of 2014 compared to 205 in the same quarter of 2013. One hundred and four cases (62%) were male (age range 13-90 years, median 57) and 64 (38%) were female (age range 22-91 years, median 58). The persisting observation of the predominance of older men (see table below) remains unexplained. Cases were reported from all regions. The majority of cases (82%, n=138) had no apparent travel history.

Laboratory confirmed cases of Hepatitis E infection (week 40-52, 2014)

Age Group	Male	Female	Unknown	Total
0-14	1	–	–	1
15-24	7	3	–	10
25-44	12	11	–	23
45-64	43	24	–	67
>64	41	26	–	67
Unknown	–	–	1	1
Total	**104**	**64**	1	**169**

A total of 869 cases of hepatitis E were reported in 2014 compared to a total of 692 cases last year. This is consistent with the on-going increase in cases observed since 2010[1].

Hydatid disease (data from the Parasitology Reference Laboratory)

Five reports of hydatid disease were received during the fourth quarter of 2014, compared with one case during the fourth quarter of 2013. Four of the cases in the last quarter of 2014 presented with liver cysts.

Overall there were 14 cases of hydatid disease reported in 2014 compared with ten cases in 2013. All are believed to have had exposures, often many years previously, in countries where cystic echinococcosis is prevalent.

Leptospirosis (data from the Leptospira Reference Unit)

Thirty cases of leptospirosis were confirmed in the fourth quarter of 2014 compared with 10 during the fourth quarter of 2013. Of these, twenty-three infections were reported to have been acquired in the UK and seven were acquired overseas.

Of the 23 autochtonous cases, four were confirmed with *L.* Icterohaemorrhagiae, one with *L*.Sjeroe and one with *L*. Saxkoebing and for the remainder (n=17) the infecting serogroup was not determined. Twenty-one infections were identified in males and two in females. The age range was 34- 72 years (median 49 years). The majority (n=17) reported occupational or recreational exposures: water contact or exposure was reported in eleven cases and animal exposure in nine cases, some of whom had exposure to both. For the remainder (n=6), exposure details were not recorded.

Seven cases (age range 23-62 years, median 51 years), all male, were reported to have acquired infection overseas. Of these, cases had travelled to Thailand (2 cases), Jamaica (1) and Central America (1) and France (1). Two cases were acquired occupationally, one whilst maintaining lakes in France and one on military exercise in Germany. In one case the infecting serovar was identified as *L.* Icterohaemorrhagiae, for the remainder, the serovar was not determined.

Overall, 2014 has seen an increase in confirmed cases of leptospirosis (76 cases in 2014 compared to 47 in 2013), exceeding the peak reporting of 74 in 2007. In common with recent years, the majority (89%) of autochtonous cases occurred in males, representing a predominance of occupational exposures. Most (79%) cases were identified with first specimen dates in the last 6 months of 2014. Twenty nine (38%) of reports indicated animal exposures with 18 (24%) reporting water contact; both animal and water exposures were reported in 13 (17%) cases. Cases were reported throughout England and Wales, with no specific geographic foci. Nineteen of the 22 cases who acquired their infection overseas were reported during the last 6 months of 2014. The majority were linked to recreational water exposure, mainly swimming, kayaking or white-water rafting on inland waters. The age range was 19- 67 years and unusually, all were males. The majority of exposures occurred in South East Asia, Central America and the Caribbean, and France.

Confirmations by PCR (undertaken by both the Leptospira Reference Unit [LRU] and the Rare and Imported Pathogens laboratory [RIPL], Porton) remain a developmental test with limited technical validation. Clinicians are asked to submit a second specimen from the patient to the LRU, together with exposure and clinical histories as this increases the likelihood that the infecting serovar can be determined.

Lyme disease (data from the Rare and Imported Pathogens Laboratory, Porton)

Note: Specimens sent for Lyme borreliosis referral testing should be accompanied by a completed referral form: https://www.gov.uk/lyme-borreliosis-service

Data on serologically confirmed cases of Lyme borreliosis were not available for the fourth quarter of 2014. These will be included in the next quarterly report.

Pasteurellosis

A total of five hundred and eighty-seven confirmed cases of pasteurellosis were reported between January and the end of December 2014 (129 in Q1, 146 in Q2, 175 in Q3, 137 in Q4). This compares to a total of 578 in 2013.

One hundred and thirty-seven cases of pasteurellosis were reported in the fourth quarter of 2014, compared with 125 in the same quarter of 2013: *Pasteurella multocida* (93 cases, 68%), *Pasteurella pneumotropica* (3 cases, 2%), *P. canis* (2 cases, 1%) and *P.haemolytica* (1 case). In addition there were *Pasteurella* other named (7 cases, 5%) and *Pasteurella* sp. (31 cases, 27%).

Fifty-one of the cases were male (7-91 years, median 59 years) and 86 were female (3-93 years, median 61). The South of England reported the most cases (37) and East of England reported the fewest (3).

Laboratory confirmed cases of pasteurellosis (week 40-52, 2014)

Age group	Male	Female
0-14	1	6
15-29	2	7
30-39	5	7
40-49	10	9
50-59	9	10
60-69	7	18
70-79	8	16
80+	9	13
Total	**51**	**86**

Psittacosis

Nine cases of psittacosis were diagnosed in the fourth quarter of 2014, compared with ten during the fourth quarter of 2013. Four cases were male (aged 38 and 69, median 62) and five were female (aged 17 to 72, median 49). All of the cases were from the South of England.

Overall there were 26 cases of psittacosis reported in 2014 compared with 29 cases in 2013.

Note: Serological tests for respiratory chlamydophila infections cannot consistently distinguish psittacosis. The cases reported above have been identified by reporting laboratories as infection with *Chlamydia psittaci*.

Q fever (data from the Rare and Imported Pathogens Laboratory, Porton, and Bristol Reference Laboratory)

There were 14 cases of Q fever reported in the fourth quarter of 2014, compared with 13 in the fourth quarter of 2013. Eleven cases were male (aged 20-78 years, median 52) and three were female (aged 10, 23 and 56). Five cases were reported in the South of England, three in the North of England, two in London, two in the Midlands and one in the East of England.

In total there were 53 cases in 2014 compared with 43 cases in 2013.

Toxoplasma (Data from the Toxoplasma Reference Unit)

In the fourth quarter of 2014 there were 80 laboratory-confirmed cases of *Toxoplasma* infection, compared with 83 cases in the fourth quarter of 2013. Two cases reported ocular symptoms. Six cases occurred in pregnant women and there were two confirmed congenital cases, both of which formed mother-child pairs with two of the pregnant cases.

Laboratory confirmed cases of toxoplasma infection (week 40-52, 2014)

Age group	Male	Female	Total
0	–	2	2
1-9	2	–	2
10-14	2	3	5
15-24	7	5	12
25-44	13	25	38
45-64	9	7	16
>64	2	3	5
Total	**35**	**45**	**80**

Age group	Con-genital	Pregnant	HIV	Organ donor	Organ recipient	Other (Immuno-competent)	Other (Immuno-suppressed)	Unknown*	Total
Foetus	–	–	–	–	–	–	–	–	–
0	2	–	–	–	–	–	–	–	2
1-9	–	–	–	–	–	2	–	–	2
10-14	–	–	–	–	–	5	–	–	5
15-24	–	1	1	–	–	10	–	–	12
25-44	–	5	5	–	–	28	–	–	38
45-64	–	–	3	–	1	9	3	–	16
>64	–	–	–	–	1	2	2	–	5
unknown	–	–	–	–	–	–	–	–	–
Total	**2**	**6**	**9**	–	**2**	**56**	**5**	–	**80**

* No clinical details or information given.

A total of 351 confirmed cases of toxoplasmosis were reported between January and the end of December 2014 (79 in Q1, 94 in Q2, 98 in Q3, 80 in Q4). This compares to 310 cases reported in 2013. In 2014, there were a total of 15 cases with ocular symptoms, 32 pregnant cases and 11 congenital toxoplasmosis cases confirmed by the reference laboratory.

Reference

1. https://www.gov.uk/government/publications/hepatitis-e-symptoms-transmission-prevention-treatment/hepatitis-e-symptoms-transmission-treatment-and-prevention

Infection reports

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CJD

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Creutzfeldt-Jakob disease (CJD) biannual update (February 2015)

This six-monthly report provides an update on the enhanced surveillance of potential iatrogenic (healthcare-acquired) exposures to Creutzfeldt-Jakob Disease (CJD). The data is correct as at 31st December 2014. For numbers of CJD case reports, readers should consult data provided by the National CJD Research and Surveillance Unit (NCJDRSU, http://www.cjd.ed.ac.uk/data.html).

Monitoring of patients 'at increased risk' of CJD

Individuals who have been identified as at increased risk of CJD as a consequence of their medical care are informed of their exposure and asked to follow public health precautions to avoid potentially transmitting the infection to others. They are also followed-up to help determine the risks of CJD transmission to patients through different routes and to ascertain whether any people who may have been exposed to increased CJD risks go on to develop CJD.

Public Health follow-up activities include clinical monitoring, General Practitioner (GP) updates, and post mortem investigations to determine whether asymptomatic individuals in these groups have been infected with the CJD agent. Some individuals also provide blood or tissue specimens for research purposes. A number of different organisations are involved in these activities: Public Health England (PHE) formerly the Health Protection Agency (HPA), Health Protection Scotland (HPS), UCL Institute of Child Health/Great Ormond Street Hospital (ICH), NHS Blood and Transplant (NHSBT), National CJD Research and Surveillance Unit (NCJDRSU), National Prion Clinic (NPC), and the UK Haemophilia Centre Doctors' Organisation (UKHCDO).

The PHE CJD Section coordinates the collation of data on individuals identified as at increased risk of CJD, and who have been informed of this. These individuals are followed up through public health monitoring and research activities by different organisations.

The PHE CJD Section currently holds data on the following groups of ‘at risk' patients:

- recipients of blood components from donors who subsequently developed vCJD
- blood donors to individuals who later developed vCJD
- other recipients of blood components from these blood donors
- recipients of certain plasma products between 1990 and 2001 (non-bleeding disorder patients)
- certain surgical contacts of patients diagnosed with CJD
- highly transfused recipients.

Data on the following risk groups are not held by PHE, but are held by other organisations:

- bleeding disorder patients who received plasma products between 1990 and 2001 (UKHCDO)
- recipients of human derived growth hormone before 1985 (ICH)
- patients who could have received a dura mater graft before August 1992 (data not currently collected)
- people who have been treated with gonadotrophin sourced from humans before 1973 (data not currently collected)
- family risk of genetic prion disease (NPC).

The data from the UKHCDO are likely to be a slight underestimate of the true number of ‘at risk' patients with bleeding disorders who received UK-sourced clotting factors, as there was incomplete reporting of identified ‘at risk' patients by haemophilia centres to the UKHCDO database. Notified ‘at risk' patients are given the option of removing their details from the UKHCDO database, and are then removed from the ‘at risk' totals.

The data on ‘at risk' patients who received human-derived human growth hormone held by the ICH is also a slight underestimate of the total as a small number of these patients are not included in the ICH follow-up.

Summary of all ‘at risk’ groups on which data are collected (as at 31 December 2014)

'At risk' Group	Identified as 'at risk'	Number notified as being 'at risk'		Cases	Asymptomatic infections [a]
		All	Alive		
Recipients of blood from donors who later developed vCJD	67	27	14	3	1
Blood donors to individuals who later developed vCJD	112	108	104	0	0
Other recipients of blood components from these donors	34	32[b]	18[b]	0	0
Plasma product recipients (non-bleeding disorders) who received UK sourced plasma products 1990-2001 [c]	2	2	2	0	0
Certain surgical contacts of patients diagnosed with CJD	196	163 [d]	139[e]	0	0
Highly transfused recipients [f]	3	3	3	0	0
Total for ‘at risk’ groups where PHE holds data	**414**	**335[g]**	**280[g]**	**3**	**1**
Patients with bleeding disorders who received UK sourced plasma products 1990-2001 [h]	4,016	3,540 [i]	3,151 [i]	0	1
Recipients of human derived growth hormone [h]	1,883	1,883	1,501	77	0
Total for all ‘at risk’ groups	**6,313**	**>5,758**	**>4,932**	**80**	**2**

a. An asymptomatic infection is when an individual does not exhibit any of the signs and symptoms of CJD in life but abnormal prion protein indicative of CJD infection has been found in tissue obtained at post mortem.

b. One patient was notified by proxy.

c. An additional 8 people originally identified are no longer considered to be at increased risk and have been denotified where appropriate

d. Seven of these were notified by proxy.

e. Three of these were notified by proxy.

f. An additional 8 people originally identified are no longer considered to be at increased risk and have been denotified where appropriate

g. Includes patients who were notified by proxy.

h. These are minimum figures. Central reporting for bleeding disorder patients is incomplete, and a small number of patients have opted out of the central UKHCDO database. A small number of ‘at risk’ growth hormone recipients are not included in the Institute of Child Health study. Not all of the ‘at risk’ growth hormone recipients have been notified. There is no central record of who has been informed.

i. These are the minimum number of people notified based on those patients who were seen for care after the notification exercise. It is likely that many more of the at risk patients received their notification letter but as they were not subsequently recorded as being seen for care this cannot be confirmed.