



This is a PDF consolidation of the news items and infection reports published in HPRs 9(15) and 9(16), on 1 and 8 May 2015, respectively

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* Published in HPR 9(15) on 1/5/2015.

** Published in HPR 9(16) on 8/5/2015.

Investigation of *Mycobacterium chimaera* infection associated with cardiopulmonary bypass

Cases of invasive *Mycobacterium chimaera* infection in patients who had undergone cardiac surgery have recently been reported in Switzerland and the Netherlands. A Swiss investigation has been published suggesting an association with contaminated heater cooler units used during cardiopulmonary bypass [1]. Detailed investigations are now underway in the UK to assess any historic or ongoing risk to patients.

M. chimaera is a recently identified member of the *Mycobacterium avium* complex, very similar to *M. intracellulare*, another member of the complex. These are slow-growing, environmental organisms; in a clinical context they are usually described as causing respiratory infections and disseminated infections in immunocompromised patients. *M. chimaera* would be identified by most UK laboratories as *M. intracellulare* or *M. avium* complex.

Following initial identification of two cases of invasive *M. chimaera* infection in patients who had undergone cardiac surgery at the University Hospital of Zurich, a retrospective study was undertaken. This identified a total of six cases of *M. chimaera* prosthetic valve endocarditis or vascular graft infection associated with cardiac surgery involving cardiopulmonary bypass [1]. The cases underwent surgery between 2008 and 2012. The intervals between surgery and infection were very prolonged, over three years in one instance, reflecting the slow-growing nature of the organism. Given the total number of such surgeries performed in this hospital over the five year period (approximately 3000) this suggests a low risk of infection. The outcome for patients infected was however poor with two of the six cases subsequently dying. Extensive local investigations, including air and water sampling, attributed the infections to mycobacterial contamination of the water circulating within the heater cooler unit of the cardiopulmonary bypass equipment used in surgery, transmitted by aerosol production.

A specific brand of heater cooler machine was implicated in the Swiss report. This brand of machine is widely used in Europe including the UK. It is not yet known whether any risk is limited to one brand of heater cooler.

As a result, Public Health England (PHE) and the Medicines and Healthcare Products Regulatory Agency (MHRA) have launched a series of investigations to assess the risk in the UK. This includes retrospective case finding, sampling from heater cooler units and enhanced microbiological testing by the National Mycobacterial Reference Laboratory to identify *M. chimaera* from clinical or environmental samples. Whilst it remains possible that other organisms found in water could be transmitted by the same route, initial investigations will focus on *M. avium* complex in line with findings from Switzerland.

Reference

1. Sax H, Bloemberg G, Hasse B, Sommerstein R, Kohler P, Achermann Y *et al* (2015). Prolonged outbreak of *Mycobacterium chimaera* infection after open-chest heart surgery. *Clin Infect Dis* (online, March 11).

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

The seasonal decline in scarlet fever notifications in England has continued, with consecutive weekly falls in case numbers over the past five weeks (weeks 13 to 18 2015) [1]. While slight increases are being seen in some areas over the past few weeks, numbers of notifications remain substantially lower than those seen prior to Easter in all areas of the country.

Routine invasive GAS (iGAS) disease reports remain within normal seasonal levels, although higher than reported last season. Due to rare but potentially severe complications associated with GAS infections, clinicians, microbiologists and health protection teams should continue to be mindful of potential increases in invasive disease and maintain a high degree of suspicion in relevant patients.

Schools and GPs are reminded of actions to be taken for every case of scarlet fever, including: prompt notification to local health protection teams; swabbing when there is uncertainty about a diagnosis or when a case is part of an outbreak and exclusion of the patient from school/work for 24 hours after antibiotic treatment has been received [2].

Scarlet fever

The number of scarlet fever notifications in England peaked in week 13, 2015, when 1267 notifications were made, after which there has been a steady decline with 423 notifications in week 18 (figure 1). This brings the total number of scarlet fever notifications so far this season (weeks 37, 2014, to 18, 2015) to 12,057, compared with 8883 for the same period last season.

The scarlet fever season appears to have peaked in all parts of England at around the last two weeks of March, although numbers of notifications remain high. The highest notification rates so far this season were seen in Yorkshire and the Humber at 36.8 per 100,000 population, followed by East Midlands (35.9), Cumbria and Lancashire (29.2) and Wessex (28.3). London has the lowest scarlet fever notification rate (13.4/100,000).

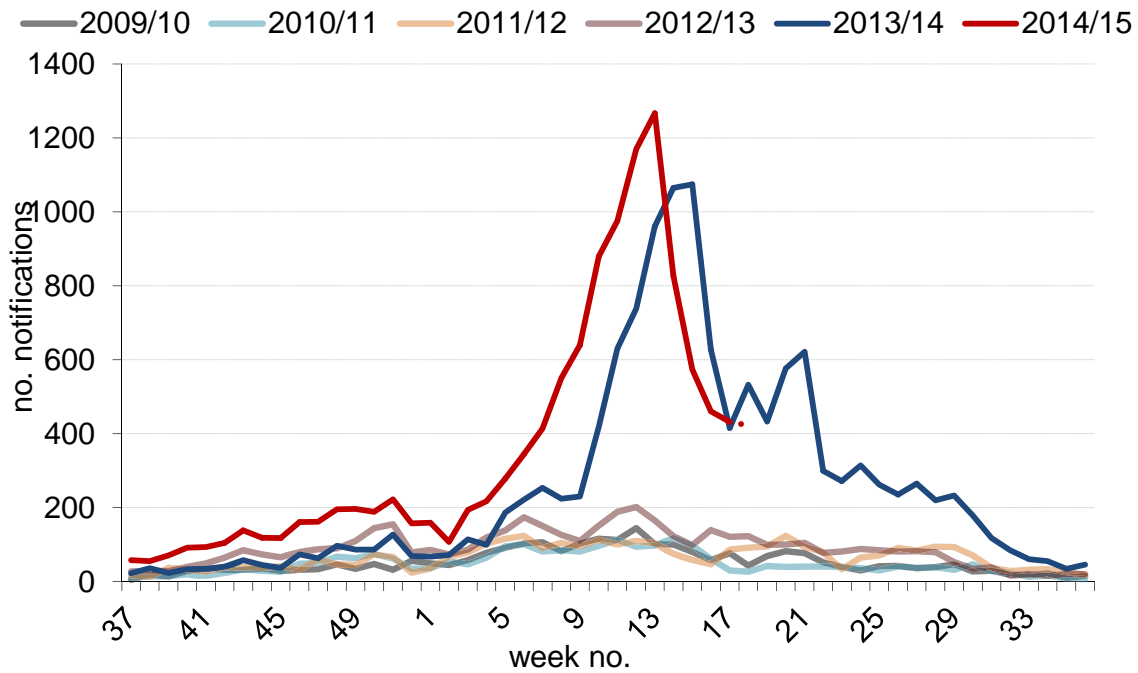
The age distribution of scarlet fever cases remains similar to previous years, with 89% of cases reported in children under 10 years of age (median 4y; range <1y to 87y).

Invasive Group A Streptococcus

The number of routine laboratory reports of iGAS infection in England in recent weeks remains in line with normal seasonal patterns (figure 2), with a total of 1027 cases reported so far this season (week 37, 2014, to week 17, 2015), slightly above average for the same period over the last five years (921) but within the reported range for this period (810 to 1097). The median age of patients with iGAS infection so far this season is 63 years (range <1y to 105y).

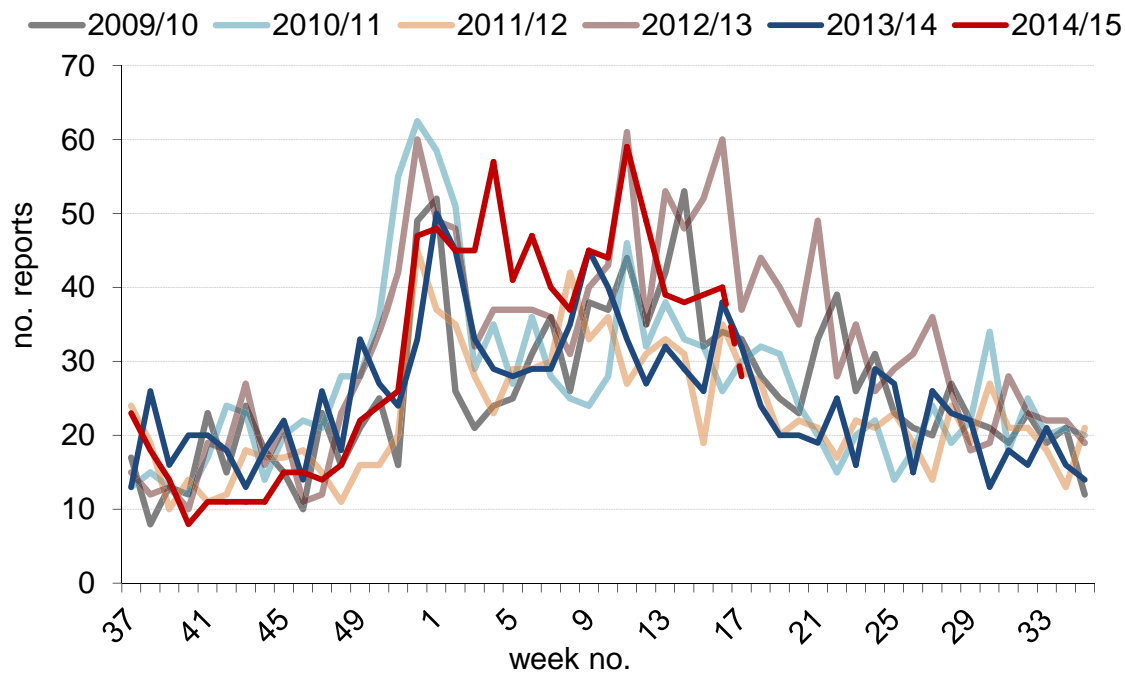
Geographical variation in iGAS reports is noted across England, with 11 out of the 15 English regions reporting a slightly above average cumulative number of reports so far this season (weeks 37 to 17) compared to the past five years: London (118), East Midlands (86), West Midlands (116), Kent, Surrey and Sussex (91), Thames Valley (42), Wessex (45), Cheshire and Merseyside (53), Cumbria and Lancashire (38), Greater Manchester (60), North East (60) and Yorkshire and the Humber (116).

Figure 1. Weekly scarlet fever notifications in England, 2009/10 onwards*



* Dashed line indicates that numbers may increase as further notifications expected.

Figure 2. Weekly routine laboratory reports of iGAS infection, England, 2009/10 onwards*



* Dashed line indicates that numbers may increase as further notifications expected.

Antimicrobial susceptibility results from laboratory notifications of iGAS infection for the season so far indicate erythromycin non-susceptibility is within the usual range at 5%. The susceptibility testing of iGAS isolates against other key antimicrobials indicate no changes in resistance (tetracycline, 12%; clindamycin, 5%; and penicillin, 0%) although susceptibility reporting remains low (<50% isolates).

There have been 980 iGAS isolates sent to the national reference laboratory for *emm* strain diversity testing so far this season (September 2014 to April 2015), the results indicate that *emm* st1 is the most common (28% of referrals) followed by *emm* st3 (13%), *emm* st12 (10%) and *emm* st89 (9%). No identification of novel strains or unusual increases in specific strain types has been seen.

Whilst the continuation of the drop in scarlet fever incidence bodes well for a sustained decrease, the levels of incidence still remain elevated. As such, 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. Invasive GAS disease reports have so far remained within the usual bounds this season, but increased activity has been reported 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 as 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 and 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>

References

1. PHE (April 2015). [Group A streptococcal infections: third update on seasonal activity, 2014/15. Health Protection Report 9\(13\): Infection \(News\) Report.](#)
2. PHE. [Interim guidelines for the public health management of scarlet fever outbreaks in schools, nurseries and other childcare settings.](#)



Infection Reports

Respiratory *

- ▶ **Laboratory reports of respiratory infections made to CIDSC from PHE and NHS laboratories in England and Wales: weeks 14-17, 2015**

Enteric **

- ▶ **General outbreaks of foodborne illness in humans, England and Wales: weeks 14-17, 2015**
- ▶ **Common gastrointestinal infections, England and Wales: laboratory reports: weeks 14-17, 2015**
- ▶ **Salmonella infections (faecal specimens) England and Wales, reports to Public Health England (salmonella data set): March 2015**
- ▶ **Suspected and laboratory-confirmed reported norovirus outbreaks in hospitals: weeks 14 to 17, 2015**

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* Published in *HPR* 9(15) on 1/5/2015.

** Published in *HPR* 9(16) on 8/5/2015.

Infection reports / Respiratory

Volume 9 Number 15 Published on 1 May 2015

Laboratory reports of respiratory infections made to the CIDSC from PHE and NHS laboratories in England and Wales: weeks 14-17/2015

Data are recorded by week of report, but include only specimens taken in the last eight weeks (i.e. recent specimens)

Table 1. Reports of influenza infection made to CIDSC, by week of report

Week	Week 14	Week 15	Week 16	Week 17	Total
Week ending	5/4/15	12/4/15	19/4/15	26/4/15	
Influenza A	87	39	97	62	285
Isolation	6	4	3	4	17
DIF *	1	8	–	1	10
PCR	70	13	85	47	215
Other †	10	14	9	10	43
Influenza B	118	109	194	155	576
Isolation	12	16	8	4	40
DIF *	2	26	26	14	68
PCR	101	58	146	134	439
Other †	3	9	14	3	29

* DIF = Direct Immunofluorescence. † Other = "Antibody detection - single high titre" or "Method not specified".

Table 2. Respiratory viral detections by any method (culture, direct immunofluorescence, PCR, four-fold rise in paired sera, single high serology titre, genomic, electron microscopy, other method, other method unknown), by week of report

Week	Week 14	Week 15	Week 16	Week 17	Total
Week ending	5/4/15	12/4/15	19/4/15	26/4/15	
Adenovirus †	137	95	217	101	916
Coronavirus	27	23	135	10	279
Parainfluenza †	118	107	269	151	997
Rhinovirus	177	146	352	90	1348
RSV	97	54	127	45	711

* Respiratory samples only. † Includes parainfluenza types 1, 2, 3, 4 and untyped.

Table 3. Respiratory viral detections by age group: weeks 14-17/2015

Age group (years)	<1 year	1-4 years	5-14 years	15-44 years	45-64 years	≥65 years	Un-known	Total
Adenovirus †	142	121	34	161	73	19	–	550
Coronavirus	36	28	10	39	26	56	–	195
Influenza A	9	18	5	36	57	62	2	189
Influenza B	31	35	51	207	210	144	2	680
Parainfluenza †	164	103	38	98	101	140	1	645
Respiratory syncytial virus	122	49	17	41	46	48	–	322
Rhinovirus	283	162	54	105	84	77	–	765

* Respiratory samples only.

† Includes parainfluenza types 1, 2, 3, 4 and untyped.

Table 4 Laboratory reports of infections associated with atypical pneumonia, by week of report

Week	Week 14	Week 15	Week 16	Week 17	Total
Week ending	5/4/15	12/4/15	19/4/15	26/4/15	
<i>Coxiella burnettii</i>	–	–	–	–	–
Respiratory <i>Chlamydia</i> sp. *	2	–	–	–	1
<i>Mycoplasma pneumoniae</i>	15	12	10	4	41
<i>Legionella</i> sp.	9	–	9	3	21

* Includes *Chlamydia psittaci*, *Chlamydia pneumoniae*, and *Chlamydia* sp detected from blood, serum, and respiratory specimens.

Table 5 Reports of Legionnaires Disease cases in England and Wales, by week of report

Week	Week 14	Week 15	Week 16	Week 17	Total
Week ending	5/4/15	12/4/15	19/4/15	26/4/15	
Nosocomial	1	–	–	–	1
Community	4	–	6	2	12
Travel Abroad	3	–	1	–	4
Travel UK	1	–	2	1	4
Total	9	–	9	–	21
Male	7	–	6	3	16
Female	2	–	3	–	5

* Non-pneumonic case.

Twenty one cases were reported with pneumonia. Sixteen males aged 38-88 years and five females aged 65-83 years. Twelve cases had community-acquired infection. One death was reported in a female aged 67.

Eight cases were reported with travel association:

Bulgaria/United Kingdom (1), France (1), Spain (1), Sri Lanka (1) and United Kingdom (4).

Table 6. Reports of Legionnaires Disease cases in England and Wales, by PHE Centre: weeks 14-17/2015

Region/Country	Nosocomial	Community	Travel Abroad	Travel UK	Total
North of England					
North East	–	–	–	1	1
Cheshire & Merseyside	–	–	–	–	0
Greater Manchester	–	–	1	–	1
Cumbria & Lancashire	–	–	1	–	1
Yorkshire & the Humber	–	4	1	1	6
South of England					
Devon, Cornwall & Somerset	–	–	1	–	1
Avon, Gloucestershire & Wiltshire	–	1	–	–	1
Wessex	–	–	–	–	0
Thames Valley	–	–	–	–	0
Sussex, Surrey & Kent	–	1	–	–	1
Midlands & East of England					
East Midlands	–	2	–	–	2
South Midlands & Hertfordshire	1	1	–	–	2
Anglia & Essex	–	1	–	–	1
West Midlands	–	1	1	–	2
London Integrated Region					
London	–	1	–	–	1
Public Health Wales					
Mid & West Wales	–	–	–	1	1
North Wales	–	–	–	–	0
South East Wales	–	–	–	–	0
Miscellaneous					
Other	–	–	–	–	0
Not known	–	–	–	–	0
Total	1	12	4	4	21

Infection reports / Enteric

Volume 9 Number 16 Published on: 8 May 2015

- ▶ General outbreaks of foodborne illness in humans, England and Wales: weeks 14-17/15
- ▶ Common gastrointestinal infections, England and Wales, laboratory reports: weeks 14-17/15
- ▶ Salmonella infections (faecal specimens) England and Wales, reports to Public Health England (salmonella data set): March 2015
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General outbreaks of foodborne illness in humans, England and Wales: weeks 14-17/2015

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
West Midlands West	Clostridium perfringens / Bacillus cereus	Hotel	March	16	4	Sheekh kebab, Lamb kadahi, Pilau rice	D
North East	Clostridium perfringens	Other	April	30	Not known	Not known	Not known
Cumbria and Lancashire	Salmonella spp, unspecified	Nursing/care home	April	5	Not known	Not known	Not known
North East	Salmonella spp, unspecified	Other	April	5	5	Not known	Not known

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 14-17/15

Laboratory reports	Number of reports received				Total reports	Cumulative total	
	14/15	15/15	16/15	17/15		14-17/15	1-17/15
Campylobacter	636	796	964	934	3303	15925	15261
Escherichia coli O157 *	9	4	13	18	44	120	118
Salmonella †	39	39	17	2	97	1553	1489
Shigella sonnei	6	14	22	10	52	338	345
Rotavirus	160	172	169	196	697	1858	2296
Norovirus	214	217	216	200	847	4112	2534
Cryptosporidium	33	76	84	106	299	902	796
Giardia	59	64	69	71	263	1238	1108

*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): March 2015

Details of 383 serotypes of salmonella infections recorded in February are given in the table below. March February 2015, 205 salmonella infections were recorded.

Organism	Cases: March 2015
S. Enteritidis PT4	1
S. Enteritidis (other PTs)	104
S. Typhimurium	89
S. Virchow	7
Others (typed)	194
Total salmonella (provisional data)	395

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 14-17/15

The hospital norovirus outbreak reporting scheme (HNORS) recorded 56 outbreaks occurring between weeks 14 and 17, 2015, all of which (96%) led to ward/bay closures or restrictions to admissions. Thirty-five outbreaks (63%) were recorded as laboratory confirmed due to norovirus (see table). For the calendar year 2015 – between week 1 (January) and week 17 (week beginning 20 April) – 386 outbreaks were reported. Ninety-five per cent (365) of reported outbreaks resulted in ward/bay closures or restrictions to admissions and 70% (271) were laboratory confirmed as due to norovirus (see table).

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

In the current season to date† (from week 27, 2014, to week 17, 2015), there were 6055 laboratory reports of norovirus. This is 13% lower than the average number of laboratory reports for the same period in the seasons between 2009/10 and 2013/2014 (6954, see table). 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.

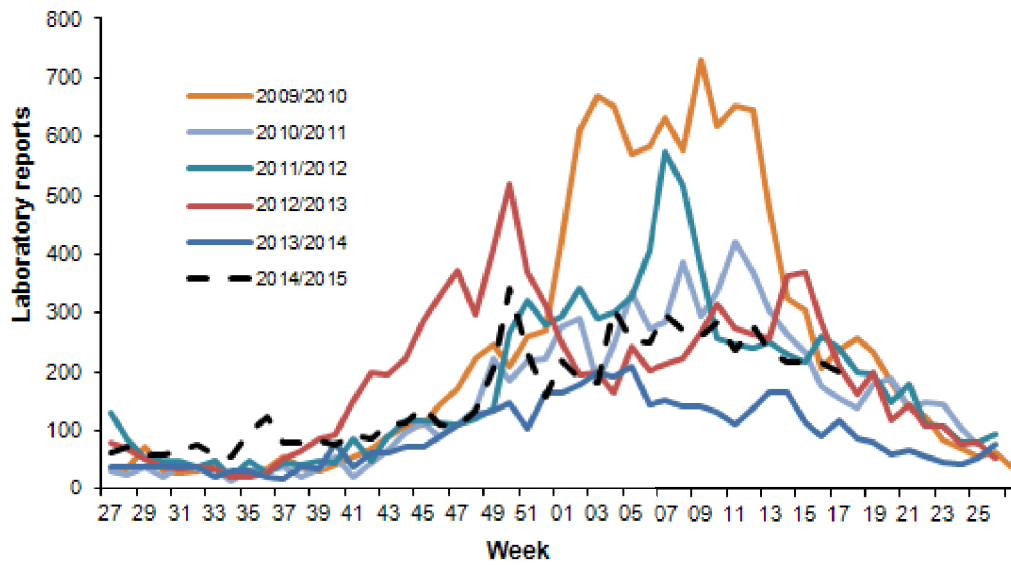
Note: A new laboratory reporting system was commissioned on 1 December 2014; as a result, direct comparisons between the earlier report (based on LabBase2) and the new system (SGSS) may not be valid.

Suspected and laboratory-confirmed reported norovirus outbreaks in hospitals, with regional breakdown: outbreaks occurring in weeks 15-17/2015

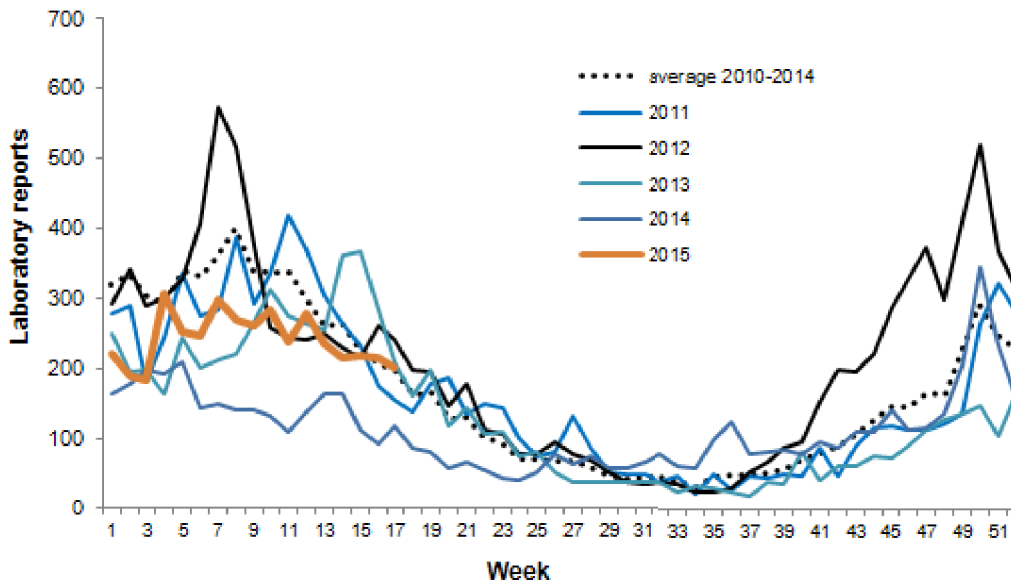
Region/ PHE Centre	Outbreaks between weeks 15-17/2015			Total outbreaks 1-17/2015		
	Outbreaks	Ward/bay closure*	Lab- confirmed	Outbreaks	Ward/bay closure*	Lab- confirmed
Avon, Gloucestershire and Wiltshire	2	2	2	49	48	40
Bedfordshire, Hertfordshire and Northamptonshire	–	–	–	5	5	4
Cheshire and Merseyside	–	–	–	3	3	3
Cumbria and Lancashire	5	5	3	32	32	17
Devon, Cornwall and Somerset	13	13	8	65	65	47
Greater Manchester	2	1	1	14	11	8
Hampshire, Isle of Wight and Dorset	3	3	1	24	23	19
Lincolnshire, Leicestershire, Nottinghamshire and Derbyshire	–	–	–	18	17	14
London	–	–	–	4	4	1
Norfolk, Suffolk, Cambridgeshire and Essex	–	–	–	–	–	–
North east	4	4	3	34	32	21
Sussex, Surrey and Kent	5	5	4	14	14	12
Thames Valley	–	–	–	2	2	1
West Midlands	18	18	10	83	80	50
Yorkshire and the Humber	4	3	3	39	29	34
Total	56	54	35	386	365	271

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

Current season's laboratory reports (to week 17, 2015) compared to previous seasons' weekly average (England and Wales)



Calendar year 2015 (to week 17) norovirus laboratory reports compared to previous years' weekly mean (2009-2014)



Infection reports / Enteric fever

Volume 9 Number 16 Published on 8 May 2015

Enteric fever surveillance quarterly report (England, Wales and Northern Ireland): first quarter 2015

This quarterly report summarises the epidemiology of laboratory confirmed cases of typhoid and paratyphoid reported in England, Wales and Northern Ireland between January and March 2015. It includes both reference laboratory and enhanced enteric fever surveillance data. All data for 2015 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 first quarter (Q1) of 2015, 66 laboratory confirmed cases of enteric fever were reported in England (table 1), 16% higher than the first quarter of 2014 (57) and 32% below the rolling mean (98) for Q1 2008 to 2015 (figure 1). There were no provisional cases reported in Wales and Northern Ireland for Q1. The number of cases of *S. Typhi* has remained stable compared to 2014: 33 cases reported in Q1 for both 2014 and 2015 (table 1).

Figure 1. Laboratory confirmed cases of enteric fever by organism, England, Wales and Northern Ireland: first quarter 2008 - 2015

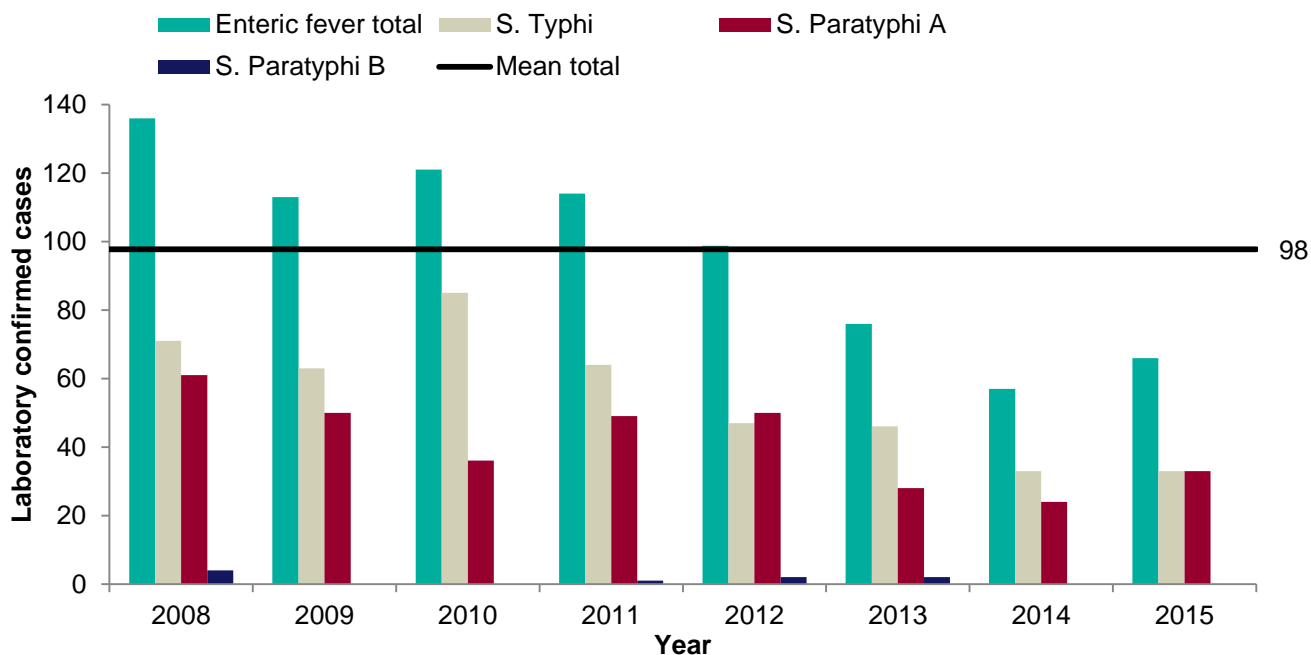


Table 1. Laboratory confirmed cases of enteric fever, England, Wales and Northern Ireland: first quarter 2008 – 2015

Organism	Laboratory confirmed cases							
	Q1 2015	Q1 2014	Q1 2013	Q1 2012	Q1 2011	Q1 2010	Q1 2009	Q1 2008
<i>Salmonella</i> Typhi	33	33	46	47	64	85	63	71
<i>Salmonella</i> Paratyphi A	33	24	28	50	49	36	50	61
<i>Salmonella</i> Paratyphi B	-	-	2	2	1	-	-	4
<i>Salmonella</i> Paratyphi C	-	-	-	-	-	-	-	-
<i>Salmonella</i> Typhi and Paratyphi A	-	-	-	-	-	-	-	-
Enteric fever total	66	57	76	99	114	121	113	136

Table 2. Laboratory confirmed cases of enteric fever by organism and phage type, England, Wales and Northern Ireland: first quarter 2015

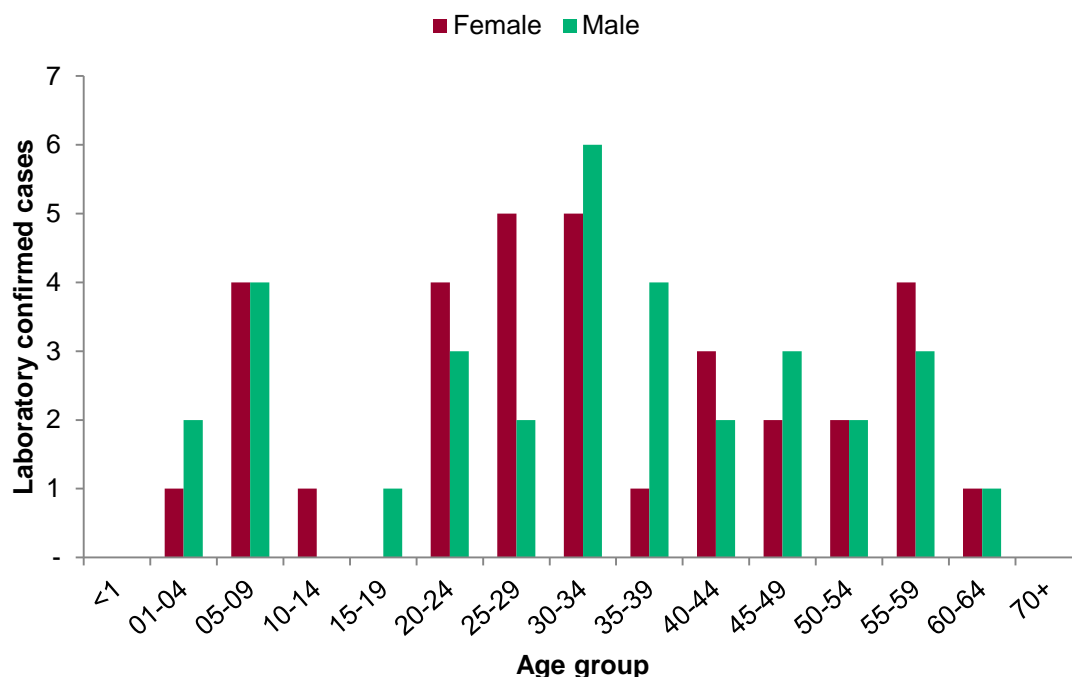
Phage type	S. Paratyphi A	Phage type	S. Typhi
PT 4	9	PT E1	9
PT 13	6	Untyp.VI	8
PT 2	5	PT E9 Var.	4
RDNC	5	Degr.VI	3
PT 1	3	PT A	2
Untypable	2	PT 40	1
PT 1a	1	PT B1	1
PT 6a	1	PT J1	1
PT 7	1	PT M1	1
Total	33	PT O	1
		Untyp.VI 1	1
		Untyp.VI 2	1
		Total	33

In general, *S. Typhi* phage types E1, Untyp. VI and E9 Var and *S. Paratyphi A* phage types 1, and 13 occur most frequently, however in Q1 2015, *S. Paratyphi A* PT 4 was most frequently reported (table 2) [2].

Age/sex distribution

In the first quarter of 2015, the median age of cases was 32 years and 18% (for both males and females) were aged 16 years and under (figure 2). Cases were evenly split between males and females (50% each).

Figure 2. Laboratory confirmed cases of enteric fever by age and sex (N=66): first quarter 2015



Geographical distribution

London PHE Region reported 36% of the total cases during the first quarter of 2015 (table 3). Only regions are shown in this report as the numbers are too small to disaggregate by PHE Centre; between one and 24 cases were reported by each of 13 PHE Centres during the first quarter in 2015. PHE Centre data is available for local PHE teams on request.

Table 3. Laboratory confirmed cases of enteric fever by region: first quarter 2015

Region	Q1 2015	Q1 2014	% change
London	24	27	-11.1%
Midlands and East of England	16	6	166.7%
North of England	13	12	8.3%
South of England	13	12	8.3%
Wales	-	-	-
Northern Ireland	-	-	-
Grand Total	66	57	15.8%

Travel history

In the first quarter of 2015, travel history was available for all 66 cases; of which 58 cases were presumed to be acquired abroad and eight cases had not travelled outside the UK in the 28 days prior to symptoms.

Travel-associated cases

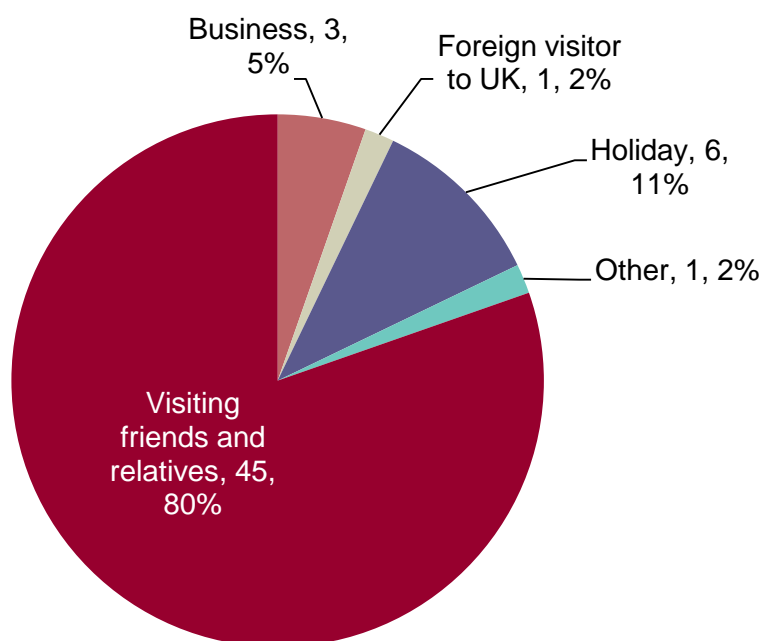
Travel-associated cases were likely to have acquired their infection in: India (34); Pakistan (15); Bangladesh (three); Uganda, (two); Sierra Leone, Malaysia, Thailand, Indonesia, Angola, Myanmar (one each).

Country of travel was known for all 58 cases that travelled abroad. 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 first quarter of 2015.

Reason for travel

Of the 58 cases that had travelled abroad, reason for travel was known for 56. Among those, 80% of cases travelled to visit friends and relatives (figure 4).

Figure 4. Laboratory-confirmed cases of enteric fever that have travelled abroad (N=56) by reason for travel: first quarter 2015



Non-travel-associated cases

Eight cases in the first quarter 2015 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* from a family member who was recently diagnosed as a confirmed case. A further case was suspected to have acquired *S. Paratyphi A* infection from a microbiology lab where the case worked.

The remaining six cases stated that they had not been in recent contact with a probable or confirmed case prior to the onset of illness. None of these six 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. GOV.UK website. Enhanced surveillance of enteric fever. Available at: <https://www.gov.uk/government/collections/typhoid-and-paratyphoid-guidance-data-and-analysis>
 2. GOV.UK website. Typhoid and paratyphoid: laboratory confirmed cases in England, Wales and Northern Ireland. Available at: <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. Available at: <http://www.nathnac.org/>
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Infection reports / Zoonoses

Volume 9 Number 16 Published on 8 May 2015

Common animal associated infections quarterly report (England and Wales) – first quarter 2015

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 January and March 2015 (first quarter; weeks 1-13).

Animal associated infections in England and Wales: laboratory reports to SGSS[†] (unless otherwise specified) by specimen date, Q1 (weeks 1-13/15)

Disease (Organism)	Reports for weeks 01-13	
	2015*	2014
Anthrax (<i>Bacillus anthracis</i>)	–	–
Brucellosis** (<i>Brucella spp.</i>)	1	2
Hepatitis E**	191	217
Hydatid** (<i>Echinococcus granulosus</i>)	9	6
Leptospirosis** (<i>Leptospira spp.</i>)	10	7
Lyme borreliosis** # (<i>Borrelia burgdorferi</i>)	48	30
Pasteurellosis (<i>Pasteurella spp.</i>)	138	126
Psittacosis (<i>Chlamydochloa psittaci</i>)	4	6
Q-fever (<i>Coxiella burnetii</i>)	6	10
Toxoplasmosis**# (<i>Toxoplasma gondii</i>)	N/A	N/A

[†]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 the first quarter of 2015.

Brucellosis (data from the Brucella Reference Laboratories)

There was one case of brucellosis reported during the first quarter of 2015, compared with two during the same quarter of 2014. The infection, confirmed as *Brucella melitensis*, was in a 52 year old male from a country where brucellosis is endemic.

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

There were 191 cases of hepatitis E in the first quarter of 2015 compared to 217 in the same quarter of 2014. One hundred and sixteen cases (60.7%) were male (aged 19-88 years, median 60) and 73 (38.2%) were female (aged 24-88 years, median 61) (the gender of the remaining two was not reported). The persisting observation of the predominance of older men (see table below) remains unexplained. Cases were reported from all regions. The majority of cases (88%, n=169) had no apparent travel history.

The number of cases is consistent with the on-going increase observed since 2010 [1].

Laboratory confirmed cases of Hepatitis E infection (week 1-13, 2015)

Age Group	Male	Female	Unknown	Total
0-14	–	–	–	–
15-24	3	–	–	3
25-44	21	14	1	36
45-64	42	29	1	72
>64	50	29	–	79
Unknown	–	1	–	1
Total	116	73	2	191

Hydatid disease (data from the Parasitology Reference Laboratory)

Nine cases of hydatid disease were reported during the first quarter of 2015, compared with six cases during the first quarter of 2014. Three of the cases were reported in males aged 29 to 65 years, and six in females aged 19 to 61 years. Six cases reported liver or abdominal cysts. All infections are believed to have been acquired outside the UK.

Leptospirosis (data from the Leptospira Reference Unit)

There were ten cases of leptospirosis reported in the first quarter of 2015, compared with seven in the first quarter of 2014. Eight cases were known to have been indigenously acquired: seven in males aged between 40 and 62 years of age, and one in a female aged 63 years. Two had occupational exposures: one in an Environmental Health Officer (identified as

L. Icterohaemorrhagiae) and one in an abattoir worker for whom the serovar was not determined. The serovar was not determined for seven indigenous infections; risk factors included river immersion, cleaning drains and contact with rats.

Two infections were acquired overseas, one in a male aged 61 years who had visited Thailand and the second in a 65 year old female who had been to the Dominican Republic; the serovars were not determined.

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

There were 48 confirmed cases of Lyme borreliosis reported through the Second Generation Surveillance System (SGSS) during the first quarter of 2015, compared with 30 in the first quarter of 2014. There were technical issues with obtaining the first quarter data for 2015 and as such further information will be provided in the next quarterly report.

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

Pasteurellosis

One hundred and thirty eight cases of pasteurellosis were reported in the first quarter of 2015, compared with 126 in the same quarter of 2014: *Pasteurella multocida* (100, 72.5%), *Pasteurella canis* (6, 4.3%), *Pasteurella pneumotropica* (4, 2.9%), and *Pasteurella* sp. (28, 20.3%).

Eighty four of the cases were female (aged 1-97 years, median 64.5) and 53 were male (aged 0-86 years, median 59) (gender was not reported for one case). The Midlands and East of England reported the most cases (45), and Wales reported the fewest (3). Of nine cases giving an animal exposure, four had cat bites, one had been scratched by a cat, and four reported dog bites.

Laboratory confirmed cases of pasteurellosis (week 1-13, 2015)

Age group	Male	Female	Unknown
0-14	3	6	1
15-29	4	4	–
30-39	6	5	–
40-49	9	7	–
50-59	5	13	–
60-69	10	14	–
70-79	11	20	–
80+	5	15	–
Total	53	84	1

Psittacosis

Four cases of psittacosis were diagnosed in the first quarter of 2015, compared with six during the first quarter of 2014. Two of the cases were male (aged 42 and 59 years) and two were female (aged 45 and 59 years). Two of the cases were reported from the Midlands and the East of England, and two from the South of England.

Note: Serological tests for respiratory chlamydia 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 six cases of Q fever reported in the first quarter of 2015, compared with 10 during the first quarter of 2014. Three were male (aged 48, 50 and 71 years) and three were female (aged 24, 49, 64 years). Four cases were reported from the south of England, one case from the Midlands and East of England region, and one case from Wales.

Toxoplasma (Data from the Toxoplasma Reference Unit)

Data on Toxoplasma cases for the first quarter of 2015 is not yet available. This data will be included in the next quarterly report.

Other zoonotic organisms

Other zoonotic infections of interest diagnosed in the first quarter of 2015 were as follows:

- Six cases of *Capnocytophaga* infection, all were unspiciated bacteraemic infections. Three of the infections were in females aged 84, 87 and 90 years, and three were in males aged 36, 45 and 48 years. Three were reported from the South of England, two from the north of England, and one from Midlands and the East of England;
- One case of *Corynebacterium Ulcerans* in a 69 year old female from the north of England who died following a tissue infection;
- Three cases of *Erysipelothrix Rhusiopathiae* in three males aged 53, 60 and 83 years. The cases were reported by the south of England, the north of England and the Midlands and the East of England. Two of the cases were bacteraemias and in one the organism was isolated from CFS. The 60 year old male died;
- One case of *Mycobacterium marinum* in a 60 year old male from the south of England who had a tissue infection;
- Two cases of *Streptobacillus moniliformis* in a 87 year old female and a 79 year old male, both were bacteraemic infections and both were from the south of England.

Reference

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