



Infection report

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Zoonoses

Common animal associated infections quarterly report (England and Wales): third quarter 2015; and Lyme disease 2013-2014 data

This quarterly report, produced by the Emerging Infections and Zoonoses Section at Public Health England National Infections Service, and the Health Protection Division of Public Health Wales, summarises confirmed cases of zoonoses reported in England and Wales between July and September 2015 (third quarter; weeks 27-39).

Animal associated infections in England and Wales: laboratory reports to SGSS[†] (unless otherwise specified) by specimen date, Q3 (weeks 27-39/15)

Disease (Organism)	Reports for weeks 01-13		Reports for weeks 14-26		Reports for weeks 27-39		Total for weeks 01-39	
	2015*	2014	2015*	2014	2015*	2014	2015*	2014
Anthrax (<i>Bacillus anthracis</i>)	0	0	0	0	0	0	0	0
Brucellosis (<i>Brucella spp.</i>)	1	2	5	2	2	4	8	8
Hepatitis E	203	217	213	250	200	234	616	701
Hydatid (<i>Echinococcus granulosus</i>)	9	6	8	2	3	1	20	9
Leptospirosis (<i>Leptospira spp.</i>)	10	7	10	9	23	30	43	46
Lyme borreliosis: (<i>Borrelia burgdorferi</i>)								
All cases	83	142	102	153	421	300	606	595
Acute infections	32	60	57	72	340	180	429	312
Pasteurellosis (<i>Pasteurella spp.</i>)	139	126	147	163	181	173	467	462
Psittacosis (<i>Chlamydophila psittaci</i>)	4	6	11	4	6	6	21	16
Q-fever (<i>Coxiella burnetii</i>)	5	10	3	18	6	16	14	44
Toxoplasmosis# (<i>Toxoplasma gondii</i>)	88	76	86	96	82	94	256	266

[†]Second Generation Surveillance System has now replaced LabBase

* Provisional data

Based on date specimen received

Anthrax

There were no cases reported in the third quarter of 2015.

Brucellosis (data from the Brucella Reference Laboratory)

Two cases were reported in the third quarter of 2015, compared with four in the third quarter of 2014.

One of the cases was male (34 years) and the second was female (30 years). Both were infected with *Brucella melitensis*. The male case was a mechanic who has been resident in the UK for several years but who had a recent history of travel to India where he consumed milk from local shops. The female case had a recent history of travel to an endemic area; further details are awaited.

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

There were 200 cases of hepatitis E in the third quarter of 2015 compared to 234 in the same quarter of 2014. One hundred and twenty-eight cases (64%) were male (aged 12-87 years, median 59) and 67 (34%) were female (aged 16-89 years, median 56). The gender of the remaining five cases 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 (85%, n=171) had no reported travel history.

The number of cases is consistent with the on-going increase observed since 2010¹.

Laboratory confirmed cases of Hepatitis E infection (week 27-39, 2015): age group by sex

Age Group	Male	Female	Unknown	Total
0-14	1	–	–	1
15-24	4	2	1	7
25-44	20	17	2	39
45-64	58	28	1	87
>64	45	20	1	66
Unknown	–	–	–	–
Total	128	67	5	200

Hydatid disease (data from the Parasitology Reference Laboratory)

Three cases of hydatid disease were reported in the third quarter of 2015 compared with one in the third quarter of 2014. Two cases were male (56 years and age unknown), and for the third case neither age nor sex were given. Presentations included liver or abdominal cysts. All three infections are believed to have been acquired outside the UK.

Leptospirosis (data from the Leptospira Reference Unit, Colindale and the Rare and Imported Pathogens Laboratory, Porton)

There were 23 cases of leptospirosis reported in the third quarter of 2015, compared with 30 in the third quarter of 2014.

Sixteen of the cases were male (aged 15-88 years, median 44) and seven were female (aged 17-42 years, median 22). The regions that reported the most cases were London (n=6) and the North West (n=6). Eight of the cases had travelled: two to Thailand; one each to Costa Rica, Malaysia and Sri Lanka; two to unspecified countries; and two cases had travelled to more than one country (Thailand, Vietnam and Cambodia; USA, Costa Rica and Nicaragua).

Four cases reported exposure to rats, including two who were scratched and one who regularly sees rats at a bin yard where he works. Three cases reported exposure to water sources: one who went fishing in the UK; one who went wild water swimming in the UK; and a case who reported exposure to fresh water overseas. One further case was a sewerage worker.

Eleven of the cases were diagnosed by PCR alone. PCR diagnoses were not included in the number of cases reported as confirmed leptospirosis prior to Q2 2015.

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

During the third quarter of 2015, a total of 421 cases of laboratory confirmed Lyme disease were reported, compared with 300 during the third quarter of 2014. Of these cases, 340 were acute (including 30 neuroborreliosis) and 81 were past infections.

Of the acute cases, 182 were male (aged 2- 90 years, median 46) and 151 were female (aged 1- 93 years, median 51). Gender was unrecorded for seven cases and age was unrecorded for one case.

Laboratory confirmed acute cases of *Lyme borreliosis* (weeks 27-39, 2015): age group by sex; region of reporting laboratory

Age group	Male	Female	Unknown	Total
0-14	18	17		35
15-24	13	9	1	23
25-34	22	15		37
35-44	33	16	1	50
45-54	30	29	1	60
55-64	32	36	2	70
65-74	25	21	1	47
75+	8	8	1	17
Unknown	1	0	0	1
Total	182	151	7	340

Region	Cases
East Midlands	6
East of England	22
London	49
North East	11
North West	16
South East	116
South West	94
Wales	5
West Midlands	10
Yorkshire & Humber	11
Total	340

Thirty-four (10%) of the acute cases reported foreign travel. The majority of cases had travelled in Europe (n=24), eight had travelled in the Americas, one had been to the Middle East, and one to the Far East. One hundred and fifty-six acute cases reported an insect bite, of whom 145 specified a tick bite. Sixty-eight cases reported erythema migrans as a presenting symptom.

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

Pasteurellosis

A total of 181 confirmed cases of pasteurellosis were reported in the third quarter of 2015. This compares to 173 reported in the same quarter of 2014. The following species were reported: *Pasteurella multocida* (116 cases), *Pasteurella canis* (8 cases), *Pasteurella pneumotropica* (6 cases), *Pasteurella* other named (14 cases), *Pasteurella* sp. (37 cases).

One hundred of the cases were female (aged 1- 90 years, median 60) and 81 were male (aged 2-91 years, median 61). The South East of England reported the most cases (n=33), and Wales reported the least (n=3). Twelve of the cases were associated with dog bites, and nine with cat bites.

Laboratory confirmed cases of pasteurellosis (week 27-39, 2015): age group by sex

Age group	Male	Female	Total
0-14	7	8	15
15-29	4	4	8
30-39	2	3	5
40-49	11	14	25
50-59	13	20	33
60-69	18	18	36
70-79	16	15	31
80+	10	18	28
Total	81	100	181

Psittacosis

Six cases of psittacosis were diagnosed in the third quarter of 2015, the same number as in the third quarter of 2014. Four were male (aged 36-62 years, median 55) and two were female (aged 43 and 69 years). Two of the cases were reported by the South West region, and one each was reported by the East of England, Yorkshire and the Humber, the North East of England and the West Midlands.

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 third quarter of 2015, compared with 16 during the third quarter of 2014. Five were male (aged 32-51 years, median 40) and one was female (aged 49 years). Two cases were reported from both London and the North East, and one case was reported from the South West and Wales. One case reported travel to Iraq.

Toxoplasma (Data from the Toxoplasma Reference Unit)

There were 82 cases of toxoplasmosis reported in the third quarter of 2015 compared with 94 in the third quarter of 2014. Eight cases reported ocular symptoms. Six cases occurred in pregnant women. There were no congenital cases reported in this quarter.

Laboratory confirmed cases of toxoplasma infection (weeks 27-39, 2015): age group by sex; age group by clinical category

Age group	Male	Female	Total
0			0
1-9			0
10-14			0
15-24	6	3	9
25-44	15	33	48
45-64	7	11	18
>64	2	3	5
Unknown	2		2
Total	32	50	82

Age group	Con-genital	Pregnant	HIV	Organ donor	Organ recipient	Other (Immuno-competent)	Other (Immuno-suppressed)	Total
0								0
1-9								0
10-14								0
15-24						9		9
25-44		6	2	1		39		48
45-64			4			14		18
>64					1	4		5
Unknown			1				1	2
Total	0	6	7	1	1	66	1	82

Other zoonotic organisms

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

- Eleven cases of *Capnocytophaga* infection, ten were bacteraemic and one was diagnosed from a pus culture. One case was speciated as *Capnocytophaga ochracea*. Four of the cases were female (aged 46-81 years), and the remaining seven were male (aged 46-90 years). The South East region reported the most cases (n=3). One case reported a dog bite, and one infection in an 81 year old female from Yorkshire and Humber was fatal.
- Four cases of *Erysipelothrix rhusiopathiae* were reported in two males (22 and 38 years) and two females (both aged 74 years). Three of the cases had bacteraemia and the fourth was diagnosed by culture of pleural fluid. One case was reported from each of the East Midlands, the East of England, the North East and the South East.
- Six cases of *Mycobacterium marinum* were reported in four males (aged 24-74 years) and two females (aged 57 and 67 years). Three had tissue infections, one had a skin wound, one was diagnosed from pus culture and the last from a biopsy. Two cases were reported by each of the East Midlands and the North East, and one case was reported by the East of England and the South West regions.
- One acute hantavirus infection was reported in England in a 28 year old woman who owned fancy rats.

- A cluster of three hantavirus infections were reported in Wales. Cases 1 and 2, both adult males, were family members who had the same exposure in a domestic setting. This involved a large number of rats which were bred as feed for snakes. Case 3, also an adult male, had recently started to work at a commercial rat breeder where his job was to clean out and feed 1000s of rats. All three cases were epidemiologically linked by the transfer, breeding and husbandry of domestic (fancy) and/or breeder/feeder rats (bred for food for reptiles). Seoul virus RNA was detected by APHA in a selection of rats from all the related premises. PHE Porton and APHA are collaborating to compare human and rat derived sequences.

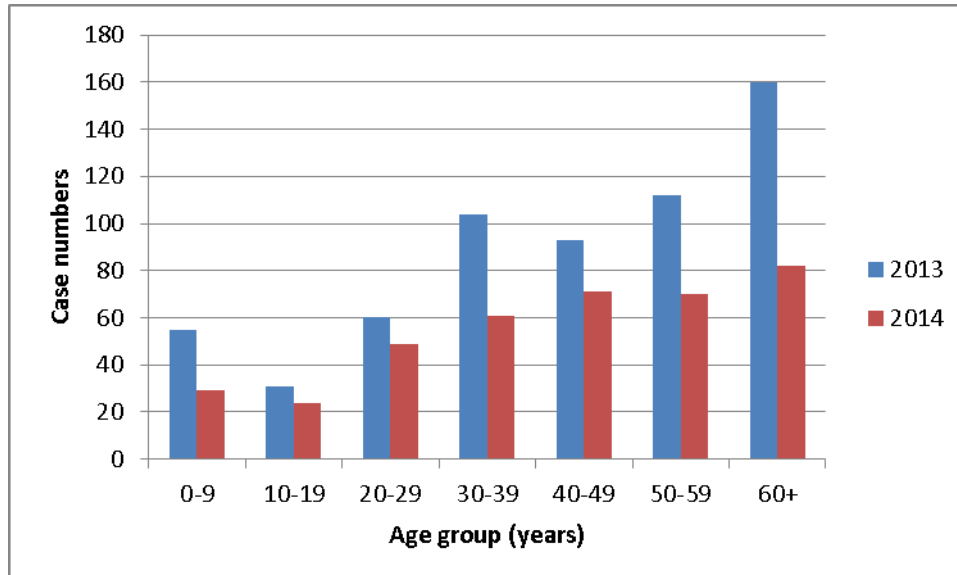
Lyme disease 2013-2014

In 2012, the reference laboratory for *Lyme borreliosis* moved to the Rare and Imported Pathogens Laboratory, PHE Porton. Consistent data for 2013 and 2014, the first two full years of the new surveillance system, are now available. The data include categorisation of the cases into acute and past infections. The following diagnoses were made:

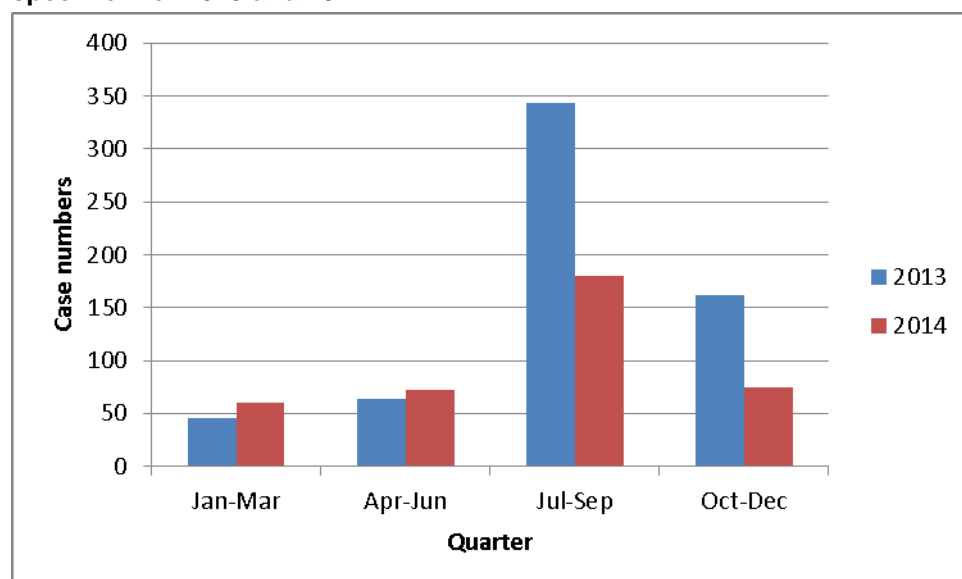
Case status	2013					2014				
	Q1	Q2	Q3	Q4	Total	Q1	Q2	Q3	Q4	Total
Acute Lyme	46	63	331	158	598	60	72	172	73	377
Acute neuroborreliosis	0	1	12	4	17	0	0	8	1	9
Equivocal	5	4	20	15	44	15	11	16	6	48
Past infection	41	38	72	68	219	67	70	104	55	296
Total	92	106	435	245	878	142	153	300	135	730

A total of 1001 acute cases were diagnosed across the two years: 615 cases in 2013 and 386 in 2014. Of those with information on gender, 502 were male and 479 were female, giving a sex ratio of 1:1. The number of cases increased with age in both years. The majority of cases were diagnosed during the third quarters of 2013 and 2014.

Laboratory confirmed acute cases of *Lyme borreliosis* (including neuroborreliosis) by age group for 2013 (n=615) and 2014 (n=386)



Laboratory confirmed acute cases of *Lyme borreliosis* (including neuroborreliosis) by quarter of first acute specimen for 2013 and 2014



The majority of cases were diagnosed in the south of England (53.2%).

Region	2013	2014
East Midlands	11	13
East of England	51	24
London	122	68
North East	10	12
North West	33	18
South East	178	120
South West	141	94
Wales	20	11
West Midlands	23	18
Yorkshire & Humber	25	8
Unknown	1	0

Of the cases with acute infection: 92 (15.0%) reported history of travel in 2013, as did 54 of the cases in 2014 (14.0%). Across the two years, the majority of cases reporting a travel history (n=146) had either travelled to Europe (105 cases, 71.9%), or the Americas (26 cases, 17.8%).

Over the two year period, 433 cases reported an insect bite, of whom 399 specified a tick bite (238 in 2013 and 161 in 2014). An additional three cases reported a possible tick bite. One hundred and eighty one cases reported erythema migrans (119 in 2013 and 62 in 2014) as a presenting symptom.

Reference

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