Public Health England

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Common animal associated infections quarterly report (England and Wales): fourth quarter 2018

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This quarterly report is produced by the Emerging Infections and Zoonoses team at the National Infection Service, Public Health England. The report summarises confirmed cases of zoonoses reported in England and Wales between October and December 2018 (fourth quarter; weeks 40-52) and includes additional information on the quarterly trends for hepatitis E, leptospirosis, Lyme disease and toxoplasma. The overall 2018 yearly total of case numbers for zoonoses covered in this report are shown Table 1.

Table 1. Animal associated infections in England and Wales: rolling four-quarter laboratory reports by specimen date, Q1 2018 – Q4 2018 (weeks 01-52/2018) compared to the previous year

Disease (Organism)	Number of Reports								Total for weeks 01-52	
	weeks 01-13		weeks 14-16		weeks 27-39		weeks 40-52			
	2018	2017	2018	2017	2018	2017	2018	2017	2018*	2017
Anthrax (*Bacillus anthracis*)	0	0	0	0	0	0	0	0	0	0
Brucellosis (*Brucella spp.*)	0	2	0	3	4	0	8	0	12	5
Hepatitis E	273	228	255	241	210	229	256	213	994	911
Leptospirosis (*Leptospira spp.*)	8	10	5	14	39	32	20	31	72	87
Lyme disease (*Borrelia burgdorferi*)										
All cases	135	200	298	293	821	724	387	362	1641	1579
Acute infections	66	138	190	209	632	621	246	246	1134	1214
Pasteurellosis ◊ (*Pasteurella spp.*)	178	178	157◊	193	207	208	160	164	702	743
Q-fever (*Coxiella burnetii*)										
All cases	5	3	9	2	5	6	5	7	24	18
Acute infections	4	3	7	0	5	6	3	3	19	12
Toxoplasmosis† (*Toxoplasma gondii*)	79	84	105	63	84	60	90	55	358	262

*Provisional data.
† Based on date specimen received.
◊ *P. Dagmatis* and *P. Stomatis* added into the query from 2018 onwards (accounted for four *P. Dagmatis* cases (one dual infection) in Q4 2018). Three further cases of Pasteurellosis were dual infections.
Note: Hydatid data not available due to inconsistencies in surveillance data provided to PHE; these are currently being addressed. Psittacosis data for 2017/18 is not available due to a laboratory reporting issue which is being addressed.

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

The hepatitis E surveillance reports reference laboratory data together with additional cases reported by local laboratories through the Second Generation Surveillance System (SGSS)[1]. The combined datasets provide a more accurate reflection of the number of HEV infected cases reported in England and Wales.

There were 256 cases of hepatitis E in the fourth quarter of 2018 compared to 213 in the same quarter of 2017. One hundred and thirty six (53%) were male (aged 14-92 years, median age 55) and 107 (42%) were female (aged 18-91 years, median age 56). Gender was not recorded for 6 cases. Age was not recorded for another 7 cases. The persisting observation of the predominance of older men remains unexplained (see Table 2).

Table 2. Reference and local laboratory confirmed cases of hepatitis E infection (Q4 weeks 40-52, 2018)

Age Group	Male	Female	Unknown	Total
Not recorded	1	0	6	7
<15	2	0	0	2
15-24	6	1	0	7
25-44	34	27	2	63
45-64	49	38	2	89
>64	44	41	3	88
Total	136	107	13	256

The total number of newly diagnosed cases of hepatitis E in 2018 was 994 compared to 911 cases in 2017 which continues the increasing trend seen since 2010[2].

Leptospirosis (data from the National Leptospirosis Service)

There were 20 confirmed cases of leptospirosis reported in the fourth quarter of 2018, compared with 31 during the fourth quarter of 2017.

Sixteen of the cases were male (aged 22-71 years, median age 51.5), four were female (aged 47-72 years, median age 55). The regions reporting the highest number of cases were the South East (7 cases), London, East of England and South West (3 cases each).

Seven of the cases reported recent travel abroad with the two of the cases having travelled to Costa Rica. Of the travel related cases, four reported fresh water activities abroad (three in North America, one in Western Europe) and one had occupational exposure to freshwater in West Africa. Of those cases which did not report travel abroad; two cases were open water swimmers, two had contact with freshwater and one reported exposure to a rat infestation.

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

A total of 387 cases of laboratory confirmed Lyme disease were reported during the fourth quarter of 2018, compared with 362 cases reported in the fourth quarter of 2017. Of these cases, 246 were acute (including 25 with neurological Lyme disease) and 141 were longstanding.

Of the acute cases, 130 were male (aged 3-82 years, median age 46) and 115 were female (aged 2-76 years, median age 51). One case had no gender specified. Table 3 shows the age group and gender distribution, and Table 4 shows the distribution by region.

Of the acute cases 20 (12.3%) reported foreign travel: 14 to Europe, 2 to North America, 1 to South America, 1 to Asia, 1 to Australasia, and 1 reported travel to North Africa and North America.

Table 3. Laboratory confirmed acute cases of Lyme disease, by age and sex (Q4 weeks 40-52, 2018)

Age Group	Male	Female	Unknown	Total
0-14	12	6	0	18
15-24	9	5	0	14
25-34	13	15	0	28
35-44	26	22	0	48
45-54	26	15	0	41
55-64	21	37	1	59
65-74	19	13	0	32
75+	4	2	0	6
Unknown	0	0	0	0
Total	**130**	**115**	**1**	**246**

Table 4. Laboratory confirmed acute cases of Lyme disease, by region (Q4 weeks 40-52, 2018)

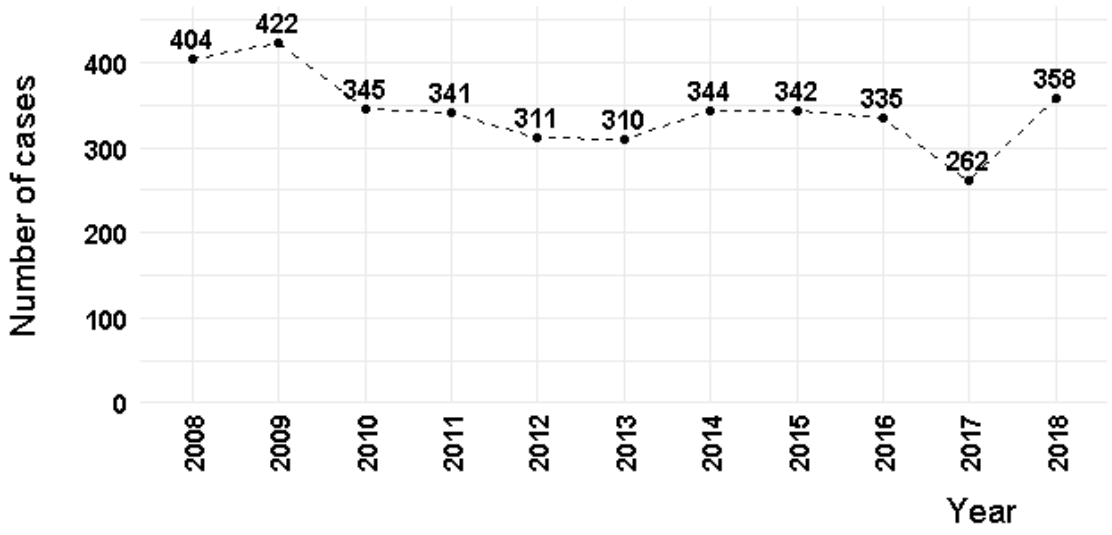
PHE Centre	Cases
East Midlands	3
East of England	26
London	44
North East	10
North West	33
South East	62
South West	45
Wales	5
West Midlands	8
Yorkshire and Humber	10
Total	**246**

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

Toxoplasma (data from the Toxoplasma Reference Unit (TRU), Swansea)

There were 90 confirmed cases of toxoplasmosis reported in the fourth quarter of 2018, compared with 55 during the fourth quarter of 2017. Although there appeared to be an increase in incidence in Q4 2018, the case numbers in 2017 were lower than in previous years with Q4 2017 having the lowest reported incidence over the past 5 years (range 55 - 105, average 82 cases per quarter).

Figure 1. Laboratory confirmed cases of toxoplasmosis per year (2008 – 2018).



The total number of newly diagnosed cases of toxoplasmosis in 2018 was 358 compared to 262 cases in the same period in the year before (2017). Compared to an annual toxoplasmosis incidence of 310 to 422 cases between 2008 and 2016 (average 350) 2017 had an unusually low incidence with 2018 incidence rising to similar levels to previous years (Figure 1). It is likely that reported numbers are an underestimate, biasing towards severe infections as previously reported[3].

Other zoonotic organisms reported in Q4 2018 and a round-up of the year

- In Q4 2018, 17 cases of *Capnocytophaga sp.* were reported of which 10 cases were speciated to *C. canimorsus*. Thirteen of the cases were male (aged 0 to 83, median age 57) and 4 cases were female (aged 59 to 97, median age 68). Cases were reported from South East (5), South West (4), Yorkshire and the Humber (4), London (2) and North West (2). Sixteen of the cases were reported as bacteraemias. There has been an increase in the number of *Capnocytophaga* cases reported this year with 60 cases reported in 2018. In comparison there were 19 cases reported in 2017. The reason for this increase is not clear at present.
- A case of *Erysipelothrix rhusiopathiae* (insidiosa) was reported in Q4 2018. The case occurred in the North East region. There were 7 cases reported in total in 2018, this compares to 13 cases in 2017.
- In Q4 2018, three cases of *Mycobacterium marinum* were reported from East of England, South West and North East. In total there were 14 cases in 2018, compared to 9 cases in 2017.
- In Q4 2018, one case of rabies infection was reported in a returning traveller who had been bitten by a cat whilst in Morocco, where rabies is endemic[4]. This is the first human case in the UK since 2012. In that instance, the individual was bitten by a dog in South Asia.
- Two cases of imported West Nile virus were reported in the last quarter of 2018. One case reported recent travel to Hungary and the other reported travel to North America. Two further cases of West Nile virus were reported in Q3 of 2018 one of whom reported travel to North America and the other to multiple destinations (including North America and Hungary). A total of four cases were reported in 2018 in comparison to one case reported in 2017 with travel to South Africa.

These imported case reports are in line with reports of increased incidence in Europe and North America in 2018 compared to previous years[5,6].

- Three cases of toxigenic *Corynebacterium ulcerans* were reported in 2018 (there were no cases in Q4). This is similar to 2017 where 1 case of toxigenic *C. ulcerans* was reported.
- Two cases of *Streptobacillus moniliformis* were reported in 2018 compared to 1 case reported in 2017.
- Two cases of *Toxocara sp*. were reported in 2018. No cases were reported in 2017.
- One case of tularemia was reported in 2018 in an adult who reported recent travel to Sweden. Tularemia does not occur in the UK but is endemic in Northern Europe, particularly Sweden and Finland.
- There were three cases of monkeypox diagnosed in the UK in 2018. Two cases had travelled from Nigeria and the third case was a UK-resident healthcare worker who had been caring for one of the cases. This case represents the first documented case of human-to-human onward transmission of monkeypox outside Africa[7].
- Two cases of confirmed cowpox were reported in 2018. One of the cases was resident in the North West and the other in the South East. Cowpox is most frequently transmitted from infected animals, commonly cats or rodents[8], and one case reported exposure to a kitten recently acquired from a local farm.

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About *Health Protection Report*

Health Protection Report is a national public health bulletin for England and Wales, published by Public Health England. It is PHE's principal channel for the dissemination of laboratory data relating to pathogens and infections/communicable diseases of public health significance and of reports on outbreaks, incidents and ongoing investigations.

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