



UK Health
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Common animal-associated infections (England and Wales): third quarter 2020

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Background

This quarterly report is produced by the Emerging Infections and Zoonoses team in the Clinical and Emerging Infections Directorate, UK Health Security Agency (UKHSA).

The report summarises confirmed cases of zoonoses reported in England and Wales between July and September 2020 (third quarter) and includes additional information on the quarterly trends for hepatitis E, leptospirosis, and Lyme disease.

The data presented in this report supersedes data in previous reports due to late notifications and de-duplication.

Common animal-associated infections (England and Wales): Q1 2018 to Q3 2020

Table 1. Animal-associated infections in England and Wales: quarterly laboratory reports by specimen date, Q1 2018 to Q3 2020

Disease (organism)	Number of reports													
	2018					2019					2020 ¹			
	Q1	Q2	Q3	Q4	Total	Q1	Q2	Q3	Q4	Total	Q1	Q2	Q3	Total
Anthrax (<i>Bacillus anthracis</i>)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Brucellosis (<i>Brucella spp.</i>) ³	0	0	4	8	12	7	4	5	8	24	1	1	6	8
Hepatitis E	273	255	210	264	1,002	345	330	291	240	1,206	278	190	271	739
Leptospirosis (<i>Leptospira spp.</i>)	8	9	39	20	76	12	5	36	38	91	15	7	22	44
Lyme disease (<i>Borrelia burgdorferi</i>)														
All cases	135	297	821	383	1,636	191	318	781	349	1,639	173	188	625	986
Acute infections	66	189	632	243	1,130	90	187	466	160	903	53	132	468	653
Pasteurellosis (<i>Pasteurella spp.</i>)	178	157	207	160	702	173	171	214	214	772	175	153	214	542
Q-fever (<i>Coxiella burnetii</i>)														
All cases	5	9	5	4	23	3	6	2	4	15	7	5	3	15
Acute infections	4	7	5	3	19	2	5	1	1	9	6	3	3	12
Toxoplasmosis (<i>Toxoplasma gondii</i>) ²	79	105	83	85	352	75	50	48	57	230	n/a	n/a	n/a	n/a

¹ Provisional data.

² Based on date specimen received.

³ Serology results, in addition to culture results, introduced in Q1 2019, are [available online](#).

n/a = not available.

Note: Hydatid and Psittacosis data not available due to inconsistencies in surveillance data provided to UKHSA and a laboratory reporting issue, respectively; these are being addressed.

Hepatitis E

The national hepatitis E virus (HEV) surveillance reports reference laboratory data (Public Health Laboratory Birmingham and Blood Borne Virus Unit Colindale) together with additional cases reported by local laboratories through the Second Generation Surveillance System (SGSS). The combined datasets provide a more accurate reflection of the number of acute HEV infected cases reported in England and Wales.

There were 271 laboratory reported cases of HEV infection in the third quarter of 2020 compared to 291 cases in the same quarter of 2019. Of those, 164 (61%) were male (aged 15 to 91 years, median=61) and 107 (39%) were female (aged 0 to 89 years, median=58; Table 2). The persisting observation of the predominance of older men remains unexplained.

Table 2. Laboratory confirmed cases of hepatitis E by age group and sex, Q3 2020

Age Group	Male	Female	Total
Under 15	0	2	2
15 to 24	8	4	12
25 to 44	24	28	52
45 to 64	58	32	90
Over 64	74	41	115
Total	164	107	271

Figure 1 shows the number of HEV infections by quarter between 2016 and 2020. The data shows a drop in cases in 2017 (n=911) followed by an increasing trend in 2018 and 2019 with 1,206 cases reported in 2019.

Figure 1. Laboratory confirmed cases of hepatitis E by quarter, Q1 2016 to Q3 2020

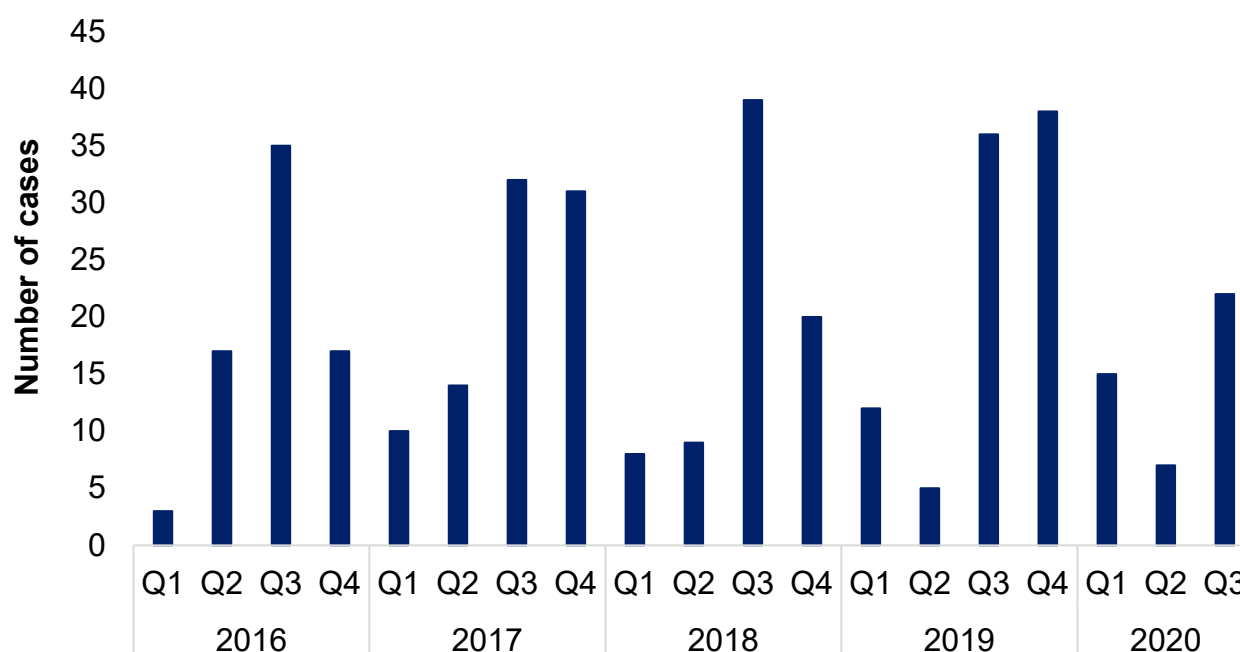


Leptospirosis

Data for leptospirosis was obtained from the Rare and Imported Pathogens Laboratory (RIPL, UKHSA Porton). Historically, microscopic agglutination test (MAT) has been considered the gold standard to serologically confirm leptospirosis. A positive 16S rRNA PCR positive result also constitutes a confirmed case. Following a fit for purpose review of the MAT service in 2020, the recommendation was made for the cessation of the MAT service from 1 August 2020. Since then, for surveillance purposes a laboratory confirmed case of leptospirosis is defined by a positive 16S rRNA PCR result only. An IgM enzyme-linked immunoabsorbent assay (EIA) continues to be performed on all samples of suspected leptospirosis cases. A case with a positive leptospirosis IgM result will usually be treated clinically on the basis of this result, even in the absence of a positive PCR result. A case with a positive IgM but without a confirmatory PCR result is therefore reported as a probable case for surveillance purposes.

There were 22 confirmed cases of leptospirosis reported in the third quarter of 2020, compared to 36 cases reported in the third quarter of 2019. Figure 2 shows the number of confirmed cases reported by quarter over the past 5 years (2016 to 2020). There were 27 probable cases reported in the third quarter of 2020.

Figure 2. Laboratory confirmed cases of leptospirosis by quarter, Q1 2016 to Q3 2020



In the third quarter of 2020, the majority (18 out of 22; 82%) of confirmed cases were male (aged 13 to 69 years) and 4 cases were female (aged 11 to 49 years). Cases were distributed across 7 of the 9 English regions; East Midlands (1), East of England (1), London (1), North West (4), South East (5), South West (8) and West Midlands (2). No cases were reported in Wales.

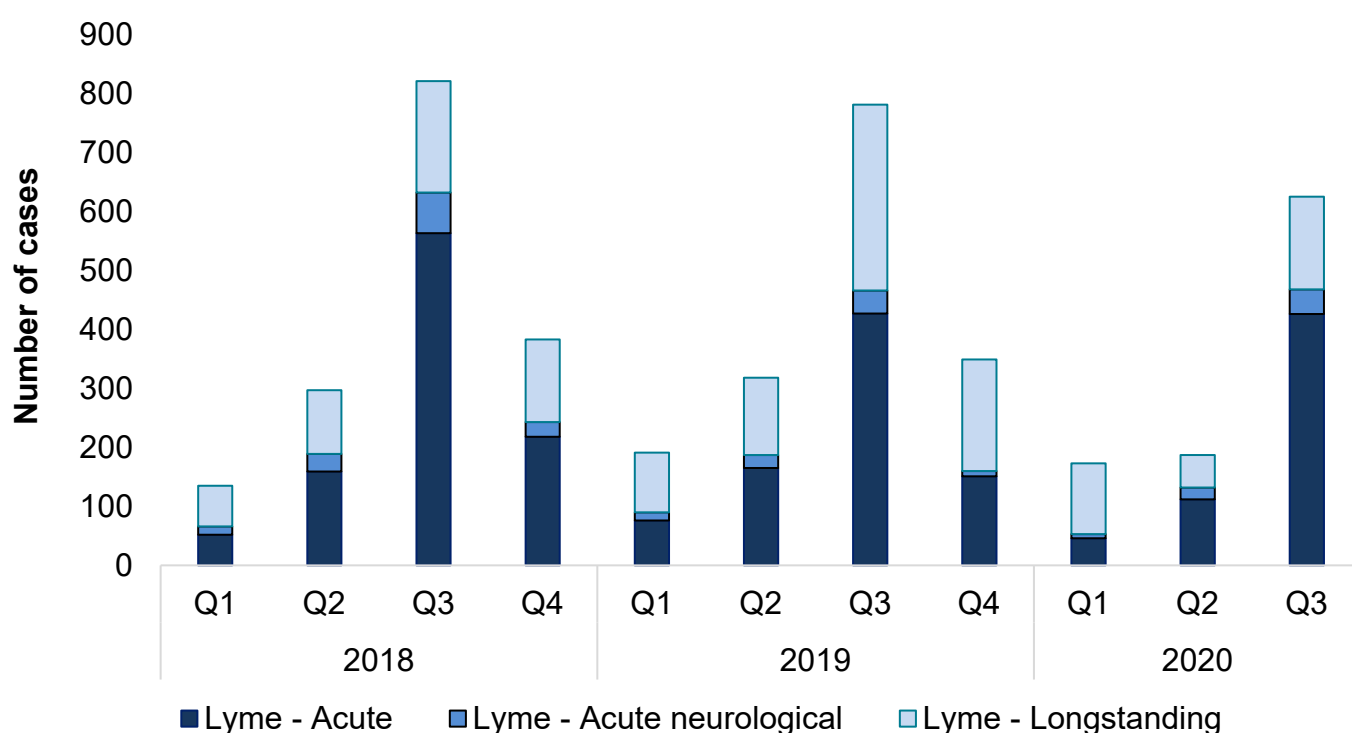
No cases reported recent travel abroad. Of the 22 confirmed cases:

- 10 had an exposure to water, of which 9 reported swimming either in rivers, lakes, or open water (one case had been canoeing); one case had no further details on their water exposure other than working and living on a farm, thereby also having an occupational animal contact
- 4 cases had an exposure to animals: one case was a dairy farm worker with contact with rats, one case had an occupational risk of rat contact, one case reported a previous rat exposure and one case had an unspecified contact with rats; one further case was a farmer but the nature of work and whether there was animal or water contact was not disclosed

Lyme disease

Data for Lyme disease was obtained from the Rare and Imported Pathogens Laboratory (RIPL, UKHSA Porton). The total number of confirmed Lyme disease cases reported in the third quarter of 2020 (n=625) was less than in the same period in 2019 (n=781). The number of acute cases, however, remained similar to the same time period in 2019 (Q3 2019: 466; Q3 2020: 468). As shown in Figure 3, the number of cases peaked during the summer months (third quarter), which corresponds to the peak times of exposures to ticks in the UK in the spring and summer months.

Figure 3. Laboratory confirmed cases of Lyme disease by quarter, Q1 2018 to Q3 2020



Of the total cases, 468 (75%) were acute (including 42 with neurological Lyme disease) and 157 (25%) were longstanding. Of the acute cases, 260 were male (aged 1 to 79, median 46) and 208 were female (aged 1 to 79, median 45). Table 3 shows the age group and sex distribution.

Table 3. Laboratory confirmed acute cases of Lyme disease by age group and sex, Q3 2020

Age group	Male	Female	Total
0 to14	42	30	72
15 to 24	14	11	25
25 to 34	26	25	51
35 to 44	42	35	77
45 to 54	47	42	89
55 to 64	49	33	82
65 to 74	29	28	57
Over 75	11	4	15
Total	260	208	468

The regions that reported the most acute cases in the third quarter of 2020 were the South East (n=152) and the South West (n=143), which also reported the most acute cases in 2019 (Table 4). Four of the acute cases reported foreign travel: Europe (n=3) and South America (n=1).

Table 4. Laboratory confirmed acute cases of Lyme disease by region, Q1 2019 to Q3 2020

PHE centre	2019					2020			
	Q1	Q2	Q3	Q4	Total	Q1	Q2	Q3	Total
East Midlands	3	2	10	3	18	2	1	3	6
East of England	10	7	25	13	55	3	5	23	31
London	20	41	105	22	188	17	33	90	140
North East	2	5	7	2	16	1	4	4	9
North West	13	20	36	16	85	5	7	33	45
South East	17	50	142	48	257	12	48	152	212
South West	16	39	106	41	202	6	29	143	178
West Midlands	4	6	6	4	20	4	1	3	8
Yorkshire and Humber	3	12	16	6	37	1	2	10	13
Wales	2	5	13	5	25	2	2	7	11
Total	90	187	466	160	903	53	132	468	653

Note: specimens sent for Lyme disease referral testing should be accompanied by a completed [referral form](#).

Other zoonotic organisms (provisional data)

There were 33 reports of *Capnocytophaga* spp. in the third quarter of 2020. Of these, 28 were speciated to *C. canimorsus*, of which fifteen cases were female and thirteen were male. Overall, most cases were reported in the South of England, with 9 cases reported in the South East and 8 in the South West. *Capnocytophaga* spp. are frequently carried in the mouths of companion animals (cats and dogs) or humans and may be associated with an animal bite or opportunistic infections in those with impaired immune systems. Unfortunately, limited information is available in these cases to determine the likely route of exposure.

There were 3 reports of *Mycobacterium marinum* in the third quarter of 2020. Exposure information was not available for these cases.

There were 5 reports of *Erysipelothrix rhusiopathiae* in the third quarter of 2020. *E. rhusiopathiae* is the cause of swine erysipelas and can cause erysipeloid in humans. Infection is often linked to exposure to infected animals or animal products. No additional information on potential exposures was available for these cases.

There were 7 reports of *Taeniasis* in the third quarter of 2021, of which 4 were speciated to *T. saginata*. Most were reported in the South of England (4 in London, 2 in the South East) and one case was reported in the West Midlands.

There were 2 reports of *Toxocariasis* in the third quarter of 2021, both of which were speciated to *T. canis*. Both were reported in the East Midlands.

About the UK Health Security Agency

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