



Department
for Environment
Food & Rural Affairs



Public Health
England

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Zoonoses Summary Report

UK 2014

December 2015



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Preface

This annual report on zoonoses in the United Kingdom (UK) includes a summary of reported cases of zoonotic infection in humans and animals during 2014. The data have been compiled from statutory notifiable or reportable disease reports, national scanning surveillance systems, national laboratory reporting, control programmes, research programmes and from data submitted to the European Community via the Trends and Sources Report under the Zoonoses Directive 2003/99, by agencies contributing to the Report.

This report is a collaborative publication produced by:

- Public Health England (PHE): lead organisation for this year's report
- Department for Environment, Food and Rural Affairs (Defra)
- Food Standards Agency (FSA)
- Department of Health (DH)
- Animal and Plant Health Agency (APHA)
- Health Protection Scotland (HPS)
- Scottish Government (SG)
- Agri Food and Biosciences Institute (AFBI)
- Scotland's Rural College (SRUC)
- Public Health Agency (PHA), Northern Ireland
- Department of Agriculture and Rural Development (DARD), Northern Ireland
- Public Health Wales (PHW)
- Welsh Government (WG)

Occasional corrections and amendments to the data, many of which are derived from dynamic databases, may occur following publication; these will result in minor changes to subsequent annual reports.

We would very much appreciate comments and suggestions for items in future reports. Please send these to ZoonosesReport@Defra.gsi.gov.uk.



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Biosciences Institute

Executive summary

This year's UK Zoonoses Report provides summary data on zoonotic infections in animals and humans across the UK. Links are provided to useful sources of information and other relevant publications. This approach is different from previous reports and was influenced by resource issues and the late publication of the UK Zoonoses Report 2013 for reasons beyond our control. We request that you please provide views on the usefulness of this report to ZoonosesReport@defra.gsi.gov.uk. We are anticipating a full Zoonoses report for 2015 data, but your feedback may affect this.

The data tables show that the reduction in the number of human cases of *Campylobacter* seen in 2013 was reversed, with an increase in cases across the UK.

Human *Salmonella* infections have dropped steadily since 2006, but in England and Wales, there was an increase in the number of cases during 2014.

Laboratory confirmed cases of hepatitis E and non-O157 VTEC infections in people continued to show a significant increase.

There was one poultry premises infected by highly pathogenic avian influenza (HPAI; also referred to as 'Fowl Plague' or 'Bird Flu') in 2014. This was on a farm that keeps breeding ducks and was the first UK HPAI case since 2008. The number of diagnoses of swine influenza remained high in 2014, possibly because testing continued to be offered free of charge in some circumstances. All diagnoses in 2014 were in pigs from farms in England. The predominant strain of swine influenza circulating in the pig population in 2014 was the pandemic strain which emerged in 2009, whilst two other strains were also frequently reported. Co-circulation of multiple strains raises questions as to the long term dynamics of virus strain dominance or co-existence, particularly the potential for further genetic reassortment.

One Daubenton's bat tested positive for EBLV-2 antibodies through APHA's passive lyssavirus surveillance scheme in 2014, the third found at this Shropshire site since 1996 when surveillance was started.

Numbers of cattle herds in which a new TB breakdown was identified in 2014 reduced in each country, as each pursued their respective TB control policy.

Isolations of *Salmonella* from animals were reduced in the UK during 2014. The annual total does tend to fluctuate, so the significance of this reduction is impossible to determine.

In Great Britain there was a significant increase in the proportion of calf diarrhoea cases in which cryptosporidiosis was diagnosed in England and Wales. This trend was not replicated in submissions from Scotland, nor in those from sheep in GB. Overall cryptosporidiosis diagnoses reduced markedly except in Wales where the number was stable.

Additional specific sources of information

Avian and animal influenza

Animals

There was one case of HPAI in birds in the UK in 2014. More information about this outbreak is available at: <https://www.gov.uk/government/news/avian-flu-outbreak-in-duck-breeding-farm-in-yorkshire>

Additional information on diagnoses of swine flu in Great Britain made by APHA and SRUC during 2014 is available at: <https://www.gov.uk/government/publications/non-statutory-zoonoses-disease-surveillance-reports-2014>

Bat rabies (European Bat Lyssavirus)

Animals

One Daubenton's bat tested positive for EBLV-2 antibodies through APHA's passive lyssavirus surveillance scheme in 2014:

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/389656/pub-survrep-w0314.pdf

Bovine tuberculosis (Mycobacterium bovis)

Humans

Tuberculosis in the UK, 2014 report:

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/360335/TB_Annual_report_4_0_300914.pdf

Animals

Information on 2014 TB data for cattle in Great Britain:

<https://www.gov.uk/government/statistics/incidence-of-tuberculosis-tb-in-cattle-in-great-britain>

Information on 2014 TB data for camelids in Great Britain:

<https://www.gov.uk/government/statistical-data-sets/other-tb-statistics#history>

Information on TB in Northern Ireland: <https://www.dardni.gov.uk/publications/tuberculosis-disease-statistics-northern-ireland-2014>

M. bovis in cats HAIRs risk assessment:

<https://www.gov.uk/government/publications/hairs-risk-assessment-mycobacterium-bovis-in-cats>

Brucellosis (*Brucella* spp.)

Humans

Annual data for 2014¹:

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/404107/hpr0515_zoos.pdf

Animals

For additional information on *B. abortus* statistics in Northern Ireland please see:

<https://www.dardni.gov.uk/publications/brucellosis-disease-statistics-northern-ireland-2014>

Campylobacteriosis (*Campylobacter* spp.)

Humans

Year 1 of a UK-wide survey of campylobacter contamination on fresh chickens at retail. (February 2014 to February 2015)

The 12-month survey, running from February 2014 to February 2015, looked at the prevalence and levels of campylobacter contamination on fresh whole chilled chickens and their packaging. The survey tested more than 4,000 samples of whole chickens bought from UK retail outlets and smaller independent stores and butchers. The full set of results was published on 28 May 2015.

See more at:

<http://www.food.gov.uk/science/microbiology/campylobacterevidenceprogramme/retail-survey>

Animals

Additional information on diagnoses of campylobacter in Great Britain made by APHA and SRUC during 2014 is available at: <https://www.gov.uk/government/publications/non-statutory-zoonoses-disease-surveillance-reports-2014>

¹ Data reported in the Health Protection Report was correct at the time of publication. Updated numbers are now available in the data table at the end of this report.

Cryptosporidiosis (*Cryptosporidium* spp.)

Animals

Information on investigations undertaken by APHA in liaison with Public Health England colleagues as part of the PHE outbreak control response during 2014 is available in: <https://www.gov.uk/government/publications/non-statutory-zoonoses-disease-surveillance-reports-2014>

Hantavirus

Humans

Hantavirus infection in people with contact with wild and pet rats in England: preliminary results of a sero-surveillance study: <https://www.gov.uk/government/publications/hantavirus-infection-in-people-sero-surveillance-study-in-england>

Leptospirosis (*Leptospira interrogans* serovars)

Humans

Annual data for 2014²: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/404107/hpr0515_zoos.pdf

Animals

Additional information on diagnoses in Great Britain made by APHA and SRUC during 2014 is available in: <https://www.gov.uk/government/publications/non-statutory-zoonoses-disease-surveillance-reports-2014>

In Northern Ireland during 2014, *Leptospira* spp were demonstrated in 32 bovine, 21 ovine and 3 porcine cases.

² Data reported in the Health Protection Report was correct at the time of publication. Updated numbers are now available in the data table at the end of this report.

Listeriosis (*Listeria monocytogenes*)

Humans

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/404560/Listeria_surveillance_summary_2014.pdf

Lyme Borreliosis (*Borrelia burgdorferi*)

Humans

Annual data for 2014:

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/478807/hpr4115_zoos.pdf

Salmonellosis (*Salmonella* species)

Animals

A description of *Salmonella* data collection and reporting in animals in Great Britain can be found in the 2014 *Salmonella* in Livestock Report:

<https://www.gov.uk/government/statistics/salmonella-in-livestock-production-in-great-britain-2014>

Vero cytotoxin-producing *Escherichia coli* (VTEC)

Humans

An increase in non-O157 has been seen due to the implementation of the GI PCR at a number of local hospital laboratories:

<http://jmm.microbiologyresearch.org/content/journal/jmm/10.1099/jmm.0.075895-0>

Animals

Information on investigations (both VTEC O157 and O55) undertaken by APHA in liaison with Public Health England colleagues as part of the PHE outbreak control response during 2014 is available in: <https://www.gov.uk/government/publications/non-statutory-zoonoses-disease-surveillance-reports-2014>

Further information

Further information of possible interest is included in 'The European Union summary report on trends and sources of zoonoses, zoonotic agents and food-borne outbreaks in 2014':

<http://www.efsa.europa.eu/en/efsajournal/pub/4329>

Notifiable zoonotic diseases in humans

Disease	Notifiable in humans under public health legislation in			Reportable under RIDDOR* to HSE
	England & Wales	Scotland	Northern Ireland	
Anthrax	✓	✓	✓	✓
Acute infectious hepatitis/Hepatitis unspecified: viral (e.g. Hepatitis E)	✓		✓	✓
Botulism	✓	✓		
Brucellosis	✓	✓		✓
Chlamydiosis (avian)				✓
Chlamydiosis (ovine)				✓
Diphtheria	✓	✓	✓	
Clinical syndrome due to <i>E. coli</i> O157 infection		✓		
Gastro-enteritis (under 2 years of age only)			✓	
Haemolytic uraemic syndrome	✓	✓		
Food poisoning	✓		✓	
Infectious bloody diarrhoea	✓			
Leptospirosis			✓	✓
Lyme disease				✓
Plague	✓	✓	✓	
Q fever				✓
Rabies	✓	✓	✓	✓
Clinical syndrome due to <i>Streptococcus suis</i>				✓
Tetanus	✓	✓	✓	✓
Tuberculosis (including <i>Mycobacterium bovis</i>)	✓	✓	✓	✓
Tularaemia		✓		
Viral haemorrhagic fevers	✓	✓	✓	
West Nile Virus		✓		
Yellow fever	✓	✓	✓	

* RIDDOR: Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (not including Part II: Diseases additionally reportable in respect of offshore work places)

The table above lists notifiable zoonotic diseases only; further organisms are notifiable when isolated in laboratories. The lists of notifiable organisms can be found here:

England: www.legislation.gov.uk/uksi/2010/659/contents/made

Northern Ireland: www.legislation.gov.uk/apni/1967/36/contents

Scotland: www.legislation.gov.uk/asp/2008/5/contents

Wales: www.legislation.gov.uk/wsi/2010/1546/contents/made

Notifiable and reportable diseases in animals that are potential zoonoses in the UK

Notifiable diseases are those where there is a statutory requirement to report a suspicion of a clinical case of disease.

Reportable diseases (in animals) include those where there is a statutory requirement to report laboratory confirmed isolation of organisms of the genera *Salmonella* and *Brucella* under the Zoonoses Order 1989. In addition further diseases are included in the schedule of the Specified Animal Pathogens Order 2008 (similar legislation applies in each country). The report is to be made by the laboratory which isolated the organism from an animal derived sample.

Disease	Main species	Last Occurred in UK ³	Notifiable to APHA in GB, Veterinary Service in NI	Reportable
Anthrax (<i>Bacillus anthracis</i>)	Cattle/other mammals	2006	✓	
Avian Influenza (HPAI)	Poultry/ waterfowl	2014	✓	
Bovine Spongiform Encephalopathy	Cattle	Present	✓	
Brucellosis (<i>Brucella abortus</i>)	Cattle ⁴	2004 GB/ 2012 NI ⁵	✓	✓
Brucellosis (<i>Brucella melitensis</i>)	Sheep and goats	Never	✓	✓
Equine Viral Encephalomyelitis	Horses	Never	✓	
Glanders & Farcy (<i>Burkholderia mallei</i>)	Horses	1928	✓	
Newcastle disease and paramyxovirus infection	Poultry and pigeons	2006	✓	

³ Figures taken are correct as at 31st December 2014.

⁴ In the Zoonoses Order 1989 *Brucella* reporting relates to (a) "animal" meaning cattle (bull, cow, steer, heifer, calf), horse, deer, sheep, goat, pig or rabbit; and (b) "bird" meaning a domestic fowl, turkey, goose, duck, guinea-fowl, pheasant, partridge, quail or pigeon.

⁵ Historically present in NI, but now pursuing officially free status and last confirmed case identified on 28th February 2012. Previously outbreaks in Scotland in 2003 and Cornwall, England in 2004.

Disease	Main species	Last Occurred in UK ⁶	Notifiable to APHA in GB, Veterinary Service in NI	Reportable
Psittacosis (Ornithosis)	Poultry	Present	Ornithosis (including psittacosis) notifiable in Northern Ireland in poultry ⁷	
Rabies (Terrestrial)	Dogs and other mammals	1970 ⁸	✓	
Rabies (EBLV)	Bats	2014 ⁹	✓	
Rift Valley Fever	Cattle, sheep and goats	Never	✓	
<i>Salmonella</i>	All species	Present	Salmonella, when carried in animals or poultry, which the Department considers to be a risk to human health, is notifiable in Northern Ireland	✓
Trichinella	Pigs, horses and other mammals	Present ¹⁰		✓

⁶ Figures taken are correct as at 31st December 2014.

⁷ Legislative veterinary powers under The Psittacosis or Ornithosis Order 1953 (S.I. 1953 No. 38) give discretionary powers to serve notices to impose movement restrictions and require cleansing and disinfection of affected premises so APHA may be involved in the control of Psittacosis, even though it is not a notifiable disease in animals or birds.

⁸ A quarantine case was confirmed in 2008, however this does not affect the national disease status.

⁹ European bat Lyssavirus type 2 was isolated from a Daubenton's bat in July 2014. This bat was found at Stokesay Castle, Shropshire, a location where other bats that have tested positive for European bat Lyssavirus type 2 have previously been found.

¹⁰ Trichinella is known to be present in wildlife in Northern Ireland and England. This follows the identification in Northern Ireland of a single positive fox in 2007 and again in 2009, and a positive fox in England in 2013 (*Trichinella pseudospiralis*) during wildlife surveillance.

Disease	Main species	Last Occurred in UK ¹¹	Notifiable to APHA in GB, Veterinary Service in NI	Reportable
Tuberculosis (<i>Mycobacterium bovis</i>)	Domestic cattle, buffalo, bison and deer	Present ¹²	✓ ¹³	✓
Vesicular stomatitis virus (VSV)	Cattle/ other mammals	Never	✓	
West Nile Virus	Horses	Never	✓	

¹¹ Figures taken are correct as at 31st December 2014.

¹² Scotland has been officially free since October 2009, although sporadic incidents continue to be identified in cattle herds.

¹³ In addition to any bovines and deer with suspect clinical signs of tuberculosis, under the Tuberculosis (England) Order 2014, the Tuberculosis (Deer and Camelid) (England) Order 2014, the Tuberculosis (Wales) Order 2011, and the Tuberculosis (Scotland) Order 2007 (as amended), there is a statutory requirement in Great Britain to notify to the local APHA office of the presence of suspect TB lesions in the carcasses of any bovine animals or other farmed or companion (pet) mammals. Furthermore, identification of *Mycobacterium bovis* in samples taken from any mammal (other than man) must also be reported to APHA Weybridge unless the organism was present in the sample as a result of an agreed research procedure. Notifying the suspicion of TB in a living domestic animal in the course of clinical examination, surgery, by radiography or in biopsy material is not mandatory (except for cattle or deer), but submission of clinical samples from such cases to APHA is encouraged.

Number of animals in the UK in 2014

	England*	Wales**	Scotland***	N. Ireland†	UK
Cattle	5,374,000	1,102,768	1,793,356	1,567,300	9,837,424
Sheep	15,389,000	9,738,871	6,692,621	1,922,900	33,743,392
Pigs	3,954,000	28,370	316,298	517,100	4,815,768
Poultry	125,544,000	8,997,200	14,742,096	20,401,100	169,684,396
Goats	82,000	10,692	4,491	3,200	100,383
Farmed Deer	21,000	1,013	7,007	2,980	32,000
Horses	205,000	50,052	36,932	11,100	303,084

Data sourced via the Radar Veterinary Surveillance database (Defra)

* obtained from the June 2014 England Agricultural Census

** obtained from the June 2014 Wales Agricultural Census

*** obtained from the June 2014 Scottish Agricultural Census

† obtained from the June 2014 Northern Ireland Agricultural Census

Note that figures in the above table are a snapshot of the population at a specific time during the year, as shown in the table footnotes. For further information on data quality including accuracy and comparability contact: vetsurveillance@defra.gov.uk

Data on the pet animal population in 2014 is also available at:

<http://www.pfma.org.uk/pet-population-2014>

Laboratory-confirmed cases of zoonotic disease in humans, 2005-2014¹⁴

United Kingdom

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014*
Anthrax	0	1	0	1	13	39	0	5	2	2
Avian Influenza	0	1	4	0	0	0	0	0	0	0
<i>Mycobacterium bovis</i>	26	29	24	23	29	36	39	39	30	39
Brucellosis	12	16	15	15	18	12	25	14	14	11
Campylobacteriosis	52,212	52,679	58,140	55,787	65,211	70,371	72,321	72,629	66,575	70,353
Cryptosporidiosis	5,413	4,728	3,668	4,937	5,647	4,604	3,573	6,655	4,111	4,597
Hantavirus	0	0	0	0	0	0	1	1	4	5
Hepatitis E	339	292	166	180	178	287	472	657	788	1,054
Hydatid disease	11	14	10	18	9	7	15	6	13	16
Leptospirosis	60	50	81	76	56	42	52	78	50	78
Listeriosis	223	208	254	207	234	179	165	185	178	188
Lyme disease	693	940	1,027	1,098	1,093	1,213	1,189	1,249	1,060	955
Pasteurellosis	425	490	457	497	559	586	668	666	717	776
Psittacosis	61	30	39	63	60	58	41	37	30	32
Q fever	61	200	71	68	31	55	114	126	47	61
Rabies 'classical'	1	0	0	1	0	0	0	1 [#]	0	0
Rabies EBLV	0	0	0	0	0	0	0	0	0	0
Salmonellosis (non-typhoidal)	13,708	14,084	13,279	11,517	10,486	9,692	9,395	8,792	8,461	9,121
<i>Streptococcus suis</i>	3	4	2	7	2	4	1	3	3	3
<i>Taeniasis</i>	76	89	101	100	72	114	94	70	79	70
Toxocariasis	5	2	1	2	4	12	4	7	3	5
Toxoplasmosis	114	123	146	457	494	414	364	328	325	370
Trichinellosis	0	0	0	0	0	1	0	0	0	1
vCJD ¹⁵ ‡	5	5	5	2	3	3	5	0	1	0
VTEC O157	958	1,286	1,120	1,247	1,315	1,052	1,484	1,260	1,015	1,185
Non-O157 VTEC	11	20	25	36	45	44	37	59	100	305
Yersiniosis	76	62	78	62	62	54	55	55	60	65

* Provisional data

‡ Data source: NCJDRSU

A UK National who visited India

¹⁴ This is not a definitive list of zoonotic pathogens that are reported each year, but covers zoonotic diseases reported annually in the UK Zoonoses Report.

¹⁵ Deaths

England & Wales

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014*
Anthrax	0	0	0	1	0	5	0	4	1	0
Avian Influenza	0	1 ¹⁶	4 ¹⁷	0	0	0	0	0	0	0
<i>Mycobacterium bovis</i>	18	20	22	17	21	31	30	33	24	35
Brucellosis	8	11	8	5	13	11	17	9	12	10
Campylobacteriosis	46,763	46,877	52,063	50,061	57,819	62,730	64,781	65,085	59,057	62,303
Cryptosporidiosis	4,540	3,982	3,073	4,162	4,831	3,901	2,990	5,765	3,520	4,023
Hantavirus	0	0	0	0	0	0	1 ¹⁸	1	4	4
Hepatitis E	329	289	162	176	175	274	456	579	692	884
Hydatid disease	11	14	10	18	9	6	12	6	10	14
Leptospirosis	55	44	74	62	52	39	44	72	47	76
Listeriosis	189	185	226	181	213	160	148	167	160	169
Lyme disease	595	768	797	813	863	905	959	1,040	878	730
Pasteurellosis	407	430	392	438	455	466	538	535	581	602
Psittacosis	61	30	38	62	58	53	40	27	25	25
Q fever** ¹⁹	53	43	63	56	27	52	106	114	45	56
Rabies 'classical'	1	0	0	0	0	0	0	1 [#]	0	0
Rabies EBLV	0	0	0	0	0	0	0	0	0	0
Salmonellosis (non-typhoidal)	12,404	12,849	12,094	10,321	9,482	8,573	8,492	7,919	7,493	8293
<i>Streptococcus suis</i>	3	3	1	7	1	3	0	3	1	3
Taeniasis	76	88	99	95	70	108	90	65	73	67
Toxocariasis	5	1	1	2	1	8	0	5	3	5
Toxoplasmosis	101	90	104	405**	422**	345**	341**	311**	311**	344**
Trichinellosis	0	0	0	0	0	0	0	0	0	0
VTEC O157	739	1,001	828	950	1,034	773	1,182	837	787	883
Non-O157 VTEC	0	2	6	11	15	9	12	22	47	169
Yersiniosis (non-pestis)	38	33	55	39	47	47	51	44	52	58

* Provisional data

** Enhanced surveillance system

A UK National who visited India

¹⁶ H7N3

¹⁷ H7N2

¹⁸ Indigenously acquired.

¹⁹ Acute and chronic infections

Northern Ireland

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014*
Anthrax	0	0	0	0	0	0	0	0	0	0
Avian Influenza	0	0	0	0	0	0	0	0	0	0
<i>Mycobacterium bovis</i>	5	3	1	2	1	1	2	0	4	2
Brucellosis	2	4	5	10	4	0	2	2	0	0
Campylobacteriosis	891	937	885	848	977	1,040	1,175	1,211	1,355	1,414
Cryptosporidiosis	164	134	85	119	118	119	140	177	161	143
Hantavirus	0	0	0	0	0	0	0	0	0	0
Hepatitis E	0	0	0	0	0	0	1	0	1	9
Hydatid disease	0	0	0	0	0	0	0	0	0	0
Leptospirosis	1	3	1	1	0	0	3	2	2	0
Listeriosis	3	6	5	11	4	2	3	7	2	4
Lyme disease	2	1	0	0	2	0	1	2	6	1
Pasteurellosis	2	9	3	2	7	0	1	2	3	1
Psittacosis	0	0	0	0	0	0	0	0	0	0
Q fever	6	13	5	11	2	0	1	1	0	0
Rabies 'classical'	0	0	0	1 ²⁰	0	0	0	0	0	0
Rabies EBLV	0	0	0	0	0	0	0	0	0	0
Salmonellosis (non-typhoidal)	177	206	155	185	158	178	166	145	155	111
<i>Streptococcus suis</i>	0	0	0	0	0	0	0	0	0	0
<i>Taeniasis</i>	0	0	0	0	0	0	0	1	0	0
Toxocariasis	0	0	0	0	0	0	0	0	0	0
Toxoplasmosis	2	0	2	4	3	2	0	0	0	0
Trichinellosis	0	0	0	0	0	0	0	0	0	0
VTEC O157	47	42	49	56	44	67	49	189 ²¹	61	39
Non-O157 VTEC	0	0	0	0	0	0	0	2	1	61 ²²
Yersiniosis	4	3	1	0	0	0	0	0	1	3

* Provisional data

²⁰ UK national who visited South Africa

²¹ 142 of these cases were associated with one outbreak

²² This includes culture/PCR results

Scotland

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014*
Anthrax	0	1	0	0	13	34	0	1	1	2
Avian Influenza	0	0	0	0	0	0	0	0	0	0
<i>Mycobacterium bovis</i>	3	6	1	4	7	4	7	6	2	2
Brucellosis	2	1	2	0	1	1	6	3	2	1
Campylobacteriosis	4,558	4,865	5,192	4,878	6,415	6,601	6,365	6,333	6,163	6,636
Cryptosporidiosis	709	612	510	656	698	584	443	713	430	431
Hantavirus	0	0	0	0	0	0	0	0	0	1
Hepatitis E	10	3	4	4	3	13	15	78	95	161
Hydatid disease	0	0	0	0	0	1	3	0	3	2
Leptospirosis	4	3	6	13	4	3	5	4	1	2
Listeriosis	31	17	23	15	17	17	14	11	16	15
Lyme disease	96	171	230	285	228	308	229	207	176	224
Pasteurellosis	16	51	62	57	97	120	129	129	133	173
Psittacosis	0	0	1	1	2	5	1	10	5	7
Q fever	2	144 ²³	3	1	2	3	7	11	2	5
Rabies 'classical'	0	0	0	0	0	0	0	0	0	0
Rabies EBLV	0	0	0	0	0	0	0	0	0	0
Salmonellosis (non-typhoidal)	1,127	1,029	1,030	1,011	846	941	737	728	813	717
<i>Streptococcus suis</i>	0	1	1	0	1	1	1	0	2	0
<i>Taeniasis</i>	0	1	2	5	2	6	4	4	6	3
Toxocariasis	0	1	0	0	3	4	4	2	0	0
Toxoplasmosis	11	33	40	48	69	67	23	17	14	26
Trichinellosis	0	0	0	0	0	1	0	0	0	1
VTEC O157	172	243	243	241	237	212	253	234	167	263
Non-O157 VTEC	11	18	19	25	30	35	25	35	52	75
Yersiniosis (non-pestis)	34	26	22	23	15	7	4	11	7	4

* Provisional data

²³ 142 of these cases were associated with one outbreak

Government laboratory-confirmed cases or incidents of zoonotic infection in animals, 2005-2014

United Kingdom

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Anthrax ^A	0	2	0	0	0	0	0	0	0	0
Avian Influenza ^A	0	0	1	2	0	0	0	0	0	1
New TB breakdowns in cattle herds ^A	5,457	5,043	5,452	6,285	5,892	5,883	6,293	6,868	6,253	6,045
<i>M. bovis</i> isolates in non-bovine animals (excludes badgers) ^A	72	89	77	123	156	142	142	99	132	133
<i>Mycobacterium</i> species in non-bovine animals (excluding <i>M. bovis</i>) ^A	68	186	146	107	149	144	140	16	26	16
<i>Brucella abortus</i> (confirmed infected herds: all in NI) ^A			53	34	13	25	4	1	0	0
<i>Brucella melitensis</i> ^A	0	0	0	0	0	0	0	0	0	0
<i>Brucella spp</i> ^A (in marine mammals)	13	8	11	10	7	7	9	13	6	5
BSE ^A	226	114	67	37	12	11	7	3	3	1
<i>Campylobacter</i> ^A	163	211	251	186	164	280	178	144	259	185
Chlamydiosis (<i>Chlamydomphila abortus</i>) fetopathy ^A	548	508	553	372	406	397	447	539	331	446
Cryptosporidiosis ^A	1,326 Φ	1,348 Φ	1,043 Φ	1,311†	1,436	1,768	1,381	1,896	1,874	1,374
Hydatid ^A	0	0	0	0	0	0	0	0	1	0
Leptospirosis ^A	209	157	197	238	89	113	50	85	69	59
Listeriosis ^A	103	148	152	216	196	237	165	219	200	196
Orf ^A	26	39	48	44	38	41	36	49	56	31
<i>Pasteurella multocida</i> ^A	N/A	N/A	336†	394	540	510	464	379	428	363
Psittacosis (<i>C. psittaci</i>) ^A	3	1	2	1	3	8	0	2	2	1
Q fever ^A	6	5	4	5	3	5	8	6	3	4
Rabies 'classical' ^A	0	0	0	1	0	0	0	0	0	0
Rabies EBLV ^A	0	1	1	2	1	0	0	0	0	1
<i>Salmonella</i> (all types) ^A	3,218	3,119	2,352	2,311	2,672	3,513	2,961	3,344	3,321	2,691
<i>Streptococcus suis</i> ^A	96	90	100	132	115	139	124	96	133	136
Swine Influenza ^A	20	13	10	16	18	40	37	38	33	32
Toxoplasmosis ^A	417	380	424	257	232	267	189	348	444	271
Trichinellosis ^A	0	0	1	0	1	0	0	0	1	0
Yersiniosis ^A	N/A	28†	24†	32†	37	23	44	50	82	168

^A The key to all the data in appendix 4 appears as the final table at the end of this appendix.

† GB data.

Φ Data only includes isolations from cattle and sheep in GB.

England

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Anthrax ^A	0	0	0	0	0	0	0	0	0	0
Avian Influenza ^A	0	0	1	2	0	0	0	0	0	1
New TB breakdowns in cattle herds ^A	3665†	3530†	4188†	3,765	3,362	3,634	3,771	3,925	3,875	3,794
<i>M. bovis</i> isolates in non-bovine animals (excludes badgers) †	64	78	68	119	144	134	133	98	132	131
<i>Mycobacterium</i> species in non-bovine animals (excluding <i>M. bovis</i>) ^A	55†	138†	104†	77†	122†	130†	140†	14	21	8
<i>Brucella abortus</i> ^A	0	0	0	0	0	0	0	0	0	0
<i>Brucella melitensis</i> ^A	0	0	0	0	0	0	0	0	0	0
<i>Brucella spp</i> ^A (in marine mammals)	1	0	0	6	4	0	1	7	0	2
BSE ^A	153	78	39	25	9	11	5	2	1	1
<i>Campylobacter</i> ^A	96	117	125	94	93	148	93	73	129	105
Chlamydiosis (<i>Chlamydia abortus</i>) fetopathy ^A	230	258	263	201	219	215	226	260	166	220
Cryptosporidiosis ^A	N/A	N/A	N/A	1311†	1346†	1674†	1095†	650	681	549
Hydatid ^A	0	0	0	0	0	0	0	0	0	0
Leptospirosis ^A	34	26	45	16	5	8	3	15	1	1
Listeriosis ^A	86†	118†	132†	191†	177†	215†	146†	85	116	73
Orf ^A	18	25	29	26	26	29	20	30	35	18
<i>Pasteurella multocida</i> ^A	N/A	N/A	336†	281†	319†	368†	316†	116	115	112
Psittacosis (<i>C. psittaci</i>) ^A	0	0	1	0	1	4	0	1	1	1
Q fever ^A	4	4	4	3	3	5	3	5	3	4
Rabies 'classical' ^A	0	0	0	1	0	0	0	0	0	0
Rabies EBLV ^A	0	1	1	2	0	0	0	0	0	1
<i>Salmonella</i> (all types) ^A	2,689*	2,658*	1,948*	1,729*	2,198*	3,044*	2,392*	2,739*	2,685*	2263†
<i>Streptococcus suis</i> ^A	69	67	67	96	83	94	94	66	69	6
Swine Influenza ^A	18	12	9	16	13	31	34	36	33	
Toxoplasmosis ^A	174	170	166	93	115	101	84	146	132	42
Trichinellosis ^A	0	0	0	0	0	0	0	0	1	0
Yersiniosis ^A	N/A	28†	24†	32†	33†	15†	22†	8	7	11

^A The key to the UK and individual nation's data in appendix 4 appears as the final table at the end of this appendix.

† GB data.

* England and Wales data.

Northern Ireland

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Anthrax ^A	0	0	0	0	0	0	0	0	0	0
Avian Influenza ^A	0	0	0	0	0	0	0	0	0	0
New TB breakdowns in cattle herds per year and the % Herd incidence ^A	1,792 7.22	1,513 6.23	1,264 5.35	1,274 5.58	1,293 5.61	1,160 5.12	1,386 6.00	1,695 7.32	1,479 6.44	1,397 6.03
<i>M. bovis</i> isolates in non-bovine animals (excludes badgers) ^A	8	11	9	4	12	8	9	1	0	2
<i>Mycobacterium</i> species in non-bovine animals (excluding <i>M. bovis</i>) ^A	13	48	42	30	27	14	0	0	0	0
<i>Brucella abortus</i> - number of reactor herds per year and confirmed infected herds ^A	88	118	151 53	177 34	71 13	74 25	21 4	23 1	26 0	8 0
<i>Brucella melitensis</i> ^A	0	0	0	0	0	0	0	0	0	0
<i>Brucella spp</i> ^A (in marine mammals)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0
BSE ^A	23	10	14	4	3	0	2	1	0	0
<i>Campylobacter</i> ^A	18	47	36	35	15	46	25	35	35	13
Chlamydiosis (<i>Chlamydia abortus</i>) fetopathy ^A	82	61	40	36	39	55	61	68	51	56
Cryptosporidiosis ^A	N/A	N/A	N/A	N/A	90	94 Φ	286 Φ	736 Φ	668 Φ	404 ΦC
Hydatid ^A	N/A	N/A	0	0	0	0	0	0	0	0
Leptospirosis ^A	161	113	106	199	84	105	46	70	65	56
Listeriosis ^A	17	30	20	25	19	22	19	45	22	47
Orf ^A	0	2	3	1	1	1	1	0	3	2
<i>Pasteurella multocida</i> ^A	N/A	N/A	N/A	113	221	142	148	140	212	161
Psittacosis (<i>C. psittaci</i>) ^A	0	0	0	0	0	0	0	0	0	0
Q fever ^A	0	0	0	0	0	0	0	0	0	0
Rabies 'classical' ^A	0	0	0	0	0	0	0	0	0	0
Rabies EBLV ^A	0	0	0	0	0	0	0	0	0	0
<i>Salmonella</i> (all types) ^A	130	184	223	382	252	345	354	426	503	428
<i>Streptococcus suis</i> ^A	16	5	17	10	14	21	12	19	46	67
Swine Influenza ^A	0	0	0	0	5	4	0	0	0	5
Toxoplasmosis ^A	47	53	54	64	44	51	45	100	229	63
Trichinellosis ^A	0	0	1	0	1	0	0	0	0	0
Yersiniosis ^A	N/A	N/A	N/A	N/A	4	8	22	34	72	147*

^A The key to the UK and individual nation's data in appendix 4 appears as the final table at the end of this appendix.

Φ Data only includes isolations from cattle and sheep.

ΦC Data only includes isolations from cattle.

*Marked increase is a consequence of 2014 being the first full year of using selective media at AFBI, making *Yersinia* detection much easier.

Scotland

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Anthrax ^A	0	0	0	0	0	0	0	0	0	0
Avian Influenza ^A	0	0	0	0	0	0	0	0	0	0
New TB breakdowns in cattle herds ^A	3665†	3530†	4188†	47	49	45	43	54	28	3
<i>M. bovis</i> isolates in non-bovine animals (excludes badgers) ^A †	64	78	68	119	144	134	133	98	0	131
<i>Mycobacterium</i> species in non-bovine animals (excluding <i>M. bovis</i>) ^A	55†	138†	104†	77†	122†	130†	140†	2	5	4
<i>Brucella abortus</i> ^A	0	0	0	0	0	0	0	0	0	0
<i>Brucella melitensis</i> ^A	0	0	0	0	0	0	0	0	0	0
<i>Brucella spp</i> ^A (in marine mammals)	12	8	11	4	3	7	8	6	6	3
BSE ^A	22	12	7	1	0	0	0	0	0	0
<i>Campylobacter</i> ^A	40	28	44	35	39	47	34	25	55	36
Chlamydiosis (<i>Chlamydia abortus</i>) fetopathy ^A	112	97	140	65	66	52	79	103	53	76
Cryptosporidiosis ^A	N/A	N/A	N/A	1311†	1346†	1674†	1095†	309	319	212
Hydatid ^A	0	0	0	0	0	0	0	0	0	0
Leptospirosis ^A	10	16	41	22	0	0	0	0	3	2
Listeriosis ^A	86†	118†	132†	191†	177†	215†	146†	59	47	50
Orf ^A	2	10	8	10	6	8	7	8	13	7
<i>Pasteurella multocida</i> ^A	N/A	N/A	336†	281†	319†	368†	316†	99	93	74
Psittacosis (<i>C. psittaci</i>) ^A	3	1	1	1	1	4	0	1	1	0
Q fever ^A	0	0	0	0	0	0	0	0	0	0
Rabies 'classical' ^A	0	0	0	0	0	0	0	0	0	0
Rabies EBLV ^A	0	0	0	0	1	0	0	0	0	0
<i>Salmonella</i> (all types) ^A	399	277	181	200	222	124	215	179	133	2263†
<i>Streptococcus suis</i> ^A	11	14	14	26	17	22	18	8	5	6
Swine Influenza ^A	2	1	1	0	0	5	3	2	0	0
Toxoplasmosis ^A	124	94	142	68	52	91	31	66	46	42
Trichinellosis ^A	0	0	0	0	0	0	0	0	0	0
Yersiniosis ^A	N/A	28†	24†	32†	33†	15†	22†	8	1	11

^A The key to the UK and individual nation's data in appendix 4 appears as the final table at the end of this appendix.

† GB data.

Wales

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Anthrax ^A	0	2	0	0	0	0	0	0	0	0
Avian Influenza ^A	0	0	0	0	0	0	0	0	0	0
New TB breakdowns in cattle herds ^A	3665†	3530†	4188†	1,198	1,186	1,039	1,045	1,112	871	851
<i>M. bovis</i> isolates in non-bovine animals (excludes badgers) ^{A†}	64	78	68	119	144	134	133	98	6	131
<i>Mycobacterium</i> species in non-bovine animals (excluding <i>M. bovis</i>) ^A	55†	138†	104†	77†	122†	130†	140†	0	0	4
<i>Brucella abortus</i> ^A	0	0	0	0	0	0	0	0	0	0
<i>Brucella melitensis</i> ^A	0	0	0	0	0	0	0	0	0	0
<i>Brucella sp</i> ^A (in marine mammals)	0	0	0	0	0	0	0	0	0	0
BSE ^A	28	14	7	7	0	0	0	0	2	0
<i>Campylobacter</i> ^A	9	19	46	22	17	39	26	11	40	31
Chlamydiosis (<i>Chlamydia abortus</i>) fetopathy**	124	92	110	70	82	75	81	108	61	94
Cryptosporidiosis ^A	N/A	N/A	N/A	1311†	1346†	1674†	1095†	201	206	209
Hydatid ^A	0	0	0	0	0	0	0	0	1	0
Leptospirosis ^A	4	2	5	1	0	0	1	0	0	0
Listeriosis ^A	86†	118†	132†	191†	177†	215†	146†	30	15	26
Orf ^A	6	2	8	7	5	3	8	11	5	4
<i>Pasteurella multocida</i> ^A	N/A	N/A	336†	281†	319†	368†	316†	24	8	16
Psittacosis (<i>C. psittaci</i>) ^A	0	0	0	0	1	0	0	0	0	0
Q fever ^A	2	1	0	2	0	0	5	1	0	0
Rabies 'classical' ^A	0	0	0	0	0	0	0	0	0	0
Rabies EBLV ^A	0	0	0	0	0	0	0	0	0	0
<i>Salmonella</i> (all types) ^A	2,689*	2,658*	1,948*	1,729*	2,198*	3,044*	2,392*	2,739*	2,685*	2263†
<i>Streptococcus suis</i> ^A	0	4	2	0	1	2	0	3	0	1
Swine Influenza ^A	0	0	0	0	0	0	0	0	0	0
Toxoplasmosis ^A	72	63	62	32	21	24	29	36	37	52
Trichinellosis ^A	0	0	0	0	0	0	0	0	0	0
Yersiniosis ^A	N/A	28†	24†	32†	33†	15†	22†	0	2	2

^A The key to the UK and individual nation's data in appendix 4 appears as the final table at the end of this appendix.

† GB data.

* England and Wales data.

Key to all other animal data tables

The above animal data tables are not intended to provide a definitive list of all zoonotic pathogens, but include those for which data are available (notifiable/reportable and those recorded by the APHA's Veterinary Diagnostic Analysis (VIDA) system (GB data) and /or AFBI systems). The VIDA data provides figures only for new incidents with relevant VIDA codes (although numbers of incidents in this report may differ marginally from those published in the 2014 FZ2100 annual report due to updated database recording). The FSA supplied the Trichinellosis data. The species for which diagnoses may be recorded and other notes relevant in interpreting the preceding animal data tables are provided below.

Diagnosis	Cattle	Sheep	Goats	Pigs	Birds ¹	Misc.	Wildlife ²
Anthrax							
Avian influenza (only highly pathogenic strains). Tables show number of highly pathogenic avian influenza (HPAI) incidents p.a.							
New TB breakdowns in cattle herds Data for GB countries for new TB breakdowns in cattle herds included in the relevant tables is not directly comparable across the individual tables. Since 2008 the figures are based on data derived from APHA's Sam system. Sam is an APHA IT system that holds information on all customers, and helps manage specific work areas such as TB. Prior to 2008 a different data system was in use and the data produced is not exactly comparable with the statistics produced from Sam. In addition the overall UK totals since 2008 are not the sum of the number of new incidents in each national table as a balancing amount is included in the overall GB total for cases where the exact region is unknown, and is therefore reflected in this UK figure. This balancing amount in 2013 was 47, 60 in 2012, 54 in 2011, 5 in 2010, 2 in 2009 and 1 in 2008.							
<i>M. bovis</i> isolates in non-bovine animals (excludes badgers)							
<i>Mycobacterium</i> in non-bovine animals (excluding <i>M. bovis</i>)							
<i>Brucella abortus</i>							
<i>Brucella melitensis</i>							
<i>Brucella</i> spp. (in marine mammals)							
BSE							

Diagnosis	Cattle	Sheep	Goats	Pigs	Birds¹	Misc.	Wildlife²
<p><i>Campylobacter</i></p> <p>Confirmed cases obtained through scanning surveillance. Data for GB countries has been derived from the incidents recorded on APHA's Veterinary Diagnostic Analysis (VIDA) system. This uses strict criteria and so not all isolated pathogens are included in the relevant tables. In NI data from <i>Campylobacter</i> diagnoses in pigs are also included.</p>							
<p>Chlamydiosis (<i>Chlamydia abortus</i>) fetopathy</p> <p>Confirmed cases obtained through scanning surveillance (VIDA database in GB. NI data is only for diagnoses from sheep and goats).</p>							
<p>Cryptosporidiosis</p> <p>Confirmed cases obtained through scanning surveillance (VIDA database in GB).</p>							
<p>Hydatid</p> <p>Confirmed cases obtained through scanning surveillance (from VIDA database in GB). Therefore the preceding animal data tables provide laboratory, not abattoir, diagnoses.</p>							
<p>Leptospirosis</p> <p>Confirmed cases obtained through scanning surveillance (VIDA database in GB).</p>							
<p>Listeriosis</p> <p>Confirmed cases obtained through scanning surveillance (VIDA database in GB).</p>							
<p><i>Pasteurella multocida</i></p> <p>Confirmed cases obtained through scanning surveillance (VIDA database in GB).</p>							
<p>Psittacosis (<i>C. psittaci</i>)</p> <p>Confirmed cases obtained through scanning surveillance (VIDA database in GB).</p>							
<p>Q Fever (<i>Coxiella burnetii</i>)</p> <p>Confirmed cases obtained through scanning surveillance (VIDA database in GB).</p>							
<p>Rabies 'classical'</p>							

Diagnosis	Cattle	Sheep	Goats	Pigs	Birds ¹	Misc.	Wildlife ²
Rabies EBLV							
Salmonella (all types) Confirmed cases statutorily reportable under Zoonoses Order 1989. Data for GB countries included in this table relates only to salmonella isolations from the statutory species (cattle, sheep, goats, pigs, horses, deer, rabbits, chickens, turkeys, ducks, geese, partridges, pheasants, guinea fowl, quail and pigeons). In NI the Zoonoses Order 1991 lists any mammal except man; any 4 footed beast which is not a mammal; snakes; birds of every species as species for which salmonella isolations must be reported. Therefore isolations from all these species are included in the NI data.							
Streptococcus suis Confirmed cases obtained through scanning surveillance (VIDA database in GB).							
Swine influenza Confirmed cases obtained through scanning surveillance (VIDA database in GB).							
Toxoplasmosis Confirmed cases obtained through scanning surveillance (VIDA database in GB).							
Trichinellosis Data from FSA surveillance.							
Yersiniosis Confirmed cases obtained through scanning surveillance (VIDA database in GB).							

Shaded boxes indicate a diagnosis is not available for that species.

¹ Includes both domestic and wild birds, specific species included = domestic fowl (chickens), turkeys, ducks, geese, guinea fowl, pheasants, partridges, pigeons and quail. For AI any avian species to be included.

² Mammals only (includes rabbits and deer).

Misc. = miscellaneous exotic farmed or other species (includes horses and farmed deer).

Food vehicles associated with foodborne gastrointestinal outbreaks in the UK in relation to *Campylobacter*, *Listeria monocytogenes*, *Salmonella*, and VTEC O157

Food vehicle category	<i>Campylobacter</i>	<i>Listeria monocytogenes</i>	<i>Salmonella</i>	VTEC O157
Poultry meat	14	0	2	0
Red meat	1	0	4	1
Crustacean & shellfish	0	2	1	0
Vegetables & fruits	0	0	0	2
Eggs & egg dishes	0	0	0	0
Milk & dairy products	1	0	0	1
Composite/Mixed foods	0	0	1	0
Other foods	0	1	2	0
Unknown	3	0	2	1
Total*	19	3	12	4

* The total may differ from the total number of foodborne outbreaks reported as more than one food vehicle may be identified in a single outbreak.