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NEWS STORIES:

- ▾ Fatal case of *Pasteurella multocida* infection in East of England
- ▾ Probable human anthrax death in Scotland

INFECTION REPORTS:

Immunisation:

- ▾ Laboratory reports of invasive meningococcal infections, England and Wales: weeks 23/06 to 27/06 2006
- ▾ Laboratory confirmed pertussis reported to the enhanced pertussis surveillance in the fourth quarter of 2005 and annual totals
- ▾ Laboratory reports of hepatitis A infection in England and Wales: 2005
- ▾ Laboratory reports of hepatitis C infection in England and Wales: 2005

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News

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▣ Fatal case of *Pasteurella multocida* infection in East of England

▣ Probable human anthrax death in Scotland

Fatal case of *Pasteurella multocida* infection in East of England

A fatal case of *Pasteurella multocida* infection has been reported in a young male farmer in Suffolk, East of England region. The source of infection is difficult to ascertain. Pasteurellosis is a zoonotic disease that occurs sporadically worldwide. Cutaneous infection following dog or cat bites, scratches or licks is the most common form of this disease in humans.

In humans, *Pasteurella multocida* is the most commonly reported organism of the *Pasteurella* genus. In animals it is well known as both a common commensal and pathogen and is normally found in the upper respiratory tract of many animal species, including chickens, turkeys, cattle, cats, dogs, rabbits and rodents. It may produce a wide range of symptoms depending on the species. In rabbits *P. multocida* causes a flu-like illness and so it is sometimes referred to as 'rabbit flu'. In birds it causes 'avian cholera' and respiratory disease and septicaemia in cattle, sheep, pigs, and mice. However, *P. multocida* is an entirely different organism from the viruses that cause influenza or bacteria that cause cholera.

Human infections are usually contracted following exposure to domestic pets such as cats and dogs, as humans have most contact with these animals. Infections have been associated with a range of other animals including cows and rabbits, however patients often report no known animal contact.

There are approximately 400 laboratory confirmed cases of pasteurellosis reported in humans each year in England and Wales, of which about 70% are due to *P. multocida*. Fatal cases of pasteurellosis are extremely rare, and only four deaths were reported in England and Wales between 1993 and 2005, three of which were in people aged over 50 years. The most recent fatal case in England and Wales was reported in 2003, following a cat bite.

Complications of *P. multocida* infection can include abscesses, cellulitis, and joint infections. The organism can also infect the respiratory tract and cause sinusitis and ear infections, and more severe symptoms including pneumonia or lung abscesses in those with underlying pulmonary disease, although this is rare. Other uncommon presentations of *P. multocida* infection include cardiovascular infection, septicemia, eye infections, meningitis, gastrointestinal problems and urinary tract infections.

Further information:

Questions and answers on *P. multocida* can be found on the HPA website at:
http://www.hpa.org.uk/infections/topics_az/zoonoses/pasteurella/menu.htm

Probable human anthrax death in Scotland

A 50 year old resident of the Borders region of Scotland, who died on 8 July 2006 after suffering from septicaemia, is thought likely to have had anthrax (1).

He became ill in early July and was admitted to a local hospital on 7 July. After a rapid deterioration in his clinical condition, he was transferred to the Edinburgh Royal Infirmary, where he died a few hours later due to septicaemia. Anthrax was diagnosed at specialist laboratories in England on 11 August, and is the most likely cause of the patient's septicaemia.

The man is known to have made drums with untreated animal hides. Working with animal hides is known to be a risk-factor for acquiring the infection, and it is possible that he acquired inhalation anthrax as a result of inhaling spores during the course of work at his home.

The man's home has been sealed off and has been under investigation, although an environmental source for the infection has yet to be confirmed. Although it is very unlikely that any of the man's contacts are now at any risk, a small number of visitors to the property remain to be contacted.

References

1. Health Protection Scotland. Probable human anthrax death in Scotland. *HPS Weekly Report* 2006; **40**(33): 177. Available at <<http://www.documents.hps.scot.nhs.uk/ewr/pdf2006/0633.pdf>>.

Immunisation

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Immunisation Routine Data Reports

▾ Laboratory reports of invasive meningococcal infections, England and Wales: weeks 23/06 to 27/06 2006

▾ Laboratory confirmed pertussis reported to the enhanced pertussis surveillance in the fourth quarter of 2005 and annual totals

Immunisation Infection Reports

▾ Laboratory reports of hepatitis A infection in England and Wales: 2005

▾ Laboratory reports of hepatitis C infection in England and Wales: 2005

▾ Laboratory reports of invasive meningococcal infections, England and Wales: weeks 23/06 to 27/06

	Method of diagnosis			Total reports	Cumulative*
	CSF and blood Culture	Non-culture	Other sites	23/06-27/06	Total to week 27/2006
Group A	–	–	–	–	1
B	47	47	3	97	779
C	1	1	1	3	24
W135	1	–	–	1	17
X	–	–	–	–	–
Y	1	–	–	1	21
29E	–	–	–	–	–
Ungroupable	–	–	–	–	–
Ungrouped	–	4	8	12	43
Total	50	52	12	114	885

*Latex antigen, microscopy, polymerase chain reaction combined Health Protection Agency Centre for Infections data and Meningococcal Reference Unit data.

▾ Laboratory confirmed pertussis reported to the enhanced pertussis surveillance in the fourth quarter of 2005 and annual totals

There were 390 cases of pertussis in 2005 reported to the enhanced surveillance programme, an increase on the total of cases reported in 2004. The increase was seen both in cases diagnosed by culture (increase from 131 in 2004 to 188 in 2005) as well as those diagnosed only by PCR and/or serology, provided by Centre for Infection's Respiratory and Systemic Infection Laboratory (RSIL), which increased from 179 in 2004 to 202 in 2005. The percentage of cases diagnosed only by RSIL has increased steadily since the pertussis reference facility was established, from 36% in 2002 to 52% in 2005 (http://www.hpa.org.uk/infections/topics_az/whoopingcough/data_lab_pcr_ser_qtr.htm).

Caution should be exercised in interpreting trends both in number of infections and in the age distribution of pertussis, as the additional cases are predominantly diagnosed in adolescents and adults, usually by serology.

Table 1 Laboratory confirmed cases of pertussis in England and Wales by quarter, 2005

Quarter	PCR/serology only	Culture	PCR/serology as percentage of total	Total
Q1	37	43	46	80
Q2	44	34	56	78
Q3	73	79	48	152
Q4	48	31	61	79
Total	202	187	52	389

Table 2 Age distribution of cases of pertussis in England and Wales , 2005

Age group	Number	Percentage
<3 months	158	40.5%
3-5 months	28	7.2%
6-11 months	15	3.8%
1-4 years	28	7.2%
5-9 years	19	4.9%
10-14 years	27	6.9%
≥15 years	114	29.5%
Total	389	100%

Laboratory reports of hepatitis A infection in England and Wales: 2005

In 2005, 457 laboratory reports of confirmed hepatitis A virus (HAV) infection in England and Wales were made to the Health Protection Agency compared to 671 in 2004 and 1028 in 2003 (tables 1 and 2). This continues the downward trend in the overall number of hepatitis A cases reported annually. This downward trend is most notable in men aged between 15 and 44 years. In 2005, 58% of cases were in men aged between 15 and 44 years compared to 66% in 2004 and 68% in 2003. The ratio of male to female cases of HAV infection was 1.8:1 and has been consistently high since the early 1990s (figure). In 2005, the North West region and the Yorkshire and Humber region accounted for the largest proportion of reports, 29% and 14% of the total respectively (table 2).

Table 1 Quarterly laboratory reports of hepatitis A Infection by age group and sex, England and Wales 2005*

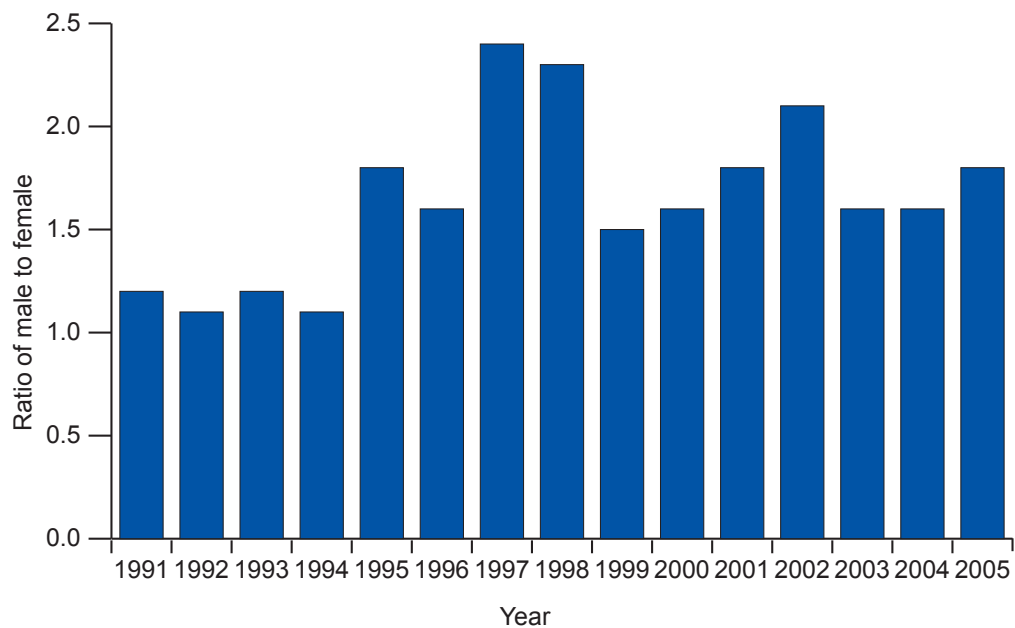
Age Group (Years)	Q1			Q2			Q3			Q4			Total
	Male	Female	NK	Male	Female	NK	Male	Female	NK	Male	Female	NK	
<1	1	-	-	1	-	-	-	-	-	-	-	-	2
1-4	1	1	-	5	1	-	3	5	-	-	-	-	16
5-9	4	3	1	3	4	-	5	4	-	1	3	-	28
10-14	1	1	-	-	2	-	8	3	3	1	2	-	21
15-24	11	6	-	9	4	1	18	7	-	7	3	-	66
25-34	19	5	-	15	4	-	19	3	-	12	4	-	81
35-44	11	5	-	12	6	2	22	1	-	12	2	-	73
45-54	17	4	-	8	8	-	8	4	-	3	4	-	56
55-64	7	5	-	6	4	-	5	3	-	6	3	-	39
≥65	8	18	-	15	10	1	2	12	-	3	5	-	74
NK	-	-	-	-	-	1	-	-	-	-	-	-	1
Total	80	48	1	74	43	5	90	42	3	45	26	-	457

Data based on date of specimen. *Provisional data.

Table 2 Laboratory reports of hepatitis A infection in England and Wales: 2005

Country/Region	Laboratory reports		
	2003	2004	2005
North East	17	28	33
Yorkshire & the Humber	272	134	66
East Midlands	216	71	23
East of England	23	46	34
London	52	64	24
South East	114	68	26
South West	95	65	51
West Midlands	127	71	52
North West	100	102	133
Wales	12	22	15
Total	1028	671	457

Figure Ratio of male to female cases of hepatitis A, England and Wales: 1991 to 2005



Throughout the 1990s and up to the present, there has been an increasing proportion of hepatitis A reports containing no information on risk-factors. In 2005, only 0.9% of reports had information on a recent history of travelling abroad being associated with hepatitis A acquisition.

In the early part of the decade there were a number of outbreaks of hepatitis A that were associated with injecting drug use and homelessness. The improved reporting of risk-factor information is required as it is not possible to draw any major conclusions when the majority of reports lack risk-factor information.

Laboratory reports of hepatitis C infection in England and Wales: 2005

There were 7987 reports of hepatitis C infection in 2005 (table) lower than the 8240 cases of hepatitis C reported in 2004. As this is provisional data it is possible that further reports for 2005 will be added throughout the rest of the year and the lower annual total could be due to late reporting. The majority of cases (64%) were in individuals aged between 25 and 44 years, this compares to 64% and 65% reported in 2003 and 2004 respectively. The number of cases reported in males exceeded those reported in females in each quarter of 2005 and the annual male to female ratio was 2.1:1. Laboratory reports confirm that most infections were in young adult males. Laboratory reports are not reliable in differentiating acute from long-standing infections. Laboratory reports of confirmed hepatitis C, therefore, reflect current laboratory testing patterns.

Table Quarterly laboratory reports of hepatitis C Infection by age group and sex, England and Wales 2005*

Age Group	Q1			Q2			Q3			Q4			Total
(Years)	Jan-Mar			Apr-Jun			Jul-Sept			Oct-Dec			
	Male	Female	NK	Male	Female	NK	Male	Female	NK	Male	Female	NK	
1-4	–	3	–	4	2	–	6	7	2	6	9	–	39
5-9	–	–	–	1	3	1	1	1	1	2	2	–	12
10-14	–	1	–	1	–	–	1	–	–	2	1	–	6
15-24	94	77	5	100	87	3	114	77	6	94	78	6	741
25-34	384	201	14	429	207	10	493	218	34	397	229	19	2635
35-44	413	170	14	431	152	10	473	171	27	438	153	19	2471
45-54	206	86	2	235	91	2	249	97	18	218	111	15	1330
55-64	56	18	2	56	44	2	66	36	12	60	35	7	394
≥65	29	27	2	30	33	4	41	29	6	46	36	5	288
NK	12	7	–	14	3	5	10	5	3	9	2	1	71
Total	1194	590	39	1301	622	37	1454	641	109	1272	656	72	7987

Data based on date of specimen. *Provisional data.