



Health Protection Report

weekly report

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* The mumps section of this report was inserted on 9 March 2009.

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Enhanced surveillance initiated for group A streptococcal infections

Following the increases in group A (*Streptococcus pyogenes*) streptococcal infections reported in December 2008 and January 2009 [1,2], enhanced surveillance of severe group A streptococcal infections was launched for England last week. Severe GAS infections encompass invasive infections (where GAS is isolated from a normally sterile site) along with cases where GAS has been isolated from a non-sterile site but the patient has one of a number of severe clinical presentations (streptococcal toxic shock, necrotising fasciitis, pneumonia, puerperal sepsis, septic arthritis, meningitis). The surveillance will capture information on clinical presentation, outcome, risk factors and clustering to evaluate whether there have been any changes in the epidemiology of these infections which present opportunities for prevention. Microbiologists and HPU staff are requested to help complete questionnaires for all cases meeting the case definition for severe GAS diagnosed from specimens taken since 1 January 2009. The enhanced surveillance protocol and questionnaires can be downloaded from the Agency's web site at:

http://www.hpa.org.uk/webw/HPAweb&HPAwebStandard/HPAweb_C/1234859706309?p=1202487092497.

References

1. HPA. Group A streptococcal infections: seasonal activity 2008/09. *Health Protection Report* [serial online] 2008; **2**(51): news, <http://www.hpa.org.uk/hpr/archives/2008/news5108.htm#pyog>.
2. HPA. Group A streptococcal infections: update on seasonal activity, 2008/09. *Health Protection Report* [serial online] 2009; **3**(2): news, <http://www.hpa.org.uk/hpr/archives/2009/news0209.htm#igas>.

Low pathogenicity avian influenza at two premises in East Anglia

The Department for the Environment Food and Rural Affairs (Defra) has today confirmed avian influenza in poultry on two premises in the East Anglia [1]. Animal Health began the investigation late on 24 February. Early laboratory tests have ruled out the H5 and H7 strains. All avian influenzas (H1 to H16) can be of low pathogenicity, but so far only H5 and H7 are known to have the potential to become highly pathogenic. Investigations are continuing.

As a precaution, and until more definitive evidence is available, the Health Protection Agency has advised that a precautionary approach should be adopted – staff should use high levels of personal protective equipment to protect them from infection [2]. The Agency is monitoring the health of those exposed to the poultry and there have been no reports at present of any flu like illness in staff. Defra has imposed routine restrictions on the movement of animals on the premises while the investigation continues. No further precautionary restrictions are considered necessary in the area at present.

References

1. Routine veterinary investigation at poultry premises in East Anglia. *Defra Information Bulletin* [online] 26 February 2009. Available at <http://www.defra.gov.uk/news/latest/2009/animal-0226a.htm>.
2. Avian influenza in poultry on premises in East of England (press release). Health Protection Agency [online] 26 February 2009. Available at http://www.hpa.org.uk/web/HPAweb&HPAwebStandard/HPAweb_C/1235636342476?p=1231252394302.

Lassa fever death in London, ex-Mali

The Health Protection Agency has been working with University College London Hospital (UCLH), London, to identify members of staff, and other healthcare providers, who may have been involved in the care of a British national who died of Lassa fever in the hospital on 17 February [1]. The man had been admitted with falciparum malaria, following evacuation by air ambulance from Mali, west Africa, earlier the same day.

The Agency stressed, as it did at the time of an earlier Lassa fever case in London in January [2], that the infection is not easily spread from person to person and then only by direct contact with bodily fluids. Therefore there was no risk to patients or visitors to the hospital. Healthcare worker contact tracing was carried out. An assessment of the risk of infection for hospital staff was conducted by staff from the North East and North Central London Health Protection Unit, the Centre for Infections in Colindale, and the incident team at UCLH. The following categories of healthcare workers were identified as having been potentially exposed: medical staff involved in the air ambulance transportation; ICU staff, A&E staff, and laboratory staff at UCLH (including HTD).

Based on reports of other imported Lassa fever cases managed in western hospitals, the likelihood of transmission to healthcare staff was judged to be very low. Members of staff were asked individually about their contact with the patient or exposure to bodily fluids and then assigned to one of three categories

Staff in category 1 (no risk) were informed of the absence of risk and given a general factsheet on the disease. Staff in category 2 (low risk) were informed and asked to report to the Infection Safety Officer if they developed a fever within 21 days from their last possible exposure (period of surveillance). Staff in category 3 (high risk) were informed and requested to report their daily temperature to the Infection Safety Officer for the duration of the surveillance period. Over 100 healthcare contacts have been risk assessed. To date, no contacts have reported illness consistent with Lassa fever.

Most Lassa fever infections occur in west Africa and are associated with exposure to the urine or droppings of infected multi-mammate rats, and materials contaminated by these. The main endemic countries are Nigeria, Sierra Leone, Liberia and Guinea, but there is evidence of infection in other nearby countries including the Central African Republic, Mali, Senegal and the Democratic Republic of Congo.

Further information on Lassa fever can be seen at the Viral Haemorrhagic Fever pages of the HPA website, http://www.hpa.org.uk/infections/topics_az/.

References

1. Patient dies from Lassa Fever at a London Hospital (press release). Health Protection Agency [online] 19 February 2009. Available at: http://www.hpa.org.uk/webw/HPAweb&HPAwebStandard/HPAweb_C/1234946215137?p=1231252394302.
 2. HPA. Case of viral haemorrhagic fever in traveller recently returned from Nigeria. *Health Protection Report* 2009 [serial online] 3(4): news P. Available at <http://www.hpa.org.uk/hpr/archives/2009/news0409.htm#vhf>
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Report on microbiological contamination of seed-containing foodstuffs

The HPA has published the results of an investigation into the microbiological safety of 'ready-to-eat' foodstuffs containing dried seeds that were on retail sale in the United Kingdom in 2007/08 [1]. The investigation, that led to a number of retail suppliers recalling their products at that time, found that a small percentage (0.6%) of the 3735 samples taken from supermarkets, health food shops, etc, were unfit for human consumption due to detectable levels of salmonella bacteria. A further 1.5% of the sample contained unsatisfactory levels of *E. coli* bacteria.

The Agency's report on the investigation (by the Local Authorities Coordinators of Regulatory Services, LACORS) reviews the results of previous similar investigations published in the international literature and discusses the factors associated with the harvesting and processing of seeds (such as sesame, pumpkin and poppy) which renders them liable to microbial contamination.

The contaminated samples covered by the study were from several different producers and suppliers, indicating that the contamination was not due to hygiene lapses by a single producer but rather contamination problems associated with seed production in many different source countries.

References

1. An assessment of the microbiological safety of ready-to-eat dried seeds from retail premises in the United Kingdom with a focus on *Salmonella* spp. Available at: <http://www.hpa.org.uk/webw/HPAweb&Page&HPAwebAutoListName/Page/1191942150074?p=1191942150074>.

Confirmed measles cases in England and Wales: an update to end January 2009

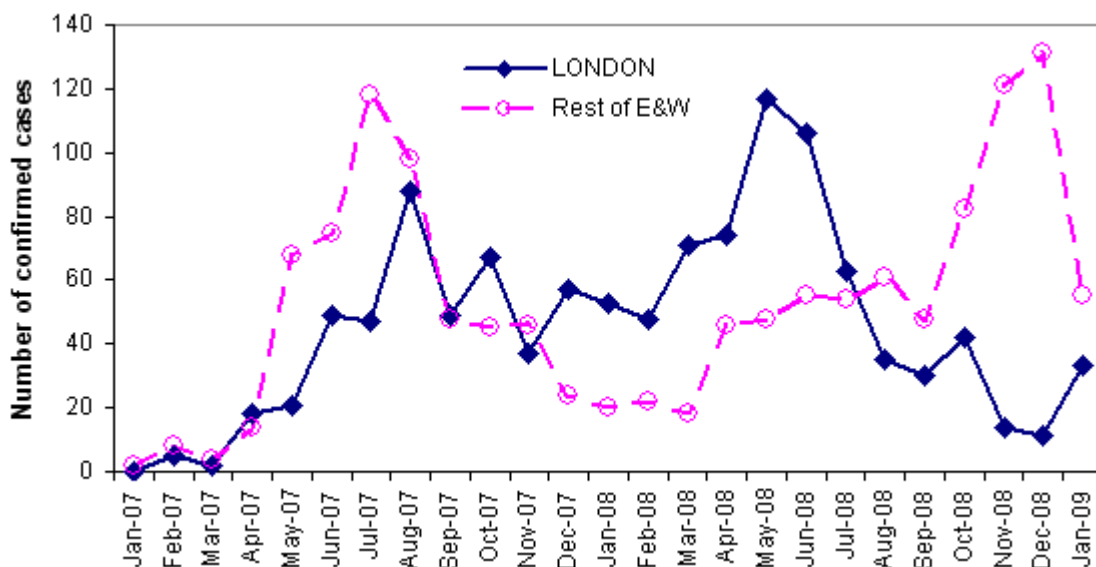
The number of laboratory confirmed cases of measles decreased in January 2009 to 88 from 113 in the preceding month (see table). The majority of cases were reported from London (33), where numbers increased following a reduction during November and December (table and figure 1). There was continued, but reduced, activity in the North West, South East and West Midlands regions.

A total of 1,370 cases were confirmed in England and Wales by laboratory testing in 2008 compared to 990 in 2007; 48% were from the London region, 13% from the North West. Of the notified measles cases that had an oral fluid test 25% were confirmed, higher than previous years where the proportion confirmed has ranged between 1% in 1995 to 21% in 2007.

Confirmed cases of measles by region and month of onset, England and Wales: January 2007 to January 2009

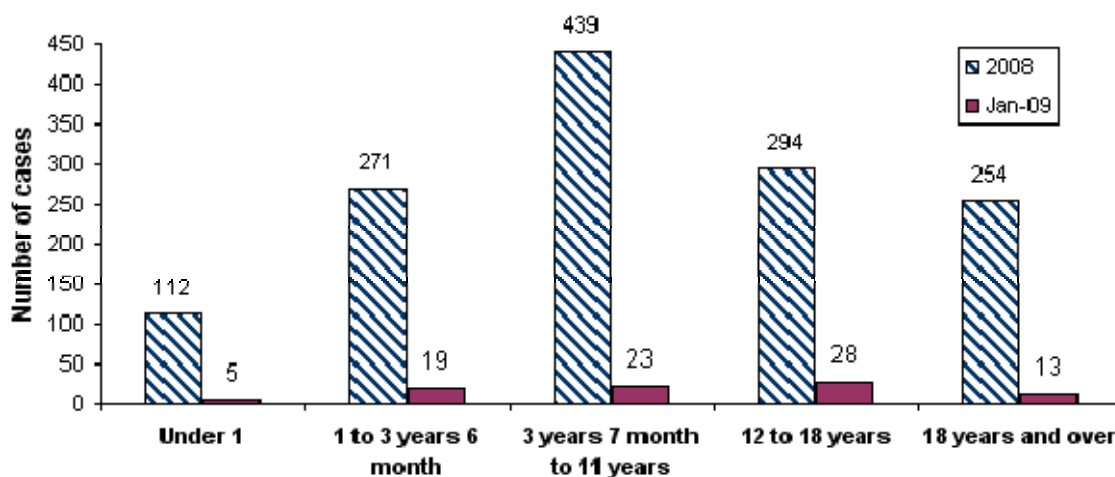
Month	Lond-on	East Mids	East of Engl'd	North East	North West	Sth East	Sth West	West Mid's	Wales	York & Humb	N/k
Jan 08	53	2	6	1	1	1	–	3	–	6	–
Feb	48	–	6	3	–	4	–	–	1	8	–
Mar	71	1	1	–	–	8	1	1	1	5	–
Apr	74	–	7	3	–	6	14	2	–	14	–
May	117	1	6	–	22	4	7	3	–	5	–
June	106	–	11	1	24	7	4	5	–	3	–
July	63	1	10	–	19	13	2	8	–	1	–
Aug	35	7	6	–	17	21	1	6	–	3	–
Sep	30	5	4	–	7	2	–	9	21	–	–
Oct	42	12	4	2	31	8	1	8	14	1	1
Nov	14	8	9	3	36	26	2	34	1	2	–
Dec	11	11	20	4	22	28	9	34	1	2	–
Total 2008	664	48	90	17	179	128	41	113	39	50	1
Jan 09	33	7	2	1	7	16	3	13	–	6	–

Figure 1: Number of laboratory confirmed cases in England and Wales by month of onset: January 2007 to January 2009



Cases are still identified in the age groups targeted by the MMR catch-up campaign announced in August 2008 (figure 2). The majority of cases in January 2009 were confirmed in secondary school aged children, although cases were also reported in all age groups.

Figure 2: Confirmed cases by age groups targeted by the MMR catch-up programme, England and Wales: total 2008 and January 2009



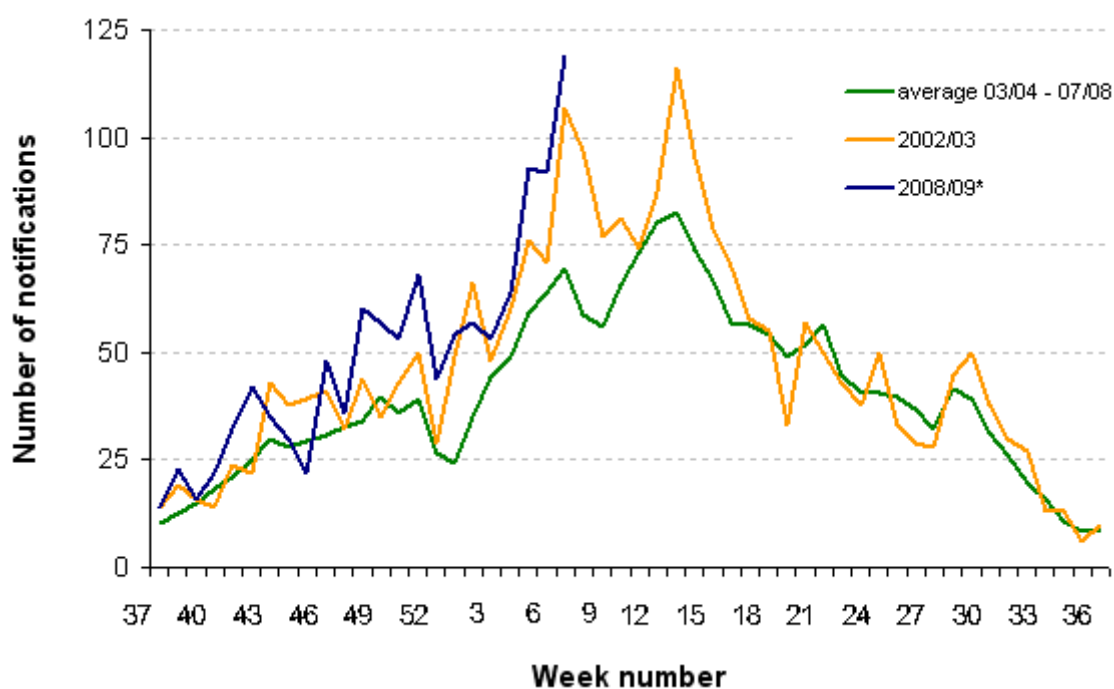
Group A streptococcal infections: second update on seasonal activity, 2008/09

National surveillance data for group A (*Streptococcus pyogenes*) streptococcal infections continued throughout December to show levels of seasonal activity above the expected based on comparison with the past five seasons (2002/03 onwards). Scarlet fever notifications have remained consistently above the levels seen since the late 1990s. Numbers of invasive disease cases appear to have now fallen since the high incidence towards the end of December 2008 and into January 2009, which is a common pattern, before a further and more substantial increase in late February and into March.

Scarlet fever

Notifications of scarlet fever in England have been consistently above the average for the past four years and just above 2002/03, the last peak season (figure 1). A total of 450 unconfirmed notifications of scarlet fever were made for weeks 49 of 2008 to week 4 of 2009 compared to a mean of 294 for the same period between 2003/04 and 2007/08, and 380 for 2002/03. Scarlet fever notifications often peak twice during each season, with a first peak around weeks 5 to 7 and a second peak between weeks 11 to 15. The highest weekly number of notifications for this season so far were for the most recent week, week 7, with 119 notifications made, the highest recorded for this week since 1998.

Figure 1. Weekly scarlet fever notifications, England 2002/03 to 2008/09*



* up to week 07 of 2009.

Notifications of scarlet fever in Wales show no particular increase during this season to date compared to the previous five seasons. Within England, notifications were higher for week 49 of 2008 to week 4 of 2009 than in the previous five years in all regions except Yorkshire and the Humber. The age distribution of scarlet fever cases is similar to previous years, with 83% of cases during this season being children less than 10 years, with the age of cases ranging from 0 to 91 (mode of 4 years).

Clinical incidence data for pharyngitis/scarlet fever derived from the QSurveillance® GP surveillance system shows a slight increase for 2008/09 compared to 2007/08 [1].

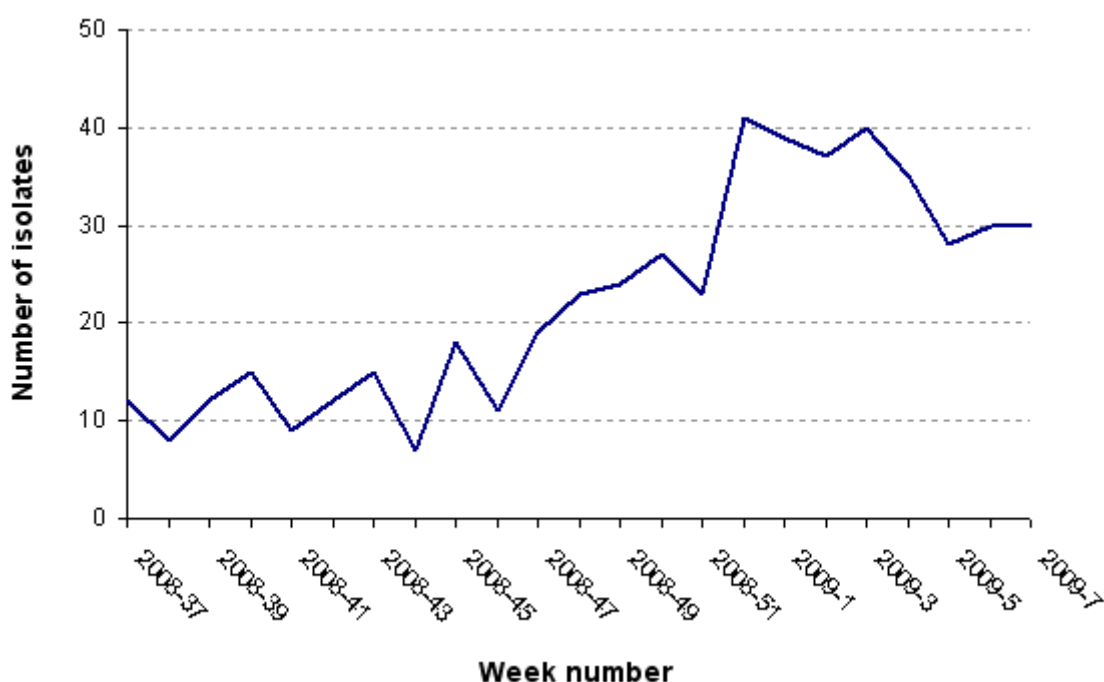
Invasive group A streptococcal infection

Routine laboratory reports of invasive group A streptococcal (iGAS) infection, defined as the isolation of GAS from a normally sterile site, from across England, Wales and Northern Ireland, continued to show an increase throughout December, peaking in week 52 (48 reports). In total, 154 reports were received in

December, compared to a range of 80 to 127 for the same period in 2002 to 2007. A total of 131 reports have been received for January 2009 to date, lower than for January 2004 (163), 2003/04 being the last peak season for iGAS, but higher than all other years between 2002 and 2008 (101 to 126). Numbers of reports for January in particular may rise as further reports are made. Reports made thus far for February suggest a possible increase in activity after week 5 of 2009. The age and sex distribution of cases reported so far for December/January 2008 is similar to previous years.

Several English regions have reported higher numbers of cases in December 2008 to January 2009 than in the past four seasons (2004/05 to 2007/08), although numbers are generally similar to those for 2003/04, as follows: East Midlands (30 vs range of 6 to 23 for 2004/05-07/08), North East (14 vs range of 6 to 11), North West (43 vs range of 22 to 28), South East (35 vs range of 17 to 28), South West (32 vs range of 16 to 21) and Yorkshire and the Humber (35 vs range of 28 to 32). Reports for the East of England (27 vs range of 22 to 27 for 2004/05-07/08), London (17 vs range of 15 to 26) and the West Midlands (38 vs range of 17 to 38) were within the range seen since the last peak year. In contrast to England, numbers of iGAS reports for Northern Ireland (8 vs range of 2 to 8) and Wales (6 vs range of 9 to 12) have not shown an overall elevation across December and January, although increases in December were noted in Northern Ireland (6 cases vs 2 to 4 for December 2004 to 2007).

Figure 2. Weekly count of sterile site GAS isolates referred to SDRU by specimen date, week 37, 2008, to week 7, 2009



Numbers of iGAS isolates referred to the Respiratory and Systemic Infection Laboratory at Cfl from laboratories in England, Wales and Northern Ireland showed a similar trend to routine laboratory reporting, again peaking in week 52 of 2008, decreasing between weeks 3 and 5 and showing a slight upturn from week 6 (figure 2)). Numbers of isolates have however remained consistently above the numbers received for the corresponding period during the 2007/08 season. The *emm* /M-type distribution shifted between December 2008 and January 2009 with a relative increase in *emm* /M3 from 25% to 42% and a decrease amongst *emm* /M1 from 25% to 16%. Other common types were *emm* /M89, *emm* /R28 and *emm* /M6.

It remains unclear whether the increase in invasive and non-invasive group A streptococcal infections seen during this season is connected to the increased influenza activity this winter [2]. Numbers of notifications of scarlet fever have been persistently above numbers for recent seasons, which may indicate an increased circulation of group A streptococcal infections unconnected to the influenza activity, given that influenza activity has declined from a peak in week 51 of 2008, dropping below baseline in week 4 of 2009 [3]. The increased circulation of GAS may therefore be due to a natural cycle in incidence [4]. The increases in invasive disease manifestations during the first part of the GAS season may however be connected to the influenza activity, in which case surveillance reports and isolate referrals should return and remain within the levels seen in recent years.

Although analysis of isolates submitted to the national reference laboratory has not identified any unusual serotypes to be circulating, a significant increase in *emm* /M3 has been seen in January 2009. This increase is of concern given the association between this *emm* type and more severe clinical presentations compared to other *emm* types [5,6]. Analyses from the newly establishment enhanced surveillance of iGAS will provide further insight into the severity of cases currently occurring.

Further seasonal updates will be published in the *Health Protection Report*. Clinicians, microbiologists and HPUs should be mindful of the recent increases in iGAS and maintain a high index of suspicion in relevant patients as early recognition and prompt initiation of specific and supportive therapy can be life-saving. Invasive disease isolates and those from suspected clusters or outbreaks should be submitted to the Respiratory and Systemic Infection Laboratory at the Health Protection Agency, Centre for Infections, 61 Colindale Avenue, London NW9 5HT. Guidelines for the management of close community contacts [7] of invasive group A streptococcal disease are available on the Agency's website at: http://www.hpa.org.uk/cdph/issues/CDPHvol7/No4/guidelines1_4_04.pdf.

References

1. QSurveillance® Weekly Bulletin No 222, Week commencing 9 February 2009 (week 07). Data extracted from version 1 of the QSurveillance® database. QSurveillance® 2009 [cited Feb 24 2009]. Available from: <http://www.hpa.org.uk/hpr/infections/Qresearch.pdf>.
 2. HPA. Influenza activity is increasing across the UK. *Health Protection Report* [serial online] 2008; **2** (51): news, <http://www.hpa.org.uk/hpr/archives/2008/news5108.htm#flu>.
 3. HPA. Weekly National Influenza Report, reporting period weeks 06 and 07/09, 18 February 2009 (week 08), http://www.hpa.org.uk/web/HPAwebFile/HPAweb_C/1234946212438.
 4. Lamagni T, Dennis J, George R, Efstratiou A. Analysis of epidemiological patterns during a century of scarlet fever. In: Proceedings of the European Scientific Conference on Applied Infectious Disease Epidemiology, 18 November 2008; Berlin, Germany; 2008.
 5. O'Loughlin RE, Roberson A, Cieslak PR, Lynfield R, Gershman K, Craig A et al. The epidemiology of invasive group A streptococcal infection and potential vaccine implications: United States, 2000-2004. *Clin Infect Dis* 2007; **45**(7): 853-862.
 6. Lamagni TL, Neal S, Keshishian C, Alhaddad N, George R, Duckworth G et al. Severe *Streptococcus pyogenes* infections, United Kingdom, 2003-2004. *Emerg Infect Dis* 2008; **14**(2): 201-209.
 7. Health Protection Agency. Group A Streptococcus Working Group. Interim UK guidelines for management of close community contacts of invasive group A streptococcal disease. *Commun Dis Public Health* 2004; **7**(4):354-361.
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Infection reports

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Immunisation

Laboratory confirmed cases of measles, mumps* and rubella, England and Wales: October to December 2008

Data presented here is for the fourth quarter of 2008 (ie October to December 2008). Cases include those confirmed by oral fluid IgM antibody tests, PCR, and routine laboratory reports (table 1). Analyses are by date of onset. Regional breakdown figures relate to Government Office Regions rather than regional health authorities (pre-April 2002 definitions).

Quarterly figures for cases confirmed by oral fluid antibody detection only from 1995 and annual total numbers of confirmed cases by health region and age are available from:

<http://www.hpa.org.uk/webw/HPAweb&Page&HPAwebAutoListName/Page/1191942172799?p=1191942172799>

<http://www.hpa.org.uk/webw/HPAweb&Page&HPAwebAutoListName/Page/1191942172913?p=1191942172913>

<http://www.hpa.org.uk/webw/HPAweb&Page&HPAwebAutoListName/Page/1191942172140?p=1191942172140>

Table 1 Total confirmed cases of measles and rubella, and oral fluid IgM antibody tests in notified cases: weeks 40-53/2008

	Cases			Oral fluid IgM antibody results		Confirmed cases		
	Notified	Tested	%	Total positive	Recently vaccinated	Oral fluid	Other test	Total
Measles	1405	1232	88	316	17	299	105	404
Mumps	2198	1653	75	532	6	526	169	695
Rubella	191	160	84	4	3	1	6	7

Measles

Four hundred and four cases of confirmed measles with onset dates in the fourth quarter of 2008 were reported, compared to 289 cases in the previous quarter [1] bringing the total cases in England and Wales for 2008 to 1,370. The overall proportion of confirmed measles amongst oral fluid samples tested in this period is 24.5%, similar to the average for the year (24.8%).

This is the second successive quarter where the number of confirmed cases in London reduced by half in comparison to the previous quarter; 66, 128 and 294 cases respectively. The North West (89) and West Midlands (76) regions reported the greatest number of cases with outbreaks in travelling communities, primary and secondary schools as well as nurseries [2,3]. In the rest of England and Wales, cases were observed across all age groups and in various settings including nurseries, primary and secondary schools.

Almost three quarters of the cases reported in the fourth quarter of 2008 (73%) were in children aged less than 15 years (30 less than one year; 109 aged one to four years; 82 aged five to nine years; and 74 aged 10 to 14 years); the remaining 109 cases were aged between 15 and 62 years. Seventeen cases reported receiving a measles containing vaccine; seven reported having had one dose of the MMR vaccine, eight had two doses of the MMR vaccine and two were immunised abroad (vaccine not stated).

Measles cases were confirmed from all regions in England and Wales (North West 89, West Midlands 76, London 66, South East 63, East of England 33, East Midlands 32, Wales 17, South West 13, North East 9 and Yorkshire and the Humber 5). Two strains of the D4 genotype (MV/Enfield/14.07 and MV/Chester/38.08) were circulating in different parts of England and Wales.

*** The mumps section of this report was inserted on 9 March 2009.**

In this quarter one case reported onset of symptoms while in France and another case in Pakistan. No viral RNA was extracted from either sample and therefore it was not possible to determine whether or not disease was due to virus acquired abroad. Three further cases reported recent travel abroad as a possible risk for infection, one had been to Spain, one to Cyprus and one to USA. For these cases exposure before or during the flight cannot be excluded.

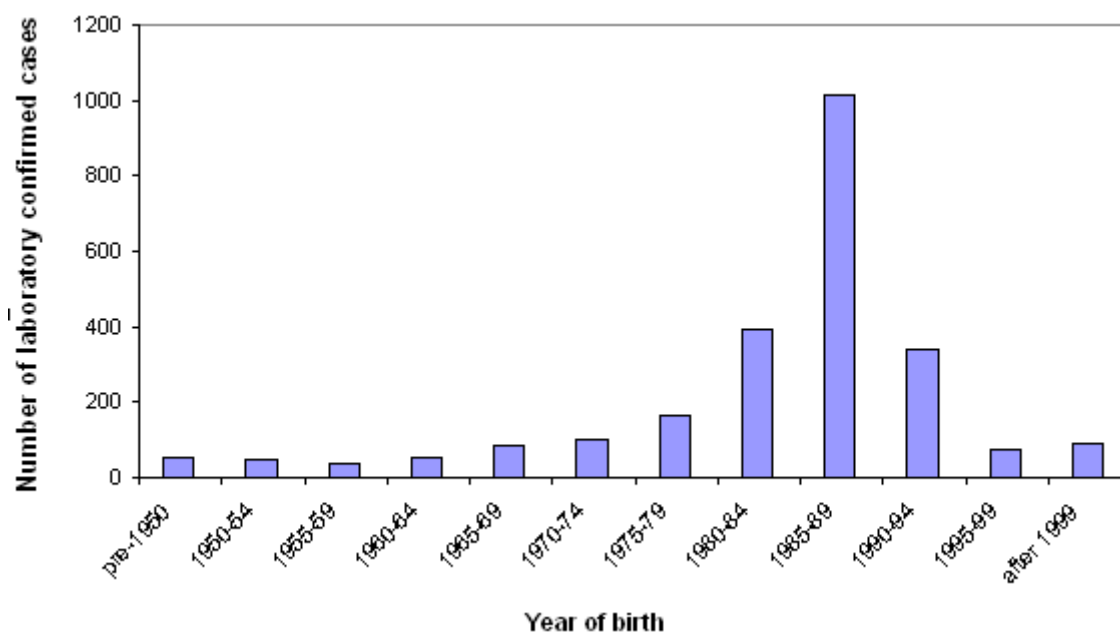
Mumps [This section inserted, 9 March 2009]

Of the 2,440 cases of laboratory confirmed mumps in 2008, 695 cases had onset dates in the fourth quarter compared to 447 in the previous quarter [1]. Cases continue to be confirmed predominantly in individuals born between 1980 and 1990 (57.1%) (figure), the cohort known to be at highest risk due either to not having been routinely offered MMR vaccination in childhood, or having only received one dose (table 2).

Table 2. Confirmed cases of mumps by age group and region, England and Wales: weeks 40-53/2008

Region	Age group (years)								Total
	<1	1-4	5-9	10-14	15-19	20-24	≥25	NK	
North East	–	–	–	–	5	6	8	–	19
North West	–	2	4	8	31	33	36	1	115
Yorkshire & Humber	–	2	1	1	24	24	15	–	67
East Midlands	–	–	1	1	4	12	10	–	28
West Midlands	–	2	–	3	11	8	9	–	33
East of England	–	–	–	1	10	11	25	–	47
London	1	2	2	8	16	28	44	–	101
South East	1	2	6	2	49	48	40	–	148
South West	–	1	1	1	49	46	16	1	115
Wales	–	–	–	–	2	6	5	–	13
Not known	–	–	–	–	2	2	4	1	9
Total	2	11	15	25	203	224	212	3	695

Figure: Number of laboratory confirmed mumps cases in England and Wales in 2008 by year of birth



Rubella

Seven cases of rubella were confirmed in the last quarter of 2008 bringing the total number of cases in 2008 to 27. Four of the cases were in unvaccinated adult females one of whom was pregnant and has since delivered a baby with no evidence of congenital infection. One case was a confirmed congenital rubella infection in a newborn baby whose mother had confirmed rubella earlier in 2008. This mother was also unvaccinated and had moved into UK a year earlier. Of the remaining three cases two were in unvaccinated children and one was in an adult male.

References

1. HPA. Laboratory confirmed cases of measles, mumps and rubella, England and Wales: July to September 2008. *Health Protection Report* [serial online] 2008 [cited 28 November 2008]; **2**(48): immunisation. Available at. <http://www.hpa.org.uk/hpr/archives/2008/hpr4808.pdf>.
 - 2 . Confirmed measles cases in England and Wales – an update to end-November. *Health Protection Report* [serial online] 2009 [cited 9 January 2009]; **3**(1): news. Available at. <http://www.hpa.org.uk/hpr/archives/2009/news0109.htm#msles>.
 3. Confirmed measles cases in England and Wales – an update to end-December. *Health Protection Report HPR* [serial online] 2009 [cited 6 February 2009]; **3**(5): news. Available at: <http://www.hpa.org.uk/hpr/archives/2009/news0509.htm#msls>.
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