



News

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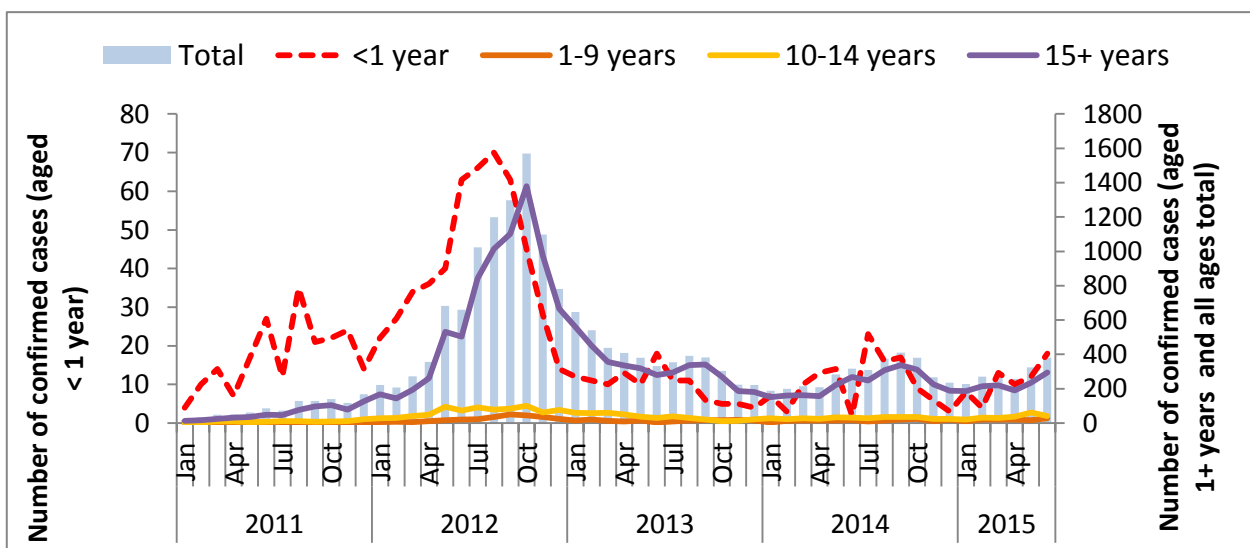
Laboratory confirmed pertussis in England: data to end-June 2015

This report presents current pertussis activity to 30 June 2015, updating the previous report that included data to the end of February 2015 [1].

Background

In England the number of laboratory confirmed cases of pertussis has fallen overall each consecutive year from a peak of 9367 cases in 2012; by 51% between 2012 and 2013 (4621 cases) and 27% between 2013 and 2014 (3388 cases). A seasonal increase is usually observed from the second and into the third quarter of the year and activity increased as expected in May and June 2015. The 1744 laboratory confirmed cases reported in 2015 to the end of June (provisional data) was lower than the same period in 2012 (2399 cases) and 2013 (2745 cases) but higher than the same period last year (1412 cases). Overall pertussis activity in England persists at raised levels compared to the years preceding the outbreak in 2012 (see figure).

Provisional number of laboratory confirmed cases of pertussis in England by age group and month: January 2011 to June 2015



The pertussis vaccination in pregnancy programme was introduced in October 2012 [2,3] in response to a national outbreak and is offered to women ideally between 28-32 weeks pregnancy to protect infants in their first few weeks of life. Confirmed pertussis cases in infants <6 months of age have remained low despite the continued high activity in other age groups (see table 1).

Table 1. Provisional number of laboratory confirmed cases in England, 2008-2015 by age group: January to June

Year	Month	<3 months	3-5 months	6-11 months	1-4 years	5-9 years	10-14 years	15+ years	All ages
2008	Jan - June	80	15	4	12	11	72	217	411
2009	Jan - June	59	15	1	10	9	46	192	332
2010	Jan - June	27	4	1	3	6	24	100	165
2011	Jan - June	65	11	3	5	7	37	170	298
2012	Jan - June	188	27	7	16	49	314	1798	2399
2013	Jan - June	51	19	4	28	48	294	2301	2745
2014	Jan - June	38	6	5	14	61	168	1120	1412
2015	Jan - June	47	11	7	31	87	220	1341	1744

The immunisation programme for pregnant women continues to be important, particularly in light of the ongoing raised levels of pertussis in those from one year of age and recent infant deaths. There have been recent key publications on the high effectiveness and safety of the pertussis immunisation in pregnancy programme [4,5,6]. Together with coverage and epidemiological data, these findings informed the Joint Committee on Vaccination and Immunisation's (JCVI) decision in July 2014 that the pregnancy programme should continue for at least a further five years [7].

The latest pertussis vaccine coverage estimates [8] in pregnant woman in England indicate that coverage decreased from 59.3% in January to 55.2% in May 2015. This decline followed a similar seasonal pattern to that observed in 2013 and 2014 with coverage dropping in the first quarter and starting to plateau at the end of spring, although the decline has been less pronounced in 2015, with coverage at 55.2% in May 2015 compared to 50% and 53.6% in the same month in 2013 and 2014 respectively.

Confirmed cases in 2015

In infants under three months of age low numbers of cases have been sustained since December 2012. Pertussis activity in all infants <1 year of age was low in the first six months of 2015, with 65 cases, but higher than the equivalent period in 2014 (49 cases) (see table 2); disease incidence, as expected, continued to be highest in this age group but case reports are now in line with those seen before the 2012 peak, when there were 222 cases in the first 6 months of the year. There have been two deaths in infants with pertussis confirmed this year.

The numbers of laboratory confirmed cases in those aged one year and older, however, continued to be higher than those reported before the 2012 outbreak. Pertussis cases in those aged 10 years and older were lower in the first six months of 2015 than the totals confirmed in 2012. In those aged 1-9 years however cases to 30 June 2015 (31 aged 1-4 years and 87 aged 5-9 years) are nearly double those confirmed to the same point in 2012 (16 cases aged 1-4 years and 49 cases aged 5-9 years), although a similar number were reported in those aged 1-4 years in 2013 (28 cases) Overall confirmed pertussis cases were higher to end June 2015 than in the comparable period in 2014.

Overall trends at end-June 2015

The greatest reduction in disease since the peak in 2012 has been in infants aged under six months. Overall pertussis activity was relatively high in the first six months of 2015 in all Regions of the country (see table 2), in particular in children aged 1-9 years. Twelve deaths have been reported in young babies with confirmed pertussis who were born after the introduction of the pregnancy programme on 1 October 2012, as at end June 2015. Eleven of these 12 babies were born to mothers who had not been vaccinated against pertussis, all of the 12 babies were too young to be fully protected by vaccination themselves and only one had received their first dose of pertussis-containing vaccine.

Table 2. Provisional number of laboratory confirmed cases in England, 2008-2015 by PHE Region and PHE Centre: January to June

PHE Region and Centre	2008 Jan-June	2009 Jan-June	2010 Jan-June	2011 Jan-June	2012 Jan-June	2013 Jan-June	2014 Jan-June	2015 Jan-June
London	46	46	16	33	188	295	227	281
Midlands and East of England	107	90	22	98	647	850	377	480
Anglia and Essex	31	30	9	24	151	230	98	94
East Midlands	33	31	5	37	263	320	109	139
South Midlands and Herts.	13	7	4	17	93	79	56	69
West Midlands	30	22	4	20	140	221	114	178
North of England	89	60	65	84	554	675	339	433
Cheshire and Merseyside	22	11	5	7	43	92	42	62
Cumbria and Lancashire	13	19	14	18	37	65	22	54
Greater Manchester	8	4	4	7	78	57	31	53
North East	22	6	21	28	112	161	39	76
Yorkshire and Humber	24	20	21	24	284	300	205	188
South of England	169	136	62	83	1010	925	469	550
Avon, Glous. and Wilts.	50	36	11	24	367	276	63	123
Devon, Cornwall, Somerset	21	14	20	12	110	142	58	81
Sussex, Surrey and Kent	34	36	11	27	280	339	191	208
Thames Valley	45	30	15	14	101	73	73	38
Wessex	19	20	5	6	152	95	84	100
Total	411	332	165	298	2399	2745	1412	1744

References

1. Confirmed pertussis cases in England and Wales: update to end-February 2015, *HPR* 9(17): news, 15 May 2015.
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8. Pertussis Vaccination Programme for Pregnant Women: vaccine coverage estimates in England (PHE statistics).