



Infection (news) report

Volume 10 Number 23 Published on 15* July 2016

Laboratory confirmed pertussis in England: data to end-May 2016

This news report presents current pertussis activity to 31 May 2016, updating the previous report that included data to the end of March 2016 [1].

Background

In England the total number of laboratory confirmed cases of pertussis has fallen 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 (3387 cases). The number of confirmed cases reported in 2015 was 24% higher than in 2014 but remained lower than 2012 and 2013 (see figure). Cases of pertussis have continued to increase in the first five months of 2016.

The pertussis vaccination in pregnancy programme was introduced in October 2012 [2,3] in response to a national outbreak and a significant increase in infant cases and deaths. Evaluation of the programme has demonstrated its safety and high effectiveness [4,5,6]. Together with coverage and epidemiological data, these findings informed the JCVI decision in July 2014 that it should continue for at least a further five years [7].

From 1 April 2016 the recommended gestational age for vaccination was revised to between 16-32 weeks (previously recommended from 28-32 weeks) to offer more opportunities for women to be vaccinated. For operational reasons, pertussis vaccination should be offered from around 20 weeks on, or after the foetal anomaly scan [7].

Pertussis vaccine coverage in pregnant women increased from 59.7% in January 2016 to 60.7% in March 2016. Coverage was 4.4% higher in March 2016 compared to March 2015, and 2016 is the first year of the programme where coverage has not declined during the first quarter [8].

* First published as a news report, without figure and table.

Confirmed cases in January-May 2016

From January to May 2016, 2201 laboratory confirmed cases were reported across all ages to the enhanced surveillance programme in England compared to 1362 in the same period in 2015. Total cases for the first five months of the year were higher in 2016 than for the same period each year since 2011 with the exception of 2413 cases in 2013 (see table). Overall pertussis activity in England persists at raised levels compared to the years preceding the outbreak in 2012 (see figure and table).

Pertussis activity in all infants under one year of age was low in the first five months of 2016 (table), with 91 cases, but higher than the equivalent periods in each of the last three years (56, 47 and 46 cases in 2013, 2014 and 2015 respectively). Disease incidence, as expected, continued to be highest in infants less than three months but cases were lower in January-May 2016 than during the equivalent period in the 2012 peak year and remain in line with that seen in the years before the outbreak began. There have been two deaths in infants with pertussis confirmed in the first five months of this year. Sixteen deaths have therefore now 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 May 2016. Fourteen of these 16 babies were born to mothers who had not been vaccinated against pertussis, all of the 16 babies were too young to be fully protected by vaccination themselves and only one had received their first dose of pertussis-containing vaccine.

The numbers of laboratory confirmed cases in those aged one year and older continued to be higher than those reported before the 2012 outbreak. Pertussis cases in those aged 10 years and older were higher in the first five months of 2016 than the totals confirmed in 2014 and 2015. In those aged 1-9 years however cases to end May 2016 (37 aged 1-4 years and 133 aged 5-9 years) were higher than those confirmed to the same point in any previous year including 2012 (table).

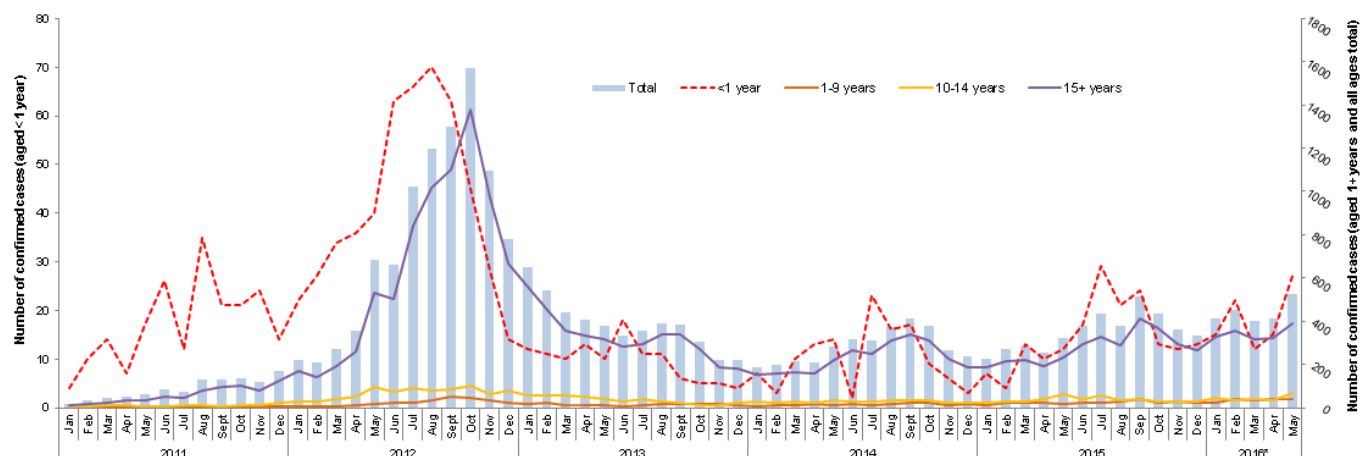
Overall trends as at end-May 2016

Overall pertussis activity was relatively high in the first five months of 2016 in all regions of the country and in all age groups, in particular in children aged 1-9 years. Whilst cases in infants less than six months have increased in January to May 2016, the numbers still remain low despite the continued high activity in older age groups (table). The immunisation programme for pregnant women continues to be important, particularly in light of the ongoing raised levels of pertussis in those over one year of age and recent infant deaths.

PHE guidelines

Revised Guidelines for the Public Health Management of Pertussis in England are now available on the PHE website [9].

Provisional number of laboratory confirmed cases of pertussis in England by age group and month: January 2011 to May 2016



Number of laboratory confirmed cases in England, 2008-2016 by age group: January to May

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 - May	62	13	2	11	8	57	155	308
2009	Jan - May	45	13	—	9	4	33	137	241
2010	Jan - May	21	3	—	2	5	22	78	131
2011	Jan - May	41	9	2	4	5	30	121	212
2012	Jan - May	136	21	2	7	37	242	1295	1740
2013	Jan - May	42	13	1	27	45	264	2021	2413
2014	Jan - May	37	5	5	11	48	137	852	1095
2015	Jan - May	33	7	6	25	65	180	1046	1362
2016*	Jan - May	65	17	9	37	133	225	1715	2201

*2016 are provisional data

References

1. Confirmed pertussis cases in England and Wales: update to January to March 2016, *HPR* **10**(21): 1 July 2016.
 2. “Pregnant women to be offered whooping cough vaccination”, 28 September 2012. Department of Health website.
 3. “HPA welcomes introduction of whooping cough vaccination for pregnant women as outbreak continues” HPA press release, 28 September 2012.
 4. Amirthalingam G, Andrews N, Campbell H *et al* (2014). Effectiveness of maternal pertussis vaccination in England: an observational study *Lancet*.
 5. Donegan K, King B, Bryan P (2014). Safety of pertussis vaccination in pregnant women in the UK: observational study. *British Medical Journal*.
 6. Dabrera G, Amirthalingam G, Andrews N *et al* (2014). A case-control study to estimate the effectiveness of maternal pertussis vaccination in protecting newborn infants in England and Wales, 2012–2013 *Clinical Infectious Diseases* (online, 19 October).
 7. Joint committee of Vaccination and Immunisation minutes.
 8. Pertussis Vaccination Programme for Pregnant Women: vaccine coverage estimates in England (PHE statistics).
 9. PHE Pertussis Guidelines Group (July 2016). Guidelines for the Public Health Management of Pertussis in England.
-