



Infection report

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Laboratory confirmed cases of measles, mumps and rubella, England: October to December 2016

Measles, mumps and rubella are notifiable diseases and healthcare professionals suspecting a case are legally required to inform the authorities. Oral fluid testing is recommended for all notified cases to confirm the diagnosis. This is part of the national enhanced surveillance for these vaccine preventable diseases and an essential part of our ability to monitor progress towards measles /rubella elimination. Recent infection is confirmed by measuring the presence of IgM antibodies or detecting viral RNA (by PCR) in these samples.

Data presented here are for the third quarter of 2016 (i.e. October to December). Cases include those confirmed by oral fluid testing (IgM antibody tests and/or PCR) at the National Reference Laboratory, Colindale and national routine laboratory reports (mumps infections only) (table 1). Analyses are by date of onset and regional breakdown figures relate to Government Office Regions.

Quarterly figures from 2013 for cases confirmed by oral fluid antibody detection only and annual total numbers of confirmed cases by region and age are available from:

<https://www.gov.uk/government/publications/measles-confirmed-cases>

<https://www.gov.uk/government/publications/mumps-confirmed-cases>

<https://www.gov.uk/government/publications/rubella-confirmed-cases>

Table 1: Total laboratory confirmed cases of measles, mumps and rubella, and oral fluid IgM antibody tests in notified cases: weeks 40-53/2016

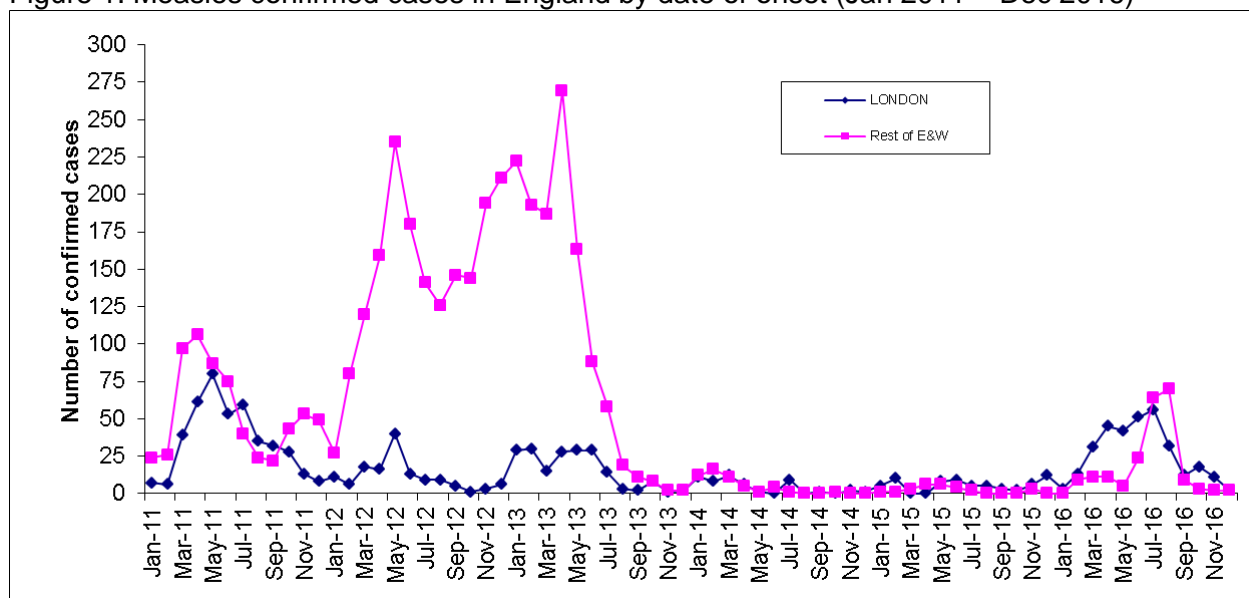
<u>Notified and investigated cases</u>		<u>Confirmed cases</u>						
Infecting virus	Cases reported to Health Protection Teams in England*	Oral fluid testing				<u>Confirmed infections</u>	<u>Other samples</u>	Total
		Number Tested	% of reported cases tested	<i>Total Positive</i>	<i>Recently Vaccinated</i>			
Measles	504	328	65.1%	33	4	30	7	37
Mumps	1785	1016	56.9%	94	0	92	50	142
Rubella	117	52	44%	1	0	1	0	1

* This represents the number of suspected cases (possible, probable, confirmed and discarded) reported to Health Protection Teams in England

Measles

In England, 37 new measles infections were confirmed in the last quarter of 2016 compared to 243 between July and September 2016 [1], bringing the provisional total number of measles infections with onset dates in 2016 to 531. This is more than five times higher than the total number of cases in 2015 (92 cases) and 2014 (112 cases), although still lower than the activity reported during the 2013 (1282 cases) national outbreak (Figure 1). Scotland reported 18 measles cases this quarter while there were no cases in Wales and Northern Ireland.

Figure 1: Measles confirmed cases in England by date of onset (Jan 2011 – Dec 2016)



The majority (30/37, 81%) of the measles cases reported this quarter were in London, and most (29/30) of these were linked to an outbreak associated with two secondary schools (table 2). Subsequently, the majority of cases this quarter were in children under 18 years (26/37, 70%), and most of them were unimmunised (21/26). The hospitalisation rate this quarter was lower in comparison to the previous quarter (13% vs 40%) reflecting the younger age profile of the cases.

Table 2: Measles confirmed cases October to December 2016 by age group and region, England

Region	under 1yr	1 to 4 yrs	5 to 9 yrs	10 to 14 yrs	15 to 19 yrs	20 to 24 yrs	25 to 29 yrs	30 to 34 yrs	over 35 yrs	Total
North East	0	0	0	0	0	0	0	0	0	0
North West	0	0	1	0	0	0	0	0	0	1
Yorkshire & Humber	0	0	0	0	0	0	0	0	0	0
East Midlands	0	0	0	0	0	0	0	0	0	0
West Midlands	0	0	0	0	0	0	0	0	0	0
East of England	0	0	1	0	0	0	0	0	0	1
London	2	4	5	6	7	2	2	0	2	30
South East	0	0	0	0	0	2	1	0	1	4
South West	0	0	0	0	0	0	1	0	0	1
Total	2	4	7	6	7	4	4	0	3	37

The D8 genotype continues to dominate this quarter with the majority of cases linked to the measles outbreak first reported in February 2016 [2]. Two infections were associated with recent travel to Romania where there has been an ongoing outbreak [3].

PHE Health Protection Teams (HPTs) should be aware of the recommendations of the National Measles Guidelines [4] and the Guidance for Post-exposure Prophylaxis for Measles [5] on the management of all suspected cases. This includes a recommendation on obtaining an oral fluid sample on all suspected cases as part of the enhanced surveillance in place for elimination. This was only done for 65% of the measles cases reported this quarter. (see table 1). PHE Health Protection Teams (HPTs) are reminded to use the congregation context “Measles 2017” for all measles cases reported from the 1st January of this year.

Mumps

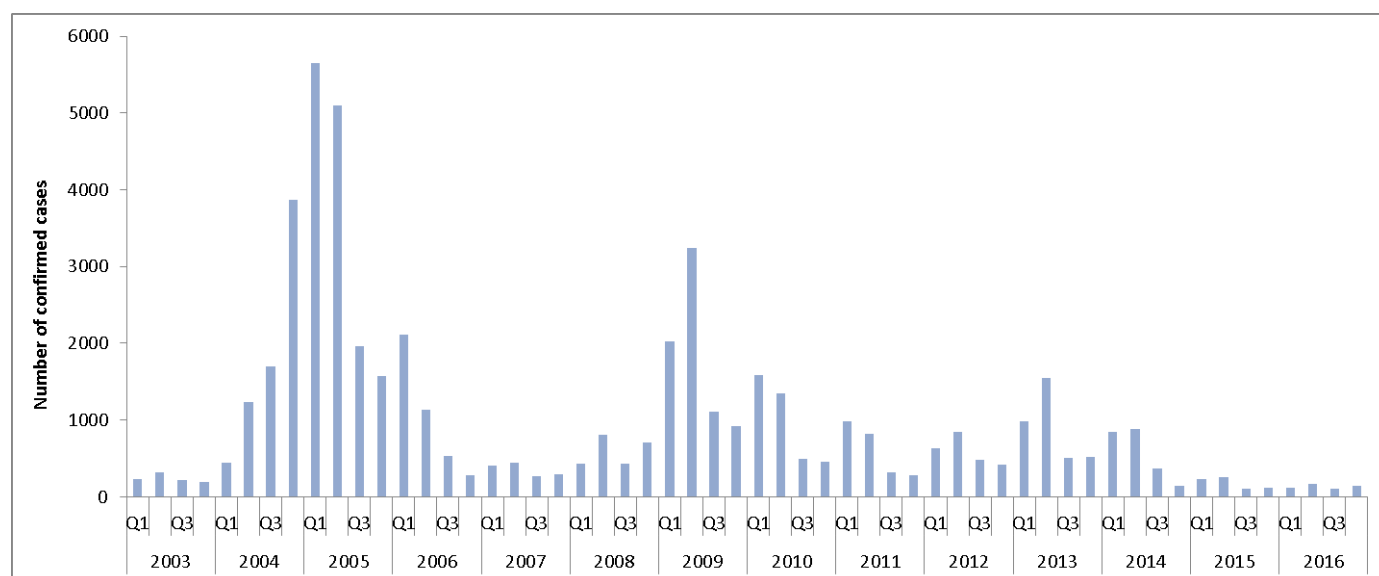
There were 142 laboratory confirmed mumps infections in England with onset dates in the period between October and December 2016, compared to 121 in the same period last year (figure 2) [1]. The provisional total number of laboratory confirmed mumps infections in England for 2016 is 534, slightly lower than the 710 total cases for 2015 and the lowest incidence observed since 2002 [6]. An additional six cases were confirmed from oral fluid samples from Wales this quarter.

Mumps cases were reported in all regions of England this quarter (Table 3) and were predominantly in young adults aged 18 to 30 years (100/142 70%) with very few cases in children. Half (71/142 50%) of all cases this quarter reported receiving one or two doses of MMR vaccination in childhood, reflecting the age profile of the cases and the known risk of secondary vaccine failure of the mumps component of the MMR vaccine.

Table 3: Laboratory confirmed cases of mumps by age group and region, England: weeks 40-53/2016

Region	<1	1-4	5-9	10-14	15-19	20-24	25+	Total
North East	0	0	0	1	9	3	5	18
North West	0	1	0	0	1	2	5	9
Yorkshire & Humber	0	0	0	0	0	1	2	3
East Midlands	0	0	0	0	0	0	1	1
West Midlands	0	1	0	0	2	2	3	8
East of England	0	1	0	0	0	1	3	5
London	0	1	0	0	1	2	13	17
South East	0	0	0	1	19	23	12	55
South West	0	0	0	1	11	11	3	26
Total	0	4	0	3	43	45	47	142

Figure 2: Laboratory confirmed cases of mumps by quarter, England - 2003-2016



Rubella

The rubella infection reported this quarter is considered a re-infection as it was identified in a woman previously known to be immune. That brings the total number of rubella cases for 2016 to two, compared to three in 2015.

References

1. PHE (2016). [Laboratory confirmed cases of measles, mumps and rubella, England: July to September 2016](#). *HPR* 10(41): immunisation.
2. PHE (2016). [MMR vaccination call following recent measles cases](#). Website news story, 11 March.
3. ECDC. [Measles surveillance and disease data](#) [EU/EEA countries].
4. Health Protection Agency (2010). HPA National Measles Guidelines: Local and Regional Services. Available from: <https://www.gov.uk/government/publications/national-measles-guidelines>
5. Health Protection Agency (2009). Post-exposure measles prophylaxis. Available from: <https://www.gov.uk/government/publications/measles-post-exposure-prophylaxis>
6. Health Protection Agency (2014). [Confirmed cases of measles, mumps and rubella 1996-2013](#).