



Infection report

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Laboratory confirmed cases of measles, mumps and rubella, England: July to September 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 (ie July to September). 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 (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 27-39/2016

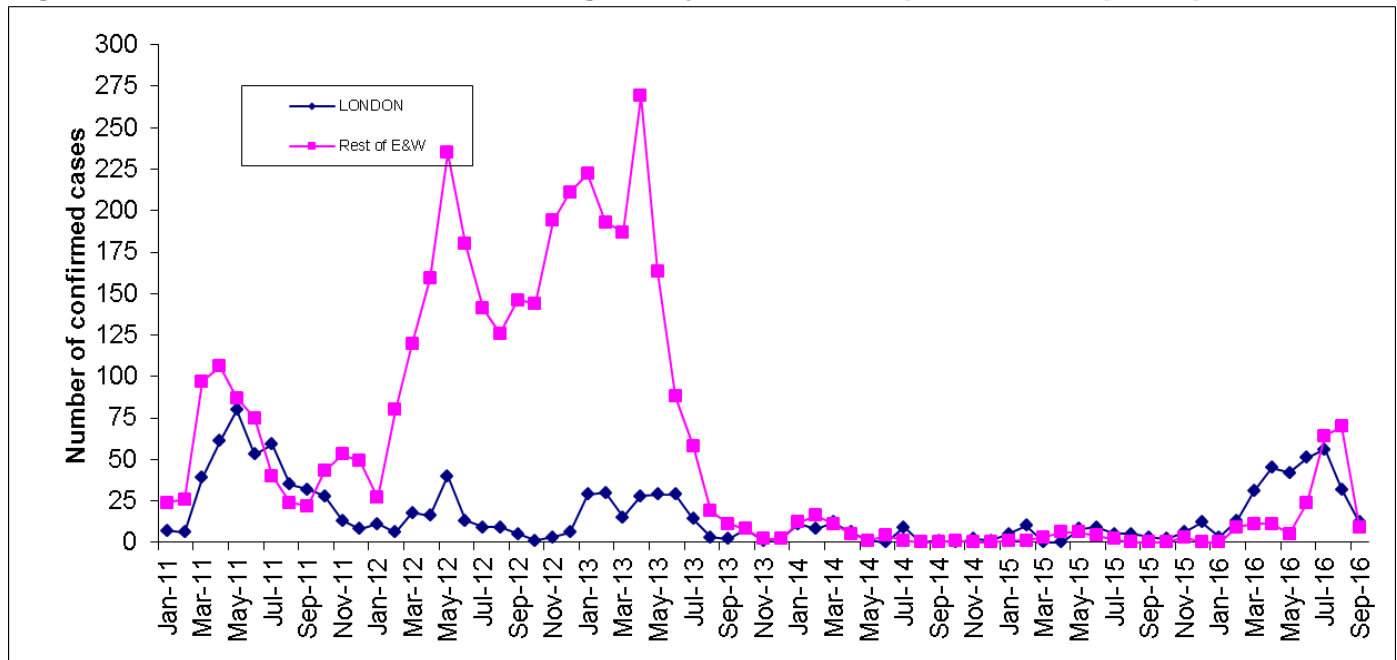
| Notified and investigated cases | | Confirmed cases | | | | | | |
|---------------------------------|---|--------------------|----------------------------|----------------|---------------------|----------------------|---------------|-------|
| Infecting virus | Cases reported to Health Protection Teams in England* | Oral fluid testing | | | | Confirmed infections | Other samples | Total |
| | | Number Tested | % of reported cases tested | Total Positive | Recently Vaccinated | | | |
| Measles | 929 | 484 | 52% | 155 | 5 | 150 | 93 | 243 |
| Mumps | 1270 | 709 | 56% | 57 | 0 | 57 | 51 | 108 |
| Rubella | 118 | 48 | 41% | 0 | 0 | 0 | 0 | 0 |

* This represents the number of suspected cases reported to Health Protection Teams in England.

Measles

In England, 243 new measles infections were confirmed in the third quarter of 2016 compared to 167 between April and June 2016 [1], bringing the provisional number of measles infections with onset dates in the first nine months of the year to 488. 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 activity reported during the 2013 (1282 cases) national outbreak (figure 1). Northern Ireland (1), Scotland (6) and Wales (15) all reported measles cases this quarter.

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



The burden of disease is shifting towards the older age groups with 42% (101/243) of cases confirmed among 15-24 year olds, the vast majority of whom (92%) were unimmunised. (Table 2) The high proportion (40%) of hospitalised cases in 2016 compared to 2015 (26%) and 2014 (22%) reflects this.

More than 95% of cases this quarter are part of the D8 genotype measles outbreak first reported in February 2016 [2]. Activity in London (100/243, 41%) and the South West (67/243, 28%) regions remained high this quarter. Some of the South West cases were linked to a secondary school outbreak in a population with known low immunisation coverage (table 2). From June to October a significant number of measles cases were reported with links to music and arts festivals around England. A rapid communication describing these cases was published in Eurosurveillance in November [3].

Table 2. Measles confirmed cases July to September 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 | – | – | – | – | – | – | – | – | 1 | 1 |
| North West | – | – | – | – | – | – | 1 | – | – | 1 |
| Yorkshire & Humber | – | 1 | – | 1 | 2 | 4 | 1 | 1 | 2 | 12 |
| East Midlands | – | – | – | – | – | 2 | 1 | – | – | 3 |
| West Midlands | – | – | – | – | 4 | 1 | 1 | – | 2 | 8 |
| East of England | – | 1 | – | 1 | 1 | 3 | – | 1 | 1 | 8 |
| London | 4 | 11 | 9 | 14 | 17 | 13 | 7 | 10 | 15 | 100 |
| South East | – | 3 | 3 | 4 | 14 | 6 | 5 | – | 8 | 43 |
| South West | 3 | 5 | – | 13 | 21 | 13 | 2 | 2 | 8 | 67 |
| Total | 7 | 21 | 12 | 33 | 59 | 42 | 18 | 14 | 37 | 243 |

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 52% of the measles cases notified to HPTs this quarter (table 1). HPTs are also reminded to use the congregation context “Measles 2016” for all measles cases until the end of the year.

Mumps

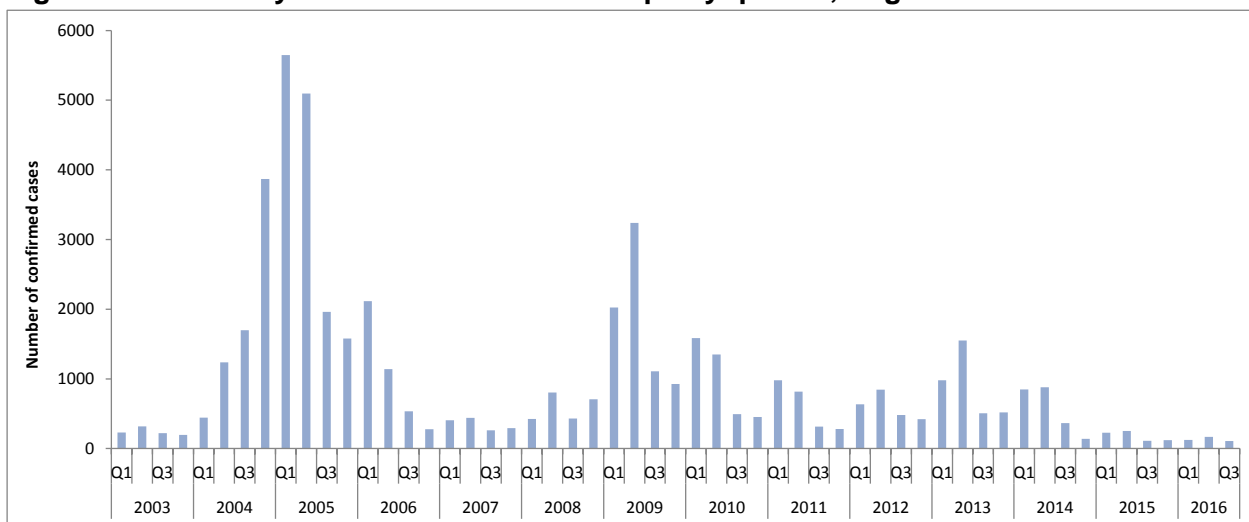
There were 108 laboratory confirmed mumps infections in England with onset dates in the period between July and September 2016, compared to 111 in the same period last year (figure 2) [1]. An additional three cases were confirmed in oral fluid samples from Wales.

Cases this quarter remain predominantly in young adults between 18 and 30 years of age (97/167 58%). About a third (59/167 35%) of all cases this quarter reported receiving one or two doses of MMR vaccination in childhood. For those cases where the vaccination date was known, the average number of years since last MMR vaccination was 16.5 years. Mumps cases were reported in all regions of England (table 3).

Table 3. Laboratory confirmed cases of mumps by age group and region, England: weeks 27-39/2016

| Region | <1 | 1-4 | 5-9 | 10-14 | 15-19 | 20-24 | 25+ | Total |
|--------------------|----------|----------|----------|----------|-----------|----------|-----------|------------|
| North East | – | 2 | – | – | – | – | 4 | 6 |
| North West | – | 1 | 2 | – | 3 | 2 | 8 | 16 |
| Yorkshire & Humber | – | 2 | 3 | 2 | – | – | 1 | 8 |
| East Midlands | – | – | – | – | 1 | – | 4 | 5 |
| West Midlands | – | – | – | 1 | – | – | 4 | 5 |
| East of England | – | – | – | – | – | – | 8 | 8 |
| London | – | 3 | 1 | 4 | – | – | 23 | 31 |
| South East | – | – | – | – | 2 | – | 11 | 13 |
| South West | – | – | – | 1 | 5 | 5 | 5 | 16 |
| Total | 0 | 8 | 6 | 8 | 11 | 7 | 68 | 108 |

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



Rubella

There were no new rubella infections confirmed in the period between July and September 2016.

References

1. PHE (August 2016). [‘Laboratory confirmed cases of measles, mumps and rubella, England: April to June 2016’](#), *HPR* **10**(25): immunisation.
2. [Measles clusters in London and East of England](#), *HPR* **10**(10): news, 11 March 2016.
3. O le Polain de Waroux et al (2016). [Summer music and arts festivals as hot spots for measles transmission: experience from England and Wales, June to October 2016](#). *Eurosurveillance* **21**(44).
4. Health Protection Agency (2010). [HPA National Measles Guidelines: Local and Regional Services](#).
5. Health Protection Agency (2009). [Post-exposure measles prophylaxis](#).