



Infection report

Volume 11 Number 19 Published on: 26 May 2017

Laboratory confirmed cases of measles, mumps and rubella, England: January to March 2017

Measles, rubella and mumps are notifiable diseases and healthcare professionals are legally required to inform their [local Health Protection Team](#) (HPT) of all suspected cases. National enhanced surveillance including oral fluid (OF) testing of all suspected cases is provided through the Virus Reference Department (VRD) at Colindale to support and monitor progress towards WHO measles and rubella elimination targets.

The two key WHO indicators for measuring the performance of national measles and rubella surveillance systems are the rate of laboratory investigations (at least 80% of suspected cases) and the rate of discarded cases (at least two per 100,000 population). In order to achieve these targets our focus is on ensuring that all suspected cases are appropriately tested. IgM serology testing and oral fluid testing are the only two tests considered adequate by WHO for confirming and importantly discarding suspected measles and rubella cases. Recent infection is confirmed by measuring the presence of IgM antibodies or detecting viral RNA (by PCR) in these samples.

Samples that have been confirmed positive for measles or rubella are further sequenced and entered on the WHO global Measles Nucleotide Surveillance (MeaNS) or the Rubella Nucleotide Surveillance (RubeNS) system respectively which are hosted at the National Reference Laboratory. Genotyping and further characterisation of measles and rubella is used to support investigation of transmission pathways and sources of infection.

Data presented here (table 1) are for the first quarter of 2017 (ie January to March). Analyses are done by date of onset of rash/symptoms and regional breakdown figures relate to Government Office Regions.

Historical annual and quarterly measles, rubella and mumps epidemiological data are available here from 2013 onwards:

<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 suspected cases of measles, rubella and mumps reported to Health Protection Teams with breakdown of: a) proportion tested by Oral Fluid (OF), b) cases confirmed (all tests) nationally at the Virus Reference Department (VRD), Colindale and at local NHS hospital and private laboratories, c) discard rate (all tests): weeks 1-13/2017

Total suspected cases*		Number (%) tested by OF Target: 80%	Number of confirmed infections					Discard rate based on negative tests per 100,000 population (all samples) Target: 2.0
			Samples tested at VRD			Samples tested locally	Total	
			OF IgM positive samples	OF PCR positive samples	All other positive samples			
Measles	518	260 (50%)	8	4	5	–	17	0.78
Rubella	150	62 (41%)	–	–	–	–	0	0.66
Mumps	2099	1151(55%)	216	13	22	29	280	N/A

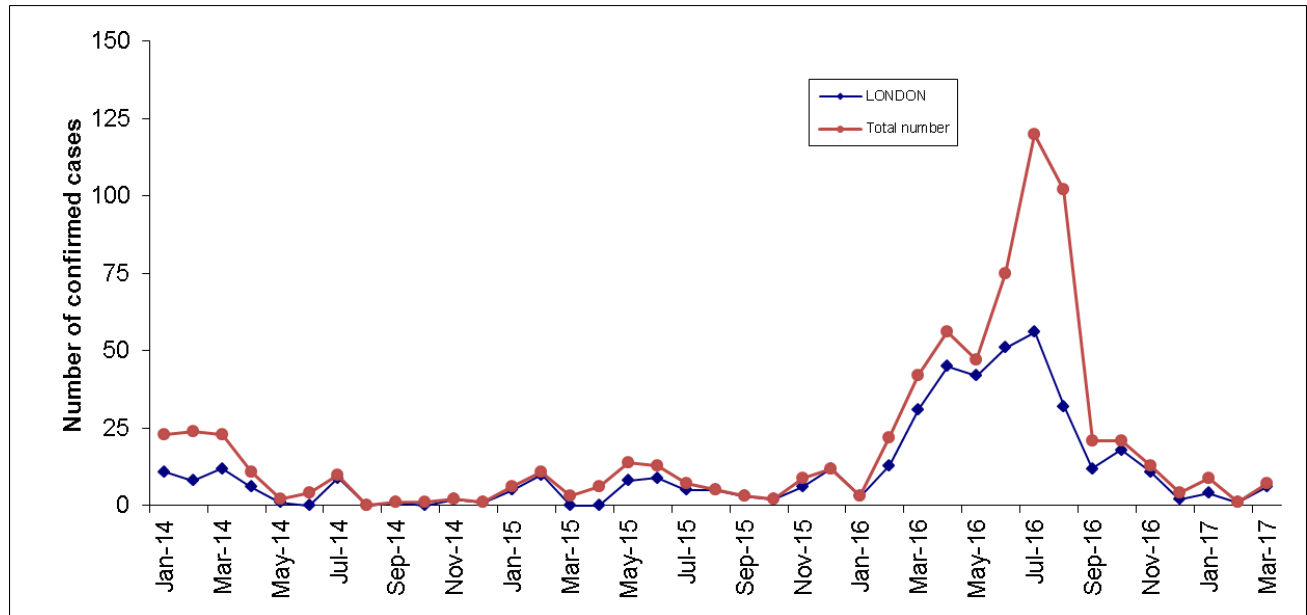
* This represents all cases reported to HPTs in England i.e. possible, probable, confirmed and discarded cases on HPZone

Measles

In England, 17 new measles infections were confirmed in the first quarter of 2017 compared to 37 in the period between October and December 2016 [1] (figure1). Northern Ireland reported one case and Scotland and Wales have reported no cases so far this year.

The majority (11/17, 65%) of the measles cases reported this quarter were in London and most were linked to small family clusters and importations (table 2). In keeping with recent epidemiology the majority of the cases were in teenagers and young adults. One case reported having one dose of MMR and one reported having two MMR doses. The hospitalisation rate this quarter was around 30%.

Figure 1. Laboratory confirmed cases of measles by month of onset of rash/symptoms reported, London and England: Weeks 1-13/2017)



Seven (41%) infections this quarter were associated with recent travel: Switzerland (three cases), Romania (two cases), India (one case) and Bangladesh (one case). There are currently several large measles outbreaks across Europe with Romania and Italy being the worst affected countries [2]. Until elimination of measles is achieved in Europe and globally, importations will continue to risk the re-establishment of endemic measles among undervaccinated populations.

PHE Health Protection Teams (HPTs) should be aware of the National Measles Guidelines [3] and the Guidance for Post-exposure Prophylaxis for Measles [4] on the management of all suspected cases.

This quarter an oral fluid sample was taken on only 50% of all suspected measles cases, well below the 80% WHO target (table 1).

PHE Health Protection Teams are reminded to use the congregation context “Measles 2017” for all measles cases reported from 1 January of this year.

Table 2. Laboratory confirmed cases of measles by age group and region, England: weeks 1-13/2017

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
North West	–	–	–	–	–	–	–	–	–	0
Yorkshire & Humber	–	–	–	–	–	–	–	–	–	0
East Midlands	–	–	–	1	–	–	–	–	–	0
West Midlands	–	–	–	–	–	–	–	–	–	0
East of England	–	–	1	–	1	1	–	–	–	3
London	1	4	–	2	1	2	–	–	1	11
South East	–	–	–	1	1	–	–	–	–	2
South West	–	–	–	–	–	–	–	–	–	0
Total	1	4	1	4	3	3	0	0	1	17

Rubella

The outcome of the rubella infection in pregnancy reported last quarter is now known: the baby was found not to be infected. No new infections were diagnosed in the first quarter of 2017.

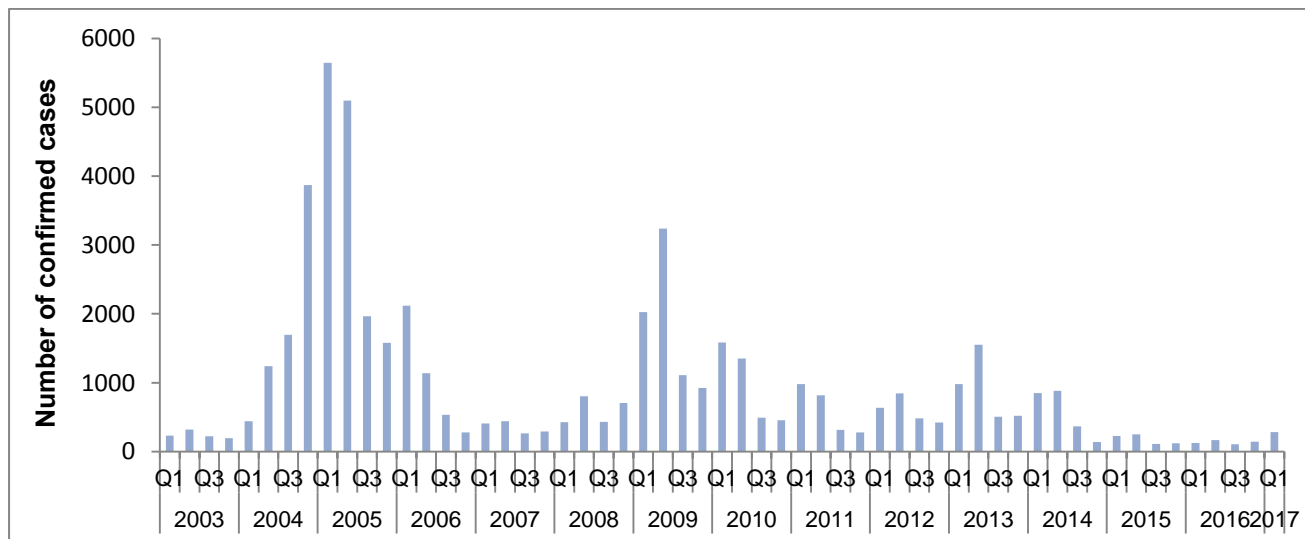
Mumps

There were 280 laboratory confirmed mumps infections in England with symptom onset in the period between January and March 2017, compared to 122 in the same period last year (figure 2). Mumps cases were reported in all regions of England this quarter (table 3) predominantly in young adults aged 16 to 30 years (201/280, 72%) with very few cases in children. Nearly half (127/280, 45%) 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 1-13/2017

Region	<1	1-4	5-9	10-14	15-19	20-24	25+	Total
North East	2	–	–	1	19	30	12	64
North West	–	1	1	1	8	13	14	38
Yorkshire & Humber	–	–	–	3	8	6	3	20
East Midlands	–	1	1	–	6	2	2	12
West Midlands	–	–	–	–	5	3	3	11
East of England	–	–	–	1	3	3	6	13
London	–	–	2	1	7	12	28	50
South East	–	1	–	3	16	5	16	41
South West	–	–	–	–	16	3	12	31
Total	2	3	4	10	88	77	96	280

Figure 2. Laboratory confirmed cases of mumps by quarter, England: 2003-2017



References

1. PHE (2017). [Laboratory confirmed cases of measles, mumps and rubella, England: October to December 2016](#). *HPR* 11(8): immunisation.
2. “[Measles outbreaks across Europe threaten progress towards elimination](#)”, World Health Organisation – Regional Office for Europe, press release, 28 March 2017.
3. Health Protection Agency (2010). [HPA National Measles Guidelines: Local and Regional Services](#).
4. Health Protection Agency (2009). Post-exposure measles prophylaxis. Available from: <https://www.gov.uk/government/publications/measles-post-exposure-prophylaxis>.