

Annual Epidemiological Report

November 2018

Measles in Ireland, 2017

Key Facts

- There were 25 measles cases (0.5/100,000) in 2017 compared to 43 cases in 2016.
- Twenty-three cases in 2017 were classified as confirmed and two were classified as possible.
- Twenty were genotyped and all were genotype B3.
- Of the 25 cases, there were three outbreaks with 13, six and two linked cases, respectively. In addition, there were four sporadic cases.
- The WHO European Regional Verification Committee (RVC) concluded at the seventh meeting of the European RVC for Measles and Rubella Elimination in June 2018 that endemic transmission of measles remained interrupted in Ireland in 2017 and verified that measles has been eliminated.

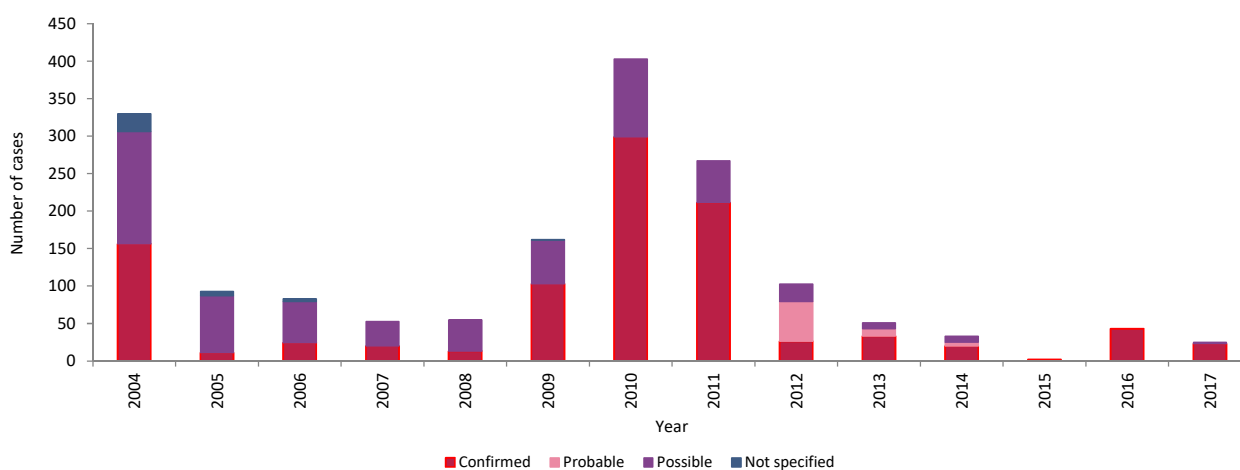
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Epidemiology

There were 25 measles cases (0.5/100,000) in 2017 compared to 43 cases in 2016 (figure 1). Twenty-three cases in 2017 were classified as confirmed and two were classified as possible. Twenty were genotyped and all were genotype B3. Of the 25 cases there were three outbreaks with 13, six and two linked cases, respectively. In addition, there were four sporadic cases.

Figure 1. Number of measles cases by year and case classification in Ireland, 2004-2017



The first case of measles was notified in March 2017. This case occurred in a child of Roma ethnicity who was unvaccinated. This case was believed to be import related as the case had potential exposure in a friend's home to visiting children from Belgium with symptoms compatible with measles. This case was classified as confirmed and was genotype B3.

The remaining 24 measles cases were notified between October and December 2017; the origin of infection of these cases was not identified. The first two of these cases was notified in mid-October, in the HSE E, in siblings of Irish Traveller ethnicity. A further eleven cases were linked to these cases. All 13 cases in this outbreak were classified as confirmed and were genotype B3. The cases occurred in both adults and children. Seven were unvaccinated, four had one dose of MMR while for two cases vaccination status was unknown (both these cases were in the age group 20-34 years). An additional two cases

classified as possible were notified in children in the HSE E in December. Neither case was linked to an outbreak.

In late October 2017, two cases in siblings of Roma ethnicity in the HSE NE were notified. A further four cases in the HSE NE were linked to the outbreak. No epi links to the HSE E cases were identified. All six cases were unvaccinated, all were classified as confirmed and five of the six cases were in children. Three of the six cases were genotyped and were genotype B3.

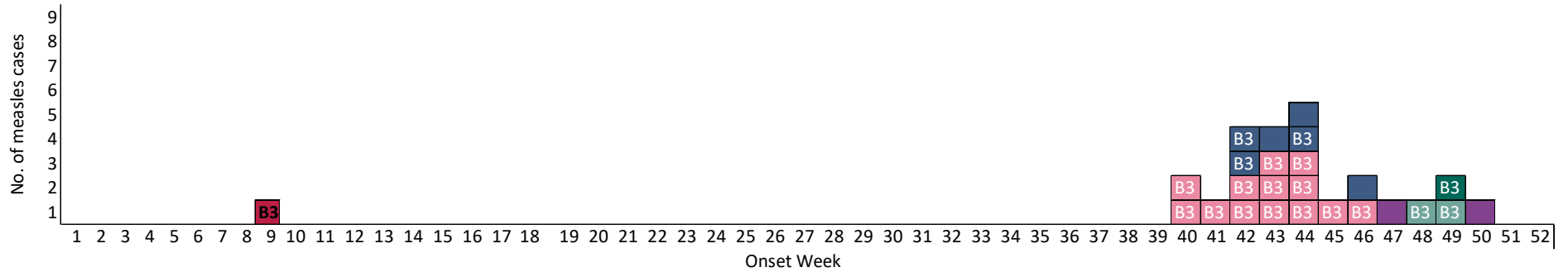
Two further confirmed cases were notified in December in the HSE NE. These cases were epidemiologically linked and both cases were genotype B3. Both cases were in adults, one was unvaccinated and one had one dose of MMR.

An additional case classified as confirmed was notified in the HSE NE in December 2017 but was not linked to an outbreak. This case was in an adult with unknown vaccination status. This case was genotype B3.

All 24 cases notified during October to December were close temporally and geographically and therefore are likely linked even where links were not identified. All measles cases in 2017 by onset week are shown in figure 2.

The total 25 cases in 2017 by age group and the age specific incidence rates are shown in figures 3 and 4. The cases ranged in age from one month to 57 years with a median age of 10 years and a mean age of 14 years. Fifteen (60%, n=15/25) of the cases were unvaccinated; three of these were less than one year of age. Seven cases (28%, n=7/25) had received one dose of MMR while vaccination status was unknown for the remaining three cases (12%, n=3/25). Of the seven cases reported to have received MMR vaccine six had vaccination dates reported, one of these was vaccinated only three days prior to onset. Twelve cases (48%, n=12/25) were hospitalised. Length of hospitalisation was reported for nine cases with a median duration of stay of five days (range one to 11 days). Reported complications of measles included pneumonia (8%, n=2/25) and seizures (4%, n=1/25).

Figure 2. Measles cases in Ireland in 2017 by onset week



Legend

B3 HSE E: Import related B3 case.

Outbreak 1
B3
HSE E: Genotype B3

B3 HSE E: Classified as possible.

Outbreak 2
B3
HSE NE: Genotype B3

Outbreak 2
B3
HSE NE: Not genotyped, Case belonging to the same chain of transmission based only on epi-linkage to above B3 chain

Outbreak 3
B3
HSE NE: Genotype B3

B3 HSE NE: not imported and not linked to any case/chain of transmission

Figure 3. Number of measles cases in 2017 by age group and case classification in Ireland

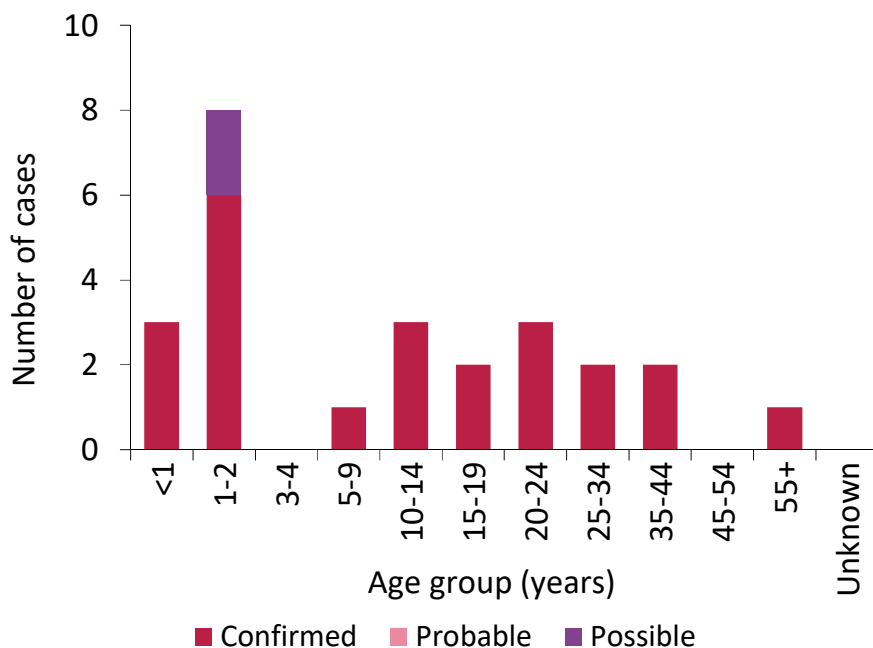
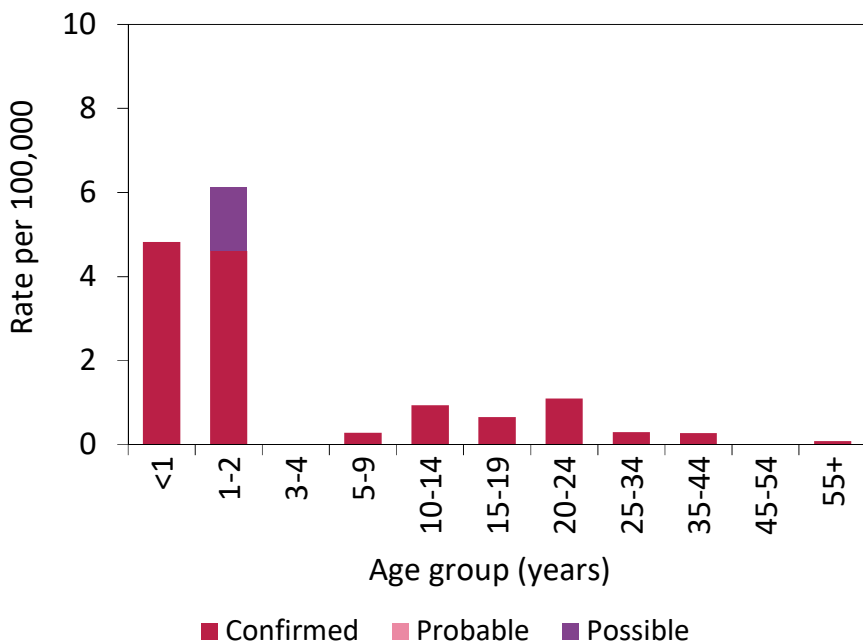


Figure 4. The age specific incidence rate (per 100,000) of measles cases in 2017 by age group and case classification, in Ireland



The country of birth was recorded as Ireland for 16 cases; country of birth was outside of Ireland for five cases and was not specified for four cases. Of the 25 cases, the setting where the case most likely acquired measles was reported as home (32%, n=8), hospital out-patient (8%, n=2), work (4%, n=1) and other healthcare facility (4%, n=1) and was unreported for the remainder (52%, n=13). Fourteen (56%) of the cases were female and eleven (44%) were male. A breakdown of the total cases and the crude incidence rate per 100,000 population by HSE Area is given in table 1.

Table 1. Number of measles cases and the crude incidence rate per 100,000 population (CIR) by HSE Area in 2017

HSE Area	Number	CIR
HSE E	16	0.9
HSE M	0	0.0
HSE MW	0	0.0
HSE NE	9	2.0
HSE NW	0	0.0
HSE SE	0	0.0
HSE S	0	0.0
HSE W	0	0.0
Total	25	0.5

The figures presented above are based on data extracted from the Computerised Infectious Disease Reporting (CIDR) system on 23rd October 2018. These figures may differ slightly from those published previously due to ongoing updating of notification data on CIDR. The 2016 census data was used here to calculate rates.

WHO require information on discarded measles cases ie measles cases investigated and who were found not to meet the case definition. The HSE Areas reported the number of discarded CIDR cases to HPSC. For 2017, 172 cases were discarded from CIDR as following investigation as they were not considered to be measles cases. Discarded cases are not available in CIDR for reporting and are not included in the analysis above. A further 88 cases were known to be investigated and found not to be measles.

The Regional Verification Commission for Measles and Rubella Elimination (RVC) was established in the WHO European Region in 2011 to evaluate the documentation submitted by Member States with a view to verifying the elimination of measles and rubella at the regional level. The RVC has recommended establishment of national verification

committees (NVC) in all Member States and suggested a standard format for annual status reports from countries. These reports include information on measles and rubella epidemiology, virologic surveillance supported by molecular epidemiology, the analysis of vaccinated population cohorts, the quality of surveillance, and the sustainability of the country's National Immunisation Programme. The review and evaluation of annual national reports will continue for at least three years after the RVC confirms that, according to established criteria, endemic measles and rubella transmission have been interrupted in all Member States of the Region. Only then can Regional elimination be declared.¹ The WHO European RVC concluded at the seventh meeting of the European RVC for Measles and Rubella Elimination in June 2018 that endemic transmission of measles remained interrupted in Ireland in 2017 and verified that measles has been eliminated.² This is a huge achievement for Ireland. However, this elimination status needs to be sustained so vigilance is required as measles is easily imported and spread. Gaps in immunity among children and young adults need to be addressed so that 95% uptake of two doses of MMR vaccine is achieved. All suspect measles cases should be notified to Public Health and specimens sent for testing to confirm or rule out measles.

Laboratories in Ireland that perform measles/rubella investigations in their own laboratories are requested to send all positive samples for measles or rubella for confirmatory testing to the WHO Measles/Rubella National Laboratory at the National Virus Reference Laboratory (NVRL). In addition, a selection of negative specimens should also be referred. Genotyping is undertaken in the NVRL on a selection of specimens.

Acknowledgements

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References

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