1.2 Measles

Summary

Number of cases, 2009: 162
Number of confirmed cases, 2009: 103
Crude incidence rate, 2009: 3.8/100,000
Crude confirmed incidence rate, 2009: 2.4/100,000

In 2009, there were 162 measles cases (3.8/100,000) notified in Ireland. This is nearly a three-fold increase compared to 2008 when 55 cases were notified. This increase is a result of a measles outbreak that was first identified in August 2009.

In Week 31 2009 (week ending 8th August 2009), a confirmed measles case, in an adult who worked in a general practice, was notified in the HSE-S. In Week 33 2009, a measles case in a Roma child was notified in the same Area, this case's general practitioner worked in the same building as the previous case. In Week 37, 2009, two measles cases, one in a child from the Irish Traveller community and one in a hospital contact of this case, were notified in the HSE-S. During Weeks 38 and 39, six cases in Irish Travellers were notified in the HSE-S. From then on measles continued to circulate and spread to other HSE Areas. The measles outbreak continued into the early part of 2010.

Measles cases by week of notification are shown in figure 1. During Weeks 1-30 2009 42 measles cases were notified. In contrast, 120 measles cases were notified between Weeks 31 and 52.

At the start of the outbreak, a national outbreak control team was convened, which included health professionals from the departments of public health in the HSE Areas, HSE-Health Protection Surveillance Centre, HSE-National Immunisation Office, HSE Population Health, HSE Social Inclusion, the Institute of Obstetricians and Gynaecologists, the National Virus Reference Laboratory and the field of Paediatric Infectious Disease. This group agreed public health strategies (vaccination and management of cases and close contacts, awareness-raising among clinicians and in the community) to control the outbreak at national and local level.

Of the 162 measles cases notifed in 2009, one had no case classification specified, 58 cases (36%) were classified as possible while 103 (64%) were classified as confirmed, giving a crude confirmed incidence rate of 2.4 per 100,000 population. Eighty-two of the confirmed cases were laboratory confirmed while 21 were epidemiologically linked to a laboratory confirmed case.

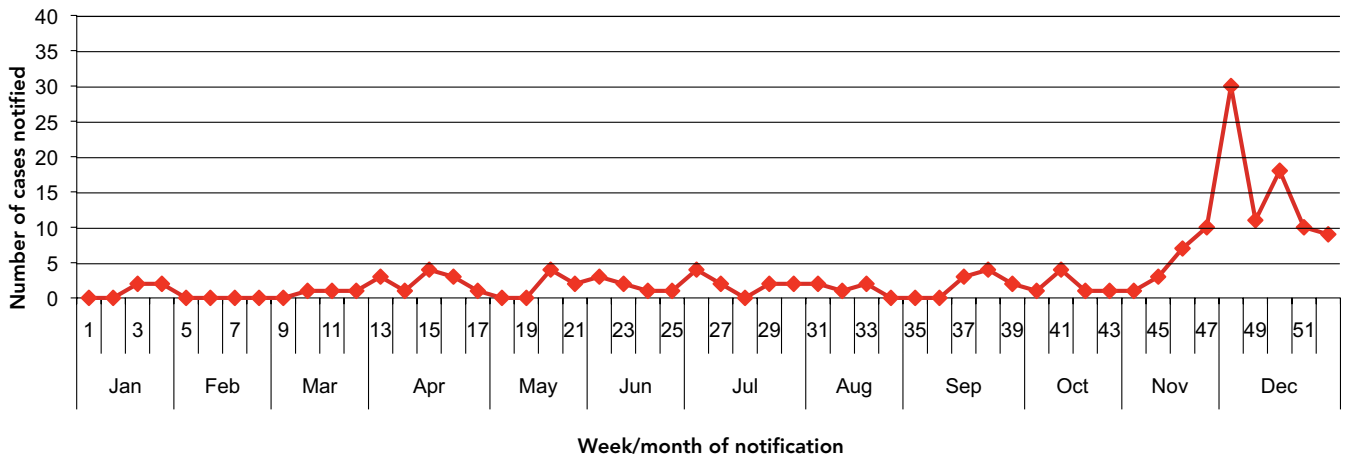

Figure 1. Number of measles cases notified by week and month in 2009

The largest number of cases notified in 2009 was in the HSE-S (table 1).

In 2009, measles cases ranged in age from four months to 34 years. The largest number of cases (n=41) was in the age group one to two years (figure 2) while the highest age specific incidence rate (37.7/100,000) was in those aged <1 year (figure 3). Of the 162 measles cases 87 (54%) were male, 74 (46%) were female while sex was not specified for one case.

Laboratory results were provided for 115 (71%) cases in 2009. Eighty-two cases were laboratory positive for measles. The laboratory results for five cases were inconclusive. Twenty-eight cases were laboratory negative for measles, however, for 10 of these the specimens were not taken at the optimal time following disease onset or the date of specimen collection in relation to disease onset was unknown (the optimal time following disease onset for collecting oral fluid specimens for measles IgM testing is greater than seven days to two months and the optimal time for collecting serum specimens for measles IgM testing is greater than four days to two-three months). All 18 cases that were laboratory negative for measles and were known to have a specimen collected at the optimal time were classified as possible cases.

Table 1. Number of measles cases notified and the crude incidence rate per 100,000 population (CIR) by HSE Area in 2009

HSE Area	Number	CIR
HSE-E	30	2.0
HSE-M	3	1.2
HSE-MW	3	0.8
HSE-NE	3	0.8
HSE-NW	0	0.0
HSE-SE	37	8.0
HSE-S	52	8.4
HSE-W	34	8.2
Total	**162**	**3.8**

Measles vaccine in Ireland is available as part of the combined measles-mumps-rubella (MMR) vaccine. In Ireland, vaccination with the first dose of MMR is routinely recommended at twelve months of age and the second dose at four to five years of age.

Vaccination data were reported for 136 (84%) measles cases in 2009. Ninety-six cases (n=96/162, 59%) were unvaccinated; only 20 (n=20/96, 21%) of these were less than 12 months of age.

Thirty-two cases (n=32/162, 20%) had one dose of MMR vaccine; 25 (78%) of these were less than six years of age. Only six (19%) of these 32 cases were classified as confirmed. Four of the 32 cases (13%) were known to

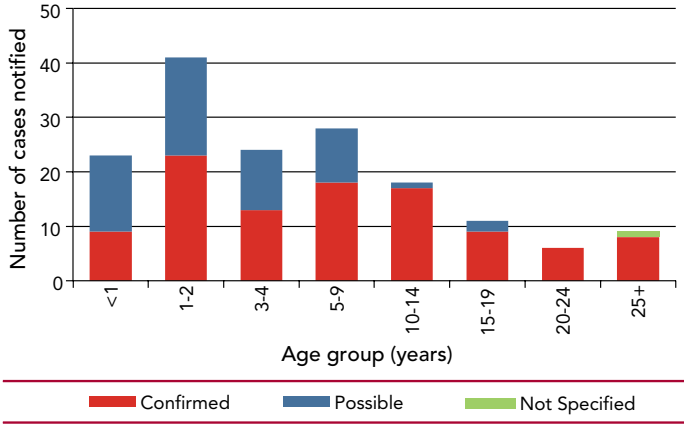

Figure 2. Number of notified measles cases in 2009 by age group and case classification

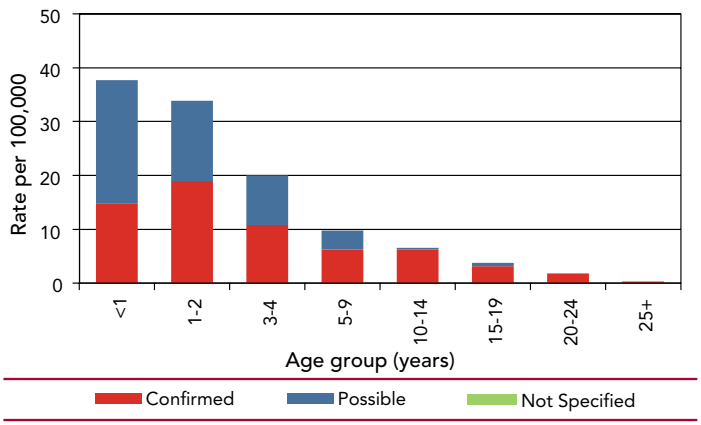

Figure 3. The age specific incidence rate (per 100,000) of notified measles cases in 2009 by case classification

be vaccinated less than nine days before onset of illness and were probably incubating measles at the time of vaccination while four cases (13%) had no vaccination date reported.

Eight cases were reported as having received two doses of MMR. Only two of these cases were classified as confirmed and neither of these cases had any vaccination dates or other vaccination details reported.

Although ethnicity is not routinely collected as part of notification data and may be difficult to establish and report on, it was evident in the early stages of the outbreak that a substantial number of cases were linked to the Irish Traveller community. Based on available data, over a third (n=41/120, 34%) of the cases notified from Week 31 to Week 52 2009 were recorded as Irish Travellers while two cases (n=2/120, 1.7%) belonged to the Roma community. In contrast, only 0.5% of the population of Ireland are Irish Travellers and approximately 0.1% belongs to the Roma community. By December 2009, verbal reports from the HSE-S highlighted transmission was also among children whose parents objected to vaccination, either for perceived safety reasons or for philosophical reasons. During the course of the outbreak a small number of cases were also reported in other citizens from Eastern Europe.

Sixty-eight cases were reported as hospitalised representing 42 percent (n=68/162) of all cases. The hospitalised cases ranged in age from four months to 34 years with 63 (93%) classified as confirmed cases and five (7%) classified as possible cases. Length of hospitalisation was reported for 39 cases (n=39/68, 57%) with a median duration of stay of two days (range one to eight days); fourteen cases were reported as hospitalised for one day. Of the 68 hospitalised cases, 12 (18%) had no MMR details reported while 51 (75%) were unvaccinated. Three cases (4%) were reported to have one dose of MMR; however, two of these were vaccinated less than three days prior to onset. The remaining two hospitalised cases (3%) were reported to have had two doses of MMR although neither case had any vaccination dates or other vaccination details reported.

There was probable nosocomial transmission of measles in two GP practices; two adults working in separate GP practices developed measles. Measles cases in children were associated with both practices. There was also probable nosocomial transmission of measles to a child in hospital.

Information on measles associated complications was reported for 93 (n=93/162, 57%) cases. Pneumonia was reported for seven cases, ear infection/otitis media was reported for four cases, pneumothorax was reported for one and dehydration was reported for one case. Two of the cases with pneumonia were reported to have required ventilation. The remaining 80 cases had no complications.

Three cases were reported as being infected outside Ireland. The countries of infection were reported as France (n=1), Poland (n=1) and the United Kingdom (n=1).

Eight localised measles outbreaks were notified during 2009, with 105 associated cases of illness. The outbreak locations included four private houses (with 11 ill), three community outbreaks (with 48 ill) and one outbreak occurring among an extended family (with 46 ill).

The figures presented in this summary are based on data extracted from the Computerised Infectious Disease Reporting (CIDR) system on 27th September 2010. These figures may differ slightly from those published previously due to ongoing updating of notification data on CIDR.

EU data are available at www.euvac.net and WHO European data are available at http://data.euro.who.int/CISID/.