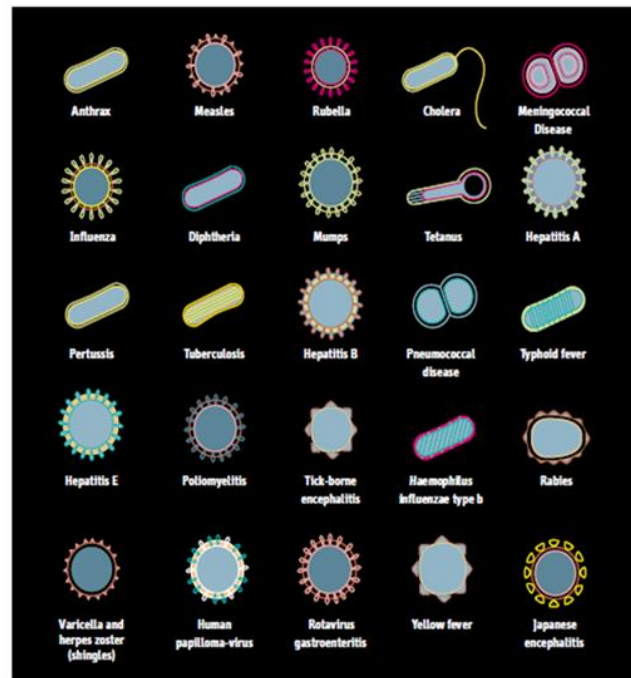


Annual Vaccine Preventable Diseases Report for Northern Ireland 2022

An analysis of data for the calendar year 2021



Notes

The figures presented for 2021 are a similar picture to 2020 with the number of Vaccine Preventable Diseases much lower than in previous years. This may be due to the infection control measures put in place as a response to the COVID-19 pandemic.



Summary

Invasive Meningococcal Disease

- There were 5 clinically suspected notifications, with less than 5 laboratory confirmed cases reported in 2021, which is similar to 2020. A significant decrease has been seen compared to 2019 (41 notifications; 31 confirmed cases)
- Age-specific incidence was highest in children 4 years of age and under (2.5 per 100,000 population)
- The majority of the confirmed cases reported in 2021 were serotype B

Summary

Invasive Pneumococcal Disease

- There were 49 laboratory confirmed cases, a decrease of 13% when compared to 2020 (56)
- Cases over 45 years of age accounted for 67% of cases, with the majority of these over 65 years (49%)
- Of the 24 laboratory confirmed cases with typing, 18 of the cases were due to strains not included in the pneumococcal conjugate vaccine (PCV13)

Summary

Measles, Mumps, Rubella

- There were 6 notifications of measles reported in 2020
- There were 5 laboratory confirmed cases of mumps, a significant decrease compared with 2020 (296). The majority of the confirmed cases were over 35 years old
- There were no notifications of clinically suspected rubella

Summary

Pertussis

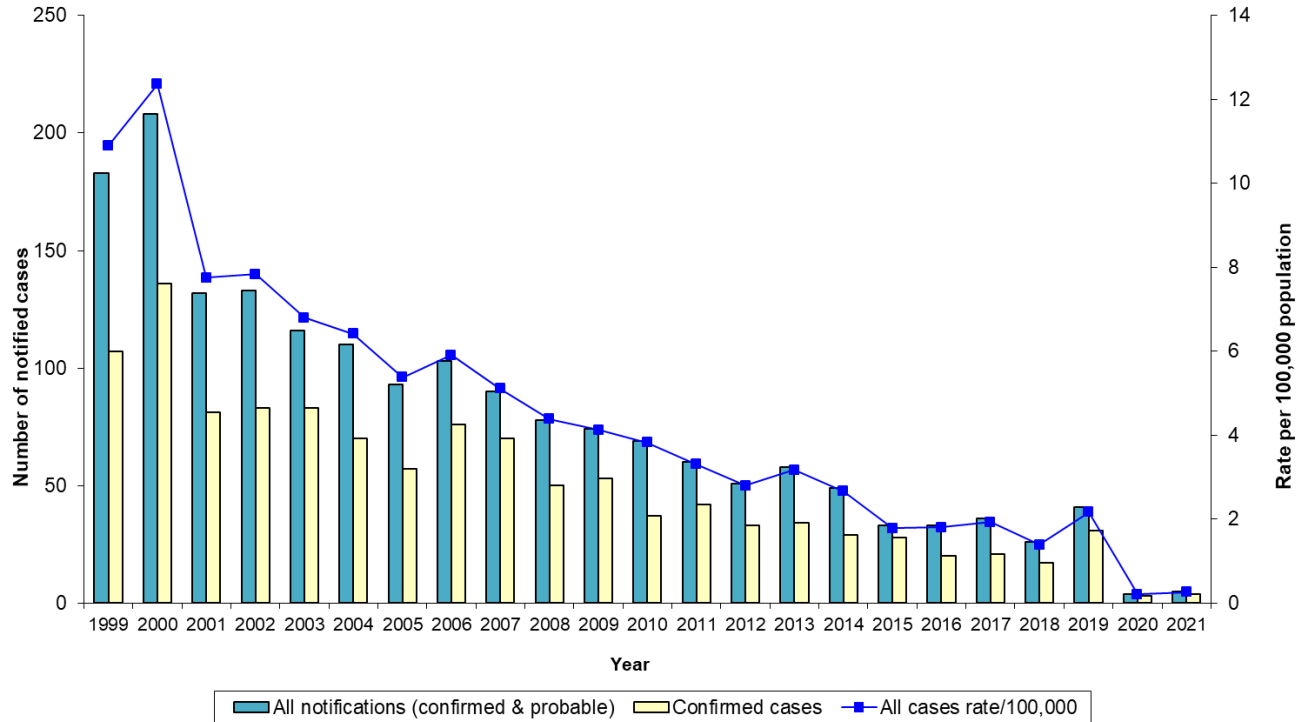
- There were no laboratory confirmed cases; this is compared to 34 in 2020

Invasive Haemophilus Influenzae Disease

- There were less than 5 laboratory confirmed cases in 2021; this is compared to 6 in 2020 and 29 in 2019.

Meningococcal Disease

Number of notified and confirmed cases of IMD and overall rates per 100,000 population, 1999-2021, Northern Ireland



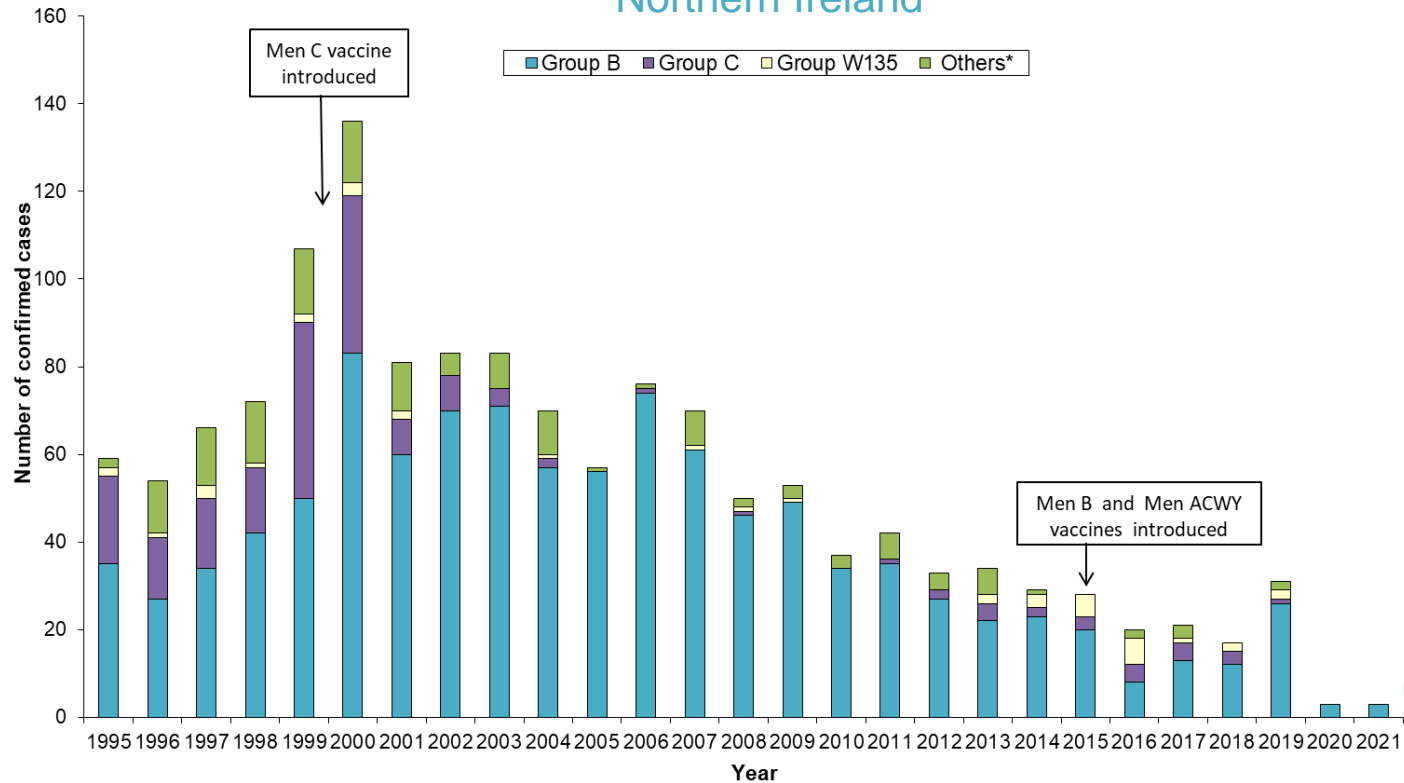
Source: Enhanced Surveillance of Meningococcal Disease (ESMD) in Northern Ireland.

Epidemiological situation

There were 5 notifications of clinically suspected invasive meningococcal disease (IMD), notification rate of 0.3 per 100,000 population. The notification rate has fallen by 98% from a peak of 12.4 per 100,000 in 2000. Of the notifications in 2021, less than 5 were laboratory confirmed cases and the incidence rate was 0.2 per 100,000 population observed. The past two years have seen the lowest numbers reported since enhanced surveillance commenced in 1999.

Meningococcal Disease

Laboratory confirmed cases of IMD by serogroup, 1995-2021, Northern Ireland



Source: Enhanced Surveillance of Meningococcal Disease (ESMD) in Northern Ireland.

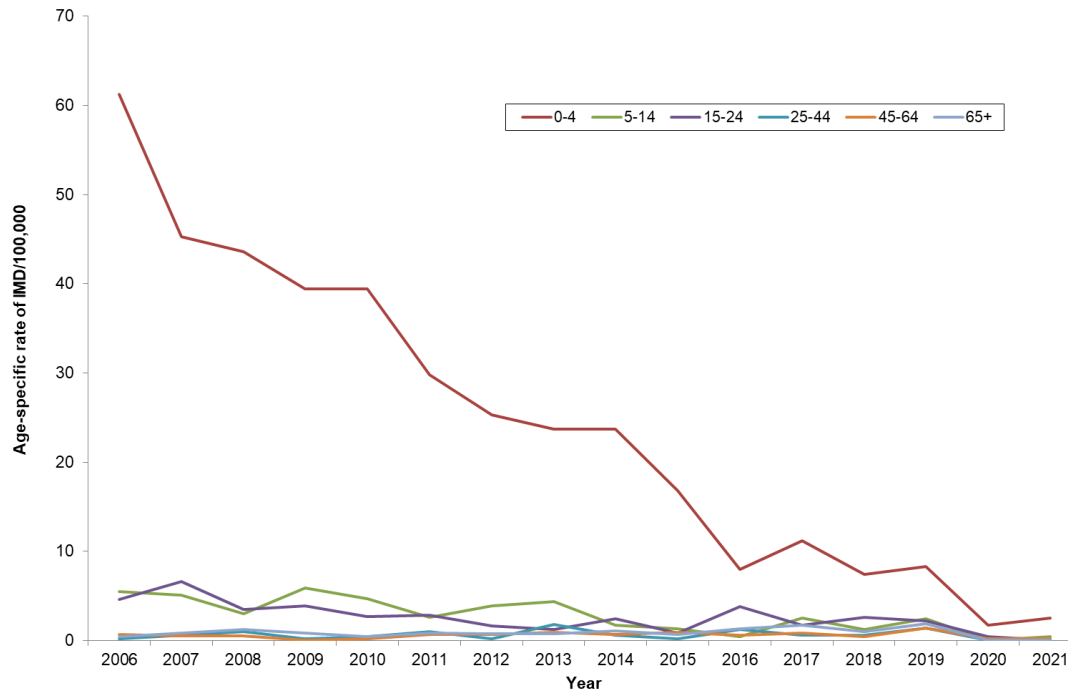
*Others include serogroups Y, Z and cases that are not groupable for various reasons.

Serotypes

Cases were confirmed by either the Regional Virus Laboratory (RVL) or Manchester Reference Unit (MRU). Serogroup B remains the most common serotype as in previous years, accounting for the majority of cases in 2021 (1 case was untyped).

Meningococcal Disease

Age-specific incidence rates of IMD per 100,000 population, 2006-2021, Northern Ireland



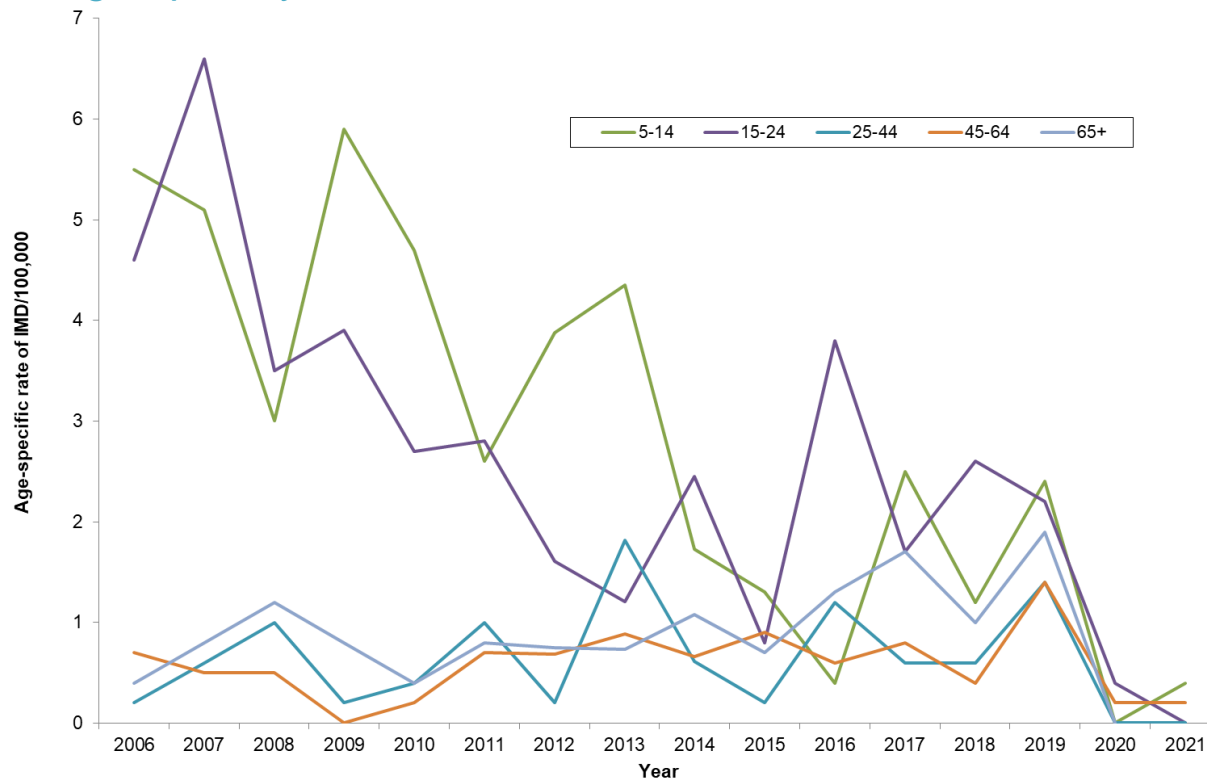
Source: Enhanced Surveillance of Meningococcal Disease (ESMD) in Northern Ireland.

Age

Consistent with previous years, age-specific incidence was highest in infants and young children under 5 (2.5 per 100,000). The incidence rate in this age group is over twenty four times lower in 2021 compared to 2006 (61.2/100,000), showing a dramatic decrease between 2006 and 2016 and a further decrease in 2020.

Meningococcal Disease

Age-specific incidence rates of IMD per 100,000 population, with age group 0-4 years removed, 2006-2021, Northern Ireland



Source: Enhanced Surveillance of Meningococcal Disease (ESMD) in Northern Ireland.

The incidence rate for age groups over 5 years is lower than those under 5 years. There has been a decrease in all age groups over the past two years.

Meningococcal Disease

- There has been a decline in confirmed IMD cases over the last two decades from a peak of 136 confirmed cases in 2000.
- The initial decline in IMD cases was associated with the introduction of Meningococcal Serogroup C conjugate vaccine (MenC) in 1999 that reduced serogroup C cases from a peak of 40 cases in 1999 to an average of 2 cases per year since 2001.
- The introduction of the meningococcal B and meningococcal ACWY (Men ACWY) vaccination programmes in 2015 have also contributed to a reduction in IMD cases in recent years.

Pneumococcal Disease

Epidemiological situation

There were 49 laboratory confirmed cases of IPD reported in 2021, incidence rate 2.6 per 100,000 population. Since 2012, there has been an overall upward trend in both number of cases and incidence rate. In 2020 the lowest number of cases were reported over the past decade, with a 65% decrease in cases when compared with 2019 (159). In 2021 (49) there was a further 13% decrease when compared to 2020 (56).

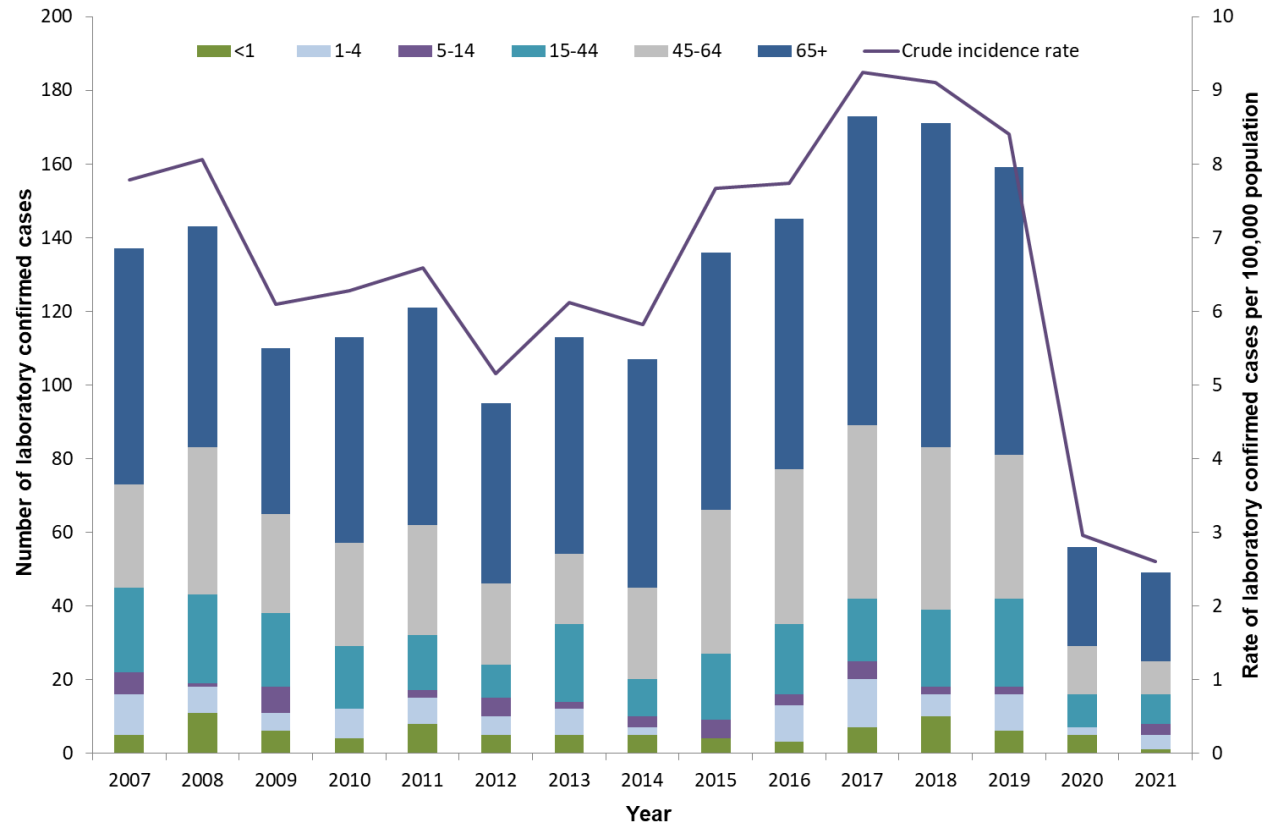
Age

As with previous years, cases predominantly affect the older age groups with 67% (33) over 45 years of age.



Pneumococcal Disease

Laboratory confirmed cases of Invasive Streptococcus Pneumoniae by age group, 2007-2021, Northern Ireland



Source: Northern Ireland Laboratory Information System (NILIS)

Pneumococcal Disease

Serotypes

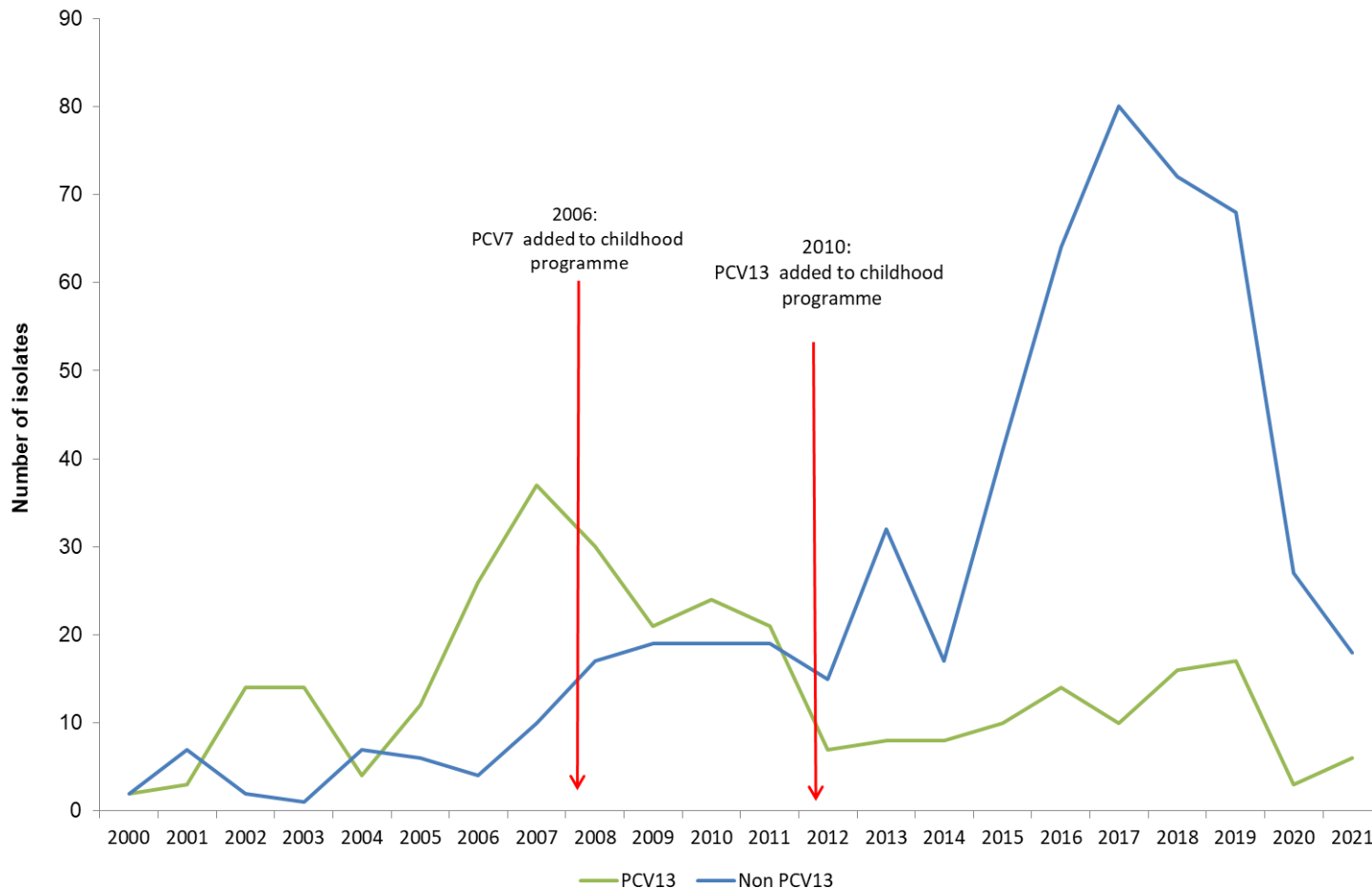
Typing information was available for 49% (24) of cases. Of these cases, the most common serotypes reported were 8 (17%) and 23B (17%). The majority 18 (75%) of cases were caused by vaccine-preventable strains not contained in the pneumococcal conjugate vaccine 13 (PCV13) offered routinely at 3 and 12 months of age. The 6 (25%) PCV13 type cases were distributed across the age groups.

Since pneumococcal conjugate vaccine was introduced into the routine childhood programme (PCV7 in 2006 and PCV13 in 2010), the number of cases from PCV13 serotypes has declined from a peak of 37 cases in 2007 to a low of less than 5 in 2020. Overall cases remain low.

Since 2014, there has been a slight upward trend, with 17 cases in 2019 compared to 8 in 2014. As numbers overall are small, the significance of this increase has to be interpreted with caution and will continue to be monitored. In contrast, since 2012 the number of cases from non-PCV13 strains has increased annually although a reduction has been observed in 2019 (68). While this is reassuring, the pattern across the UK is of increasing numbers of non-PCV13 strains and we will continue to monitor this alongside national surveillance systems.

Pneumococcal Disease

Laboratory confirmed cases of IPD by PCV/non-PCV serogroup, 2000-2021, Northern Ireland



Source: Northern Ireland Laboratory Information System (NILIS)



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Haemophilus Influenzae

Epidemiological situation

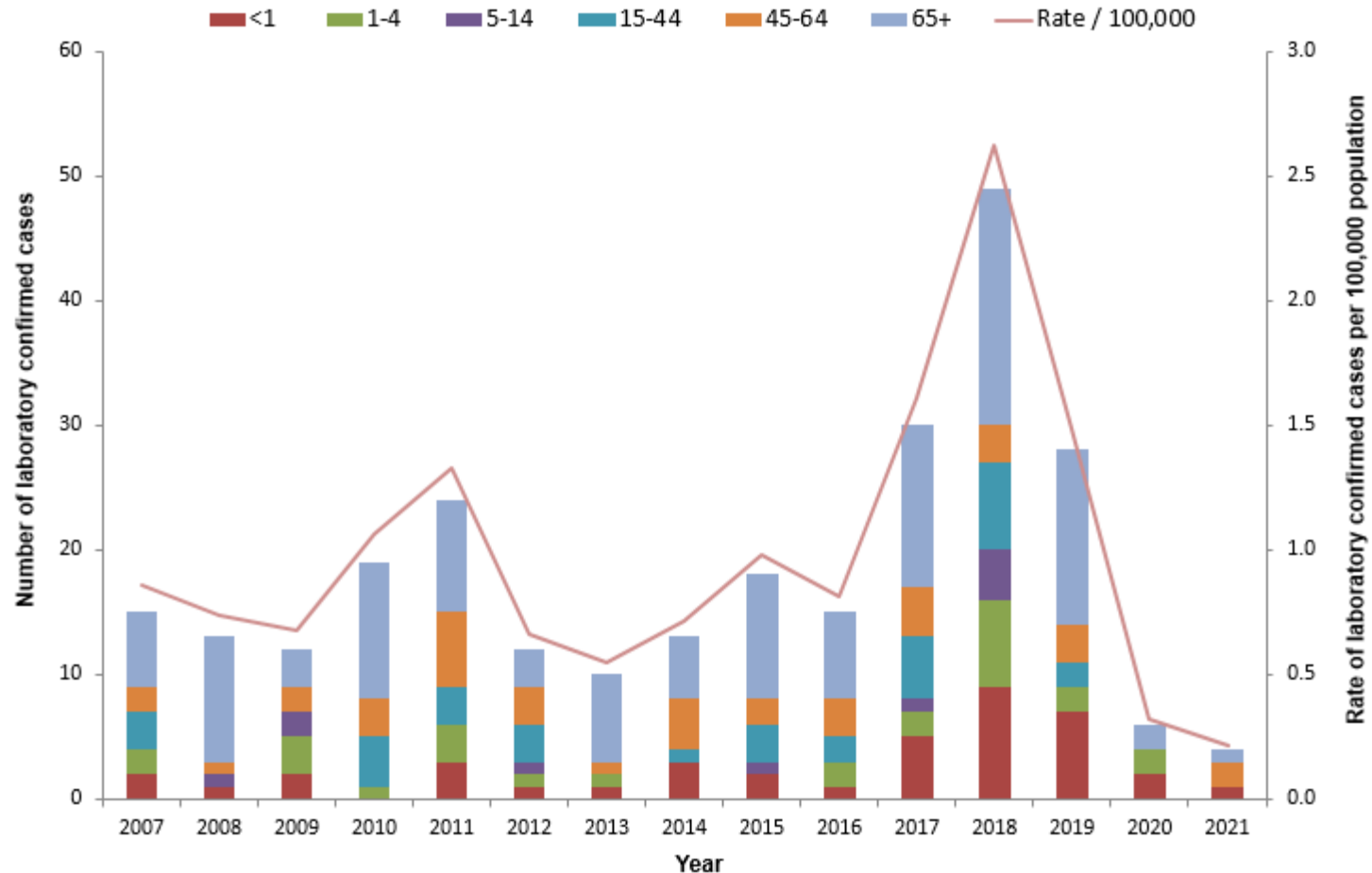
There were less than 5 laboratory confirmed cases of invasive Hi disease, an incidence rate 0.2 per 100,000 population. Between 2007 and 2016, there have been no discernible trends. A sharp rise of cases was noted between 2016 (15) and 2018 (49). Cases fell to 29 in 2019, with a further decrease in 2020 (6) and a further decrease in 2021.

Age

In 2021, the largest proportion of cases were those aged over 45 (75%).

Haemophilus Influenzae

Invasive Haemophilus Influenzae cases by age band, 2007-2021,



Source: Northern Ireland Laboratory Information System (NILIS)



Public Health
Agency

Improving Your Health and Wellbeing

Haemophilus Influenzae

Invasive Haemophilus Influenzae cases by serotype,
2007-2021, Northern Ireland



Source: Northern Ireland Laboratory Information System (NILIS)

Serotypes

Since 2007, the number of cases of Hib has remained constantly low highlighting the success of the Hib vaccine which was introduced in 2006.

Pertussis (whooping cough)

Epidemiological situation

There were no laboratory confirmed cases of pertussis in 2021 compared to 34 2020. This may be due to continued social restrictions due to COVID-19.

Since 2012, when cases peaked (314) and a national outbreak was declared, the mean number of cases (77; range 33-181) have remained higher than the pre-outbreak baseline (9; range 3-17).

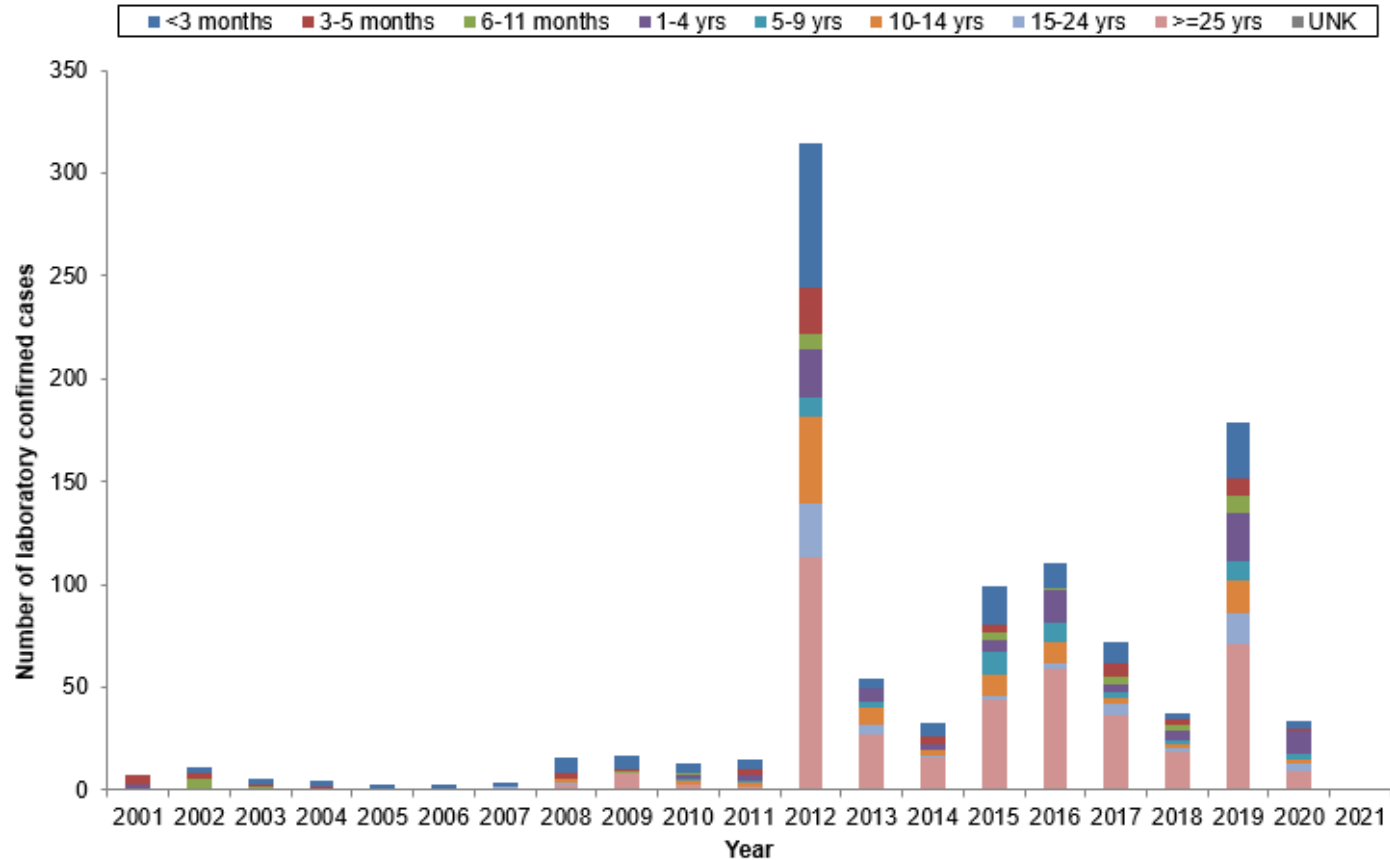
Age

Prior to 2020 the greatest number of cases was in those aged over 25, however, in 2020, almost one third (32%) of cases were in those aged between 1 and 4. This is followed by over one quarter (26%) aged over 25. Other age groups have reported much smaller numbers.

In 2021, there were less than 5 probable cases notified.

Pertussis (Whooping Cough)

Laboratory confirmed cases of Pertussis by age group,
2001-2021, Northern Ireland



Source: Northern Ireland Laboratory Information System (NILIS)/Pertussis Enhanced Surveillance System

Measles

Epidemiological situation

There were 6 notifications of clinically suspected measles, 5 of which were discarded after PCR/serology testing. There were no confirmed cases in 2021. The number of notifications have decreased compared to 2020 (10). This follows the overall downward trend in notifications since 2000.

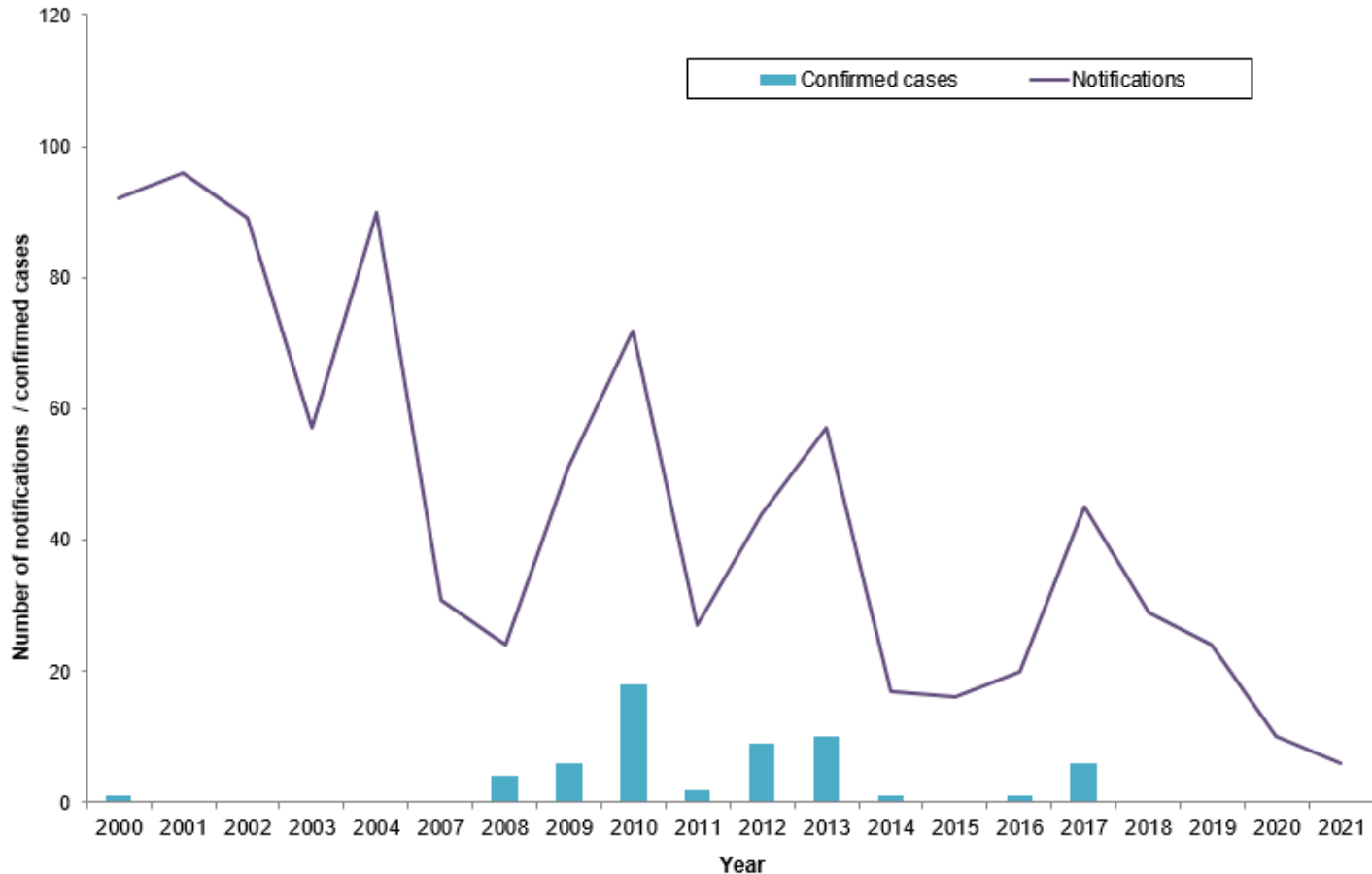
Out of the 6 notifications 4 were unvaccinated as they were ineligible due to age and one had failed to attend for vaccine.

Age

Suspected measles cases were observed in both adults and children with 67% of cases in children aged under 4 years. The median age was 1 year old, ranging from 5 months to 52 years. The age distribution of suspected measles has varied over the last four years.

Measles

Notifications and laboratory confirmed cases of Measles, 2000-2021, Northern Ireland



Source: Measles Enhanced Surveillance System and HP Zone®

Mumps

Epidemiological situation

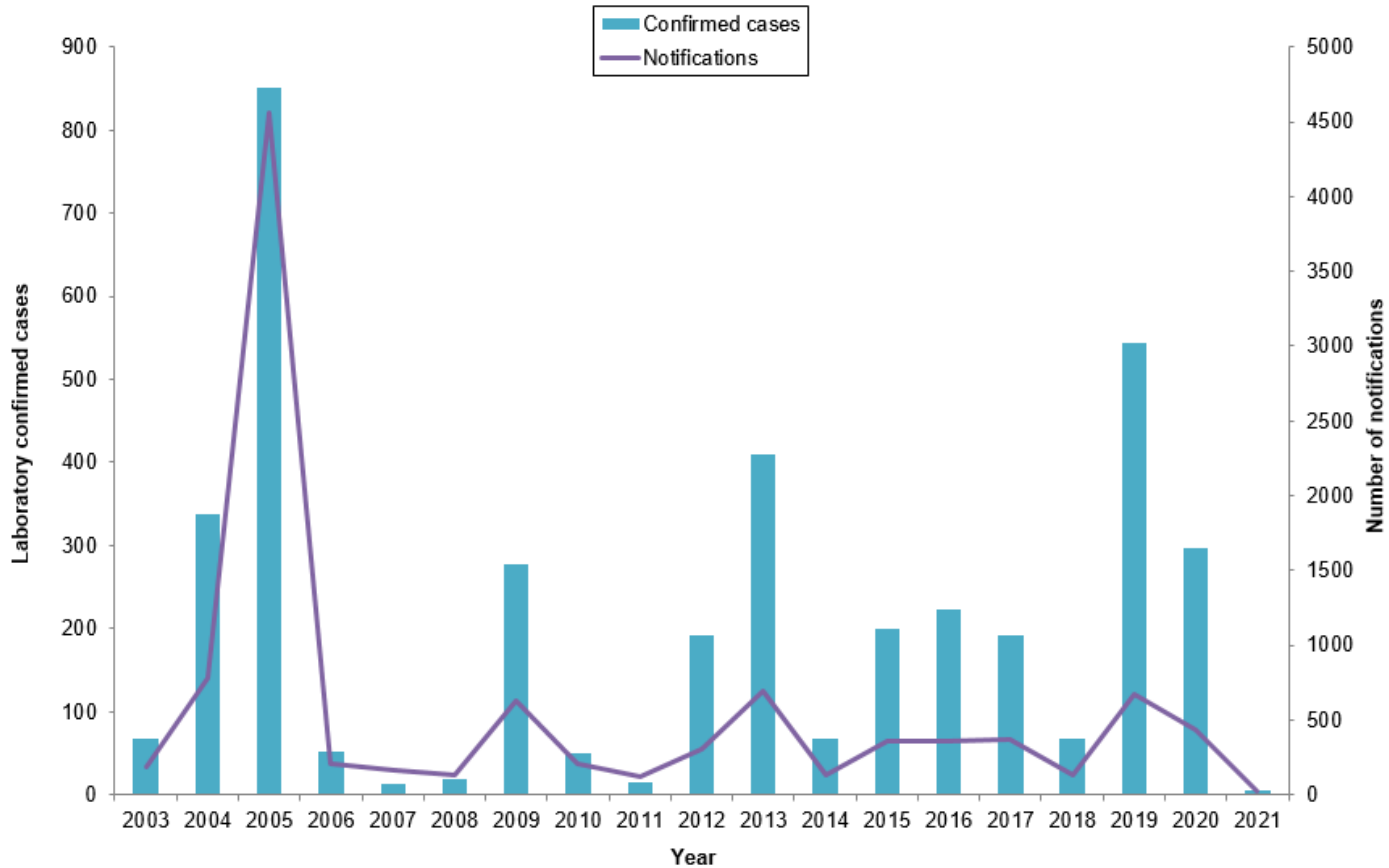
There were 5 laboratory confirmed cases of mumps, a significant decrease when compared with 2020 (296). Historically, a sharp rise in confirmed cases was observed in 2004, with the number of cases peaking at 850 in 2005. Since then, there has been fluctuation in the number of confirmed cases that follows the cyclical epidemiological pattern of mumps virus.

Age

Less than 5 of the confirmed cases (60%) were over 35 years old. Those aged over 35 were ineligible for the MMR vaccine. The other cases were vaccinated appropriate for age. This may represent waning immunity within the fully and/or partially vaccinated population.

Mumps

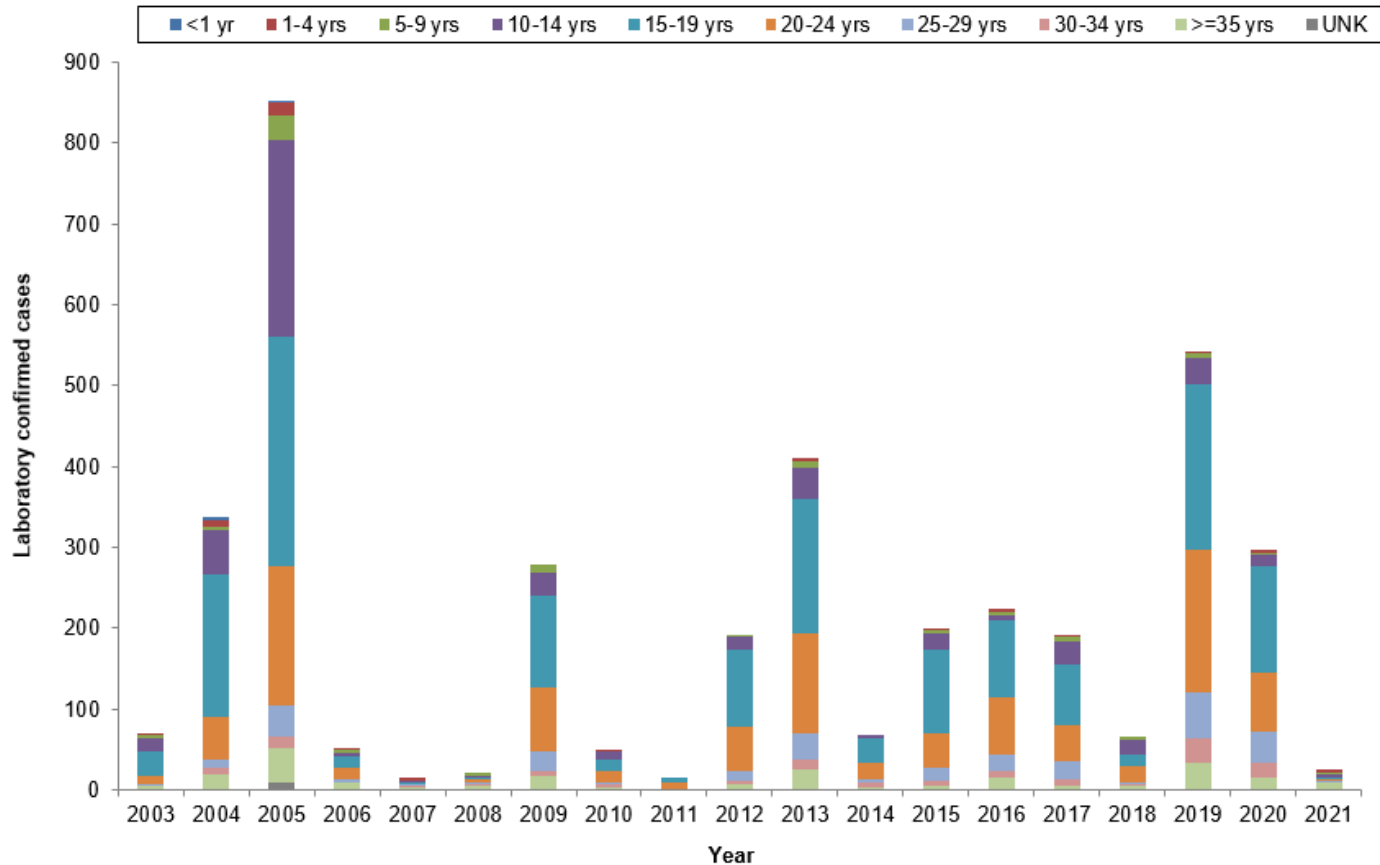
Notifications and laboratory confirmed cases of Mumps, 2003-2021, Northern Ireland



Source: Mumps Enhanced Surveillance System and HP Zone®, NB: Two different scales used

Mumps

Laboratory confirmed cases of Mumps, by age group, 2003-2021, Northern Ireland



Source: Mumps Enhanced Surveillance System and HP Zone®

Note: salivary antibody testing for mumps ceased in May 2010

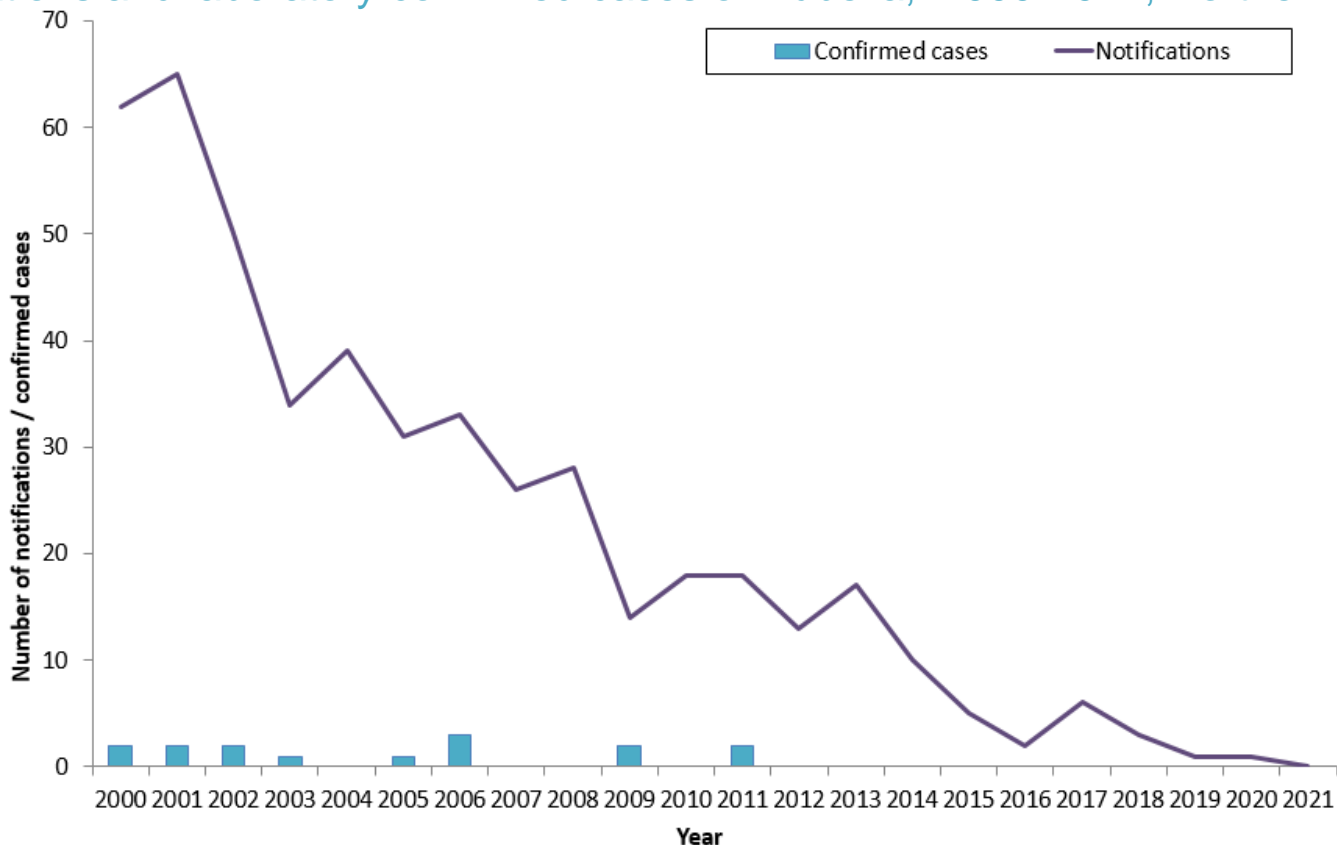


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Rubella (German Measles)

Notifications and laboratory confirmed cases of Rubella, 2000-2021, Northern Ireland



Source: Rubella Enhanced Surveillance System and HP Zone®

Epidemiological situation

In 2021, there were no notifications of rubella. Since 2012, there have been no laboratory confirmed cases of rubella and the number of notifications has been declining over time.

Diphtheria

Epidemiological situation

There were no clinically suspected notifications or laboratory confirmed cases reported in 2021. Following the introduction of vaccine into the routine childhood programme, the incidence of disease has fallen dramatically with no confirmed cases in Northern Ireland in the past 10 years.

Tetanus

Epidemiological situation

There were no clinically suspected cases notifications of tetanus. Since introduction of vaccination, the incidence of disease has fallen dramatically with no confirmed cases in Northern Ireland in the past 10 years.

Poliomyelitis (Polio)

Epidemiological situation

Since introduction of vaccine, the incidence of disease has fallen dramatically with no cases in Northern Ireland in the past ten years.



Produced by

Vaccine Preventable Diseases Team, Health Protection

Further Meningococcal Disease data for Northern Ireland is available at:

<https://www.publichealth.hscni.net/directorate-public-health/health-protection/meningococcal-disease>