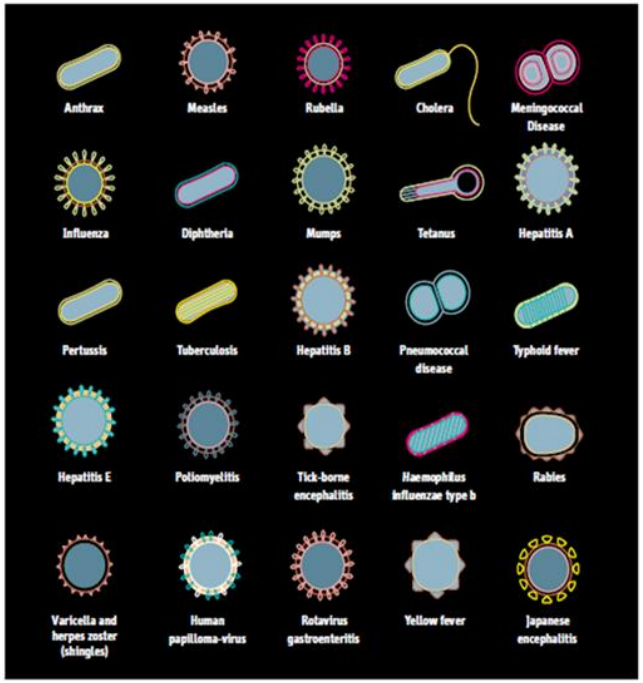
Annual Vaccine Preventable Diseases Report for Northern Ireland 2020

An analysis of data for the calendar year 2019



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Summary (1)

Invasive Meningococcal Disease

- 41 clinically suspected notifications, with 31 (76%) laboratory confirmed cases; an increase of 58% and 82% respectively since 2018 (26 notifications; 17 confirmed cases)
- Median age of cases 19 years (2 months to 87 years), with age-specific incidence highest in children 4 years of age and under (8.3 per 100,000 population)
- Of the 31 laboratory confirmed cases, 84% (26) were serotype B, with the remainder in serotype C, W135 and Y
- 4 cases of serotype B were part of two clusters in primary educational settings

Summary (2)

Invasive Pneumococcal Disease

- 159 laboratory confirmed cases; a decrease of 7% when compared to 2018 (171)
- Cases over 45 years of age accounted for 74% of cases, with the majority of these over 65 years
- Of the 85 laboratory confirmed cases with typing, 66 of the cases were due to strains not included in the pneumococcal conjugate vaccine (PCV13)

Invasive Haemophilus Influenzae Disease

- 29 laboratory confirmed cases; a decrease of 41% when compared to 2018 (49)
- Cases over 15 years of age accounted for 66% of cases
- Of the 20 cases with typing 85% were non-capsulated strains with the remaining capsulated non-B strains

Summary (3)

Pertussis

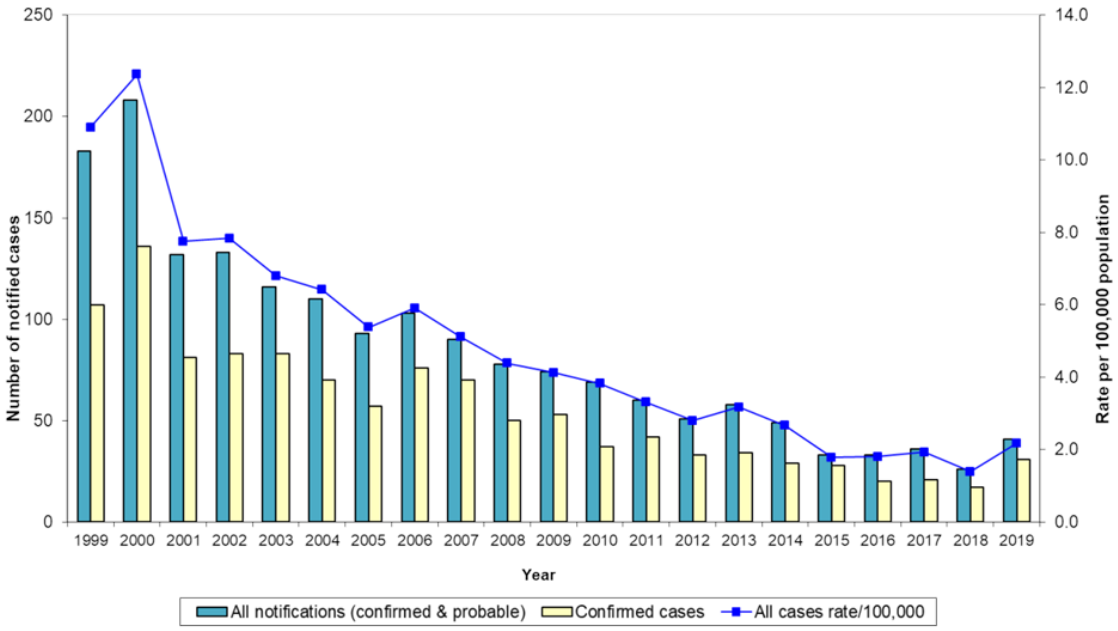
- 179 laboratory confirmed cases; a significant increase when compared to 2018 (37)
- 40% of the cases were in those over 25 years of age

Measles, Mumps, Rubella

- 24 notifications of clinically suspected measles, 22 of which were discarded on measles testing
- Less than five notifications of clinically suspected rubella, all of which were discarded on rubella testing
- 543 laboratory confirmed cases of mumps, an eight-fold increase from 2018 (67), with the majority of cases in 15-24 years age group (70%) and 87% were fully vaccinated with MMR vaccine

Meningococcal Disease

Number of notified and confirmed cases of IMD and overall rates per 100,000 population, 1999-2019, Northern Ireland



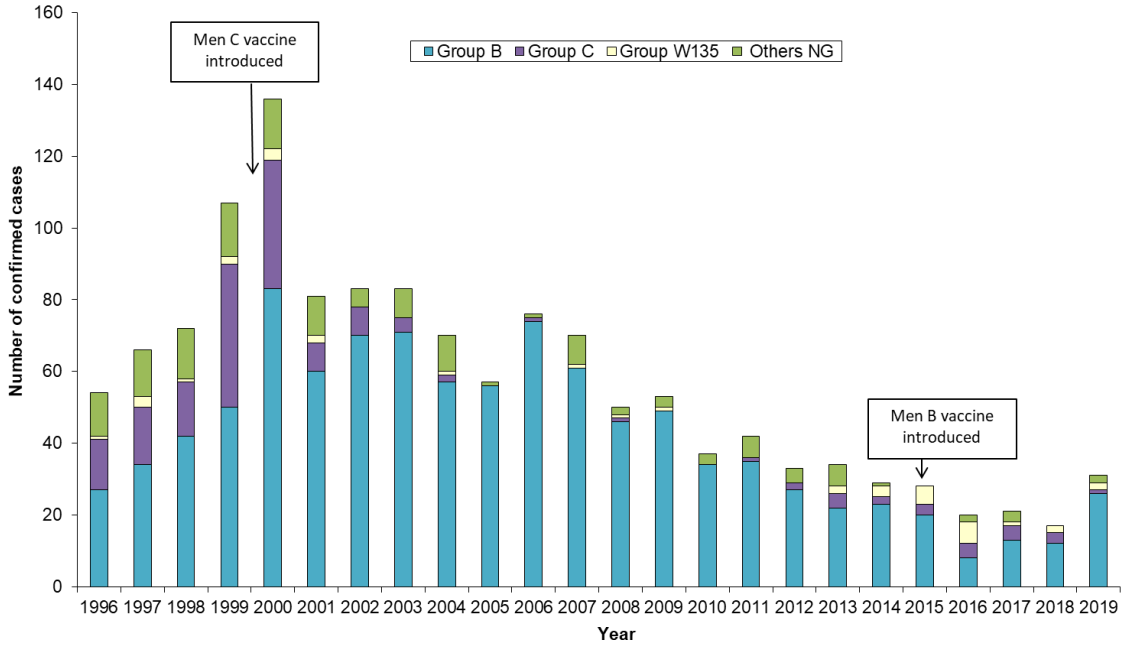
Source: Enhanced Surveillance of Meningococcal Disease (ESMD) in Northern Ireland

Epidemiological situation

There were 41 notifications of clinically suspected invasive meningococcal disease (IMD); notification rate of 2.2 per 100,000 population. Thirty-one (76%) were laboratory confirmed cases, crude incidence rate 1.6 per 100,000 population observed.

Meningococcal Disease

Laboratory confirmed cases of IMD by serogroup, 1996-2019, Northern Ireland



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

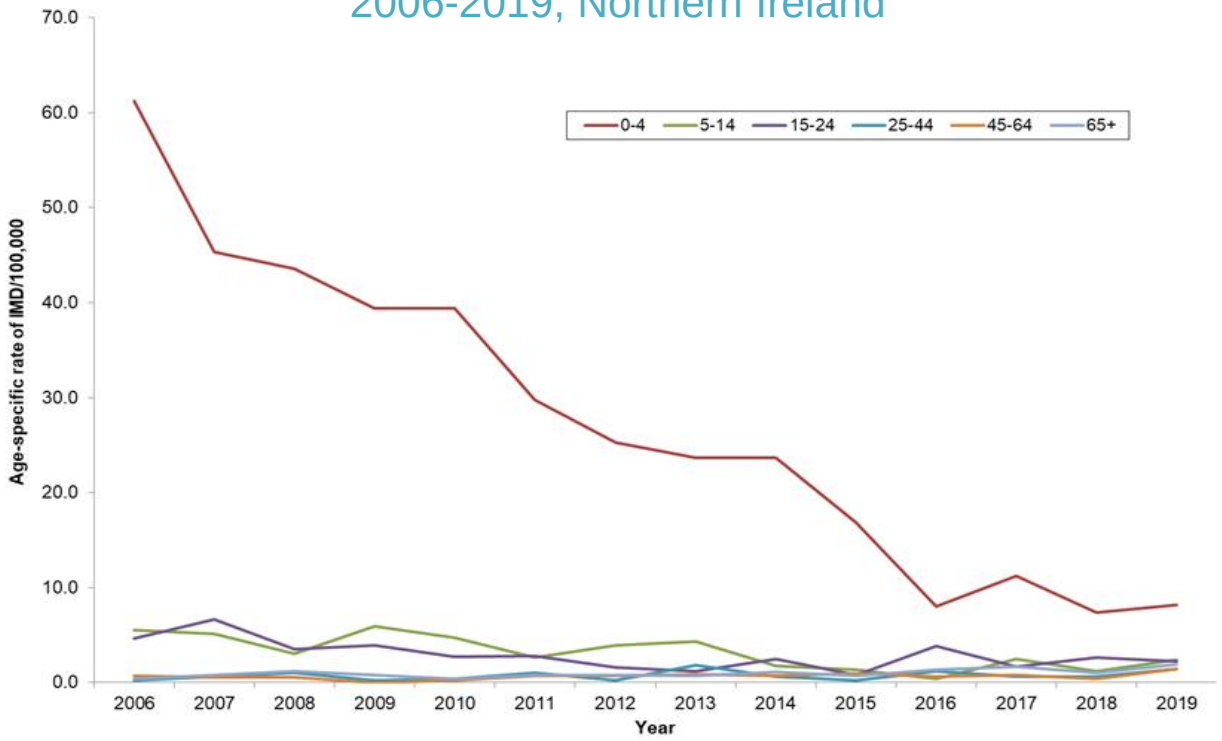
*Others NG refer to cases that are not groupable for various reasons

Serotypes

Cases 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 84% (26) of confirmed cases. Remaining cases were in serogroup C, W135 and Y.

Meningococcal Disease

Age-specific incidence rates of IMD per 100,000 population, 2006-2019, Northern Ireland



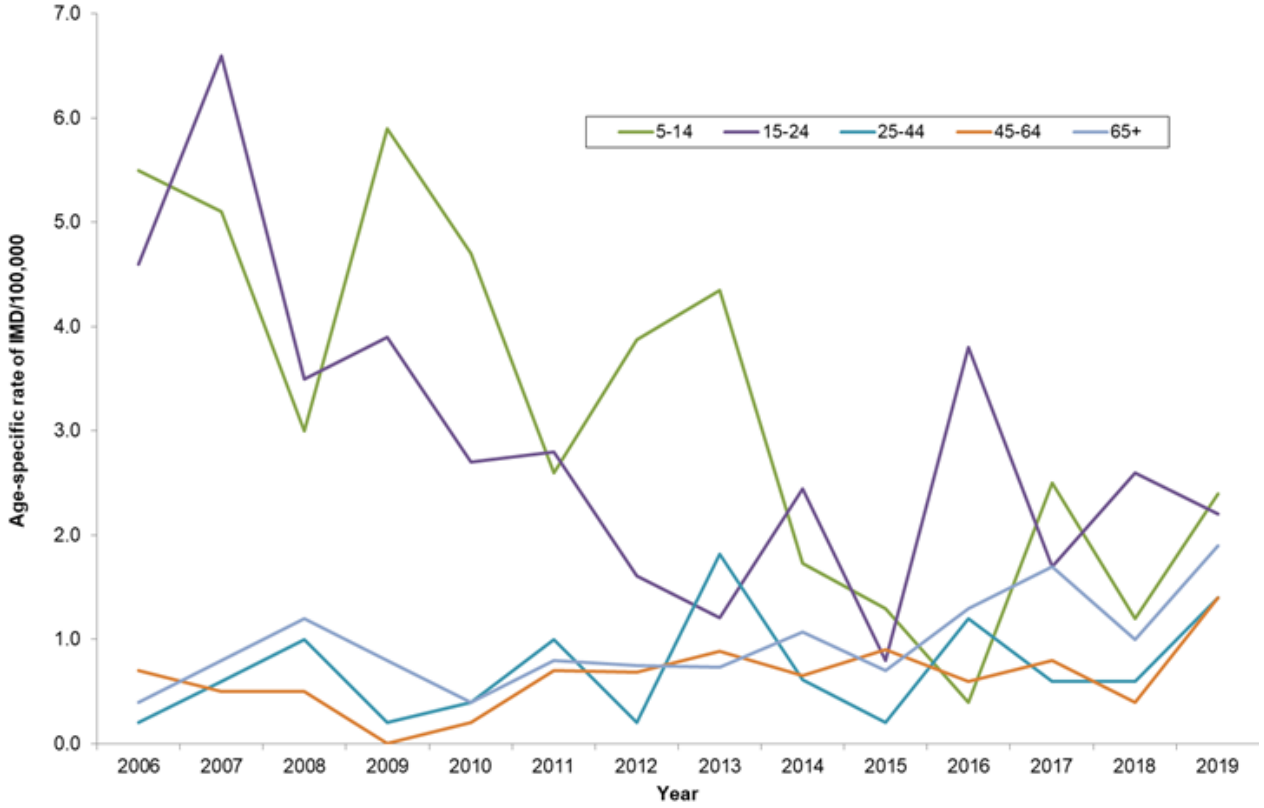
Age

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

The median age of confirmed cases was 19 years (range 2 months to 87 years). Consistent with previous years, age-specific incidence was highest in infants and young children 4 years of age and under (8.3 per 100,000). The incidence rate in this age group is over seven times lower in 2019 compared to 2006 (61.2/100,000), showing a dramatic decrease between 2006 and 2016, and a less dramatic fall in recent years, which may reflect fluctuations in small numbers.

Meningococcal Disease

Age-specific incidence rates of IMD per 100,000 population, with age group 0-4 years removed, 2006-2019, 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 and have also further decreased in younger age groups (under 24 years). There has been an increase during 2019 in those aged 5-14 years old and those over 24 years of age.

Pneumococcal Disease

Update to schedule

All infants born on or after 1 January 2020 will be offered the changed schedule. This will be a single dose of PCV13 given alongside the routine DTaP/IPV/Hib/HepB and rotavirus immunisations at 12 weeks of age, followed by a PCV13 booster at one year old (on or after the first birthday). This is referred to as a 1+1 PCV schedule. This 1+1 schedule will replace the previous schedule of 2+1 (at 8 and 16 weeks, and a booster dose given at one year old (on or after the first birthday)).

Epidemiological situation

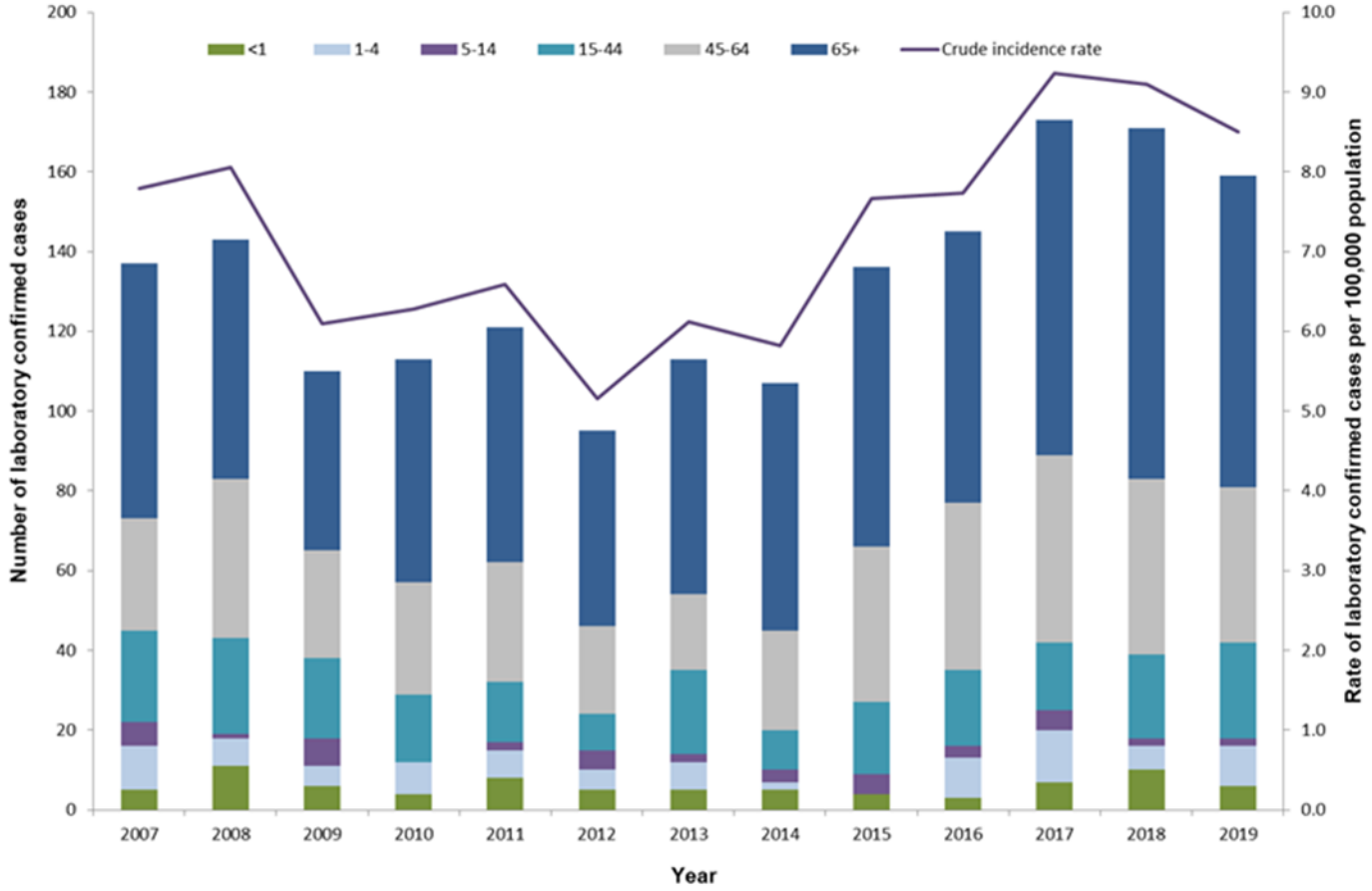
There were 159 laboratory confirmed cases of IPD; crude incidence rate 8.5 per 100,000 population. Since 2012, there has been an upward trend in both number of cases and crude incidence rate. However, this decreased slightly in 2019 (7%) when compared with the number of cases reported in 2018 (171).

Age

As with previous years, cases predominantly affect the older age groups with 74% (117) over 45 years of age. Of the older age groups, 15% (18/117) were over 85 years of age.

Pneumococcal Disease

Laboratory confirmed cases of Invasive Streptococcus Pneumoniae by age group, 2007-2019, Northern Ireland



Source: Northern Ireland Laboratory Information System (NILIS)

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Pneumococcal Disease

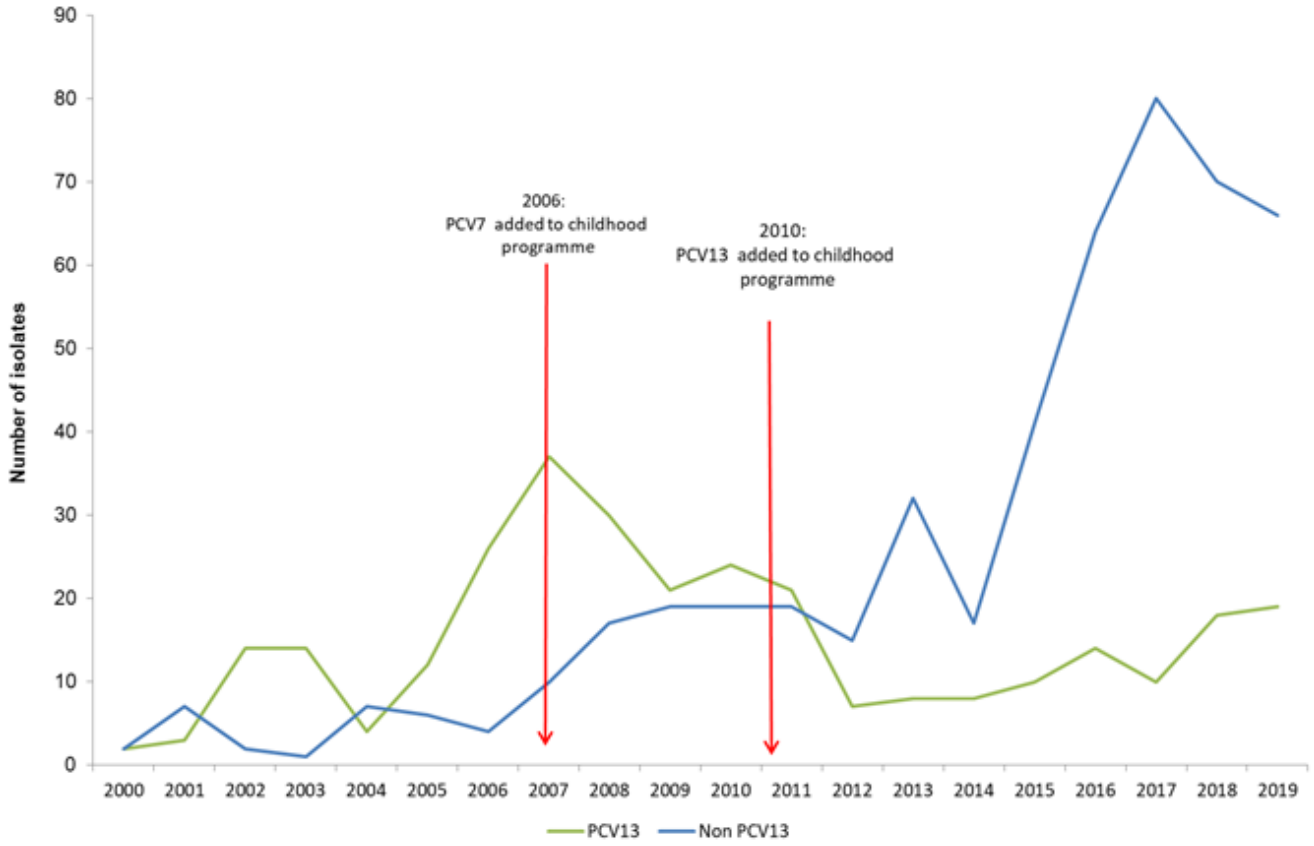
Serotypes

Typing information was available for 53% (85) of cases. Of these cases, the most common serotypes reported were 8 (22%), 22F (8%) and 3 (11%) which is consistent with the picture seen across the United Kingdom. The majority 66 (78%) of cases were caused by vaccine-preventable strains not contained in the pneumococcal conjugate vaccine 13 (PCV13) offered routinely at 2, 4 and 12 months of age. Of the 19 (22%) PCV13 type cases, the majority were over 65 years of age.

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 7 in 2012 and overall remains low. However, since 2014, there has been a slight upward trend, with 19 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 (66). Whilst 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, 2000-2019, Northern Ireland



Source: Northern Ireland Laboratory Information System (NILIS)

Haemophilus Influenzae

Epidemiological situation

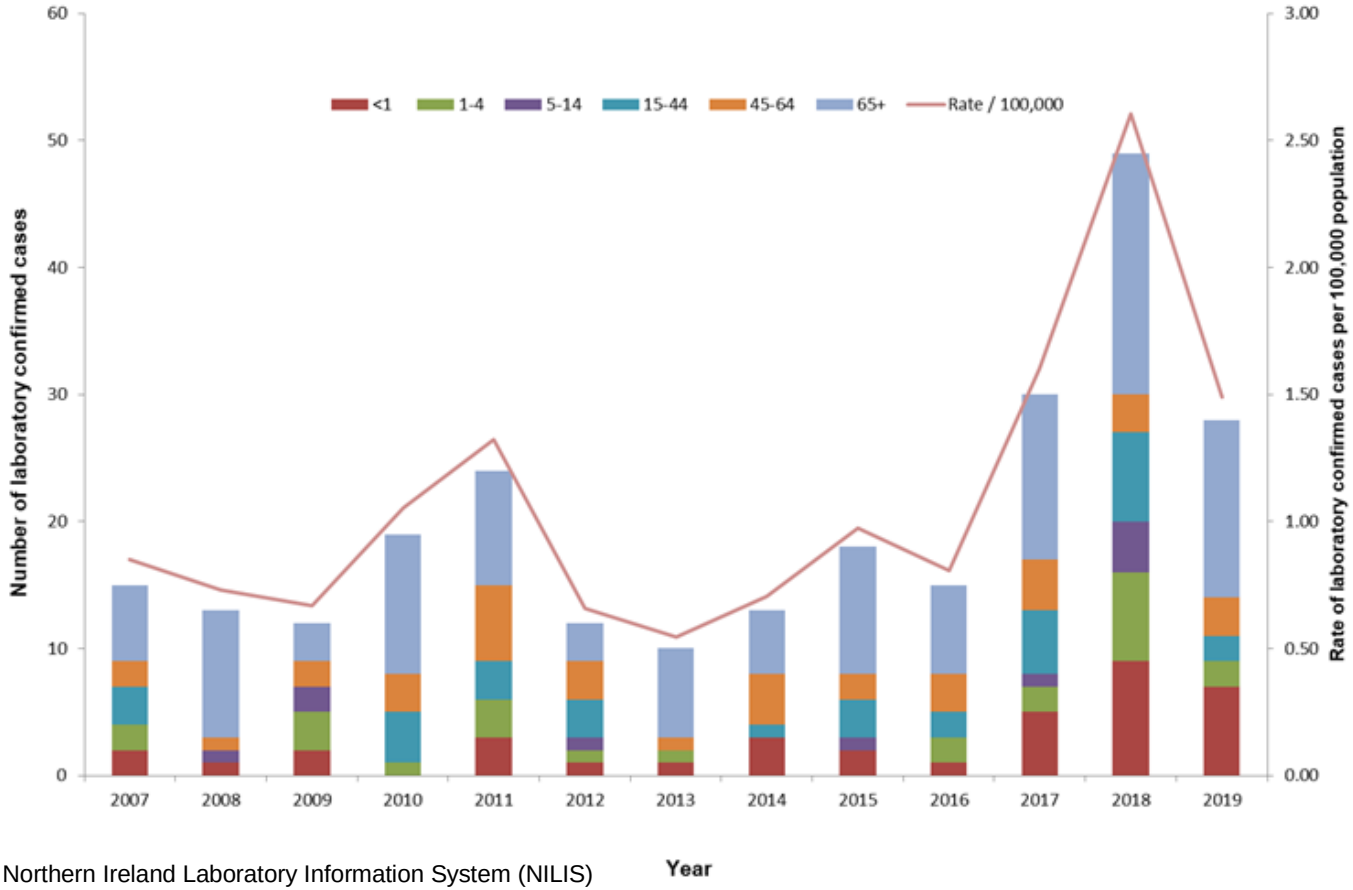
There were 29 laboratory confirmed cases of invasive Hi disease; crude incidence rate 1.5 per 100,000 population. Between 2007 and 2016, there has been no discernible trend but a threefold increase between 2016 (15) and 2018 (49). There was a decrease of 41% in 2019 when compared to 2018.

Age

The largest proportion of cases were those over 15 years of age (66%) with the majority of these over 65 years of age (48%). Since 2016, the number of cases has increased across all age groups and is likely to be as a result of increased case ascertainment from use of culture and PCR testing.

Haemophilus Influenzae

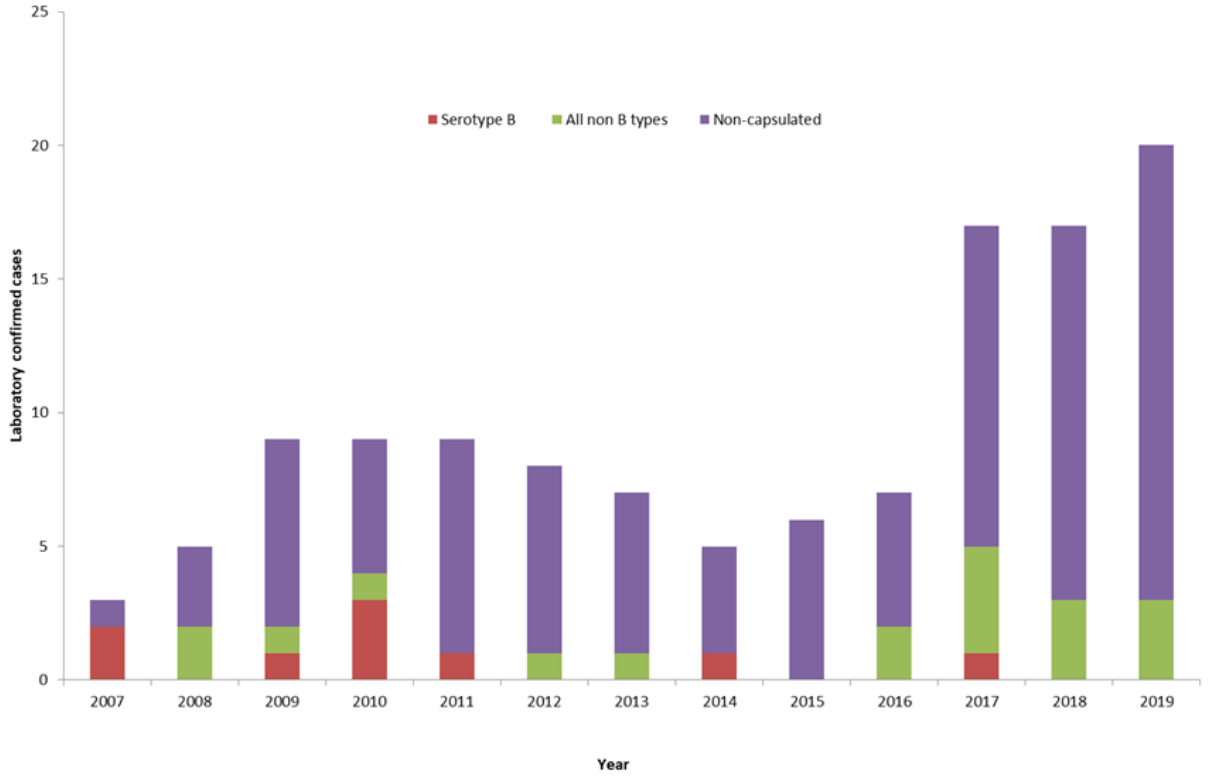
Invasive Haemophilus Influenzae cases by age band, 2007-2019, Northern Ireland



Source: Northern Ireland Laboratory Information System (NILIS)

Haemophilus Influenzae

Invasive Haemophilus Influenzae cases by serotype, 2007-2019, Northern Ireland



Source: Northern Ireland Laboratory Information System (NILIS)

Serotypes

Typing information was available for 69% of cases and of these, the majority (59%) were 'non-capsulated' Hi strains. Since 2007, the number of cases of Hib has remained constantly low highlighting the success of the Hib vaccine.

Pertussis (whooping cough)

Epidemiological situation

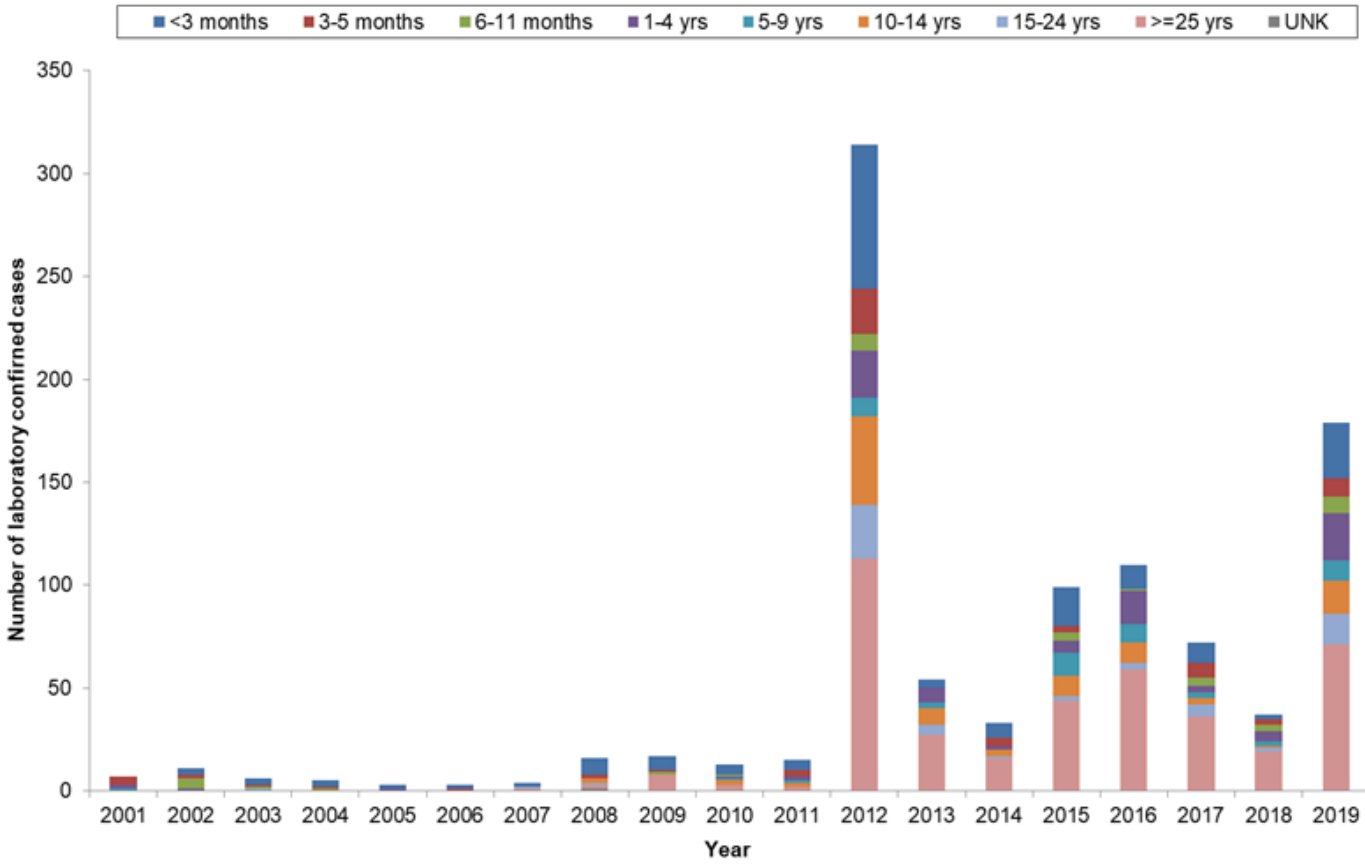
There were 179 laboratory confirmed cases which is a significant increase when compared to 2018 (37) and consistent with the 3 year cyclical pattern seen with pertussis infection. Since 2012, when cases peaked (314) and a national outbreak was declared, the mean number of cases (68; range 33-179) has remained higher than the pre-outbreak baseline (9; range 3-17).

Age

The greatest number of cases was in those aged over 25 years (40%; 71/179), followed by <6 months of age (20%; 36/179), (followed by the 10-24 years (17%; 31/179) and 1-4 years (13%; 23/179), with 6-11 months, 5-9 years, accounting for 18 cases in total (10%; 18/179).

Pertussis (Whooping Cough)

Laboratory confirmed cases of Pertussis by age group, 2001-2019, Northern Ireland



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

Measles

Epidemiological situation

There were 24 notifications of clinically suspected measles, 22 of which had PCR and/or serology testing and were discarded as cases. Isolates for two cases were not sent for testing. There were therefore no confirmed cases in 2019 with the last confirmed case during the summer of 2017.

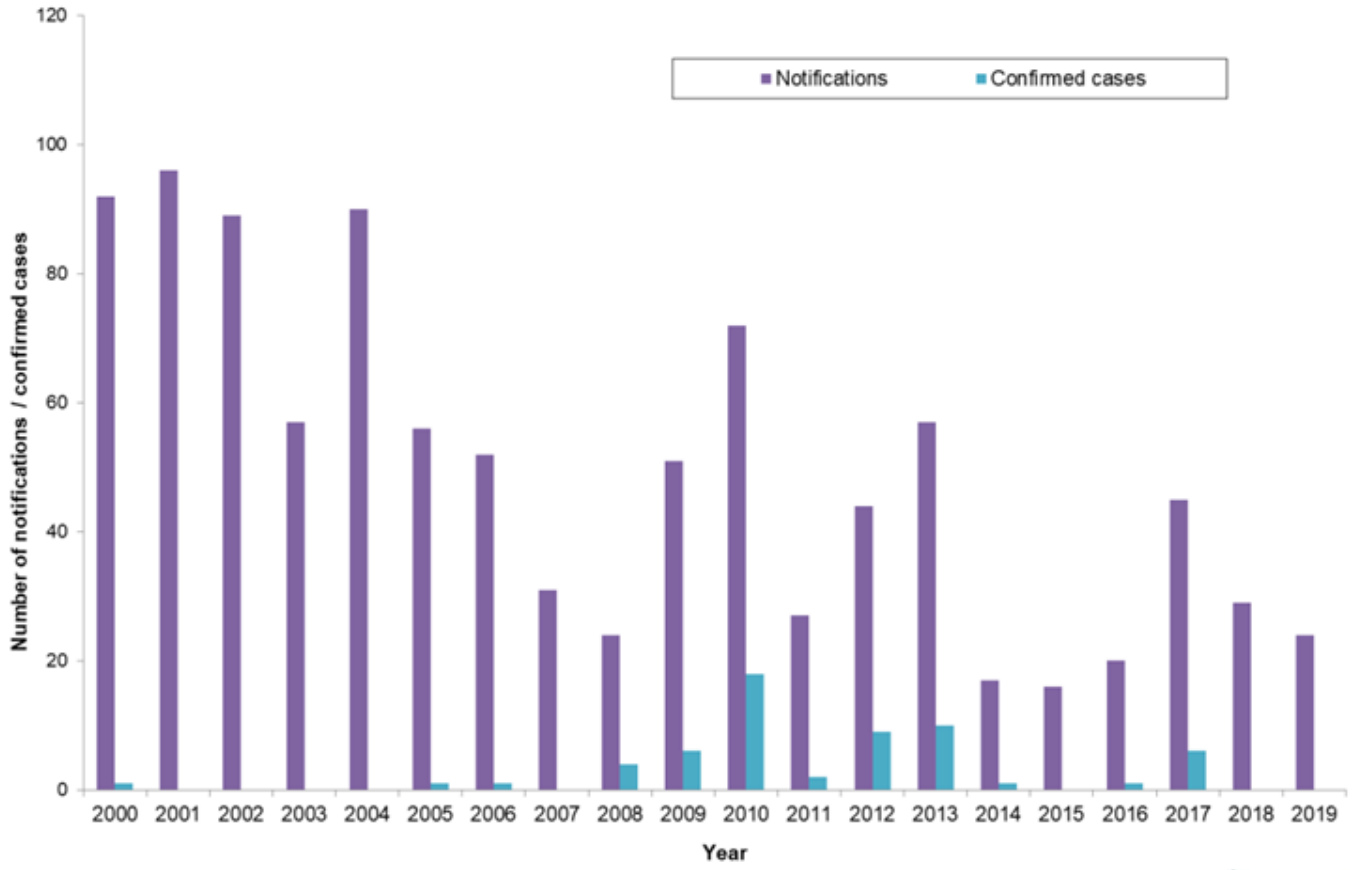
The number of notifications have decreased compared to 2018 (29) on a background of an overall downward trend in notifications since 2000.

Age

Suspected measles cases were observed in both adults and children with 50% of cases in children aged under 4 years. The median age was 2 years, ranging from 2 months to 56 years. The age distribution of suspected measles has been variable for the past four years. The majority were unvaccinated children and young adults.

Measles

Notifications and laboratory confirmed cases of Measles, 2000-2019, Northern Ireland



Source: Measles Enhanced Surveillance System and HP Zone®

Mumps

Epidemiological situation

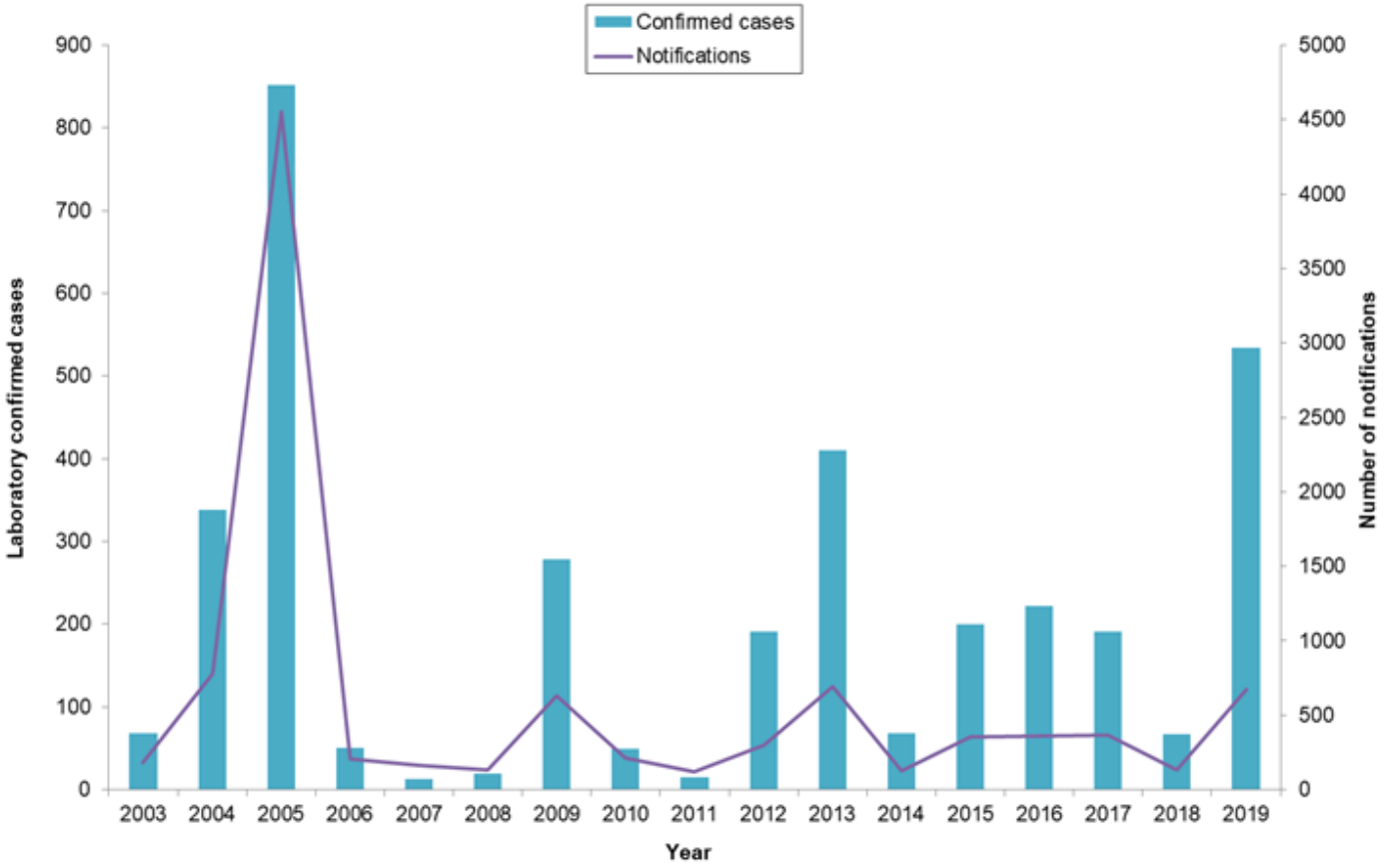
There were 543 laboratory confirmed cases of mumps, which is a significant increase when compared to 2018 (67). A sharp rise in confirmed cases was observed in 2004, with the number of cases peaking at 850 in 2005. Since then there has been fluctuation in the number of confirmed cases that follows the cyclical epidemiological pattern of mumps virus. This increase has also been observed by Public Health England with over 4,000 confirmed cases reported. Like Northern Ireland this has mainly affected the 15-24 years age group.

Age

The majority of cases were aged 15-24 years (70%; 381/543). The majority of cases (77%) had received two doses of MMR vaccine. This may represent waning immunity within the fully and/or partially vaccinated population.

Mumps

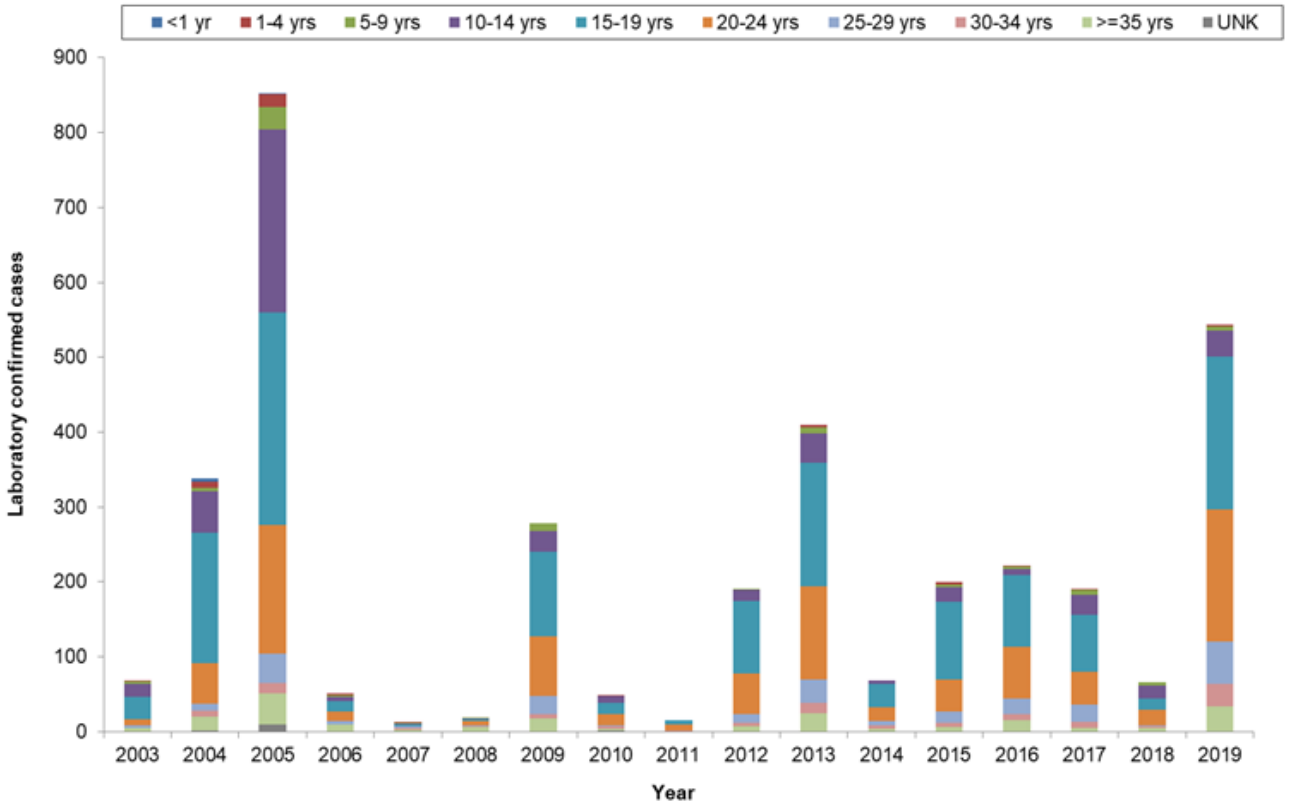
Notifications and laboratory confirmed cases of Mumps, 2003-2019, Northern Ireland



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

Mumps

Laboratory confirmed cases of Mumps, by age group, 2003-2019, Northern Ireland

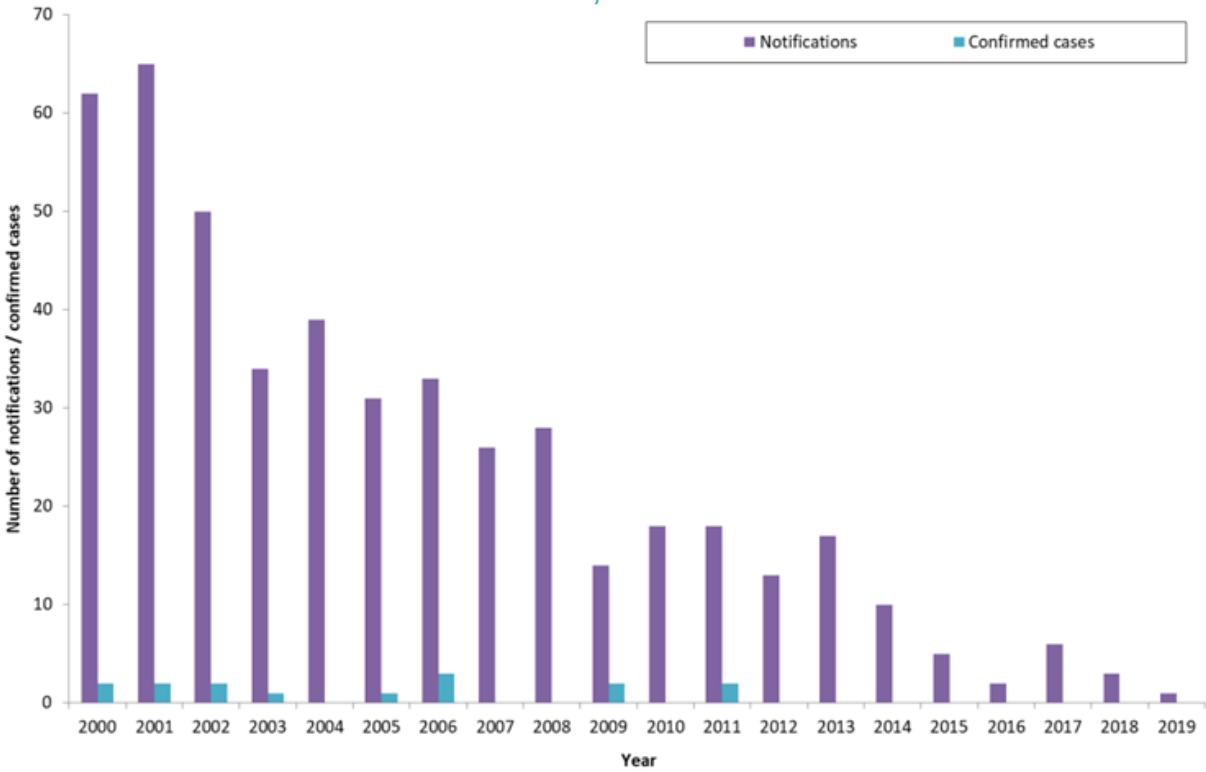


Source: Mumps Enhanced Surveillance System and HP Zone®

Note: salivary antibody testing for mumps ceased in May 2010

Rubella (German Measles)

Notifications and laboratory confirmed cases of Rubella, 2000-2019, Northern Ireland



Source: Rubella Enhanced Surveillance System and HP Zone®

Epidemiological situation

There were less than 5 clinically suspected notifications of rubella, all discarded on PCR and/or serology testing and therefore no laboratory confirmed cases. 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 2019. Following the introduction of vaccine into the routine childhood programme, the incidence of disease has fallen dramatically with no cases in Northern Ireland in recent times.

Tetanus

Epidemiological situation

There were no clinically suspected notifications or laboratory confirmed cases reported. Since introduction of vaccination, the incidence of disease has fallen dramatically with no cases in Northern Ireland in recent times.

Poliomyelitis (Polio)

Epidemiological situation

Since introduction of vaccine, the incidence of disease has fallen dramatically with no cases in Northern Ireland in recent times.