



Féidhmeannacht na Seirbhíse Sláinte  
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## Mumps Outbreak Escalates

Over 1470 cases of mumps have been notified in Ireland in the first three months of this year, a sixteen fold increase compared with the same time period in 2008.



University or college was reported as the likely location for 65% of mumps cases where a setting for catching mumps was specified.

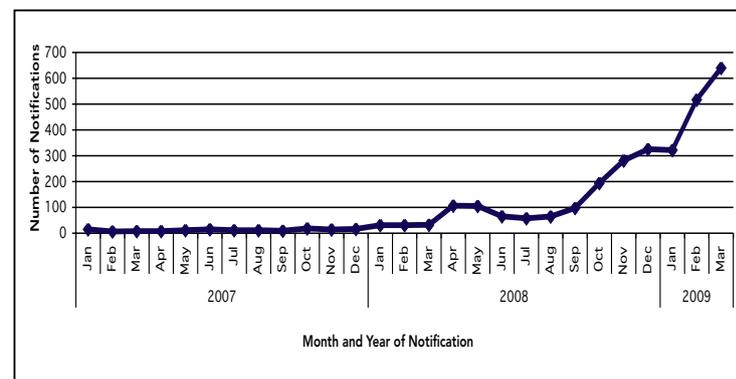


Figure 1. Annual mumps notifications 1988-2009\*  
\*January-March 2009 data only

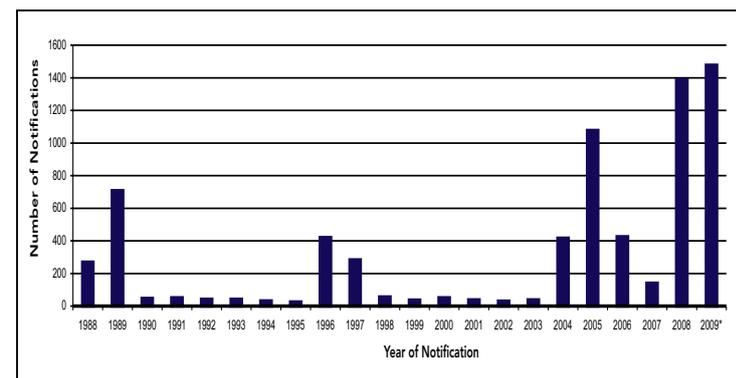


Figure 2. Number of mumps notifications by month 2007-2009\*  
\*January-March 2009 data only

This is the largest number reported since mumps became notifiable in 1988, as illustrated in figures 1 and 2. This outbreak is occurring during a period in which large mumps outbreaks are also being reported in many other countries in Europe, Canada and the United States.

Mumps is a contagious viral illness that causes fever and tenderness of one or more salivary glands, usually the parotid glands. Complications of mumps can include inflammation of the testicles or ovaries, meningitis, deafness, pancreatitis and encephalitis. Mumps virus is spread from person to person through airborne transmission, by droplet spread, such as from coughs and sneezes, and through kissing or other direct contact with saliva of an infected person.

Over two thirds of the cases notified to date in 2009 were aged between 15 and 24 years while 86% were aged 15-34 years (figure 3).

Twenty nine per cent of all notifications reported a setting where mumps is likely to have been acquired. University or college was reported as the likely location for 65% of these cases.

Twenty five localised outbreaks were notified between January and March 2009, with 108 people reported ill. Eleven localised outbreaks occurred in private houses, seven in universities or colleges, four in schools and one each in a crèche, a public house and an unspecified location.

# Mumps Outbreak Escalates (cont.)

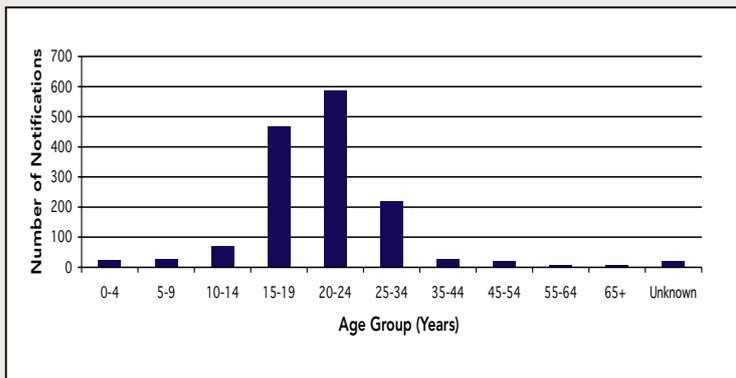


Figure 3. Number of mumps notifications during January-March 2009 by age group.

**Mumps vaccine, available in the MMR vaccine, is the only way to prevent mumps and its associated complications**

Enhanced clinical information was available on approximately a third of cases notified between January and March (n=499); 31 of whom were hospitalised with mumps, representing six per cent of all cases where hospitalisation status was known. Mumps orchitis was reported in 19% of males for whom enhanced information was available (n=50/265). Other complications reported among cases included, pancreatitis (3%, n=12/453), deafness (1%, n=5/451), meningitis (0.4%, n=2/460), mastitis (0.4%, 2/454) and encephalitis (0.2%, n=1/457).

Vaccination information is available for around one third of cases notified during January to March 2009. Of these, 114 (8%) were unvaccinated, 196 (13%) were reported to have had one dose of MMR, 247 (17%) were reported to have had two doses. Vaccination status was unknown or not reported for the remaining 62% of cases.

There are a number of sources for reported vaccination status, such as local immunisation databases, general practitioner's records and cases or parents recall. Due to recall bias by cases or parents, there may be some inaccuracies in these vaccination figures. Of the 247 cases reported to have had two doses of MMR both vaccination dates (availability of dates is used here as an indicator of accurate immunisation records) were reported for only 66 cases (27%); of these 66 cases, 20 (30%) were reported as laboratory confirmed mumps cases, thus these are confirmed vaccine failures.

The estimated herd-immunity threshold for mumps ranges from 88-92%. This is the proportion of the population that needs to be immune to mumps to prevent outbreaks occurring. Mumps vaccine, available in the MMR vaccine, is the only way to prevent mumps and its associated complications. High rates of vaccine coverage are needed to provide herd immunity. Even 95% coverage with 95% vaccine effectiveness – giving population immunity of 90% – may be insufficient if large numbers of susceptible individuals are in close contact with each other, even though such vaccination rates are in line with what is needed for herd immunity.

Recent studies suggest that one dose of MMR is 64-88% effective in preventing mumps illness and two doses of MMR are 88-95% effective.

Control measures in Ireland currently are focussed on:

1. Making sure that everyone under 25 years of age knows that two doses of MMR are recommended.
2. Anyone who is unsure about whether or not they have had two doses is advised to get the MMR vaccine from their GP or other health providers, like student health services.
3. The MMR vaccine is free to students, although GPs may charge a visit fee to non medical card holders. Student health services are free.
4. Anyone in this age group who is unsure of their vaccination status should get a dose of MMR. Even if an individual has (unknowingly) had two previous doses of MMR, a third dose will do no harm.

Most people older than 24 years of age are immune to mumps, typically as a result of natural infection, although individuals who were children in the 1980s may have been offered one or two doses of MMR when it became available in 1988.

Health care workers or students in the health sciences who were born after 1978 and do not have evidence of two doses of MMR or physician diagnosis of previous mumps infection should be given two doses of MMR, separated by at least one month, to prevent mumps spreading in health care settings.

Anyone who becomes ill with mumps should stay off work, school or college and avoid social settings where transmission may occur to non-immune individuals for five days after the development of parotitis.

The possibility of primary vaccine failure and waning immunity (secondary vaccine failure) has been recognised internationally as playing a possible role in the recent development of mumps outbreaks in developed countries. And although some outbreaks have been attributed to genotype G, different from that contained in the MMR vaccine (Jeryl Lynn strain is genotype A) this is not considered to be a major factor as outbreaks have successfully been controlled with MMR usage.

References are available from the authors by contacting info@hpsc.ie

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