

1.9 Diphtheria

Summary

Number of cases, 2016: 1
 Number of cases, 2015: 1

Diphtheria is an acute infectious disease affecting the upper respiratory tract and occasionally the skin. It is caused by toxigenic strains of *Corynebacterium diphtheriae*, an aerobic, pleomorphic, Gram-positive bacillus. Occasionally the disease may also be caused by *C. ulcerans* or *C. pseudotuberculosis*. Before introduction of immunisation, epidemics occurred every 10 years, with mortality rates of up to 50%. Effective protection against the disease is provided by active immunisation.

One case of non-fatal diphtheria was notified in 2016. The case, an unvaccinated male, aged 45-55 years was classified as confirmed. The case reported travel to an Asian country where there is a high incidence of diphtheria. *C. diphtheriae* (toxin producing) was isolated from a skin ulcer. The case did not develop any systemic complications associated with the disease but was hospitalised and treated for the illness.

The case that was reported in 2015 was female, aged 45-54 years, with no history of travel outside Ireland. This case presented with a skin wound that was culture positive for *C. ulcerans* (toxin producing). This latter case had an uncertain history of diphtheria vaccination. No epidemiological links to persons or animals with the organism could be identified for this case.

Summary of diphtheria epidemiology since 1948: Since the 1940s the number of diphtheria cases has declined markedly, no cases were notified between 1968-2014 (Figure 1). In 2015 one case was notified, with another case notified in 2016 (Figure 2 shows data from 1963 to 2016).

Vaccination with five doses of diphtheria is recommended for all children and adolescents. The primary series (consisting of three doses of a diphtheria containing vaccine) is normally given in the first year of life. A booster is recommended at 4-5 years of age and another at 11-14 years of age. Almost 100% of vaccinated persons achieve protective antibody levels. However, immunity decreases with age and, with time since vaccination; over 50% may have insufficient protection 10 years after a booster diphtheria vaccine. Additional booster doses (as 'Tdap') may be given every 10 years for life.

For further information on diphtheria vaccination please see the HSE National Immunisation Office website at www.immunisation.ie.

The figures presented in this report are based on data extracted from the Computerised Infectious Disease Reporting (CIDR) system on 8th December, 2017.

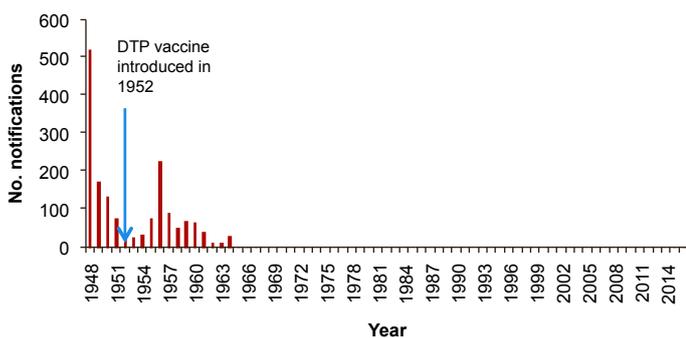


Figure 1. Diphtheria cases notified from 1948 to 2016

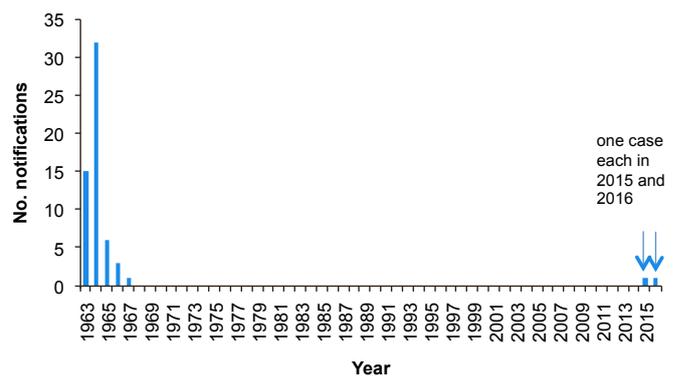


Figure 2. Diphtheria cases notified from 1963 to 2016