

Directorate of Epidemiological Surveillance and Interventions for Infectious Diseases Department of Vaccine Preventable and Congenital Diseases

Meningococcal disease. Epidemiological data in Greece 2004-2024

MANDATORY NOTIFICATION SYSTEM

EPIDEMIOLOGICAL SURVEILLANCE OF MENINGITIS

In Greece, all meningitis cases are under epidemiological surveillance, including meningococcal disease cases (which are the main aim of the surveillance) and other bacterial and aseptic meningitis cases.

The Department of Vaccine Preventable and Congenital Diseases of the National Public Health Organization (N.P.H.O) collects data for all meningitis cases from all over the country through the mandatory notification system, by Directorates of Public Health and the National Reference Center for Meningitis in the School of Public Health, University of West Attica. Additional information regarding the clinical signs and the laboratory findings of each case is taken by communicating with the hospital where each case is hospitalized. In order to take all the necessary preventive measures (chemoprofylaxis when needed and/or immunization) to avoid disease transmission to all the individuals who were in close contact with the case, it is essential to assign the case by the cause.

Data are recorded and analyzed by week, month, year, prefecture, causative agent, classification, age and gender, in order to detect outbreaks.

MENINGOCOCCAL DISEASE

Time trend

Between 2004 and 2024, 1,170 cases of meningococcal disease were reported to the NPHO, with annual cases ranging from 4 to 108 and a mean annual notification rate of 0.51 cases per 100,000 people. The disease's notification rate experienced a significant decline from 2013 to 2022 (Figure 1). Notably, during the COVID-19 pandemic, the mean annual notification rate reached its lowest point, which was attributed to the implementation of restrictive measures such as social distancing, mask usage, and school closures. In 2023 and 2024, the annual notification rate reverted to the low prepandemic levels.



Figure 1. Annual notification rate time trend of meningococcal disease, Greece, 2004-2024

Age distribution

Between 2004 and 2024, a total of 1,169 meningococcal disease cases were recorded with a known date of birth, while one case lacked this information. The disease was most prevalent among children aged 0-4 years, with a mean annual notification rate of 3.95 cases per 100,000 population. The mean annual notification rate decreased progressively in older age groups, reaching 0.99 cases per 100,000 population in the 5-14 age group and 0.93 cases per 100,000 population in the 15-24 age group. For individuals aged 25 years and older, the mean annual notification rate did not exceed 0.20 cases per 100,000 population (Figure 2).

Figure 2. Mean annual notification rate of meningococcal disease (cases/100,000 population) per age group in Greece, 2004-2024



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Laboratory data

Between 2004 and 2024, 93.9% (1,099 out of 1,170) of meningococcal disease cases were laboratory confirmed. During this period, 79.3% (928 out of 1,170) of cases underwent serotyping, with 89.2% (828 out of 928) identified to belong to one of the five main serogroups—A, B, C, W135, and Y— responsible for most invasive meningococcal infections globally. Additionally, in 2014, one case was identified to belong to serogroup X. In Greece, 77.6% (720 out of 928) of meningococcal disease cases were attributed to serogroup B, followed by serogroup C (Graph 3).



Figure 3. Distribution of meningococcal disease by serogroup in Greece, 2004-2024

Fatality and Mortality ratese

During 2004-2024, 70 deaths due to meningococcal disease were recorded, indicating a case fatality rate of 6%. The highest fatality rate was observed in the year 2018 (11.8%) while no fatalities were reported during the years 2020-2022. The mean annual mortality rate for the period 2004-2024 was 0.03 deaths per 100,000 population.

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