



## **Department of Epidemiological Surveillance and Intervention Vaccine Preventable and Congenital Diseases Unit**

### **Meningococcal disease. Epidemiological data in Greece (2004-2016)**

#### **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 Epidemiological Surveillance and Intervention of the Hellenic Center for Diseases Control and Prevention (H.C.D.C.P) 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 National School of Public Health. 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 (chemoprophylaxis 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.

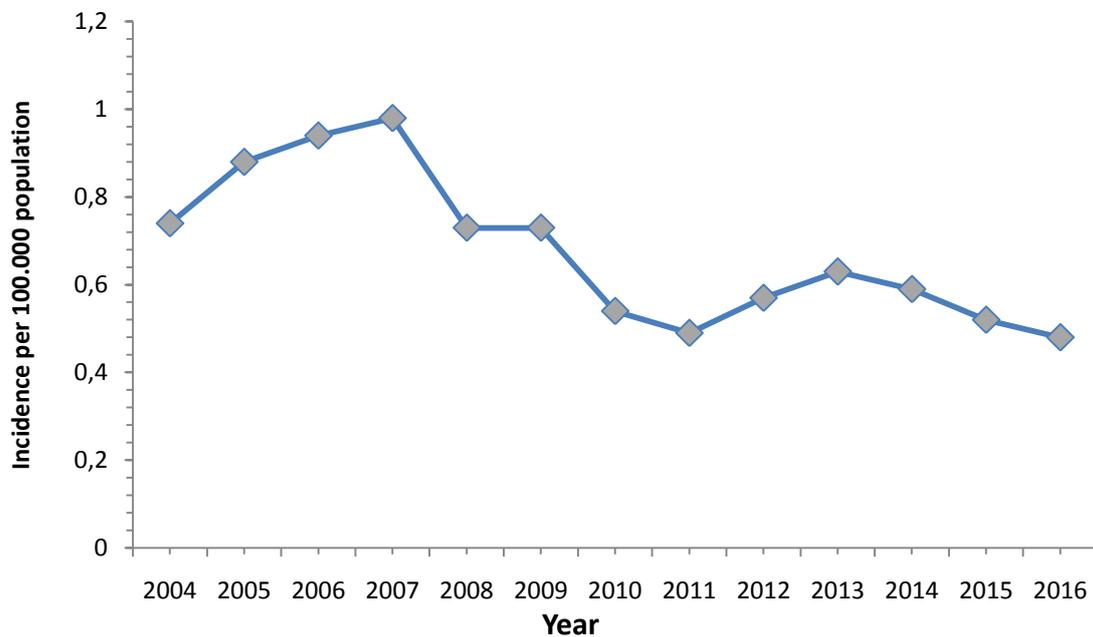
Data are recorded and analyzed by week, month, year, prefecture, causative agent, classification, age and gender, in order to detect outbreaks.

#### **MENINGOCOCCAL DISEASE**

##### **Time trend**

During the period 2004-2016, 972 cases of meningococcal disease were reported to HCDCP, while cases ranged between 52 and 108 per year and the mean annual notification rate was 0.68 cases per 100,000 population (Graph 1). During this period, the notification rate after a decreasing trend for the years 2007 - 2010 has remained stable.

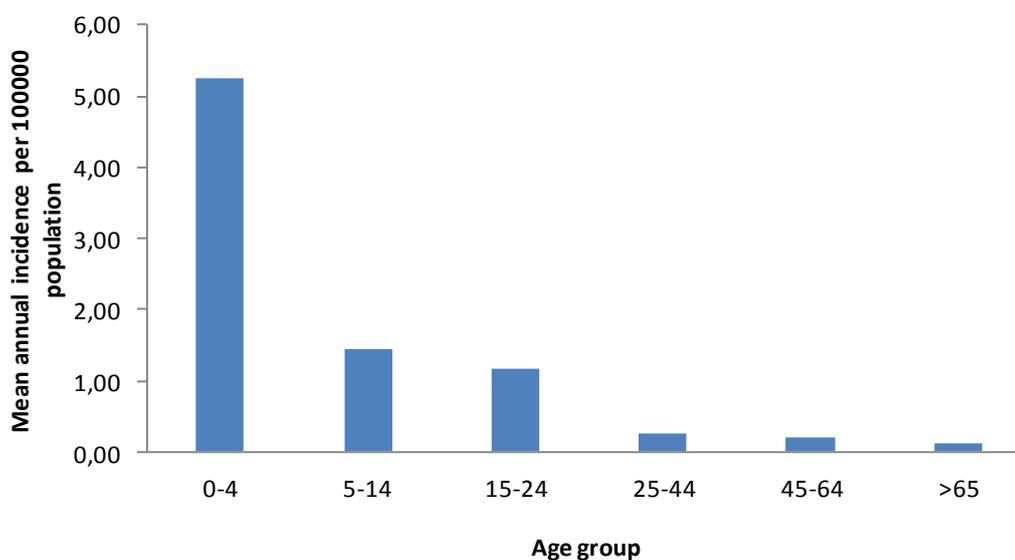
**Graph 1.** Mean annual notification rate time trend of meningococcal disease, Greece, 2004-2016



### Age distribution

During the period 2004-2016, the number of meningococcal disease cases, with a known date of birth, was 971 (in one case the date of birth was unknown). The disease appeared to be more frequent among children in the 0-4 age group with a mean annual notification rate of 5.26 cases per 100,000 population. The mean annual notification rate has progressively decreased in the 5-14 and 15-24 age groups (1.44 cases and 1.17 cases per 100,000 population respectively). In age groups over 25 years, the mean annual notification rate did not exceed 0.25 cases per 100,000 population (Graph 2).

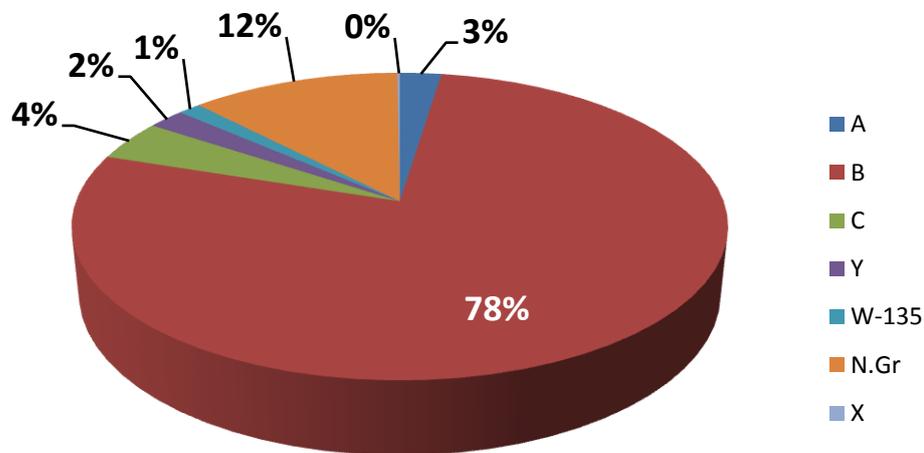
**Graph 2.** Mean annual notification rate of meningococcal disease (cases/100,000 population) per age group in Greece, 2004-2016



### Laboratory data

During 2004-2016, 92.7% (901/972) of the meningococcal disease cases were laboratory confirmed. In the same period, 77.4% (752/972) of meningococcal disease cases were serotyped and 660 out of 752 (87.8%) were identified to belong to one of 5 serogroups (A, B, C, W135 and Y), which mainly are responsible for the majority of invasive meningococcal infections worldwide. One (1) case was identified to belong to serotype X. In Greece, 77.7% (584/752) of meningococcal disease cases are caused by serogroup B followed by serogroup C (Graph 3).

**Graph 3.** Distribution of meningococcal disease by serogroup in Greece, 2004-2016



#### Fatality- Mortality

During 2004-2016, 56 deaths due to meningococcal disease were recorded, indicating a case fatality rate of 5.76%. The highest fatality rate was observed in the year 2012 (11.11%) and the lowest fatality rate in the year 2011 (1.82%). The mean annual mortality rate for the period 2004-2016 was 0.04 deaths per 100,000 population.

Dr Georgakopoulou Theano,  
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