NATIONAL PUBLIC
HEALTH ORGANIZATION

Directorate of Epidemiological Surveillance & Prevention of Communicable Diseases

Department of Vaccine Preventable and Congenital Diseases

EPIDEMIOLOGICAL DATA FOR MUMPS IN GREECE, 2004-2025

(MANDATORY NOTIFICATION SYSTEM)

Key points

- Mumps is a vaccine preventable disease. In recent years, the incidence shows a downward trend fluctuating at low levels. High MMR vaccination coverage remains of paramount importance to prevent mumps outbreaks and reduce disease severity.
- Based on data for the period 2004-2025, mumps is more common in children, adolescents, and young adults with the age group of 15-24 years-old most frequently affected.
- Cases are usually either unvaccinated or not fully vaccinated.
- No deaths were reported.

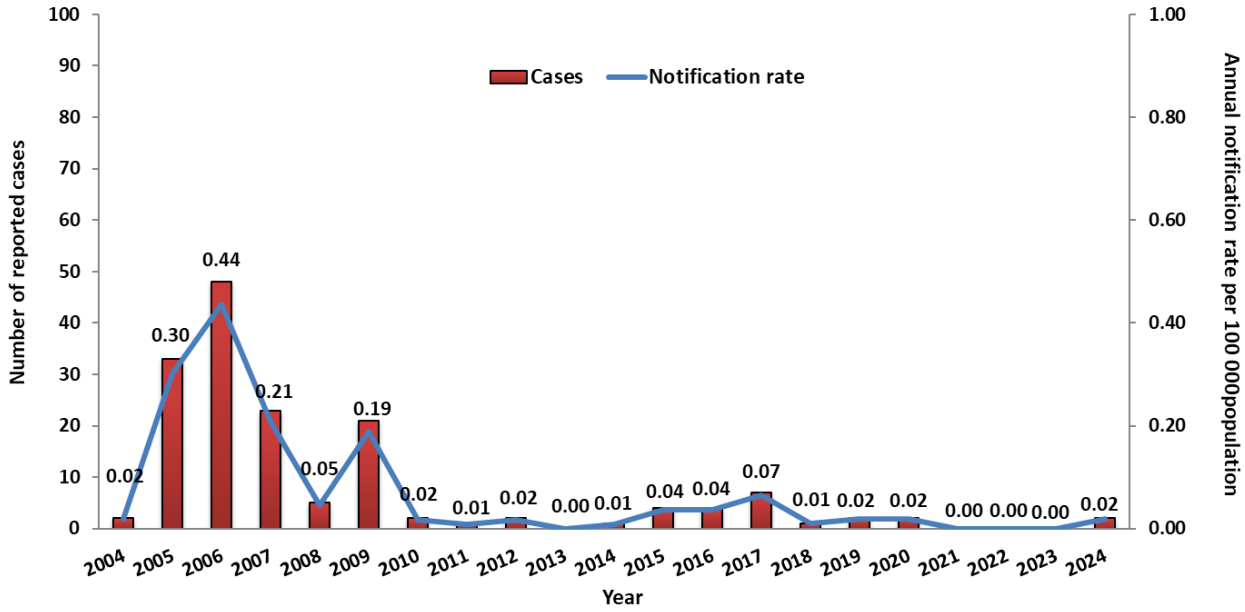
Mumps is a viral disease. It is caused by the mumps virus, which belongs to the paramyxoviridae family. The virus is spread through airborne transmission with droplets or by direct contact with infected droplet nuclei or saliva. Mumps is a vaccine preventable disease [1].

Time trend

During the period 2004-2025, the number of reported mumps cases was 162. It is worth noting that in the years 2021, 2022 and 2023 no cases were reported. Underreporting during 2021 and 2022 was possibly in the context of the recent COVID-19 pandemic.

The notification rate in the period 2004-2025 ranged from 0.00/100,000 population to 0.44/100,000 population (Figure 1). The mean annual notification rate was 0.07/100,000 population (mean number of reported cases per year: 7.36, total number of reported cases: 162).

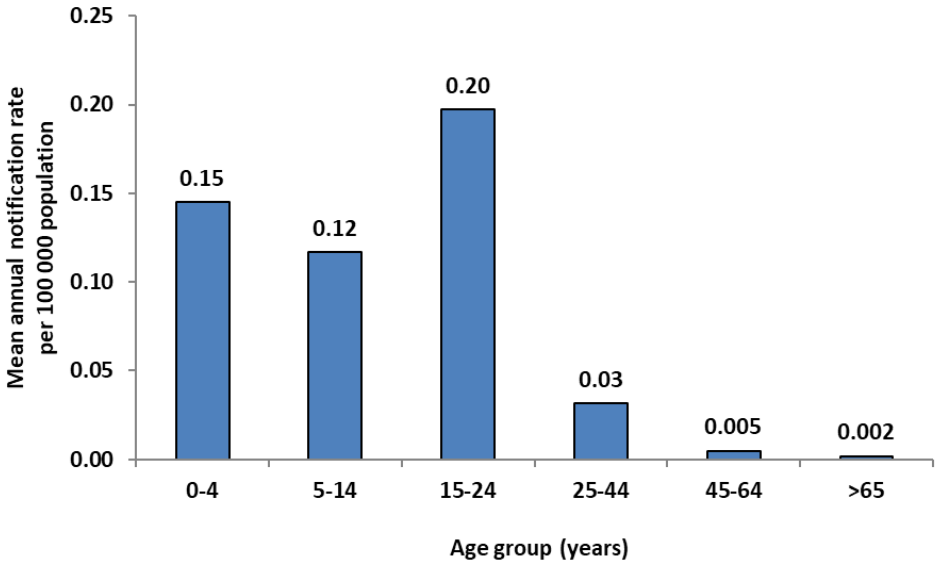
Figure 1. Age distribution of the mean annual notification rate of mumps (cases/100,000 population), Greece, 2004-2025



Age and gender distribution

For the period 2004-2025, the number of cases with known age and gender was 131. The highest mean annual notification rate was noted in the age group of 15–24 year–olds (0.20/100,000 population). Among the other age groups, the mean annual notification rate ranged from 0.002 in the age group >65 years old to 0.15/100,000 population in the age group of 0-4 years old (Figure 2). The overall male-to-female ratio for all notified cases was over 2:1 (males: 0.08/100,000 population, females: 0.03/100,000 population).

Figure 2. Mean annual notification rate (cases/100,000 population) of mumps by age group, Greece, 2004-2025 (N=131)



Geographical distribution

During the period 2004-2025, the disease exhibited the highest mean annual notification rate in the geographical areas of Northern Greece (0.12/100,000 population) and the Aegean islands/Crete (0.11/100,000 population). The notification rate for the geographical areas of Central Greece and Attica was 0.02/100,000 population each. In addition, 22 cases were of foreign origin, with 19 being UK citizens and 3 from other countries. Specifically, during April and May of 2009, a mumps outbreak was reported in a tourist area in Crete, involving 19 cases among young British travelers, who were visiting the island as tourists or working there temporarily during the summer.

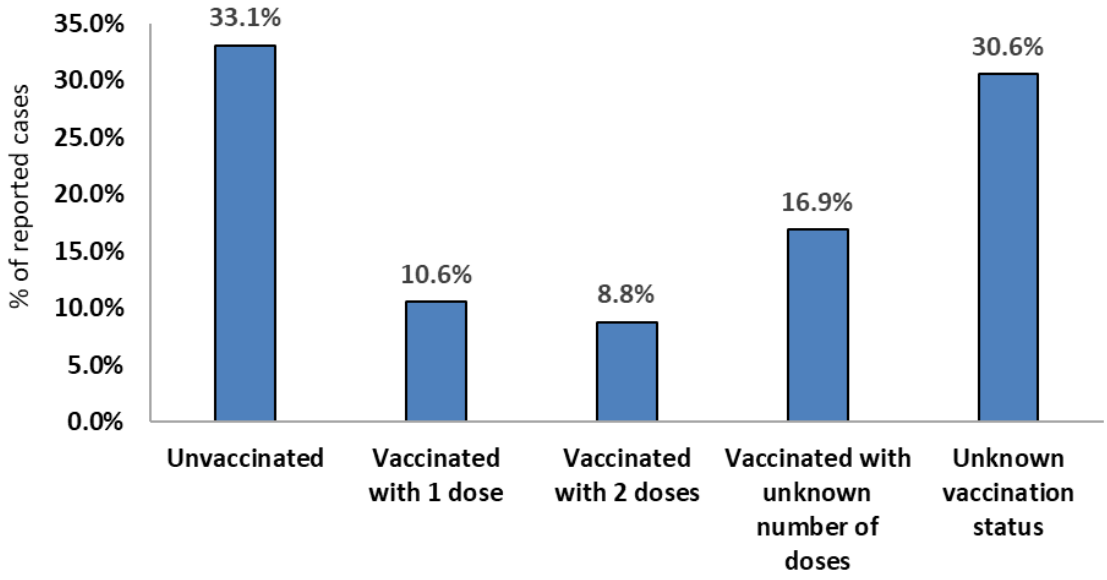
Laboratory data

During the period 2004-2025, 15.6% of the notified cases were laboratory-confirmed.

Vaccination status - Hospitalization - Outcome

Among the 162 notified cases for the period 2004-2025, vaccination status was known for 113 (69.8%) [Figure 3}. Fifty-nine (52.2%) cases were reported to had been vaccinated with MMR. Among the 32 cases, for which the respective information was available, 17 (53.1%) were reported to have been vaccinated with a single dose of the vaccine in the past. Complications and hospitalization due to mumps were rare. No deaths were reported.

Figure 3. Distribution of notified mumps cases by number of vaccine doses, Greece, 2004-2025.



Conclusion

The mumps notification rate in Greece is low. The mean annual notification rate for the period from 2004 to 2025 was significantly lower than the mean notification rate for the EU and EEA countries in 2023 (0.7/100,000 population) which is similar to the rate of 2022 and slightly higher compared to 2021 (0.4) but considerably lower than the notification rates observed in the preceding three years (2020: 1.7, 2019: 4.2, 2018: 2.6) [2]. The age group most frequently affected is 15-24 years old. In other EU and EEA countries, the highest age-specific notification rates were observed in those aged 1-4 and 5-9 years

[2]. Regarding the outbreak among young UK citizens visiting Crete in April and May of 2009, it is noteworthy that vaccination with the MMR vaccine was introduced in the UK national vaccination program in 1988 with one dose, and a second dose was added in 1996. Consequently, individuals born in the 1980s had an increased likelihood of being inadequately vaccinated against mumps [3]. Post-licensure studies have determined that the effectiveness of one dose of the mumps or MMR vaccine is 78%, while the effectiveness of two doses is 88% [4].

References

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3. Spanaki A, Hajiioannou J, Varkarakis G, Antonakis T, Kyrmizakis DE. Mumps epidemic among young British citizens on the island of Crete. Infection 2007;35(2):104-6.
4. Centers for Disease Control and Prevention. Epidemiology and Prevention of Vaccine-Preventable Diseases. Hall E., Wodi A.P., Hamborsky J., et al., eds. 14th ed. Washington, D.C. Public Health Foundation, 2021.

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