NATIONAL PUBLIC HEALTH ORGANIZATION

EPIDEMIOLOGICAL DATA FOR CAMPYLOBACTERIOSIS IN GREECE, APRIL 2022-DECEMBER 2024

MANDATORY NOTIFICATION SYSTEM

Main points

- Based on the data for the period April 2022-December 2024:

- The notification rate of the disease was higher among children in the age group of 0-4 years old.

- The notification reached a peak in May and October.

- 4.7% of the cases reported one or more people with similar symptoms among their contacts.

- *Campylobacter jejuni* and *Campylobacter coli* were the most frequently reported species.

- In 2024, the notification rate of campylobacteriosis increased by 42.6% compared to 2023.

Campylobacter spp. is one of the main etiological agents of foodborne diseases, as well as the most frequently reported foodborne infection in Europe [1,2]. In Greece campylobacteriosis was introduced in Mandatory Notification System (MNS) in April 2022.

Number of reported case-Notification rate

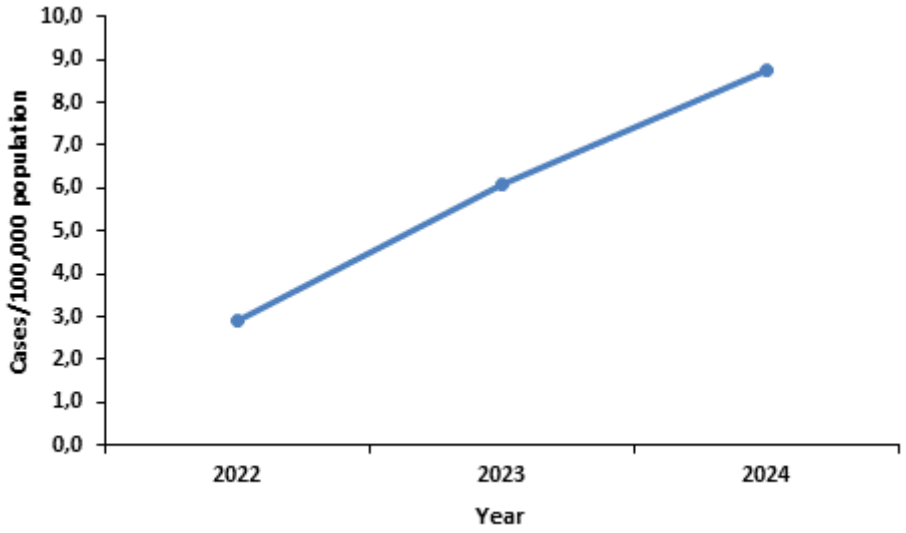
During April 2022-December 2024, 1,845 campylobacteriosis cases were reported, in total in Greece. The number of reported cases with the respective notification rate per year are shown in **Table 1**. The mean annual number of cases was 615 (standard deviation: 303.5). The mean annual notification rate was 5,9 cases per 100,000 population.

Table 1. Annual number of notified cases and notification rate of campylobacteriosis, Mandatory Notification System, Greece, April 2022-December 2024.

Year	Number of cases	Annual notification rate (per 100,000 population)
2022 (April-December)	302	2.9
2023	635	6.1
2024	908	8.7
Total	**1,845**	**5.9***

*Mean annual notification rate for the period April 2022-December 2024

In 2024, the notification rate of campylobacteriosis increased by 42.6% compared to 2023. The temporal distribution of campylobacteriosis notification rate for the period April 2022-December 2024 is depicted in **Graph 1**.

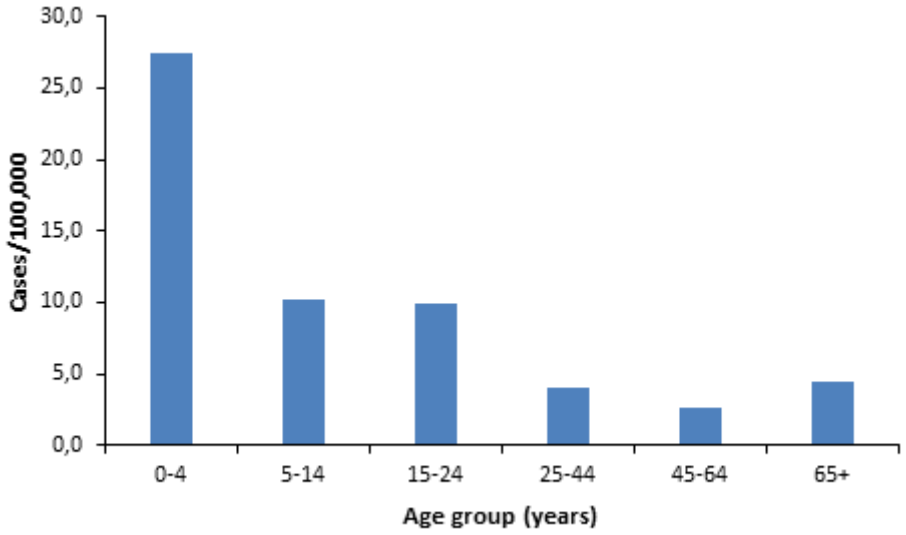


Graph 1. Campylobacteriosis notification rate (cases/100,000 population) by year, Mandatory Notification System, Greece, April 2022- December 2024.

Age and gender distribution

For the period April 2022-December 2024, the disease was more frequently reported among children in the 0-4 years age group (**Graph 2**). In this age group, the mean annual notification rate was 27.5/100,000 population, whereas it was less than 10.2/100,000 in the rest of the population.

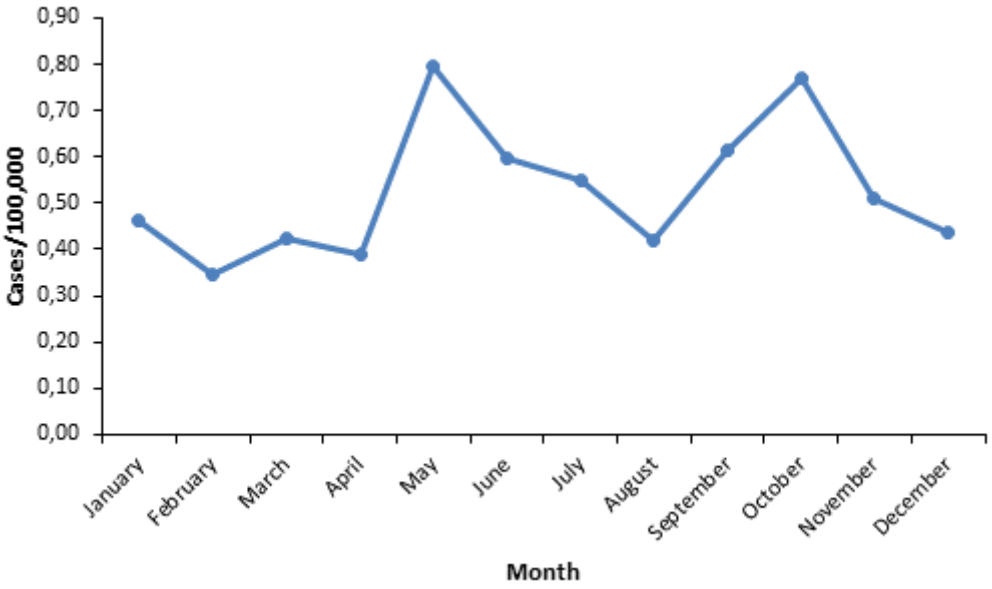
The notification rate among males and females was 4.9 and 4.1 cases per 100,000 population, respectively.



Graph 2. Mean annual notification rate (cases/100,000 population) of campylobacteriosis by age group, Mandatory Notification System, Greece, April 2022-December 2024.

Seasonality

The mean monthly notification rate for the period of interest reached a peak in May and October (**Graph 3**).



Graph 3. Notification rate (cases/100,000 population) of campylobacteriosis by month, Mandatory Notification System, Greece, April 2022-December 2024.

** Since campylobacteriosis was introduced in Mandatory Notification System in April 2022, there was no data available for the months January-March 2022.*

Geographical distribution

The geographical area of Crete had the highest notification rate (11/100,000 population), while Northern Aegean and Western Macedonia had the lowest (0.5/100,000 population). The mean annual notification rate of campylobacteriosis by region for the period April 2022-December 2024 is depicted in **Figure 1**.

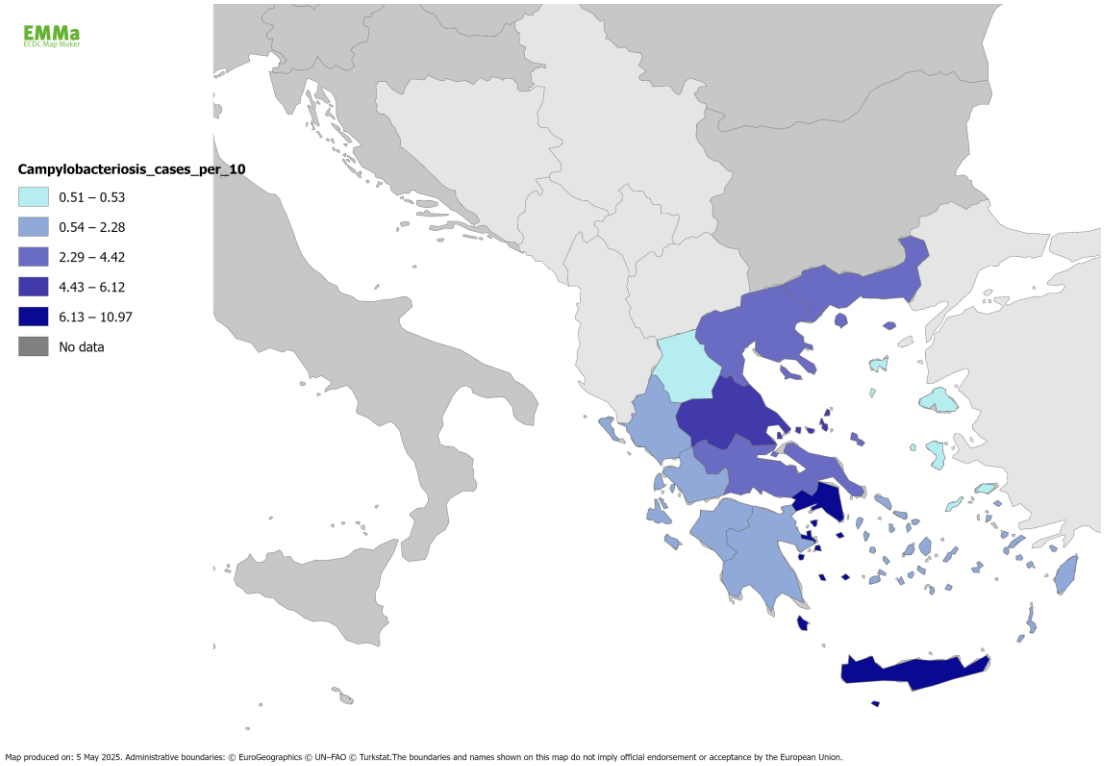


Figure 1. Mean annual notification rate (cases/100,000 population) of campylobacteriosis by region, Mandatory Notification System, Greece, April 2022-December 2024.

Laboratory data

The most frequently identified species -out of the total number of identified species-, for the period of interest, was *Campylobacter jejuni* (85.2%) and *Campylobacter coli* (14.6%). *Campylobacter upsaliensis* was identified in one (0.2%) case.

It should be noted that the data presented in this report concerns the cases reported via the MNS. For some of them, the respective information from the Campylobacter Reference Laboratory (CRL) of the Central Public Health Laboratory, is available while for others it is not. The Health Care Units of the country are recommended to send the clinical isolates to the CRL for further identification and antimicrobial susceptibility testing.

Risk/Protective factors

During April 2022-December 2024, 4.1% of the notified cases reported the presence of at least one person with similar symptoms among their contacts, whereas 78 (4.7%) reported they had travelled abroad within the incubation period.

Conclusion

Campylobacteriosis was the second most commonly notified foodborne gastrointestinal infection in humans following non-typhoid/paratyphoid salmonellosis, during the period April 2022-December 2024, in Greece; the notification rate of campylobacteriosis was 8.7 cases per 100,000 population in 2024. The mean notification rate in the EU and EEA countries (excluding UK) was 49.36 cases per 100,000 population for the year 2024 [3]. When interpreting this difference, the surveillance systems' under-reporting should be considered [4].

The low percentage of notified cases with epidemiological link is in line with the fact that *Campylobacter spp*. sporadic cases are much more than the outbreaks-related cases [5]. The highest notification rate reported in the 0-4 years age group and the gender distribution of cases were also consistent with the findings from other European countries [3].

The fact that the highest notification rate of the disease during the period of interest was observed in Crete is likely related, among other factors, to the capacity of hospitals in that region to perform laboratory diagnosis of Campylobacter infection.

Finally, the observed increase on October 2024 can be partially explained by the enhancement of laboratory capacity of FWDs diagnosis that took place, in the context of prompt response in terms of public health protection after the floods, in the Region of Thessaly. In specific, PCR equipment and reagents for the syndromic testing of 22 different enteric pathogens (bacteria, viruses, parasites) directly from stool specimens were provided to 14 healthcare facilities (HCFs) in the affected region. Thus, the clinical laboratories in those HCFs managed to identify *Campylobacter spp.* which was not feasible in previous years.

References

1. Heymann DL. Control of Communicable Diseases Manual. 21st Edition, 2022. Washington DC: American Public Health Association.

2. EFSA and ECDC (European Food Safety Authority and European Centre for Disease Prevention and Control), 2023. European Union One Health 2023 Zoonoses Report. EFSA Journal 22 (12). https://doi.org/10.2903/j.efsa.2024.9106

3. European Centre for Disease Prevention and Control. Surveillance Atlas of Infectious Diseases. Campylobacteriosis - Data by Country and Year. Current time period: 2023. Available at: https://atlas.ecdc.europa.eu/public/index.aspx

4. National Public Health Organization. Evaluation of underreporting in the Mandatory Notification System of laboratory confirmed salmonellosis, shigellosis, listeriosis, Hepatitis A Virus infection, campylobacteriosis, typhoid/paratyphoid fever cases by Public General Hospitals in Greece, 2023. Available at: https://eody.gov.gr/wp-content/uploads/2024/07/Nosokomeia-ergastiriaki-diagnosi-pathogonon-trofimogeni-2023.pdf

5. Sher AA, Ashraf MA, Mustafa BE, Raza MM. Epidemiological trends of foodborne Campylobacter outbreaks in the United States of America, 1998-2016. Food Microbiol. 2021 Aug;97:103751. doi: 10.1016/j.fm.2021.103751. Epub 2021 Jan 29. PMID: 33653524.

Last updated: May 2025