



NATIONAL PUBLIC  
HEALTH ORGANIZATION

## Department of Food-borne and Water-borne diseases

### EPIDEMIOLOGICAL DATA FOR HEPATITIS A IN GREECE, 2004-2020

#### MANDATORY NOTIFICATION SYSTEM

#### Main points

- Based on the data for the period 2004-2020:
  - 23.8% of the notified cases were Roma; 88.9% of them were < 15 years of age
  - 14% reported travelling abroad within the incubation period
  - 23% were newly arrived/permanent migrants
  - Outbreaks occurred in Roma populations (2007 and 2013), in the population of newly arrived migrants staying at accommodation facilities (2016) and among men having sex with men (2017)
  - The low notification rate of hepatitis A in Greece, in 2020, may be explained by the COVID-19 pandemic, due to the decreased travelling or testing or due to increased under-reporting in the surveillance systems.

Hepatitis A is an acute, self-limited disease of the liver, which is caused by the hepatitis A virus (HAV). HAV has been classified as a member of the Picornaviridae family [1,2]. In Greece, hepatitis A is a mandatory notifiable disease.

#### Time trend

During the period 2004-2020, 1,963 cases of hepatitis A were reported. The mean annual number of reported cases was 115 (standard deviation: 84). The mean annual notification rate was 1.1 cases per 100,000 population. The annual number of reported cases and the annual notification rate for the period 2004-2020 are depicted in **Table 1** and **Graph 1**,

respectively.

### Age and gender distribution

For the 2004-2020 period, the highest notification rate of the disease was recorded for children under 15 years of age. The mean annual notification rate was 3.4 and 3 cases per 100,000 population in the age groups of 0-4 and 5-14 years old, respectively. For the same period, 61.8% of the reported cases were male, while the mean annual notification rate was 1.3 cases per 100,000 population in males and 0.8 per 100,000 in females. The notification rate of hepatitis A by gender and age group (0-4, 5-14, 15-24, 25-44, 45-64, 65+ years) is depicted in **Graph 2**.

### Geographical distribution

The mean annual notification rate of hepatitis A by region for the period 2004-2020 is depicted in **Figure 1**. The highest mean annual notification rate was reported in the geographical area of Eastern Macedonia-Thrace (3.4 cases per 100,000 population) and the lowest in the geographical area of Western Macedonia (0.3 cases per 100,000 population).

### Seasonal distribution

The mean monthly notification rate for the period 2004-2020 is depicted in **Graph 3**.

### Characteristics of cases

For the 2004-2020 period, 574 (31%) of the notified cases of hepatitis A reported the presence of another person with similar symptoms among their contacts. Two hundred and forty-four (14.2%) of the reported cases had travelled abroad within the incubation period of the disease. Fifty-five (3.2%) cases reported that they had been vaccinated against hepatitis A. Among the 40 cases, for which the respective information was available, 33 (82.5%) reported being vaccinated with a single dose of the vaccine.

Four hundred and forty-five (23.8%) of the reported cases were Roma and 442 (22.5%) were newly arrived/permanent migrants. Regarding the age distribution, 88.9% of Roma cases and 73.9% of cases among newly arrived/permanent migrants were children < 15 years old, while in the general population\*, only 12.6% belonged to this age group (**Graph 4**).

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\*Population after subtracting newly arrived/permanent migrants, travelers, and the Roma population

## Conclusion

The mean annual notification rate of hepatitis A in Greece is low (0.07 cases per 100,000 population in 2020). According to the latest reported data of the European Centre for Disease Prevention and Control, the mean notification rate reported by the EU and EEA/EFTA countries was 2.20 cases per 100,000 population for the year 2019 [3]. When interpreting this difference, the surveillance systems' probable under-reporting should be considered.

In 2007, a hepatitis A outbreak occurred in Greece with the majority of cases in the population of Roma, while in 2013 three outbreaks were recorded in the same population [4]. In 2016, the majority of reported cases (89%) concerned newly arrived migrants who were staying at accommodation facilities after the closure of the borders in April 2016 [5]. In 2017, an increase of the notification rate of hepatitis A was observed at a European level among men who have sex with men (MSM). This finding is in accordance with the increase noted also in Greece among men aged 25 to 44 years old. During the investigation of the reported cases, 45% identified themselves as MSM [6].

For 2020, the low notification rate of hepatitis A in Greece, may be explained by the COVID-19 pandemic during which travelling to other countries has decreased. Also, laboratory testing for the diagnosis of the disease may also have decreased and at the same time the under-reporting in the surveillance systems may have increased.

Hepatitis A is still a childhood disease among Roma and refugees/migrants, while in the general population it mainly occurs among susceptible adults. Hepatitis A continues to be a public health concern in Greece. Data indicate the need for educating the general population regarding the disease's modes of transmission, and for improving the vaccination coverage of high-risk groups of the population [7,8].

## References

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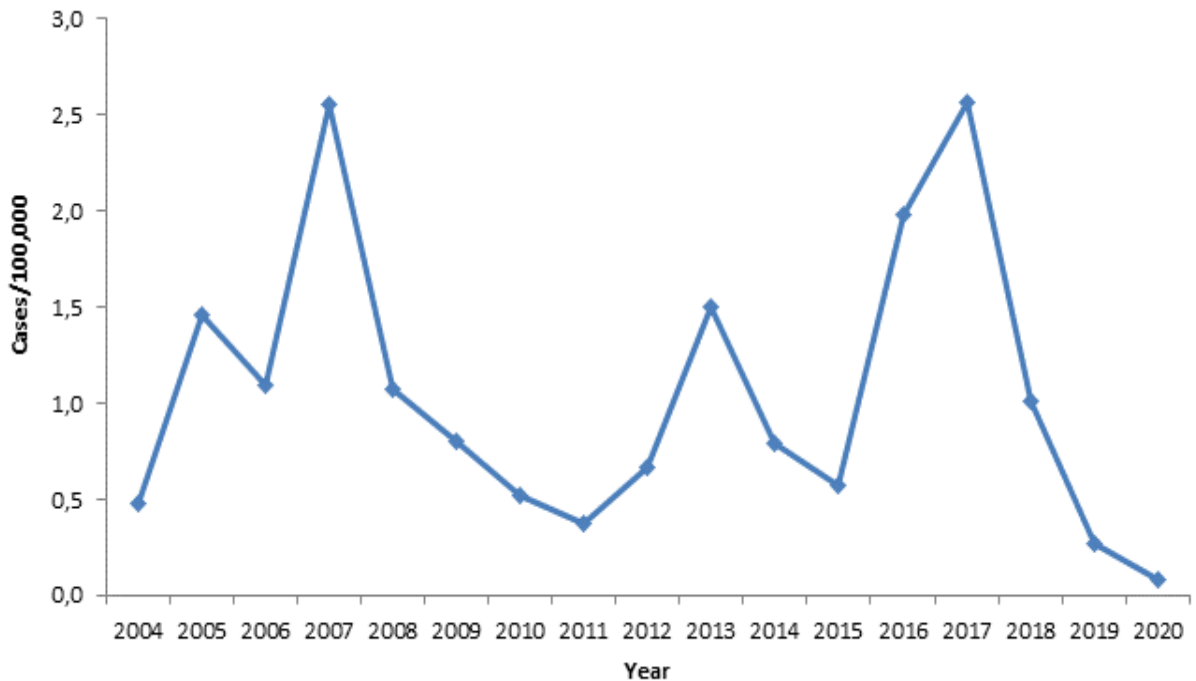
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**Table 1.** Number of notified cases and annual notification rate of hepatitis A in Greece, Mandatory Notification System, 2004-2020.

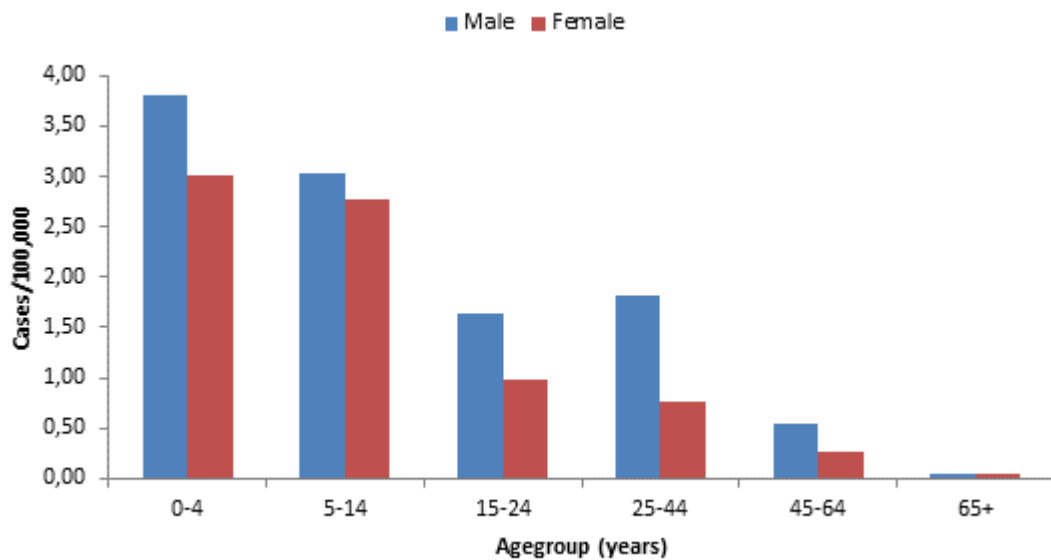
Year	Number of cases	Annual notification rate (per 100,000 population)
2004	52	0.48
2005	160	1.46
2006	120	1.09
2007	282	2.56
2008	119	1.08

Year	Number of cases	Annual notification rate (per 100,000 population)
2009	89	0.80
2010	58	0.52
2011	41	0.37
2012	74	0.67
2013	165	1.50
2014	86	0.79
2015	62	0.57
2016	214	1.98
2017	276	2.56
2018	110	1.01
2019	29	0.27
2020	8	0.07
<b>Total</b>	<b>1,963</b>	<b>1.06*</b>

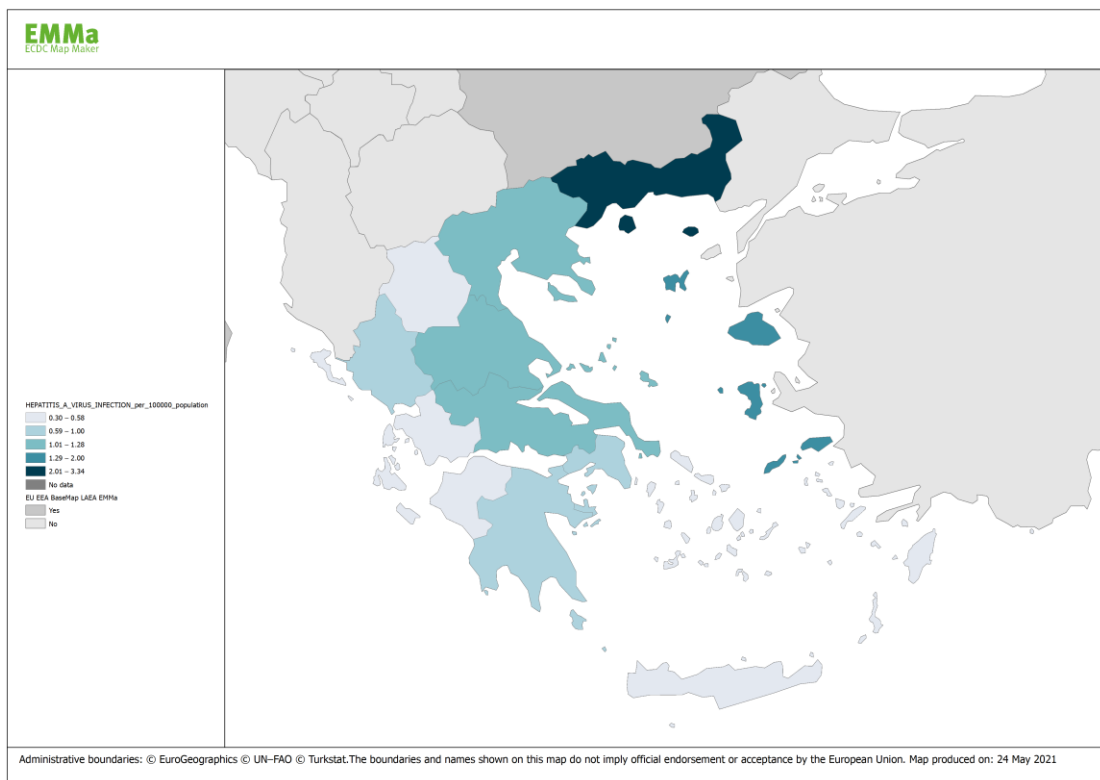
\*Mean annual notification rate for the period 2004-2020



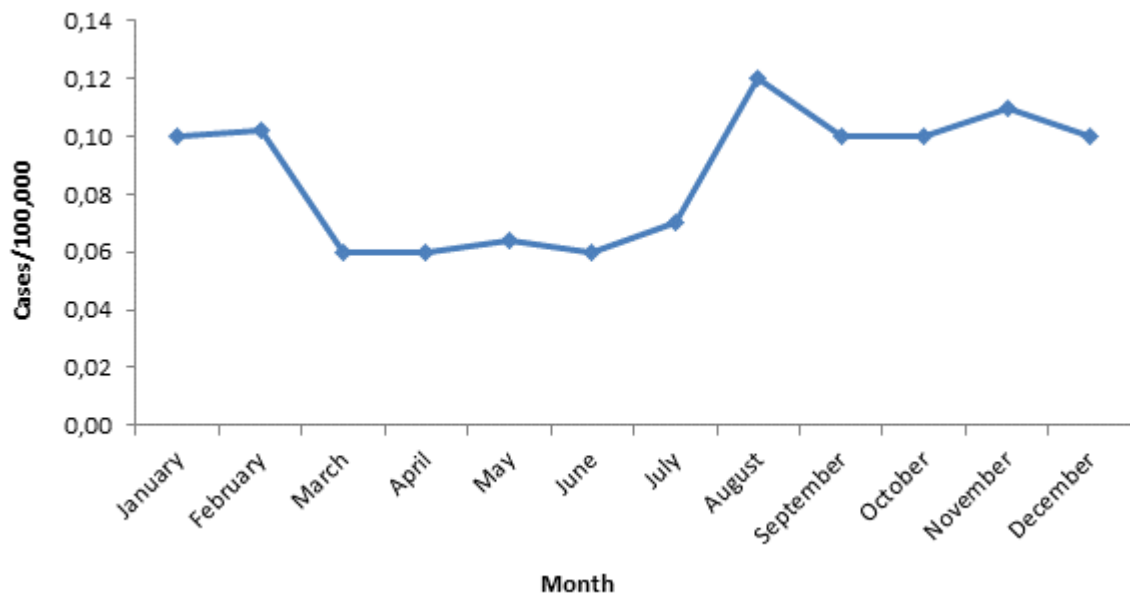
**Graph 1.** Time trend of hepatitis A notification rate (number of cases per 100,000 population), Mandatory Notification System, Greece, 2004-2020.



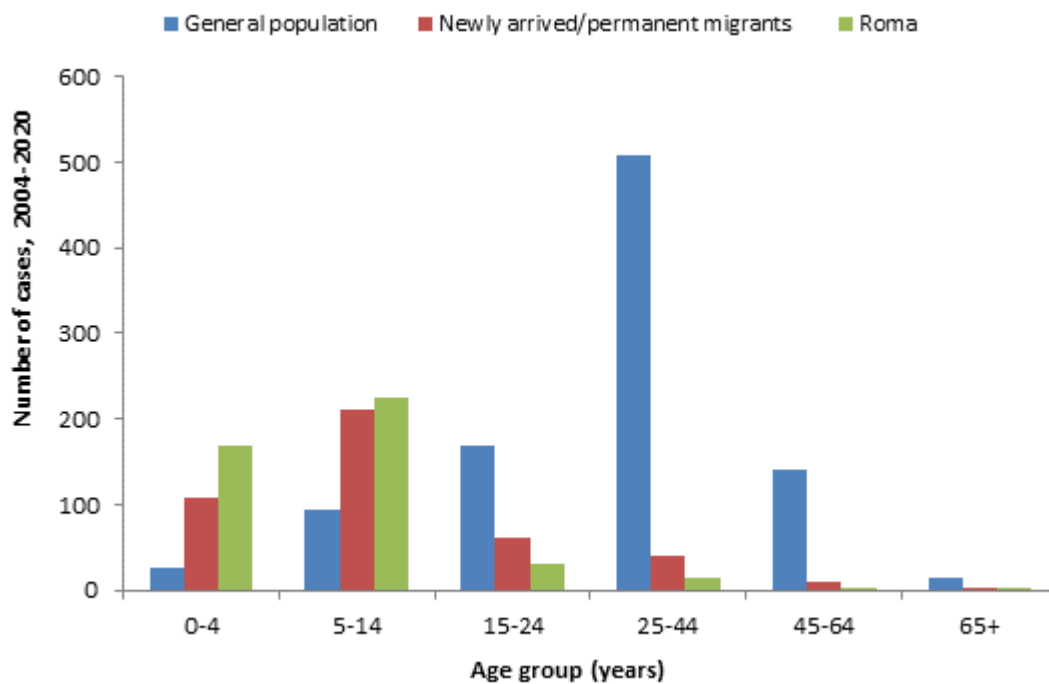
**Graph 2.** Notification rate of hepatitis A (cases/100,000 population) by gender and age group in Greece, Mandatory Notification System, 2004-2020.



**Figure 1.** Mean annual notification rate (cases/100,000 population) of hepatitis A by geographical region, Mandatory Notification System, Greece, 2004-2020.



**Graph 3.** Mean monthly notification rate (cases/100,000 population) of hepatitis A in Greece, Mandatory Notification System, 2004-2020.



**Graph 4.** Number of hepatitis A notified cases per age group in the general population (population after subtracting newly arrived/permanent migrants, travelers, and the Roma population), newly arrived/permanent migrants and Roma in Greece, Mandatory Notification System, 2004-2020.

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