

SURVEILLANCE REPORT

Annual Epidemiological Report for 2020

Hepatitis A

Key facts

- In 2020, 29 EU/EEA countries reported 4 397 cases of hepatitis A.
- The EU/EEA notification rate was 1.0 case per 100 000 population. Twenty-one EU/EEA countries had notification rates below one case per 100 000 population. The countries with the highest notification rates were Bulgaria (18.7) and Romania (5.2).
- In 2020, both the number of reported cases and notification rates were at their lowest since the beginning of EU-level hepatitis A surveillance in 2007. This is possibly due to a combined effect of the impact of COVID-19 pandemic on the reported number of cases, the increased natural immunity in at-risk groups following a large multi-country outbreak occurring in 2017 and 2018, in addition to heightened awareness of hepatitis A preventive measures such as practising good hygiene and increased vaccine uptake, among at-risk groups.
- Children between five and 14 years of age accounted for a large proportion of cases (31%) and had the highest notification rate (3.2 cases per 100 000 population).
- In 2020, three multi-country clusters of hepatitis A were reported to EPIS-FWD. Two multi-country clusters of sub-genotype IA infections were reported, and one cluster of sub-genotype IB infections was reported.

Introduction

Hepatitis A is an inflammation of the liver caused by the hepatitis A virus (HAV). In children, hepatitis A virus infection is often asymptomatic or mild. In adults, the onset of illness is usually abrupt, characterised by fever, malaise, and abdominal discomfort. Jaundice is the predominant symptom. Very severe disease is unusual, but the infection can lead to acute liver failure and death, particularly in the elderly and in patients with liver disease. Symptoms may last from one or two weeks to months. Hepatitis A virus is highly transmissible and has an average incubation period of four weeks, ranging from two to six weeks. Transmission most often occurs via the faecal–oral route through contaminated food and water or via person-to-person contact (e.g. among household contacts, sexual contacts, day-care centres or schools).

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Methods

This report is based on data for 2020 retrieved from The European Surveillance System (TESSy) on 19 January 2022. TESSy is a system for the collection, analysis and dissemination of data on communicable diseases.

For a detailed description of methods used to produce this report, please refer to the Methods chapter [1].

An overview of the national surveillance systems is available online [2].

A subset of the data used for this report is available through ECDC's online Surveillance atlas of infectious diseases [3].

For 2020, 29 EU/EEA countries (27 EU Member States plus Iceland and Norway) reported hepatitis A data to ECDC; Liechtenstein did not report, the reasons for this are unknown. Twenty-five countries used EU case definitions: eight countries used the EU 2018 case definition; 11 countries used the EU 2012 case definition, and seven countries used the EU 2008 case definition. The remaining four reporting countries used unspecified or other case definitions. The only difference between the 2018 definition and the 2012 and 2008 definitions is that the former considers laboratory confirmation as sufficient for a case when information on clinical symptoms is missing. Reporting of hepatitis A was compulsory in all 29 reporting countries. Twenty-eight countries had a comprehensive surveillance system, and one country (Belgium) did not specify the type of surveillance. In 28 countries, surveillance was based on either laboratory or physician reporting or a combination of the two. Romania reported only hospitalised cases. Twenty-seven countries reported case-based data and two countries (Belgium and Bulgaria) reported aggregated data [2]. For 2020, Spain did not receive data from all its regions due to the COVID-19 pandemic, so the case numbers might not be complete. No data for 2020 were reported by the United Kingdom (UK) due to its withdrawal from the EU on 1 February 2020.

In addition to TESSy reporting, information from event-based surveillance for hepatitis A clusters or outbreaks with a potential EU dimension was collected through the Epidemic Intelligence Information System for Food- and Waterborne Diseases (EPIS-FWD).

Epidemiology

In 2020, 29 EU/EEA countries reported 4 397 cases of hepatitis A (Table 1). The EU/EEA notification rate was 1.1 cases per 100 000 population. In 2020, both the lowest number of reported cases and the lowest notification rate were reported since the beginning of EU-level hepatitis A surveillance in 2007. The number of cases in 2020 represented a 61.3% decrease compared to 2019.

Comparing the number of cases reported in 2020 to 2019, a notable reduction in the number of cases was reported by France (-70%), Greece (-71%), Hungary (-73%), Italy (-75%), Malta (-82%), the Netherlands (-74%), Poland (-90%), Slovakia (-89%) and Spain (-81%). The only countries reporting an increase in cases compared to the previous year were Denmark (+56%), Estonia (+50%), Lithuania (+13%) and Luxembourg (+75%) (Table 1).

In 2020, twenty countries reported fewer than 100 cases, while three countries reported more than 500 cases. Bulgaria reported the highest number of cases (n=1297; 29.5%) followed by Romania (n=1 010; 23.0%) and Germany (n=550; 12.5%). The highest notification rate was reported by Bulgaria at 18.7 cases per 100 000 population, followed by Romania at 5.2 cases per 100 000 population.

In the 25 countries reporting information on travel history for all or part of their cases, 209 of 2 448 cases (8.5%) with available information were travel-associated. France (n=66), Germany (n=44) and Spain (n=23) accounted for two thirds (64%) of all travel-associated cases.

Table 1. Hepatitis A cases and rates per 100 000 population by country and year, EU/EEA, 2016–2020

Country	2016		2017		2018		2019		2020		
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	ASR
Austria	92	1.1	242	2.8	80	0.9	76	0.9	35	0.4	0.4
Belgium	152	1.3	368	3.2	241	2.1	219	1.9	124	1.1	1.0
Bulgaria	1 625	22.7	2 510	35.3	1 347	19.1	1 512	21.6	1 297	18.7	20.6
Croatia	5	0.1	46	1.1	96	2.3	9	0.2	5	0.1	0.1
Cyprus	3	0.4	6	0.7	9	1.0	0	0.0	1	0.1	0.1
Czechia	930	8.8	772	7.3	209	2.0	240	2.3	183	1.7	1.7
Denmark	37	0.6	38	0.7	65	1.1	34	0.6	53	0.9	0.9
Estonia	7	0.5	45	3.4	15	1.1	20	1.5	30	2.3	2.3
Finland	6	0.1	26	0.5	27	0.5	18	0.3	12	0.2	0.2
France	693	1.0	3 387	5.1	1 525	2.3	1 375	2.0	411	0.6	0.6
Germany	729	0.9	1 227	1.5	1 038	1.3	871	1.0	550	0.7	0.6
Greece	207	1.9	276	2.6	104	1.0	28	0.3	8	0.1	0.1
Hungary	685	7.0	366	3.7	177	1.8	104	1.1	28	0.3	0.3
Iceland	0	0.0	5	1.5	1	0.3	2	0.6	1	0.3	0.3
Ireland	37	0.8	67	1.4	35	0.7	51	1.0	33	0.7	0.6
Italy	523	0.9	3766	6.2	1 077	1.8	528	0.9	130	0.2	0.2
Latvia	10	0.5	75	3.8	67	3.5	37	1.9	21	1.1	1.2
Liechtenstein	ND	NR	ND	NR	ND	NR	ND	NR	ND	NR	NR
Lithuania	17	0.6	38	1.3	13	0.5	8	0.3	9	0.3	NR
Luxembourg	6	1.0	7	1.2	2	0.3	4	0.7	11	1.8	1.8
Malta	6	1.3	27	5.9	4	0.8	11	2.2	2	0.4	0.4
Netherlands	77	0.5	345	2.0	180	1.0	146	0.8	38	0.2	0.2
Norway	42	0.8	49	0.9	32	0.6	37	0.7	14	0.3	0.3
Poland	35	0.1	2 990	7.9	1 440	3.8	1 054	2.8	110	0.3	0.3
Portugal	53	0.5	559	5.4	82	0.8	42	0.4	20	0.2	0.2
Romania	3 190	16.1	2 477	12.6	4 527	23.2	3 351	17.3	1 010	5.2	5.6
Slovakia	1 358	25.0	673	12.4	173	3.2	99	1.8	11	0.2	0.2
Slovenia	13	0.6	35	1.7	16	0.8	12	0.6	4	0.2	0.2
Spain	1 308	2.8	4 528	9.7	2 294	4.9	974	2.1	189	NR	NR
Sweden	88	0.9	110	1.1	123	1.2	90	0.9	57	0.6	0.6
United Kingdom	496	0.8	1 085	1.6	681	1.0	418	0.6	ND	NR	NR
EU-EEA	12 430	2.4	26 145	5.1	15 680	3.0	11 370	2.2	4 397	1.0	1.1

Source: Country reports.

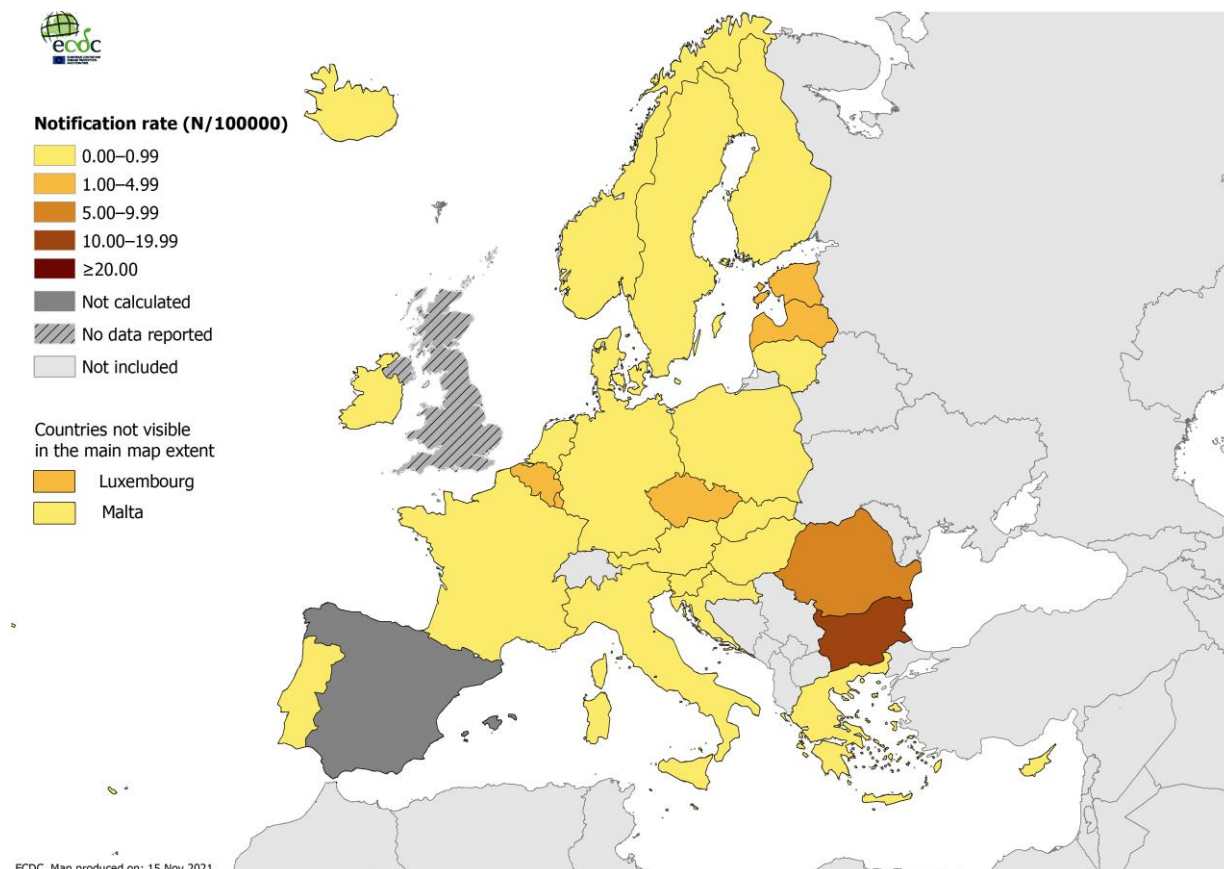
ASR: age-standardised rate.

ND: no data reported.

NR: no rate calculated.

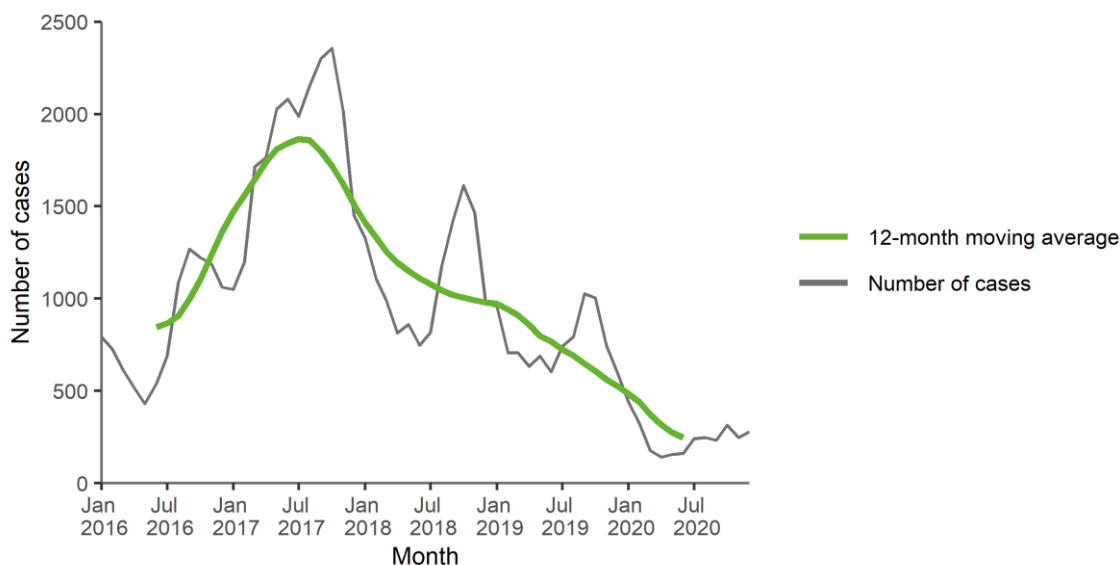
For 2020, Spain did not receive data from all its regions due to the COVID-19 pandemic.

In 2020, the EU/EEA notification rate was 1.0 cases per 100 000 population, ranging from 0.01 cases in Croatia, Cyprus, and Greece, to 18.7 cases per 100 000 population in Bulgaria (Table 1). The second highest notification rate was reported by Romania at 5.2 cases per 100 000 population. Most EU/EEA countries (21 out of 29; 72%) had a notification rate less than one case per 100 000 population (Figure 1). Age-standardised rates did not differ substantially from crude rates (Table 1).

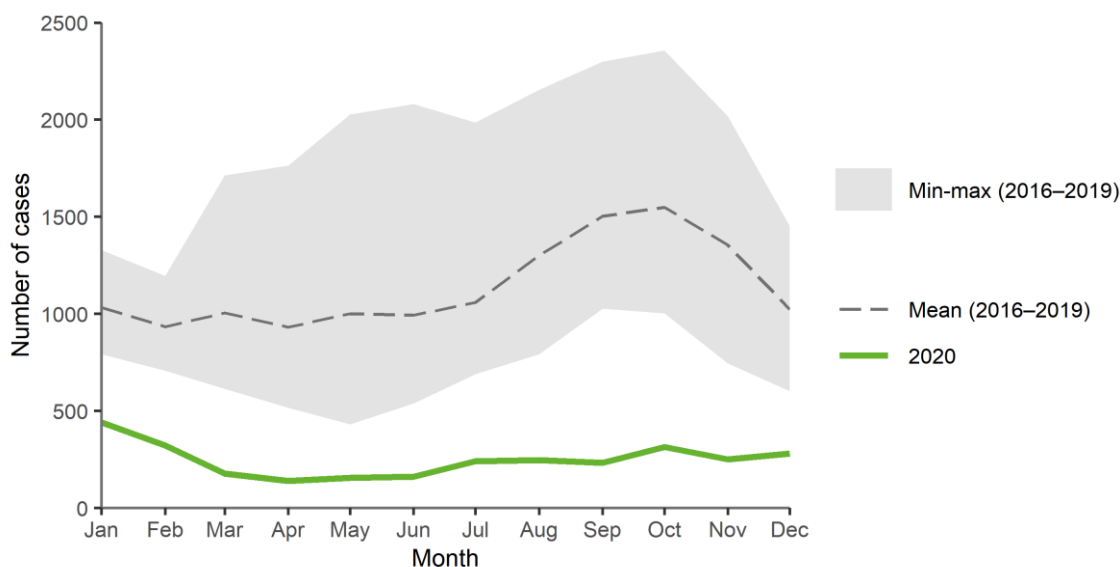
Figure 1. Hepatitis A cases per 100 000 population by country, EU/EEA, 2020

Source: Country reports from Austria, Belgium, Bulgaria, Croatia, Cyprus, Czechia, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, and Sweden.

In 2020, the overall male-to-female ratio was 1:1. Children between the ages of five and 14 years accounted for a large proportion of cases (31%) and the highest notification rate (3.2 cases per 100 000 population) (Figure 4). Male cases had slightly higher notification rates than female cases in almost all groups, except for the 5-14 years age group where females had a higher notification rate. Almost one third of all cases (30%) were aged 45 years and over.

Figure 2. Hepatitis A cases by month, EU/EEA, 2016–2020

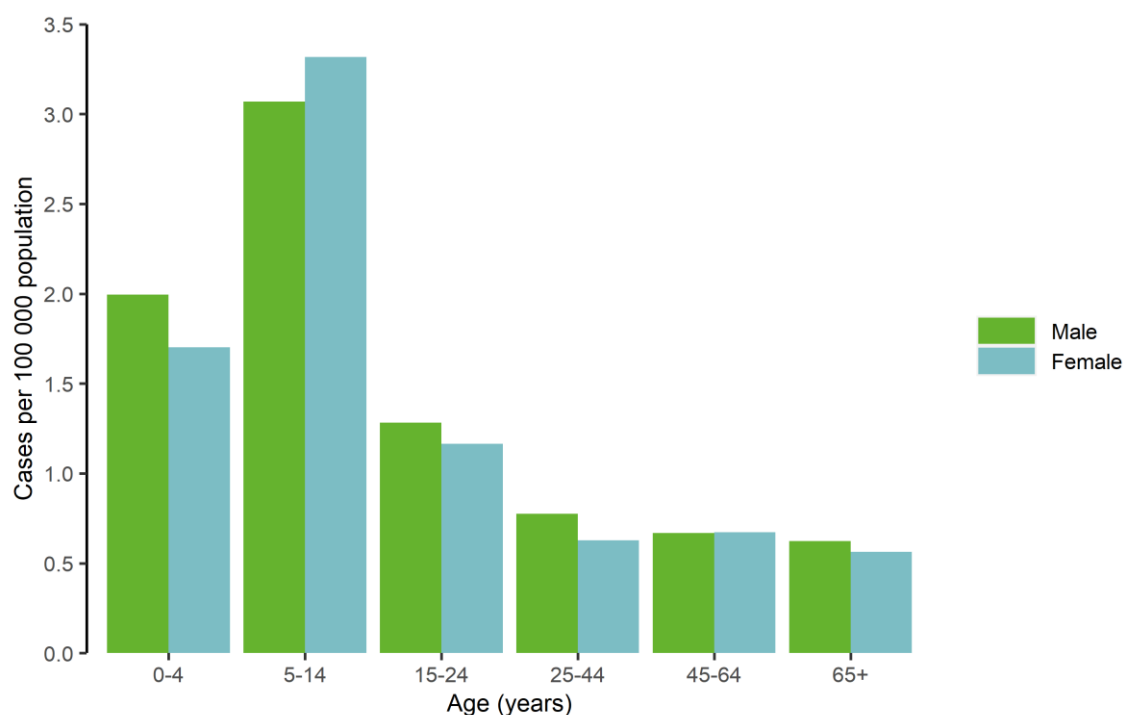
Source: Country reports from Austria, Cyprus, Czechia, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden.

Figure 3. Hepatitis A cases by month, EU/EEA, 2020 and 2016–2019

Source: Country reports from Austria, Cyprus, Czechia, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden.

Between 2016 and 2017, the 12-month moving average of the number of cases reported shows an increasing trend from mid-2016 onwards, with cases peaking in mid-2017 (Figure 2). This increase in cases corresponds to an unprecedentedly large and prolonged outbreak of hepatitis A sub-genotype IA in several EU/EEA countries in 2017 and 2018, which disproportionately affected men who have sex with men. The number of cases reported in 2019 ($n=11\,370$) was similar to the average number of cases reported in the five years between 2012 and 2016 ($n=13\,480$). Between mid-2017 and mid-2020 a decreasing trend is observed. Indeed, the lowest number of cases ever reported since the beginning of EU-level surveillance in 2007 was in 2020.

Hepatitis A typically has a marked seasonality in EU/EEA countries, with cases peaking between September and November (Figure 3). In, 2020, this typical seasonal trend with a peak in case numbers in September and October was not evident. Further, the monthly number of cases reported in throughout 2019 were consistently considerably lower in each month when compared to 2016–2019 (Figure 3).

Figure 4. Distribution of hepatitis A cases per 100 000 population, by age and gender, EU/EEA, 2020

Outbreaks and other threats

In 2020, three multi-country clusters were reported through ECDC's Epidemic Intelligence Information System for Food- and Waterborne Diseases (EPIS-FWD). Two multi-country clusters involving hepatitis A sub-genotype IA virus, were reported in EPIS-FWD. Frozen berries were considered the suspected vehicle of infection in both events. The third multi-country event was cluster of hepatitis A sub-genotype IB virus infections, however, a vehicle of infection was not identified.

Discussion

In 2020, hepatitis A was the fifth most commonly reported foodborne infectious disease in the EU/EEA. Despite this, the number of reported hepatitis A cases in 2020 was at the lowest level since the beginning of EU-level surveillance in 2007. Notably, in 2020 the COVID-19 pandemic had a considerable impact on the number of cases reported contributing to the lowest notification rate ever reported in the EU/EEA. Factors mentioned by countries which may explain the fewer number of cases e.g. people not seeking medical care for mild symptoms due to the risk of exposure to COVID-19 in healthcare facilities, restrictions on social gatherings/meeting others and less travel due to travel restrictions during the pandemic. The withdrawal of the UK from the EU may also have had an impact on the number of cases reported in 2020. Further, Spain did not receive data from all regions due to the COVID-19 pandemic, so the case numbers might not be complete for 2020.

Indeed, the overall trend of the reported number of cases of in the EU/EEA has been decreasing since 2017. In addition to the impact of the COVID-19 pandemic on the numbers of cases reported in 2020, the increased prevalence of natural immunity in the population following the large multi-country outbreak of hepatitis A genotype IB in 2017 and 2018 [1-4] in addition to heightened awareness of hepatitis A preventive measures (e.g. practising good hygiene and increased vaccine uptake) among at-risk groups, are also likely to have contributed to the observed decreasing trend.

In 2020, one third of cases were reported among children, which is consistent with previous years. Compared to adults, children are more likely to develop mild or very mild disease. As result, it can be difficult to capture the true number of cases in this population group, leading to a possible underestimation in number of cases [5]. In 2020, adults older than 44 years of age accounted for one third of cases in the EU/EEA. Older adults are at increased risk of severe disease, hospitalisations and, albeit rarely, death [6]. In 2020, a smaller proportion of cases were reported as travel associated (8.5%, n=209) compared to 2019 (14.6%, n=1 256). Decreased international travel and restrictions on travel during the COVID-19 pandemic is the most plausible explanation for this.

In 2020, similar to previous years, national authorities reported investigating clusters of cases suspected to be associated with foodborne transmission or with transmission taking place among PWID, a demographic known to be at increased risk of infection [7]. In both multi-country foodborne events investigated by national authorities, frozen berries were the suspected vehicle of infection highlighting that contamination of this food is often associated hepatitis A transmission in Europe [8].

Public health implications

The World Health Organization (WHO) sets out the following vaccination recommendations to reduce the incidence of hepatitis A. In countries at very low and low HAV endemicity, like most EU/EEA countries, WHO recommends vaccinating men who have sex with men (MSM), travellers to endemic areas and people who inject drugs (PWID) [5, 7]. The same groups should be targeted by communication campaigns to increase awareness on the infection and on the mode of transmission. In very low and low HAV endemicity settings, WHO also recommends vaccinating those individuals at risk of a severe outcome (i.e. immunocompromised individuals and the elderly). In countries of intermediate endemicity, WHO recommends universal childhood vaccination [7].

In all settings, measures aiming to improve hygiene and sanitation and rapid implementation of outbreak response are essential to reduce HAV transmission, including timely tracing of contacts of cases to reduce the likelihood of secondary and tertiary transmission. Further, collaboration between the public health and the food safety sectors is important to help reduce foodborne infections.

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