



Annual Epidemiological Report

August 2019

Hepatitis A in Ireland, 2018

Key Facts

Number of cases, 2018: 35

Crude notification rate, 2018: 0.7/100,000 population

The number of notifications of hepatitis A decreased significantly in 2018 compared to 2017 (n=66), but was similar to 2016 (n=38). The higher than usual notification rate in 2017 was due to 30 Irish cases associated with a large European-wide outbreak of hepatitis A, which mostly affected men who have sex with men.

2018 was a more typical year, with most cases of hepatitis A associated with travel outside Ireland.

Table of Contents

Background.....	3
Methods	3
Epidemiology	3
Number of notifications and notification rates.....	3
Geographic distribution.....	4
Age and sex.....	4
Country of infection.....	4
Outbreaks and sequencing of hepatitis A cases	6
Discussion	7
Further information.....	8
Acknowledgements	8
Report prepared by:	8
References	9

Background

Hepatitis A is an acute self-limiting disease of the liver caused by the hepatitis A virus. The most common symptoms are fever, loss of appetite and nausea, followed within a few days by jaundice. Disease severity varies, with some people having a relatively mild disease course lasting one to two weeks and others having more severe and prolonged symptoms lasting several months. Many infected children are asymptomatic. Chronic infection does not occur. The virus is shed in the faeces of infected people and is primarily spread from person to person through the faecal-oral route (via hands or other objects or through food or water that has been contaminated with the faeces of an infected person, or directly through oral-anal contact).¹

Hepatitis A infection occurs worldwide, but the risk of infection varies with levels of sanitation and personal hygiene. Ireland is considered a low incidence country. Most cases notified in Ireland have a history of recent travel or are part of small family outbreaks, often including an index case who has travelled outside Ireland. Common source foodborne outbreaks also occur. In addition, outbreaks linked to childcare facilities, outbreaks in men who have sex with men (MSM) and outbreaks in people who inject drugs (PWID) are also reported.¹

There is a safe, effective vaccine for hepatitis A and vaccination is recommended for travellers to endemic areas (Africa, Asia, Central and South America, Eastern Europe and the Middle East) and key populations at higher risk of infection, or more severe disease, such as MSM, PWID and people with chronic liver disease.¹

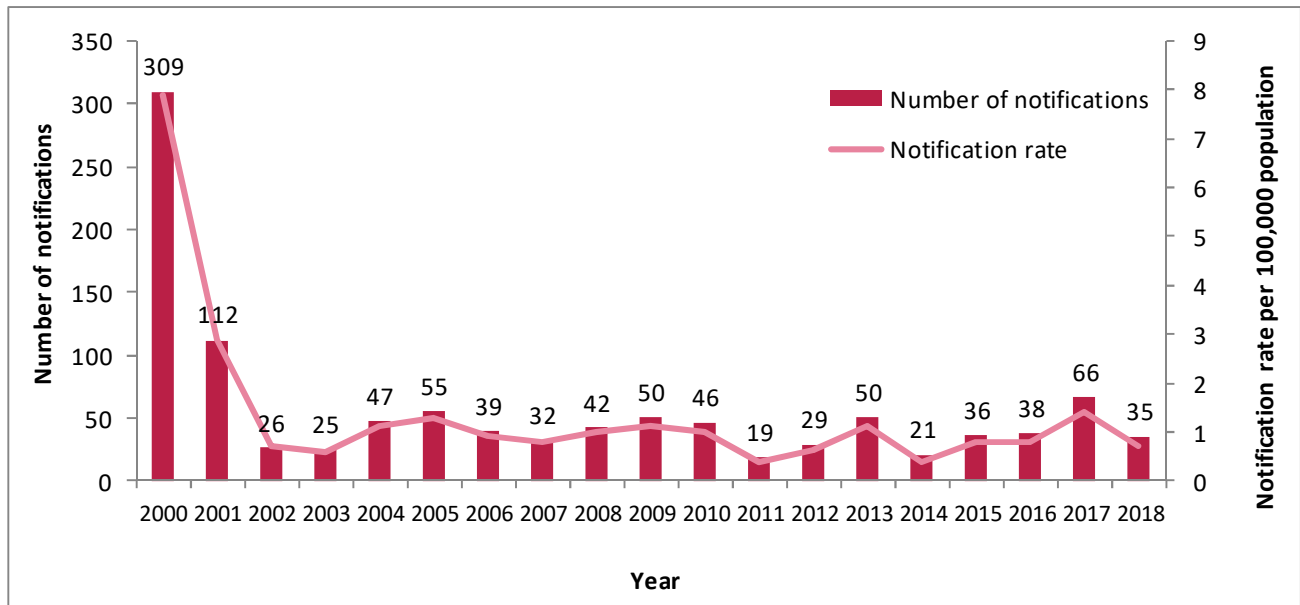
Methods

The figures presented in this summary are based on data extracted from the Computerised Infectious Disease Reporting (CIDR) System on 22nd July 2019. These figures may differ from those published previously due to ongoing updating of notification data on CIDR. Notification rates are expressed per 100,000 population and are calculated using the 2016 census (www.cso.ie). The National Virus Reference Laboratory (NVRL) carried out genetic sequencing on all hepatitis A specimens that were available to them and were suitable for sequencing.

Epidemiology

Number of notifications and notification rates

The incidence of hepatitis A in Ireland has been low over the last decade, ranging from 19 to 66 cases per year (0.4 to 1.4/100,000 population). 2018 was an average year, with 35 cases of hepatitis A notified (0.7/100,000 population) (figure 1).

Figure 1. Number of hepatitis A notifications in Ireland, 2000-2018

Geographic distribution

The notification rates in each HSE area for the past four years are shown in figure 2. The highest rates in 2018 were in HSE South East and HSE South. In the South, this was due to three outbreaks involving 8 cases of hepatitis A in total. One outbreak was also reported in the South East, but most of the remaining notifications were individuals who had travelled to endemic countries.

Age and sex

The highest notification rates in 2018 were in children and young to middle-aged adults (figure 3). This is a typical pattern for hepatitis A in Ireland and reflects lack of immunity and travel.

In 2017 there was an increase in hepatitis A notifications in adult males in Ireland due to a large European-wide outbreak in MSM involving three co-circulating strains of hepatitis A.² This outbreak was largely controlled by late 2017. The notification rates for males aged 25-44 years remained higher than that for females in the same age group in 2018. This was mostly due to five cases in MSM in this age group (one outbreak and one sporadic case).

Country of infection

The most likely country of infection was reported for 94% (n=33) of hepatitis A notifications in 2018. Of these, 79% (n=26) of cases were associated with travel outside Ireland and the remaining 21% (n=7) were infected in Ireland. However, four of the cases who were infected in Ireland were part of outbreaks where the index case was infected outside of

Ireland. The most common regions of infection were western Europe (including Ireland) (n=10), South & South-East Asia (n=8), Central Europe (n=5) and Latin America (n=4).

Figure 2. Notification rates for hepatitis A by HSE area in Ireland, 2015-2018

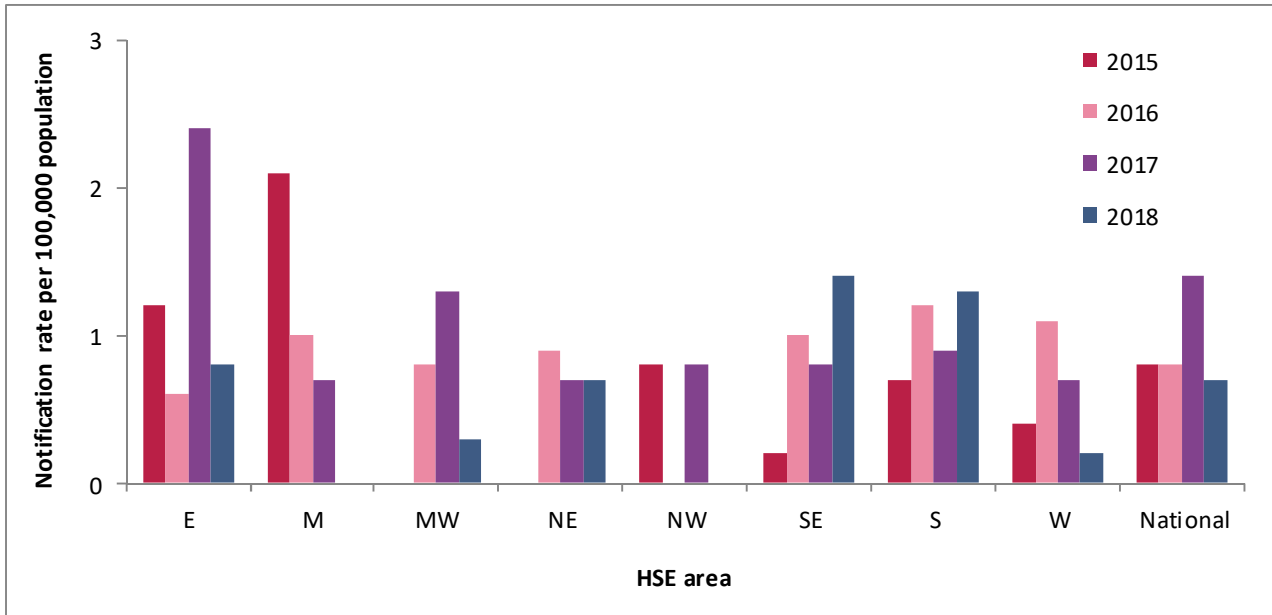
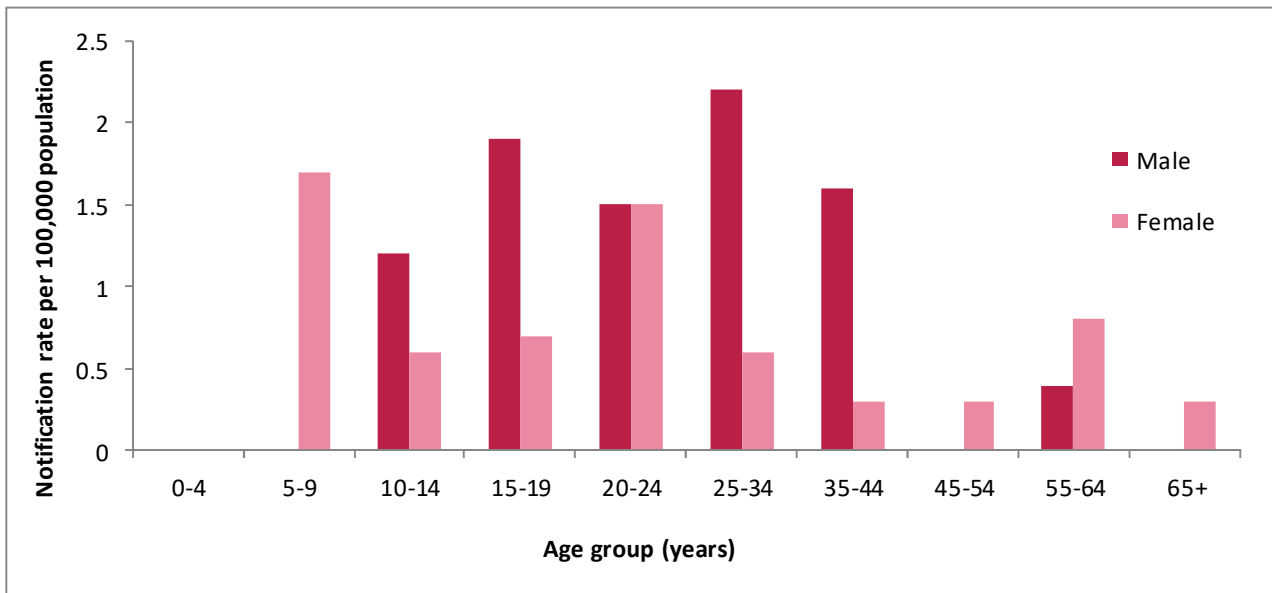


Figure 3. Hepatitis A age and sex-specific notification rates/100,000 population in Ireland, 2018



Outbreaks and sequencing of hepatitis A cases

The NVRL carried out genetic sequencing for over three quarters (77%, n=27) of hepatitis A cases notified in 2018 (figure 4). Four outbreaks involving a total of 10 cases of hepatitis A were reported in 2018 and sequencing data were available for some, or all, of the cases associated with each outbreak. The index case in all four outbreaks was likely to have been infected outside Ireland.

Genotype IIIA

One of the outbreaks involved two children in a family who had travelled to South/South East Asia and who were infected with genotype IIIA hepatitis A. Three further cases were infected with IIIA hepatitis A in 2018. These cases were not linked to one another or to the outbreak cases, but they had also travelled to countries in South/South-East Asia.

Genotype IA

A second family outbreak involving two children was reported in 2018. In this instance the family had travelled to Central Europe and the children were infected with genotype IA hepatitis A.

Ten further cases were diagnosed with other strains of IA hepatitis A in 2018. Two were infected with the VRD_521_2016 IA strain and were likely to have been infected in Latin America. Two were infected with the HAV16-090 IA strain and were likely to have been infected in Central Europe. These were two of the three IA strains associated with a very large European-wide outbreak in MSM in 2016/2017.² This outbreak had extended into the general population in Europe as it evolved and these Irish cases were not identified as MSM and were not linked to each other.

Four of the remaining cases with genotype IA hepatitis A were infected with strains that were similar to DK2018_231, a strain identified in clusters of cases of hepatitis A in eight European countries in 2018.³ Sequences differed for the remaining two cases with IA hepatitis A.

Genotype IB

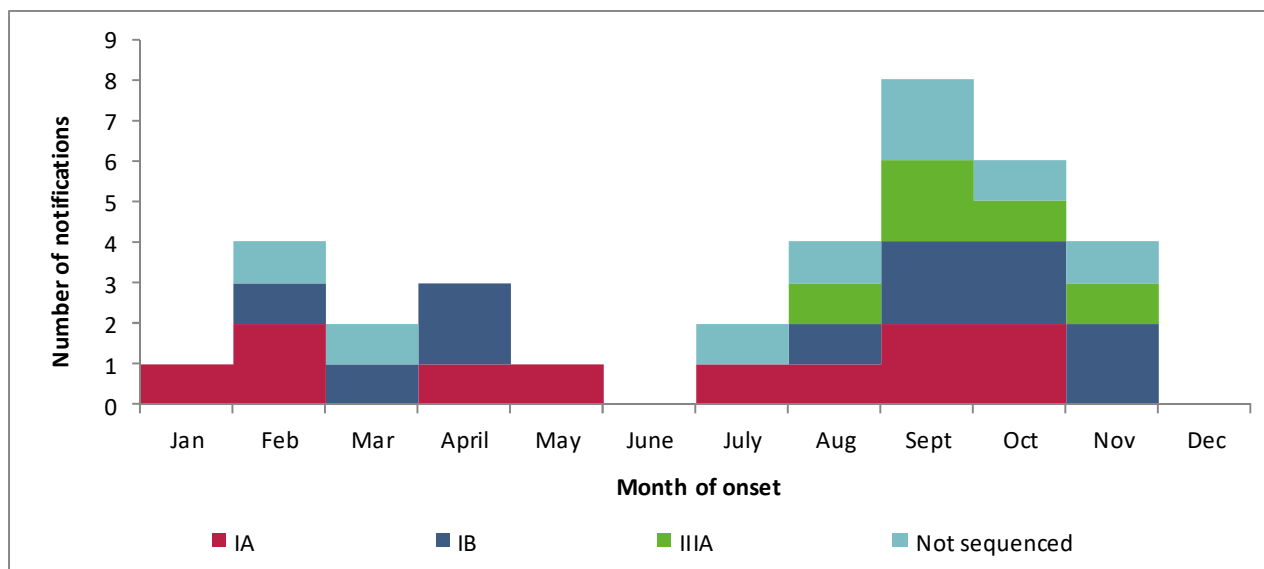
The index case in an outbreak involving two cases of hepatitis A in young adults, had travelled to another Western European country and was likely to have been infected there. Onward transmission in Ireland was associated with heterosexual sex. The particular IB strain of hepatitis A associated with this outbreak was also identified in a cluster of cases in the Western European country visited by index case, and these cases were suspected to have been infected through consumption of frozen strawberries. Three additional cases in Ireland were infected with the same IB hepatitis A strain in 2018. They had no known epidemiological links to one another or to the two outbreak cases. A small number of additional cases with this particular strain of hepatitis A were identified in four other European countries.

The remaining Irish outbreak involved four cases in MSM. The index case had travelled to a Central European country and the remaining cases were likely to have been infected

sexually in Ireland. The strain associated with the outbreak was IB RIVM_HAV17_090. This strain was previously identified in an outbreak in the Netherlands associated with raspberries imported from Bulgaria.⁴

Three further unlinked cases with different strains of genotype IB hepatitis A were identified in 2018. All were associated with travel to different countries.

Figure 4. Hepatitis A genotype results in Ireland in 2018, by month of onset (molecular characterisation is carried out by the National Virus Reference Laboratory)



Discussion

Information on the most likely country of infection was available for 33 out of the 35 cases of hepatitis A notified in 2018. Ninety one percent were associated with travel outside of Ireland, either directly (n=26), or in the case of outbreaks, via an index case who was infected outside Ireland (n=4).

Genetic sequencing has greatly facilitated the linking and investigation of cases of hepatitis A. Sequencing data were particularly important in terms of identifying and monitoring the large MSM outbreaks in Ireland and Europe in 2016 and 2017. Significant work was subsequently undertaken by the HSE, non-government organisations and community groups in Ireland to raise awareness of the risk of hepatitis A in MSM and to promote vaccination and safe sex measures. Five of the cases notified in 2018 were identified as MSM, indicating that continued efforts are needed to promote vaccination in key populations.

Sequencing data have also been instrumental in detecting a number of outbreaks that were ultimately linked to imported frozen berries. The largest of these was a prolonged hepatitis A outbreak in 2013/2014, which involved over 1,500 cases in 13 EU/EEA

countries, including Ireland.^{5,6} Smaller outbreaks linked to imported frozen berries have been reported in Europe since then, including one in the Netherlands in 2017⁴ and one in Sweden and Austria in 2018.⁷ Current advice from the Food Safety Authority of Ireland is to wash fresh berries and boil frozen berries for one minute prior to consumption.

Further information

<https://www.hpsc.ie/a-z/hepatitis/hepatitisa/slidesets/>

<https://www.hpsc.ie/a-z/hepatitis/hepatitisa/guidancepublications/>

<https://www.hpsc.ie/a-z/hepatitis/hepatitisa/factsheets/>

https://www.fsai.ie/news_centre/boil_imported_frozen_berries_advice_23072018.html

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https://www.sexualwellbeing.ie/sexual-health/sexually-transmitted-infections/types-of-stis/hepa_msm.pdf

<http://man2man.ie/stis/hepatitis-abc/>

http://man2man.ie/wp-content/uploads/2016/10/ForeignBodies_PassportLeaflet_PrintReady.pdf

Acknowledgements

Sincere thanks are extended to all those who participated in the collection of data used in this report. This includes notifying physicians, public health doctors, surveillance scientists, microbiologists, nurses, laboratory staff and administrative staff. Particular thanks to Jonathan Dean, NVRL, who provided sequencing results and expertise. Thanks also to Kirsty MacKenzie, HPSC, for proofing the style and content of this report.

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<https://www.eurosurveillance.org/content/10.2807/1560-7917.ES2015.20.29.21192>
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<https://www.eurosurveillance.org/content/10.2807/1560-7917.ES.2018.23.41.1800528>