Seirbhís Sláinte Níos Fearr á Forbairt | Building a Better Health Service

hpsc

Annual Epidemiological Report

November 2019

Hepatitis E in Ireland, 2018

Key Facts

Total number of cases, 2018:	74
Crude notification rate, 2018:	1.6/100,000 population
Number of clinical cases:	50
Crude notification rate clinical cases, 2018:	1.1/100,000 population
Number of cases detected through blood donor screening:	24
Percentage of blood donors HEV positive, 2018:	0.03%

The number of notifications of hepatitis E increased by 37% in 2018 compared to 2017 (n=54). Over two thirds (68%) of hepatitis E notifications in 2018 were clinical cases, detected because they presented with clinical symptoms or had liver function test results consistent with viral hepatitis. The remaining 32% of cases were blood donors detected through routine screening of blood donations. Notification rates for clinical cases were highest in older males.

Suggested citation: HSE Health Protection Surveillance Centre. Hepatitis E Annual Report 2018 Dublin: HSE HPSC; 2019

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Background

Hepatitis E infection is a disease of the liver caused by the hepatitis E virus (HEV). Most HEV infections are asymptomatic or mildly symptomatic.[1,2] In most cases infection is self-limiting and resolves in one to five weeks without any treatment. However, hepatitis E can be associated with severe disease and liver failure in a small number of at risk individuals and chronic hepatitis E infection may develop in people who have a suppressed immune system. Hepatitis E has also been reported in association with neurological symptoms such as Guillain-Barré syndrome and peripheral neuropathies.[1,2]

Four main hepatitis E genotypes associated with human infection have been identified. The genotypes have different geographic distribution and epidemiology. Genotypes 1 and 2 are restricted to humans and are mainly transmitted via faecally contaminated water in developing countries.

Genotypes 3 and 4 can infect humans, pigs and other mammals. HEV genotype 3 is the dominant genotype in Europe. It is thought that the majority of genotype 3 infections are foodborne, and are likely to be acquired through consumption of undercooked pig and game meat, processed pork or shellfish.[1,2] Direct spread of hepatitis E from person to person is rare, although transmission associated with blood transfusion has been reported in some countries.[4] Most cases of hepatitis E in developed countries are sporadic, but clusters of cases associated with common food sources have been identified.[2]

In 2015, the Irish Blood Transfusion Service (IBTS) carried out a research study to determine the incidence and prevalence of HEV in Irish blood donors. They found that 5% of those who had donated blood between September and December 2012 had evidence of past HEV infection and that from December 2013 to June 2014, 0.02% (5/24,985) of blood donors were infected at the time of blood donation. As a result of this study, the IBTS requested funding from the Department of Health for universal screening of blood donors for HEV. This was granted and commenced on January 4th 2016, with funding approved until 2021.[5]

The growing evidence of the risk of indigenous hepatitis E in Europe led to it becoming a notifiable disease in Ireland on December 15th 2015 (Amendment to the Infectious Diseases Regulations, SI 566 2015). Clinical cases and asymptomatic cases detected through blood donor screening are notifiable in Ireland.

Methods

The figures presented in this report are based on data extracted from the Computerised Infectious Disease Reporting (CIDR) System on 14th October 2019. HEV notification rates for clinical cases are expressed per 100,000 population and are calculated using the 2016 census. The IBTS provided data on the total number of blood donors in 2018 and the

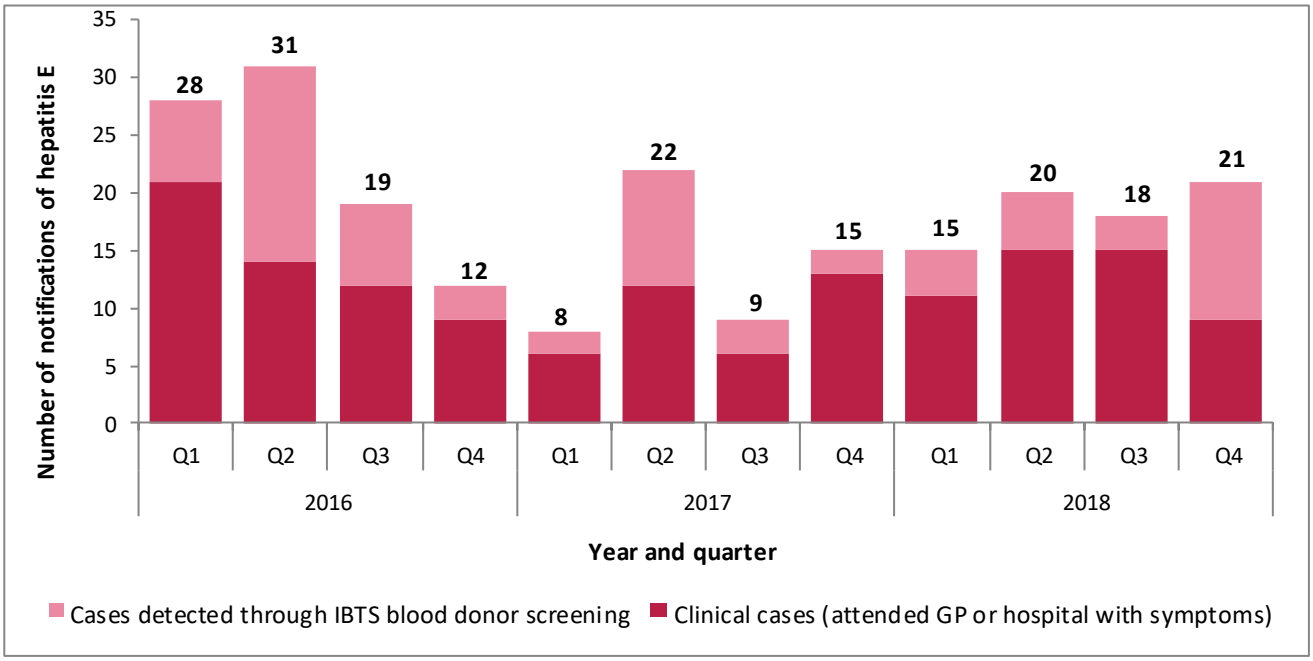
number who tested positive for current HEV infection, by age and sex. These data are used for calculating the percentage of blood donors in Ireland who tested positive for HEV.

Epidemiology

Number of notifications and notification rates

There were 74 notifications of hepatitis E in 2018 (1.6/100,000 population). This was a increase of 37% compared to 2017 (n=54), but was lower than the number of cases notified in 2016 (n=90) (figure 1). Country of birth was available for 31% (n=23) of cases in 2018 and 83% (n=19) of these were born in Ireland.

Figure 1. Number of notifications of hepatitis E in Ireland, Q1 2016-Q4 2018



Clinical cases (n=50)

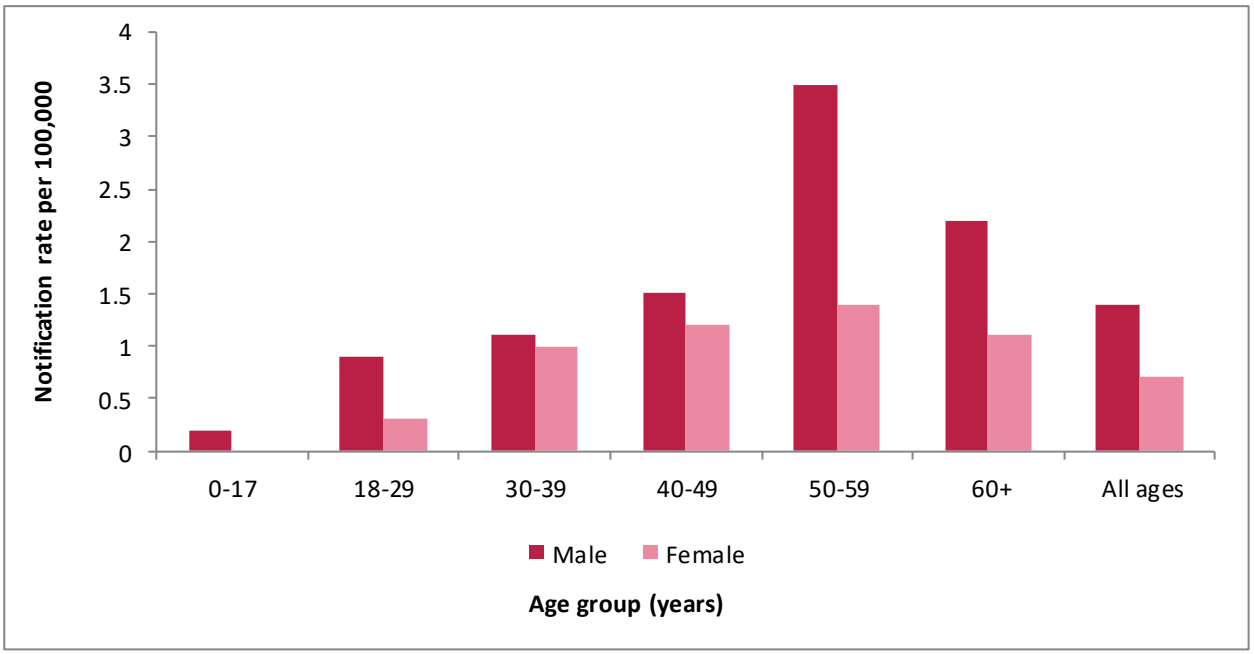
Sixty eight percent (n=50, 1.1/100,000 population) of HEV notifications were clinical cases. These cases were detected because they had laboratory investigations for symptoms consistent with Hepatitis E infection. Patient type was reported for 52% of clinical cases and 31% (n=8) of these were hospitalised.

The median age at notification for clinical HEV cases was 52.5 years (55.5 years for males and 49 years for females). The highest notification rates were in males aged 50 years and older (2.7/100,000 population), but cases were reported in adults in all age groups. Only one case was reported in a child in 2018.

Sixty four percent (n=32) of clinical cases were male and the notification rate for males (1.4/100,000 population) was double that for females (0.7/100,000 population). This

gender disparity was more evident in older age groups (50+ years) (figure 2). Cases were distributed across most regions in Ireland but the notification rates for clinical cases were highest in HSE E, MW and NE.

Figure 2. Age and sex specific notification rates per 100,000 population for clinical cases of hepatitis E in Ireland, 2018



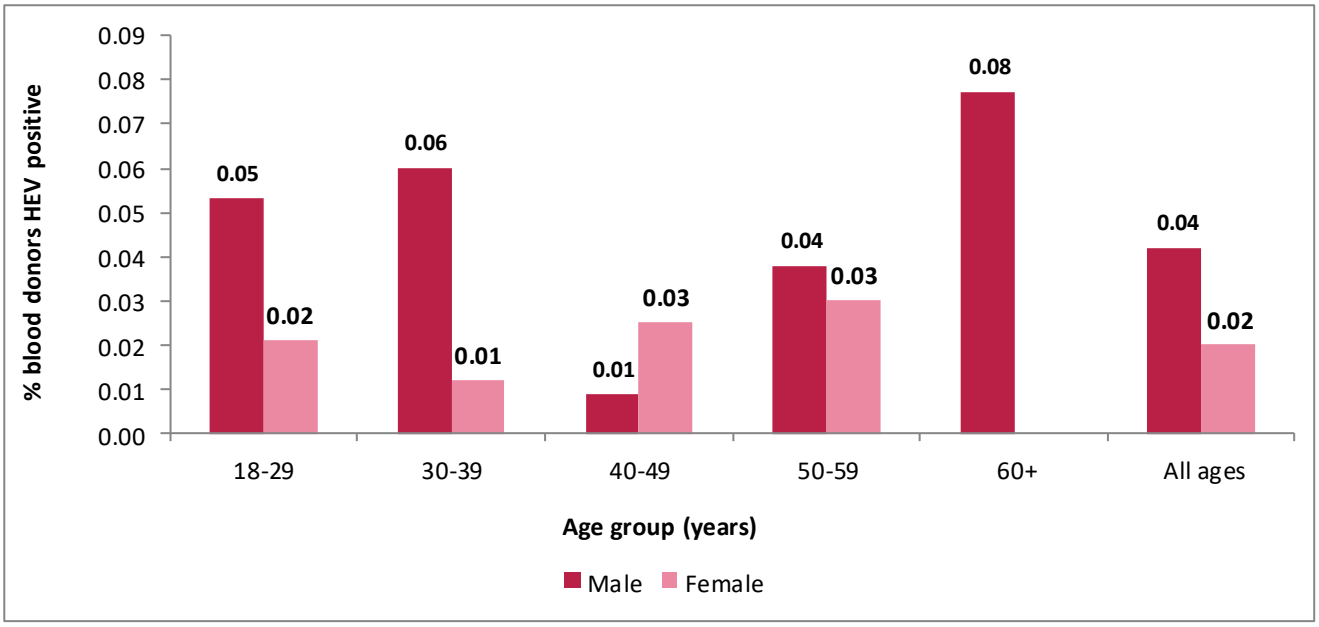
Cases diagnosed through IBTS blood donor screening (n=24)

Thirty two percent (n=24) of HEV cases notified to HPSC in 2018 were blood donors detected through routine screening of blood donations (figure 1). Cases diagnosed through blood donor screening are largely asymptomatic. However, enhanced data collected in 2016 and 2017 indicated that about one third of such cases had experienced mild symptoms.[7] HEV cases diagnosed through blood donor screening were younger overall than clinical cases with a median age at notification of 38.5 years.

The IBTS provided denominator data on the number of blood donors in 2018 so that the percentage of donors testing positive for current HEV infection by age and sex could be calculated. Although the age and sex profile of blood donors is not the same as that of the general population, the percentage of blood donors who test positive for HEV provides a useful estimate of the incidence and prevalence of HEV infection in the general population in Ireland. The overall prevalence of HEV infection in blood donors in 2018 was 0.033%, which was very similar to the prevalence reported in 2017 (0.031%) (figure 3).

The prevalence of HEV was higher in younger and older blood donors compared to those in their 40s. The overall prevalence in male blood donors (0.04%) was double that in females (0.02%) (figure 3).

Figure 3. Percentage of blood donors who tested positive for hepatitis E, by age group and sex, in Ireland, 2018



Source: IBTS

Discussion

The number of notifications of HEV in Ireland increased by 37% in 2018 compared to 2017, but decreased relative to 2016. Laboratory notifications in England also indicated a decline in cases in 2017 and subsequent increase in 2018 (https://www.gov.uk/government/publications/hepatitis-e-symptoms-transmission-prevention-treatment/hepatitis-e-symptoms-transmission-treatment-and-prevention).

Notification rates for clinical cases of HEV were highest in males aged 50 years and older. The HEV notification rate for male clinical cases, and the HEV prevalence in male blood donors, were double that for female clinical cases and blood donors. The age profile of cases diagnosed through blood donor screening differed to that of clinical cases, with IBTS cases being younger on average. Overall indications in Ireland are that HEV infection can occur at all ages but that older males are more likely to present with clinical infection.

Enhanced surveillance of hepatitis E in Ireland was carried out between January 2016 and June 2017. This was discontinued due to the consistency of the responses and the added burden it was placing on Departments of Public Health and the IBTS to collect the data. Pork consumption was almost universal amongst cases of HEV in Ireland for whom ESFs were completed.[6]

Similarly high levels of pork consumption have been found in other studies of hepatitis E in European countries. A large matched case control study in Germany compared the food

consumption habits of 270 non travel-related clinical cases of HEV to those of 1,159 matched controls. Consumption of pork, undercooked wild boar meat, ready to eat sausages and raw vegetables were all independently associated with an increased risk of infection. Six percent of controls followed a diet avoiding consumption of pork compared to 0.4% of cases. The population attributable fraction for dietary exposure to pork was 94%.[7]

To protect against hepatitis E infection from pork, the Food Safety Authority of Ireland currently recommends cooking pork thoroughly to a minimum of 75°C in the thickest part of the meat.[8] Normally grilling or frying of sausages until they are well browned with no traces of pink meat inside is usually sufficient to achieve this.

Further information

https://www.hpsc.ie/a-z/hepatitis/hepatitise/

https://www.fsai.ie/faq/hepatitis_E.html

https://www.efsa.europa.eu/en/efsajournal/pub/4886

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. HPSC would particularly like to thank the Irish Blood Transfusion Service for providing the blood donor data used in this report.

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