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Annual Epidemiological Report

September 2019

Hepatitis B in Ireland, 2018

Key Facts

Number of cases, 2018: 496

Crude notification rate, 2018: 10.4/100,000 population

The number of hepatitis B notifications decreased by 5% in 2018 compared to 2017 (n=523).

Ninety five percent of the hepatitis B cases notified in Ireland in 2018 were chronically infected. Most chronically infected cases migrated to Ireland from hepatitis B endemic countries and a large proportion were likely to have been infected at birth or in early childhood in their countries of birth.

The number of acute cases (recent infections) notified in 2018 was low (n=23). Most acute cases of hepatitis B in Ireland are sexually acquired.

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Background

Hepatitis B is a vaccine preventable disease caused by the hepatitis B virus. It is transmitted through percutaneous or mucocutaneous contact with the blood or body fluids of an infected person. Symptoms of acute infection include anorexia, abdominal discomfort, nausea and vomiting, often followed by jaundice. Symptoms are frequently milder, and jaundice is less likely, in children. Acute infection is usually asymptomatic in infants. After acute infection, the risk of developing chronic hepatitis B declines with increasing age.[1] Approximately 80-90% of infants infected at birth will develop chronic infection, compared to 30-50% of children infected between the ages of one and five years. Less than 5% of those infected as previously healthy adults will develop chronic hepatitis B. An estimated 20-30% of those who develop chronic infection with develop cirrhosis of the liver or hepatocellular carcinoma.[1]

The prevalence of hepatitis B in the general population in Ireland is estimated to be low (less than 0.5%).[2] This is similar to other northern European countries (0.1-0.7%).[3] Most cases occur in defined risk groups; such as people with multiple sexual partners, sexual or household contacts of known cases, people who inject drugs (PWID) and people who were born in countries with intermediate (2-7%) or high (≥8%) hepatitis B endemicity.

Methods

The figures presented in this report are based on data extracted from the Computerised Infectious Disease Reporting (CIDR) System on 19th August 2019. These figures may differ from those published previously due to ongoing updating of the notification data on CIDR. Notification rates are expressed per 100,000 population and are calculated using the 2016 census (www.cso.ie).

Epidemiology

Number of notifications and notification rates

There were 496 notifications of hepatitis B in 2018 (10.4/100,000 population). This was a decrease of 5% compared to 2017 (n=523, 11/100,000 population), but was similar to the numbers reported for 2016. Hepatitis B notifications more than halved between 2008 (n=897, 21/100,000 population) and 2013 (n=423, 9/100,000 population), but recent trends indicate that the notification rate has stabilised (figure 1).

Notification rates for each HSE area for the past four years are shown in figure 2. The highest notification rate in 2018 was in HSE E (17/100,000 population, n=284, 57% of notifications).

All cases of hepatitis B were laboratory confirmed. Ninety eight percent (n=488) of the 496 notifications contained information on acute/chronic status. Of these, 95% (n=465, 9.8/100,000 population) of cases were chronically infected (long-term infection) and 5% (n=23, 0.5/100,000 population) were acutely infected (recent infection). Both acute and chronic cases of hepatitis B are notifiable in Ireland.

Figure 1. Number of hepatitis B notifications by acute/chronic status, and notification rate per 100,000 population in Ireland, 1997-2018

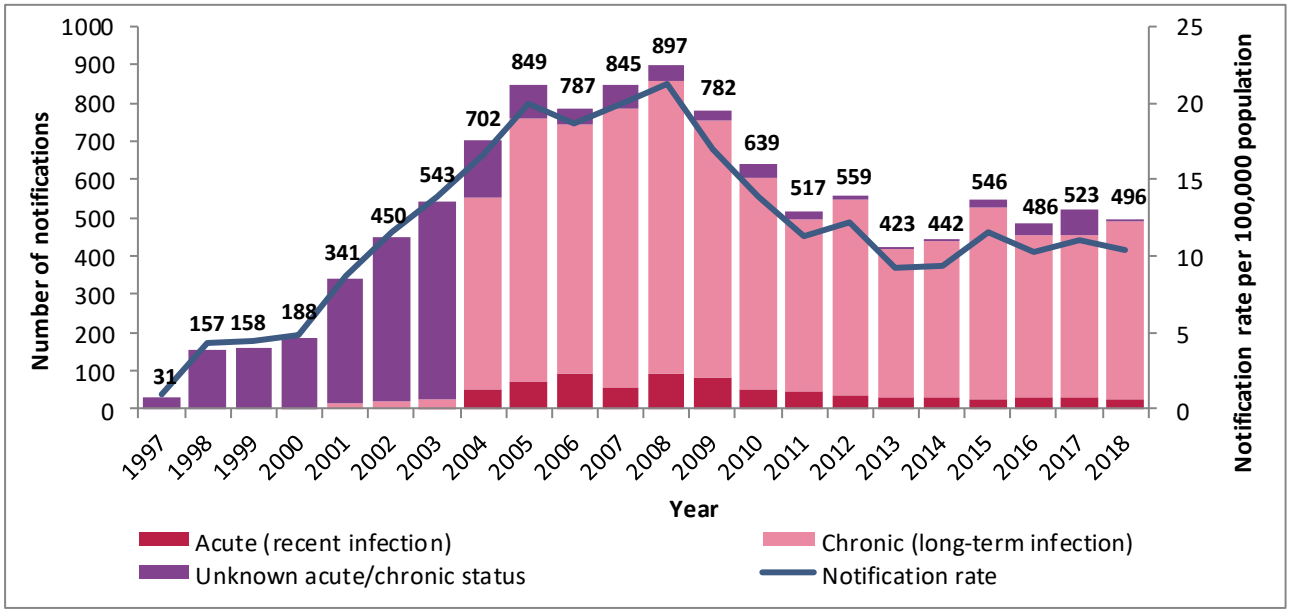
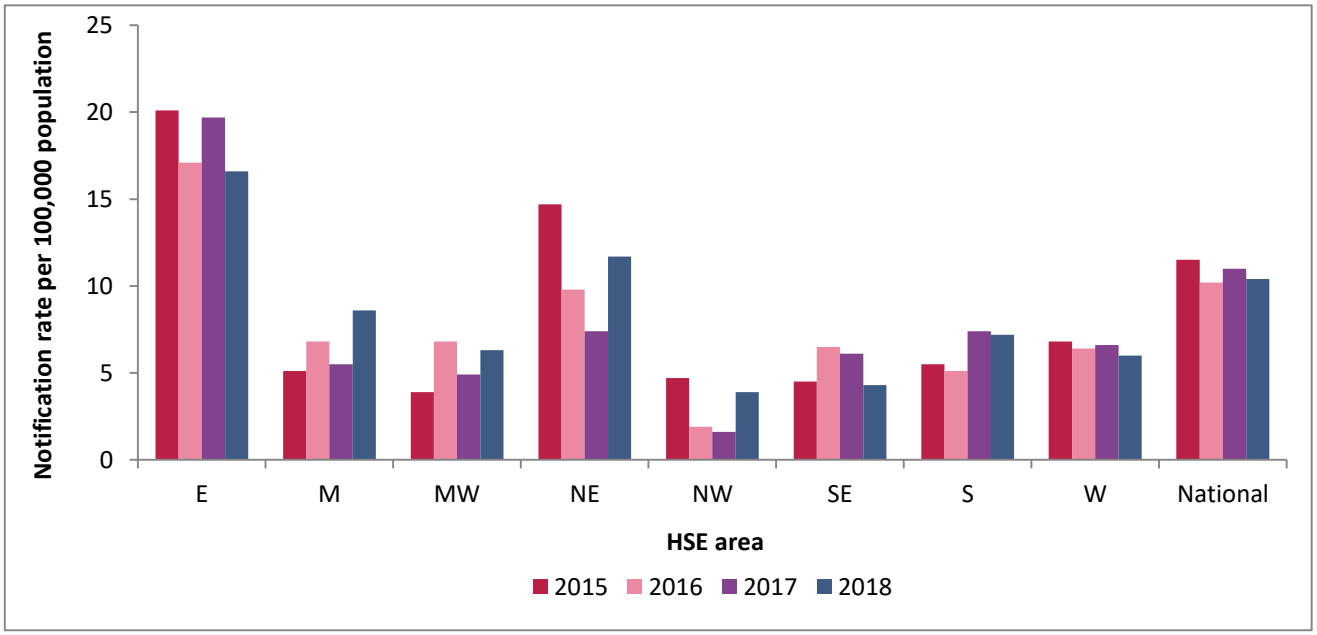


Figure 2. Hepatitis B notification rates/100,000 population by HSE area in Ireland, 2015-2018



Acute cases (recent infections)

The number of acute cases of hepatitis B notified in Ireland has been low in recent years and decreased further in 2018 with 23 cases notified compared to 30 cases in 2017 (figure 3). This is the lowest number of acute cases reported to date in Ireland (case definitions distinguishing acute and chronic cases of hepatitis B were introduced in 2004). Seventy percent (n=16) of acute cases in 2018 were male. Cases ranged in age from 18 to 73 years. Male cases were older on average, with a median age at notification of 37.5 years compared to 25 years for females (overall median age: 31 years) (figure 3). The age and sex distribution of acute cases notified in 2018 is shown in figure 4.

Information on risk factor was available for 91% (n=21) of the acute cases notified in 2018. Of these, 48% (n=10) were likely to have been sexually acquired. Five were heterosexual, three were men who have sex with men (MSM) and sexual orientation was not reported for two.

No risk factor was identified for one third of acute cases (n=7) despite public health follow up. Of the remaining four cases, two reported tattooing (outside Ireland) as their most likely risk factor for infection, one was infected through non-occupational needlestick or blood exposure and the remaining case was infected through a blood transfusion in Ireland. This final case was initially diagnosed in 2017, but notified in 2018. The donated blood had been screened for hepatitis B, but had tested negative. This was because it was donated at a very early stage of infection when the virus cannot be consistently detected even using the most sensitive tests available. The blood donor subsequently developed symptoms of acute hepatitis B infection and the transfusion recipient was traced, tested and found to have been infected with hepatitis B.
https://www.giveblood.ie/media/newsroom/press_releases/2017/ibts-confirms-a-transfusion-transmission-of-hepatitis-b-hbv-.html

Country of birth was specified for 96% (n=22) of acute cases. Over three quarters (77%, n=17) were born in Ireland. Country of infection was reported for 15 cases (65%). The most common countries of infection were Ireland (n=10) and Thailand (n=3). The reason for testing was known for 91% (n=21) of cases and most were tested because they were symptomatic (n=16, 76%).

Figure 3. Number of acute cases of hepatitis B notified, by sex and median age, in Ireland, 2004-2018

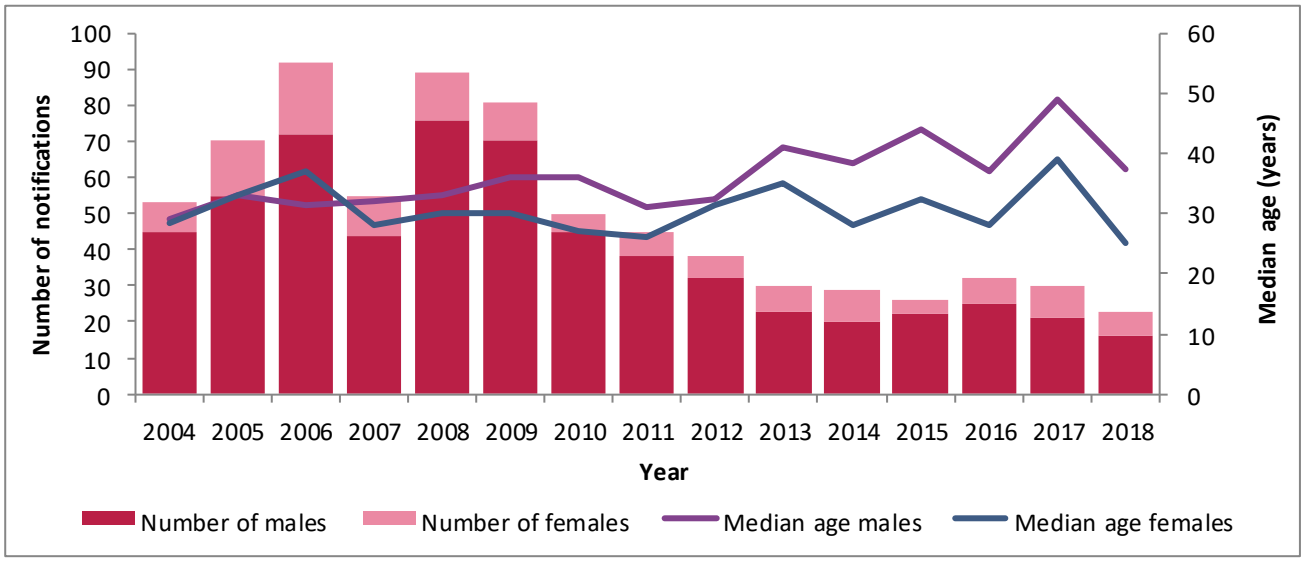
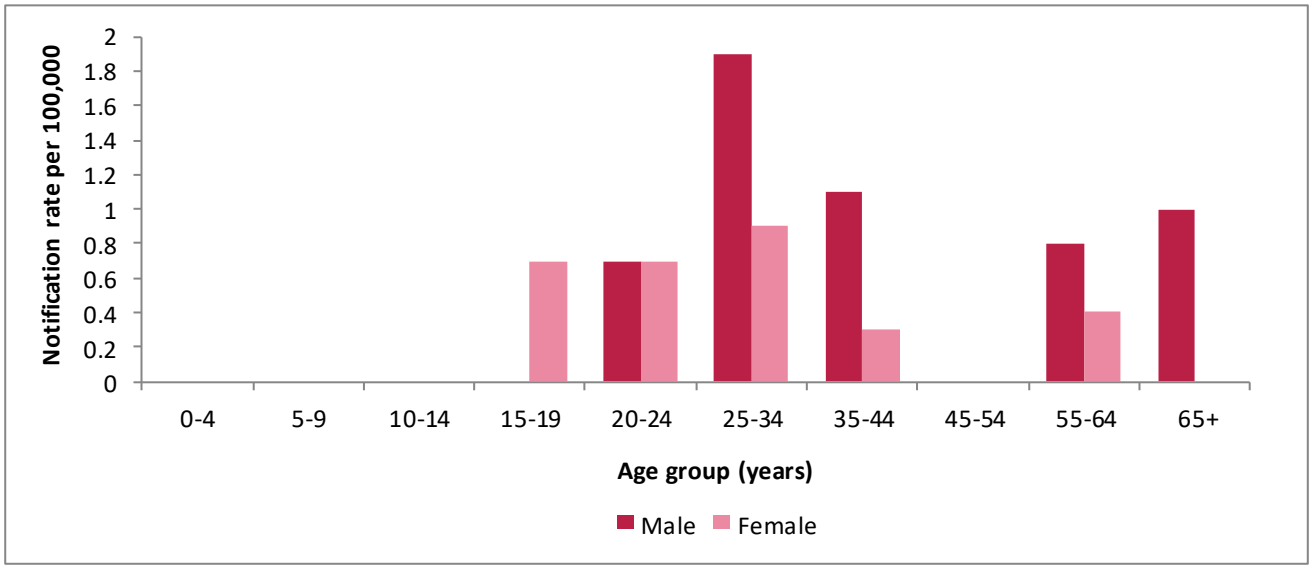


Figure 4. Age and sex-specific notification rates/100,000 population for acute cases of hepatitis B in Ireland, 2018



Chronic cases (long-term infections)

Chronic hepatitis B notification rates halved between 2008 (highest rates) and 2013, but have since stabilised. Figure 5 shows the number of chronic cases notified annually between 2004 and 2018. Of the 465 chronic cases notified in 2018, 62% (n=287) were male, 37% (n=174) were female and sex was not reported for four cases. Cases ranged in age from 1 to 77 years, with 88% (n=410) aged between 20 and 54 years when notified (figure 5). Male cases were slightly older than female cases with a median age at

notification of 36 years compared to 33 for females (overall median: 35 years). The age and sex distribution for chronic cases notified in 2018 is shown in figure 6.

Figure 5. Number of chronic cases of hepatitis B notified, by sex and median age, in Ireland, 2004-2018

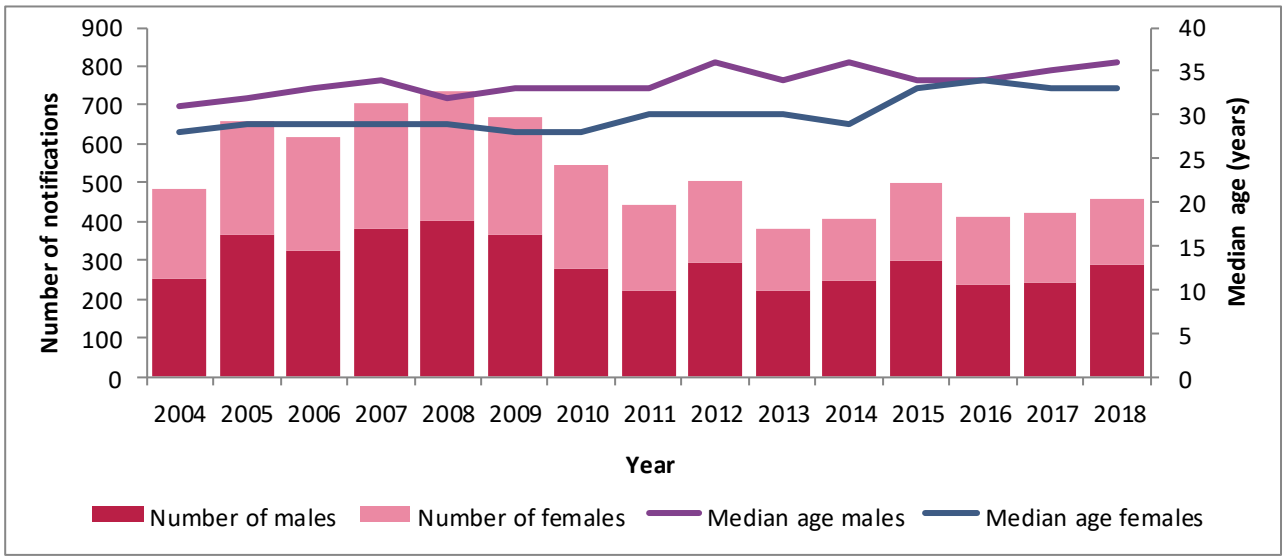
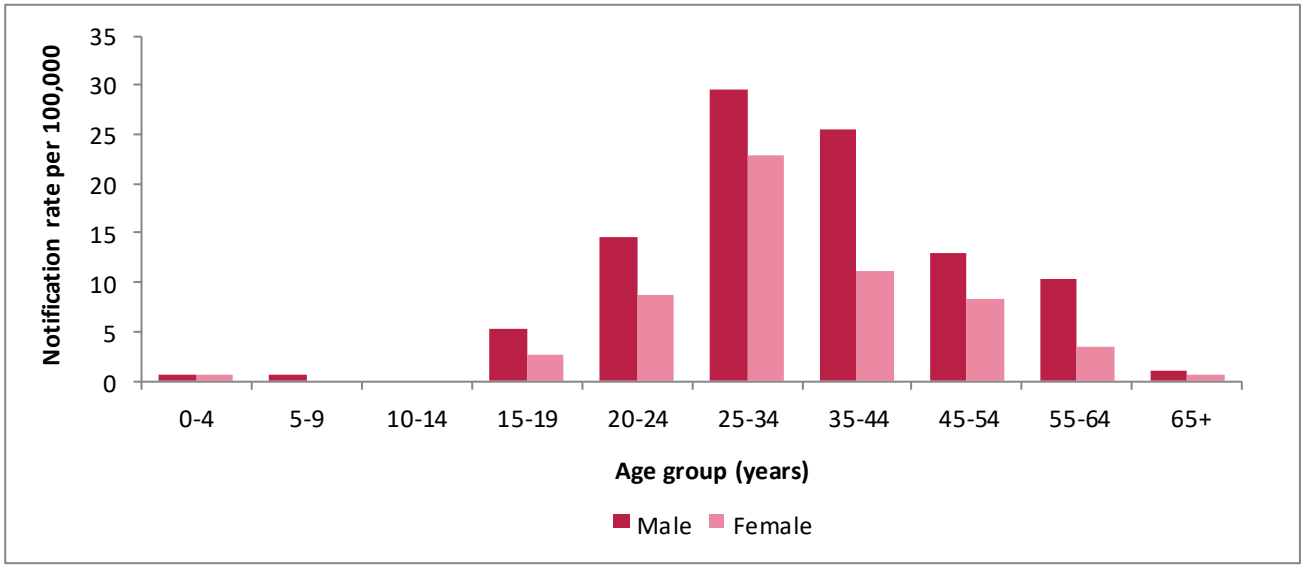


Figure 6. Age and sex-specific notification rates/100,000 population for chronic cases of hepatitis B in Ireland, 2018



Although primary risk factor was only reported for 16% of chronic cases in 2018, data on country of birth or asylum seeker status was available for 68% (n=315). Of these, 86% (n=270) were either born in a hepatitis B endemic country (hepatitis B surface antigen

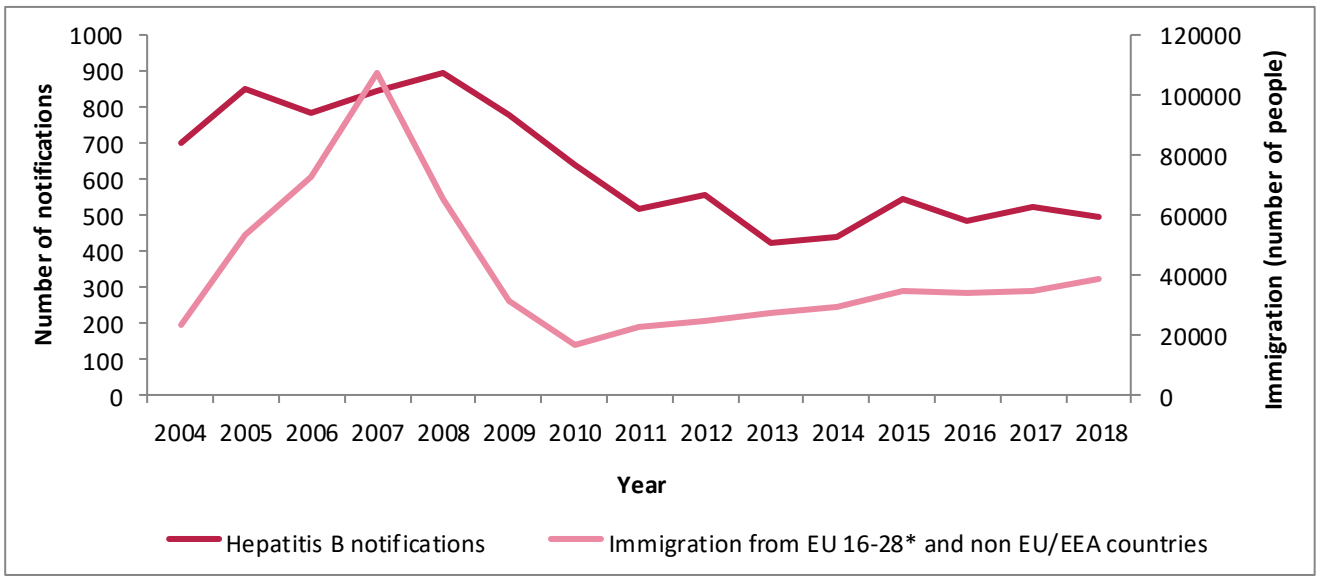
prevalence ≥2%) or were asylum seekers. Most of these cases are likely to have been infected outside Ireland, but the actual mode of acquisition of infection is often not known. Where country of birth was reported (65%, n=301), the most common birth countries were in central or eastern Europe (38%, n=114), Asia (29%, n=86), sub-Saharan Africa (21%, n=64) and western Europe (7%, n=21). Of those born in western Europe, 13 were born in Ireland.

The reason for testing was known for 80% (n=371) of chronic cases. The most common reasons were: antenatal screening (19%, n=69), routine health screening (16%, n=61), asylum seeker screening (14%, n=52), STI screening (12%, n=44) and re-testing of known cases (not previously notified) (11%, n=41).

Immigration and hepatitis B notifications

Hepatitis B notifications are influenced by trends in immigration to Ireland. The large increase in the number of hepatitis B cases between 1997 and 2008 (figure 1) was mainly due to significant numbers of people migrating to Ireland from hepatitis B endemic countries. Figure 7 shows trends in hepatitis B (acute or chronic) notifications alongside immigration estimates from the Central Statistics Office.[4]

Figure 7: Number of hepatitis B notifications in Ireland and estimated number of immigrants from EU16-28* & non EU/EEA countries (excluding Canada, United States and Australia), 2004-2018



*Cyprus, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia, Slovenia, Bulgaria, Romania and Croatia

Co-infections

Co-infection with other bloodborne viruses, such as hepatitis C and HIV, can lead to more severe liver disease and an increased risk of liver cancer in people with hepatitis B infection. Fifteen hepatitis B cases notified in 2018 were co-infected with HIV (3%) and a further five cases were co-infected with hepatitis C (1%). Other recent sexually transmitted infections (mostly syphilis, chlamydia and gonorrhea) were reported for seventeen cases.

Discussion

The number of hepatitis B notifications decreased by 5% in 2018 compared to 2017, but was similar to the number of cases reported in 2016. The vast majority of hepatitis B notifications in Ireland are chronic cases, most of whom migrated to Ireland from hepatitis B endemic countries. The number of acute cases of hepatitis B decreased by 23% in 2018 compared to 2017 and was the lowest number of acute cases reported to date in Ireland. Acute cases are generally well followed up and information on risk factor is available for most. Just under half of acute cases in 2018 were likely to have been acquired sexually and no risk factor was identified for one third of cases despite follow up by the local Departments of Public Health.

There is a safe and effective vaccine for hepatitis B. Immunisation is recommended for those who change sex partner frequently, MSM, attendees at STI clinics, immigrants from areas with a high or intermediate prevalence of hepatitis B, close contacts of cases and others at increased risk of infection or more severe disease. Universal hepatitis B vaccination was introduced in Ireland in 2008 as part of the primary vaccine programme for infants (https://www.hse.ie/eng/health/immunisation/hcpinfo/guidelines/chapter9.pdf).

Further information available on HPSC website

https://www.hpsc.ie/a-z/hepatitis/hepatitisb/factsheetsleaflets/

https://www.hpsc.ie/a-z/hepatitis/hepatitisb/hepatitisbreports/

https://www.hpsc.ie/a-z/hepatitis/hepatitisb/slidesets/

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3. European Centre for Disease Prevention and Control. Epidemiological assessment of hepatitis B and C among migrants in the EU/EEA. Stockholm: ECDC; 2016.
4. Central Statistics Office (2016) Immigrants (thousand) by country of origin. Accessed 22nd August 2019. Available from: http://www.cso.ie/multiquicktables/quickTables.aspx?id=pea18_1