5.1 Hepatitis B

Summary

Number of cases, 2016: 488
Crude notification rate, 2016: 10.2/100,000 population
Number of cases, 2015: 548

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 may include anorexia, abdominal discomfort, nausea and vomiting, often followed by jaundice. Symptoms are frequently milder and without jaundice in children. Acute infection is usually asymptomatic in infants. After acute HBV infection, the risk of developing chronic hepatitis B declines with increasing age.[1] Approximately 90% of infants infected at birth will develop chronic infection, compared to 20-50% of children infected between the ages of one and five years. Only 1-10% of those infected as older children or adults will develop chronic hepatitis B. An estimated 15-25% of those who develop chronic infection with die prematurely of either cirrhosis of the liver or hepatocellular carcinoma.

The prevalence of hepatitis B in the general population in Ireland is low (less than 1%). This is similar to other northern European countries (0.1-0.7%).[2] Most cases fall into 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.

The number of hepatitis B cases reported in Ireland decreased by 11% in 2016, with 488 cases (10.2/100,000 population) notified compared to 548 in 2015. Hepatitis B notifications had been generally decreasing since their highest levels in 2008 (n=898, 21.2/100,000 population), but recent trends indicate that notifications are stabilising rather than continuing to decline. Annual hepatitis B notifications since 1997 are shown in figure 1.

The highest notification rates were in HSE E (17.2/100,000 population, n=295) and HSE NE (9.8/100,000 population, n=45). Geographic trends for the past four years are shown in figure 2.

All cases were laboratory confirmed. Ninety three percent (n=454) of the 488 notifications contained information on acute/chronic status. Of these, 7% (n=32, 0.7/100,000 population) of cases were acutely infected and 93% (n=422, 8.9/100,000 population) were chronically infected. Both

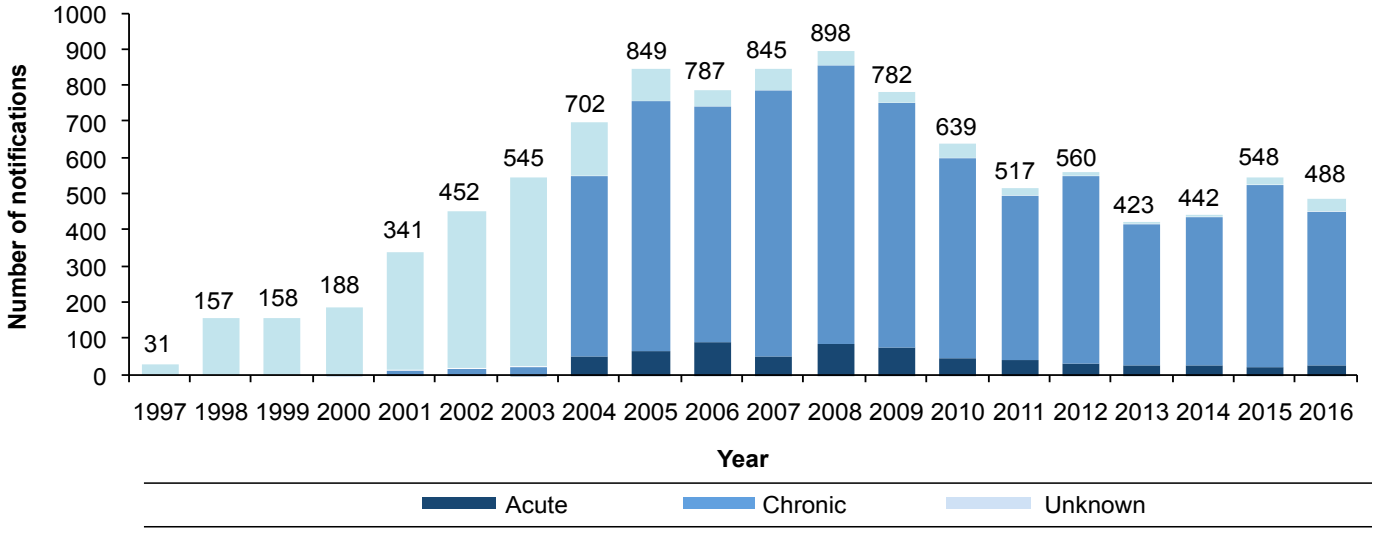

Figure 1. Number of hepatitis B notifications by acute/chronic status, 1997-2016

acute and chronic cases of hepatitis B are notifiable in Ireland.

Acute cases (recent infections)

The number of acute cases of hepatitis B notified in Ireland was relatively low, but increased slightly in 2016 (n=32) compared to 2015 (n=26) (figure 3). Seventy eight percent (n=25) of acute cases notified in 2016 were male. Seventy two percent of cases (n=23) were aged between 25 and 44 years and the median age at notification was 35.5 years (figures 3 & 4).

Information on risk factor was available for 81% (n=26) of the acute cases notified in 2016. Of these, 65% (n=17) were likely to have been sexually acquired (ten heterosexual and seven men who have sex with men (MSM)). The most likely risk factor for one case was injecting drug use and two additional cases reported snorting cocaine but had not injected drugs. Other risk factors were reported for two cases and no risk factor was identified for four cases despite public health follow up.

Country of birth was specified for 78% (n=25) of acute cases, 64% (n=16) of whom were born in Ireland. Country of infection was reported for 60% (n=19), 74% (n=14) of whom were infected in Ireland. The reason for testing was known for 28 cases and most were tested because they were experiencing symptoms (n=21, 75%) or because they requested STI screening (n=3, 11%).

Chronic cases (long-term infections)

Notifications of chronic hepatitis B almost halved between peak levels in 2008 (n=768) and 2013 (n=387). The number of chronic cases reported then increased by 6% in 2014 and by 22% in 2015, but decreased by 16% in 2016 (n=422) (figure 5). Of the 422 chronic cases notified in 2016, 56% (n=237) were male, 42% (n=177) were female and sex was not reported for 8 cases. Eighty seven percent (n=369) of chronic cases were aged between 20 and 54 years when notified and the median age at notification was 34 years (figures 5 & 6).

Although primary risk factor was reported for a minority of chronic cases in 2016, data on country of birth or asylum seeker status was available for 53% (n=223). Of these, 78%

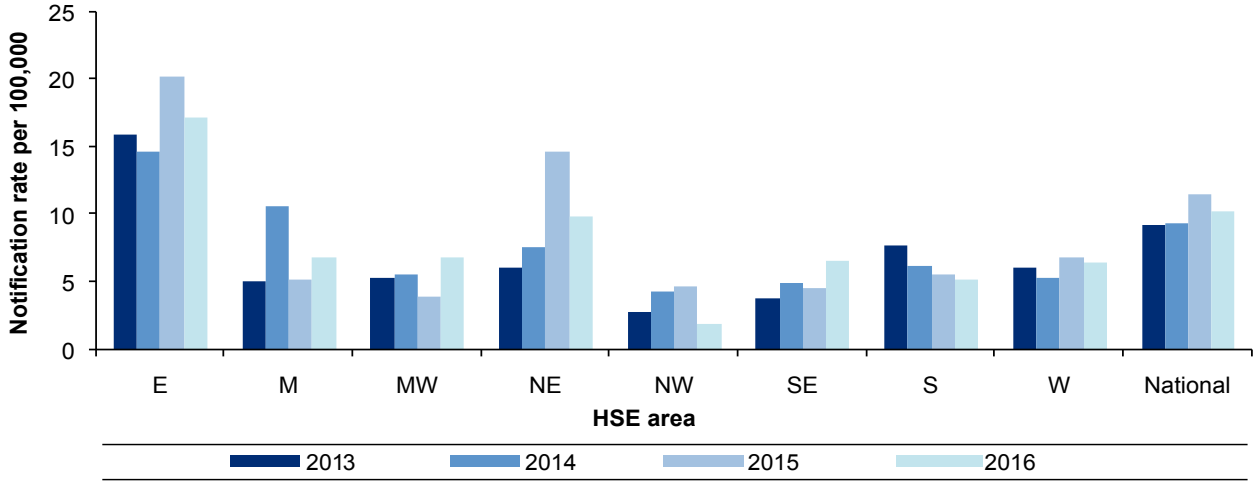

Figure 2. Hepatitis B notification rates/100,000 population, by HSE area, 2013-2016

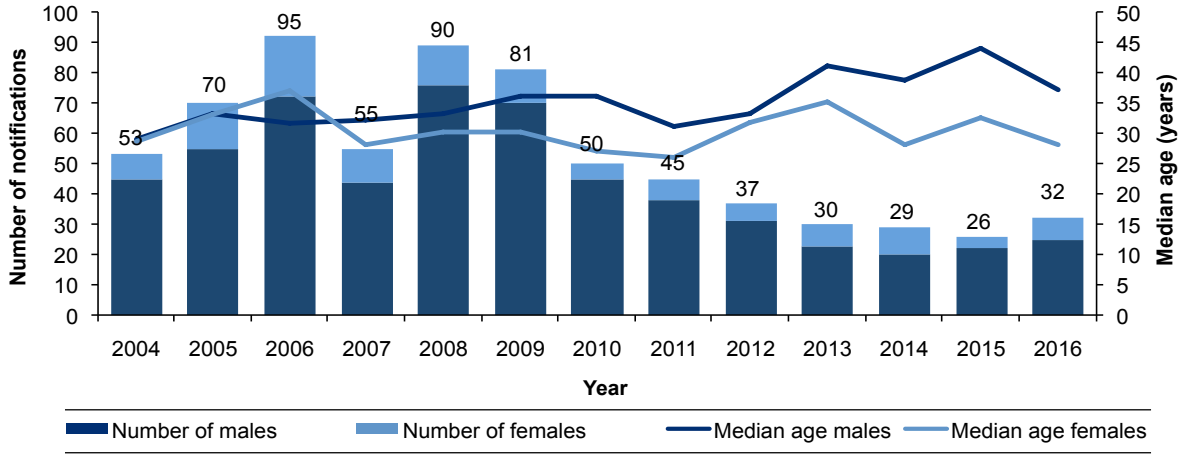

Figure 3. Number of acute cases of hepatitis B notified, by sex and median age, 2004-2016

(n=175) 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 unknown for the majority. Where country of birth was available (48%, n=202), the most common birth countries were in Asia (34%, n=69), central or eastern Europe (33%, n=67), sub-Saharan Africa (23%, n=47) and western Europe (6%, n=13). Of those born in western Europe, eleven were born in Ireland.

The reason for testing was known for 64% (n=269) of chronic cases. The main reasons were: antenatal screening (26%, n=69), re-testing of known cases (not previously notified) (20%, n=53), asylum seeker screening (11%, n=30) and STI screening (8%, n=21).

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) coincided with significant numbers of people migrating to Ireland from hepatitis B endemic countries.[3] The economic downturn in 2008 was reflected in a decline in both immigration and hepatitis B notifications. The subsequent economic recovery has resulted in increased immigration in recent years and this is likely to have contributed to the recent increase in hepatitis B notifications. Figure 7 shows trends in hepatitis B notifications alongside immigration trends.

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. Four hepatitis B cases notified in 2016 were co-infected with hepatitis C and thirteen additional cases were co-infected with HIV. Other sexually transmitted infections were also reported for some of the cases of hepatitis B notified in 2016. Five had recently been diagnosed with chlamydia, three with syphilis (two HIV positive), one with gonorrhoea and one with genital herpes simplex (HIV positive).

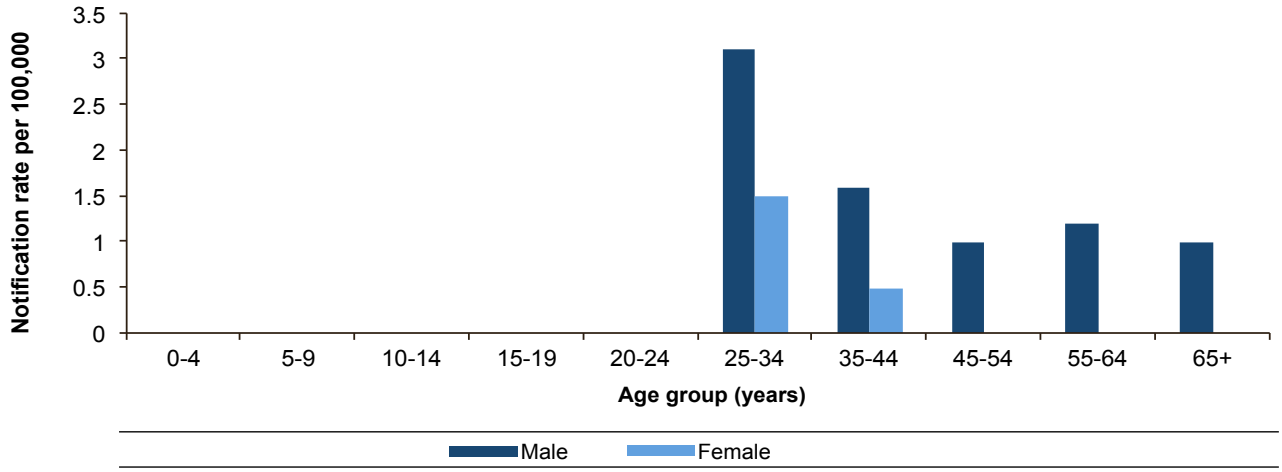

Figure 4. Age and sex-specific notification rates/100,000 population for acute cases of hepatitis B, 2016

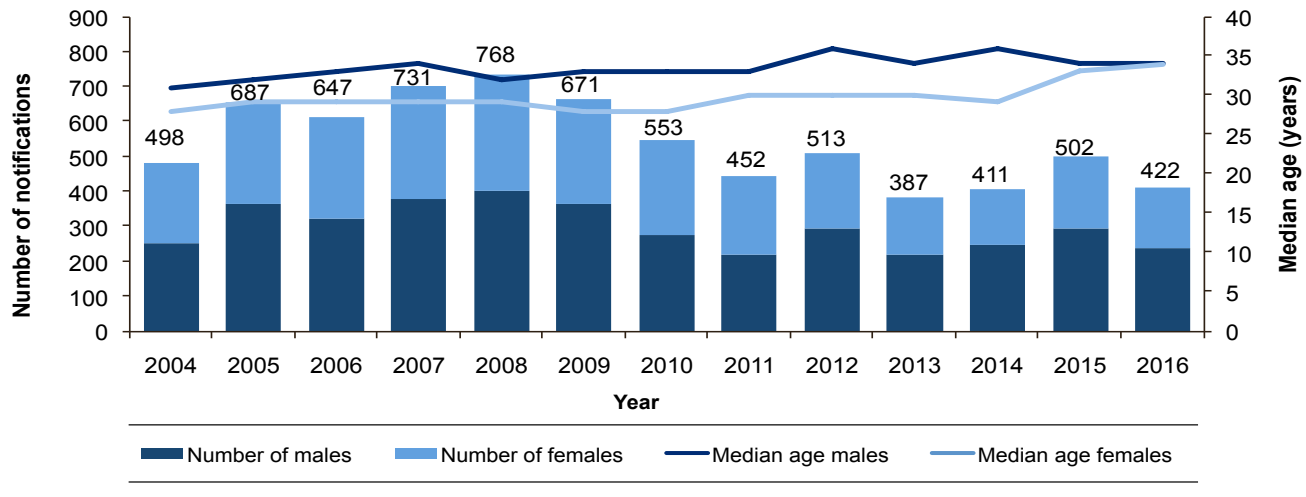

Figure 5. Number of chronic cases of hepatitis B notified, by sex and median age, 2004 to 2016

Discussion

Hepatitis B notifications more than halved between 2008 and 2013. However, this rapid rate of decline has not continued in recent years and the notification rate now appears to be stabilising. The vast majority of hepatitis B notifications in Ireland are chronic cases and largely reflect people migrating to Ireland from hepatitis B endemic countries. The number of acute cases of hepatitis B increased in 2016 but remained relatively low. Most acute cases notified in Ireland are sexually acquired.

The figures presented in this summary are based on data extracted from the Computerised Infectious Disease Reporting (CIDR) System on 12th October 2017. 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.

Acknowledgements

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References

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3. Central Statistics Office (2016) Immigrants (thousand) by country of origin. Accessed 12th October 2017. Available from: http://www.cso.ie/multiquicktables/quickTables.aspx?id=pea18_

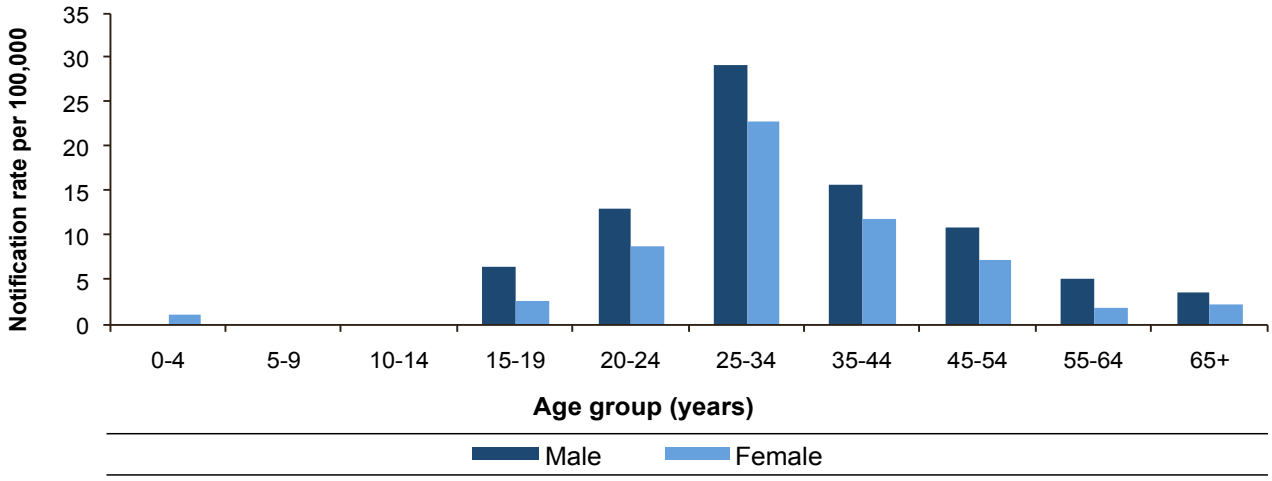

Figure 6. Age and sex-specific notification rates/100,000 population for chronic cases of hepatitis B, 2016

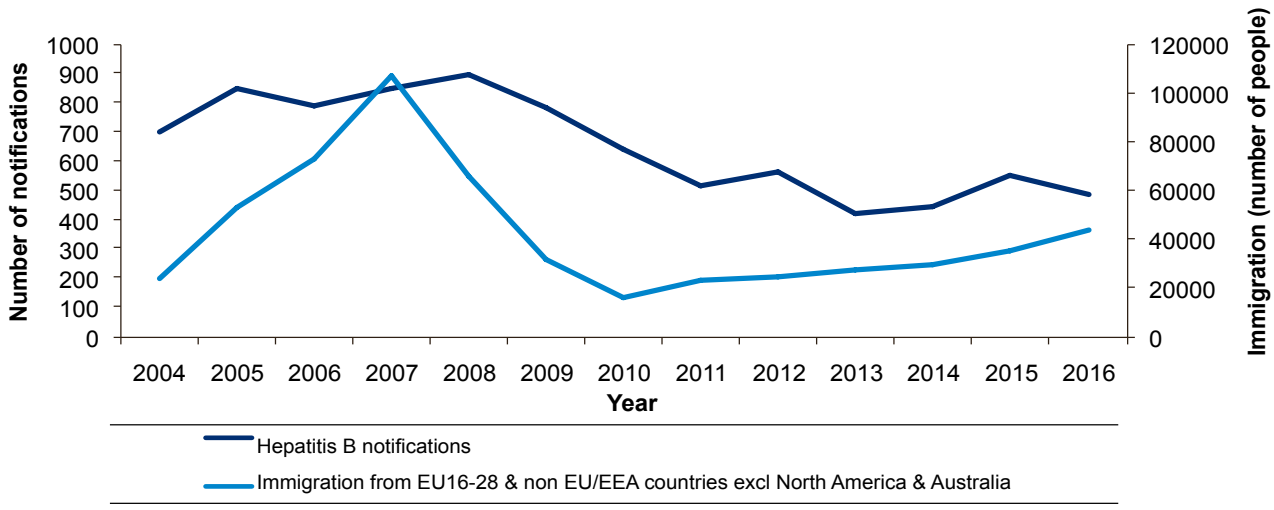

*Figure 7. Number of hepatitis B notifications and number of immigrants from EU16-28 & non EU/EEA countries (*excluding north America and Australia)*