Report on Hepatitis B Notifications Quarters 1&2 2017

Health Protection Surveillance Centre

Introduction

Acute and chronic cases of hepatitis B are notifiable under the Infectious Diseases Regulations 1981. Departments of Public Health, in conjunction with HPSC, introduced enhanced surveillance of acute cases of hepatitis B from January 2005. Some enhanced data are also available for chronic cases. The 2011 census data are used for all data expressed as rates per 100,000 population in this report.

Results

In Q1 and Q2 2017 there were 135 (2.9/100,000 population) and 136 (3.0/100,000 population) notifications of hepatitis B, respectively. Hepatitis B notifications decreased by more than 50% between peak levels in 2008 (n=899) and 2013 (n=423). However, recent trends indicate that the notification rate has stabilised and that this decline is not continuing. The number of hepatitis B cases reported for the first six months of 2017 was similar to the same period in 2016 and an increase of 26% compared to the last six months in 2016. Quarterly trends since Q1 2007 are shown are in figure 1.

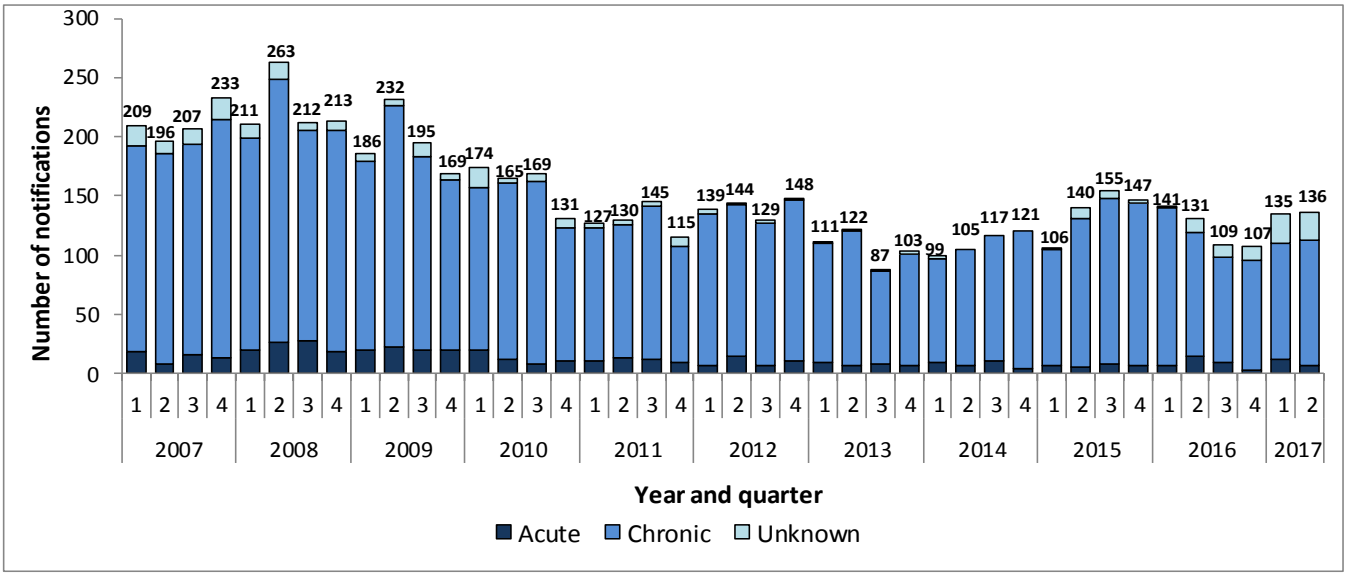

Figure 1: Number of notifications of hepatitis B, by acute/chronic status, Q1 2007 to Q2 2017

Geographic distribution

Notification rates for each HSE area for the past four quarters are shown in figure 2.

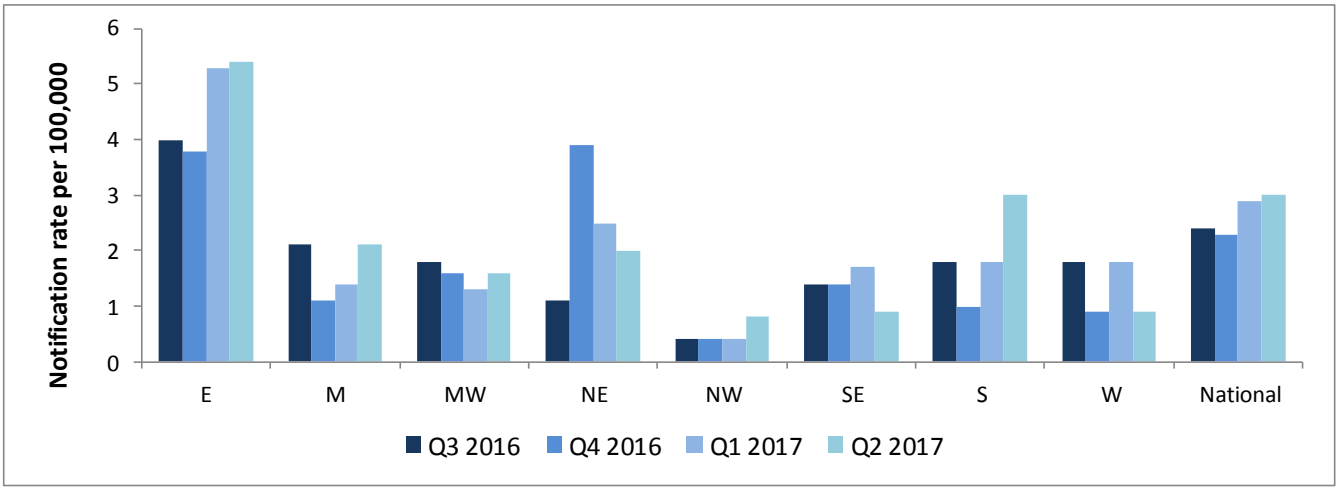

Figure 2: Hepatitis B notification rates per 100,000 population, by HSE area, from Q3 2016 to Q2 2017

All data contained in this report are provisional (CIDR accessed 10th August 2017)

Acute/chronic status

Eighty two percent (n=222) of the notifications of hepatitis B in Q1 and Q2 2017 contained information on the acute/chronic status of the case. Of these, 92% (n=204, 4.4/100,000) were chronically infected (long-term infection) and 8% (n=18, 0.4/100,000) were acutely infected (recent infection). The number of acute cases of hepatitis B in Q1 & Q2 2017 had increased relative to the last six months of 2016 (n=12), but was similar to the same time period in 2016 (n=20).

Acute cases (n=18)

Age and sex

Eighty three percent (n=15) of acute cases of hepatitis B in Q1 & 2 2017 were male. The highest notification rates were in those aged 25-34 years (0.9/100,000 population, n=7) and in those aged 45-54 years (1.2/100,000 population, n=7) (figure 3). The overall median age at notification was 44 years. Trends in acute cases since Q1 2007 are shown in figure 4.

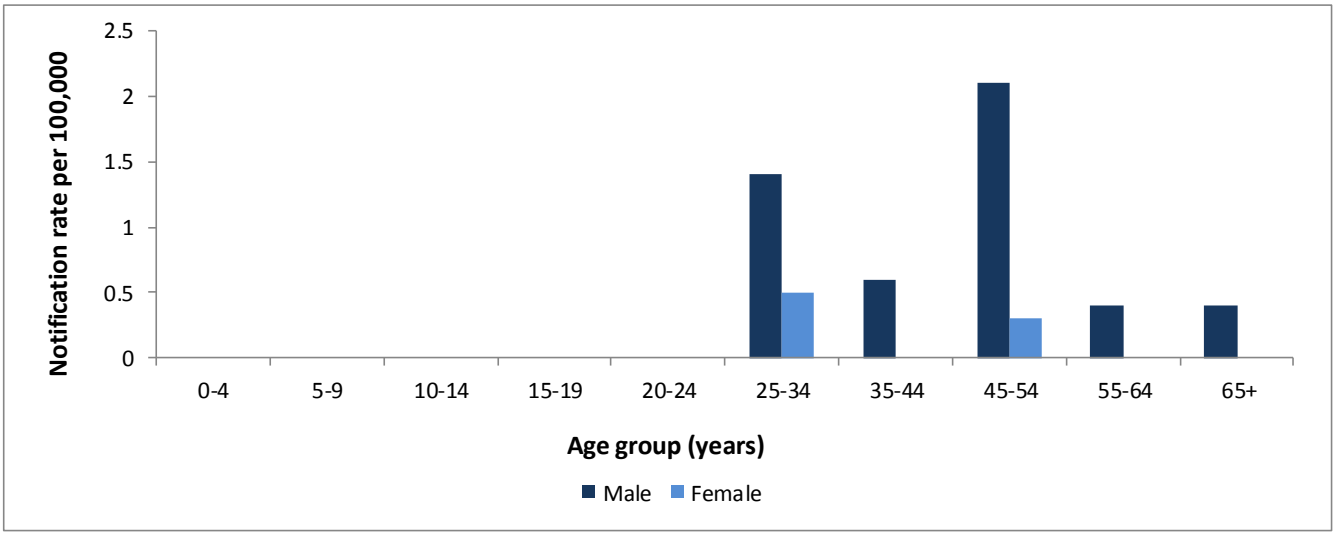

Figure 3: Age and sex specific rates per 100,000 population for acute cases of hepatitis B, Q1 and Q2 2017

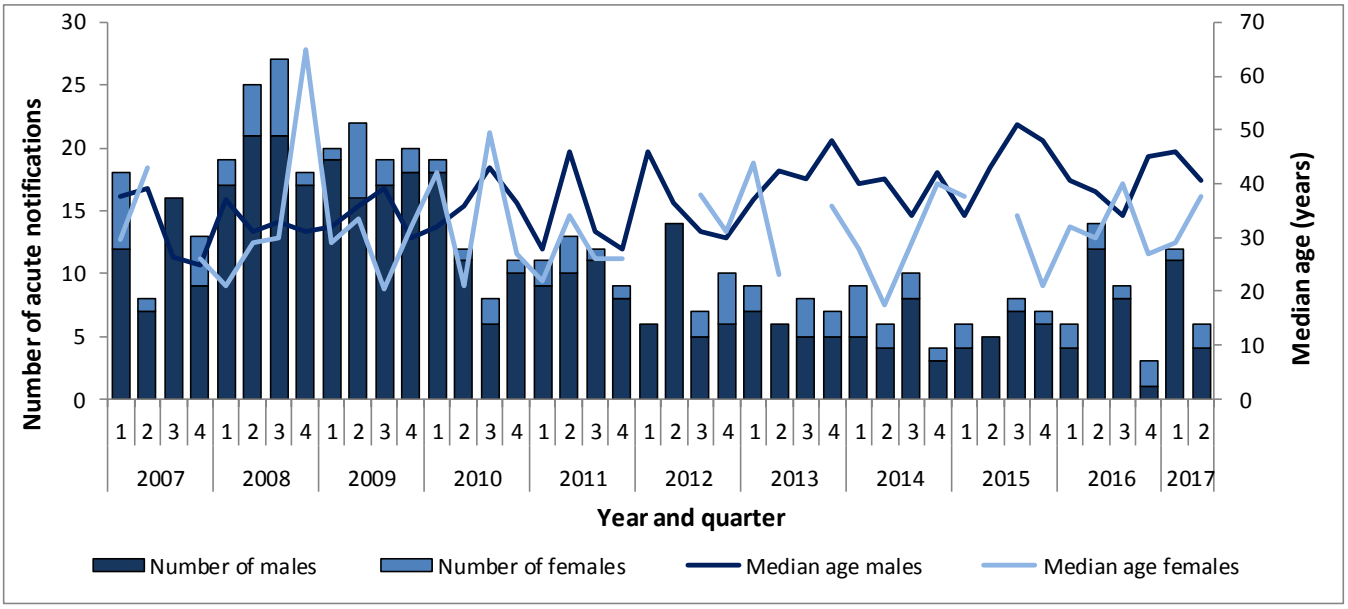

Figure 4: Number of acute notifications by sex and median age, Q1 2007 to Q2 2017

Risk factor and other enhanced data

Risk factor data were available for 67% (n=12) of the acute cases notified in Q1 and Q2 2017. Of those, 67 percent (n=8) were likely to have been sexually acquired. Four of these cases were heterosexual, three were men who have sex with men (MSM) and sexual orientation was not known for the remaining case. The most likely risk factor was reported as injecting drug use for one further case and as "no known risk factor despite follow up" for three. Country of birth was specified for 83% (n=15) of acute cases, 80% (n=12) of whom were born in Ireland. The remaining cases were born in hepatitis B endemic countries

(≥2% HBsAg prevalence). Where country of infection was available (n=11), all except one case were infected in Ireland. The reason for testing was known for fifteen cases and all were tested because they were symptomatic.

Chronic cases (n=204)

Age and sex

Fifty seven percent (n=116) of chronic cases notified in Q1 & Q2 2017 were male, 41% (n=84) were female and sex was not reported for 2% (n=4). Seventy four percent (n=151) were aged between 24 and 44 years and the median age at notification was 33 years (figures 5&6).

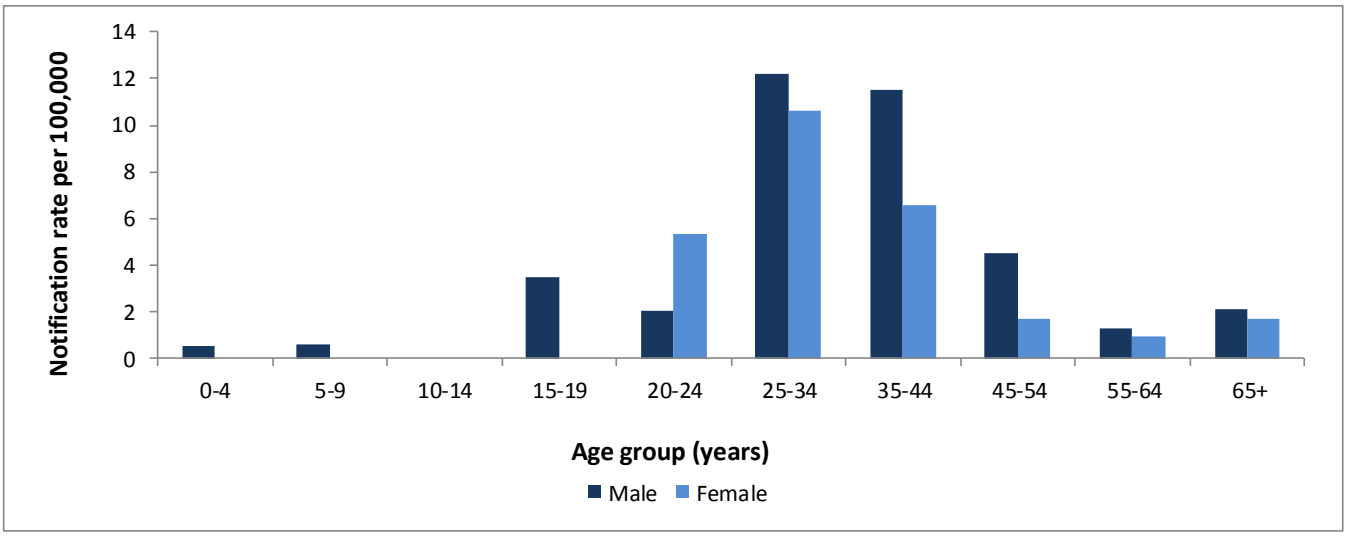

Figure 5. Age and sex specific rates per 100,000 population for chronic cases of hepatitis B, Q1 and Q2 2017

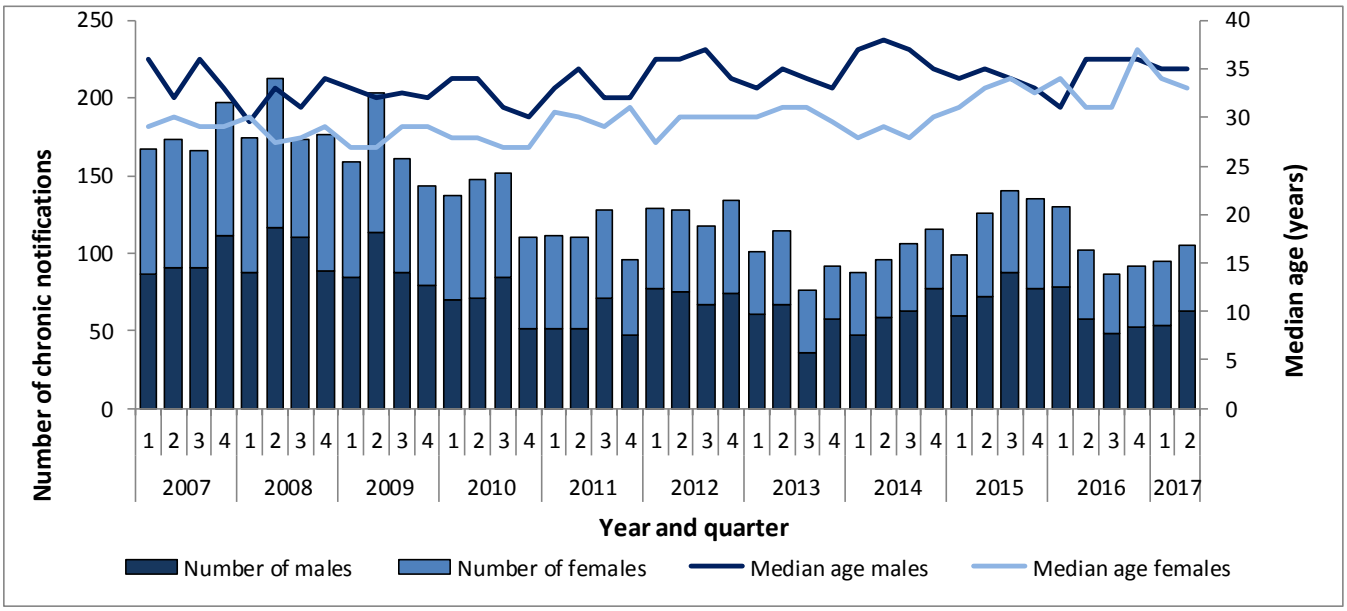

Figure 6: Number of chronic notifications by sex and median age, Q1 2007 to Q2 2017

Risk factor and other enhanced data

Although primary risk factor was reported for a minority of chronic cases in Q1 and 2 2017, data on country of birth or asylum seeker status was available for 70% (n=143). Of these, 80% (n=114) were either born in hepatitis B endemic countries (hepatitis B surface antigen prevalence ≥ 2%) or were reported to be asylum seekers. Most of these cases are likely to have been infected outside Ireland, but the actual mode of acquisition of infection in their country of origin is unknown for the majority. Where country of birth was available (66%, n=135), the most common birth countries were in Eastern or Central Europe (36%, n=49), Asia (28%, n=38), Sub-Saharan Africa (21%, n=28) and Western Europe (9%, n=12). Of those born in Western Europe, eight were born in Ireland.

Immigration numbers and hepatitis B notifications

Hepatitis B notifications mirror trends in immigration to Ireland. Trends in hepatitis B (acute or chronic) notifications and Central Statistics Office (CSO) immigration estimates are shown in figure 7.

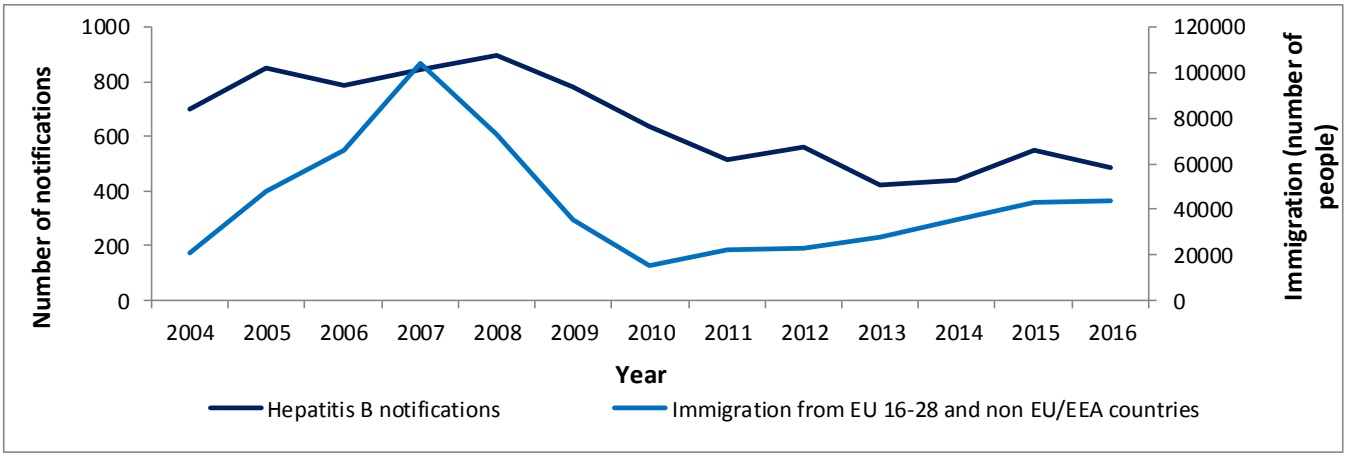

Figure 7: Number of hepatitis B notifications and estimated number of immigrants from EU16-28 & non EU/EEA countries, 2004-2016

Co-infections with hepatitis C, HIV and sexually transmitted infections

Six cases of hepatitis B notified in Q1 & 2 2017 were co-infected with HIV, four further cases were co-infected with hepatitis C, one additional case was diagnosed with gonorrhoea in 2017 and another case was diagnosed with chlamydia in 2017.

Discussion

Hepatitis B notifications more than halved in the five years between 2008 and 2013. However, this decline has not continued in recent years and the notification rate has stabilised. Although the number of notifications for the first two quarters of 2017 increased relative to the previous six months they were similar to the same time period in 2016. The vast majority of hepatitis B notifications in Ireland are chronic cases and the high notification rates seen in earlier years were reflective of large numbers of people migrating to Ireland from hepatitis B endemic countries. Immigration peaked in Ireland in 2007 before steadily decreasing for a number of years, but began to increase once again in 2011. The number of acute cases notified has been low in recent years but there was a small increase in the first six months of 2017. Most acute cases are sexually acquired in Ireland.

Acknowledgements

HPSC would like to thank all those who provided data for this report - Departments of Public Health, laboratories and clinicians. Report by Niamh Murphy & Dr Lelia Thornton, 17th August 2017

Case definition for hepatitis B (acute and chronic)

Clinical criteria Not relevant for surveillance purposes. *Epidemiological criteria* Not relevant for surveillance purposes.

Hepatitis B (acute)

At least one of the following three:

- Detection of hepatitis B core IgM (anti-HBc IgM)
- Detection of hepatitis B surface antigen (HBsAg) AND previous negative HBV markers less than 6 months ago
- Detection of hepatitis B nucleic acid (HBV DNA) AND previous negative HBV markers less than 6 months ago

Hepatitis B (chronic)

At least one of the following two:

- Detection of HBsAg or HBV DNA AND no detection of anti-HBc IgM (negative result)
- Detection of HBsAg or HBV DNA on two occasions that are 6 months apart

Hepatitis B (unknown status)

Any case which cannot be classified according to the above description of acute or chronic infection and having positive results of at least one of the following tests:

- Hepatitis B surface antigen (HBsAg)
- Hepatitis B e antigen (HBeAg)
- Hepatitis B nucleic acid (HBV DNA)

Case classification

Possible: N/A

N/A

Confirmed: Any person meeting the laboratory criteria

Note: The following combination of lab tests shall not be included or notified

- Resolved hepatitis – hepatitis B total core antibody (anti-HBc) positive and hepatitis B surface antigen (HBsAg) negative
- Immunity following vaccination – Hepatitis B total core antibody (anti-HBc) negative and hepatitis B surface antibody (anti-HBs) positive

Note: elevated levels of IgM in some chronic cases may result in misclassification which could over-estimate the number of acute cases