

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.

Results

In Q1 and Q2 2016 there were 141 (3.1/100,000 population) and 132 (2.9/100,000 population) notifications of hepatitis B, respectively. Hepatitis B notifications decreased by more than 50% between peak levels in 2008 (n=899) and 2014 (n=442). However, recent trends indicate that this decline is not continuing. The number of hepatitis B cases reported increased by 24% in 2015, and similar levels have been reported in 2016 to date. Quarterly trends since Q1 2006 are shown in figure 1.

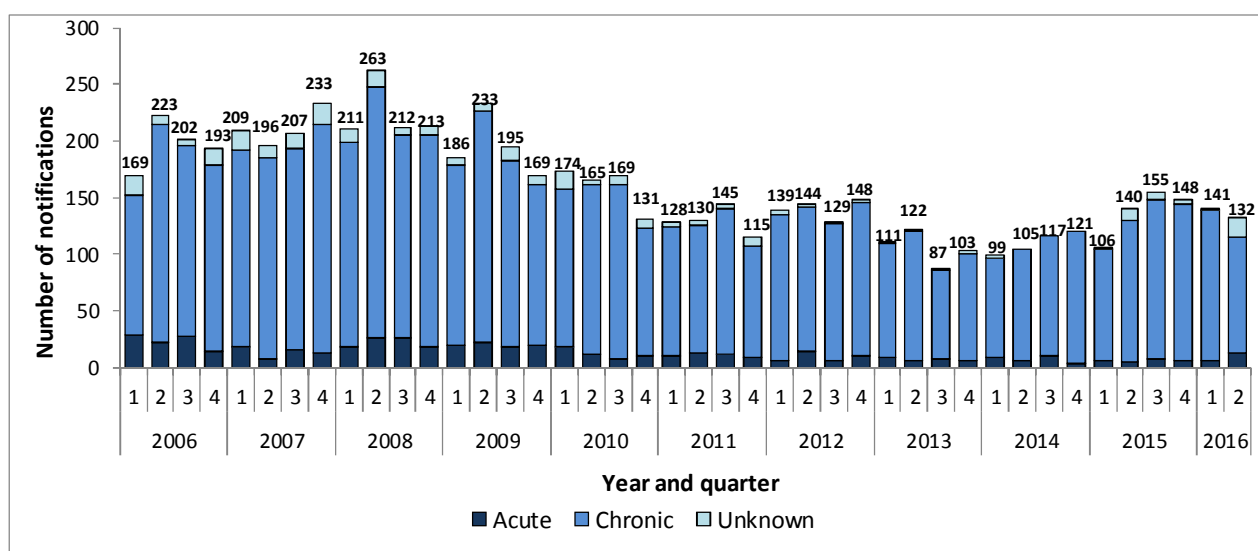


Figure 1: Number of notifications of hepatitis B, by acute/chronic status, Q1 2006 to Q2 2016

Geographic distribution

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

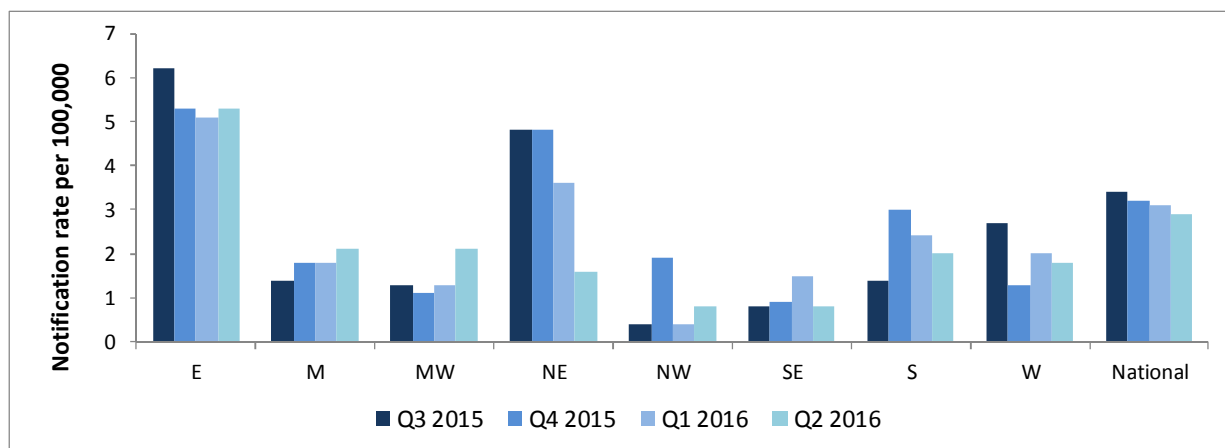


Figure 2: Hepatitis B notification rates per 100,000 population, by HSE area, from Q3 2015 to Q2 2016

All data contained in this report are provisional (CIDR accessed 5th September 2016)

Acute/chronic status

Ninety three percent (n=254) of the 273 notifications of hepatitis B in Q1 and Q2 2016 contained information on the acute/chronic status of the case. Of these, 93% (n=235, 5.1/100,000) were chronically infected (long-term infection) and 7% (n=19, 0.4/100,000) were acutely infected (recent infection). The number of acute case of hepatitis B increased in Q2 2016 (n=13) relative to previous quarters (Q1 2016: n=6, Q4 2015, n=7, Q3 2016, n=8) (figure 1). However the number of cases remained relatively low.

Acute cases

Age and sex

Eighty four percent (n=16) of acute cases of hepatitis B in Q1 & 2 2016 were male. Seventy three percent 73% (n=14) of acute cases were aged between 25 and 44 years and 16% (n=3) were aged 65 years or older (figure 3). The median age at notification was 36 years. Trends since Q1 2004 are shown in figure 4.

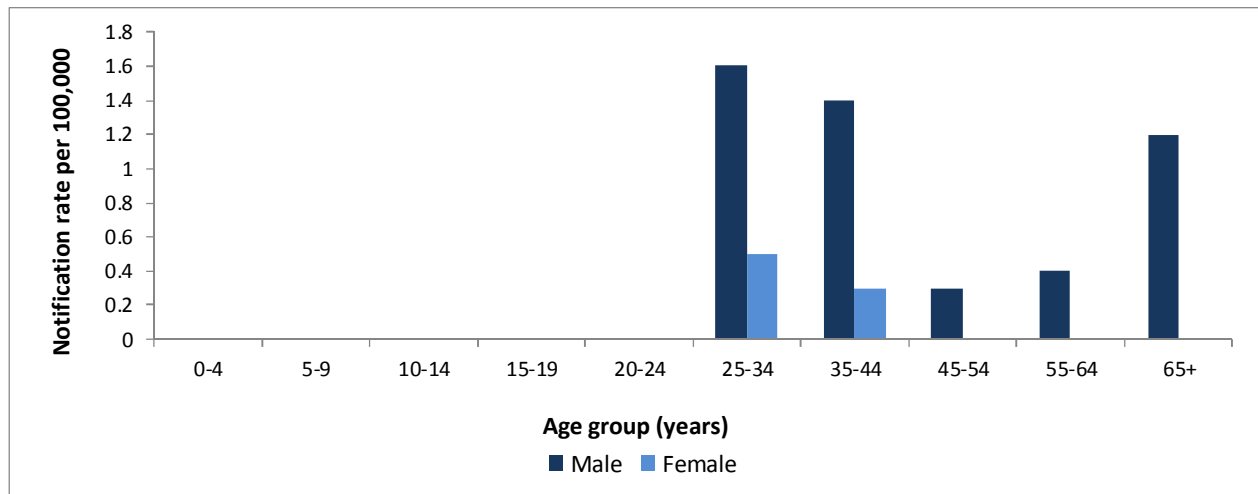


Figure 3: Age and sex specific rates per 100,000 population for acute cases of hepatitis B, Q1 and Q2 2016

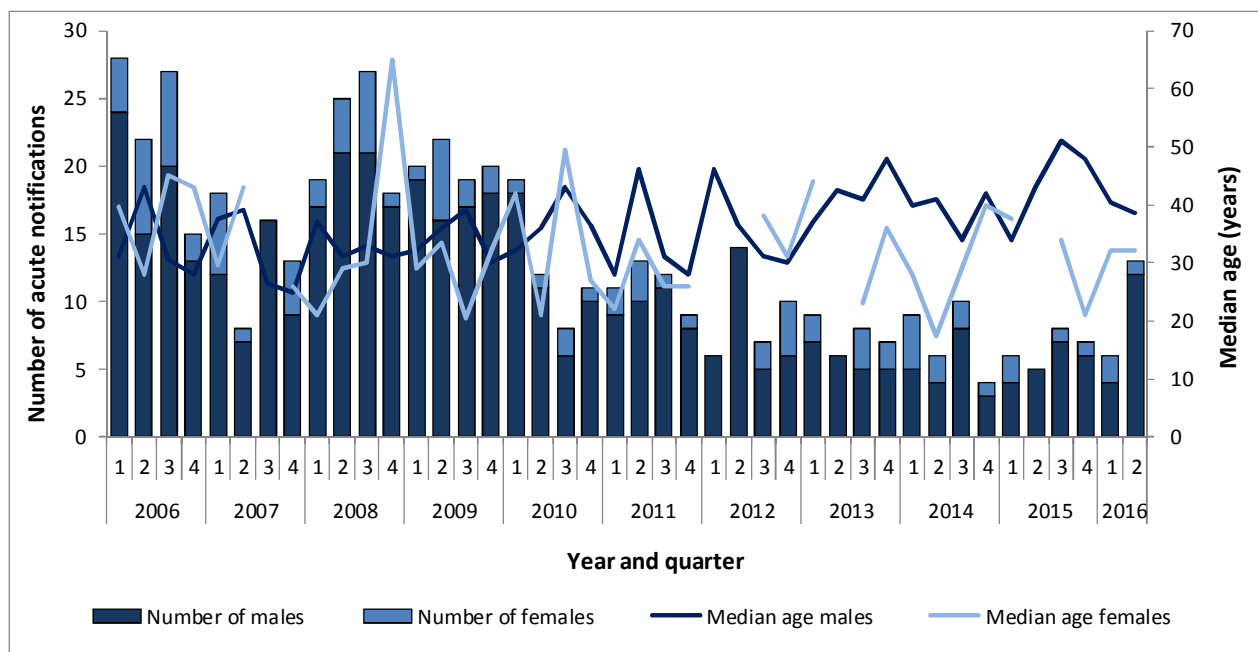


Figure 4: Number of acute notifications by sex and median age, Q1 2006 to Q2 2016

Risk factor and other enhanced data

Risk factor data were available for 74% (n=14) of the acute cases notified in Q1 and Q2 2016. Of those, sixty four percent (n=9) were likely to have been sexually acquired. Five of these cases were men who have sex with men (MSM) and four were heterosexual. The most likely risk factor was reported as injecting drug use for one further case, as “other” for two and “no known risk factor despite follow up” for two. Country of birth was specified for 68% (n=13) of acute cases, 92% (n=12) of whom were born in Ireland. The reason for testing was known for seventeen cases and almost all were tested because they were symptomatic (94%, n=16)

Chronic cases

Age and sex

Fifty seven percent (n=134) of chronic cases notified in Q1 & Q2 2016 were male, 40% (n=94) were female and sex was not reported for 3% (n=7). Eighty seven percent (n=205) were aged between 20 and 54 years and the median age at notification was 33 years (figures 5&6).

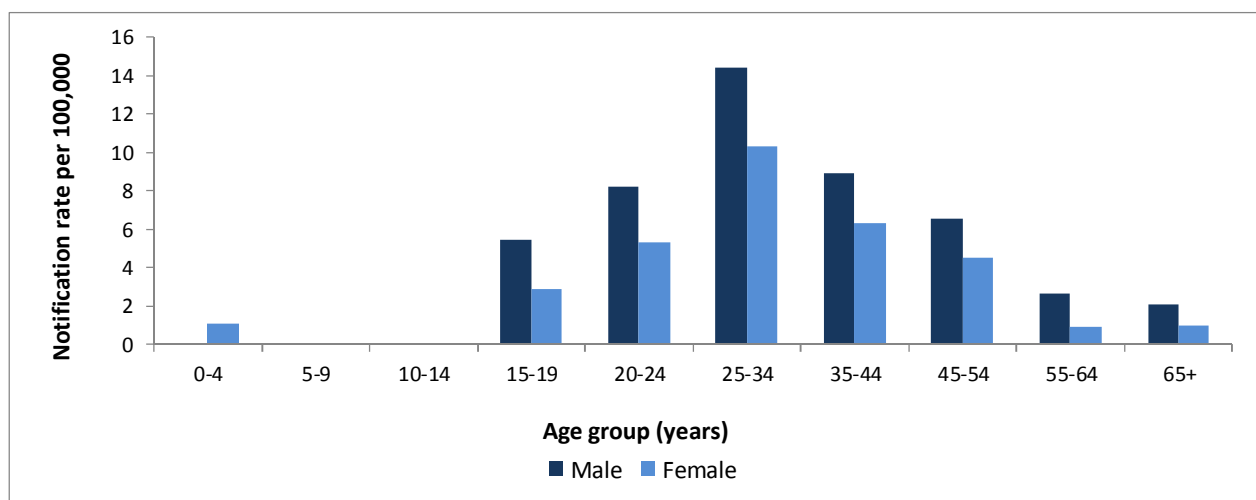


Figure 5. Age and sex specific rates per 100,000 population for chronic cases of hepatitis B, Q1 and Q2 2016

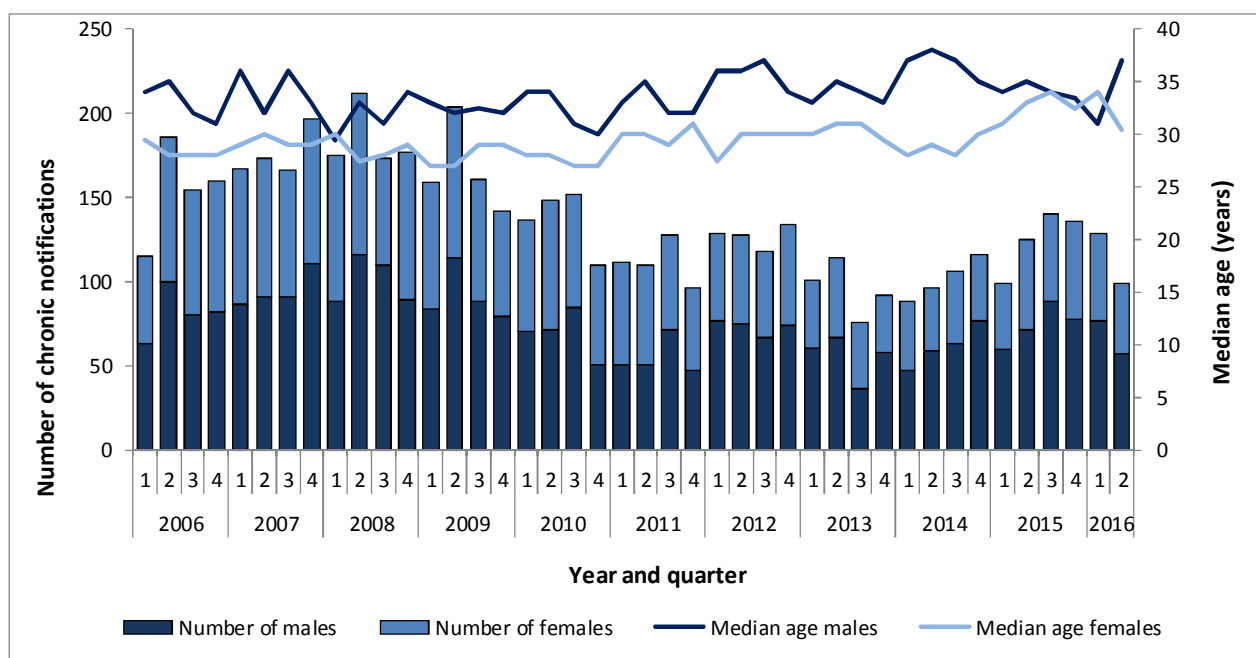


Figure 6: Number of chronic notifications by sex and median age, Q1 2006 to Q2 2016

Risk factor and other enhanced data

Although primary risk factor was reported for a minority of chronic cases in Q1 and 2 2016, data on country of birth or asylum seeker status was available for 47% (n=110). Of these, 93% (n=102) were either born in hepatitis B endemic countries (hepatitis B surface antigen prevalence $\geq 2\%$) 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 (45%, n=105), the most common birth countries were in Asia (36%, n=38), Eastern or Central Europe (32%, n=34), Sub-Saharan Africa (19%, n=20) and Western Europe (7%, n=7). Of those born in Western Europe, six were born in Ireland.

Co-infections

Hepatitis B and hepatitis C co-infection can lead to more severe liver disease and an increased risk of liver cancer. Seven cases of hepatitis B notified in Q1 & 2 2016 were co-infected with HIV. Three of these cases were known to be MSM. Five were born outside Ireland and country of birth was not known for the remaining two. One further case was coinfecting with hepatitis C.

Discussion

Hepatitis B notifications increased by 24% in 2015 compared to 2014, but remained at significantly lower levels compared to peak notifications in 2008 (n=899). The number of notifications for the first two quarters of 2016 look similar to 2015 overall. 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 an increase in Q2 2016 compared to recent quarters. Most acute cases are sexually acquired in Ireland.

Acknowledgements

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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