Report on Hepatitis B Notifications Quarters 3&4 2015 and Provisional Annual Summary

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 the HPSC, introduced enhanced surveillance of acute cases of hepatitis B from January 2005. Some enhanced data are also available for chronic cases.

Results

There were 550 notifications of hepatitis B in 2015 (12.0/100,000 population). This is an increase of 24% compared to 2014 (n=443, 9.7/100,000 population). Hepatitis B notifications had been generally decreasing since their highest levels in 2008 (n=899, 21.2/100,000 population), but recent trends indicate that this decline is not continuing. Notifications increased in Q3 and Q4 compared to the first half of 2015 (figure 1).

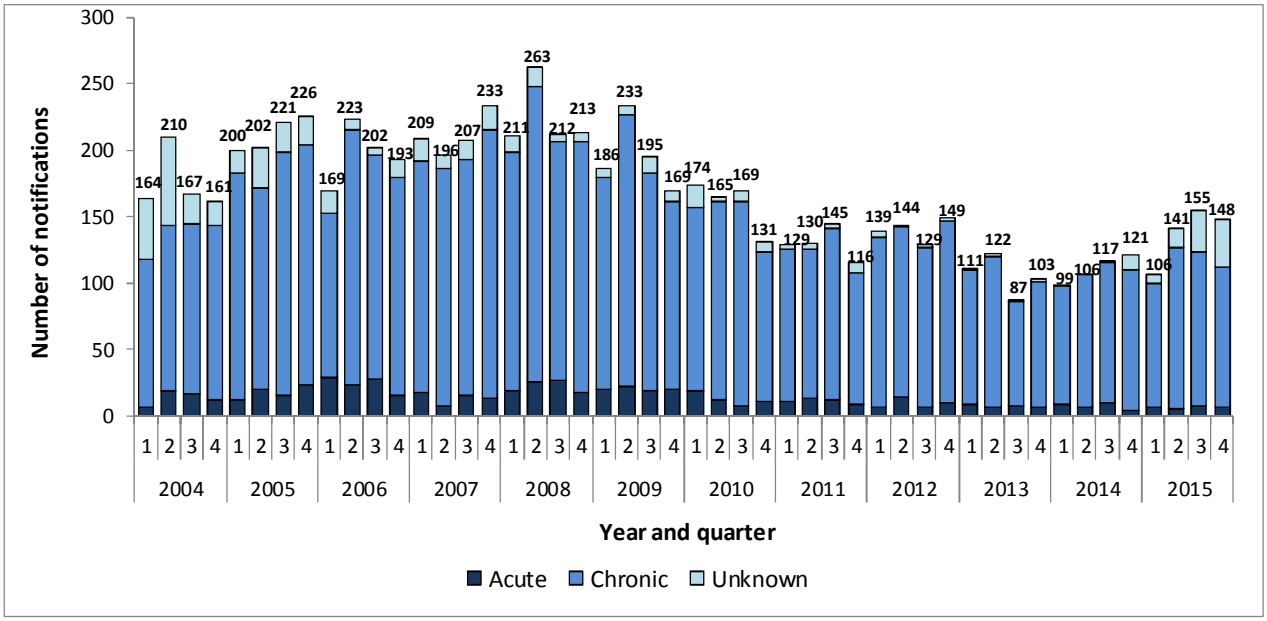

Figure 1: Number of notifications of hepatitis B, by acute/chronic status, Q1 2004 to Q4 2015

Geographic distribution

Notification rates for each HSE area for the past four years are shown in figure 2. The highest notification rates were in HSE E (n=346, 21.4/100,000, 63% of notifications) and NE (n=69, 15.7/100,000, 13% of notifications) and the increase in notifications in 2015 was mostly due to higher numbers of cases in these two areas (figure 2).

Acute/chronic status

Eighty four percent (n=462) of the 550 notifications of hepatitis B in 2015 contained information on acute/chronic status. Of these, 94% (n=436) were chronically infected (long-term infection) and 6% (n=26) were acutely infected (recent infection). This is the lowest number of acute infections reported since acute/chronic case definitions were introduced in 2004.

Acute cases (n=26)

Age and sex

Eighty five percent (n=22) of acute cases of hepatitis B notified in 2015 were male. Notifications ranged in age from 21 to 78 years and the median age at notification was 41.5 years. There was an older age distribution than usually seen (figure 3). Trends since Q1 2004 are shown in figure 4.

Risk factor and other enhanced data

Risk factor data were available for 89% (n=23) of the acute cases notified in 2015. Of those, 74 percent (n=17) were likely to have been sexually acquired (7 heterosexual, 5 MSM and 5 unknown sexual orientation). No risk factor was identified for four

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cases, despite Public Health follow up. Country of birth was specified for 92% (n=24) of acute cases, 79% (n=19) of whom were born in Ireland. Reason for testing was known for 25 acute cases. Most were tested because they were experiencing symptoms (n=15, 60%) or through STI screening (n=4, 16%).

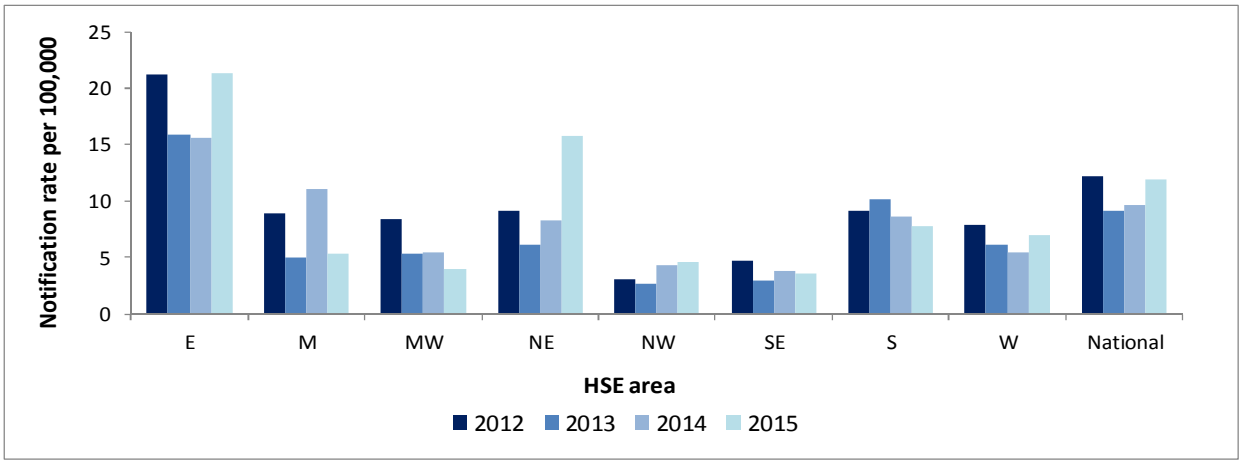

Figure 2: Hepatitis B notification rates per 100,000 population, by HSE area, 2012 to 2015

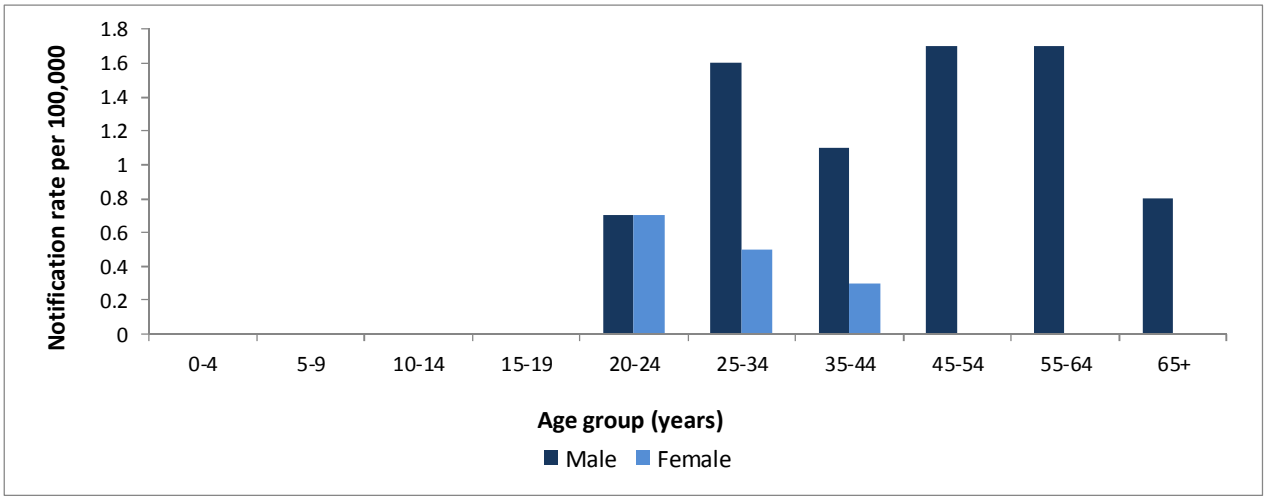

Figure 3: Age and sex specific rates per 100,000 population for acute cases of hepatitis B, 2015

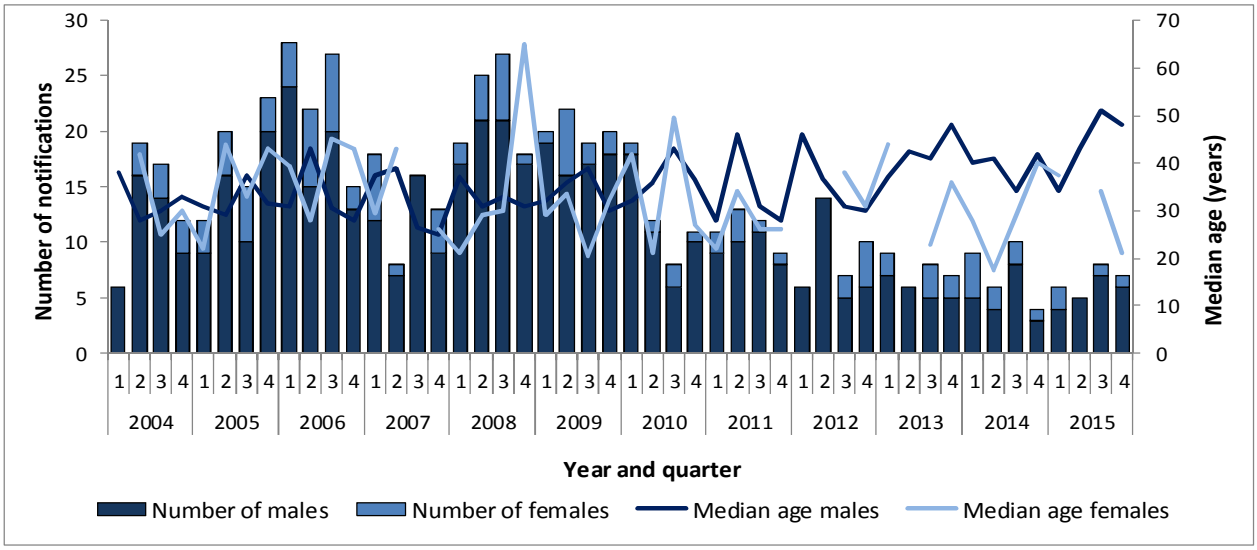

Figure 4: Number of acute notifications by sex and median age, Q1 2004 to Q4 2015

Chronic cases (n=436)

Age and sex

Fifty eight percent (n=254) of chronic cases notified in 2015 were male, 41% (n=179) were female and sex was not reported for 1% (n=3). Notifications ranged in age from 1 to 72 years, with 79% (n=343) aged between 20 and 44 years (figure 5). Males and females had similar age distributions, with a median age at notification of 34 years for males compared to 33 years for females. Trends since Q1 2004 are shown in figure 6.

Risk factor and other enhanced data

Although primary risk factor was reported for a minority of chronic cases 2015, data on country of birth or asylum seeker status was available for 54% (n=237). Of these, 90% (n=212) 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 (49%, n=212), the most common birth countries were in Eastern or Central Europe (39%, n=82), Asia (33%, n=70), Sub-Saharan Africa (19%, n=40) and Western Europe (7%, n=15). Of those born in Western Europe, eleven were born in Ireland.

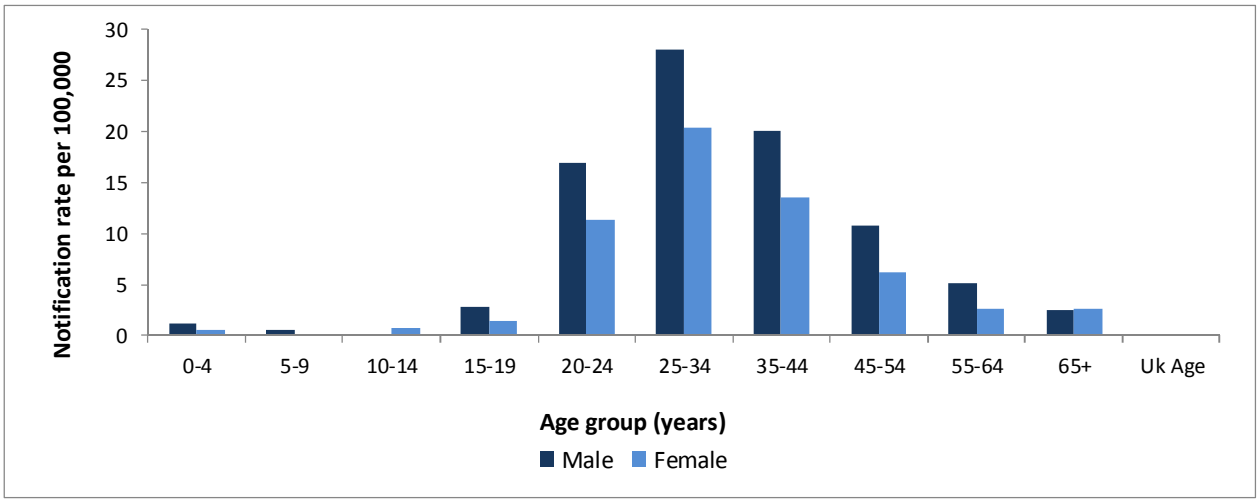

Figure 5: Age and sex specific rates per 100,000 population for chronic cases of hepatitis B, 2015

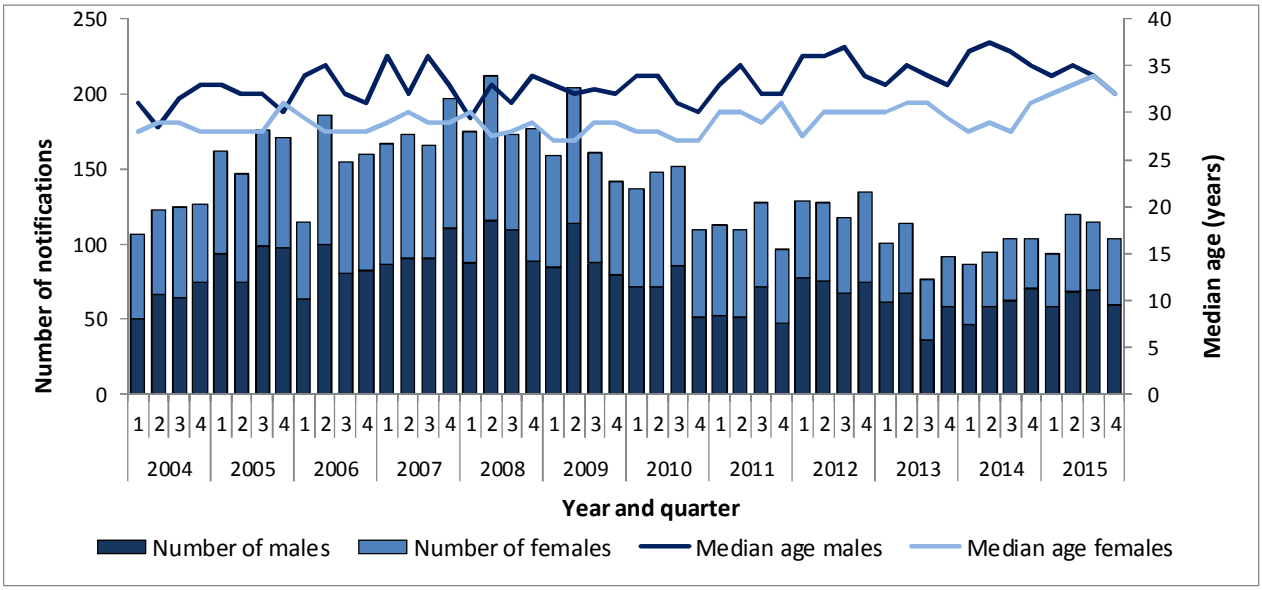

Figure 6: Number of chronic notifications by sex and median age, Q1 2004 to Q4 2015

Immigration numbers and hepatitis B notifications

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

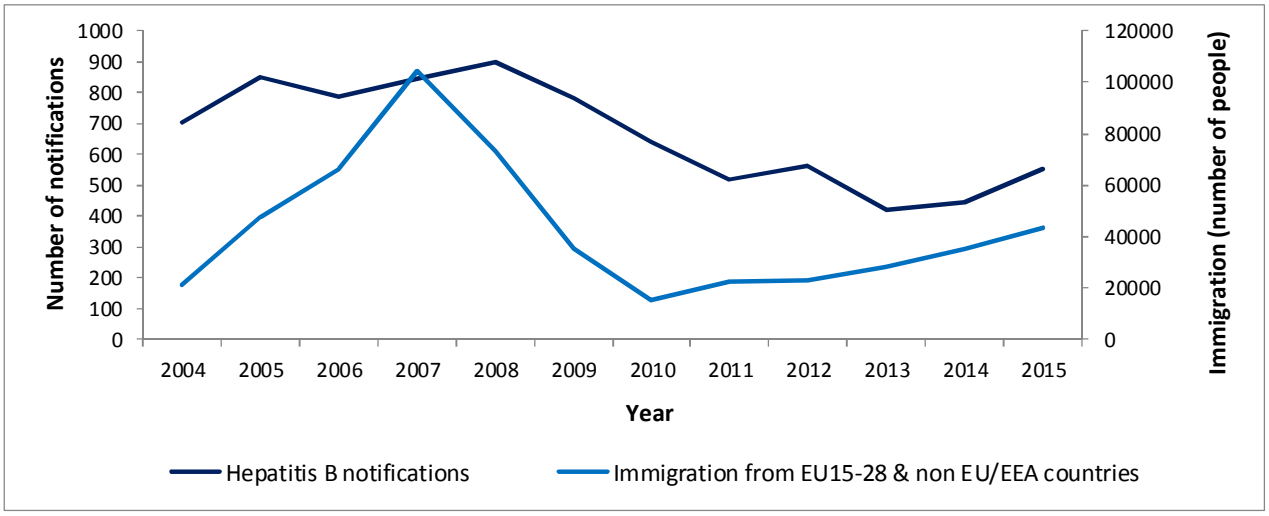

Figure 7: Number of hepatitis B notifications and number of immigrants from EU15-28 & non EU/EEA countries, 2004-2015

Co-infections

Co-infection with other blood-borne viruses can lead to more severe liver disease and an increased risk of liver cancer. Eleven cases of hepatitis B in 2015 were co-infected with HIV and three were co-infected with hepatitis C.

Discussion

Hepatitis B notifications increased by 24% in 2015 (n=550) compared to 2014, but remained at significantly lower levels compared to peak notifications in 2008 (n=899). 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 and this continued in 2015. 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.

Laboratory criteria for diagnosis

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