Report on Hepatitis B Notifications Quarters 3&4 2016 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 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 489 notifications of hepatitis B in 2016 (10.7/100,000 population). This was a decrease of 11% compared to 2015 (n=548, 11.9/100,000 population). Hepatitis B notifications halved between 2008 (n=899, 21.2/100,000 population) and 2014 (n=442, 9.6/100,000 population), but recent trends indicate that the number of cases diagnosed and notified is stabilising rather than continuing to decline (figure 1).

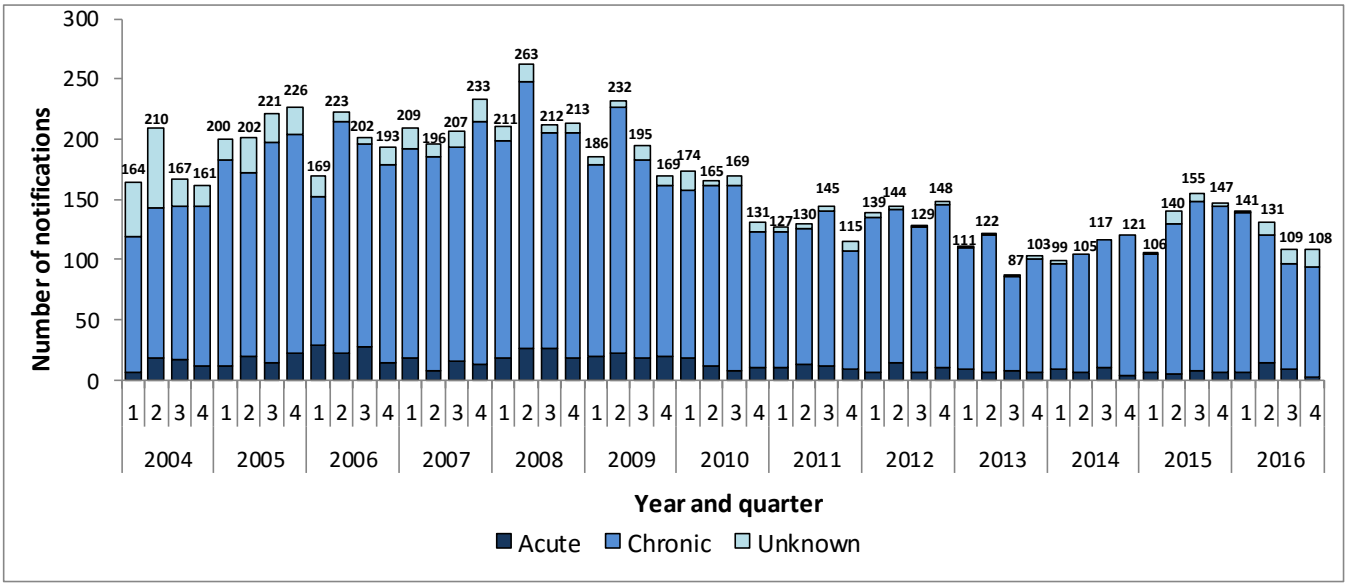

Figure 1: Number of notifications of hepatitis B, by acute/chronic status, Q1 2004 to Q4 2016

Geographic distribution

Notification rates for each HSE area for the past four years are shown in figure 2. The highest notification rates in 2016 were in HSE E (n=295, 18.2/100,000, 60% of notifications). This is consistent with previous years. Sixty percent of hepatitis B notifications reported between 2004 and 2016 were from HSE E.

Acute/chronic status

Ninety two percent (n=450) of the 489 notifications of hepatitis B in 2016 contained information on acute/chronic status. Of these, 93% (n=418) were chronically infected (long-term infection) and 7% (n=32) were acutely infected (recent infection).

Acute cases (n=32)

Age and sex

Seventy eight percent (n=25) of acute cases of hepatitis B notified in 2016 were male. Cases ranged in age from 26 to 69 years. The overall median age at notification was 35.5 years. Male cases were older on average, with a median age at notification of 37 years compared to 28 years for females. The age and sex distribution of acute cases is shown in figure 3. Trends since 2004 are shown in figure 4.

Risk factor and other enhanced data

Risk factor data were available for 81% (n=26) of the acute cases notified in 2016. Of those, 65% (n=17) were likely to have been sexually acquired (10 heterosexual, 7 men who have sex with men (MSM)). A further two cases (8%) reported possible blood exposure when snorting cocaine. 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. Reason for testing was known

HSE-Health Protection Surveillance Centre (HPSC), 25-27 Middle Gardiner St, Dublin 1, Ireland, Tel: +353 1 8765300, Fax: +353 1 8561299, www.hpsc.ie

for 28 acute cases. Most were tested because they were experiencing symptoms (n=21, 75%) or through STI screening (n=3, 11%).

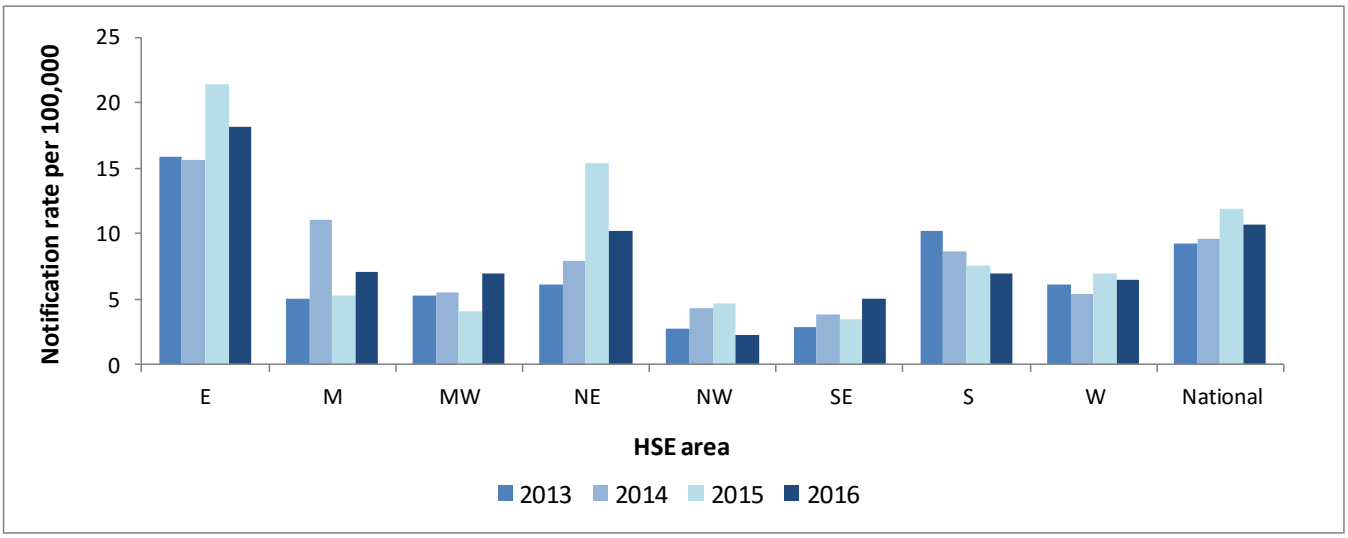

Figure 2: Hepatitis B notification rates per 100,000 population, by HSE area, 2013 to 2016

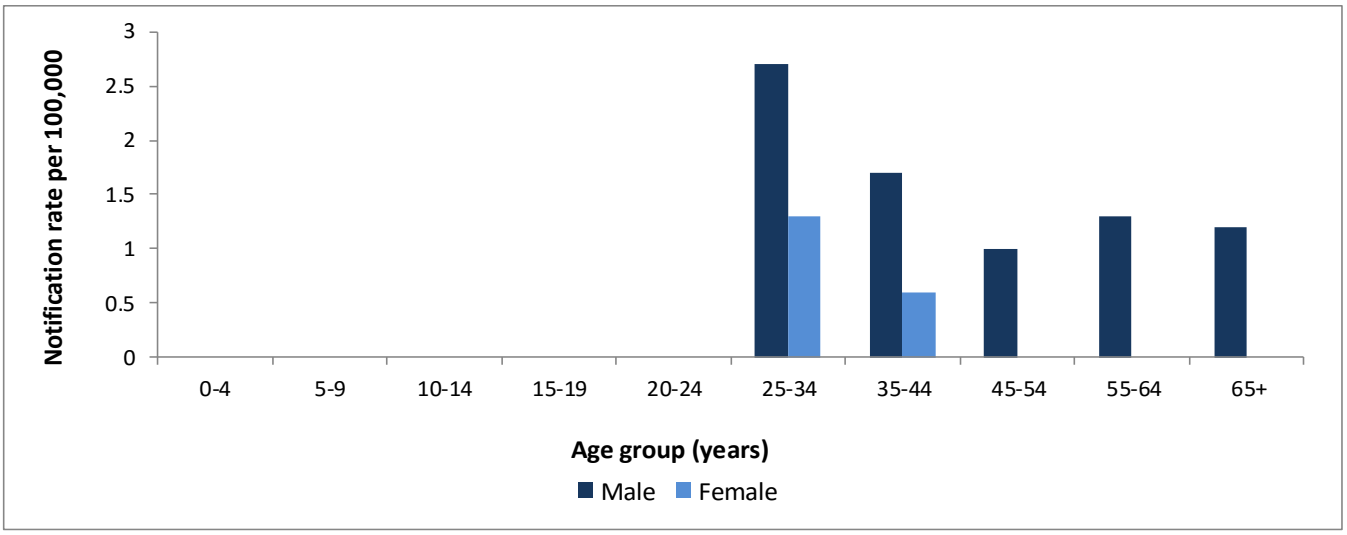

Figure 3: Age and sex specific rates per 100,000 population for acute cases of hepatitis B, 2016

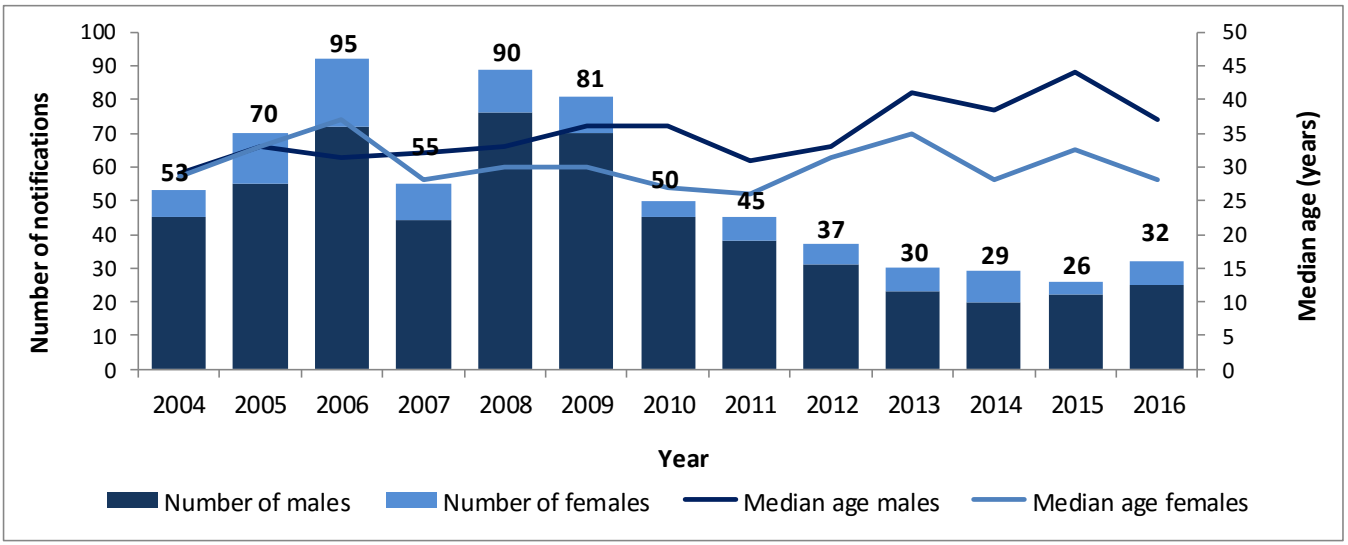

Figure 4: Number of acute notifications by sex and median age, 2004 to 2016

Chronic cases (n=418)

Age and sex

Fifty six percent (n=233) of chronic cases notified in 2016 were male, 42% (n=176) were female and sex was not reported for 2% (n=9). Notifications ranged in age from 1 to 77 years, with 66% (n=277) aged between 25 and 44 years (figure 5). Males and females had similar age distributions, with a median age at notification of 34 years for both. 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 2016, data on country of birth or asylum seeker status was available for 51% (n=214). Of these, 91% (n=194) 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 known (46%, n=194), the most common birth countries were in Asia (36%, n=69), Eastern or Central Europe (31%, n=61), Sub-Saharan Africa (24%, n=46) and Western Europe (6%, n=12). Of those born in Western Europe, ten were born in Ireland.

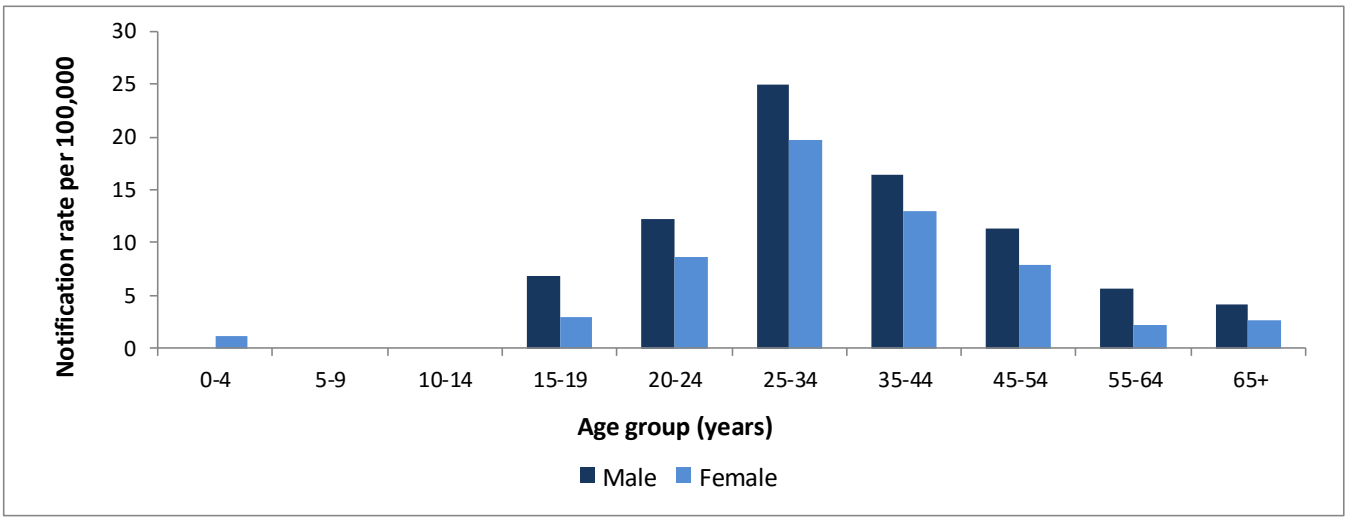

Figure 5: Age and sex specific rates per 100,000 population for chronic cases of hepatitis B, 2016

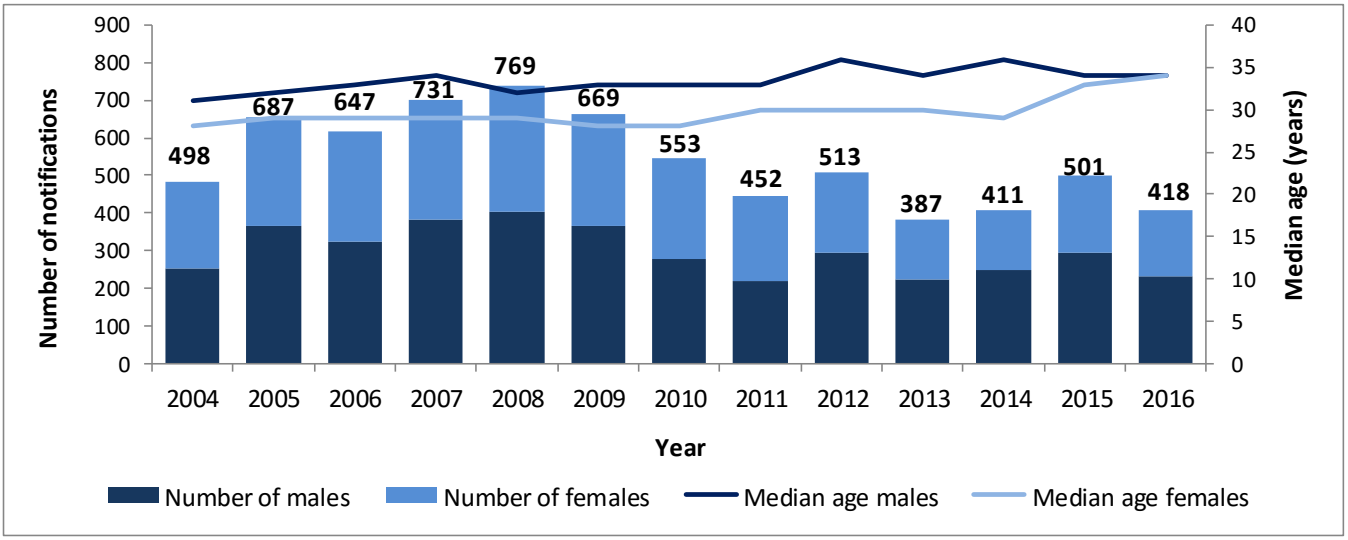

Figure 6: Number of chronic notifications by sex and median age, 2004 to 2016

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 estimates are shown in figure 7.

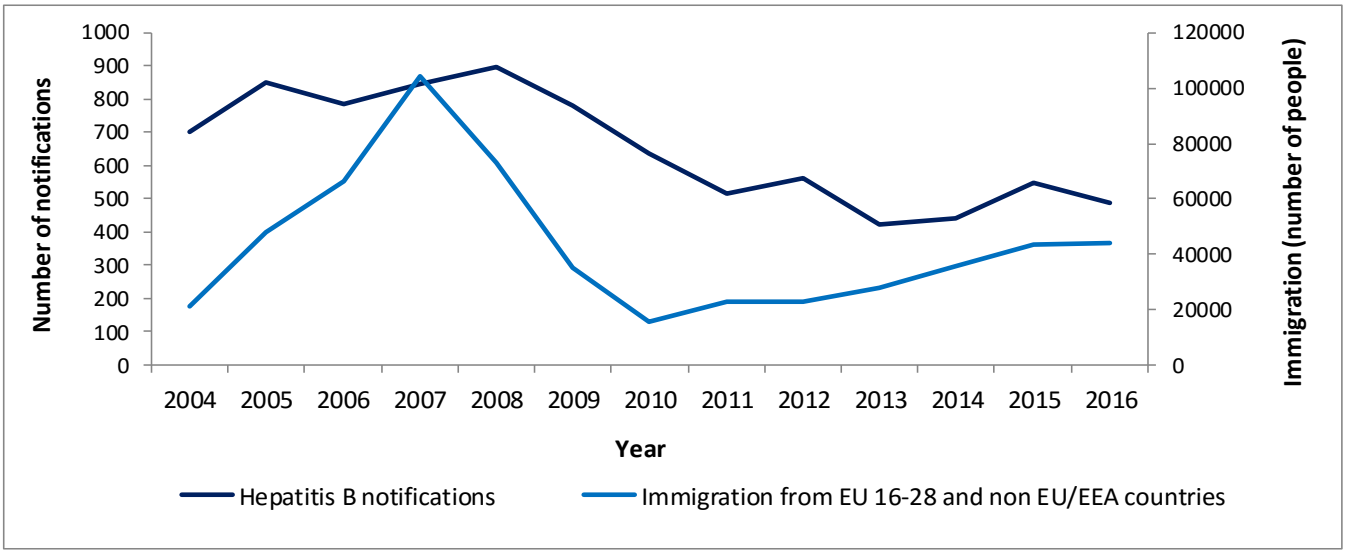

Figure 7: Number of hepatitis B notifications and estimated number of immigrants from EU16-28 & non EU/EEA countries, 2004-2016

Co-infections

Co-infection with other blood-borne viruses can lead to more severe liver disease and an increased risk of liver cancer. Thirteen cases of hepatitis B in 2016 were co-infected with HIV and four were co-infected with hepatitis C. Two of the HIV co-infected cases had also been recently diagnosed with syphilis and one had been recently diagnosed with herpes simplex.

Discussion

Hepatitis B notifications decreased by 11% in 2016 (n=489) compared to 2015, 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 increased in 2016, but the number of cases remained relatively low. Most acute cases are sexually acquired in Ireland. There is a safe effective vaccine for hepatitis B and immunisation is recommended for those who change sex partner frequently, MSM, people diagnosed with an STI and attendees at STI clinics.

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, 21st Feb 2017

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