Report on Hepatitis B Notifications Quarters 1&2 2014

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

In Q1 and Q2 2014 there were 103 (2.2/100,000 population) and 115 (2.5/100,000 population) notifications of hepatitis B, respectively. This represents an increase of 12% compared to the previous six months (n=195). However, hepatitis B notifications have decreased significantly since peak levels in Q2 2008 (n=263). Quarterly trends since Q1 2007 are shown are in figure 1.

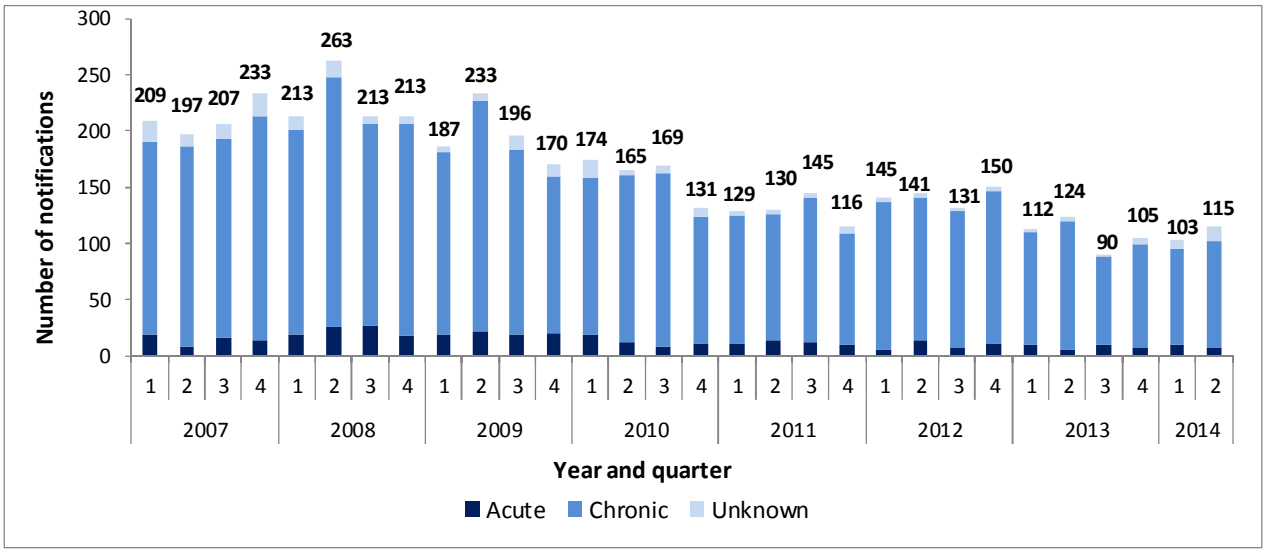

Figure 1. Number of notifications of hepatitis B, by acute/chronic status, Q1 2007 to Q2 2014

Geographic distribution

Notification rates for each HSE area for the past four quarters are shown in figure 2. Notification rates increased in Q2 2014 in the HSE-M, HSE-MW and HSE-S. However, the number of notifications remained relatively low (figure 3).

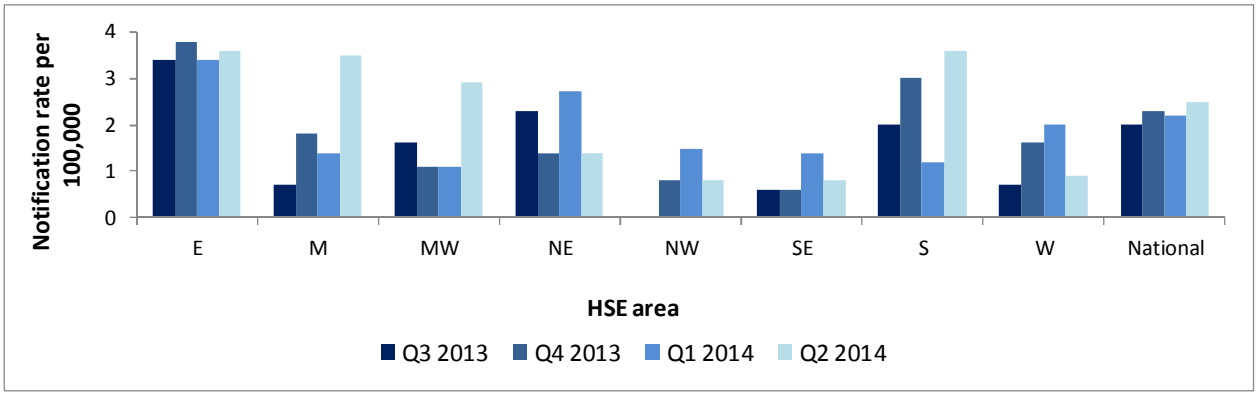

Figure 2. Hepatitis B notification rates per 100,000 population, by HSE area, from Q3 2013 to Q2 2014

All data contained in this report are provisional (CIDR accessed 2nd July 2014)

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

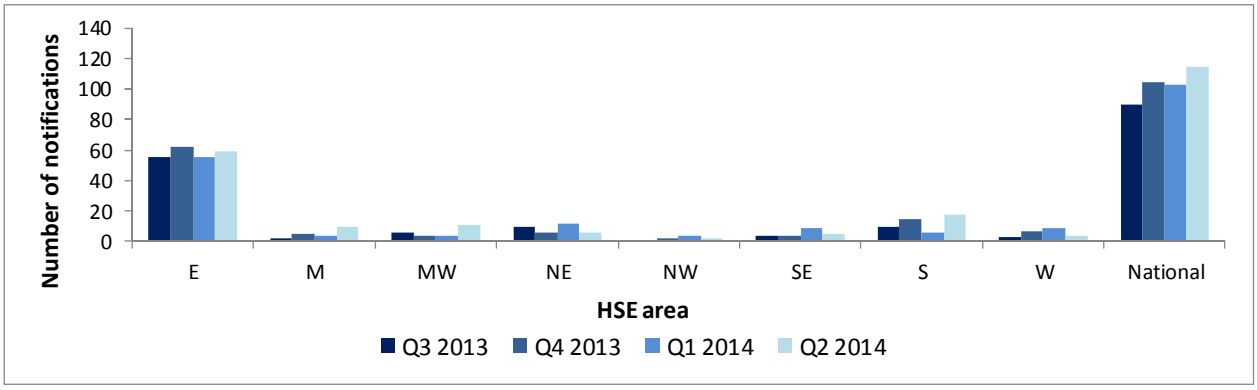

Figure 3. Number of notifications of hepatitis B, by HSE area, from Q3 2013 to Q2 2014

Acute/chronic status

Ninety percent (n=197) of the 218 notifications of hepatitis B in Q1 and Q2 2014 contained information on the acute/chronic status of the case. Of these, 92% (n=181) were chronically infected (long-term infection) and 8% (n=16) were acutely infected (recent infection).

Acute cases

Age and sex

Almost two thirds (62.5%, n=10) of acute cases of hepatitis B notified in Q1 & 2 2014 were male. Notifications ranged in age from 15 to 57 years, with 81% (n=13) of acute cases aged between 20 and 44 years (figure 4). Males were significantly older overall, with a median age at notification of 41 years compared to 25 years for females. Trends since Q1 2010 are shown in figure 5.

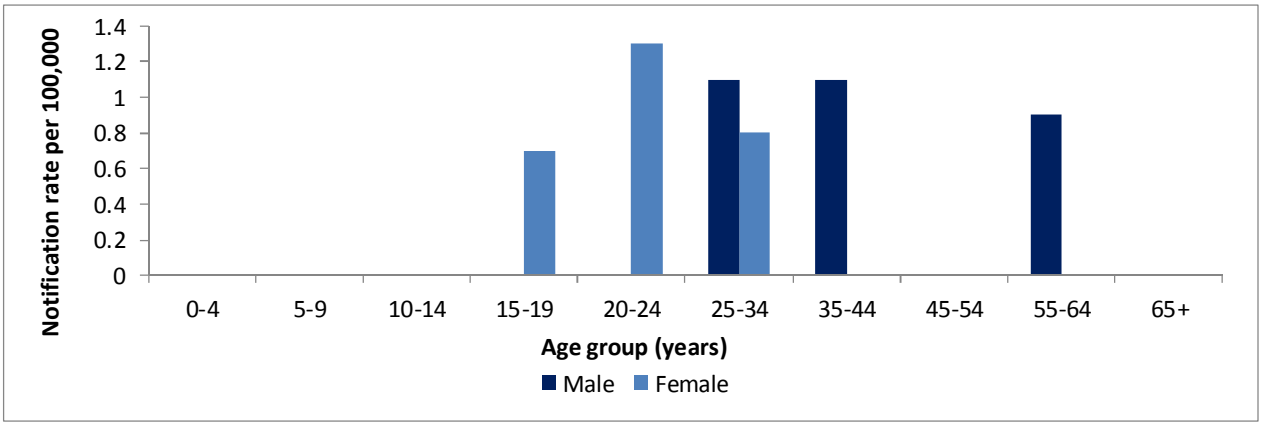

Figure 4. Age and sex specific rates per 100,000 population for acute cases of hepatitis B, Q1 and Q2 2014

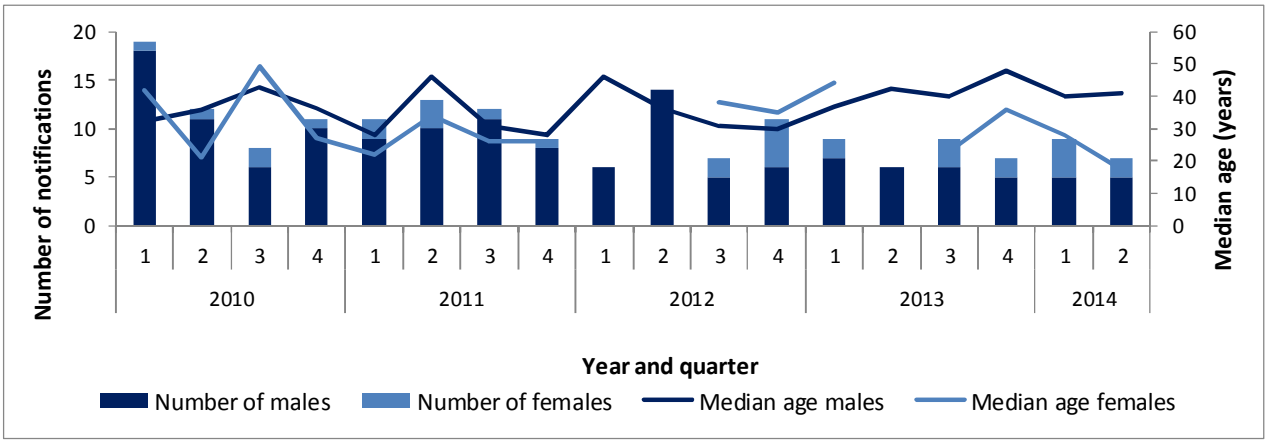

Figure 5. Number of acute notifications by sex and median age, Q1 2010 to Q2 2014

Risk factor and other enhanced data

Some risk factor data were available for 69% (n=11) of the acute cases notified in Q1 and 2 2014. Seventy three percent (n=8) were likely to have been sexually acquired (five heterosexual, two MSM and one unknown sexual orientation) and no risk factor was identified for the remaining three cases despite follow up.

Country of birth was specified for fourteen acute cases, 71% (n=10) of whom were born in Ireland. Reason for testing was known for fifteen acute cases. The most common reasons were experiencing symptoms (n=6, 40%) and STI screening (n=6, 40%).

Chronic cases

Age and sex

Fifty three percent (n=96) of chronic cases notified in Q1 & 2 2014 were male, 43% (n=78) were female and sex was not reported for 4% (n=7). Notifications ranged in age from 14 to 71 years, with 76% (n=138) aged between 20 and 44 years (figure 6). Males were older overall, with a median age at notification of 36 years compared to 29 years for females. Trends since Q1 2010 are shown in figure 7.

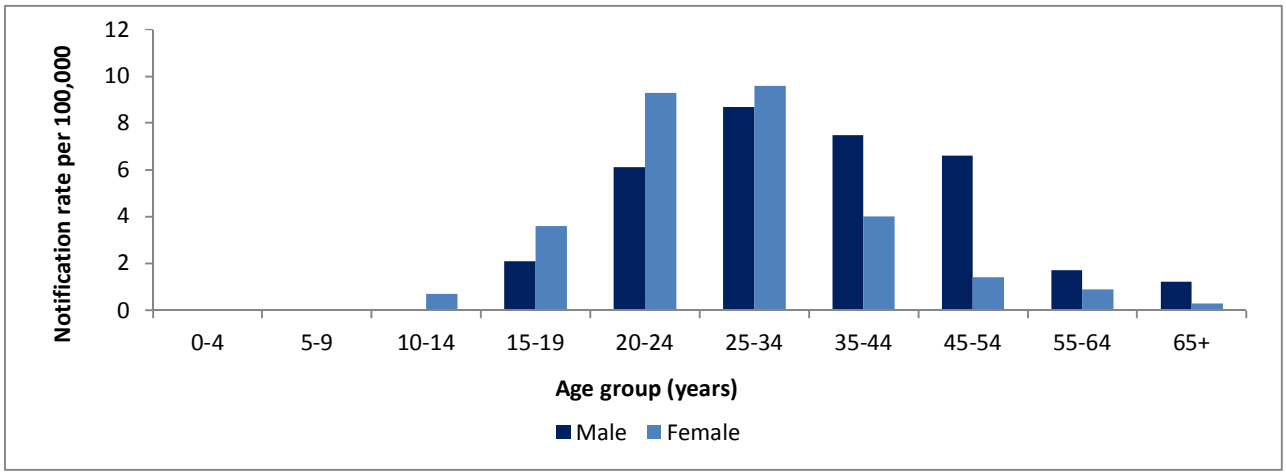

Figure 6. Age and sex specific rates per 100,000 population for chronic cases of hepatitis B, Q1 and Q2 2014

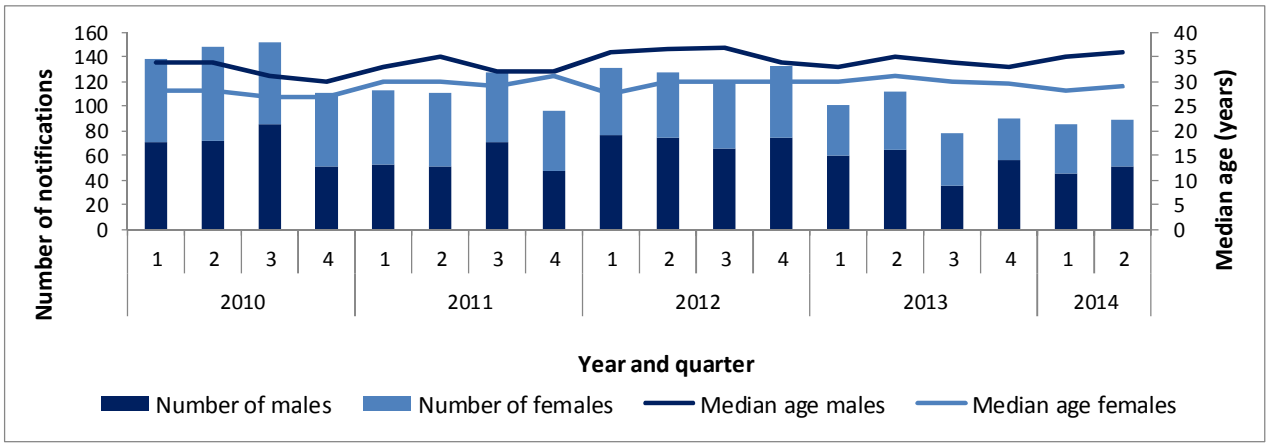

Figure 7. Number of chronic notifications by sex and median age, Q1 2010 to Q2 2014

Risk factor and other enhanced data

Although risk factor was reported for a minority of chronic cases in Q1 and 2 2014, some data on country of birth or asylum seeker status was available for 55% (n=100). Of these 88% (n=88) were either born in hepatitis B endemic countries (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 in their country of origin is unknown for the majority. Where country of birth was available (51%, n=92), the most common birth countries were in Eastern or Central Europe (34%, n=31), Asia (34%, n=31), Sub-Saharan Africa (23%, n=21) and Western Europe (10%, n=9). Of those born in Western Europe, seven were born in Ireland.

Risk factors for transmission were provided for 13% (n=24) of the chronic cases in Q1 & 2 2014. The most common risk factors reported were vertical (n=8, all born in an endemic country) and sexual exposure (n=7). The reason for testing was known for 56% (n=101). The main reasons were: routine health screening including pre-employment screens (25%, n=25), antenatal screening (22%, n=22), experiencing clinical signs or symptoms (8%, n=8), STI screening (7%, n=7) and asylum seeker screening (7%, n=7).

Co-infections

Hepatitis B and hepatitis C co-infection can lead to more severe liver disease and an increased risk of liver cancer. No caes of hepatitis B in Q1 & 2 2014 were co-infected with hepatitis C. Seven were co-infected with HIV.

Discussion

Hepatitis B notifications increased by 12% in Q1 & 2 2014 compared to the last two quarters of 2013. However, overall there has been a significant decrease in hepatitis B notifications in Ireland in recent years (52% decrease between peak levels in 2008 and 2013). The number of acute cases notified has been low in recent years and this continued in Q1 & 2 2014 (n=16). Most acute cases are sexually acquired in Ireland.

Enhanced data were limited for chronic cases but, where data were available, most were born in hepatitis B endemic countries and were likely to have been infected outside Ireland. The higher notification rates seen in earlier years were mostly attributable to large numbers of people migrating to Ireland from hepatitis B endemic countries. Immigration to Ireland has decreased in more recent years, correlating with decreasing numbers of hepatitis B cases.

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, 8th September 2014.

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