Report on Hepatitis B Notifications

Quarter 4 2013 and provisional summary of 2013 data

Health Protection Surveillance Centre

Summary

Hepatitis B notifications decreased by 24% in 2013 (n=431) compared to 2012 (n=567). Overall, there has been a significant decrease in hepatitis B in recent years (52% between 2008 and 2013).

The number of acute cases notified has decreased every year since 2008 (n=90). This continued in 2013 with only 31 acute hepatitis B notifications. 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 notifications.

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 105 notifications of hepatitis B in Q4 2013. This corresponds to a crude notification rate of 2.3 per 100,000 population, higher than the 90 cases notified in Q3. However, notifications of hepatitis B in 2013 overall (n=431, 9.4 per 100,000) decreased significantly (-24%) compared to 2012 (n=567, 12.4 per 100,000). This was a continuation of a general downward trend since peak levels of hepatitis B in 2008. Annual notifications since 1997 are shown in figure 1.

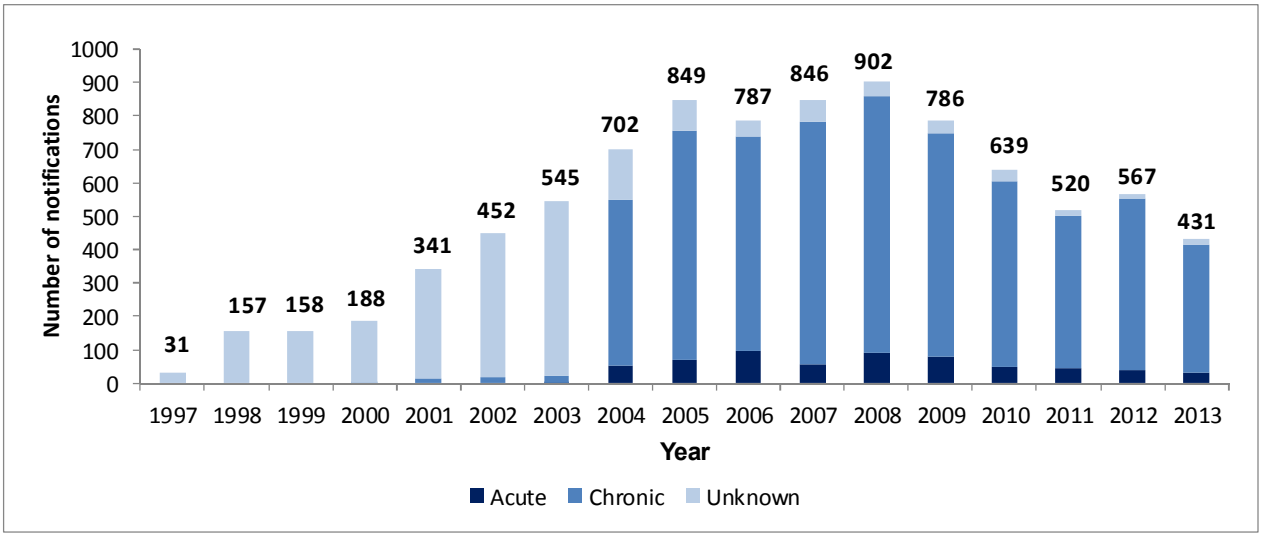

Figure 1. Number of cases of hepatitis B notified, by acute/chronic status, 1997 to 2013

Geographic distribution

Notification rates for each HSE area for the past four years are shown in figure 2. Rates were higher in the HSE-East (HSE E) compared to the rest of Ireland. Fifty nine percent of Q4 2013 cases (n=62, 3.8 per 100,000 population) and 60% of all 2013 cases (n=260, 16 per 100,000 population) were reported by the HSE E.

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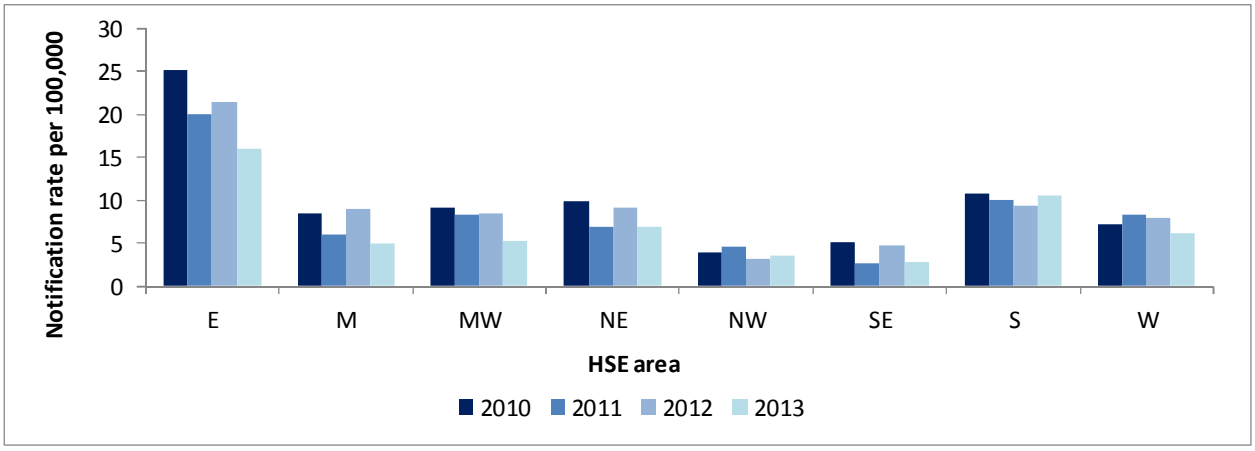

Figure 2. Hepatitis B notification rates per 100,000 population, by HSE area, 2010 to 2013

Acute/chronic status

Ninety seven percent (n=417) of hepatitis B notifications in 2013 contained information on the acute/chronic status of the case. Of these, 93% (n=386) of cases were chronically infected (long-term infection) and 7% (n=31) were acutely infected (recent infection). The acute/chronic breakdown was similar for Q4 2013, with 92 chronic (93%) and 7 acute cases (7%) notified. The status for 6 of the Q4 cases was not known.

Acute cases

Age and sex

The age and sex specific notification rates for acute cases of hepatitis B in 2013 are shown in figure 3. There were 24 male (77%) and 7 female (23%) cases. They ranged in age from 20 to 73 years and 90% of acute cases were aged between 20 and 54 years. Males were older overall, with a median age of 40.5 years compared to 35 years for females. The median age at notification increased in 2013 compared to previous years (figure 4).

Risk factor and other enhanced data

Some information on most likely risk factor was available for twenty seven of the thirty one acute cases (87%) notified in 2013. Seventy eight percent (n=21) were sexually acquired (12 heterosexual and 9 MSM), one case was an injecting drug user, one case was likely to have been infected nosocomially in Ireland and another was likely to have been infected through dental procedures outside Ireland. No risk factor was identified for the remaining three cases despite follow up. Three further cases had no risk factor specified but were born in hepatitis B endemic countries.

Country of birth was specified for all thirty one acute cases. Twenty two (71%) were born in Ireland, five (16%) were born in Eastern or Central Europe, two were born in South/South-East Asia, one (3%) was born in Western Europe (excluding Ireland) and one (3%) was born in Sub-Saharan Africa. Ninety percent of acute cases were tested because they were symptomatic.

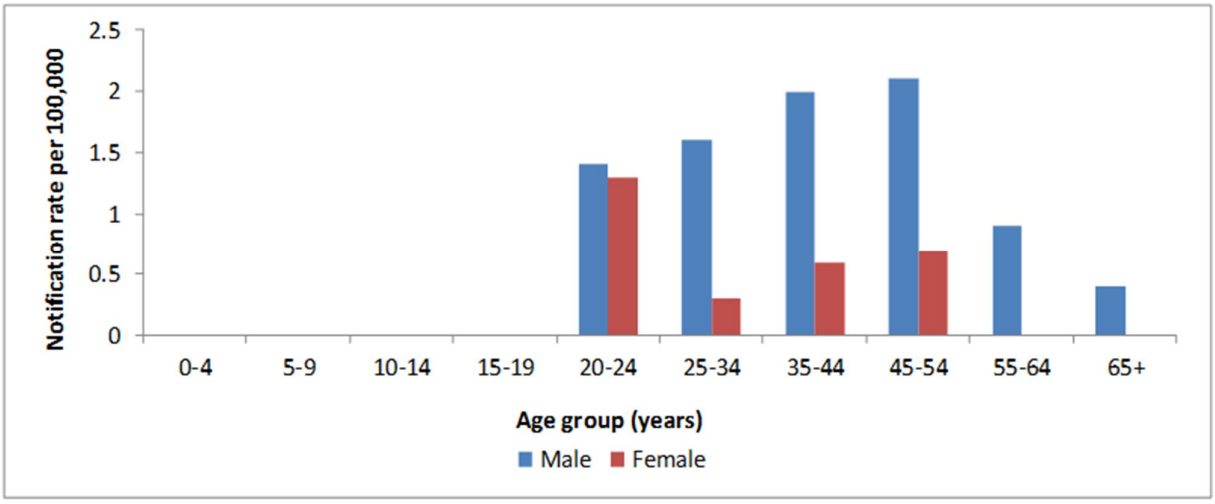

Figure 3. Age and sex specific rates per 100,000 population for acute cases of hepatitis B, 2013

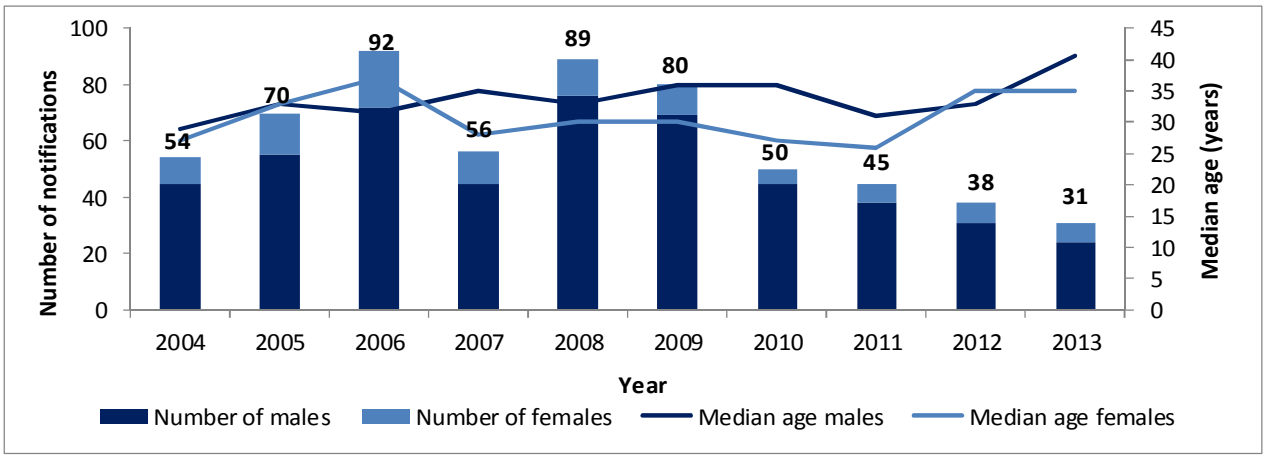

Figure 4. Number of acute cases of hepatitis B notified, by sex and median age, 2004 to 2014

Chronic cases

Age and sex

The age and sex specific notification rates for chronic cases of hepatitis B in 2013 are shown in figure 5. Of the 386 chronic cases, 56% (n=216) were male, 43% (n=165) were female and sex was not reported for five. They ranged in age from 0 to 79 years and 81% of chronic cases were aged between 20 and 44 years. Males were slightly older overall, with a median age at notification of 34 years compared to 30 for females (figure 6).

Risk factor and other enhanced data

Although risk factor was reported for a minority of chronic cases, some data on country of birth or asylum seeker status was available for 53% (n=206). Of these, 180 were either born in a hepatitis B endemic country (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 (50%, n=193), the most common birth countries were in Eastern or Central Europe (34%, n=65), Asia (25%, n=49), Sub-Saharan Africa (23%, n=45) and Western Europe (12%, n=24). Of those born in Western Europe, 17 were born in Ireland.

Risk factors for transmission were provided for 20% of the chronic cases in 2013. Where data were available, the most common risk factors were sexual exposure (49%, n=38), vertical transmission (14%, n=11), attending an intellectual disability institution (9%, n=7) and injecting drug use (8%, n=6). Where country of birth was available, 56% of sexually acquired cases, 63% of vertically acquired cases and 67% of cases due to injecting drug use were born in hepatitis B endemic countries. All of the cases attending an intellectual disability institution were born in Ireland, but infection may have been acquired in the past and only diagnosed in 2013 as part of routine testing. The reason for testing was known for 71% of chronic cases (n=274) in 2013. The main reasons were: antenatal screening (24%, n=65), routine health screening (18%, n=49), STI screening /MSM (15%, n=42) and asylum seeker screening 12%, n=33).

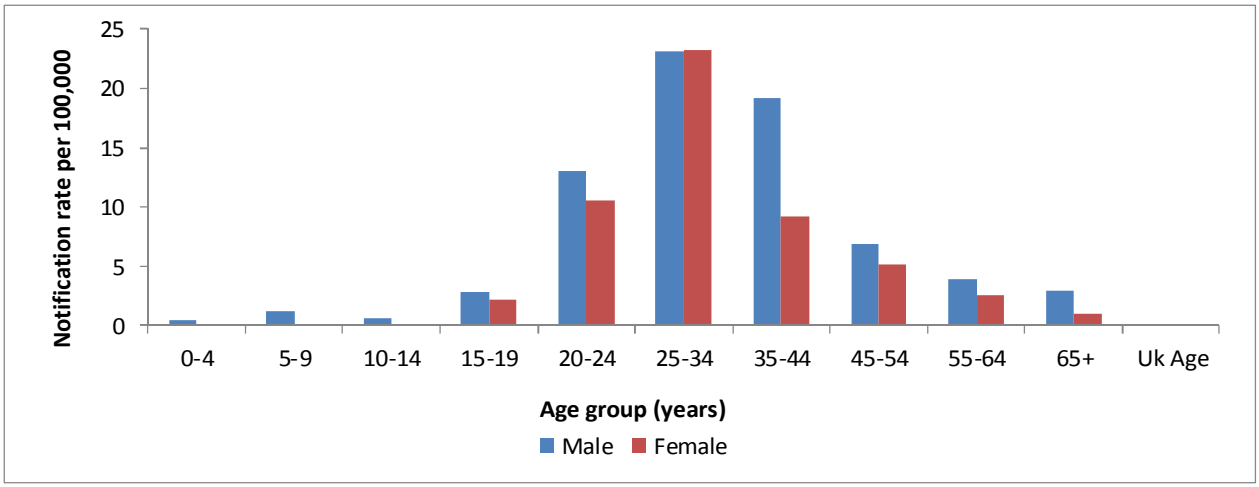

Figure 5. Age and sex specific rates per 100,000 population for chronic cases of hepatitis B, 2013

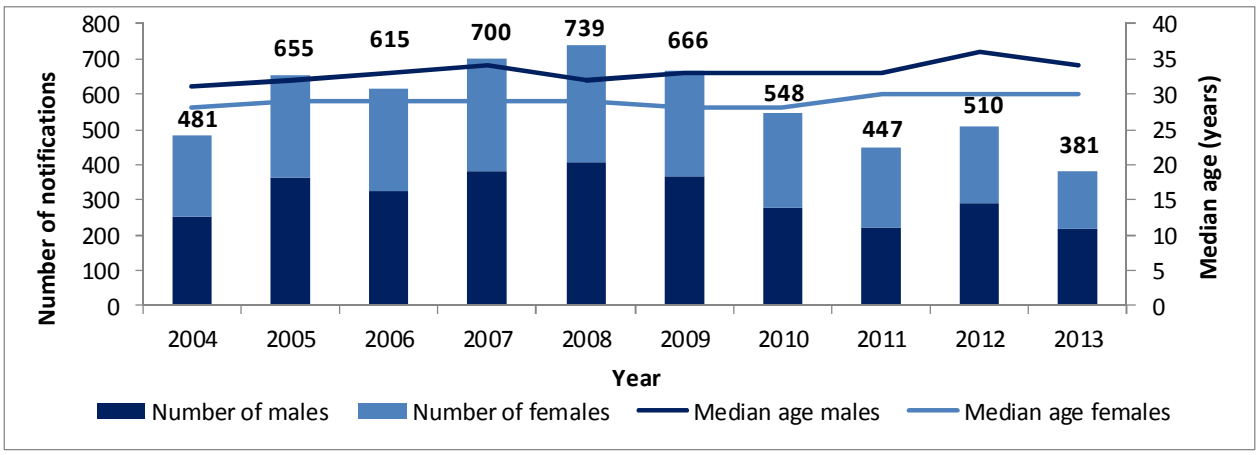

Figure 6. Number of chronic cases of hepatitis B notified, by sex and median age, 2004 to 2013

Co-infections

HIV and hepatitis C co-infection can lead to more severe liver disease and an increased risk of liver cancer. Seven of the cases of hepatitis B notified in 2013 were coinfected with HIV, two were coinfected with hepatitis C and one additional case was infected with HIV and hepatitis C.

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
Probable: 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