



Feidhmeannacht na Seirbhíse Sláinte
Health Service Executive



2006

EPIDEMIOLOGY OF HEPATITIS B IN IRELAND



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Acknowledgements

The authors would like to thank staff in the Departments of Public Health and all the laboratories and clinicians who provided data.

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Citation:

Epidemiology of hepatitis B in Ireland, 2006. Health Protection Surveillance Centre, October 2007

Further information:

<http://www.ndsc.ie/hpsc/A-Z/HepatitisHIVAIDSandSTIs/HepatitisB/>

<http://www.who.int/topics/hepatitis/en/>

<http://www.cdc.gov/ncidod/diseases/hepatitis/b/index.htm>

Summary

2006

Number of cases:	820
Age standardised notification rate:	19.2 /100,000 population
Number of acute cases:	93 (11%)
Number of chronic cases:	668 (82%)
Number with unknown status:	59 (7%)

2005

Number of cases:	889
Age standardised notification rate:	20.9 /100,000 population
Number of acute cases:	72 (8%)
Number of chronic cases:	700 (79%)
Number with unknown status:	117 (13%)

Introduction

Hepatitis B is a vaccine preventable disease which is transmitted through contact with the blood or body fluids of an infected person. The main routes of transmission are mother-to-baby, child-to-child, sexual contact and unsafe injections.^{1,2}

The course and clinical symptoms of hepatitis B infection depend on the patient's age and immune status. Only 10% of children and 30-50% of adults develop clinical symptoms during the acute phase of hepatitis B infection. However, between one and ten percent of those infected as older children or adults, and 90% of infants infected at birth, develop chronic hepatitis B infection. More than 350 million people worldwide are chronically infected with hepatitis B. In Sub-Saharan Africa, South-East Asia and parts of China 8% or more of the population have chronic infections, most of which were contracted at birth or through child-to-child contact in household settings. Chronic infection is associated with an increased risk of developing cirrhosis, liver failure and hepatocellular carcinoma.^{1,2}

The prevalence of hepatitis B infection in Ireland is low (<1%)³. However, infection is more prevalent in certain high-risk populations such as IDUs^{4,5}, prisoners⁶ and immigrants from high endemicity countries.

Hepatitis B is a vaccine-preventable disease and in 1992 the WHO recommended that hepatitis B vaccine be included in routine immunisation programmes in all countries by 1997.⁷ In Ireland, vaccination is currently recommended for individuals in high risk groups such as babies born to mothers with acute or chronic hepatitis B infections, patients with chronic renal failure or haemophilia, individuals at occupational risk, close contacts of infected persons, IDUs, prisoners, homeless people, heterosexuals with multiple partners and MSM⁸. In 2007, the National Immunisation Advisory Committee recommended the addition of the hepatitis B vaccine to the primary childhood schedule. This will be introduced in 2008.⁹

Case Definitions

Hepatitis B (acute and chronic)¹⁰

Clinical description

In symptomatic cases, clinical picture compatible with hepatitis, i.e. discrete onset of symptoms and/ or jaundice or elevated serum aminotransferase levels.

Asymptomatic cases are common.

Hepatitis B (acute)

Laboratory criteria for diagnosis

One of the following:

IgM antibody to hepatitis B core antigen (anti-HBc) positive

Detection of hepatitis B virus (HBV) nucleic acid in serum

Case classification

Possible: N/A

Probable: A symptomatic case that is HBsAg positive and has a clinical picture compatible with an acute hepatitis

Confirmed: A case that is laboratory confirmed

Hepatitis B (chronic)

Laboratory criteria for diagnosis

One of the following:

Hepatitis B surface antigen (HBsAg) positive and antibody to hepatitis B core antigen (anti-HBc) positive and IGM antibody to hepatitis B core antigen negative

Persistence for more than 6 months of either HBsAg or HBV nucleic acid in serum

Case classification

Possible: N/A

Probable: N/A

Confirmed: A case that is laboratory confirmed

Materials and Methods

Hepatitis B is a notifiable disease under the Infectious Diseases Regulations 1981. An amendment to the regulations implemented on 1st January 2004 (S.I. 707 of 2003) introduced case definitions and differentiated between notifications of acute hepatitis B and chronic hepatitis B for the first time. In addition, laboratory directors have been required to report cases of notifiable diseases identified in their laboratories since this date.¹⁰

Data for this report were extracted from CIDR on 3rd September 2007. These figures may differ from those published previously due to ongoing updating of notification data on CIDR. All rates were calculated using 2006 census data.

Results

Notifications of hepatitis B increased every year between 1996 and 2005. The number of cases reported decreased by eight percent in 2006, with 820 notifications compared to 889 in 2005. The crude notification rate for 2006 was 19.3/100,000 population (figure 1). Fifty nine percent of cases were reported by the HSE-E, corresponding to an age-standardised notification rate of 29.9/100,000 population (figure 2).

Case classification was reported for almost all cases (n=818) and all were laboratory confirmed. Ninety three percent of notifications contained information on acute/chronic status. Where status was known, 88% of cases were chronic (n=668) and 12% were acute (n=93).

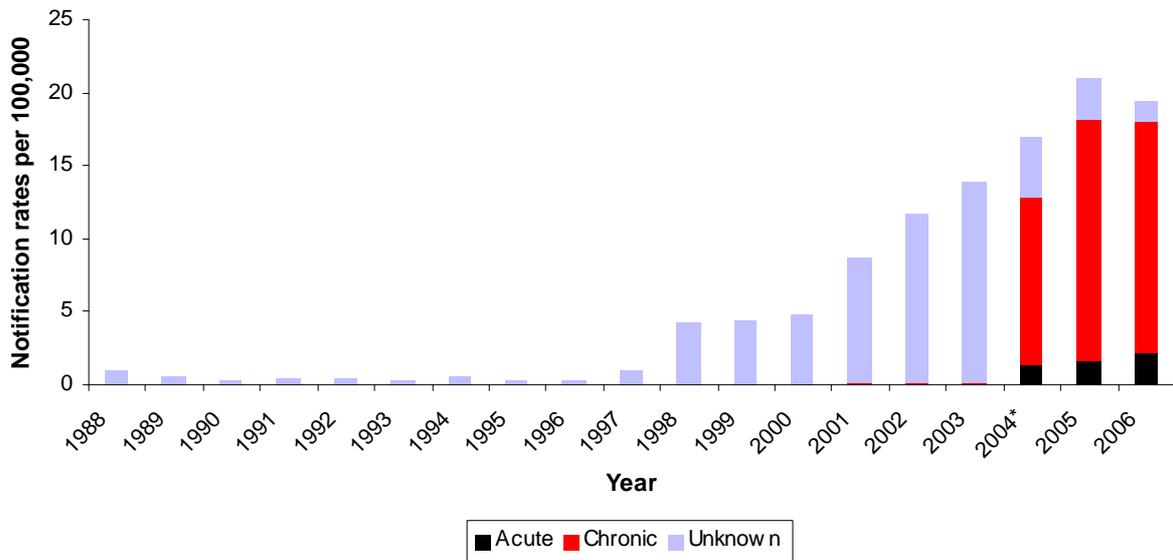


Figure 1. Crude notification rates/100,000 population for hepatitis B, 1988-2006

*Case definitions, which differentiate between acute and chronic cases of hepatitis B, and mandatory laboratory reporting of notifiable infectious diseases were introduced in 2004

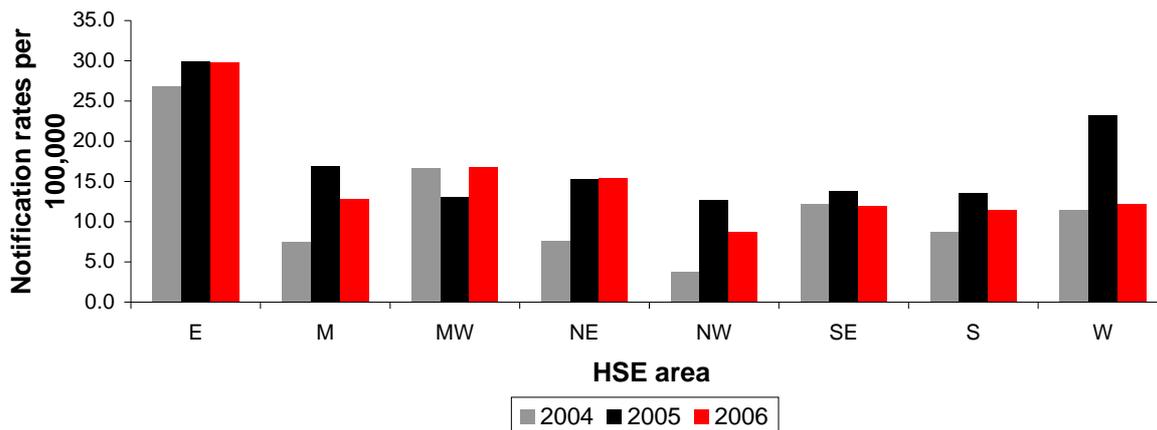


Figure 2. Age-standardised notification rates/100,000 population for hepatitis B by HSE area, 2004-2006

The epidemiology of acute and chronic cases in Ireland is very different. In 2006, 73% of acute cases were male, 24% were female and sex was not known for the remaining 3%. The highest rates were among young adults, with 74% of cases (n=69) aged between 20 and 44 years. The sex distribution of chronic cases was more even: 51% male, 44% female and 5% of unknown sex. Eighty three percent (n=556) were aged between 20 and 44 years, with the age profile for male chronic cases slightly older than that for females (figure 3).

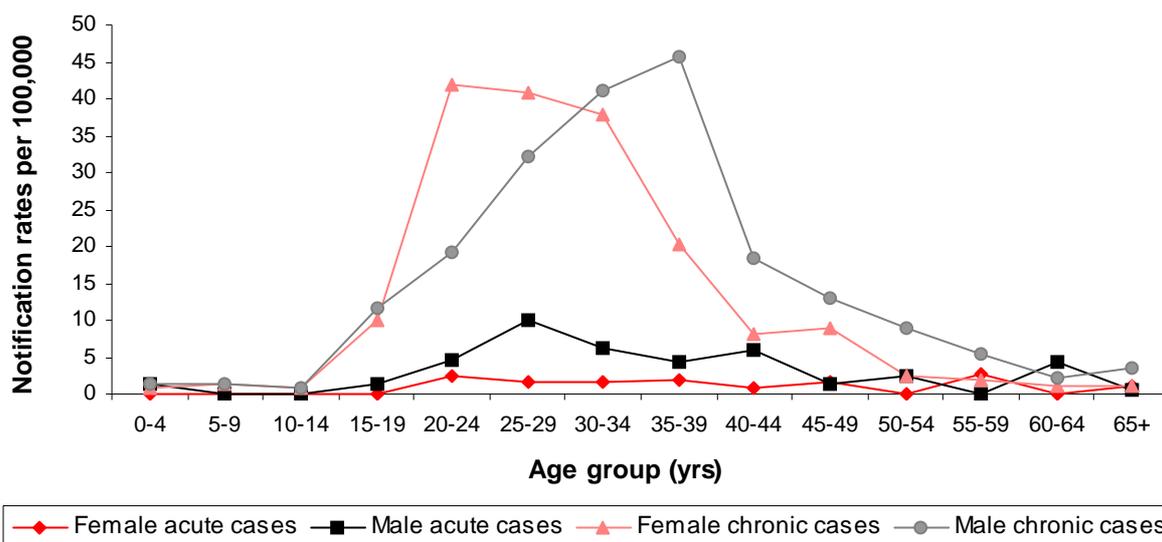


Figure 3. Age and sex-specific notification rates/100,000 population for hepatitis B, 2006

Some information relating to risk factors was available for 74% of acute cases (n=69). Where information was available, 61% of acute infections (n=42) were likely to have been acquired sexually. Twelve patients reported sexual contact with partners known to be positive for hepatitis B and a further 30 indicated that they could have acquired the infection sexually. Of these, 20 were men who have sex with men, 9 were heterosexual males, 4 were heterosexual females and orientation was not available for 9. Where reason for testing was known (n=68), 75% of acute cases (n=51) were tested because they were symptomatic and a further 12% (n=8) were diagnosed as a result of STI screening.

Country of birth was known for 65 acute cases, with the vast majority (86%, n=56) born in Ireland. Where country of infection was known, 82% (n=50) of acute cases were infected in Ireland and 8% (n=5) were infected in Thailand.

Risk factor data were very limited for chronic cases. Information on country of birth or asylum seeker status was available for 158 chronic cases. Over 90% (n=143) were identified as asylum seekers or as having been born in a country with high ($\geq 8\%$) or intermediate (2-7%) hepatitis B endemicity. Where country of birth was known, 43% (n=61) of chronic cases were born in Sub-Saharan Africa, 30% (n=42) were born in Eastern or Central Europe and 12% (n=17) were born in East or South-East Asia. Less than 4% (n=5) were born in Ireland.

Reason for testing was identified for 151 chronic cases. Thirty seven percent (n=56) were identified through asylum seeker screening programmes, 30% (n=45) were identified as a result of antenatal screening, 6% (n=9) were symptomatic and 6% (n=9) were diagnosed as a result of STI screening.

Discussion

Notifications of hepatitis B decreased slightly in 2006 compared to 2005. This may be a sign that the increasing trend in hepatitis B notifications in Ireland is levelling off. Most of the increase in hepatitis B seen in recent years is attributable to chronic cases. Information on chronic cases is limited, but available data indicate that the vast majority were born in countries where hepatitis B is endemic. It is likely that most acquired the infection at birth or in early childhood when the risk of developing chronic infection is high.

The number of acute hepatitis B cases in 2006 was relatively small, but has increased every year since differentiation of acute and chronic cases was introduced (2004). Sexual acquisition remained the dominant source of infection for acute cases. The current immunisation guidelines recommend the vaccination of men who have sex with men and individuals who change sexual partner frequently. However, identifying people at risk is difficult.

Antenatal screening for hepatitis B has been introduced in all Irish maternity hospitals. Immunisation and administration of hepatitis B immunoglobulin to babies soon after birth can prevent infection being transmitted to babies of infected mothers. The addition of the hepatitis B vaccine to the primary childhood schedule in 2008 will also serve to prevent infection in babies and young children.

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