

# Hepatitis B birth dose vaccines indicator

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## Burden & epidemiology

### Number of new cases per year (last 3-5 years)

Globally, the number of people newly infected with the hepatitis B virus (HBV) in 2024 was estimated at around 0.9 million; this was a decline of 32% from 2015.<sup>1</sup>

Between 2015 and 2024, there were substantial declines in the number of new HBV infections in the WHO European, South-East Asia and Western Pacific Regions (54%, 54%, and 49%, respectively) and large reductions in the WHO Region of the Americas (43%) and the African Region (25%). The smallest net reduction was in the WHO Eastern Mediterranean Region (17%), with an upward trend emerging after 2022.<sup>1</sup>

### Proportion of the population affected by the disease or infected with the antigen

In 2024, an estimated 240 million people were living with chronic HBV, corresponding to a global prevalence rate of 2.9%.<sup>1</sup>

Among children under five years of age, the global prevalence of chronic HBV infection was estimated to be around 0.6%. Infection in infancy or early childhood results in chronic hepatitis in

about 95% of cases, while the risk of chronic infection is below 5% for infections acquired in later childhood and adulthood.<sup>1</sup>

The highest prevalence of chronic HBV infection among children below five years of age and in the general population is in the WHO African Region (1.4% and 5.1% respectively). Prevalence among children aged below five years is then followed by the WHO Eastern Mediterranean Region (0.5%), Western Pacific Region (0.4%), South-East Asia Region (0.2%), European Region (0.06%) and the Region of the Americas (0.03%).<sup>1</sup>

### **Serogroup or serotype distribution (for serogroup- or serotype-specific vaccines)**

HBV occurs in ten different genotypes (A to J) with a DNA variation of >8% between genotypes. Genotypic distribution varies geographically. Many HBV sub-genotypes exist and differ by >4%.<sup>2</sup> The prevalence of different genotypes may vary between regions. Some of the genotypes, such as D, were found worldwide, whereas others were restricted to single continents, like B and C in Asia, E in Africa, and F and H in the Americas.<sup>3</sup>

HBV genotypes are associated with variable courses of disease, severity of liver disease, and treatment outcomes.<sup>2, 3</sup>

### **Number of deaths from the disease per year**

Globally, in 2024, there were an estimated 1.1 million HBV-related deaths. Most (75%) deaths and the highest mortality rates occurred in the WHO African and Western Pacific regions. Ten countries accounted for 69% of the global total: Bangladesh, China, Ethiopia, Ghana, India, Indonesia, Nigeria, the Philippines, South Africa and Viet Nam.<sup>4</sup>

### **Case Fatality ratio (number of deaths / number of new cases, in %)**

The case fatality ratio (CFR) for acute hepatitis B is 0.5–1%,<sup>5</sup> and for acute fulminant hepatitis B 20–33%.<sup>6</sup> However, acute and fulminant hepatitis are uncommon following infections acquired during the perinatal period; most infections acquired during this period are asymptomatic, though they commonly result in chronic infection.<sup>7</sup>

There are no formal CFRs reported for chronic infection, though it is estimated that 15–40% of those with untreated chronic hepatitis B infection eventually die from cirrhosis, liver failure, or hepatocellular carcinoma.<sup>5</sup> For HBV-associated decompensated liver cirrhosis, there is an approximately 15–20% one-year mortality and 50–60% five-year mortality, respectively, depending on severity (Child-Pugh class and treatment).<sup>8</sup> For HBV-associated hepatocellular carcinoma, there is an approximately 70–85% five-year case fatality (equivalent to 15–30% 5-year survival overall). Prognosis varies greatly by stage at diagnosis and treatment availability.<sup>9</sup>

## **Outbreak, epidemic or pandemic risk**

Hepatitis B is not usually associated with widespread community outbreaks through casual contact. Instead, outbreaks are almost always due to exposure to infected blood or body fluids in specific settings.

These include:

- healthcare settings, e.g., through unsafe medical injections or procedures, haemodialysis, or assisted glucose monitoring;<sup>10, 11, 12, 13, 14, 15</sup>
- sexual transmission through sexual networks;<sup>16, 17</sup>
- household transmission, e.g., through sharing of razors;<sup>18, 19</sup>, and
- needle sharing for injectable drug use, e.g., in prisons.<sup>20</sup>

## **Contribution of the vaccine to achievement of the national, regional or global disease goals**

A World Health Assembly resolution on viral hepatitis (WHA67.6) introduced the prospect of eliminating hepatitis B and C as public health threats. It called for countries to develop national strategies, expand vaccination coverage (including a timely birth dose) in addition to other strategies to prevent, detect and treat chronic infection.<sup>4</sup>

The WHO Global health sector strategy on viral hepatitis, 2016–2021, which was updated for the period 2022–2030 describes the recommended strategies and the monitoring indicators to achieve the global goals. The global targets include a 95% reduction in the annual number of new HBV infections and a 65% reduction in the annual number of HBV-related deaths by 2030 compared with levels in 2015. Coverage targets are also set at 90% for both timely birth dose,

and third dose of hepatitis B vaccine.<sup>21</sup>

The increasing use of hepatitis B vaccination has made a substantial contribution to reducing the number of new infections and the prevalence of chronic infection globally. Global coverage with three doses of the hepatitis B vaccine has remained relatively constant from 83% in 2015 to 84% in 2025. Coverage with a timely birth dose has increased from 35% in 2015 to 43% in 2025. However, the timely birth dose coverage in the WHO African Region in 2025 (11%) remains substantially lower than in other Regions, all of which have coverage levels above 40%.<sup>22</sup>

While there is progress against several of the indicators, further efforts are needed to reach the global targets. Achieving the 2030 target of a 95% reduction in HBV incidence (compared with 2015) requires a large improvement in birth-dose coverage of the hepatitis B vaccine, which remains below the 90% coverage target, especially in the WHO African Region.<sup>4</sup>

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