The state of hepatitis B

Global Epidemiology of viral hepatitis B

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Outline

1. Background
2. Unmet critical need for prevention, treatment and care (2021 Progress Report)
3. Strategic shifts towards elimination in a new global health care era
4. Measuring progress and reaching hepatitis elimination
5. Key messages
Viral hepatitis B—a high burden disease

HBV is a small DNA virus that replicates through an RNA intermediate and can integrate into the host cell genome. HBV CCCDNA is responsible for viral persistence.

The outcome of chronic infection is variable ranging from mild fibrosis to cirrhosis and decompensated liver disease and liver cancer.

Different routes of transmission in endemic and non-endemic communities.

Vaccination available since the early 1980s, safe, immunogenic, effective, efficacy in preventing HBV infection over 95%.

Screening for chronic HBV is performed by testing for serum HBsAg. Testing for HBV DNA is routinely used in making treatment decisions and monitoring of disease course. Oral therapy (TDF, Entecavir) it is usually lifelong.
Burden of HBV infection (HBsAg) in the general population by WHO region, 2019:

GLOBAL
295,852,053 (228,228,727 - 422,645,790)

REGION OF THE AMERICAS
5,358,907 (3,062,233 - 12,248,931)

AFRICAN REGION
82,302,593 (62,064,250 - 114,683,941)

EUROPEAN REGION
13,604,235 (10,203,176 - 22,106,882)

SOUTH-EAST ASIA REGION
60,458,777 (45,344,083 - 120,917,554)

AFRICAN REGION
115,749,203 (95,213,054 - 141,886,119)

SOUTHERN PACIFIC REGION
5,243,217 (14,373,443 - 23,771,464)

GLOBAL
296 million
In areas with intermediate endemicity, infection occurs in all age groups.

In areas of low hepatitis B seroprevalence, most infections occur in adults, especially among persons belonging to defined risk groups.
Increased estimated global burden from 257 million (2015) to 296 million (2019)

Increased regional burden mostly in AFRO and SEARO accounting for global increase
Decreased burden in Europe and the Americas
2021 Progress Report - unmet critical need for prevention, treatment and care
Status of the Global Hepatitis response

Impact targets by 2020 and 2030 and progress report (2021)

NEW HEPATITIS B AND C INFECTIONS AND MORTALITY AND HEPATITIS B PREVALENCE AMONG CHILDREN: 2030 TARGETS AND PROGRESS IN 2019

- 3 million new infections in 2019
- 1.1 million deaths in 2019
- 0.94% HBV prevalence under five in 2019

ESTIMATED CANCER DEATHS ATTRIBUTED TO HEPATITIS B IS GREATER THAN HEPATITIS C AND GREATER AMONG MEN, 2018


Significant Impact of hepatitis B vaccine on prevalence of HBsAg in children under 5 years

Before 2000: 4.7%

Despite the progress, 6.4 million children aged < 5 with chronic HBsAg in 2019
Major gaps in testing and treatment towards public health elimination

Only 10% of estimated 296 million people with chronic HBV infection were diagnosed in 2019 with variation by regions (only 2% are on treatment)
Estimating the proportion of people with chronic hepatitis B virus infection eligible for hepatitis B antiviral treatment worldwide: a systematic review and meta-analysis

Mingjuan Tan*, Ajeet S Bhardwaj*, Fuqiang Cui, Alex Tan, Judith Van Holten, Philippa Eesterbroek, Nathan Ford, Qin Han, Ying Lu, Marc Buttery, Yvon Hutin

Findings Of the 13 497 studies, 162 were eligible and included in our analysis. These studies included 145 789 participants. The pooled estimate of the proportion of cirrhosis was 9% (95% CI 8–10), ranging from 6% (4–8) in community settings to 10% (9–11) in clinic settings. Examining the proportion of participants who had characteristics used to determine eligibility in the WHO guidelines, 1750 (10·1%) of 17 394 had HBV DNA exceeding 20000 IU/mL, and 20 425 (30·8%) of 66 235 had ALT above the upper limit of normal. 32 studies reported eligibility for treatment according to WHO or any other guidelines, with a pooled estimate of eligibility at 19% (95% CI 18–20), ranging from 12% (6–18) for studies in community settings to 25% (19–30) in clinic settings.

Interpretation Many studies described people with HBV infection, but few reported information in a way that allowed assessment of eligibility for treatment. Although about one in ten of the 257 million people with HBV infection (26 million) might be in urgent need of treatment because of cirrhosis, a larger proportion (12–25%) is eligible for treatment in accordance with different guidelines. Future studies describing people with HBV infection should report on treatment eligibility, according to broadly agreed definitions.

26 million

People with HBV infection in need of urgent treatment because of cirrhosis
Examples of HCV access strategies

- Generic DAAs, civil society role and services to key populations in Ukraine
- HCV and harm reduction services in Georgia
- Expansion of HCV screening in PHC, but high prices in Brazil
- Large screening campaign and local production in Pakistan
- Pangenotypic DAAs, but high prices in Russian Federation
- Inclusion DAAs in health insurance, but high prices in China
- Multiple generic DAA suppliers in India
- Compulsory license and access to generic DAAs in Malaysia
- Large scale programme in Mongolia
- National HCV screening and local DAA production in Egypt
- Local DAA production and civil society role in Morocco
- Integration in PHC and UHC in Rwanda

Source: Accelerating access to hepatitis C diagnostics and treatment. Global Progress Report, 2020
Strategic shifts towards elimination in a new global health care era
# Vision, goals and strategic directions (GHSS 2022-2030)

A common vision

End epidemics and advance universal health coverage, primary health care and health security

End AIDS and the epidemics of viral hepatitis and sexually transmitted infections by 2030

**Strategic directions with shared and disease-specific actions**

- **HIV strategy**
  - SD1. Deliver high-quality, evidence-based, people-centred, services
  
  - SD2. Optimize systems, sectors and partnerships for impact
  
  - SD3. Generate and use data to drive decisions for action
  
  - SD4. Engage empowered communities and civil society
  
  - SD5. Foster innovations for accelerated impact

- **Viral hepatitis strategy**

- **Sexually transmitted infections strategy**

**Drivers of progress**

- Gender, equity, and human rights
- Funding
- Leadership and partnerships

(Current draft)
Eight Key shifts required to end the epidemic of viral hepatitis by 2030 (GHSS 2022-2030)

1. Greater public awareness of the importance of viral hepatitis B and C prevention, testing and treatment
2. Increased financial resources allocated
3. Scale-up of universal access to hepatitis B birth dose vaccine and improved services for prevention of vertical transmission
4. Continuous investment in primary prevention
5. Greatly increased access to hepatitis B and C virus testing and treatment
6. Simplified and decentralized service as well as integrated service delivery
7. Strengthened community and civil society
8. Innovations to accelerate action (incl HBV cure)
Measuring progress and reaching elimination
WHO Interim guidance for Validation of Viral hepatitis Elimination (2021) - implication for countries

**Absolute targets:**
(i) Enables direct comparison across countries of progress towards elimination
(ii) Avoids needs to establish baseline incidence or mortality

- Incidence should be in populations representative of the general or PWID population
- Programme coverage needs to be achieved and maintained for at least 2 years
WHO Guidelines for viral hepatitis is available to support hepatitis elimination

2015
✓ Elimination strategy
✓ HBV Guidelines

2016
✓ Revised HCV Guidelines (DAA)
✓ National plan development manual

2017
✓ Baseline estimates: Global Hepatitis Report
✓ HBV/HCV testing Guidelines
✓ Injection safety campaign

2018
✓ Global hepatitis reporting system piloted
✓ HCV treatment Guidelines: Treat All
✓ Cost effectiveness calculators (HBV/HCV)

2019
✓ Consolidated strategic information guidelines (Feb 2019)

2020
✓ HBV PMTCT recommendations on antiviral medicine use in pregnancy

2021
✓ Interim Guidance for country validation of viral hepatitis elimination
✓ HCV self testing guidelines

2022
✓ Update of Hepatitis B treatment guidelines & Consolidated VH guidelines

(Coming soon!)

WHO delivered many of the global goods needed
Key messages

• Huge global HBV burden and significant regional variation

• Major gaps in treatment and care remain despite progress in the past 5 years

• We have the strategy and the tools to make hepatitis elimination a reality by 2030

• Building back better differently and enhancing opportunities from the COVID-19 response and embracing partnerships and innovations

• Political commitment and collective effort is needed to reach elimination by 2030
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