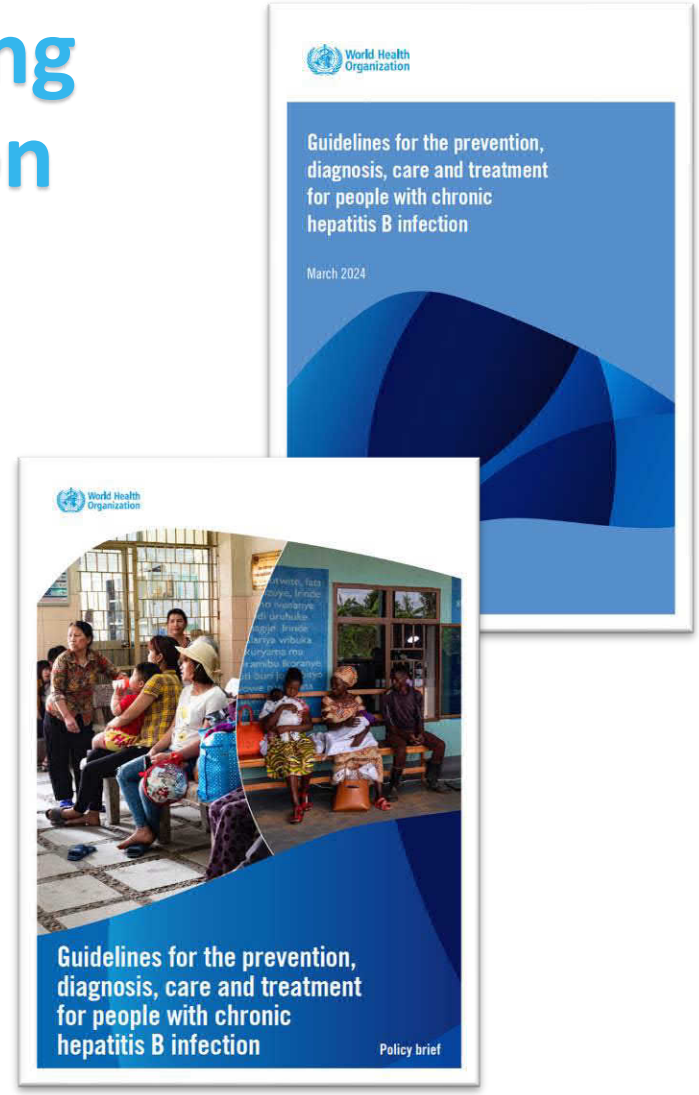
WHO Global Webinar: Technical Briefing on 2024 WHO Hepatitis B Guidelines on Diagnosis, Treatment, and Service Delivery



Department of HIV, Hepatitis and STIs Programme, WHO HQ, Geneva, Switzerland.

Date: Monday, 13 May 2024
Time: 14.30 – 16.00 (CET)

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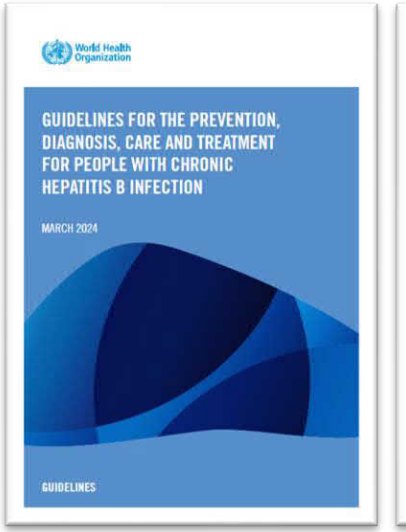
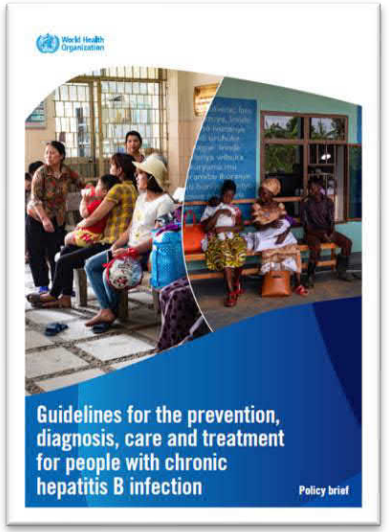
WHO Global Webinar: Technical Briefing on 2024 WHO Hepatitis B Guidelines on Diagnosis, Treatment, and Service Delivery

Department of HIV, Hepatitis and STIs Programme, WHO HQ, Geneva, Switzerland.

TIME (CET)	DATE (MONDAY, 13 MAY 2024)	SPEAKERS / CO-CHAIRS
Part 1: New hepatitis B guidelines – recommendations and rationale		
14.30 – 14.35	Introductory remarks	Meg Doherty (WHO HQ)
14.35 – 15.00	New WHO hepatitis B guidance on expanded simplified treatment criteria, diagnostic innovations, service delivery recommendations, evidence base and rationale	Philippa Easterbrook (WHO HQ)
15.00 – 15.10	Q & A	Niklas Luhmann , Philippa Easterbrook (WHO HQ)
Part 2: New hepatitis B guidelines – perspectives and implementation considerations		
15.10 – 15.30	Access considerations	Oriel Fernandes (CHAI)
	Perspective on new recommendations: Community and patients	Catherine Freeland (Hep B Foundation)
	Spotlight from six WHO regions by WHO Hepatitis Regional Focal Points	Polin Chan (SEARO), Kiyo Izumi (WPRO), Stela Bivol (EURO), Leandro Sereno (PAHO), Billy Aristide (AFRO), Ahmed Sabry (EMRO)
15.30 – 16.00	Q & A and Discussion: Brief comments from countries on new guideline recommendations (China, Philippines, Malawi, Brazil, Cameroon)	Polin Chan (WHO SEARO) , Niklas Luhmann (WHO HQ),

The webinar will be in English, French, Spanish, and Russian Language.





Please scan the QR code to download the full guidelines, policy brief, and related documents!

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- The PowerPoint slides and the recordings in 4 languages will be available on the WHO HBV Global Webinar Event Page.
- A follow-up email with the event page link will be sent to registered participants.

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- (E.g. Sandi Min, MOH, Switzerland)
- (E.g. Sandi Min, WHO, Switzerland)

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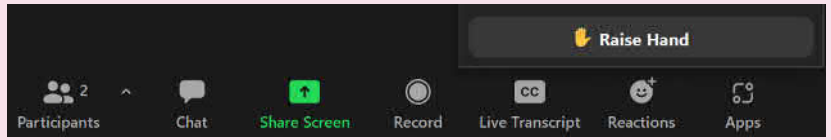

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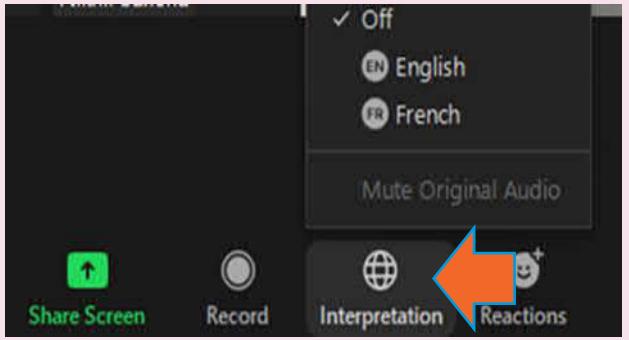

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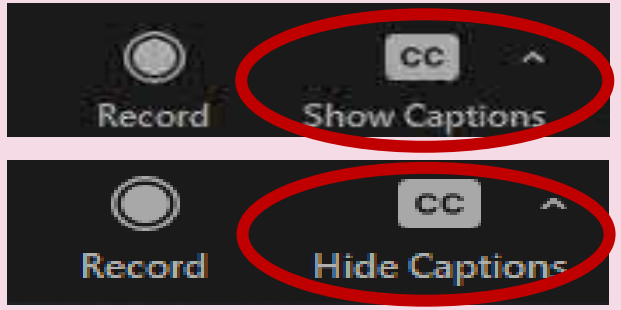

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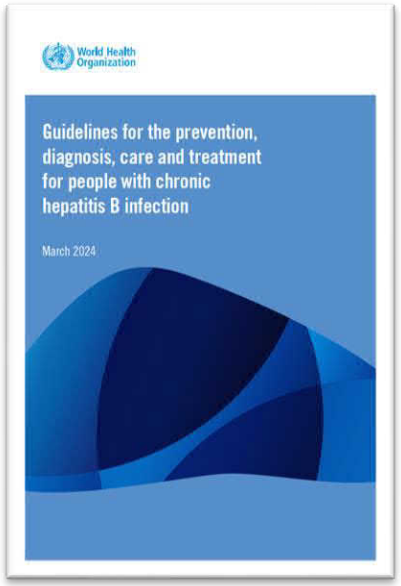

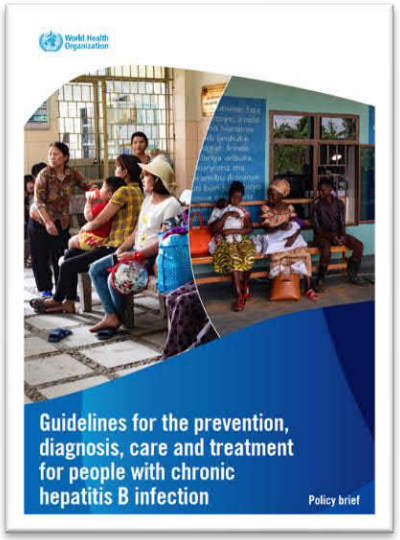

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Part 2: New hepatitis B guidelines – perspectives and implementation considerations		Chair: Polin Chan (WHO SEARO)
15.10 – 15.30	Access considerations (7 min)	Oriel Fernandes (CHAI)
	Perspective on new recommendations: Community and patients (5 min)	Catherine Freeland (Hep B Foundation)
	Spotlight from six WHO regions by WHO Hepatitis Regional Focal Points (13 min)	Polin Chan (SEARO), Kiyo Izumi (WPRO), Stela Bivol (EURO), Leandro Sereno (PAHO), Billy Aristide (AFRO), Ahmed Sabry (EMRO)
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Part 1:
New hepatitis B guidelines – recommendations and rationale

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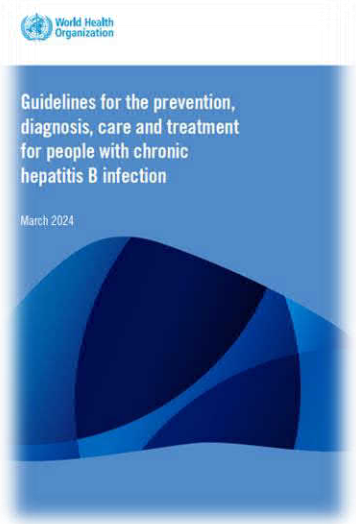

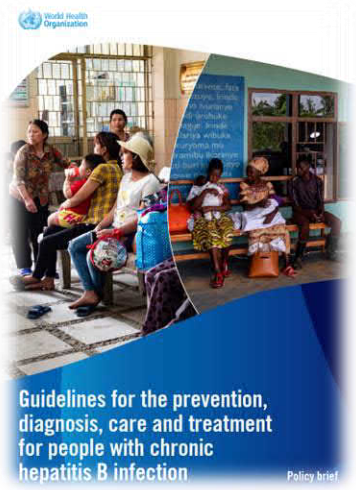

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Introductory Remark

Meg Doherty

Director

Department of Global HIV, Hepatitis and STIs Programmes

WHO HQ, Geneva, Switzerland.

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Global Health Sector Strategy for HIV, VH and STIs

Global targets for elimination – including absolute targets for elimination

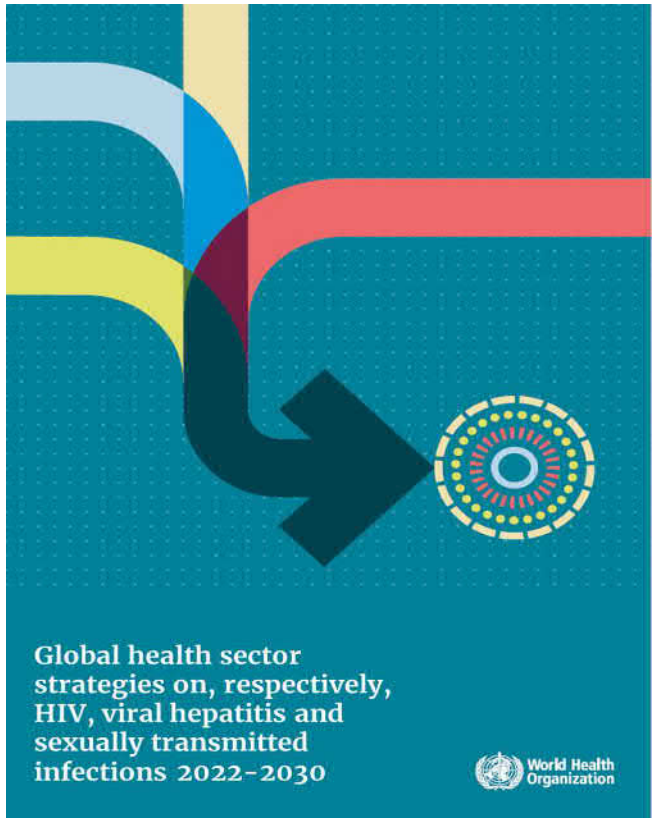

Table 5.1. Impact and coverage indicators, targets and milestones for viral hepatitis by 2030

	Indicator	Baseline – 2020[a]	Targets – 2025	Targets - 2030
Impact	Hepatitis B surface antigen (HBsAg) prevalence among children younger than 5 years old[b]	0.94%	0.5%	0.1%
	Number of new hepatitis B infections per year	1.5 million new cases 20 per 100 000	850 000 new cases 11 per 100 000	170 000 new cases 2 per 100 000
	Number of new hepatitis C infections per year	1.575 million new cases 20 per 100 000	1 million new cases 13 per 100 000	350 000 new cases 5 per 100 000
	Number of new hepatitis C infections per year among people who inject drugs per year	8 per 100	3 per 100	2 per 100
	Number of people dying from hepatitis B per year	820 000 deaths 10 per 100 000	530 000 deaths 7 per 100 000	310 000 deaths 4 per 100 000
	Number of people dying from hepatitis C per year	290 000 deaths 5 per 100 000	240 000 deaths 3 per 100 000	140 000 deaths 2 per 100 000
Coverage	Hepatitis B – percentage of people living with hepatitis B diagnosed / and treated	30%/30%	60%/50%	90%/80%
	Hepatitis C – percentage of people living with hepatitis C diagnosed / and cured	30%/30%	60%/50%	90%/80%
Coverage	Percentage of newborns who have benefitted from a timely birth dose of hepatitis vaccine and from other interventions to prevent the vertical (mother-to-child) transmission of hepatitis B virus[c]	50%	70%	90%
	Hepatitis B vaccine coverage among children (third dose)	90%	90%	90%
	Number of needles and syringes distributed per person who injects drugs[d]	200	200	300
	Blood safety - proportion of blood units screened for bloodborne diseases	95%	100%	100%
	Safe injections - proportion of safe health-care injections	95%	100%	100%
Milestones	**Planning** – number of countries with costed hepatitis elimination plans	TBD	30	50
	Surveillance - number of countries reporting burden and cascade annually	130	150	170
	Hepatitis C virus drug access – percentage average reduction in prices (to equivalent generic prices by 2025)	20%	50%	60%
	Hepatitis B virus drug access - percentage average reduction in average prices (alignment with HIV drug prices by 2025)	20%	50%	60%
	Elimination of vertical (mother-to-child) transmission - number of countries validated for the elimination of vertical transmission of either HIV, hepatitis B, or syphilis	15	50	100
	Elimination - number of countries validated for elimination of hepatitis C and/or hepatitis B	0	5	20
	Integration - proportion of people living with HIV tested for/and cured from hepatitis C	To be determined	60%/50%	90%/80%

[a] Latest data for end 2020. Some targets use data from 2019 because of COVID-19 related service disruptions in the data reported for 2020. COVID-19 is not currently expected to affect the targets for 2025. All data will be disaggregated by age, sex and when relevant the focus populations specific to the disease.

[b] Please note that the targets in this table are global targets and should be adapted to set targets for countries in relation to the national context. For example, in some countries a target for hepatitis B surface antigen prevalence among children younger than five years may be less than 0.1% or 0.2%, although the overall global target should be 0.1%.

[c] In addition, the proportion of infants younger than 12 months of age who received the third dose of hepatitis B vaccine should also be measured as well as other indicators for preventing vertical transmission such as maternal testing and prophylaxis.

[d] As part of a comprehensive harm reduction strategy and in line with national priorities.

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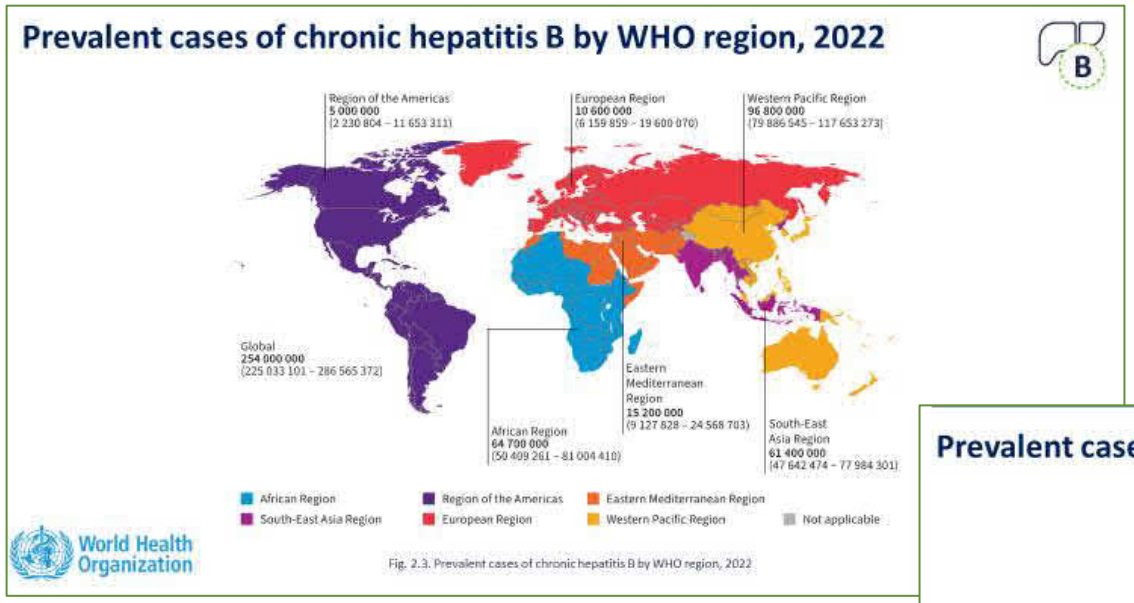
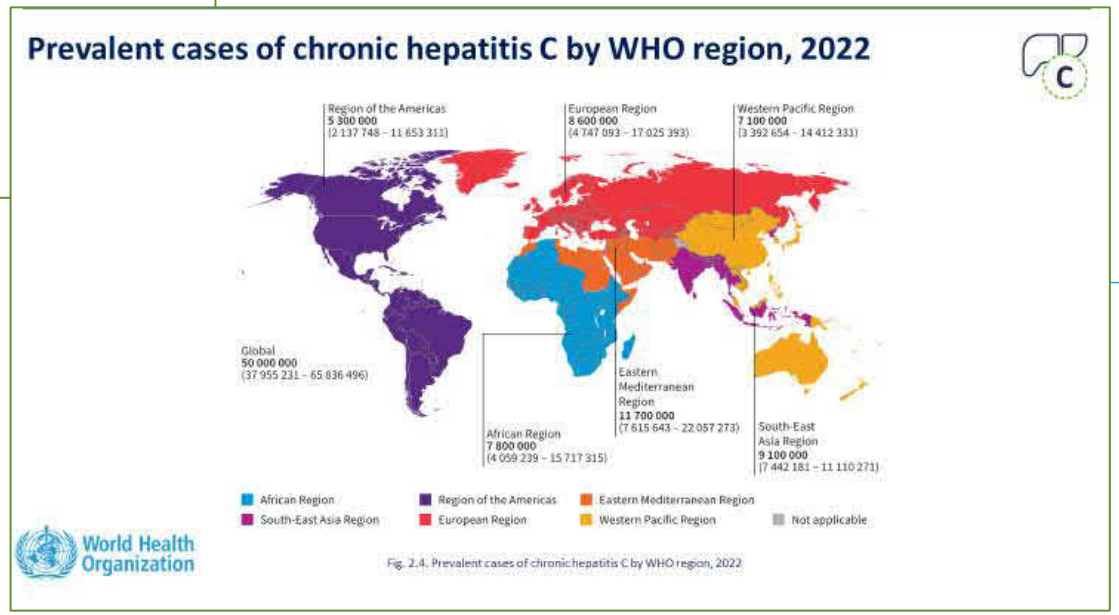
Link to GHSS: 9789240053779-eng.pdf

New Global Hepatitis Report, 2024

https://www.who.int/publications/i/item/9789240091672

Worldwide, in 2022 estimated 304 million people are living with Hepatitis B (254 m) and Hepatitis C (50m)





2.2 M

# of new HBV & HCV infections/year

1.3 M

deaths/year from HBV /HCV associated liver cirrhosis & Cancer

12M

Anti-HDV prevalence

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https://www.who.int/publications/i/item/9789240091672

Progress towards hepatitis elimination by 2030 (2015 & 2022 WHA)

Absolute elimination targets defined and measurable

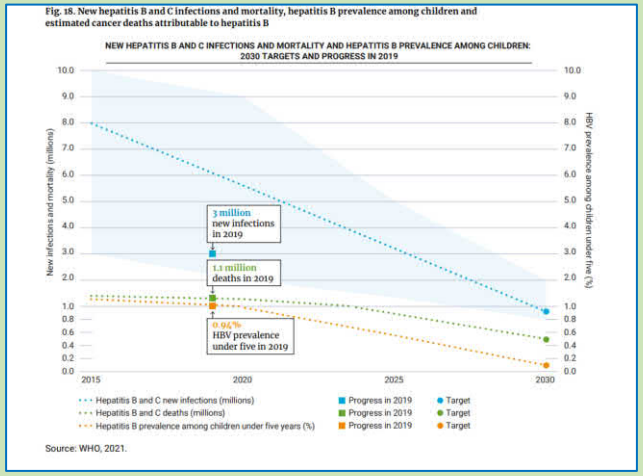
HBV incidence: HBsAg in children ≤5

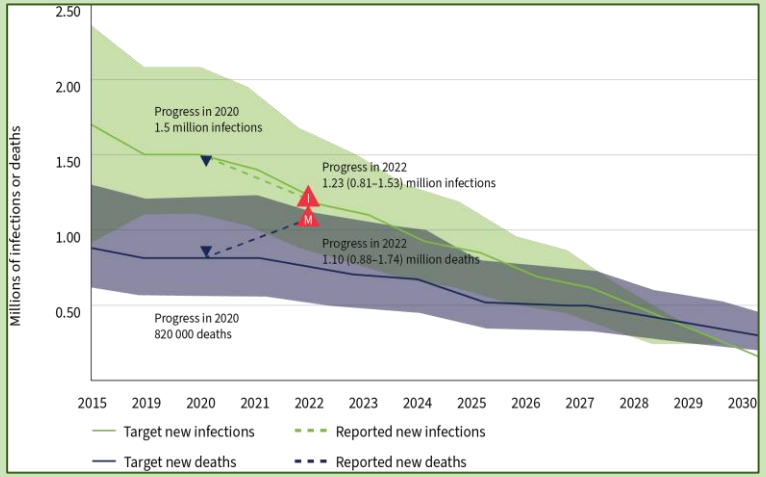
<0.1%

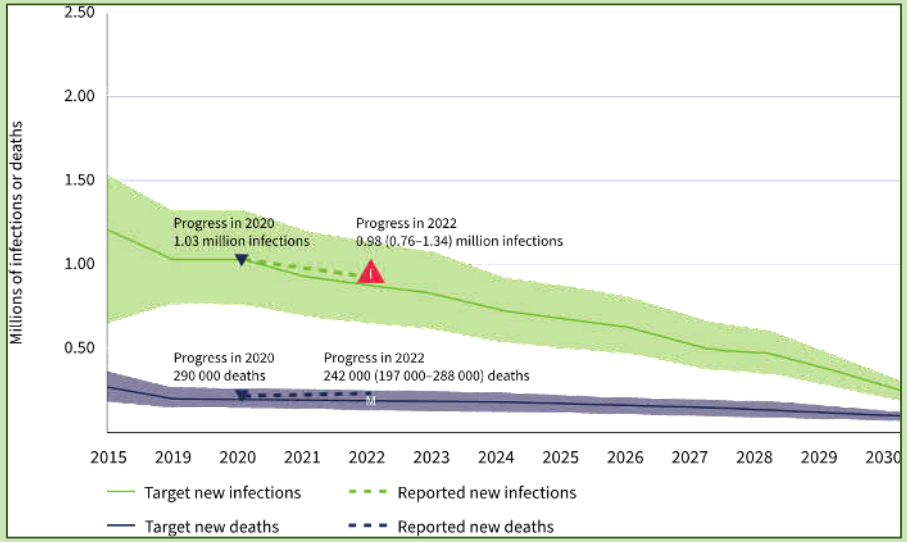
Combined HBV & HCV mortality

<6/100,000

population







Implications of HBV & HCV elimination

From **2.2 million** new infections (in 2022) to **520,000** infections (by 2030)

From **1.3 M** deaths (in 2022) to under **660,000** deaths (by 2030)

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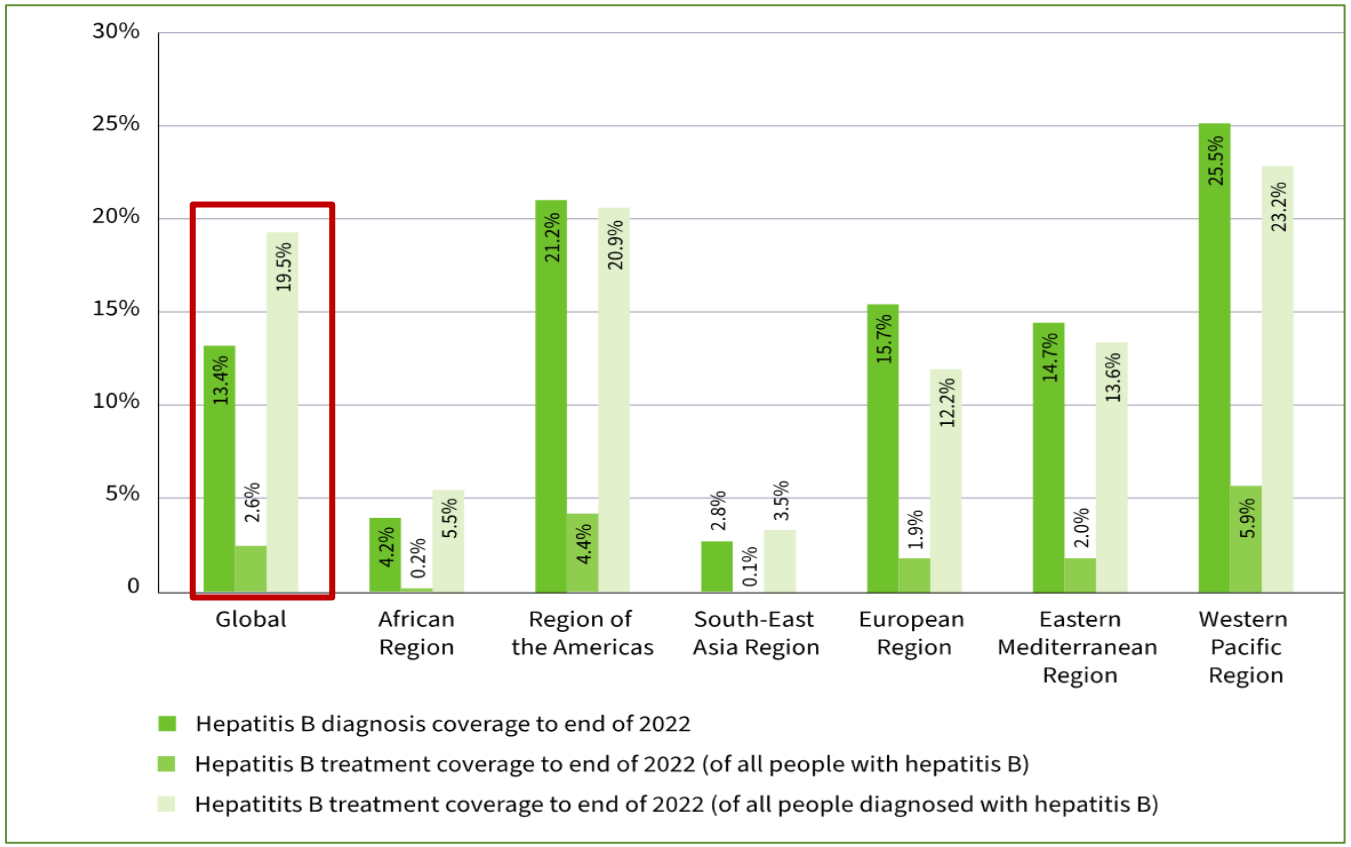
***95% reduction in HBV incidence and 65% reduction in mortality by 2030, compared with the 2015 baseline**

Achievements and gaps during in Hepatitis B coverage

Huge gaps & regional disparity in diagnosis and treatment
Globally, only **13%** **of 254 M with HBV diagnosed and** **3% treated**



Scaling-up the hepatitis B responses has the potential to save over 8 million lives by 2030

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Regional sections of report – Hepatitis B and C impact

63% of new HBV infections in Africa,

18% coverage birth dose in Africa, 48% globally

HCV incidence – improved data IDUs, unsafe medical injections, **unsafe injections**

WHO region	Incidence		Mortality	
	New hepatitis B infections	New hepatitis C infections	Number of deaths caused by hepatitis B	Number of deaths caused by hepatitis C
African Region	771 000	172 000	272 000	35 000
Region of the Americas	8 000	176 000	20 000	38 000
South-East Asia Region	266 000	225 000	218 000	42 000
European Region	18 000	126 000	32 000	21 000
Eastern Mediterranean Region	86 000	183 000	41 000	65 000
Western Pacific Region	83 000	98 000	518 000	43 000

Table 2.4. Incidence and mortality of hepatitis B and C virus by WHO region, 2022

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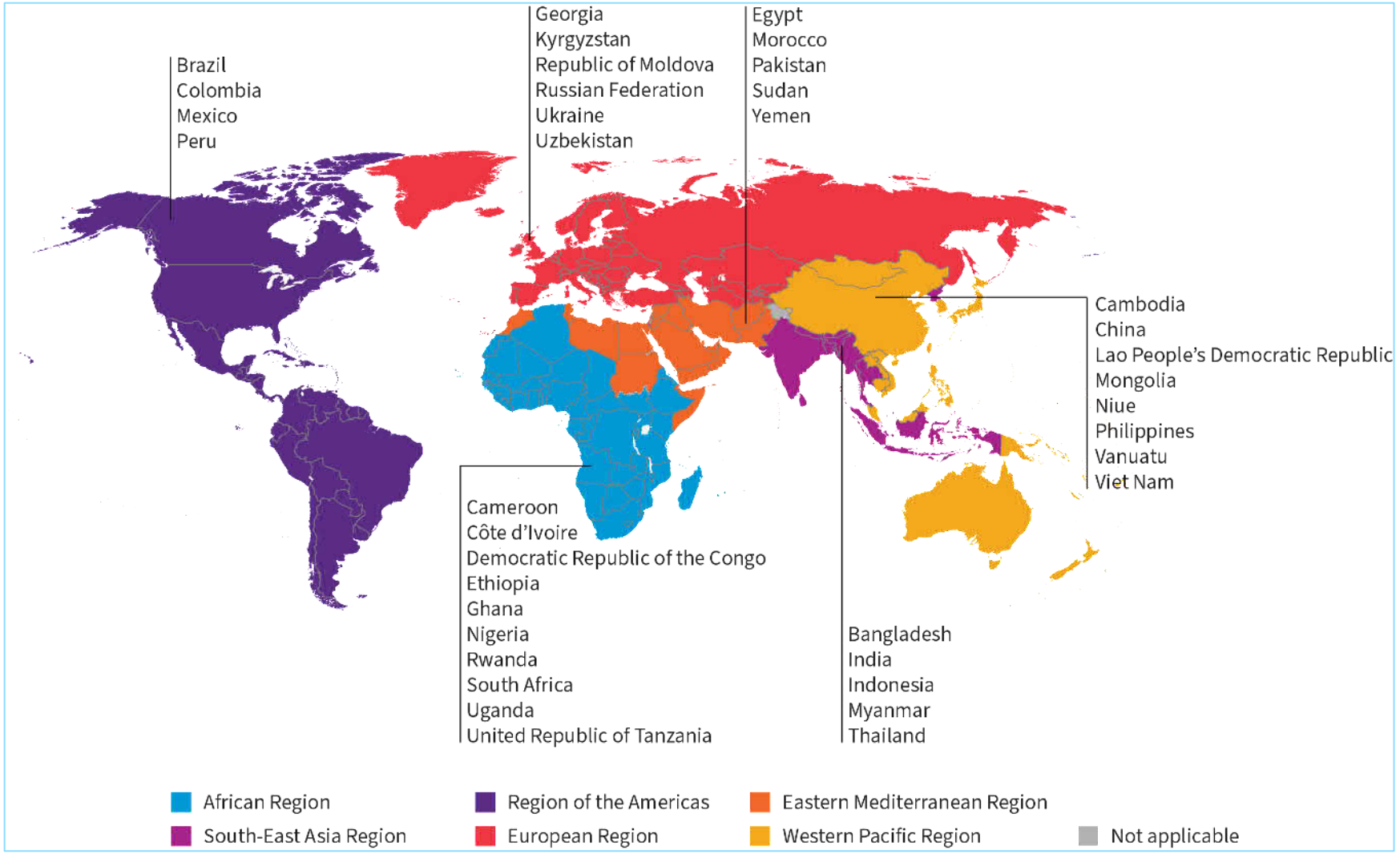
The country data were collected from 38 WHO focus countries

Together, these **38 countries represent nearly 80% of global viral hepatitis infections and deaths**, and diverse contexts in terms of disease burden and response.



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Key findings on diagnostics for Hepatitis B and C

National testing plans and strategies are adopted but implementation is variable

National testing plans and strategies

- >70% national viral hepatitis testing approach.
- 60% costed national viral hepatitis testing plan
- ALL plans include a screening strategy for priority population groups.

Essential diagnostics lists

- **< 50% have added viral hepatitis diagnostics to their national EDLs.**

Availability at primary health care level

- Primary care and community settings have limited use of rapid diagnostic testing.

Most countries rely on government funding or out-of-pocket funding for viral hepatitis testing.

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Access to hepatitis B and C medicines – overview

Access to medicines is yet to transition to a public health approach

Countries have adopted WHO treatment guidelines

- **>80%** of focus countries have included WHO-recommended treatment regimens in national treatment guidelines.

Essential Medicines List and registration

- **77%** of countries have included hepatitis medicines in national essential medicines lists.
- Product registration still varies and lags behind for medicines for children.

Product delivery at primary healthcare levels is limited.

- **45% of reporting countries have TDF** available for use in primary health care.
- **30% have SOF and DAC** available for use in primary healthcare
- Most often treatments are available at tertiary levels and **in specialized care only**

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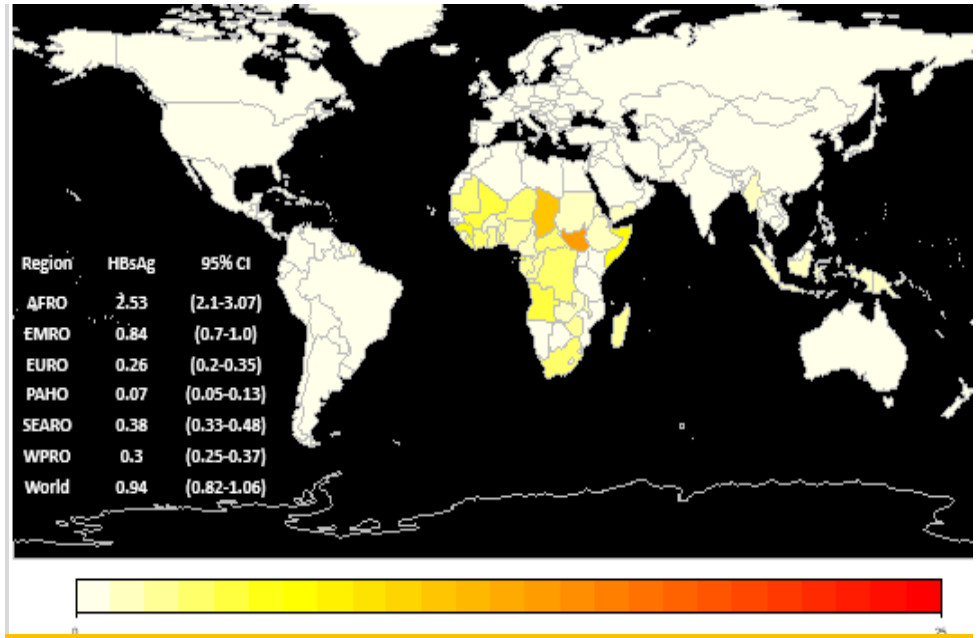
4.3 million children (<5 years) have chronic hepatitis B – despite global success of vaccination

70% of all new global infections in sub-Saharan Africa

Global achievement of childhood control (<1% HBsAg in children <5) and achievement of SDG targets (2020) except in SSA



2030 elimination is unachievable without interrupting perinatal infections in Africa

	HBsAg prevalence in children <5	Incident cases (2019)	% Coverage of childhood vaccination 2019	% Coverage of childhood vaccination 2021	Hep B BD 2021	Births attended by skilled HCW (2015-2021)
AFRO	2.3	4,301,454	71	74	17*	65%
EMRO	0.8	722,130	81	82	33	75%
EURO	0.3	147,137	82	91	43	98%
PAHO	0.07	51,446	88	80	59	96%
SEARO	0.38	644,862	89	82	51	87%
WPRO	0.3	363,745	93	90	78	98%
Global	0.9%	6,387,336	84	80	42%	83.6%

Major gaps in HBV vaccination interventions in regions of greatest prevalence

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https://immunizationdata.who.int/pages/coverage/HEPB.html?CODE=Global&GROUP=WHO_REGIONS&ANTIGEN=HEPB_BD&YEAR=

https://iris.who.int/bitstream/handle/10665/360348/9789240053779-eng.pdf?sequence=1

Access to Hepatitis B vaccination – overview

Out-of-pocket expenditure can be a barrier to access to birth dose and should be minimized to expand coverage of vaccination

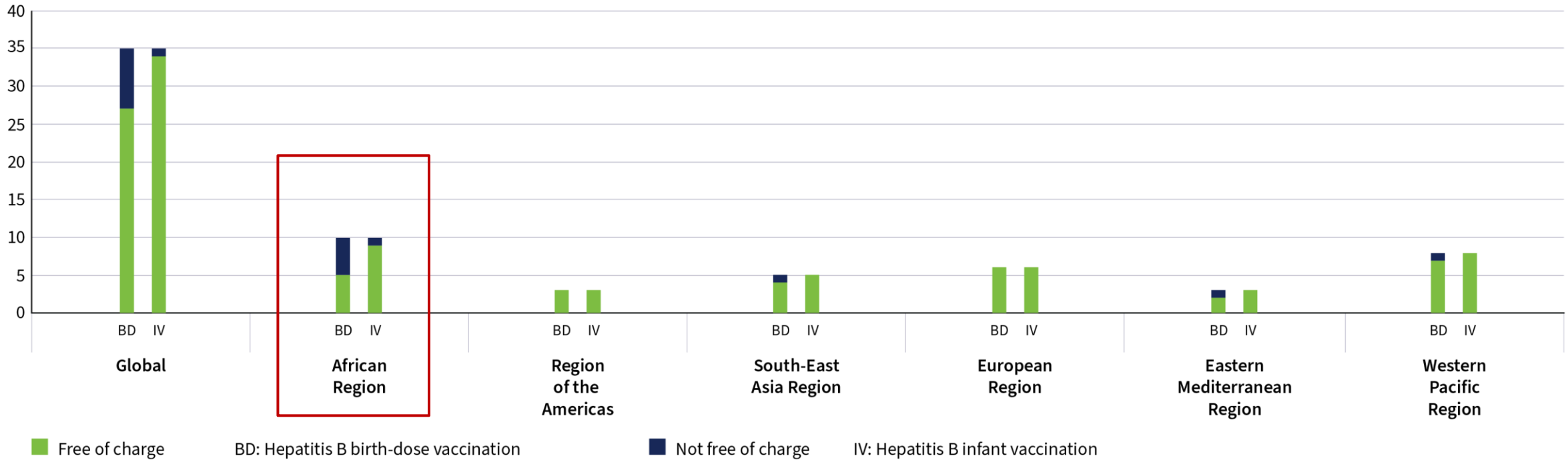
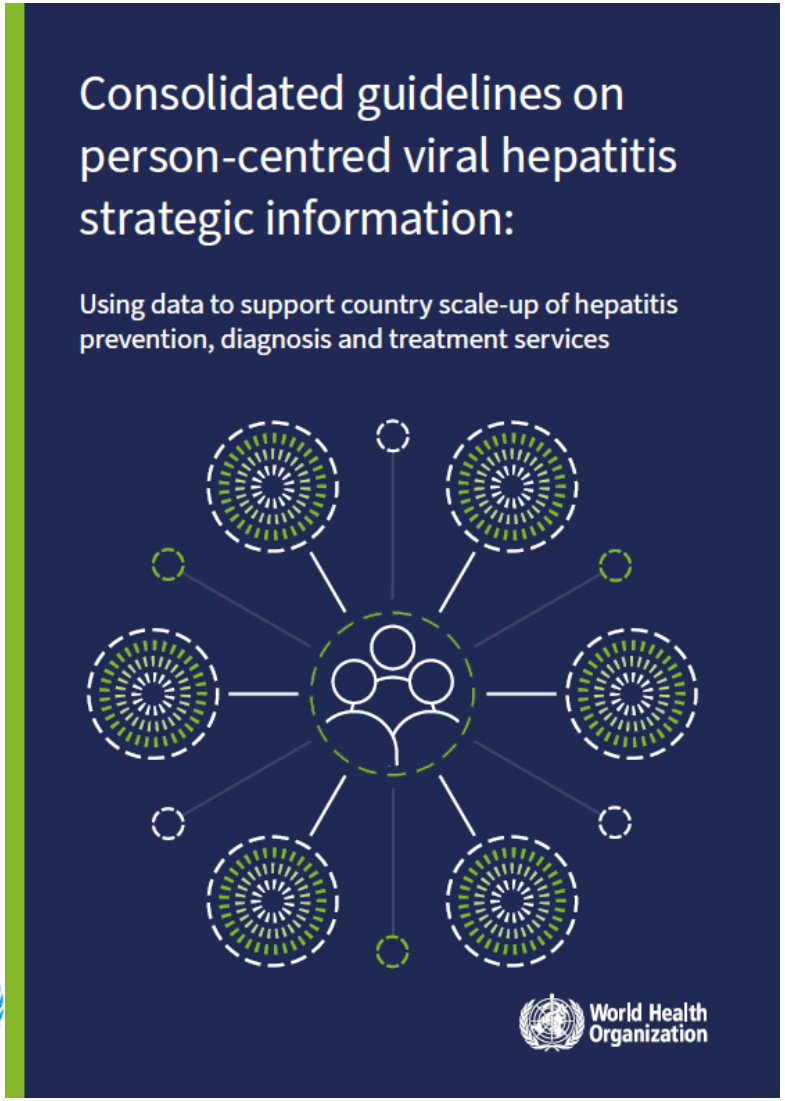
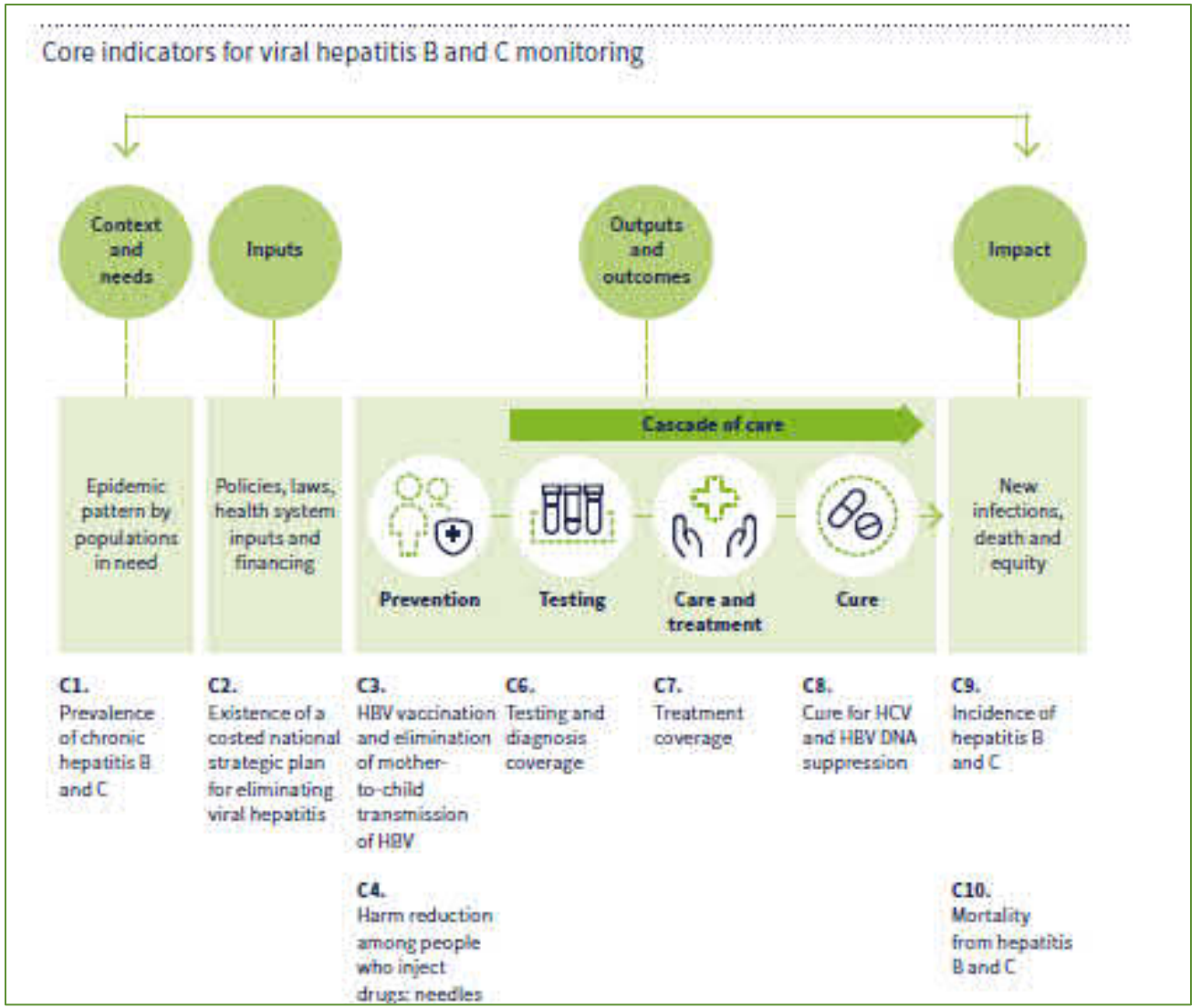


Fig. 3.33. Availability of hepatitis B vaccination free of charge in the public sector, WHO focus countries for the viral hepatitis response, 2023
BD: hepatitis B birth-dose vaccination; IV: hepatitis B infant vaccination.

100% WHO focus countries provided infant vaccination free of charge in the public sector, and **70% of countries provided hepatitis B birth-dose vaccination**

Updated Consolidated Guidelines on person-centred viral hepatitis strategic information (launch on 9 April 2024)





Call to Action to adopt a public health approach to make progress on HBV response

1. **Linkage to testing, care, treatment and prevention**
2. **Long term adherence to antiviral treatment**
3. **Retention in care**
4. **Integration of hepatitis testing, care and treatment** with other services
5. **Simplified service delivery**: Decentralization, Task sharing Differentiated care
6. **Community engagement**

Nationwide mass screening for Viral hepatitis (Rwanda 2019)

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Incorporating lessons learned from HIV, Covid 19 and HCV epidemics

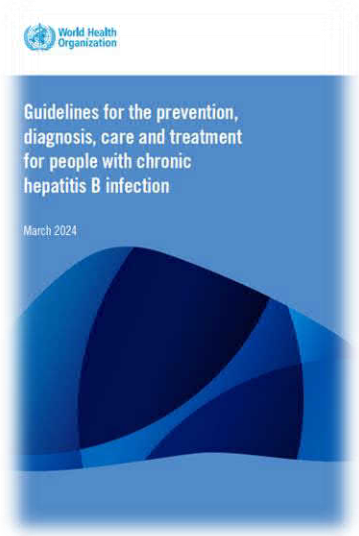
Thank you

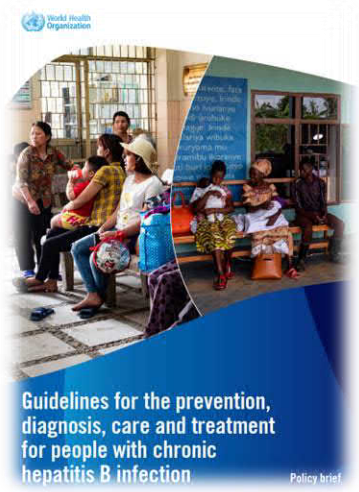
- Philippa Easterbrook
- Myat Sandi Min
- Diana Faini
- Catherine de Martel
- Francoise Renaud
- Daniel Low-Beer
- Funmi Lesi
- Niklas Luhman
- Yann Siegenthaler
- Laurent Poulain

- Hepatitis B GDG

World Health Organization

For more information, please contact:
Global HIV, Hepatitis and Sexually Transmitted Infections Programmes
E-mail: hiv-aids@who.int
www.who.int/health-topics/hepatitis





WHO Global Webinar: Technical Briefing on 2024 WHO Hepatitis B Guidelines on Diagnosis, Treatment, and Service Delivery

New WHO hepatitis B guidance on expanded simplified treatment criteria, diagnostic innovations, service delivery recommendations, evidence base and rationale

Philippa Easterbrook
Department of Global HIV, Hepatitis and STIs Programmes
WHO HQ, Geneva, Switzerland.

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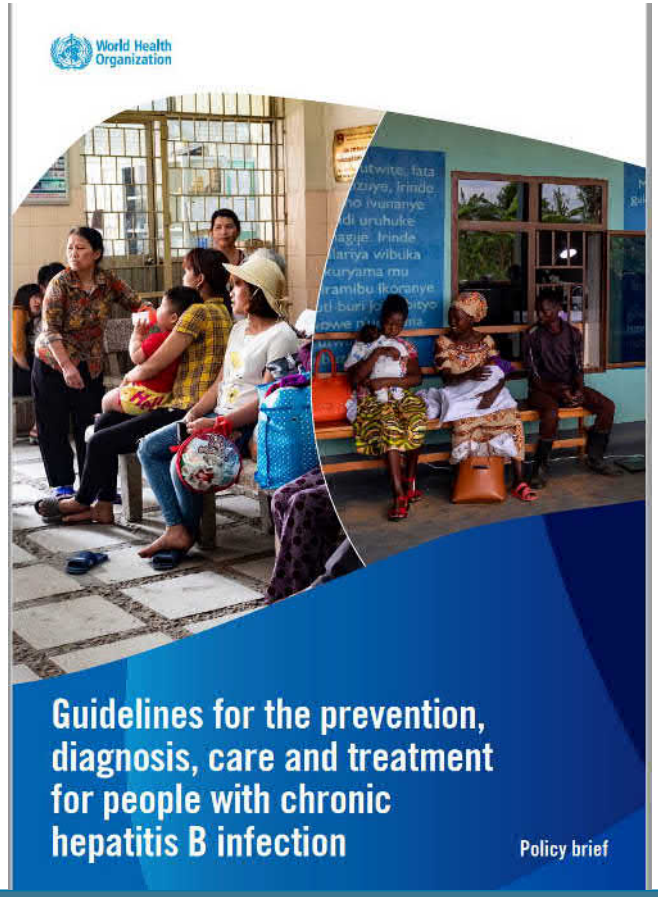
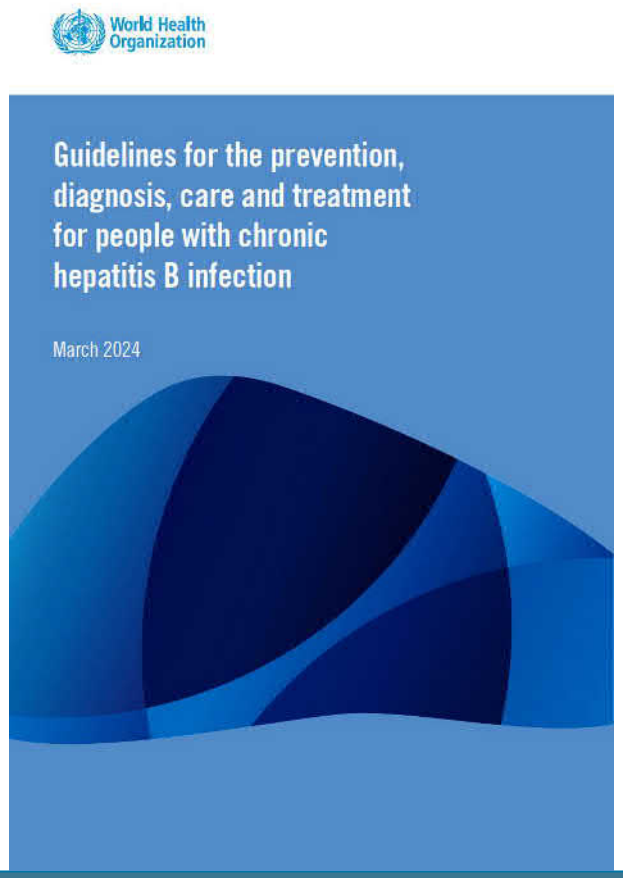
2024 WHO HBV Guidelines for prevention, diagnosis, and treatment of people with chronic hepatitis B infection





Dr. Philippa Easterbrook, MD, FRCP, MPH
Global HIV, Hepatitis and STIs Programmes
WHO HQ, Geneva

World Health Organization

Launch of WHO 2024 Hepatitis B Guidelines

Date: Saturday 30 March 2024 , Time: 10.50-12.20

Place: Room 9 Annex A, Kyoto International Convention Centre, Kyoto, Japan.

Agenda	Speakers / Facilitators
Part 1: New hepatitis B guidelines	
• Introductory remarks	Meg Doherty (WHO HQ)
• New WHO hepatitis B guidance on expanded simplified treatment criteria, diagnostic innovations and service delivery recommendations, evidence-base and rationale	Philippa Easterbrook (WHO HQ)
• Community perspectives on implementation	Su Wang (Hepatitis B Foundation)
• Q & A	
Part 2: Implementation challenges and opportunities across the region	
• Regional overview of current HBV response in WPRO and SEARO	Kiyo Izumi (WPRO) and Polin Chan (SEARO)
Panel Discussion: Perspectives from countries on new guideline recommendations • China – Jin Lin Hou (Southern Medical University) • Philippines – Janus Ong (University of the Philippines) • India – Shiv Sarin (Institute of Liver and Biliary studies) • Vietnam – Cao Thi Thanh Thuy (Hospital of Hanoi Medical University) • Indonesia – Irsan Hasan (University of Indonesia) • Ethiopia - Haile Desalegn (St. Pauls Medical Centre, Addis Ababa)	
Closing remarks by Co-chairs	
Co-chairs: Saeed Hamid (Pakistan), Philippa Easterbrook (WHO)	

Launch of new hepatitis B guidelines at APASL 2024

WHO will launch its new 2024 global hepatitis B (HBV) guidelines at the APASL (Asian Pacific Association for the Study of the Liver) annual meeting in Kyoto, Japan, on 30 March 2024.

www.who.int

WHO publishes new guidelines on hepatitis B

WHO has released new Guidelines on prevention, diagnosis and treatment of chronic hepatitis B (HBV) infection at the 2024 Asian Pacific Conference for the Study of Liver Disease (APASL) in Kyoto, Japan. These guidelines provide a substantial simplification and expansion of eligibility for treatment to overcome barriers in access to HBV testing and treatment.

Guidelines for the prevention, diagnosis, care and treatment for people with chronic hepatitis B infection

The 2024 hepatitis B guidelines provide updated evidence-informed recommendations on key priority topics. They prioritize simplified treatment criteria for adults and adolescents and expanded eligibility for antiviral prophylaxis for pregnant women to prevent mother-to-child transmission of HBV.

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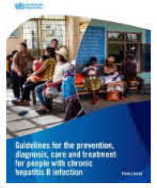

Policy brief – Guidelines for the prevention, diagnosis, care and treatment for people with chronic hepatitis B infection

This policy brief provides an overview and the summary of recommendations of the new 2024 Guidelines for the prevention, diagnosis, care and treatment for people with chronic hepatitis B infection.

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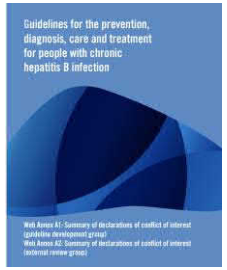
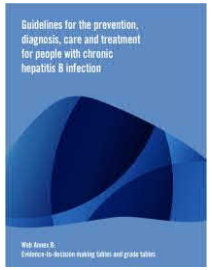
COMMENT | ONLINE FIRST

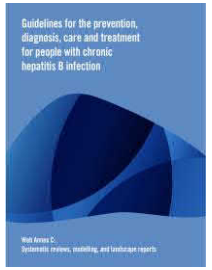
WHO 2024 hepatitis B guidelines: an opportunity to transform care

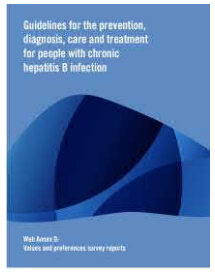
Philippa J Easterbrook • Niklas Luhmann • Sahar Bajis • Myat Sandi Min • Morkor Newman • Olufunmilayo Lesi • et al.

https://www.thelancet.com/journals/langas/article/PIIS2468-1253(24)00089-X/abstract

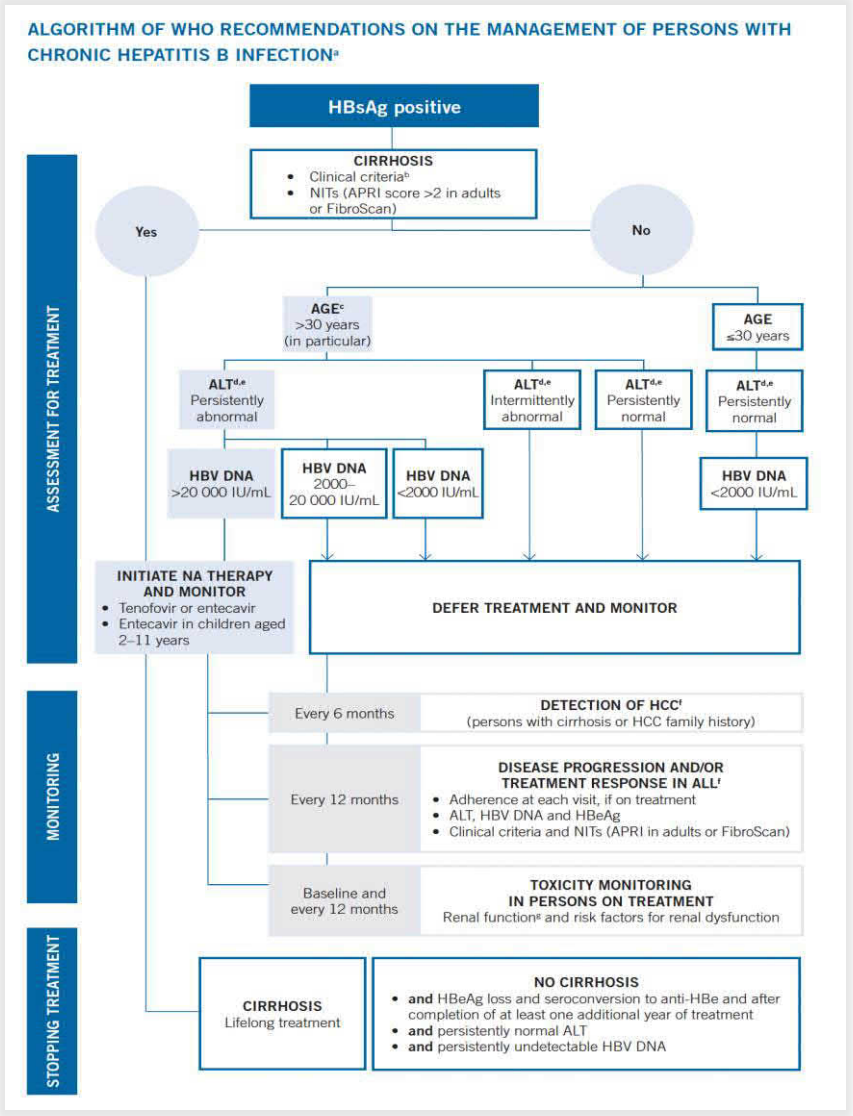


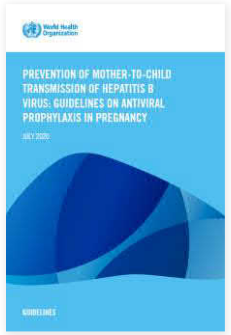


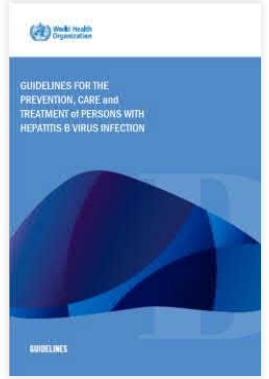




HBV Guideline Recommendations (2015) and PMTCT update (2020)







TOPIC	RECOMMENDATION
Staging/ non-invasive test (NIT)	▪ APRI preferred NIT to assess for the presence of cirrhosis
Who to treat	▪ Decompensated cirrhosis or cirrhosis (clinical criteria or APRI score >2), regardless of ALT levels, HBeAg, or HBV DNA. ▪ No cirrhosis but persistently abnormal ALT levels +/- ongoing HBV replication, (HBV DNA >20,000 IU/mL *or* HBeAg +ve).
First line treatment	▪ Drugs with a high barrier to resistance (TAF vs. TDF or ETV). ▪ ETV in children aged 2-11 years.
Treatment failure	▪ Switch to TDF if evidence of resistance to 3TC, ETV, ADF, TBV.
Treatment discontinuation	▪ Never discontinue in persons with cirrhosis. ▪ If no cirrhosis, discontinuation on case-by-case basis (persistent HBeAg and/or HBsAg loss or undetectable HBV DNA)
Monitoring (treatment response/toxicity)	▪ *On or pre-treatment:* ALT + HBV DNA (HBsAg, HBeAg + APRI pre-treatment) annually. More frequent monitoring with cirrhosis. ▪ Assessment of baseline renal function prior to treatment initiation.
Monitoring for HCC	▪ Ultrasound + AFP every 6 months in persons with cirrhosis and/or family history of HCC.
PMTCT antiviral prophylaxis (2020)	▪ TDF prophylaxis in those with HBV DNA >200,000 IU/mL from 3rd trimester or HBeAg positive (if HBV DNA not available)

Why the need for updated WHO HBV guidelines?

- **Still major gaps in testing and treatment uptake**
- **Guidelines complex**
- **Regional differences in demographics + epidemiology**
- **Emerging evidence**
- **Access challenges**

✓ **Expanded and simplified treatment criteria**

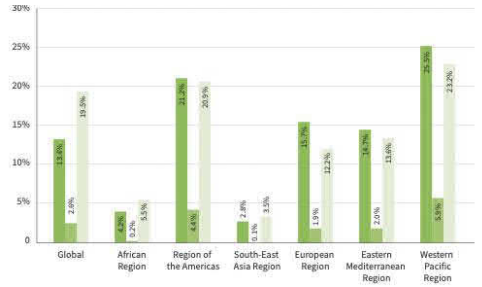
✓ **Progressive simplification**

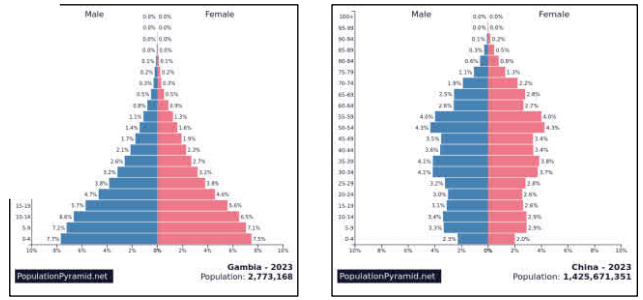
✓ **High birth rate and high % of population<20yrs (25% of all HBsAg+ve in SSA)**
✓ **Liver cancers at younger age in SSA**
✓ **75% HBsAg+ve HBV DNA <2000 IU/mL in SSA**

✓ **Ongoing HBV DNA integration –oncogenicity**
✓ **Significant rate of ongoing new infections through MTCT in SSA**
✓ **More cohort data now available from SSA**

✓ **Limited access to HBV DNA in LMIC**
✓ **Low uptake of Hep BD in SSA**

In 2022, 13% of 254 million people with chronic HBV infection were diagnosed + 3% treated





Population Pyramid-Gambia & China, 2023

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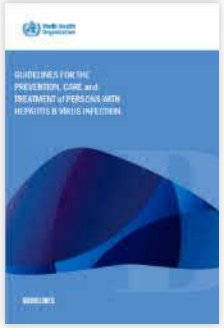
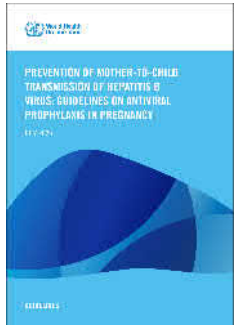
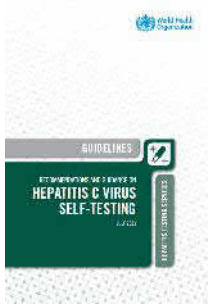
Distinctive Features of WHO Guidelines

Feature	WHO Guidelines	Other Guidelines
Settings	• Low- and middle-income countries • Generalised/concentrated epidemic settings	• High-income countries
Target audience	• National Program Managers	• Treating clinicians
Approach	• The "public health approach" • Simplified and standardized approaches • Preferred regimens	• Individualized treatment • Multiple treatment options
Formulating recommendations: Evidence-based approach	• GRADE - Feasibility, equity, end-user acceptability, resource use considered	• Variable use of evidence-based framework
Guidelines Committee representation	• 50% LMICs, programme managers, civil society	• Clinicians and researchers HICs







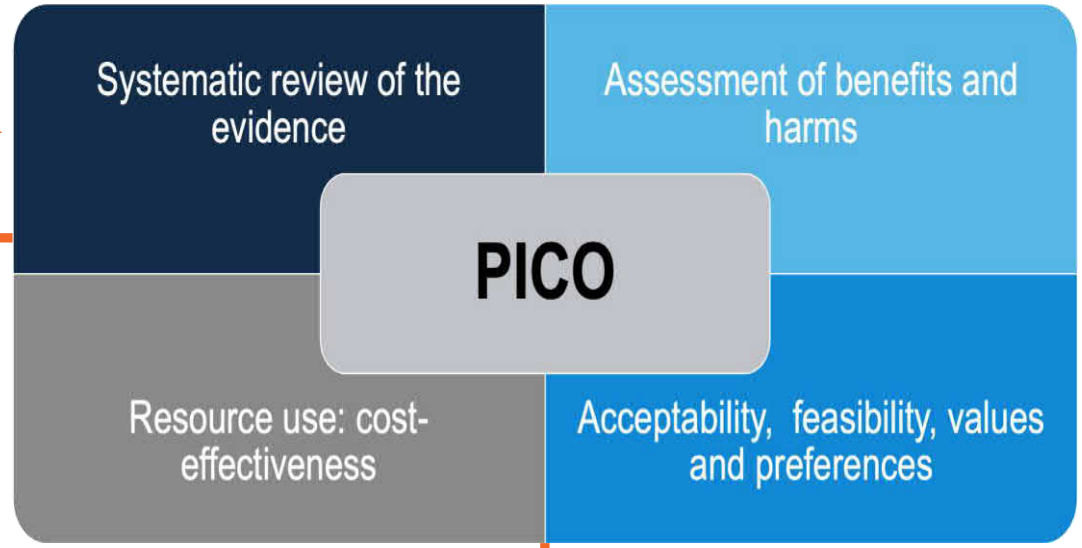
The WHO Guidelines process and GRADE

PICO QUESTION

PICO 1

Can HCV care and treatment be delivered effectively and safely in lower level health facilities (decentralisation)?

POPULATION:	Adults and adolescents (PWID, prisoners, PLHIV, general population).
INTERVENTION:	HCV testing, care and treatment outside of hospital-based facilities (harm reduction sites, prisons, ART clinics, primary care). Full decentralisation (and integration) of testing and treatment at the same site. Partial decentralisation (and integration) of testing at decentralised site, and referral for treatment.
COMPARISON:	HCV testing, care and treatment in hospital-based facilities (i.e. no decentralisation or integration).
MAIN OUTCOMES:	Uptake of testing, viral load confirmation, linkage to care, treatment initiation, SVR12 cure assessment, SVR12. Patient satisfaction. Stratified according to population and setting.



Formulating Recommendations

GRADE-ing recommendations

- Strength of recommendation
  - Strong=do in most circumstances
  - Conditional=different choices may be appropriate under certain conditions
- Good practice statements: Can apply to recommendations that are "obvious" and for which certainty is high—even though this is difficult to prove directly

Strength of Recommendation	Quality of Evidence			
Strong	**High**	**Moderate**	**Low**	**Very Low**
Conditional	**High**	**Moderate**	**Low**	**Very Low**

Available in: https://cdn.who.int/media/docs/default-source/hq-hiv-hepatitis-and-stis-library/hcv-guidelines-2022-presentations_25-7-2022.pdf?sfvrsn=733703ef_3

Commissioned reviews, modelling and surveys provided a key evidence base for the WHO HBV Guidelines update

1	Use of non-invasive tests	University College London
2a/2b	Who to treat Natural history and treatment effectiveness according to VL and ALT	Institut Pasteur
3	MTCT rate	Imperial College, University of Liverpool
4	TAF and dual therapy (TDF/XTC)	University of Liverpool
5a/5b	POC HBV DNA (diagnostic performance and clinical impact)	University of north Carolina
6	Reflex HBV DNA viral load	University of north Carolina
7a/7b and 8	Delta testing: Who to test and how to test; Delta reflex testing	WHO and University of north Carolina
9	Simplified service delivery (HIV) (adherence, retention, refill and visit frequency)	Washington University in St. Louis
10 and 11	Simplified service delivery (models of care)	University of Liverpool/All India Institute/Harvard

15 Systematic reviews

Landscaping, access and costs

1	HBV diagnostics	CHAI
2	Delta serology and molecular tests	CHAI
3	TAF and dual therapy	CHAI

Modelling

1	Proportion eligible and impact of expanded treatment eligibility	CDA
2	Antiviral prophylaxis for all HBsAg mothers	Imperial College
3	Numbers needed to treat – viral load threshold	Institut Pasteur

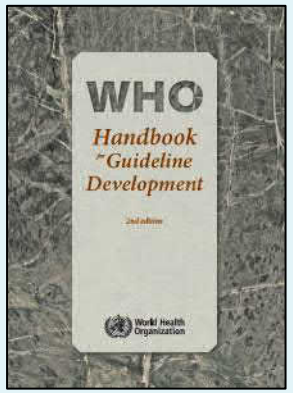
Acceptability, values and preferences 4 surveys and 3 literature reviews

1	Health care worker – survey	ICE-HBV
2	Paediatricians – survey	PENTA
3	MOH Programme managers – survey	WHO
4	Community – survey	HepB Foundation/WHA
5	Community – Literature review Africa	University of Ghana
6	Community – Literature review Asia	Burnet Institute, Melbourne
7	Community	Hep B Foundations

World Health Organization

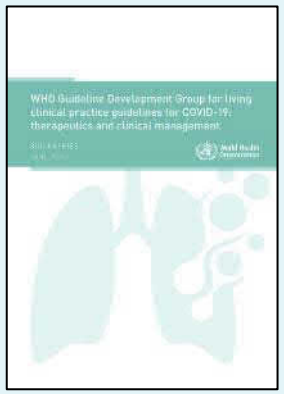
Guideline Development Group

Evidence-to-Decision framework…



…for consensus on

- Benefits and harms
- Values and preferences
- Equity
- Feasibility
- Cost and access



30 to 40 experts

All WHO regions

Medical specialties

Patients

Unconflicted (financial and intellectual)

Virtual meetings

WHO Steering Committee

Systematic Review and Modelling Teams

Guideline Dev. Group

Methodology chair

Clinical chairs

Peer Review Group

Sex and regional breakdown of proposed GDG

	M	F	Total	Proportion
AFRO	4	3	7	**18%**
EMRO	2	1	3	**9%**
EURO	3	4	7	**18%**
AMRO	6	3	9	**27%**
SEARO	3	2	5	**15%**
WPRO	2	2	4	**12%**
Total	20	15	35	**100%**
Proportion	**57%**	**43%**	**100%**	

Sex and regional breakdown of external reviewer

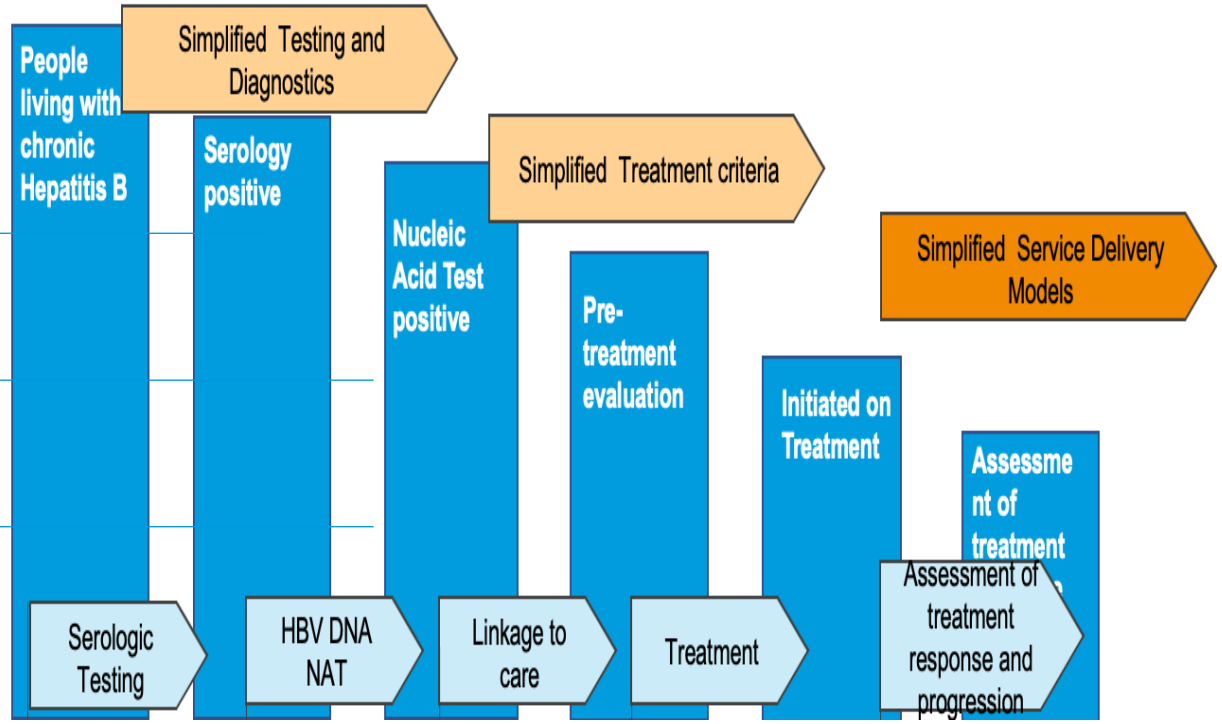
	M	F	Total	Proportion
AFRO	6	2	8	**32%**
EMRO	1	1	2	**8%**
EURO	3	1	4	**16%**
AMRO	4	3	7	**28%**
SEARO	2	0	2	**8%**
WPRO	0	2	2	**8%**
Total	16	9	25	**100%**
Proportion	**64%**	**36%**	**100%**	

World Health Organization

WHO handbook for guideline development https://apps.who.int/iris/handle/10665/145714

Key topics of new Hepatitis B Guidelines across the cascade of prevention, diagnosis, treatment & care - WHO hepatitis B guidelines 2024

- **Non invasive fibrosis assessment**
- **Who to treat**
- **First-line treatment**
- **PMTCT**
- **Simplifying diagnosis**
- **Simplifying service delivery**



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29 Recommendations
14 New (including updated)

RECOMMENDATIONS, EVIDENCE BASE, RATIONALE AND IMPLEMENTATION CONSIDERATIONS

7. Preventing mother-to-child transmission of hepatitis B using antiviral prophylaxis

- 7.1 Recommendations
- 7.2 Background
- 7.3 Summary of the evidence
- 7.4 Rationale for the recommendations
- 7.5 Implementation considerations
- 7.6 Research gaps

World Health Organization

EXPANDED TREATMENT ELIGIBILITY

Chapter 4: Non-invasive assessment of liver disease stage

Chapter 5: Who to treat among people with CHB

Chapter 6: First-line antiviral therapies for CHB

Chapter 7: Preventing mother-to-child transmission of HBV using antiviral prophylaxis

Chapter 8: Who to treat and what antiviral drugs to use for adolescents and children

Chapter 9: Second-line antiviral therapies for managing treatment failure

World Health Organization

RECOMMENDATIONS – Non-invasive tests for liver fibrosis

Updated recommendation:

- **APRI (aspartate aminotransferase-to-platelet ratio index)** is recommended as the **preferred non-invasive test** to assess for the presence of significant fibrosis or cirrhosis among adults in resource-limited settings.
- **Transient elastography** (FibroScan®) may be a preferable non-invasive test in settings where it is available and cost is not a major constraint.

(strong recommendation, moderate-certainty evidence)

New recommendation:

- **Evidence of significant fibrosis (≥F2)** should be based on **an APRI score of >0.5** or **transient elastography value of >7.0 kPa**, and **cirrhosis (F4)** should be based on clinical criteria (or an **APRI score of >1.0** or) **transient elastography value of >12.5 kPa**.

(adults: strong recommendation, moderate-certainty evidence; adolescents: strong recommendation, low-certainty evidence)

TABLE 4.1 METAVIR liver-biopsy scoring system

METAVIR stage	F0	F1	F2	F3	F4
Definition	No fibrosis	Portal fibrosis without septa	Portal fibrosis with septa	Numerous septa without cirrhosis	Cirrhosis

TABLE 4.2 Selected non-invasive tests to assess liver fibrosis

Test	Components	Requirements	Cost
APRI	AST, platelets	Simple blood tests	+
FIB-4	Age, AST, ALT, platelets	Simple blood tests	+
FibroScan®	Transient elastography	Dedicated equipment	+++

World Health Organization

RATIONALE for Recommendations on use of non-invasive tests

Systematic review of diagnostic accuracy of NITs (APRI/TE) ≥F2

- 219 studies compared diagnostic accuracy (sensitivity/specificity) for NITs vs liver biopsy for ≥F2
- Focus now on detection of significant fibrosis (≥F2) as well as cirrhosis for treatment – choice of low cut-off
- **APRI lower cut-off >0.5:** SENS 72% and SPEC 65%
- **TE >7KPa:** SENS 75% and SPEC 79%

- For cirrhosis F4: SENS (APRI 54%) and (TE 83%)

No of true and false positive, true and false negatives for ≥F2

- **APRI lower cut-off >0.5:** 183 TP, 263 FP, 68 FN and 488 TN
- **TE >7KPa:** Similar - 188 TP, 158 FP, 63 FN and 593 TN

TABLE 4.4 Summary sensitivity and specificity for APRI and transient elastography (FibroScan®) for detecting significant fibrosis (fibrosis stage ≥F2)

Test	Cut-off	Number of studies	Sensitivity (95% CI)	Specificity (95% CI)
APRI – F2	0.3–0.7	120	72.7% (70.0–75.2%)	65.1% (61.3–68.7%)
APRI – F2	0.5 (low)	49	71.7% (67.1–75.8%)	64.8% (58.6–70.5%)
APRI – F2	1.3–1.7	45	29.3% (23.0–36.6%)	93.6% (90.8–95.6%)
APRI – F2	1.5 (high)	42	28.2% (21.8–35.6%)	93.5% (90.5–95.6%)
Transient elastography FibroScan® – F2	6.0–8.0 kPa	53	75.1% (72.2–77.7%)	79.3% (76.2–82.2%)

TABLE 4.6 Test outcomes of APRI and transient elastography (FibroScan®) based on a hypothetical population of 1000 people with a 25% prevalence of ≥F2 (unselected HBsAg-positive people with CHB)

	True positive	False positive	False negative	True negative
APRI low cut-off (>0.5)	183	263	68	488
APRI high cut-off (>1.5)	73	45	178	705
APRI combined cut-off[a]	73	45	68	488
Transient elastography of 7 kPa	188	158	63	593

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RECOMMENDATIONS – Who to treat?

Treatment is recommended for all adults and adolescents (aged ≥12 years) with CHB (including pregnant women and girls and women of reproductive age) with:

1. **Evidence of significant fibrosis** (≥F2) based on **APRI score of >0.5 or transient elastography value of >7** kPa or evidence of cirrhosis (F4) (based on clinical criteria or APRI score of >1 or transient elastography value of >12.5 kPa[c]), *regardless of HBV DNA or ALT levels. (Adults: Strong/Mod, Adolescents Strong/Low)* — **20-25% of HBsAg +ve**

OR

2. **HBV DNA >2000 IU/mL and an ALT level above upper limit of normal** (ULN) (30 U/L for men and boys and 19 U/L for women and girls). For adolescents, this should be based on ALT>ULN on at least two occasions in a 6- to 12-month period. *(Adults: Strong/high; [HBV DNA >20 000 IU/mL] & Low [HBV DNA 2000–20 000]; Adolescents: Conditional/Low)* — **20-35% of HBsAg +ve**

OR

3. **Presence of coinfections** (such as HIV, hepatitis D or hepatitis C); **family history of liver cancer or** cirrhosis; **immune suppression; comorbidities (**such as metabolic-associated steatotic liver disease**); or extrahepatic manifestations**, *regardless of the APRI score or HBV DNA or ALT levels. (Adults: Strong/Mod; Adolescents: Conditional/Low)* — **5-8% of HBsAg +ve**

OR

4. **In the absence of access to an HBV DNA assay:**
Persistently abnormal ALT levels (defined as two ALT values >ULN at unspecified intervals during a 6- to 12-month period), *regardless of APRI score. (Adults and adolescents: Conditional/very Low)* — **20% of HBsAg +ve**

World Health Organization

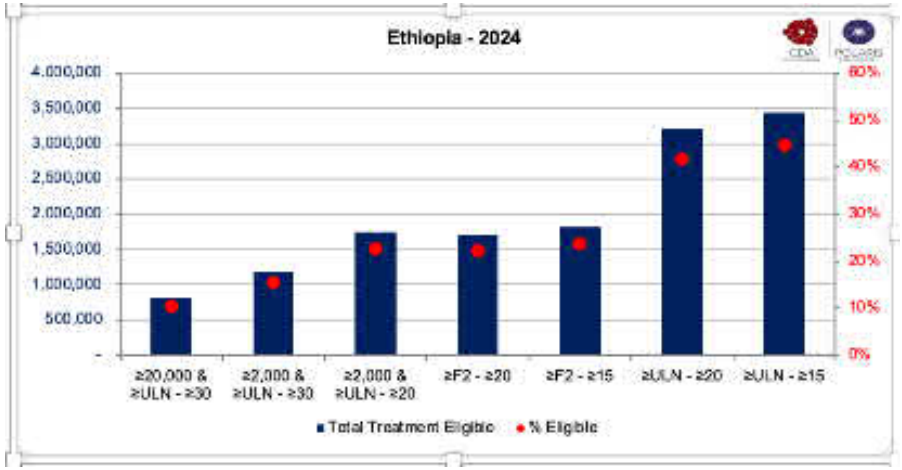
Expanded treatment eligibility - Key messages

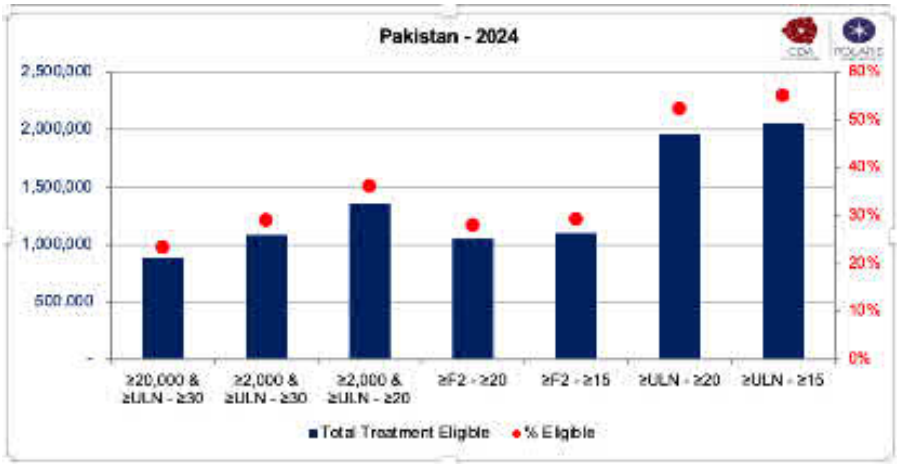
- Recommendations now focus mainly on **who to treat**
- Inclusion of **all** age groups (adults and adolescents, including women of reproductive age (pregnant and non-pregnant)
  - **Allows a common entry point for treatment,** simplifying guidelines and implementation
  - Will mean many more pregnant and non-pregnant women will be on treatment for their own health. Complements expanded eligibility for antiviral prophylaxis – option for continuous treatment post-partum

- **Four and/or options for meeting treatment eligibility**
  - Will capture high proportion **(≈ 50%) of all HBsAg vs. 8-15% previously.**
  - **Applicable to all settings – where there is ready or limited or no access to HBV DNA assays**. Majority of HBsAg +ve will meet criteria for treatment without need for HBV DNA assay. Only 1 of 4 options requires access to HBV DNA.
  - **Use of non-invasive tests** (APRI/TE) (≥F2): greatest individual benefit in reducing liver cancer, cirrhosis and liver related mortality

Modelling: impact of changing age, HBV DNA and ALT levels eligibility for treatment

Proportion eligible according to different hypothetical treatment eligibility criteria





EVIDENCE BASE AND RATIONALE for Recommendations on Who to treat

- **Two systematic reviews and meta-analyses**
  - Natural history of CHB according to baseline HBV DNA and ALT levels
  - The efficacy of antiviral therapy according to baseline HBV DNA and ALT levels
  - HBV DNA (<2000, 2000–20 000, 20 000–200 000 and ≥200 000 IU/mL) and ALT (<1, 1–2 and ≥2 times the ULN).
- **Other systematic reviews and meta-analyses**
  - Studies on treating cirrhosis and fibrosis
  - Studies on co-infection, co-morbidities, extra-hepatic manifestations
- **Modelling**: Proportion eligible for treatment and impact of expanded treatment eligibility (age, HBV DNA and ALT level)
- **Number needed to treat (NNT)** to prevent 1 case of HCC, liver-related mortality and cirrhosis, based on natural history studies and the efficacy of antiviral therapy from the systematic reviews

Acceptability, values and preferences surveys

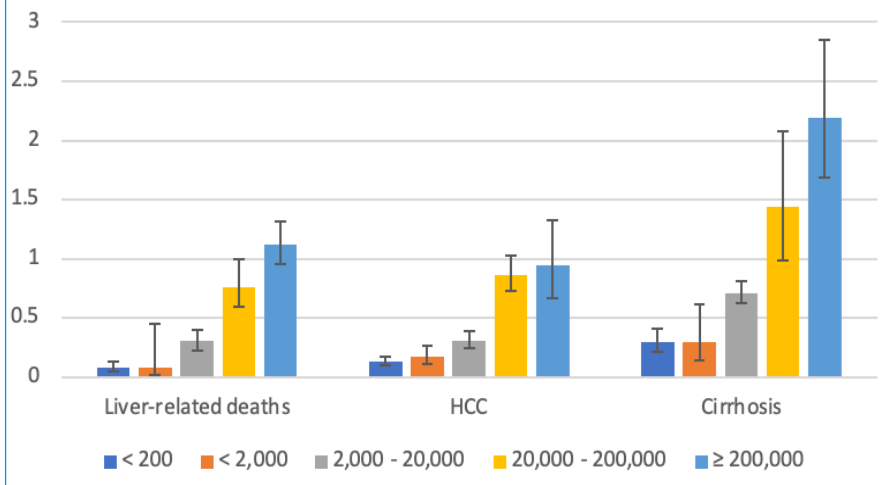
- Three surveys among patients and affected community, health-care workers, MOH national programme managers

World Health Organization

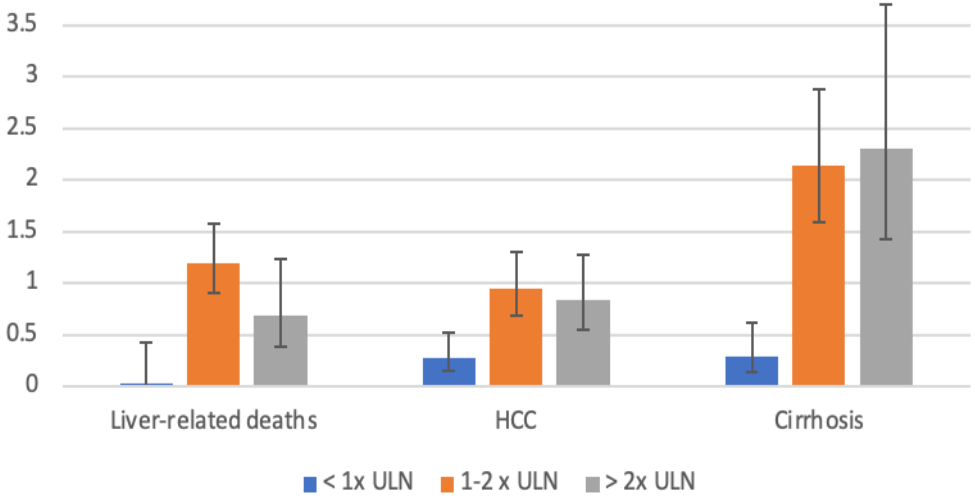
Systematic review 1 – Natural history of CHB according to HBV DNA and ALT levels in adults

WHO regions	
Western Pacific Region (WPR)	45 (65.2%)
European Region (EUR)	9 (13.0%)
Region of the Americas (AMR)	4 (5.8%)
African Region (AFR)	3 (4.3%)
Eastern Mediterranean Region (EMR)	2 (2.9%)
South East Asia Region (SEAR)	1 (2.9%)
Combination	5 (2.9%)
Year of publication	
Before 2015	28 (40.6%)
After 2015	39 (56.5%)
Unpublished	2 (2.9%)
Fibrosis stage	
F0-1	2 (2.9%)
F0-2	3 (4.3%)
F0-3	12 (17.4%)
Not reported	52 (75.4%)
Duration follow-up	
< 5 years	25 (36.2%)
≥ 5 years	44 (63.8%)

Pooled incidence rates according to single baseline HBV DNA



Pooled incidence rates according to single baseline ALT level



Evidence review

- 69 studies –65.2% from Western Pacific regions; 3 (4.3%) from Africa
- **VL:** Low incidence of HCC, cirrhosis and liver-related mortality in <200 and <2000 IU/ml strata. Dose-response increased incidence from above 2000 to >200,000 IU/ml
- **ALT:** low incidence in <ULN strata. Higher incidence in >1-2x ULN.

Systematic review 2 – Efficacy of antiviral treatment according to HBV DNA and ALT levels in adults

Variables		Number (Total n=80)	%
WHO regions	Western Pacific (WPR)	49	61.3%
	South East Asia (SEAR)	1	1.3%
	Eeastern Mediteranean (EMR)	3	3.8%
	Europe (EUR)	13	16.3%
	Africa (AFR)	3	3.8%
	Americas (AMR)	4	5%
	Combination	7	8,8%
Year of publication	Before 2015	40	50%
	After 2015 (including 2015)	38	47.5%
	Unpublished	2	2.5%
Study population	Adults	68	85%
	Children (<18 years)	10	12.5%
	Mixed	2	2.5%
Study included in the previous WHO systematic review	Yes	7	8.8%
	No	73	91.2%
Study design	RCT	6	11%
	Prospective cohort study	44	55%
	Retrospective cohort study	30	34%
Fibrosis assessment	Not reported	58	72.5%
	F0-1	3	3,8%
	F0-2	5	6,3%
	F0-3	14	17,5%
Duration of follow-up	< 5 years	31	38,8%
	≥ 5 years	49	61,3%

- 46 studies – 66% from Western Pacific region, 0 from AFRO or EMRO
- 33 RCTs and 13 observational studies;
- 63% in adults and 17 (46%) in <18 yrs
- **Outcomes:** 72% reported outcomes in >20,000, only 1 RCT and 6 observational studies in <20,000 IU/ml, and one RCT <2000

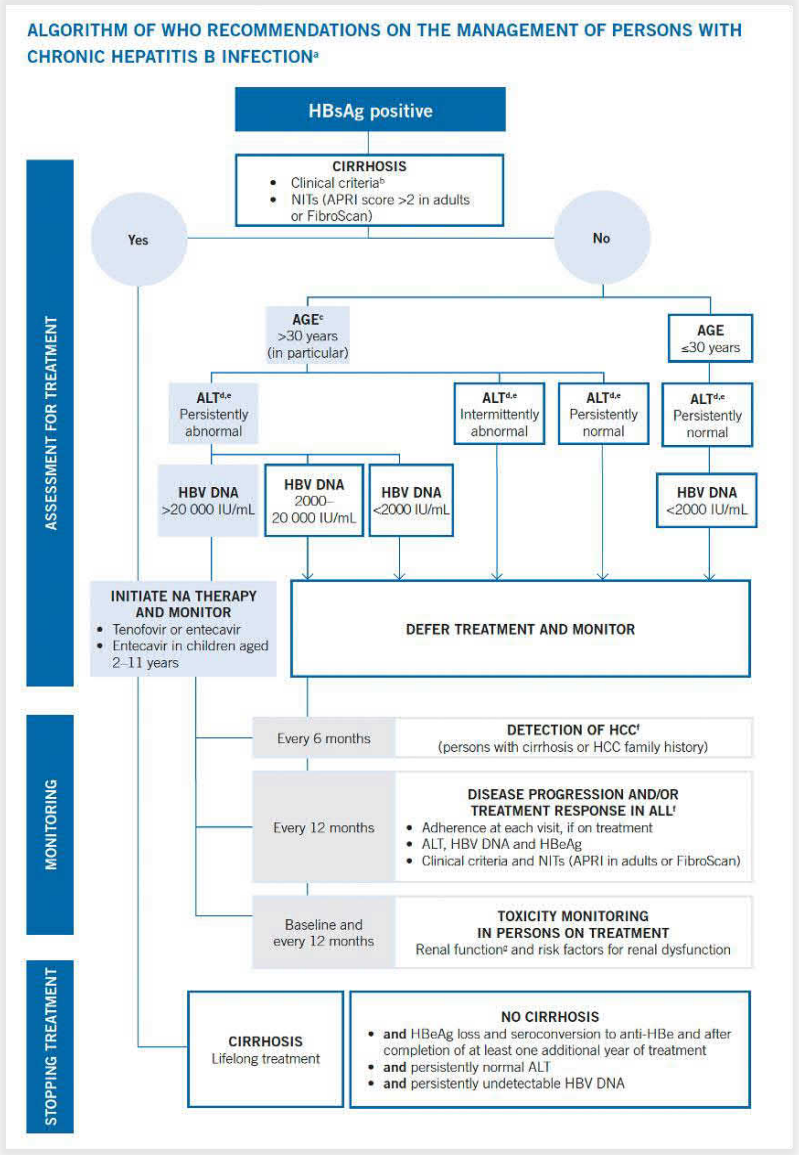
Summary estimates of efficacy of antiviral therapy at reducing outcomes in adults with CHB without cirrhosis, stratified by HBV DNA levels

Viral load stratum (IU/mL)	Outcome	No. of studies	Type of studies	RR/HR	95% CI	GRADE
<2,000	HCC	1	Cohort	aHR 0.72	0.43 - 1.20	Very low
	HBsAg seroconversion	1	RCT	RR 3.72	0.30 - 45.79	Very low
		4	Cohort	RR 36.21	8.74 - 149.39	Moderate
	HBsAg loss or reduction	6	Cohort	RR 5.88	1.37-33.01	Very low
2,000 - 20,000	HCC	1	Cohort	aHR 0.45	0.14 - 1.46	Very low
20,000 - 200,000	HCC	1	Cohort	aHR 0.17	0.06 - 0.52	Low
	Worsening of fibrosis	2	RCT	RR 0.56	0.25 - 1.15	Moderate
	Improvement of fibrosis	2	RCT	RR 1.23	0.48 - 8.12	Moderate
	Worsening of necroinflammation	2	RCT	RR 0.38	0.13 - 1.01	Low
	Improvement of necroinflammation	2	RCT	RR 1.42	0.76 - 4.41	Low
	ALT normalisation	1	RCT	RR 1.49	1.13 - 1.97	Moderate
	HBeAg loss	1	RCT	RR 0.40	0.05 - 3.13	Very low
	HBsAg loss or reduction	1	RCT	RR 0.34	0.01 - 8.16	Very low
	Undetectable viral load	2	RCT	RR 6.86	2.65 - 15.15	Moderate
200,000 - 2M	HCC	1	Cohort	aHR 0.37	0.15 - 0.91	Very low
	Improvement of necroinflammation	1	RCT	RR 0.86	0.40 - 1.82	Low
	ALT normalisation	1	RCT	RR 3.64	2.43 - 5.45	Low
	HBeAg loss	1	RCT	RR 6.88	0.38 - 124.52	Very low
	HBeAg seroconversion	2	RCT	RR 17.04	3.33 - 50.23	Moderate
	Undetectable viral load	3	RCT	RR 14.02	5.25 - 31.93	Moderate

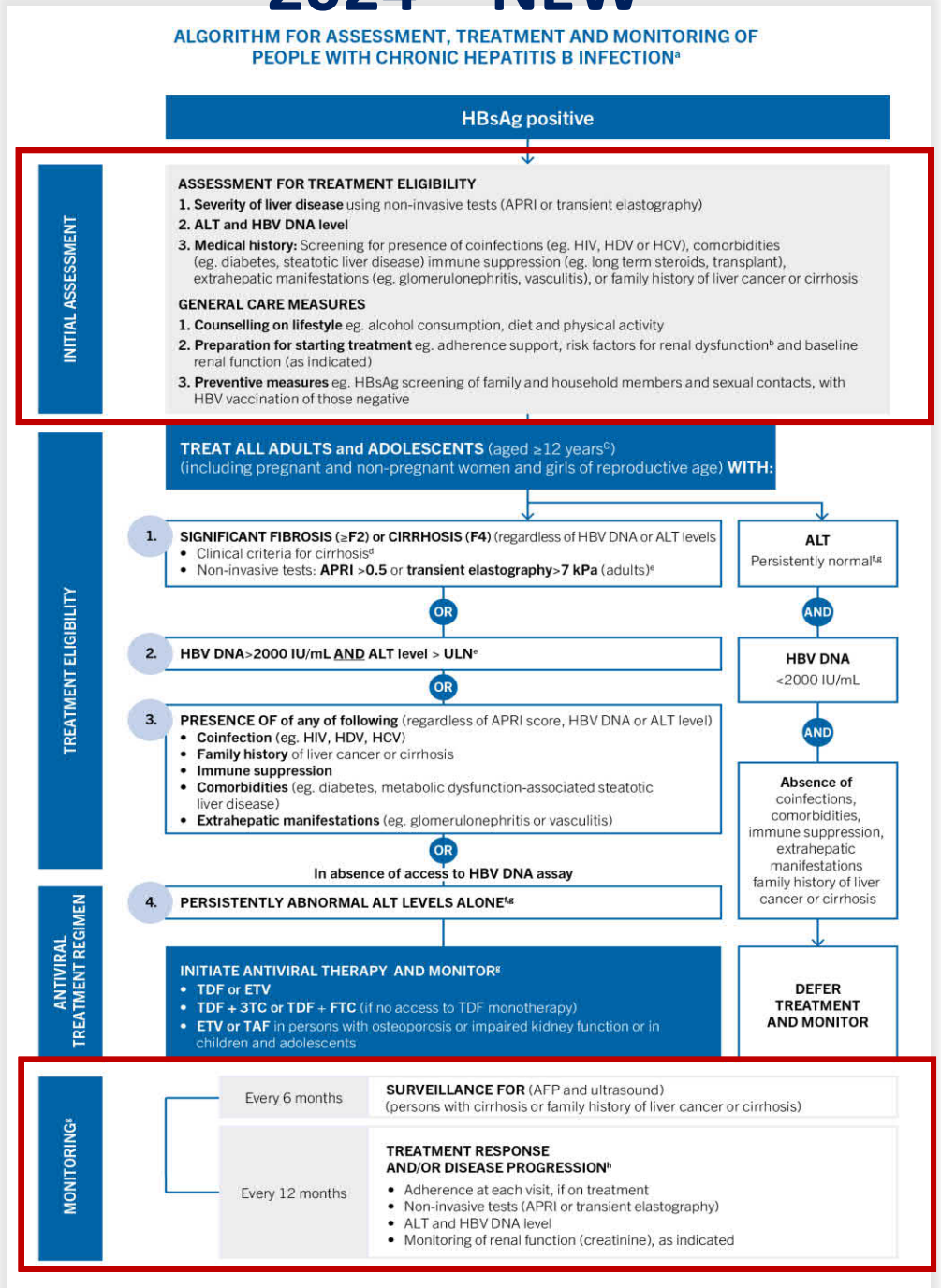
HBV DNA level	Liver-related deaths	Cirrhosis	HCC
<2000	1190	137	210
2000-20,000	182	21	59
20,000-200,000	12	7	14

- **VL:** Higher treatment efficacy at higher baseline VL and ALT levels
- Very low to moderate quality evidence at VL<20,000 and low to high quality at >20,000
- **NNT:** to prevent one case of HCC was 210 at HBV DNA <2000, 59 at 2000-20,000, and 14 at >20,000 IU/ml

2015



2024 – NEW



RECOMMENDATIONS and RATIONALE – First line antiviral therapies

Updated recommendation

- tenofovir disoproxil fumarate (TDF) or entecavir (ETV) – are recommended as **preferred regimens** and
- TDF + lamivudine (3TC) and TDF + emtricitabine (FTC) as **alternative regimens** (where TDF monotherapy is not available).

(strong recommendation, moderate-certainty evidence)

New recommendation:

- Entecavir (ETV) or tenofovir alafenamide fumarate (TAF) (if available) is recommended for people with established osteoporosis and/or impaired kidney function and
- for children or adolescents for whom antiviral therapy is indicated (ETV aged ≥ 3 years and TAF aged ≥12 years)

(strong recommendation, moderate-certainty evidence)

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Evidence-base and Rationale

- **Systematic review of 5 RCTs of TAF vs. TDF**
  - Similar outcomes for undetectable HBV DNA.
  - No differences in adverse events- TAF less decline in renal function and BMD but changes small (1-3%)
  - Limited evidence on effects on clinical outcomes.
- **Systematic review of 5 RCTs of dual therapy (TDF+FTC) vs. TDF monotherapy**
  - Similar outcomes (HBV DNA suppression, ALT normalisation, HBsAg and eAg loss, and adverse events)
- **Expanding access through dual therapy:** In countries with limited availability of TDF monotherapy esp. LMICs/SSA - use of dual therapy available through HIV/ART programmes may expand treatment access

RECOMMENDATIONS - Preventing mother to child transmission of HBV using antiviral prophylaxis

Updated recommendation

In settings where HBV DNA or HBeAg testing is available, *Prophylaxis with TDF is recommended for HBV-positive (HBsAg-positive) pregnant women with HBV DNA ≥200 000 IU/mL or positive HBeAg

(strong recommendation, moderate-certainty evidence)

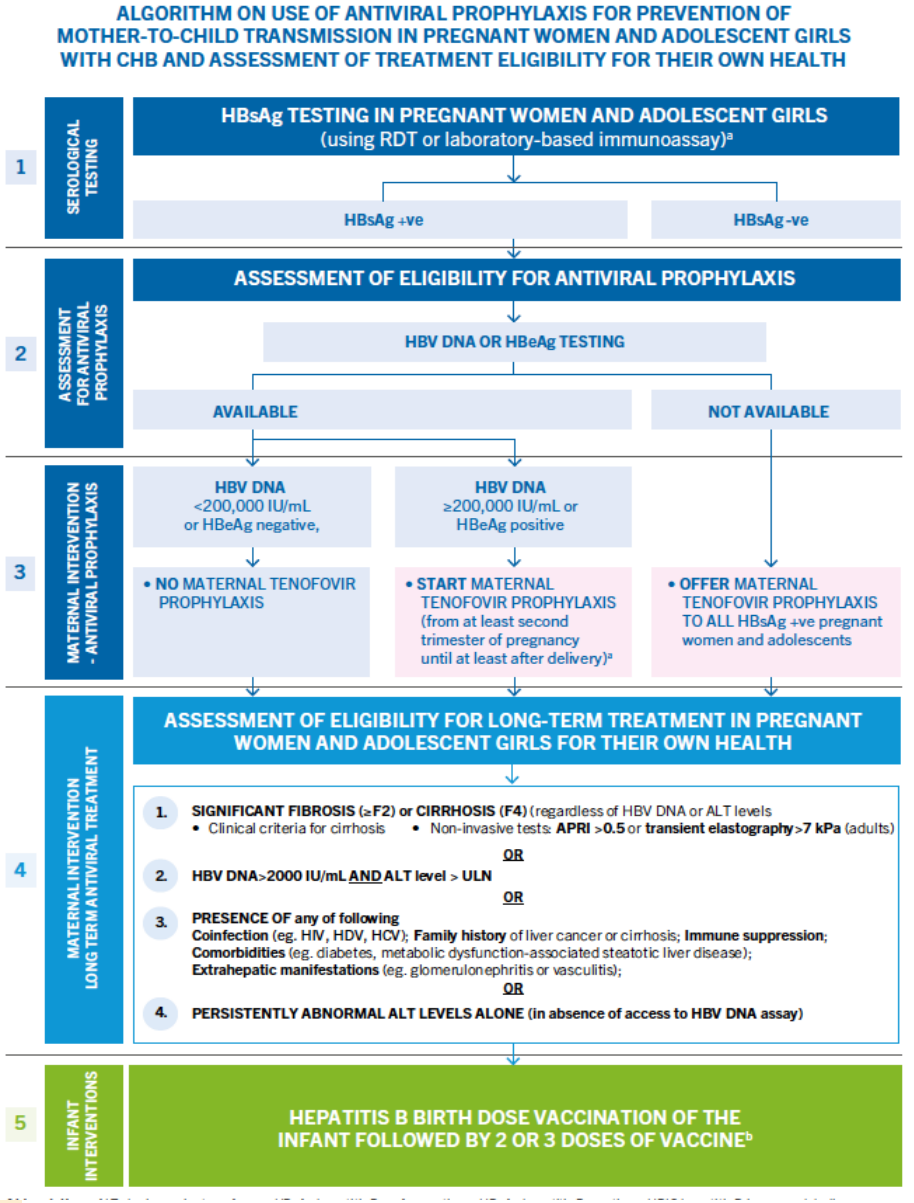
New 2024 recommendation

In settings where neither HBV DNA nor HBeAg testing is available,
*Prophylaxis with TDF for all HBV-positive (HBsAg-positive) pregnant women may be considered

(conditional recommendation, low-certainty evidence)

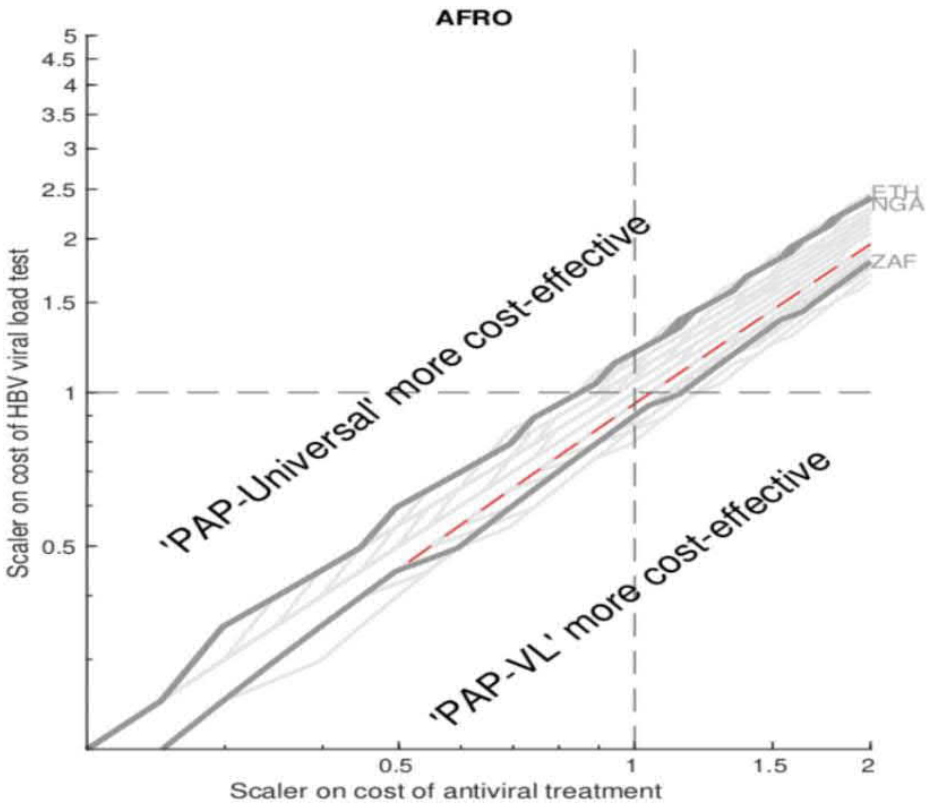
*Preferably **from the second trimester of pregnancy until at least delivery or completion of the infant HBV vaccination series)**, to prevent MTCT of HBV.

All interventions should be given in addition to at least three doses of hepatitis B vaccination for all infants, including a timely birth dose.



EVIDENCE-BASE and RATIONALE - Preventing mother to child transmission of HBV using antiviral prophylaxis

- **2020 systematic review** showed protective effect of antiviral prophylaxis to prevent MTCT
  - TDF 300 mg: OR 0.16, 95% CI: 0.10–0.26.
  - No transmissions when HBV DNA<200,000 IU/ml.
- **Significant challenges remain in accessing HBV DNA or HBeAg testing** among HBsAg-positive pregnant women to determine eligibility for antiviral prophylaxis, especially in sub-Saharan Africa.
- **No studies have directly compared clinical impact and feasibility** of expanding antiviral prophylaxis access to all HBsAg-positive pregnant women versus HBV DNA-driven strategy.
- **Modelling analysis of "antiviral prophylaxis for all" strategy**
  - Universal BD remains the most cost-effective PMTCT intervention - 6.0 million (95% CI: 5.6–6.5) neonatal infections averted from 2024 to 2030.
  - Universal prophylaxis would be cost-effective in only 42 (40%) of 106 countries. The use of antiviral treatment would be five times higher vs. HBV –DNA driven strategy.
  - Relative cost–effectiveness of universal vs. HBV DNA–driven antiviral prophylaxis strategy depends highly on relative costs of treatment and diagnostic tests



Nayagam, Lancet Gastroenterol Hepatol 2023

World Health Organization

IMPLEMENTATION CONSIDERATIONS – Antiviral prophylaxis for PMTCT

- **Increased coverage of HepBD vaccination should be priority:** Funding for introducing and scaling up hepatitis B birth-dose vaccination is now available through Gavi for eligible countries.
- **Universal testing for HBsAg, HIV and syphilis for pregnant women:** WHO recommends that all pregnant women are tested routinely for HIV, syphilis and HBsAg during pregnancy as part of a triple mother-to-child transmission elimination strategy
- **Increased health-care worker capacity:** Increased number of trained health-care workers in antenatal clinic settings will be required to support expanded HepB antiviral prophylaxis and monitoring after treatment.
- **Simplified, integrated HIV, HBV and syphilis ANC testing and treatment** pathways, ideally in the context of triple elimination of MTCT, will be key to support implementation of HBV DNA or universal hepatitis B prophylaxis

HBV AND HDV DIAGNOSTICS

Chapter 10: Measuring HBV DNA to guide treatment eligibility and monitor the response

Chapter 11: HBV DNA reflex testing

Chapter 6: Who to test for hepatitis Delta virus (HDV) infection

Chapter 7: How to test for HDV infection: testing strategy and choice of serological and NAT assays

Chapter 8: How to test for HDV infection: Laboratory-based reflex testing

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RECOMMENDATIONS AND RATIONALE – HBV DNA testing and Reflex testing

New recommendations:

Point-of-care (POC) HBV DNA assays:

POC HBV DNA nucleic acid testing (NAT) assays may be used as an **alternative approach** to laboratory-based HBV DNA testing to assess HBV DNA level for treatment eligibility and to monitor treatment response.

(conditional recommendation, low-certainty evidence)

Product	Xpert HBV DNA	Truenat HBV
Manufacturer	Cepheid	Molbio
Analyser	Cepheid GeneXpert Instruments (GeneX-pert-II, GeneXpert-IV, GeneXpert-XVI Instruments)	Truelab Real Time micro PCR platform (UNO/DUO/QUATTRO / QUATTRO 4x4)
Cost	US$ 14.90 ex works per assay,[a] about US$ 17 000–70 000 per machine	US$ 12 ex works per assay[a]
Assay	Specimen type: plasma, serum Limit of detection 6 IU/mL	Specimen type: plasma, serum, whole blood Limit of detection 56 IU/mL
Regulatory approval	CE-Mark	No stringent regulatory authority approval

Reflex HBV DNA testing:

Reflex testing for those testing positive on HBsAg may be used as an additional strategy to promote linkage to care and treatment.

This can be achieved through either l**aboratory-based** reflex HBV DNA testing using a sample already held in the laboratory or **clinic-based reflex** testing in a health-care facility through immediate sample collection following a positive HBsAg rapid diagnostic test (RDT).

(conditional recommendation, low-certainty evidence)

Three systematic reviews

- Diagnostic accuracy of POC assays review (15 studies): high sensitivity (96–98%) and specificity (98–99%))
- Clinical impact review of POC assays (7 studies) showed high uptake of testing (89% (95% CI 55–100%) and of treatment initiation (88% (95% CI 66–100%).
- Clinical impact review of Reflex HBV DNA testing (8 studies) showed high uptake of HBV DNA testing and treatment initiation.

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RECOMMENDATIONS AND RATIONALE – HDV testing - Who to test?

New recommendations

Universal testing approach

Serological testing for anti-HDV antibodies may be performed **for all individuals** who are HBsAg positive, as the preferred approach to scale up access to HDV diagnosis and linkage to care

(conditional recommendation, very-low-certainty evidence)

Narrative review

- No studies directly evaluated impact and cost-effectiveness of different anti-HDV testing approaches.
- Observational studies from high income settings **show poor testing uptake and case-finding based on risk-based approach**, and marked increase with laboratory-based universal anti-HDV testing
- **Effective case-finding crucial to implement preventative interventions** eg. enhanced HCC surveillance, and access new treatment options

Priority population testing approach

In settings in which a universal anti-HDV antibody testing approach is not feasible because laboratory capacity or other resources are limited, testing for anti-HDV may be given **priority in specific populations** of HBsAg-positive individuals:

- people born in **HDV-endemic** countries, regions and areas;
- people with **advanced liver disease**, those receiving hepB treatment; and those with features suggesting HDV infection (such as low HBV DNA with high ALT levels); and
- people considered to have **increased risk** of HDV infection (haemodialysis recipients, people living with HCV or HIV, people who inject drugs, sex workers and men who have sex with men).

(conditional recommendation, very-low-certainty evidence)

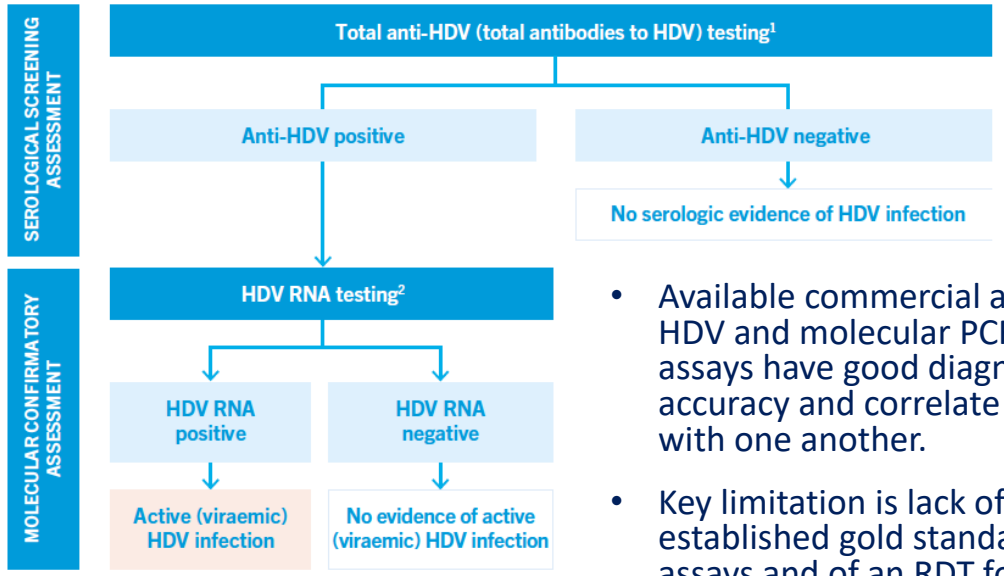
RECOMMENDATIONS – HDV testing How to test?

Diagnostic pathway

People with CHB (HBsAg positive) may be diagnosed with hepatitis D by using a serological assay to detect total anti-HDV followed by an NAT to detect HDV RNA and active (viraemic) infection among those who are anti-HDV positive.

Assays should meet minimum quality, safety and performance standards.

(conditional recommendation, low-certainty evidence)



- Available commercial anti-HDV and molecular PCR assays have good diagnostic accuracy and correlate well with one another.
- Key limitation is lack of established gold standard assays and of an RDT for anti-HDV antibody.

Reflex testing

Reflex testing for anti-HDV antibody testing following a positive HBsAg test result and also for HDV RNA testing (where available) following a positive anti-HDV antibody test result, may be used as an additional strategy to promote diagnosis.

(conditional recommendation, low-certainty evidence)

Systematic review of reflex testing

- 11 studies of reflex anti-HDV Ab testing (3 had non-reflex comparator arm) in those HBsAg positive
- Increased uptake of serology testing (97% (95% CI: 92–100%) vs. 45% (95% CI: 0.3–98%) vs. non-reflex testing
- Very high uptake of reflex HDV RNA in those anti-HDV positive - 98% (95% CI: 77–100%) in 8 studies.

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IMPLEMENTATION CONSIDERATIONS – HBV DNA POC + Reflex testing

HBV DNA POC assays

- **Strategic choice - use of lab-based vs POC NAT platforms:** will depend on characteristics of testing site. eg. (storage facilities, infrastructure, level of staff skills) and costs.
- **Priority settings for placement of HBV DNA POC platforms** eg. antenatal clinic sites for PMTCT antiviral prophylaxis, where fast-tracking confirmation of high HBV DNA can improve timely uptake of antiviral prophylaxis.
- **Optimal placement of a POC instrument is where testing and treatment are at the same site – a "one-stop shops"**
- **Opportunity for diagnostic integration across programmes** using **multi-disease testing platforms.** Countries with existing platforms for HIV or HCV viral load or TB testing, can consider collaboration and integration of HBV DNA testing.

HBV DNA Reflex and Delta serology and RNA testing

Choice of laboratory-based reflex testing or clinic-based reflex HBV DNA testing for different country contexts

- **Laboratory-based reflex testing approach** - settings with large testing volumes for HBsAg supported by extensive sample transport networks.
- **Clinic-based reflex specimen collection approach** - settings where RDTs used and limited access to lab services, and for populations such as PWID.
- **Train laboratory staff -** procedures for sample collection and processing for reflex testing (to minimize cross-contamination), and planning for additional costs

HBV SERVICE DELIVERY AND MONITORING

Chapter 15: Approaches to promote delivery of high-quality health services for CHB

Chapter 16: Monitoring for treatment response among people with CHB receiving treatment or not yet receiving treatment

Chapter 17: Monitoring the safety of nucleoside analogues

Chapter 18: Surveillance for hepatocellular carcinoma among people with CHB

Chapter 19: When to stop and restart antiviral therapy

Chapter 20: Management considerations for specific populations

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EVIDENCE-BASE AND RATIONALE – HBV Service Delivery for a Public Health Response

- **Lack of direct evidence to inform recommendations on service delivery with hepatitis B:**
  - Few comparative studies of different models of care – mostly single arm observational studies
  - Few interventional studies, especially on adherence and retention
  - Heterogeneity of models and variations in outcome definitions
  - Limited outcome data across entire care cascade

- **Approach:**
  - Systematic review to identify different types of **service delivery models for hepatitis B care** and report key **outcomes** across the HBV care cascade
  - Use and adaptation of existing reviews from **HIV literature** – adherence, retention and tracking, frequency of treatment refills and clinic visits

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EVIDENCE-BASE AND RATIONALE – Range of observed HBV service delivery models

MODEL CATEGORY	DEFINITION AND EXAMPLES
Community testing	Education and rapid POCT for general or targeted populations, with or without “linkage” to local care, sometimes vaccination for HbsAg negative
General populations	
Hospital-based	Inpatient or ambulatory care attached to a hospital, secondary/district and tertiary levels
Speciality clinic	Specialist care in ambulatory setting, including referral from testing camp or other community followed by visiting specialist or specialist clinic
Integrated	Hep B care delivered alongside other services, e.g., HIV, NCDs, harm reduction/OSA
Co-managed	Care led by non-specialist physicians/nurses/teams with input from or access to specialists via variety of platforms (e.g., virtual, case conference, visiting specialists)
Primary care	Care solely in primary care facilities by non-specialist physicians, nurses or teams
Outreach	Pop-up clinics, mobile clinics
Key populations	Pregnant/post-partum, PLHIV, migrants, Indigenous, PWID, prison populations

Key messages – HBV service delivery systematic review

Quantitative studies (n=69): reporting of care cascade outcomes

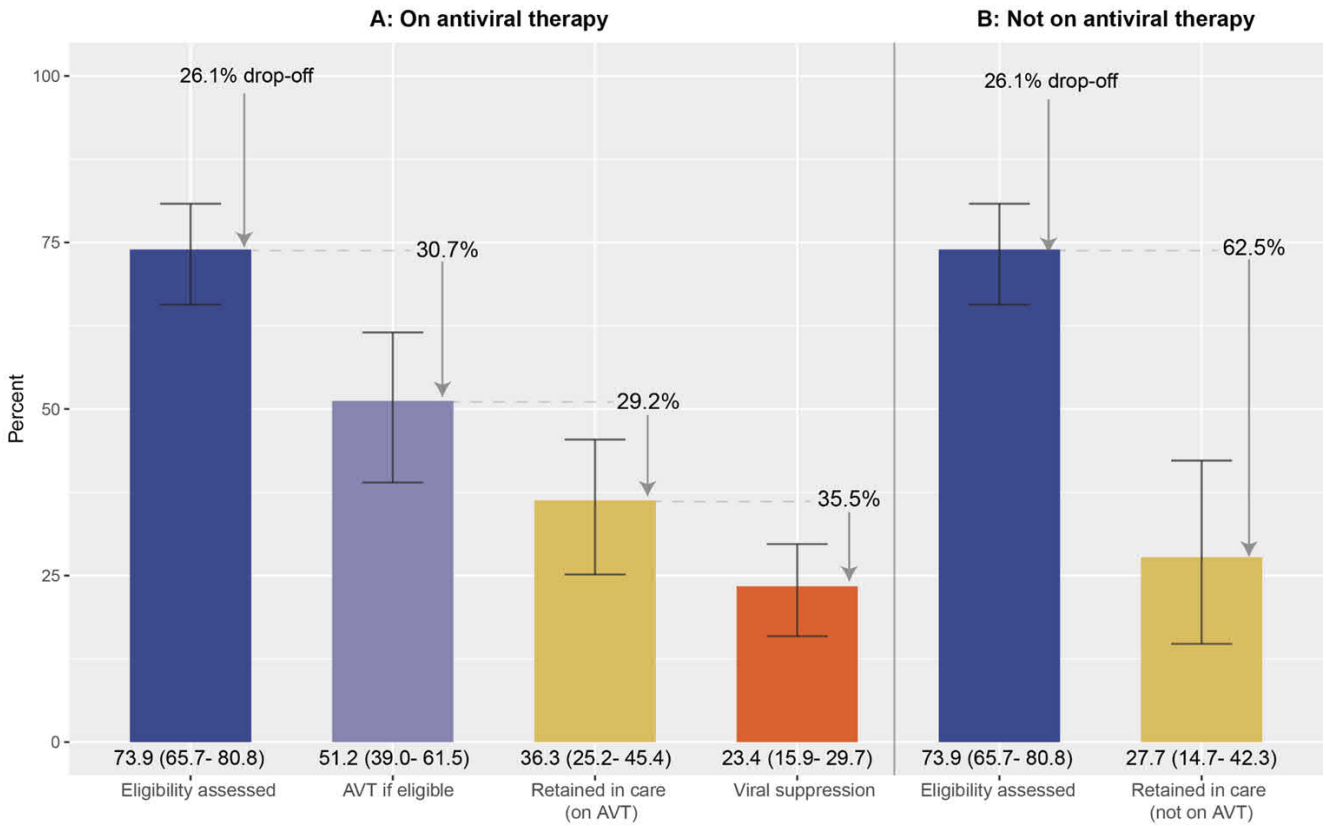
Proportion reporting:

Early cascade (linkage & eligibility)	=33%
Late cascade (AVT + retention)	= 6%
Complete cascade	= 4%

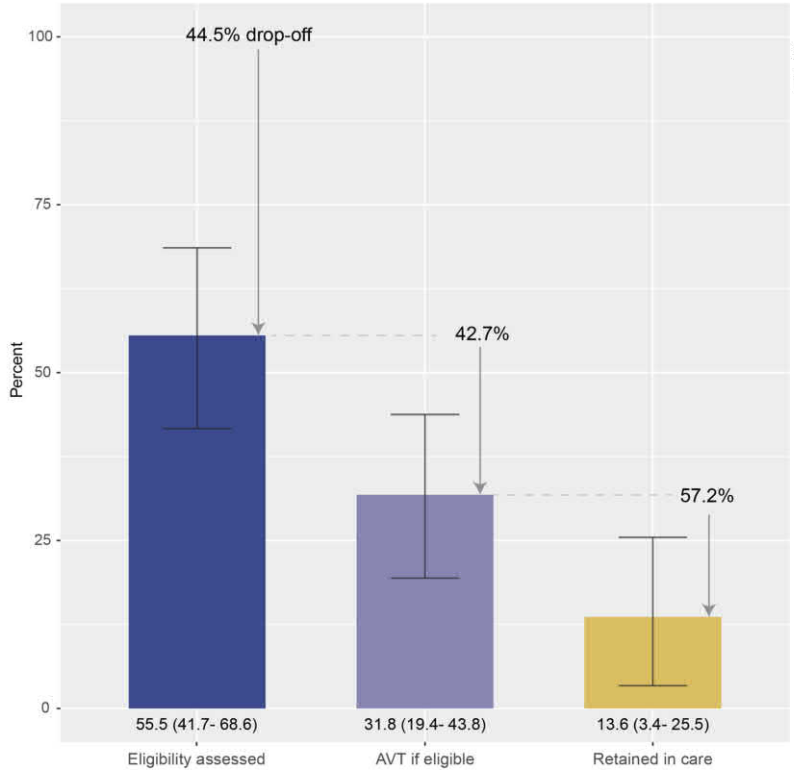
- Eligibility assessed =84%
- Meeting treatment eligibility =39%
- Treatment initiation among eligible =37%
  Viral suppression = 9%
- Retention =16%

Overall cascade of care for general populations

Hospital/ specialist care models



Primary/mixed models



Learning from HIV – WHO recommendations on service delivery (Adherence, multi-month prescriptions, frequency of clinical visits and retention)

Adherence support interventions should be provided to people receiving ART		Strong
Clinical visits every 3-6 months, preferably 6 months if feasible*		Strong
ART dispensing/refills every 3-6 months, preferably 6 months if feasible*		Strong
Tracing and support for people who have disengaged		Strong
ART initiation may be offered outside the health facility		Conditional
SRH services, including contraception, may be integrated with HIV services		Conditional
Diabetes and hypertension care may be integrated with HIV services		Conditional
Psychosocial interventions should be provided to all adolescents and young adults living with HIV		Strong
Task sharing of specimen collection and point-of care testing with non-lab personnel when professional capacity is limited		Strong

Adherence support interventions should be provided to people receiving ART

- peer counsellors
- mobile phone text messages
- reminder devices
- cognitive behavioural therapy
- behavioural skills and medication adherence training
- fixed-dose combinations and once-daily regimens

Good Practice Statements

Health systems should invest in people-centred practices
Same day ART initiation should include approaches to improve uptake, adherence and retention
Non-judgmental, tailored approaches to assessing adherence

8 KEY APPROACHES – Service Delivery for a Public Health Response

1. **Strategies to strengthen LINKAGE** from testing to care, treatment and prevention:e.g. peer support, use of dried blood spots to facilitate testing (WHO 2017 testing guidelines)

2. **Strategies to promote and sustain LONG-TERM ADHERENCE to antiviral treatment**: e.g use of peer counsellors, text reminders, cognitive behavioural therapy, adherence clubs

3. **Strategies to promote RETENTION IN CARE** and trace and re-engage those disengaged from care: e.g. counselling, peer and family support, patient trackers

4. **INTEGRATION of hepatitis testing, care and treatment** with other services (e.g. HIV services and primary care) to increase efficiency and reach of hepatitis services

5. **DE-CENTRALISED** testing and treatment services at primary health facilities or HIV/ART clinics to promote access to care (facilitated by task-sharing/diffentiated care approach).

6. **TASK-SHARING,** supported by training and mentoring of health-care workers and peer workers

7. **DIFFERENTIATED CARE** with assessment of level-of-care needs, and specialist referral as appropriate for those with complex problems

8. **COMMUNITY ENGAGEMENT** and peer support to promote access to services and linkage to the continuum of care, which includes addressing stigma and discrimination

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Table 15.1 Potential differentiated care needs and approaches to managing CHB

Who? Category of people with hepatitis B	What? Care needs	Where? Site	By whom? Caregiver
Clinically well and stable on treatment. Clinically well and not yet requiring treatment	Standard care package: counselling, adherence support, treatment initiation and monitoring	Facility-based, including primary care or community-based settings, and mobile or outreach	Physician or nurse
Advanced liver disease or serious comorbidities, HCC or previous treatment failure	Requiring more intensive clinical support and follow-up: management of liver-related complications (for example, variceal bleed, ascites, encephalopathy and regular HCC surveillance or treatment)	Facility-based: hospital	Physician
Mental health problems, people who inject drugs or engage in alcohol misuse, adolescents and migrants	Requiring more intensive psychosocial or mental health support or intercutural and language support	Can be facility-based or community-based, harm-reduction site	Physician and counsellor or peer support

Implementation priorities

I Scale-up of testing and case-finding

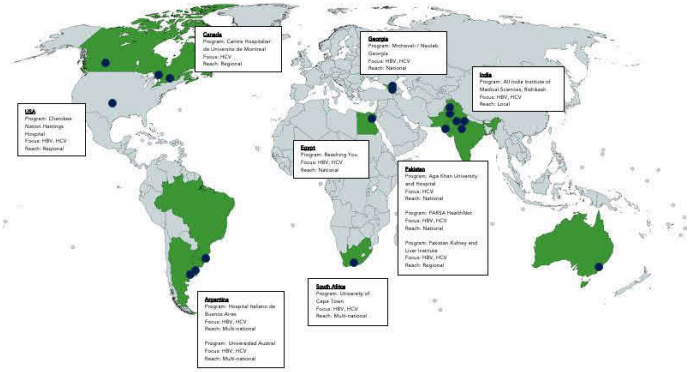
II Updating of national Guidelines with adoption of recommendations informed by local context*and implementation considerations

III Widespread education and awareness raising campaigns among community and healthcare workers

IV Promote wide access to training and capacity building of healthcare workers to provide adherence support and retention

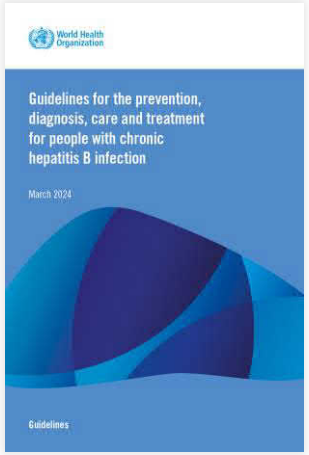
V Opportunities for cost reductions for HBV meds and diagnostics

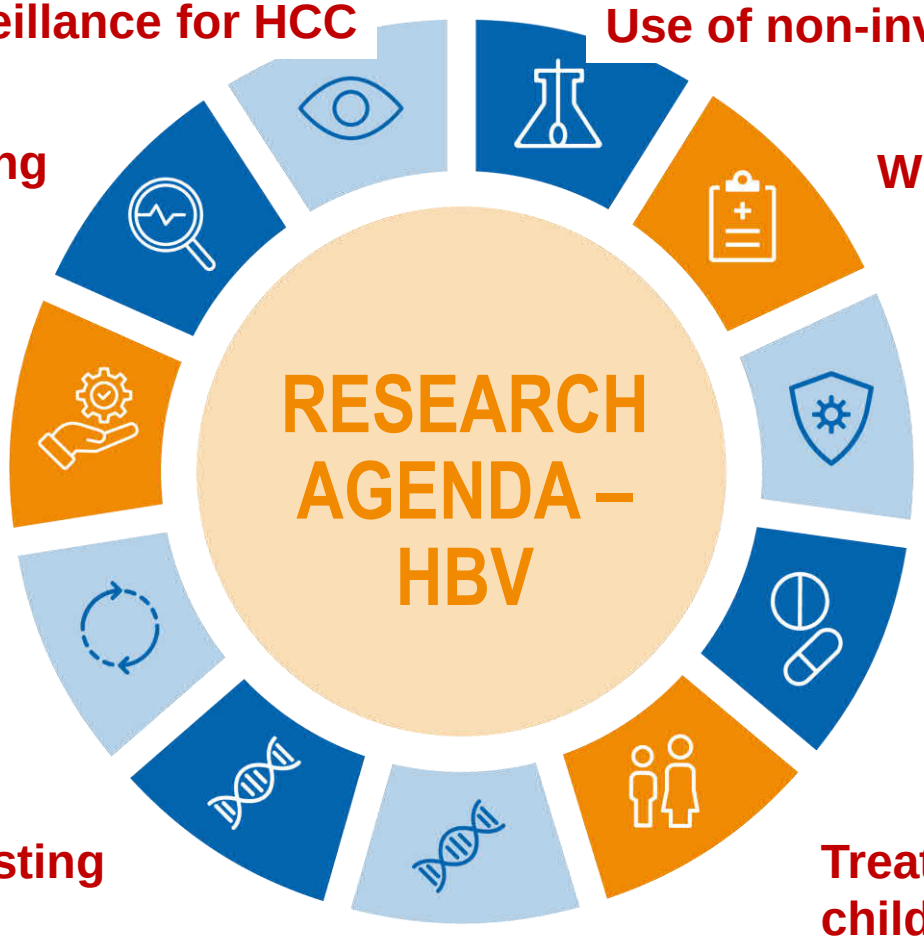
Online Training	Website Address	Key Source Institution, Country	Number of Modules	Covers HBV, HCV or Both
Hepatitis C Online	https://www.hepatitisc.uw.edu/	University of Washington, USA	6	HCV
Hepatitis B Online	https://hepatitisb.uw.edu/	University of Washington, USA	9	HBV
Liver Learning: Fundamentals of Liver Disease: • Hepatitis C 2.0 • Hepatitis B 2.0	https://liverlearning.aasld.org/	AASLD, USA	15	HBV, HCV
ASHM/INHSU	lms.ashm.org.au/ https://www.inhsu.org/online-learning-modules/	Australasian Society for HIV, Viral Hepatitis and Sexual Health Medicine, Australia International Network on Health and Hepatitis in Substance Users	Variable depending on the training. Max 9	HBV, HCV
HIV/HCV Co-infection: An AETC National Curriculum	Aidsetc.org/hivhcv	AIDS Education and Training Center (AETC), USA	6	HCV, HCV/HIV
IAPAC • HBV Clinical Management • HCV Clinical Management	iapac.org/education/african-regional-capacity-building-hub/	International Association of Providers of AIDS Care (IAPAC), South Africa	11	HBV, HCV
CATIE • Hepatitis C Basics • Hepatitis C Treatment	https://www.catie.ca/education-publications-websites-education/self-directed-learning-0	Canadian AIDS Treatment Information Exchange, Canada	6	HCV
Health E Knowledge	http://healtheknowledge.org/course/view.php?id=100	Addiction Technology Transfer Center Network, USA	4	HCV
Know HBV and HCV	https://www.edx.org/course/know-hbv-and-hcv?index=product&queryID=5a5a485a457da9db2b041b7f0eb3427f&position=1	Stanford University, USA	3	HBV



*Local context including national HBV epidemiology, health systems and laboratory capacity, supply systems for drugs and other commodities, availability of financial resources, the organization and capacity of the health system and the anticipated cost–effectiveness of the various interventions

RESEARCH AGENDA AND IMPLEMENTATION CONSIDERATIONS





Surveillance for HCC

Use of non-invasive tests

Monitoring

Who to treat

Simplified service delivery

First-line antiviral regimens

Delta testing:
Who to test and how to test

Use of antiviral prophylaxis for PMTCT

Reflex HBV DNA testing

Treatment of adolescents and children

Point-of-care HBV DNA testing

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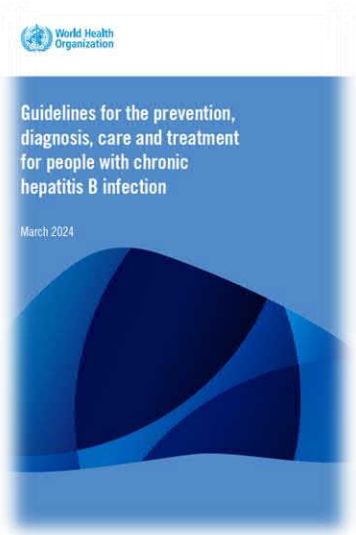
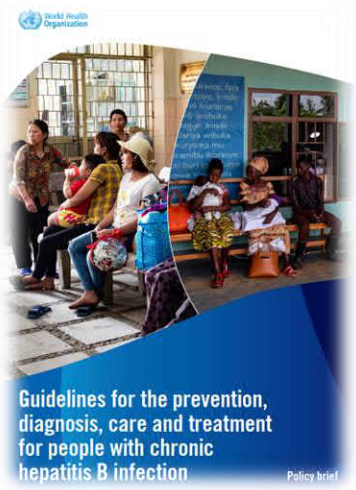
WHO regional office staff: Kiyohiko Izumi (WPRO), Casimir Mingiedi Mazengo (AFRO), Joumana Hermez (EMRO), Marcelo Naveira (EURO), Bharat Bhushan Rewari (SEARO), Leandro Soares Sereno (PAHO).



New WHO hepatitis B guidance on expanded simplified treatment criteria, diagnostic innovations, service delivery recommendations, evidence base and rationale



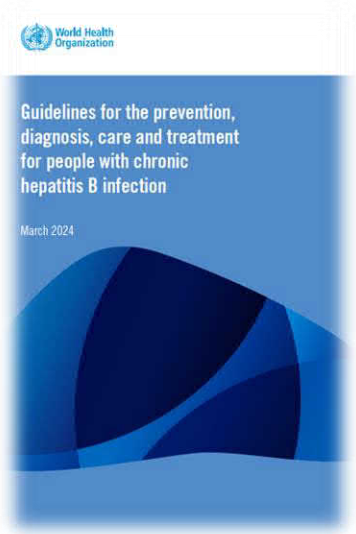
Q & A

World Health Organization

WHO Global Webinar: Technical Briefing on 2024 WHO Hepatitis B Guidelines on Diagnosis, Treatment, and Service Delivery

Part 2:
New hepatitis B guidelines – perspectives and implementation considerations

World Health Organization



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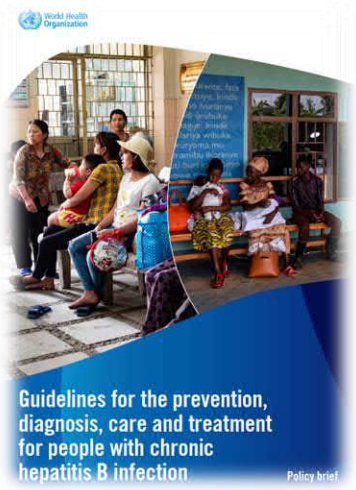
Access considerations



Oriel Fernandes
Clinton Health Access Initiative (CHAI)

World Health Organization

HEPATITIS B MARKET ACCESS CONSIDERATIONS

WHO Global Webinar on 2024 WHO Hepatitis B Guidelines

Oriel Fernandes, Senior Director, Clinton Health Access Initiative

Based in Kigali, Rwanda

May 2024

Content

1. **Hepatitis B Diagnostics**

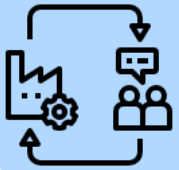
   - HBV RDT: Supplier Landscape and Pricing
   - HBV DNA: Supplier Landscape and Pricing

2. **Hepatitis B Treatment**

   - Pricing snapshots of TDF, TDF/XTC and TAF
   - Global Access Pricing for TDF

HBV DIAGNOSTICS: RDT SUPPLY AND PRICING LANDSCAPE

SUPPLY



- **Four HBsAg products have WHO prequalification** -- two rapid diagnostics tests (RDTs) and two lab-based immunoassays.
  - Several countries use RDT tests for point-of-care diagnosis, with less infrastructure and training required.
- Additionally, multiple manufacturers have SRA-approved products and several qualified for procurement by global stakeholders such as the Global Fund

PRICE

- The global prices for HBsAg RDTs are generally comparable with those of RDTs across other disease areas
- Of multiple high-burden LMIC surveyed, most procuring the test around 1 USD
  - Prices range from typically 0.58 – 1.22 USD, with exceptions like India (0.09 USD) and Nigeria (up to 2.40 USD)

CLIENT-CENTERED

- Integrating screening services could facilitate access and uptake of testing across diseases for person-centered, comprehensive care.
  - Using the antenatal care platform for screening HIV, HBV, and syphilis in one visit can support triple elimination goals.
- Multiple manufacturers have developed combination RDT that can screen for HBV, HCV, HIV, and syphilis (combinations vary).

Source: Clinton Health Access Initiative (CHAI) Hepatitis B Market Report 2022; *publication expected December 2022*

HBV DIAGNOSTICS: RDT SUPPLY AND PRICING LANDSCAPE

Product	Supplier	Reported Sensitivity	Reported Specificity	Regulatory Approval	Analytical Sensitivity	Specimen Type
Determine HBsAg 2	Abbott	100%[2]	100%[2]	WHO PQ	0.1 IU/mL	Serum, plasma, **capillary**, and venous whole blood
Bioline HBsAg	Abbott	100%[3]	99%[3]	WHO PQ	2.06 IU/ml	Serum, plasma, venous whole blood
First Response HBsAg Card Test	Premier Medical Corporation	98.98%[4]	100%[4]	CE Mark	N/A	Serum, plasma, **capillary** and venous whole blood
Vickia HBsAg	biomeriuex	98.9%[5]	98.9%[5]	CE Mark (*PQ not maintained*)	N/A	Serum, plasma, Whole blood
STANDARD Q HBsAg Test	SD Biosensor	100%[5]	100%[5]	*ERPD until November 2022*	N/A	Serum, plasma

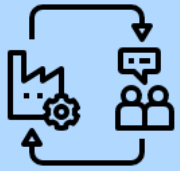
Multiple manufacturers with HBsAg RDT without known Stringent Regulatory Authority approvals (nonexhaustive):

- Accubio/OrientGene
- Beijing Wantai
- Biosynex
- CTK Biotech
- Wondfo
- Intec Products
- Shandong Kanghua
- Shanghai Kehua

1. Global Fund List of HIV (and Hepatitis) Diagnostic Products (Updated March 2023) https://www.theglobalfund.org/media/5878/psm_productshiv-who_list_en.pdf
2. Determine HBsAg 2 (Abbott) – WHO Prequalification Report
3. Bioline HBsAg (Abbott) - WHO Prequalification Report
4. First Response HBsAg Card Test (PMC) – Instructions for Use
5. Biomeriuex Vickia HBsAG here
6. STANDARD Q HBsAg Test (SD Biosensor) – Instructions for Use

HBV DIAGNOSTICS: VIRAL LOAD SUPPLY AND PRICING LANDSCAPE

SUPPLY



- **Several manufacturers have HBV VL products with SRA approvals.**
- Most manufacturers with HIV and HCV molecular tests also have HBV DNA

VOLUME

- Data requested from major HBV VL suppliers demonstrated **70% increase in procurement volumes from 2016 – 2019**
- Nonexhaustive data from participating suppliers shows at least 400,000 tests procured for LMIC market in 2021, far below expected need.
- Despite a decline in growth in 2020 due to the COVID-19 pandemic, sale **volumes are forecasted to increase growing forward**

PRICE

- Most major suppliers offer global access pricing (GAP) for LMIC ranging from 9-15 USD with variable terms, conditions, and country inclusion.
- Final cost paid by countries for HBV VL varies across countries.
  - A collection of sample countries showed range from 9.30 USD (Rwanda) to 62 USD on the high-end (Vietnam).

ACCESS CHALLENGES

1. **Demand Generation**: limited visibility quantifying and forecasting demand in-country, particularly with limited public programming
2. **Limited access**: HBV VL often performed at centralized lab facilities; integrating with other disease platform (HIV, COVID, TB) can improve testing access
3. **Affordability**: Prices for HBV VL remain a significant cost and often a cited barrier

Source: Clinton Health Access Initiative (CHAI) Hepatitis B Market Report 2022; *publication expected December 2022*

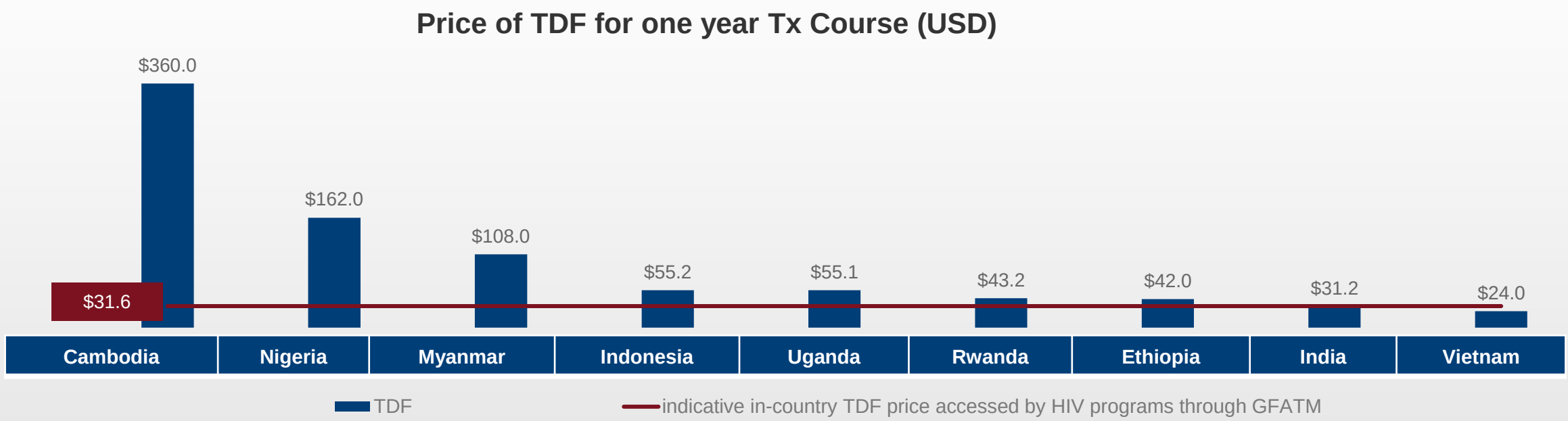
HBV DIAGNOSTICS: VIRAL LOAD SUPPLY AND PRICING LANDSCAPE

	Manufacturer /Product	Regulatory Approval	Platform	Global Access Price ($US)	Sample Type		
					Whole Blood	Serum	Plasma
Near POC	**Cepheid** Xpert HBV Viral Load	CE Mark	GeneXpert Instruments	14.90		✓	✓
Near POC	**Molbio** Truenat HBV	None	Trulab Real Time micro-PCR Platform	12.00	✓	✓	✓
Conventional	Abbott Alinity m HBV	CE Mark	Alinity m System	N/A		✓	✓
Conventional	**Abbott** HBV VL Assay	CE Mark	m2000	9.60 – 15.55 FCA		✓	✓
Conventional	**Qiagen** artus HBV RG RT-PCR Kit / artus HBV QS-RGQ Kit	CE Mark	Rotor-Gene Q/Rotor Gene Instrument	N/A			✓
Conventional	**Roche** Cobas HBV Test	CE Mark, US FDA	CAP/CTM, cobas 4800/5800/6800/ 8800 systems	8.90 CPT		✓	✓
Conventional	**Hologic** Aptima HBV Quant Assay	CE Mark, US FDA	Panther System	11.28 DAP		✓	✓

- Multiple manufacturers have HBV VL products with CE mark
- WHO prequalification application open for HBV DNA suppliers to submit for approvals in December 2022
- Most major suppliers offer global access pricing (GAP) for LMICs ranging from US $9-15 with variable terms, conditions, and country inclusion

Source: CHAI HBV Market Report 2022 and supplier communication

HBV TREATMENT: PRICE VARIES ACROSS LMICS



- Price of TDF varies across countries, especially between HBV programs and HIV programs.
- TDF is a lifelong drug, making affordable access is key for HBV programs and patients.

HBV TREATMENT: ACCESS PRICING FOR TDF

CHAI and Hepatitis Fund signed a global access pricing agreements for hepatitis treatment in 2023

- **TDF 300mg at or below US$ 2.4 for 30-tablet** (US$28.8 per patient per year) from Viatris and Hetero
- All products offered would be either US-FDA approved or WHO pre-qualified
- **Who can access these agreements?** - Any organization or entity that is purchasing these medicines on behalf of public sector patients in the territory as per the licensing agreement of generic manufacturers with innovators.

To translate global access price to low in-country price, it is critical that countries/ programs:

1. **Amplify communication** on these pricing agreements to all stakeholders particularly procurement divisions
2. **Optimize in-country markups** by seeking clarity on components of additional costs and find opportunities to streamline them
3. **Accelerate scale-up of hepatitis services** and drive demand for services by engaging with community groups

To learn more about the pricing deal for generic viral hepatitis medicines, scan

HBV TREATMENT REGIMEN: ACCESS CONSIDERATIONS

Benchmark price of HBV treatment regimen

- TDF/FTC costs ~1.5 times TDF price. TDF/3TC is 15-20% cheaper than TDF/FTC and 30-40% costlier than TDF
- TAF is not available under Global Fund PPM or USAID, but TAF/FTC/DTG is available at $5 per pack – costlier due to added drug component.
  - Under the viral hepatitis program of India, the price of TAF is ~1.5 times TDF procurement price
  - Export data analysis of TAF and TDF by Indian generics, TAF is estimated to be ~1.2-1.4 times TDF price

Product	TDF 300 mg	TDF/FTC 300/200mg	TDF/3TC 300/300 mg	TAF/FTC/DTG 25/200/50 mg
Pack Size	30 tablets	30 tablets	30 tablets	30 tablets
CHAI Negotiated Access Price	$ 2.4			
Global Fund PPM Price (Oct 2022)	$2.4	$3.97	$3.37	$5.00

Market outlook

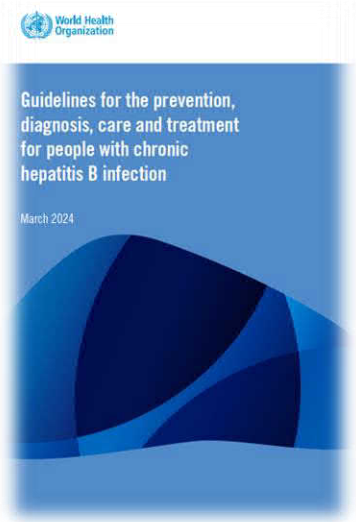
Both TDF/FTC and TAF can be cost-effective therapy as the prices are likely to decline with inclusion in viral hepatitis guidelines across LMICs and subsequent increase in demand

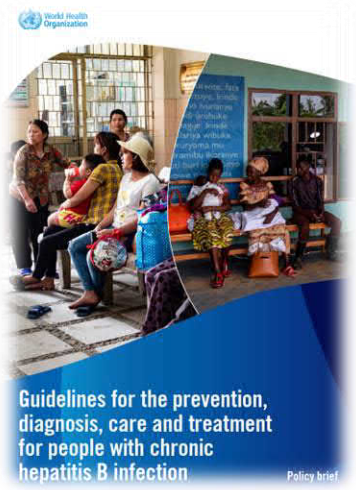
TDF/XTC (TDF/3TC or TDF/FTC)

1. Marginally costlier due to an added drug component
2. Inclusion in the HBV guidelines allows demand consolidation of both HIV PrEP as well as HBV patients. This will help manufacturers benefit from economies of scale and an opportunity to optimize cost. Both PrEP and HBV programs would benefit from this reduction of cost

TAF

1. Currently, procurement of TAF by programs in LMICs is ~1.5 times costlier than TDF
2. Difference in price can be attributed to the overall low market share of TAF (~12% of HBV treatment market across LMICs) as demand is limited to use for patients with renal impairment in public programs and private sector
3. TAF price likely to come down as more countries include TAF in HBV guidelines





WHO Global Webinar: Technical Briefing on 2024 WHO Hepatitis B Guidelines on Diagnosis, Treatment, and Service Delivery

Perspective on new recommendations: Community and patients

Catherine Freeland
Hep B Foundation

World Health Organization

HEPATITIS B FOUNDATION
www.hepb.org

Monday, May 13, 2024

Community Involvement and Next Steps in Disseminating Updated Hepatitis B World Health Organization Guidelines

Catherine Freeland, PhD, MPH
Hepatitis B Foundation
Catherine.Freeland@hepb.org

HEPATITIS B FOUNDATION
www.hepb.org

Community Values and Preferences Working Group

Working Group: **Catherine Freeland** (Hepatitis B Foundation), **Chari Cohen** (Hepatitis B Foundation), **Jack Wallace** (Burnet Institute), **Camila Picchio** (ICE-HBV and ISGlobal), **Capucine Penicaud** (The Hepatitis Fund), **Noemi Tousignant, Hailemichael Desalegn** (St. Paul's Hospital, Ethiopia), **Charles Ampong Adjei** (University of Ghana), **Jessica Hicks** (World Hepatitis Alliance), **Cary James** (World Hepatitis Alliance), **Danjuma Adda** (World Hepatitis Alliance), **Su Wang** (World Hepatitis Alliance and Hepatitis B Foundation)

World Hepatitis Alliance

ICE-HBV International Coalition to Eliminate HBV
PROMOTING GLOBAL COLLABORATION IN HBV CURE RESEARCH

END HEP 2030 The Hepatitis Fund

Burnet Institute
Medical Research. Practical Action.

UNIVERSITY OF GHANA

HEPATITIS B FOUNDATION
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HBV Lived Experience Values & Preferences

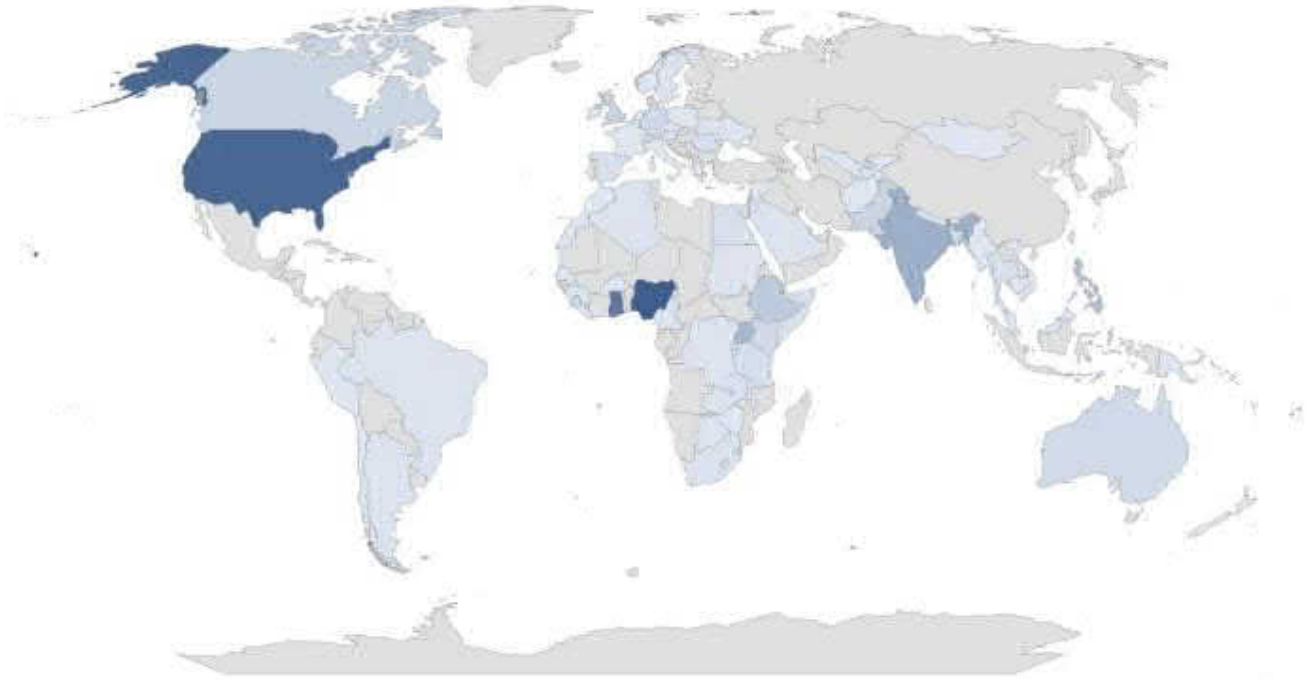
2023 Survey Methods:
The survey was organized into three main sections:
[1] eligibility and demographic section (five questions);
[2] current clinical management including treatment experiences (seven questions), and
[3] preferences for treatment, management, and provider interactions (15 questions).

Stigma and discrimination was also assessed through the Hepatitis B Foundation Discrimination Registry

Assessment of Provider Preferences and Values
Provider Preferences for treatment and management, access to testing and treatment

HEPATITIS B FOUNDATION
www.hepb.org

Key Findings: Barriers



- A sample of 560 from 76 countries responded to the survey. To inform guidelines past research and literature were assessed.

Hepatitis B Medical Care

Less than half (49%, N = 268) of respondents reported visiting a doctor to check the health of their liver regularly (every 6–12 months)

"The price for the necessary testing such as Hep B DNA, liver function test, etc. must be affordable to enable Hep B patients [to] get access to treatments."

Access to Medication

Many individuals reported facing challenges accessing affordable medication consistently

"I think most at times, some clients are told per their test results, they don't need treatment which I was thinking why not starting treatment to rather prevent the stage where the case is now serious"

Health Care Worker Knowledge

Many reported not having access to a knowledgable provider

"Knowledgeable Health care worker who understands the disease, that I have a doctor that actually cares about me and my hepatitis B."

Journal Article

HEPATITIS B FOUNDATION
www.hepb.org

Key Findings: Preferences & Values

Priorities for testing, management & treatment:

- **Convenience of care setting**, knowledge of care team, availability of counseling, confidentiality, and **cost**
- Respondents requested **simplified guidelines**
- **Increased accessibility** and **affordability of medical care (tests) and treatment**
- Respondents request **point-of-care testing** with the ability to have test and treat models, especially to **reduce transmission to family**
- Individuals with lived experience want to be **involved in treatment options** and decision-making

Stigma and discrimination play a major role

- Discrimination reported in **employment, health care settings, and immigration**
- Can impact care-seeking and adherence

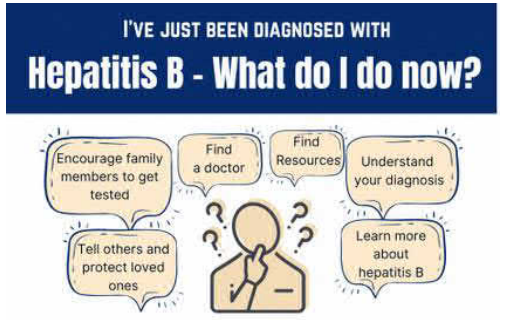
Journal Article

HEPATITIS B FOUNDATION
www.hepb.org

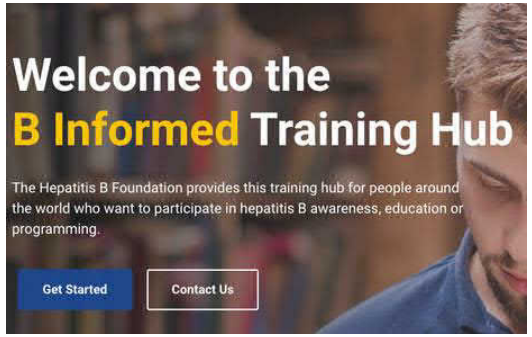
Next Steps

Ongoing dissemination and advocacy is required from civil society to ensure that the guidelines are adopted and implemented widely.

Community Resources



Training Hub



Webinar Series

Provider Education

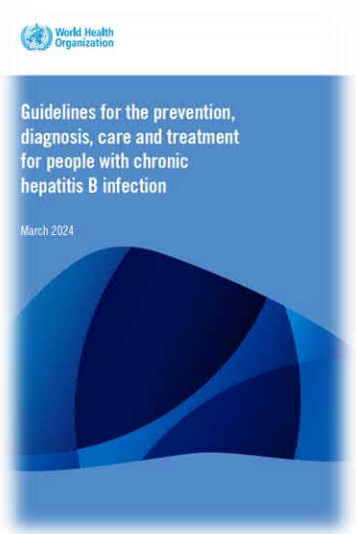
Hepatitis B ECHO
May 16, 12 PM Eastern Time
Register here:

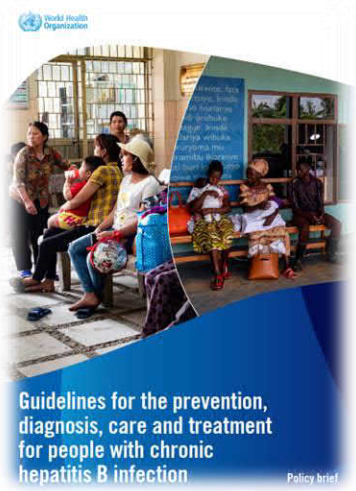
HEPATITIS B FOUNDATION
www.hepb.org

Thank You

www.hepb.org

Email:
Catherine.Freeland@hepb.org





WHO Global Webinar: Technical Briefing on 2024 WHO Hepatitis B Guidelines on Diagnosis, Treatment, and Service Delivery

Spotlight from six WHO regions by WHO Hepatitis Regional Focal Points

Polin Chan
WHO SEARO

World Health Organization

WHO South-East Asia Region

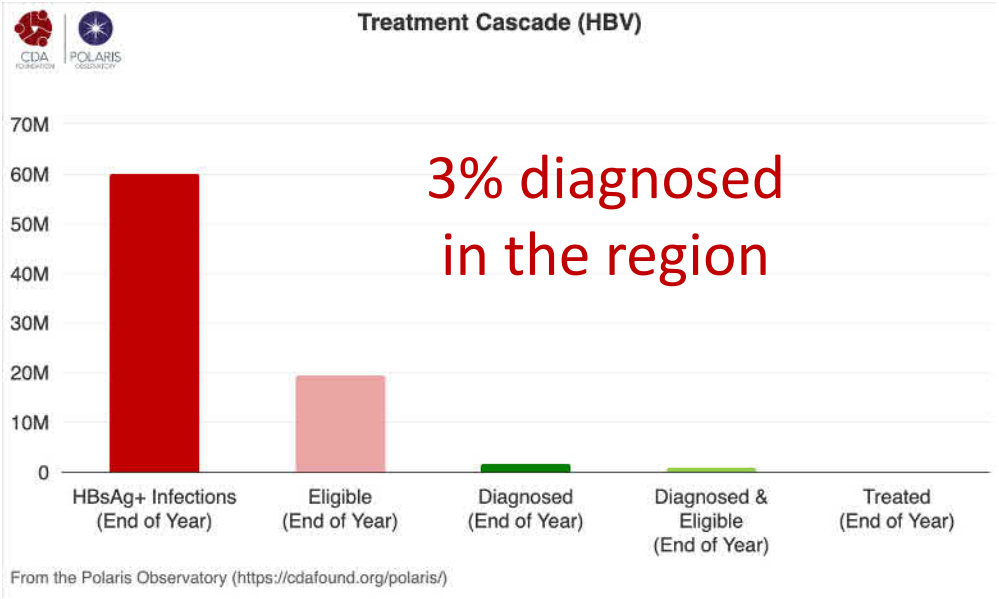
Indicator	Hepatitis B virus	Hepatitis C virus
Number of people living with **hepatitis infection**	61 400 000	9 100 000
Hepatitis B surface antigen (HBsAg) prevalence among children younger than 5 years old	0.4%	
Number of **new hepatitis infections** per year	266 000	225 000
Number of **deaths caused by hepatitis virus infection** per year	218 000	42 000
Percentage of people living with hepatitis virus who are **diagnosed**	2.8%	26%
Percentage of people living with hepatitis virus who **receive treatment**	3.5%	14%

11 countries and home to 2 billion people

Regional challenges and priorities

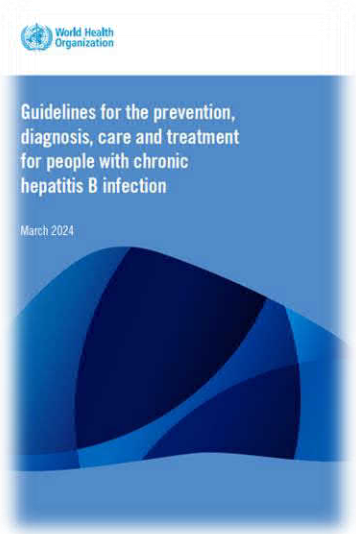
Access to test and treatment:

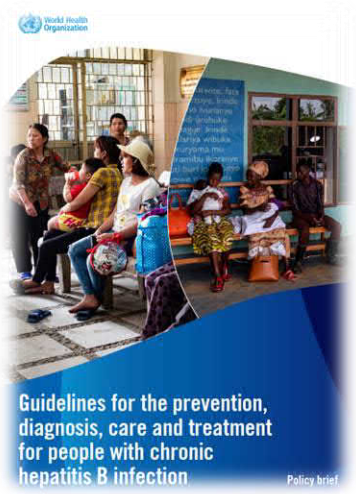
- Several SEAR countries manufacture **generic hepatitis B and C medications**.
- The cost varies significantly: the reported price of **generic** for a 28-day supply in public sector
  - **TDF** ranges from **US$ 1.2 in India** and **US$ 4.8 in Indonesia per bottle**
  - Entecavir use remains limited
- **HBV testing among ANC**: rapidly being scaled up
- **HBV DNA** access: remains limited, **POC** scaling up
- **Models of services**: scaling up beyond tertiary centers is being piloted, need to co-opt private sector services
- Hepatitis delta: unknown epidemiology in SEAR



Regional Priorities:

- **Advocacy** for greater political commitment and resource allocation at the national level
- **Expanding access** to testing and treatment beyond larger hospitals and referral centres
- **Addressing price variability and cost barriers** to accessing services
- **Update guidelines and retrain HCWs**
- **Strengthen data systems**





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Spotlight from six WHO regions by WHO Hepatitis Regional Focal Points

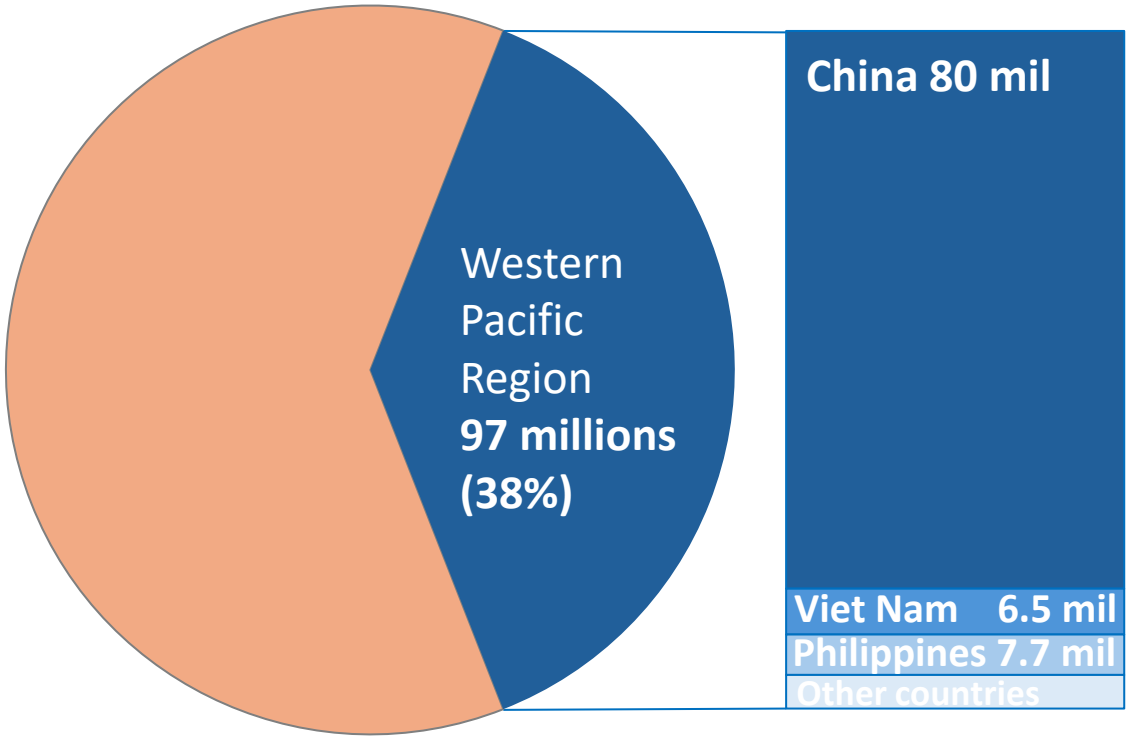
Kiyo Izumi
WHO WPRO

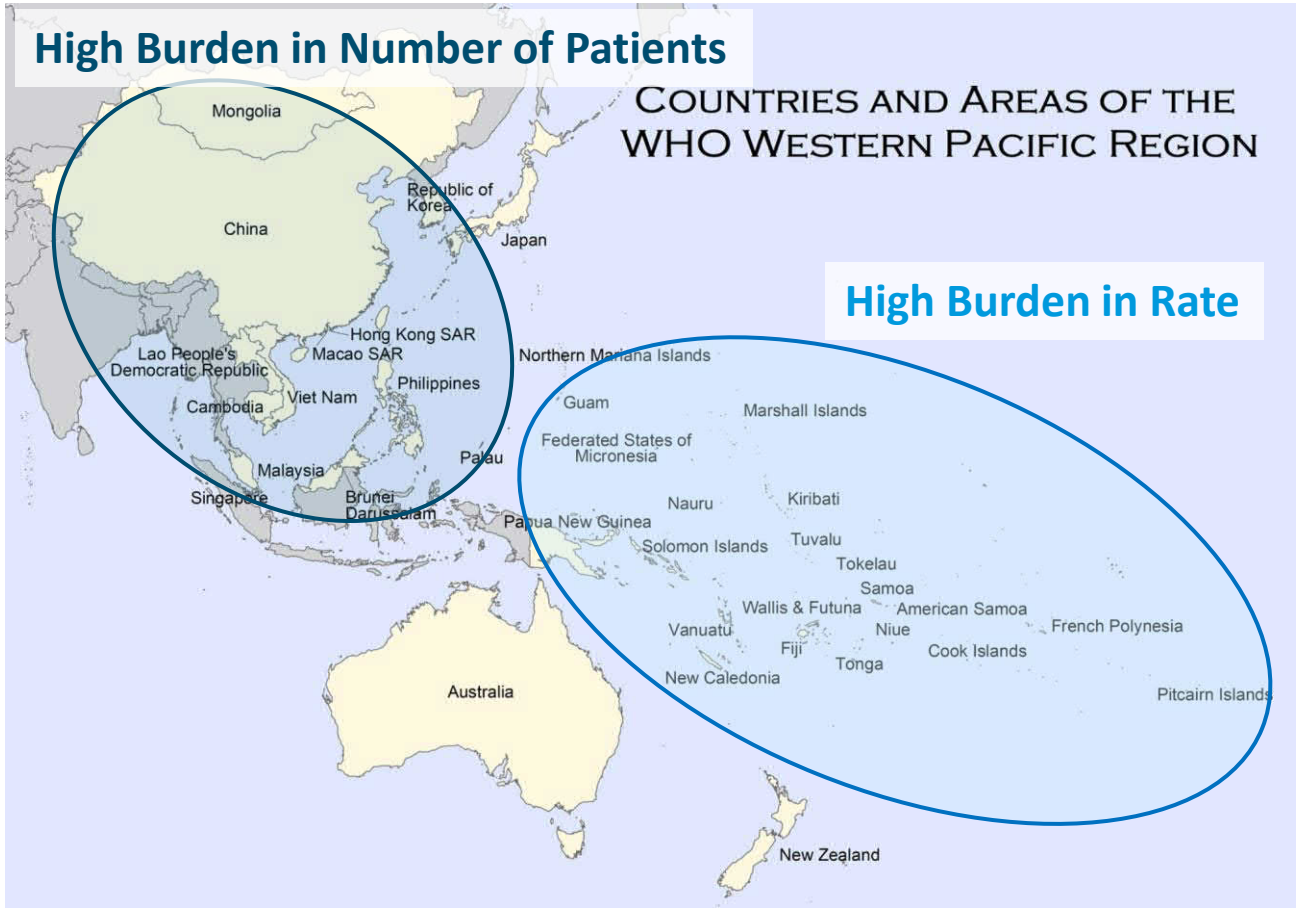
World Health Organization

WHO Western-Pacific Region

Prevalent Cases of **Chronic Hepatitis B**

Global: 254 millions



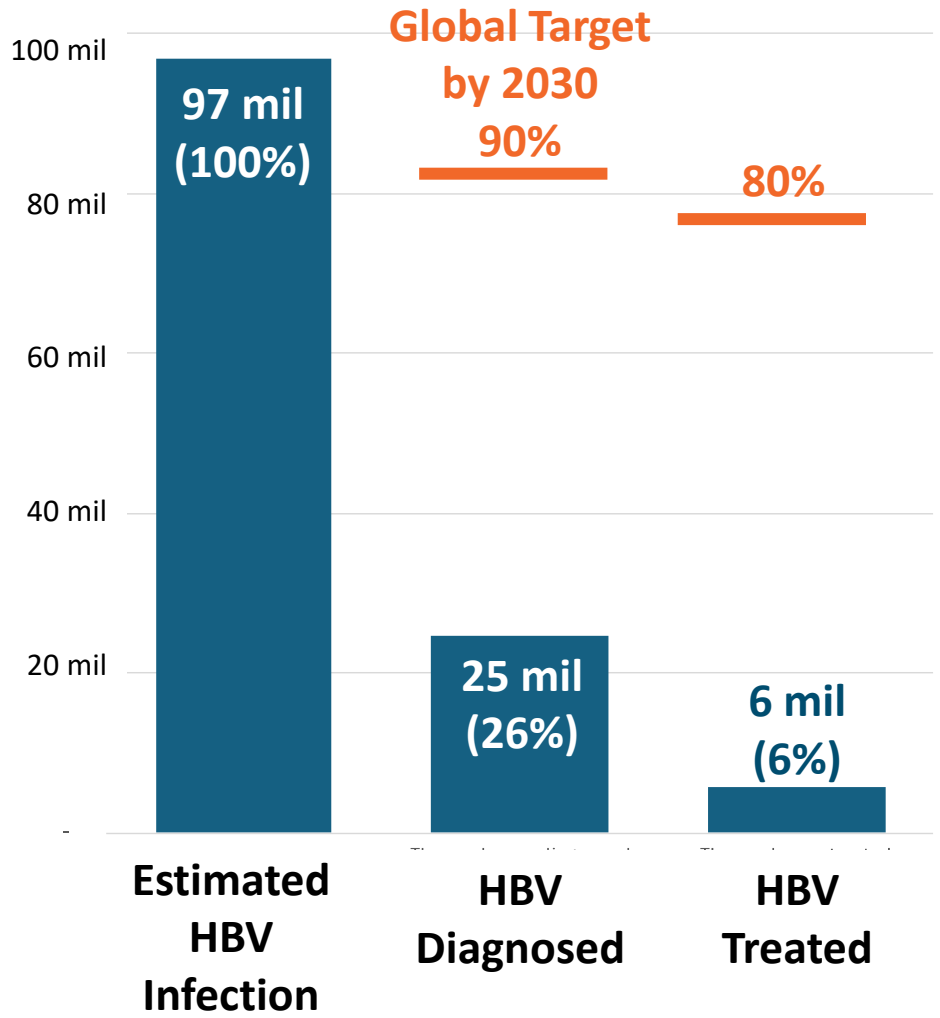


World Health Organization

WHO Western-Pacific Region

Challenges

huge gaps in service coverage



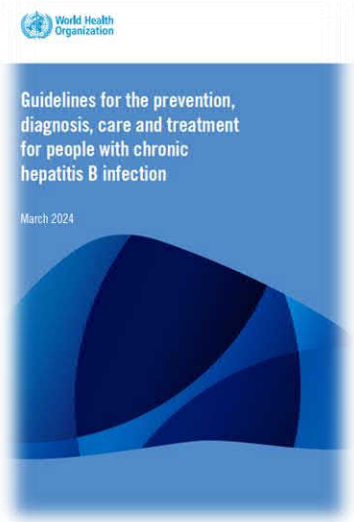
Regional Priorities:

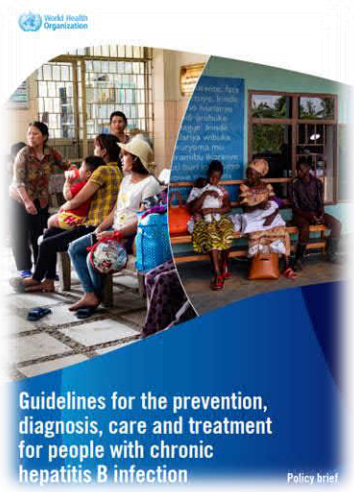
1. **Enhance prevention efforts** including vaccination, PMTCT, and blood safety
2. **Expand testing and treatment** to reduce morbidity and mortality
3. **Strengthen strategic information** to enhance advocacy, resource mobilization, and M&E

Guideline Updates

Adopted new recommendations: CHN, PHL

Updates underway: VNM, KHM, LAO, (PHL)





WHO Global Webinar: Technical Briefing on 2024 WHO Hepatitis B Guidelines on Diagnosis, Treatment, and Service Delivery

Spotlight from six WHO regions by WHO Hepatitis Regional Focal Points

Stela Bivol
WHO EURO

World Health Organization

WHO European Region

- 53 member states
- 17 time zones
- Approximately 900 million people

Hepatitis B WHO European Region 2024

10.6 million people are living with HBV

New infections: **18 000**

Deaths: **32 000**

Diagnosed: **16%**

Treated: **12%**

>80% of HBV chronic infections are attributed to **13** MS

(absolute numbers)

Uzbekistan
Türkiye
Russian Federation
Italy
Romania
Ukraine
United Kingdom
Kazakhstan
Kyrgyzstan
Spain
Azerbaijan
Poland
Tajikistan

WHO EURO Regional Priorities

VALIDATION OF CONTROL AND ELIMINATION

Support the application for hepatitis B control targets
50/53 MS have HBV in their universal childhood vaccination programs
9 MS validated for having achieved Hep B control targets

Support the application of MS for validation of elimination

Triple EMTCT Initiative

Showcase achievements in incidence and mortality targets

PROGRAMS SCALE UP

Political commitment, national programs with ambition to eliminate

Screening strategies, expand testing and treatment

Adopt and implement decentralised and simplified models of HBV care

Capacity building at non-specialized level

Support discussions on access to diagnosis and treatment

GUIDANCE AND DATA

Prepare regional estimates and assess challenges and gaps towards interim 2025 targets

Disseminate person-centred viral hepatitis strategic information guidance

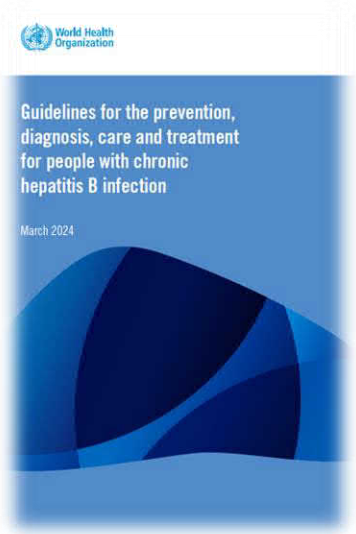
Translate and disseminate new hepatitis B recommendations

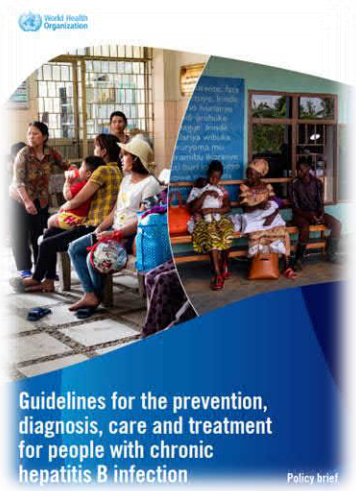
Support countries in uptake of HBV guidelines
Key countries expressing interest: Georgia Ukraine Uzbekistan Turkmenistan

World Health Organization
European Region

Collaborate and further integrate viral hepatitis in programmes and services

people living in prisons -- migrants and refugees -- microelimination
cancer prevention and awareness -- multidisease elimination
Interinstitutional approach





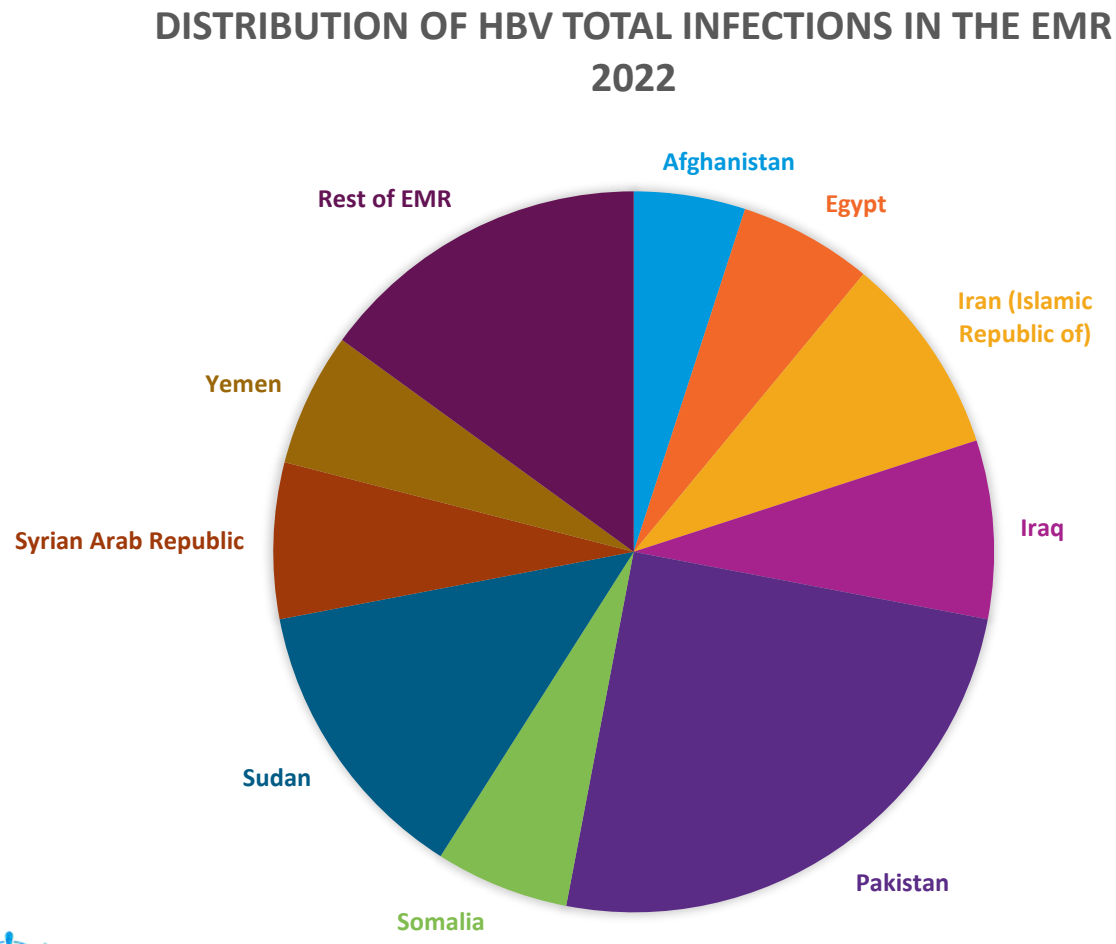
WHO Global Webinar: Technical Briefing on 2024 WHO Hepatitis B Guidelines on Diagnosis, Treatment, and Service Delivery

Spotlight from six WHO regions by WHO Hepatitis Regional Focal Points

Ahmed Sabry
WHO EMRO

World Health Organization

HBV burden in the Eastern Mediterranean Region 2022

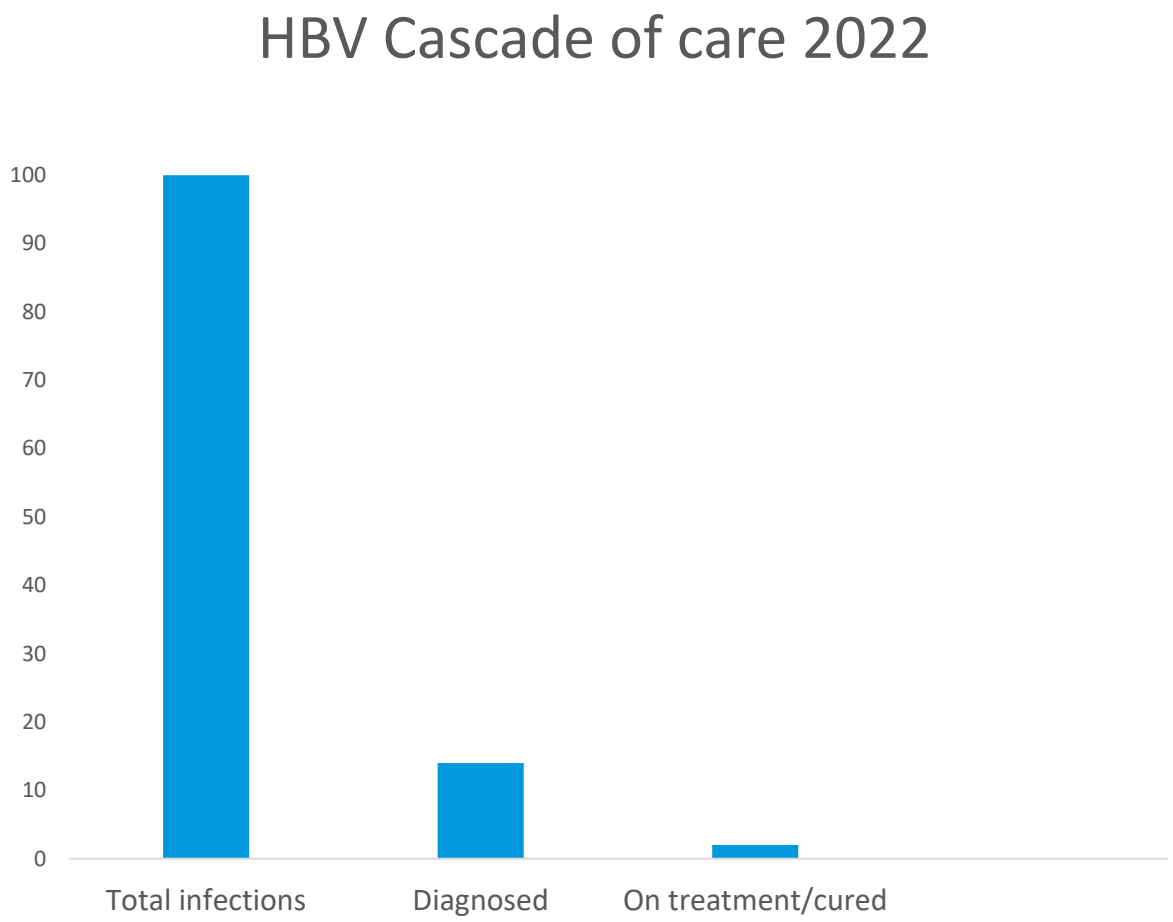


Number of HBV infections: 15 millions

Incidence (number of new HBV cases)	**86, 000**
Number of deaths attributed to HBV	**41,000**

World Health Organization

Response



Countries planning HBV guidelines update

- Afghanistan (already started)
- Morocco and Egypt (early discussions)
- Iran, Iraq, Pakistan, Syria, Somalia, Sudan and Yemen (already prioritised)

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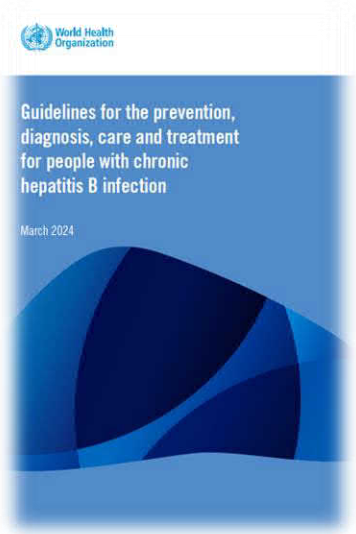

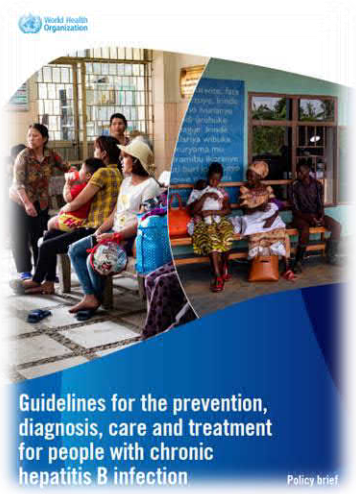

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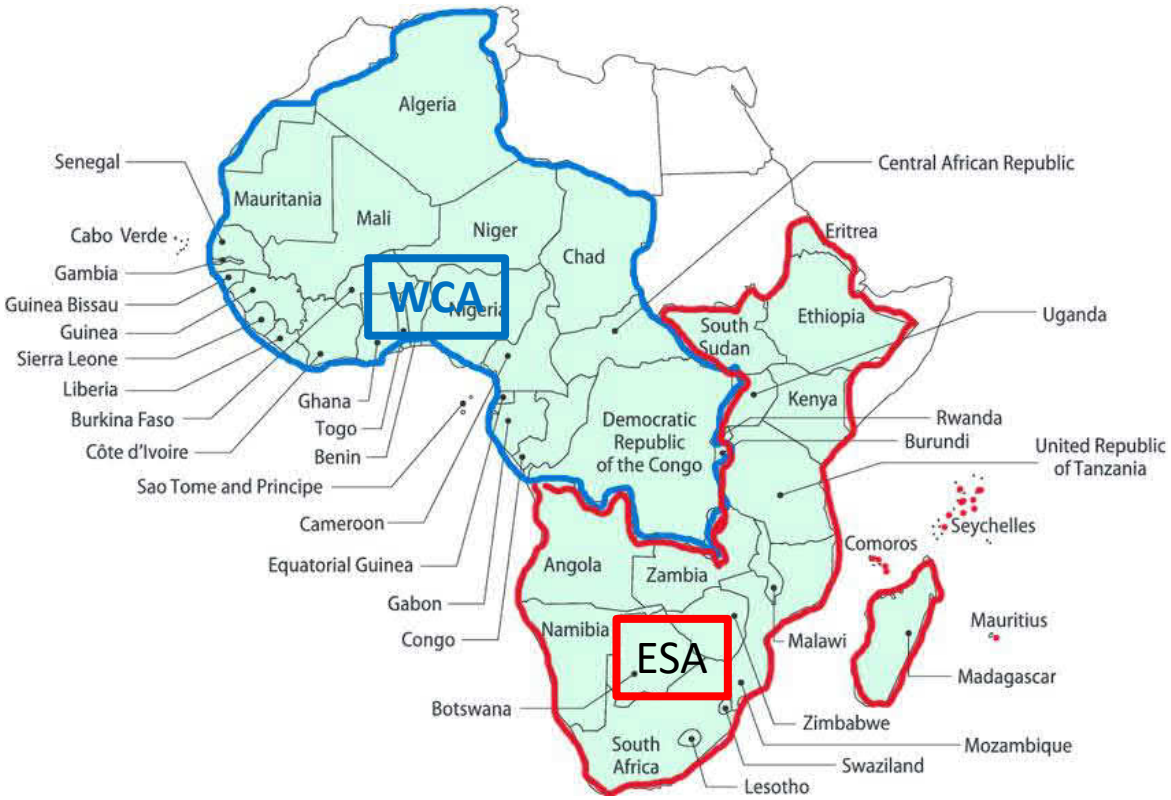
Billy Aristide
WHO AFRO

World Health Organization

WHO AFRICA REGION



- 47 member states regrouped in two sub regions
  - 26 countries in WCA
  - 21 countries in ESA
- Approximately 1 billion people

Hepatitis B WHO Africa Region 2024

65 million people are living with HBV

New infections per year: **771 000**

Deaths: **272 000**

Diagnosed: 4.2%

Treated among those diagnosed: 5.5%

Treated among all people with Hep B : 0.2%

World Health Organization
African Region

Regional landscape

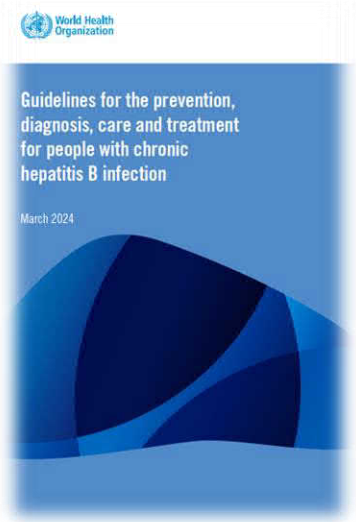
World Health Organization
African Region

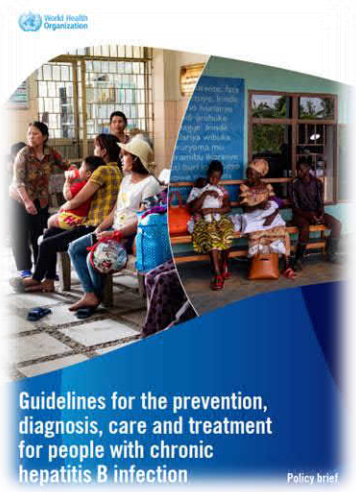
Achievements/Challenges

- **National treatment guidelines** have been **updated** in accordance with WHO recommendations
  - Guideline Update plan for Zambia-Kenya-Uganda-Botswana
  - Done for Malawi and Sierra Leone
- In process of the development of NSP for Viral Hepatitis: Côte d'Ivoire- Ghana-
- **Product availability** in primary health care is **limited**.
- **Lowest reported price** of the last public sector procurement of **TDF varies between US$ 2.20** in South Africa and **US$ 26.70** in the Democratic Republic of the Congo for a generic 30-tablet supply of TDF.
- African Region has the **lowest coverage of the hepatitis B birth-dose vaccination, at 18%.**
- **Availability of IVDs** in the African Region is relatively l**imited**.

Regional priorities:

- **Leveraging HIV, primary health care and maternal and child health care services**,
- **Expanding access to IVDs** as an entry point **to expand access to treatment and care**,
- **Addressing the variability in prices** paid for health products in the Region
- Continuing to **advocate for increased domestic funding**.
- Develop a Viral Hepatitis investment framework in the region





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Spotlight from six WHO regions by WHO Hepatitis Regional Focal Points

Leandro Sereno
PAHO

World Health Organization

Viral Hepatitis B in the Americas

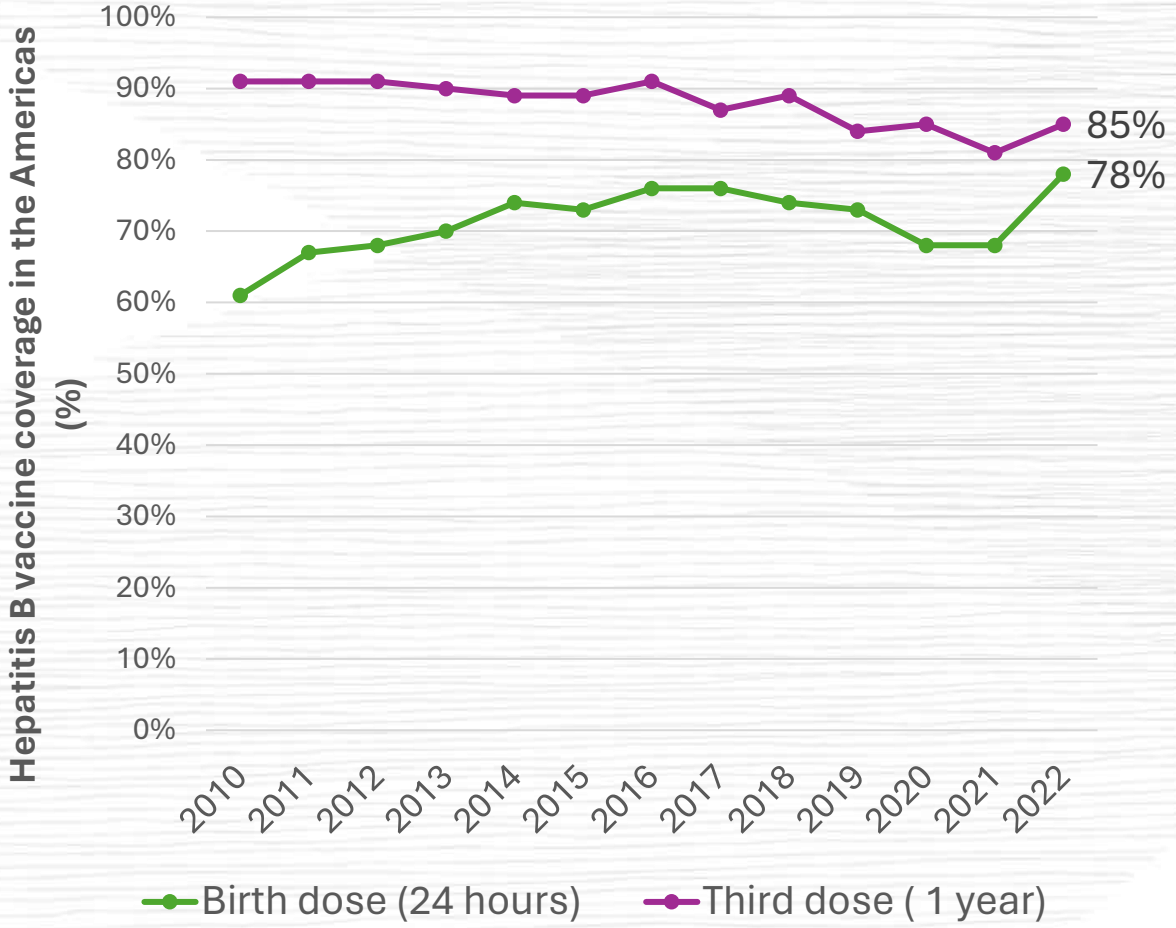
52 Countries and Territories – 1 billion population

Hepatitis B (2022)

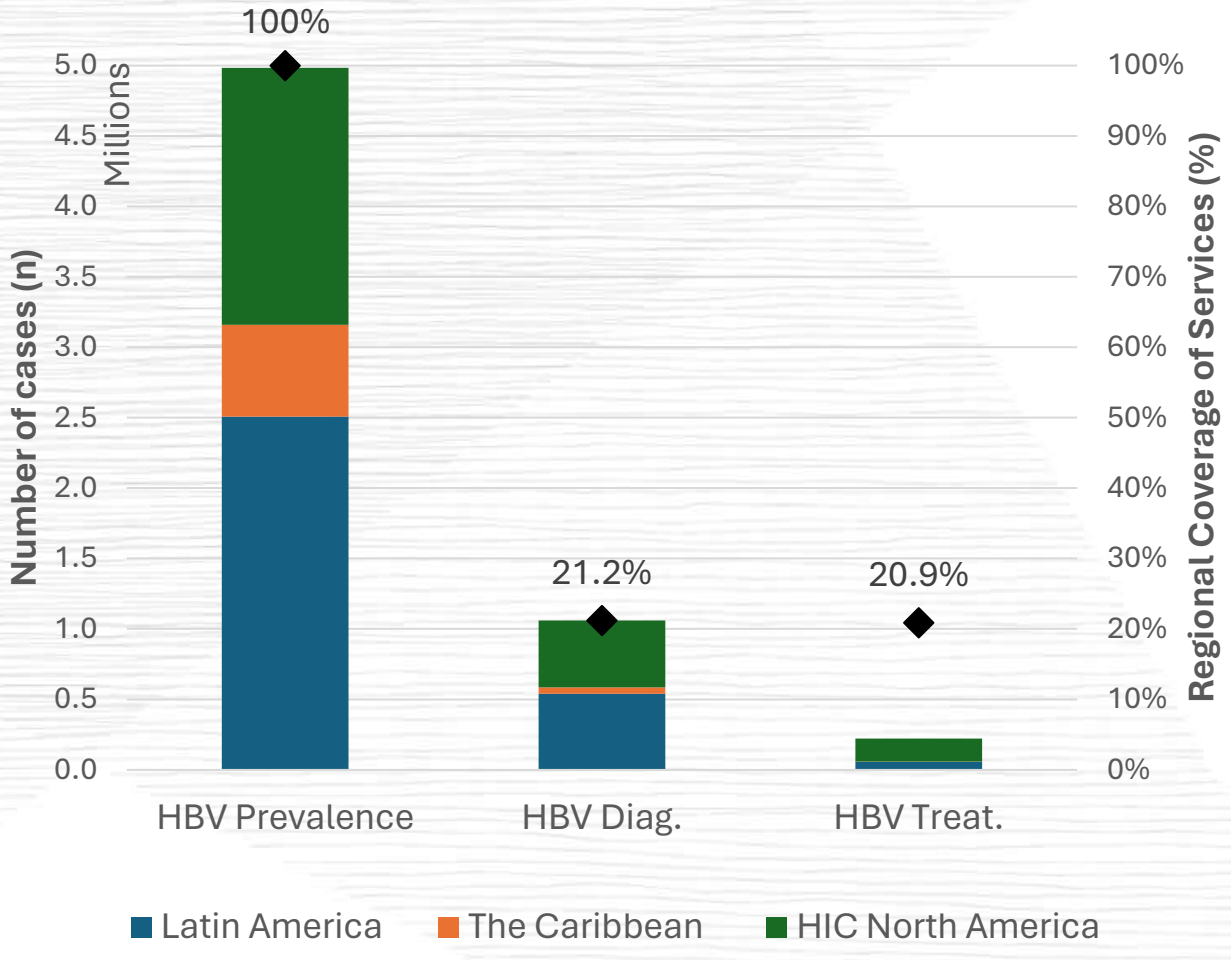
- **5.1 million (0.5%) people with chronic infection**
  - 2.5 million in Latin America
  - 650,000 in the Caribbean
- Prevalence in children aged 5 years: **0.07%**
- 8,000 new chronic infections
- 18,000-23,000 hepatitis B deaths

Viral Hepatitis B in the Americas

Vaccination Coverage



Cascade of Care



Key progresses and challenges

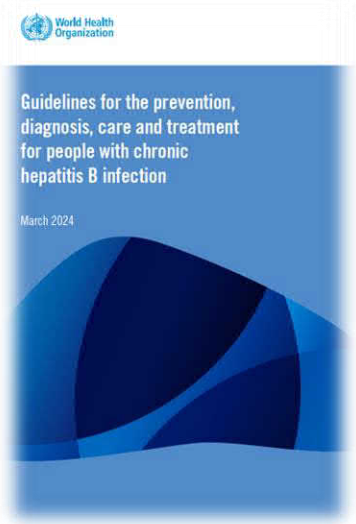
Region of the Americas

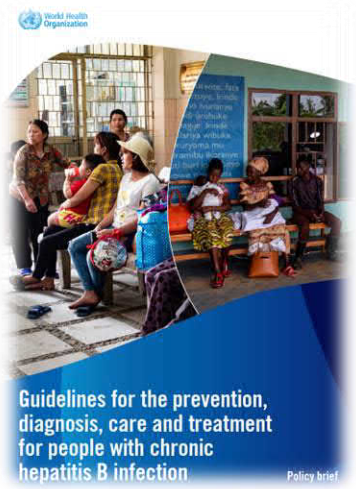
- **EMTCT**
  - **All countries and territories** have introduced **hepatitis B vaccination** into their routine immunization schedules for infants
  - **33** countries and territories have introduced **universal birth dose.**
  - **15 countries** have set goals to eliminate **mother-to-child transmission of hepatitis B**

- **National Guidelines: 17 Countries** with **HBV guidelines developed**
  - Countries in The Caribbean currently developing their guidelines
  - Key countries expressing interest in updating current guidelines: **Mexico, Colombia and Brazil**.

- **Service Delivery:**
  - Most countries (24) report **HBV DNA capacity but primarily centralized** in reference labs.
  - More countries adopting HBsAg POC **RDT** and **integration of testing in Primary Health Care.**
  - Treatment and care at reference hospitals.

- **Priorities and Challenges**
  - Greater **public awareness** on viral hepatitis B and C is needed (community and **civil society**)
  - Political **commitment** to scale up national responses (increased **financial resources** allocated)
  - Expanding **availability** of services: **screening strategies and service integration**
  - Further **expand vaccination** coverages (**HepBD**), and scale up screening and prophylaxis during **pregnancy**
  - Adress the costs of viral hepatitis diagnostics and treatments **(PAHO Strategic Fund)**





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Brief comments from countries on new guideline recommendations

- Wongani Mzumara (MOH, Malawi)
- Mário Peribanez Gonzalez (MOH, Brazil)
- Rose Armelle ADA (MOH, Cameroon)
- Janus Ong (The University of Philippines, Philippines)
- Jidong Jia (Capital Medical University, China)

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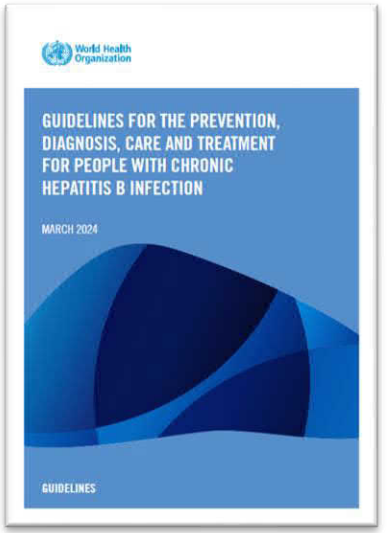

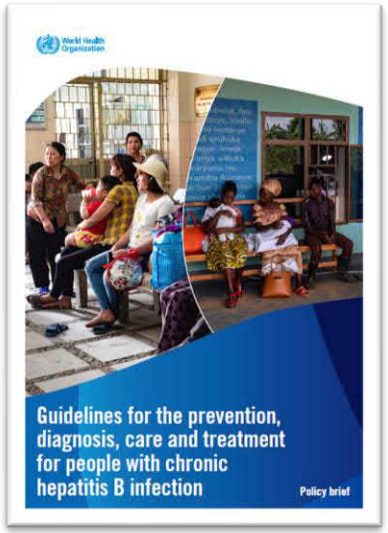

Thank you for your attention!

Please scan the QR code to download the full guidelines, policy brief, and related documents!

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