World Health Organization
Western Pacific Region

Accelerated Hepatitis B Control

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CONTENTS

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BACKGROUND

Accelerated Hepatitis B Control

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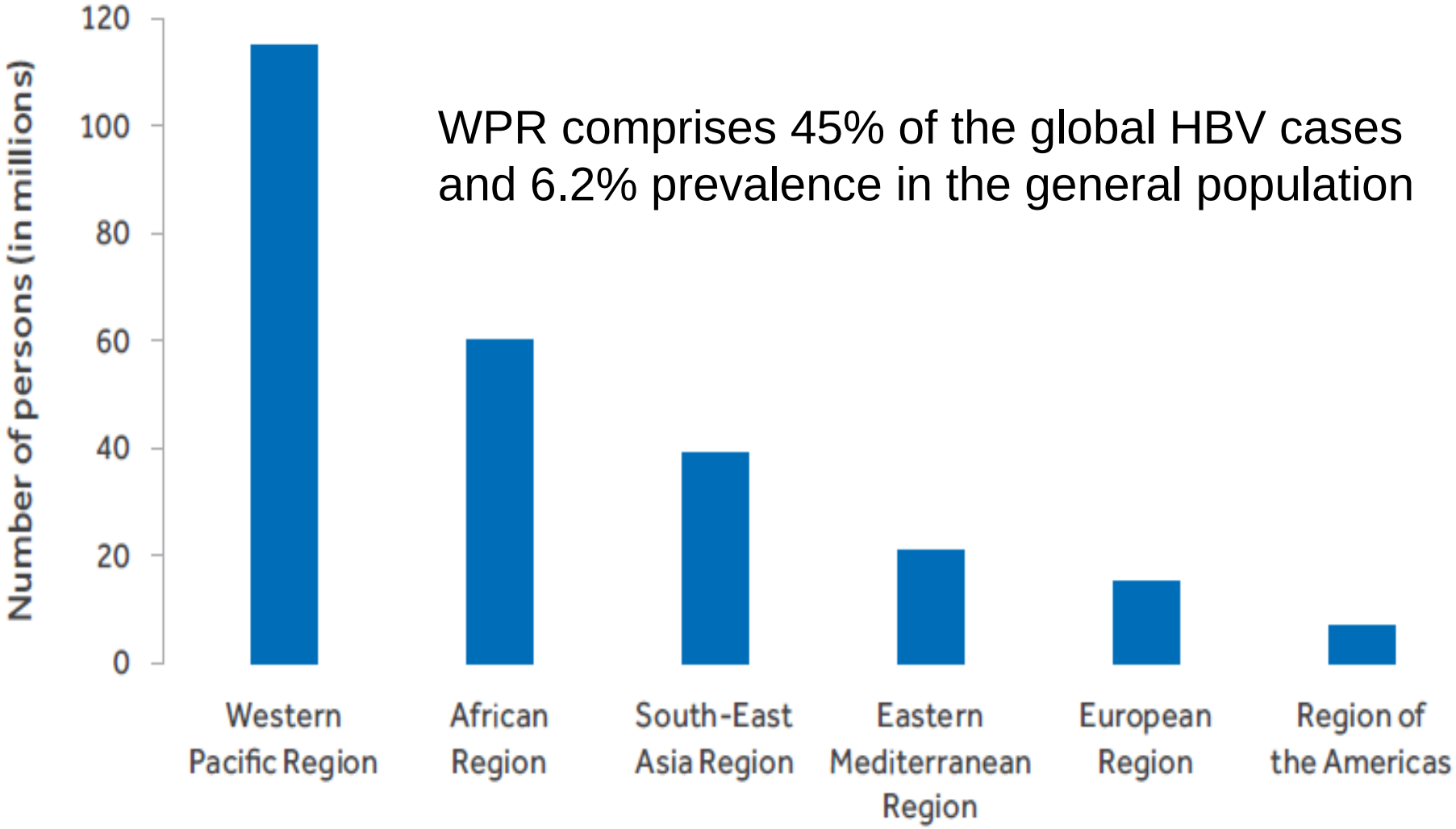
- In countries with intermediate (>2%) or high (>5%) hepatitis B virus (HBV) prevalence in the general population, vertical transmission is the major driver.
- Without receiving a timely birth dose followed by 2 or more hepatitis B vaccines, 90% of exposed infants will develop chronic HBV infection and have a 15%-25% lifetime risk of cirrhosis or hepatocellular carcinoma.
- Around 9% of mothers know their HBV status, warranting WHO's long-standing recommendation for universal birth dose.
- With over 8% estimated prevalence in 1990, the Western Pacific Region was first to establish a regional goal for hepatitis B prevention through vaccination.

Prevalence of HBV infection, by Region, 2015



Source: Global Hepatitis Report, 2017

BACKGROUND

Regional HepB Control Targets

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WHO Region	Prevalence target	Age group	By when?	Endorsement	Note
AFR	<2%	<5 yrs	2020	Regional committee (RC) Resolution	Specifies to be reached in all Member States
AMR*	≤ 0.1%	5 yrs	2020	RC Resolution	
EMR**	< 1%	<5 yrs	2015	RC Resolution	
EUR	≤ 0.5%	5-10 yrs	2020	RC Resolution	
SEAR**	≤ 1%	5 yrs	2020	Technical advisory group	
WPR**	<1%	≥5 yrs	2017	RC Resolution	Specifies ≥95% HepB3 and ≥95% BD coverage

* Same 2030 incidence target for Global Health Sector Strategy on Viral Hepatitis
** Same 2020 incidence target for Global Health Sector Strategy on Viral Hepatitis

REGIONAL CONTROL AND TARGETS

Regional Control Timeline

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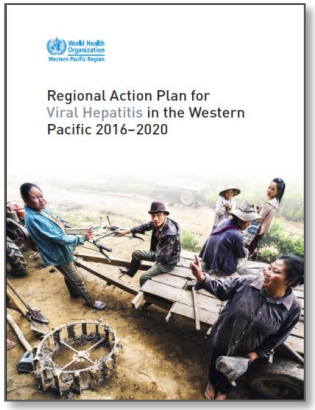

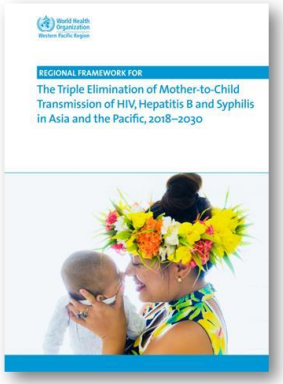

WPR/RC68.R2: Framework for Triple Elimination of Mother-to-child Transmission of HIV, Hepatitis B and Syphilis 2018-2030

WPR/RC66.R1: Endorse Regional Action Plan for Viral Hepatitis 2016-2020

WPR/RC64.R5: Reduce HBsAg prevalence to <1% by 2017

WPR/RC56.R8: Reduce HBsAg prevalence to <2% by 2012

WPR/RC54.R3: Hepatitis B set as an EPI pillar

30 of 36 countries reach <2% target

<1% regional target met; 24 countries and areas with <1% prevalence

2003 2005 2012 2013 2015 2016 2017

PROGRESS AND ACHIEVEMENTS 2014-2017

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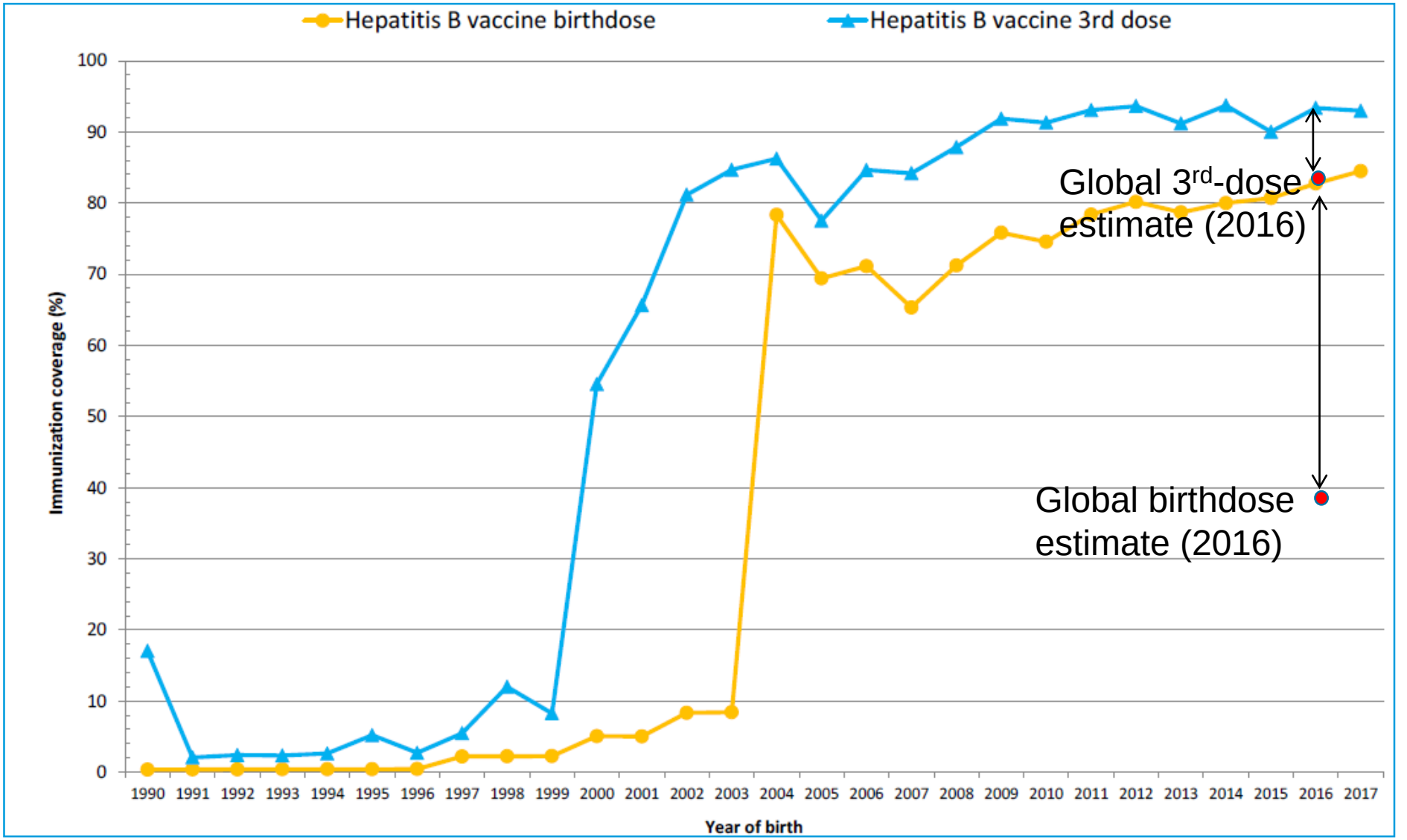
Hepatitis B Vaccine Coverage, 1990-2017



Source: WHO/UNICEF Joint Reporting Form (JRF) on Immunization. Regional coverage is based on weighted average among all countries, regardless of whether they reported coverage or not.

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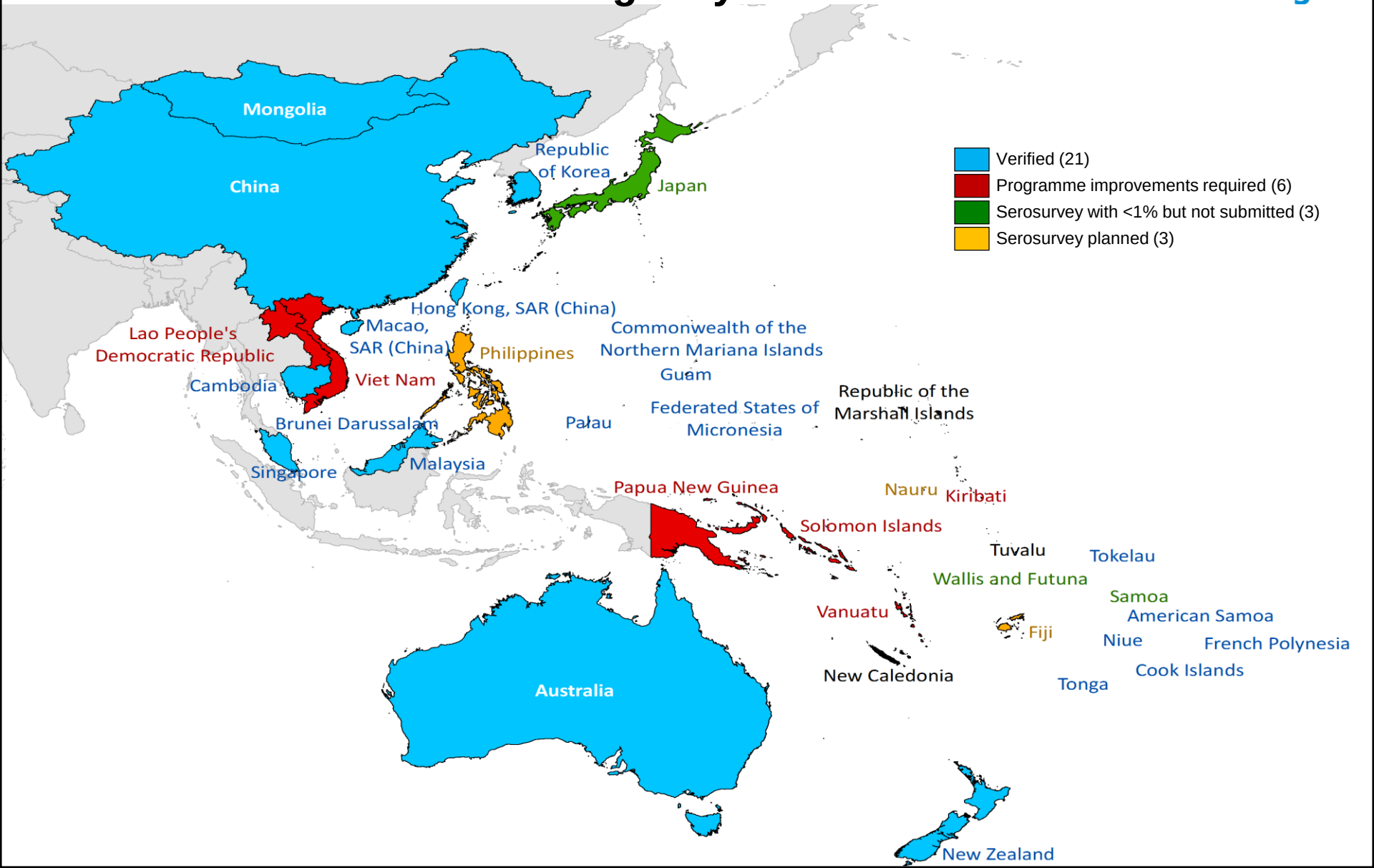
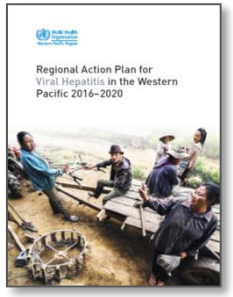
Verification Status of <1% Target by 2017



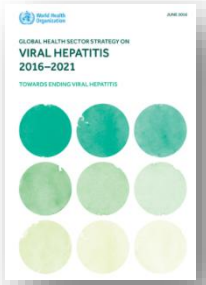
PROGRESS AND ACHIEVEMENTS 2014-2017



Regional Action Plan for Viral Hepatitis in the Western Pacific 2016-2020

2017 MILESTONES	2020 TARGETS
STOPPING TRANSMISSION	
– Immunization	
Achieve prevalence of HBsAg in 5-years-old of < 1%.* Region: 0.93% (*Vaccine* publication)	In countries that have achieved <1% in children under 5 years, further reduce mother-to-child transmission.
Achieve birth-dose hepatitis B vaccination coverage of at least 95%.* 85% (2017 JRF)	
Achieve three-dose hepatitis B vaccination coverage of at least 95%.* 93% (2017 JRF)	
National policy of vaccinating health-care workers against hepatitis B is established in > 80% of countries. ↓ 50% (2017 JRF)	National policy of vaccinating health-care workers, medical/health students against hepatitis B is established in all countries. Hepatitis B vaccinations are integrated into HIV, harm-reduction, and sexually transmitted infection (STI) services.

PROGRESS AND ACHIEVEMENTS 2014-2017



Global Health Sector Strategy on Viral Hepatitis, 2016-2021

Targets	Interventions	2020 targets (global) WPR 2017	2030 targets (global)
1. Service coverage	1. 3- dose hepatitis B vaccine	90% 93%	90%
	2. HBV PMTCT (HepB-BD)	50% 85%	90%
	3. Blood and injection safety	95 % screened donations	100 % screened donations
		50% RUP devices	90% RUP devices
	4. Harm reduction	200 injection sets / PWID	300 injection sets / PWID
	5. Treatment	30% diagnosed	90% diagnosed
		5M and 3M treated for HBV and HCV	80% eligible treated
2. Impact	A. Incidence	-30% → 0.93% (About 1% HBsAg in children)	-90% (0.1% HBsAg in children)
	B. Mortality	-10%	-65%

PMTCT: Prevention of mother to child transmission (universal birth dose or other approaches)
PWID: Person who injects drugs

PROGRESS AND ACHIEVEMENTS 2014-2017

Strategies for Improving Birth Dose Coverage

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- **Encouraging health facility deliveries** – 89% health facility rate throughout the Region
- **Conduct national birth dose assessments** to identify main barriers to BD vaccination (completed in CAM, LAO, PHL and VNM)
- **Conduct nationally representative serosurveys** to identify high-risk groups and determine if programme has met regional or global targets
- **Increase hepatitis B education during antenatal care**
  - KIR: Healthcare workers hep B education and VHV coordination
- **Increase links with communities and outreach vaccination**
  - LAO: Compared health facilities with high & low hep B prevalence
  - VNM: birth dose training projects + behavioral assessment
- **Outside the Cold Chain (OCC) for Birth Dose** where needed and with proper oversight and national approval
  - LAO, PNG and SLB

PROGRESS AND ACHIEVEMENTS 2014-2017

HepB Birth dose coverage Versus Institutional Deliveries, Western Pacific Region

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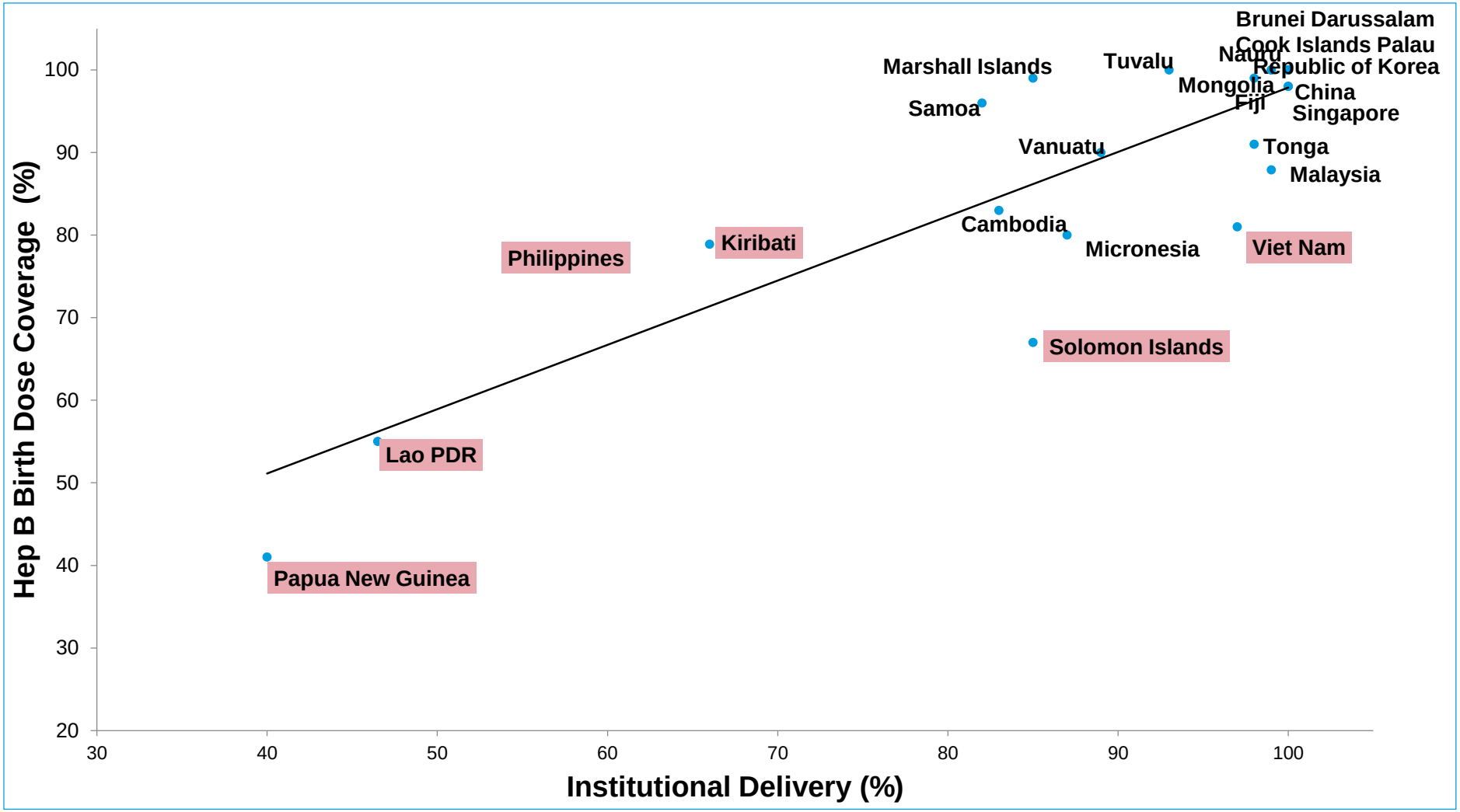

Institutional delivery data from UNICEF (updated February 2018)
Birth Dose Coverage from WHO Data, Statistics and Graphics. 4.1: Immunization coverage or administered doses, official country reported coverage estimates time series.

PROGRESS AND ACHIEVEMENTS 2014-2017

Strategies for Improving Birth Dose Coverage

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Western Pacific Region

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PROGRESS AND ACHIEVEMENTS 2014-2017

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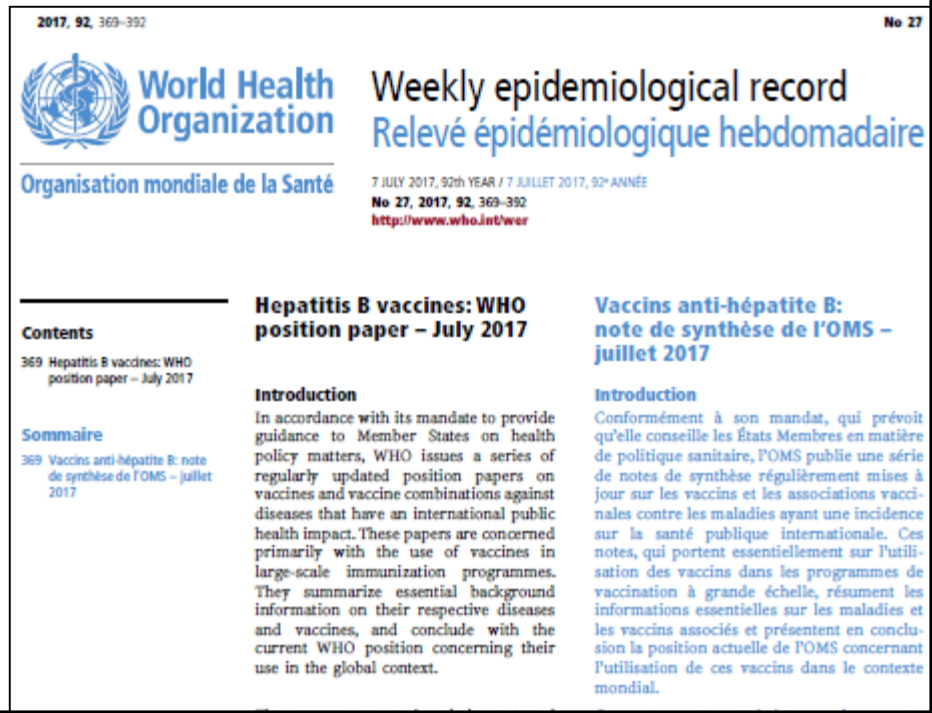
Global Outside of Cold Chain Guidelines

- 2016 SAGE meeting: WHO review of published and manufacturers' data suggests that hepatitis B vaccines are **relatively heat-stable**.
  - Package inserts for 2 **monovalent hepatitis B vaccines indicate that the vaccine is stable for one month at 37 °C**, and for one week at 45 °C.

- WHO 2017 Position Paper:
  - "**In settings where administration of a birth dose is restricted by access to cold storage, OCC storage of monovalent hepatitis B vaccine … could improve birth-dose coverage**."



2017, 92, 369–392 No 27

World Health Organization
Organisation mondiale de la Santé

Weekly epidemiological record
Relevé épidémiologique hebdomadaire

7 JULY 2017, 92th YEAR / 7 JUILLET 2017, 92e ANNÉE
No 27, 2017, 92, 369–392
http://www.who.int/wer

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Hepatitis B vaccines: WHO position paper – July 2017

Introduction

In accordance with its mandate to provide guidance to Member States on health policy matters, WHO issues a series of regularly updated position papers on vaccines and vaccine combinations against diseases that have an international public health impact. These papers are concerned primarily with the use of vaccines in large-scale immunization programmes. They summarize essential background information on their respective diseases and vaccines, and conclude with the current WHO position concerning their use in the global context.

Vaccins anti-hépatite B: note de synthèse de l'OMS – juillet 2017

Introduction

Conformément à son mandat, qui prévoit qu'elle conseille les États Membres en matière de politique sanitaire, l'OMS publie une série de notes de synthèse régulièrement mises à jour sur les vaccins et les associations vaccinales contre les maladies ayant une incidence sur la santé publique internationale. Ces notes, qui portent essentiellement sur l'utilisation des vaccins dans les programmes de vaccination à grande échelle, résument les informations essentielles sur les maladies et les vaccins associés et présentent en conclusion la position actuelle de l'OMS concernant l'utilisation de ces vaccins dans le contexte mondial.

PROGRESS AND ACHIEVEMENTS 2014-2017

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Regional Experience with OCC Pilots

- **China**: Timely birth dose (TBD) with Uniject increased from 7% to 77%.
- **Papua New Guinea**: Trained village health volunteers used Uniject. TBD increased from 18% to 83% in 1 district. Scale up hindered by Uniject importation cost.
- **Cambodia**: Uniject was used. Uniject administered by midwives was more cost effectiveness than 1-dose and 10-dose vials.

- **Viet Nam**: Compared nationally produced monovalent hep B vaccine used OCC and inside the cold chain which were immunogenitically equivalent.
- **Lao PDR**: Euvax-B used OCC shows 27% median increase in TBD compared to 0% median increase in comparison districts.
- **Solomon Islands**: TBD increased among facility births from 30% to 68% and among home births from 4% to 24%.

Uniject NOT used

Solomon Island OCC Scale Up

- Institutional delivery rate: 85% (2016 JRF)
- Approximately 35% (@120) of health facilities have no cold chain capacity
- 2016 HepB-BD OCC pilot in Guadalcanal, Makira and Western Provinces
  - Timely Birth Dose (given within 24 hours) increased among health facility births from 30% to 68% and among home births from 4% to 24%.*
- OCC scale up plan (June-July 2018)
  - Ensure timely and reliable vaccine supply to clinics w/o cold chain.
  - **Interim** measure while Gavi supports cold chain to all clinics by 2020.

*** Breakwell L, Anga J, Dadari I, Sadr-Azodi N, Ogaoga D, Patel M. Evaluation of storing hepatitis B vaccine outside the cold chain in the Solomon Islands: Identifying opportunities and barriers to Implementation. Vaccine 35 (2017) 2770–2774.**

CONTRIBUTIONS TO OTHER AREAS

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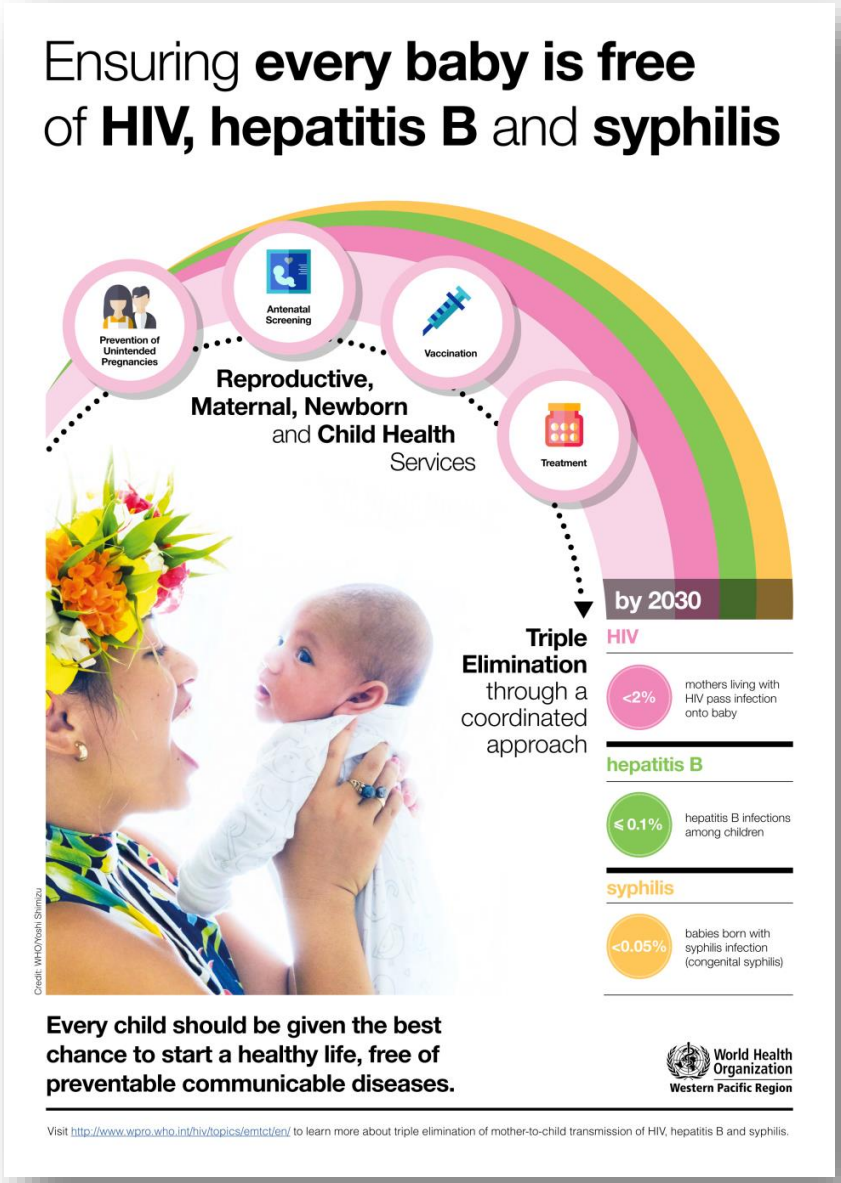

Regional Framework for Triple Elimination of Mother-to-Child Transmission of HIV, Hepatitis B and Syphilis in Asia and the Pacific, 2018-2030

Issues and Challenges 2018-2020

- 2017 target of <1% seroprevalence among 5 year olds was regional met.
  - **Divergence** among 24 countries and areas with <1% serosurveys, but **at least 5 countries** with serosurveys not meeting the 2013 target of <2%.
- Obtain RCM endorsement of proposed post 2017 targets
  - **All countries reduce HBsAg prevalence to <1%** among children at least 5 years of age **by 2025**.
  - Countries that have reduced HBsAg prevalence to <1% among children at least 5 years of age should **further reduce HBsAg seroprevalence to <0.5% by 2025**.
- **Improve birth dose and HepB3 coverage** by increasing health facility births; national birth dose assessments; addressing vaccine hesitancy; improving cold chain capacity and OCC work in countries with poor cold chain or a high proportion of home deliveries.
- Further work towards **elimination of hepatitis B** as a public health threat
  - Implement the Triple EMTCT Framework
  - Incremental cost effectiveness for countries with high and sustained vaccine programmes

Issues and Challenges

Reasons for Low HepB-BD coverage

- BD not included in country immunization schedule
  - Most (35 of 37) WPR countries and areas offer universal birth dose
  - Why not include? Cost/logistic, lack of evidence of perinatal transmission, difficulty reaching high coverage
- Low coverage among health facilities
  - Lack of mandate to handle vaccines
  - Referrals to EPI clinic with limited vaccination hours on weekends and nights
- Low coverage among home births
  - Logistics, reliance upon family to bring child to a health facility
  - Home outreach may not be funded or encouraged

ISSUES AND CHALLENGES 2018-2020

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Issues to Address

- Accelerate support to countries in determining which strategies to achieve birth dose coverage goals and its universal administration to newborns in every country or area.
- Advocate Member States to adopt the proposed 2018-2025 regional targets that
  - **All** countries reduce HBsAg prevalence to <1% in 5-year-old children by 2025.
  - Countries that have reduced HBsAg prevalence to <1% in 5-year-old children further reduce HBsAg seroprevalence to <0.5% by 2025.
- Assist Member States to gain experience with new survey and cost effectiveness methodologies to document and further EMTCT of HBV efforts.
- Support Member States in developing and implementing national strategies for EMTCT of HepB.
- Strengthen partnership with other programmes at both regional and national levels to support efforts for implementation of the *Framework for Triple Elimination of Mother-to-child Transmission of HIV, HBV and Syphilis*.

CONTRIBUTIONS TO OTHER AREAS

Global Modelling of HepB Elimination

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	Infant vaccination coverage	Birth-dose vaccination coverage	Coverage of peripartum antivirals for HBeAg-positive mothers*	Access to treatment†	Cure expected
No historical intervention	None	None	None	None	No
Status quo	Continues at current levels‡	Continues at current levels‡	No coverage	Continues at current levels (categorised by region)§	No
Infant vaccination	90%¶||	Continues at current levels‡	No coverage	Continues at current levels (categorised by region)§	No
Infant vaccination + birth-dose vaccination	90%¶||	80%¶||	No coverage	Continues at current levels (categorised by region)§	No
Infant vaccination + birth-dose vaccination + PPT	90%¶||	80%¶||	80%**	Continues at current levels (categorised by region)§	No
Infant vaccination + birth-dose vaccination + PPT + treatment	90%¶||	80%¶||	80%**	80%†† (linear scale-up 2015–25)	No
Infant vaccination + birth-dose vaccination + PPT + treatment + cure	90%¶||	80%¶||	80%**	80%†† (linear scale-up 2015–25)	2025

Assumptions used to represent the efficacy of each intervention are outlined in the appendix (p 5). HBeAg=hepatitis B e antigen. PPT=peripartum antiviral therapy (given to HBeAg-positive mothers). *Peripartum antivirals are given to HBeAg-positive mothers only. Hepatitis B immunoglobulin not implicitly modelled because data were not available, but continues at current levels. †Includes case finding and treatment. ‡WHO data[11] on vaccination coverage up to 2013. §Global Policy report[12] on viral hepatitis and expert opinion. ¶If the regional coverage is already above the target level, it remains at current high level. || Linear scale-up 2015–20. **Linear scale-up 2015–25. ††80% incorporates a strategy of 90% case finding, 95% linked to care, 95% durable viral suppression.

Table: **Intervention strategies modelled, coverage levels, and scale-up times**

S Nayagam, Thursz M, Sicuri E, Conteh L, Wiktor S, Low-Beer D, Hallett TB. Requirements for global elimination of hepatitis B: a modelling study. Lancet Infect Dis. 2016 Dec;16(12):1399-1408.

Thank you!