EXPERT CONSULTATION ON
VIRAL HEPATITIS ELIMINATION IN THE
WESTERN PACIFIC REGION

1-3 December 2020
Virtual meeting
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MEETING REPORT

EXPERT CONSULTATION ON VIRAL HEPATITIS ELIMINATION IN THE WESTERN PACIFIC REGION

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NOTE

The views expressed in this report are those of the participants of the Expert Consultation on Viral Hepatitis Elimination in the Western Pacific Region and do not necessarily reflect the policies of the conveners.
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SUMMARY

The WHO Western Pacific Region bears the highest burden of viral hepatitis with an estimated 115 million people chronically infected with hepatitis B and 14 million with hepatitis C, accounting for 40% of the global burden. The Region has made progress through implementation of the Western Pacific Regional Plan to Improve Hepatitis B Control through Immunization, the Regional Action Plan for Viral Hepatitis in the Western Pacific 2016–2020 and the Regional Framework for Triple Elimination of Mother-to-Child Transmission of HIV, Hepatitis B and Syphilis in Asia and the Pacific, 2018–2030, but accelerated efforts are needed to achieve elimination of viral hepatitis as a public health threat by 2030.

Conclusions

The Expert Consultation on Viral Hepatitis Elimination in the Western Pacific Region, held virtually from 1 to 3 December 2020:

1. Recognized that viral hepatitis continues to represent an enormous burden for the Region, and that liver cancer is the sixth most frequent cause of death in the Region, mostly attributable to chronic hepatitis B or C infection.
2. Acknowledged the significant progress that has been made in the Region in hepatitis B control through childhood immunization in the last 20 years; and congratulated 21 countries that have been verified for having achieved the 2017 regional target of less than 1% hepatitis B surface antigen (HBsAg) prevalence among children 5 years of age, 20 countries that have developed comprehensive national action plans towards hepatitis elimination as a public health threat by 2030, and countries that have started providing hepatitis testing and treatment under the principles of universal health coverage (UHC).
3. Acknowledged that the 2018 Hepatitis B Expert Review Panel (ERP) and Viral Hepatitis Strategic and Technical Advisory Committee (STAC) recommendations were properly carried out by many countries in the Region.
4. Noted that in October 2020 the Regional Committee endorsed the Regional Strategic Framework for Vaccine-preventable Diseases and Immunization in the Western Pacific (2021–2030), which includes regional goals, targets and strategic directions for control of hepatitis A and elimination of hepatitis B.
5. Agreed that coordinated efforts for an integrated and people-centred life-course approach are needed to reach unreached populations for the prevention, testing, treatment and care of viral hepatitis to achieve the ambitious regional and global elimination targets and goals for viral hepatitis, particularly hepatitis B and C, for 2030.

Prevention

Hepatitis A

Sero-epidemiology of hepatitis A in the Western Pacific Region has shown a shift from high to low prevalence in most countries, and vulnerable populations are shifting from children to adults. These shifts, coupled with persisting pockets of high endemicity in some countries and increased population mobility, represent a high risk for recurrent outbreaks of hepatitis A. Only five countries in the Western Pacific Region include hepatitis A vaccine in their national immunization schedules. Public health interventions, such as laboratory surveillance, outbreak detection and response, and vaccination are required to properly control hepatitis A in the Region.
**Hepatitis B (vaccination and triple elimination)**

The burden of chronic hepatitis B infection in the Western Pacific remains the highest among all WHO regions, and hepatitis B is a major cause of morbidity and mortality in the Region. Regional hepatitis B third-dose coverage of 94% in 2019 exceeds the global target of 90% but has not yet met the regional target of at least 95%. Regional hepatitis B timely birth dose coverage of 84% in 2019 has not yet met either the global target of at least 90% or the regional target of at least 95%. Vaccine hesitancy continues to impact the gains of timely and full immunization with hepatitis B vaccines in the Region. As of 2020, 21 out of 36 countries and areas in the Western Pacific have achieved the regional target of less than 1% HBsAg prevalence among children 5 years of age. The coronavirus disease 2019 (COVID-19) pandemic has affected performance of national health-care systems, including implementation of hepatitis B vaccination.

Countries and areas in the Western Pacific Region need a tiered approach to screening at least 95% of pregnant women for chronic hepatitis B infection, administering hepatitis B immunoglobulin (HBIG) to infants born to HBsAg-positive mothers, and offering eligible pregnant women prophylaxis or treatment with antiviral drugs, in addition to achieving at least 95% hepatitis B timely birth dose coverage and at least 95% third-dose vaccination coverage, to achieve elimination of mother-to-child transmission (EMTCT) of hepatitis B and to reach the global hepatitis B elimination goal of 0.1% or less HBsAg prevalence among children 5 years of age by 2030. Antenatal screening using point-of-care diagnostics and antiviral prophylaxis for eligible hepatitis B-infected pregnant women, in addition to infant hepatitis B vaccination, are needed to further reduce and eliminate mother-to-child transmission of hepatitis B by 2030. Antenatal screening is an important entry point into testing, treatment and care for pregnant women with chronic hepatitis B and their families. Triple EMTCT of HIV, hepatitis B and syphilis offers opportunities to integrate service delivery, laboratory and data systems. More countries have established national coordination mechanisms for triple EMTCT and developed coordinated plans and have started implementing interventions for EMTCT of hepatitis B including antenatal screening, maternal antiviral prophylaxis and follow-up of exposed infants. User fees, geographical barriers, and stigma and discrimination, coupled with structural factors and punitive laws against risk behaviours, are important barriers to accessing EMTCT and other services, particularly for vulnerable and marginalized groups.

**Testing and treatment**

Several countries in the Region have started rolling out testing and treatment services for viral hepatitis through domestic financing and health insurance coverage of treatment. These efforts need to be accelerated to achieve the 2030 targets of 90% coverage of diagnosis and 80% coverage of treatment. Decentralized models of testing and treatment services, including task-shifting, public–private partnerships, and collaboration with noncommunicable diseases and other programmes, can deliver cost-efficiencies and have shown promise for increasing the reach of services. Substantial price reductions for antiviral drugs to cure hepatitis C and treat hepatitis B mean there is potential to significantly scale up treatment to reduce mortality. However, not all countries or facilities are able to access drugs and diagnostics at optimized prices. Business cases are needed for financing hepatitis interventions in the short and medium term, articulating the value and returns on investment in the context of COVID-19.

**Surveillance**

More countries have a better understanding of the burden of hepatitis B and hepatitis C in the population. Many challenges remain to systematically collect data in countries to monitor hepatitis service implementation and uptake, including services for the prevention of mother-to-child-transmission of
hepatitis B. Surveillance of hepatocellular carcinoma and cirrhosis is still weak, and many countries do not collect etiological information to estimate the attribution of cirrhosis and hepatocellular carcinoma morbidity and mortality to hepatitis B and hepatitis C.

**Recommendations for WHO**

WHO is requested to consider the following:

1. Establish a regional mechanism to ensure interventions needed for the acceleration and achievement of control and elimination of viral hepatitis are more effectively coordinated and integrated in an overall viral hepatitis elimination effort in the Region, through linking and integrating relevant health programmes, such as immunization, maternal and child health, HIV/sexually transmitted infections, noncommunicable diseases and cancer control, in the overall health system, with the principle of UHC as the foundation.

2. Support countries of the Region in aligning their national viral hepatitis elimination efforts with the targets and goals of the recently adopted *Regional Strategic Framework for Vaccine-preventable Diseases and Immunization in the Western Pacific (2021–2030)*, as well as the *Regional Action Plan for Viral Hepatitis in the Western Pacific 2016–2020* and the *Regional Framework for the Triple Elimination of Mother-to-Child Transmission of HIV, Hepatitis B and Syphilis in Asia and the Pacific, 2018–2030*, and other WHO frameworks and action plans.

**Prevention**

**Hepatitis A**

1. Conduct epidemiologic analysis of the current status and recent trends of viral hepatitis A in the Region to support the formulation of national goals, targets and strategies for preventing morbidity and mortality due to hepatitis A in countries where hepatitis A is a public health problem.

2. Support countries in initiating and/or strengthening country-specific public health interventions such as surveillance, laboratory diagnostics, outbreak detection and response to address the burden and risk of viral hepatitis A.

3. Introduce hepatitis A vaccine into routine immunization programmes in countries for which hepatitis A is a major public health concern in alignment with the Regional Strategic Framework.

**Hepatitis B (vaccination and triple elimination)**

1. Support countries in integrating hepatitis B virus prevention services including screening pregnant women for chronic hepatitis B infection, offering eligible hepatitis B-infected pregnant women treatment or prophylaxis with antiviral drugs, administering HBIG to infants born to HBsAg-positive mothers, and administering a timely birth dose and at least three total doses of hepatitis B vaccination into the continuum of reproductive, maternal, newborn and child health care to reach the 2030 global hepatitis B elimination goal.

2. Further support countries in achieving and maintaining the global and regional hepatitis B vaccination coverage targets through: promoting health facility births, preventing vaccine stock-outs, increasing links with communities and implementing outreach vaccination, scaling up the use of hepatitis B birth dose vaccine out of cold chain, and including vaccination of health-care workers in the national immunization calendar.
(3) Support countries in identifying the reasons for hepatitis B vaccine hesitancy in the local context, establishing mechanisms to monitor vaccine acceptance and demand, as well as implementing tailored strategies and activities to address barriers to vaccination.

(4) Support the remaining 15 countries and areas in preparing for verification for the 2017 regional target of less than 1% HBsAg prevalence among children 5 years of age.

(5) Support countries in recovering the performance of national immunization programmes affected by the COVID-19 pandemic.

(6) Support countries to integrate interventions for triple EMTCT into maternal and child health systems by simplifying maternal and child health-based delivery models and capacity-building for service provision including at the primary health care level, with mechanisms to support timely, appropriate and seamless referral to higher levels of care.

(7) Support countries to leverage EMTCT as an entry point to promote better health of entire families, and support countries to implement a family-based approach by providing routine triple antenatal screening and extending services to partners and other family members.

(8) Empower and involve communities (such as mothers and women living with chronic hepatitis B) in all stages of planning and implementation of services and provide timely information and health education.

Testing and treatment
(1) Support high-level advocacy in countries for greater political commitment and increase public awareness of viral hepatitis, including interventions for prevention, testing and treatment of viral hepatitis and prevention of stigma and discrimination.

(2) Support countries to scale up testing and treatment, through policy development and multiple entry points following a life-course approach, such as antenatal screening, workplace health, noncommunicable disease and cancer screening, and advocacy for procurement of drugs and commodities at the lowest prices possible.

(3) Support countries to establish service delivery networks that include the primary health care level through simplified models, capacity-building, task-shifting and referral mechanisms, in coordination with other health programmes and services.

(4) Support countries to protect their health workforce from chronic viral hepatitis and liver cancer through vaccination, testing and treatment and non-discriminatory policies on education and employment.

Surveillance
(1) Provide high-level advocacy and support to countries to improve data collection, including from the private sector, patient monitoring, aggregation of notifiable diseases reporting systems and links to insurance systems for all viral hepatitis cases.

(2) Support countries to link health facility data to enable aggregation at the national level to monitor and improve the quality of hepatitis services, including EMTCT.

(3) Support countries to improve civil registration and vital statistics to include reporting of etiological factors of viral hepatitis-related mortality.

(4) Develop simplified templates and operational guidance for reporting for countries to adapt.
1. INTRODUCTION

1.1 Meeting organization

Much progress has been made in the prevention of hepatitis A and B through vaccination, and increasingly countries have comprehensive national prevention, treatment and care action plans towards hepatitis B and C elimination as a public health threat by 2030. Affordability of hepatitis care has improved with reduction of treatment prices and inclusion under health insurance and government financing in some countries. Challenges remain, however, in implementing and accelerating national action towards elimination. Furthermore, operationalizing a systems approach with universal health coverage (UHC) as the foundation for health sector transformation to overcome dichotomies between healthy and sick, shifting from single episode to accompanying care and from treating single conditions to multiple conditions from a patient perspective is central to this vision. The Expert Consultation on Viral Hepatitis Elimination in the Western Pacific Region, held virtually from 1 to 3 December 2020, builds on For the Future Towards the Healthiest and Safest Region (RC70/INF/1) and brought together experts in prevention, testing and treatment of viral hepatitis and health systems to determine sustainable strategies and opportunities to leverage synergies and transform prevention and service delivery towards achieving viral hepatitis elimination in the next decade.

1.2 Meeting objectives

The objectives of the consultation were:

1) to identify, develop consensus on and recommend the strategic and programmatic shifts and cross-efficiencies to overcome barriers to achieving elimination of viral hepatitis;

2) to identify technical assistance needs for WHO’s support to Member States in implementing strategic and programmatic shifts required to operationalize a systems approach with UHC as a foundation; and

3) to develop recommendations on the evolving strategic advisory needs and mechanisms to support the Region.

2. PROCEEDINGS

2.1 Session 1: Opening and introduction

Dr Yoshihiro Takashima, Coordinator, Vaccine-Preventable Diseases and Immunization unit, and Dr Naoko Ishikawa, Coordinator, HIV, Hepatitis and Sexually Transmitted Infections unit, welcomed participants to the consultation.

Dr Huong Tran, Director, Division of Programmes for Disease Control, also welcomed participants and delivered the opening remarks. The Western Pacific Region has the highest burden of viral hepatitis among all WHO regions with 130 million people infected with chronic hepatitis B and C. Liver cancer is the top sixth cause of death in this Region, mostly attributable to chronic infection of hepatitis B and C. The immunization programme has made significant progress on hepatitis B vaccination and initiation of comprehensive national response on viral hepatitis in several countries. More efforts are needed to eliminate viral hepatitis as a public health threat through the life-course approach, and the goal of achieving UHC requires more coordination and integration of the hepatitis response within
existing systems. She ended her remarks by wishing participants productive discussions during the consultation.

2.2 Session 2: Overview of viral hepatitis in Western Pacific Region: progress and achievements

2.2.1. Work and contribution of the Hepatitis B Expert Review Panel/Vaccine-Preventable Diseases and Immunization unit

Dr Yoshihiro Takashima presented the evolution and progress in Hepatitis B control and elimination in the Western Pacific Region as part of overall region-wide efforts to control vaccine-preventable diseases. An evolutionary chart illustrated the progress of vaccine-preventable infections in the Region in the past 50 years and highlighted the dramatic improvement of immunization programmes, including those in developing countries. Of note, the Region has achieved polio-free status since 1997. Nearing the end of the Decade of Vaccines, the Region is steadily making progress towards achieving global and regional immunization goals set forth in the \textit{Regional Framework for Implementation of the Global Vaccine Action Plan (GVAP) in the Western Pacific 2014–2020}. Achieved and on track are six out of eight regional immunization goals. Since 1988, regional laboratory networks were established for poliomyelitis (polio), measles and rubella, Japanese encephalitis and rotavirus. Currently, there are four regional advisory bodies for vaccine-preventable diseases and immunization. In 1991, the regional Technical Advisory Group was established to serve as an independent body of experts on polio eradication and immunization. This was followed by the establishment of the Regional Commission for the Certification of Poliomyelitis Eradication in 1996, the Expert Resource Panel (ERP) on Hepatitis B in 2011 and the Regional Commission for Verification of Measles and Rubella Elimination in 2012.

Since 2003, with the adoption of the Western Pacific Regional Action Plan for Hepatitis B Control through Immunisation, the Region has made significant progress, including: (i) decline in overall hepatitis B surface antigen (HBsAg) prevalence in the general population; (ii) in 2017, 15 of 36 countries/areas achieved >95% coverage with timely hepatitis B birth dose, and 18 countries and areas >95% coverage with the third dose of hepatitis B-containing vaccine; and (iii) in 2019, 21 of 36 countries and areas were verified as having achieved the regional target of <1% HBsAg seroprevalence among children under 5 year of age.

Along with these significant achievements several challenges still exist and are anticipated in the Region, including: (i) several outbreaks due to circulating vaccine-derived poliovirus; (ii) resurgence of measles; (iii) outbreaks of diphtheria with high mortality; (iv) the coronavirus disease 2019 (COVID-19) pandemic heavily impacting performance of routine immunization programmes; (v) demographic changes: growing population, urbanization, population movement, immigration; and (vi) increasing vaccine hesitancy. Preparing for the next decade, WHO in the Region closely consulted with Member States and other stakeholders to develop the \textit{Regional Strategic Framework for Vaccine-preventable Diseases and Immunization in the Western Pacific (2021–2030)}, which was adopted by the Regional Committee in October 2020. The Strategic Framework takes into consideration the opportunities for innovations in addressing present and future challenges posed by the more diverse needs of immunization programmes in each country and area in the Region.

2.2.2 Work and contribution of the Viral Hepatitis Strategic and Technical Advisory Committee/HIV, Hepatitis and STI unit

Dr Naoko Ishikawa presented an overview of viral hepatitis, progress and achievements in the Western Pacific Region, and Dr Rosmawati Mohamed, Viral Hepatitis Strategic and Technical Advisory Committee (STAC) member, presented recommendations from previous consultations and the global consultation.
There are 325 million people living with viral hepatitis globally, of whom 40% live in the Western Pacific Region. Prevalence of hepatitis B and C is highly variable between and among countries, with substantial numbers of chronic hepatitis cases in some countries. Most Pacific island countries have very high hepatitis B virus (HBV) prevalence including high hepatitis D virus (HDV) co-infections in some. About 60% of the world’s new liver cancer cases and deaths in 2018 were in the Region. Six of the top 10 countries with the highest incidence of liver cancer are Member States of the Western Pacific Region.

The Global Health Sector Strategy on Viral Hepatitis 2016–2021, the Regional Action Plan for Viral Hepatitis in the Western Pacific 2016–2020 and the Regional Framework on Triple Elimination of Mother-to-Child Transmission of HIV, Hepatitis B and Syphilis 2018-2030 set targets for achieving elimination of viral hepatitis as a public health threat by 2030 by reducing the incidence of viral hepatitis by 90% (equivalent to HBsAg prevalence among children of less than 0.1%) and the mortality by 65% from the 2015 baseline. WHO has produced a number of guidelines and tools to support countries, where the most recent guidelines are on the use of antivirals for pregnant women infected with HBV as well as operational guidance for elimination of mother-to-child transmission (EMTCT) of HBV.

The For the Future vision¹ to make Western Pacific the healthiest and safest region includes four thematic priorities, where elimination of viral hepatitis is included under the priority “reaching the unreacherd” with close linkages to other priorities including noncommunicable diseases (NCDs) and ageing. It also calls for operational shifts such as a systems approach and UHC as the foundation. In order to address and eliminate viral hepatitis by 2030, a people-centred life-course approach is needed in line with the principles of UHC and primary health care and in the context of the new normal of the global COVID-19 pandemic.

The STAC was established in 2015 to advise the Regional Director for the Western Pacific on matters pertaining to hepatitis elimination. Currently, there are 10 members representing a range of disciplines. A summary of the regional STAC recommendations from the previous meeting in 2018 was shared,² as were the recommendations from the global STAC meeting on HIV, hepatitis and STI held in October 2020 in Geneva, Switzerland.

Significant achievements have been made in the areas of the hepatitis B vaccination programme, blood safety and safe injections in the Region. Leadership and governance of the national viral hepatitis response have progressed, with 20 countries having developed national plans in 2020, up from only four countries in 2014. Most of the priority countries have established national coordination mechanisms for triple elimination and developed coordinated plans. It was also noted that more countries are implementing interventions for EMTCT of HBV including antenatal screening, antiviral prophylaxis and follow-up of exposed infants.

However, gaps remain in harm reduction services for people who inject drugs. Since 2014, there has been a marked reduction of prices of hepatitis medicines and many more countries are including hepatitis care and treatment under domestic funding and health insurance. Despite the progress, overall access to testing and treatment services is limited, with 14.3% of treatment-eligible HBV patients and 8.2% of diagnosed HCV patients having received treatment. COVID-19 significantly impacted national hepatitis responses including redeployment of health and other staff, temporary shutdown of services and reduced utilization of health facilities for fear of exposure to COVID-19. At the same time, it accelerated people’s interest in health literacy and innovations in service delivery as well as ensuring

¹ For the future: towards the healthiest and safest Region: a vision for the WHO work with Member States and partners in the Western Pacific. https://iris.wpro.who.int/handle/10665.1/14476.
services are decentralized nearer to people’s homes. More coordinated and comprehensive efforts across programmes and services are needed to eliminate viral hepatitis as a public health threat by 2030.

2.3 Session 3: Prevention: vaccination

2.3.1 Hepatitis A

Dr Nina Gloriani, WHO consultant, presented a review of the hepatitis A epidemiology in the Western Pacific region. A recent systematic review of the changing epidemiology of Hepatitis A in the Asia Pacific countries from 1980 to 2016 showed decreasing exposure to the hepatitis A virus and lower immunity among children, subsequently creating conditions where, proportionally, older populations become more susceptible to hepatitis A virus (HAV) infection.\(^3\)

The development and introduction of the hepatitis A vaccine in 1992, largely administered to children, also paradoxically contributed to the shift in endemicity, with the age of acquiring / exposure to HAV shifting towards adolescents and adults. This presents a paradox in hepatitis control wherein higher living standards and sanitation with availability of very effective vaccines for hepatitis A prevention have resulted in conditions for occurrence of outbreaks of hepatitis A in several countries. The Western and Asia Pacific regions have shown shifting patterns in HAV antibody positivity since 2000. Notably, Singapore, the Republic of Korea, Hong Kong SAR (China), Taiwan (China), the Philippines, Malaysia, and Viet Nam have shown shifts from high endemicity, to moderate endemicity, and some to very low endemicity.\(^4\) These changes in epidemiological patterns are occurring within the context of continued rapid economic development in the next 10–20 years. As well, hepatitis A vaccination has been included in the national immunization programmes in China, the Republic of Korea, Mongolia and Australia. While other countries did not include it in their vaccination schedules, most countries have vaccine available for those who desire to get vaccinated through out-of-pocket expense or government funding for high-risk groups.

Whereas the overall seroprevalence may be declining in these countries, infection rates in certain less developed subnational areas in such countries allow HAV circulation. This situation creates opportunities for exposure due to higher mobility of the population or the migration of individuals from rural or less developed areas to the more developed ones. Such is the situation not only within countries, but across countries in Asia and the Pacific where travel has increased for business or trade and better opportunities for economic growth. It is a paradoxical scenario that many hepatitis A outbreaks are occurring in many of these countries.

With the dynamic trend of hepatitis A epidemiology occurring in the Western Pacific Region, a multifaceted approach is necessary to solve new challenges for its control and elimination. There is a need for careful assessment of the socioeconomic, environmental, behavioural and other risk factors that contribute to the re-emergence of outbreaks despite better living conditions. It is imperative to assess current public health programmes and country capacities for surveillance, laboratory diagnosis, appropriate therapies and immunization programmes.

While some countries in the Region have good surveillance data, most have very limited published information. Hence, one of the first steps to continue elimination efforts is having updated data on the status of hepatitis A control in the different countries. Sero-epidemiologic studies, in particular, may reveal similar shifting trends exist in other parts of the Region. Moreover, published documents on hepatitis A outbreaks will provide insights on transmission dynamics and the characteristics of


vulnerable groups in the population. These epidemiologic analyses will help countries formulate goals, targets and strategies to prevent morbidity and mortality due to hepatitis A. Consequently, the capacity of countries for surveillance needs to be strengthened. This would include availability of technology for diagnosing disease and assessing seroprevalence. Molecular epidemiology and genotyping will also help in the analysis of outbreaks as they provide insight on transmission dynamics and guide the identification of viral reservoirs in the environment.

Hepatitis A vaccination has also proven to greatly decrease the disease burden in many countries like China. In countries where hepatitis A remains a burden, inclusion of hepatitis A in national immunization programmes may help prevent outbreaks and decrease incidence. With the shift in epidemiology, however, vaccination may also be targeted to new vulnerable groups such as older people who are at higher risk of acquiring severe disease.

Finally, more collaborations and sharing of best practices can propel hepatitis A elimination much faster. After all, increased mobility in current times would always make neighbouring countries at risk as long as endemic areas persist. International health organizations may help countries in creating national strategies to prevent morbidity and mortality, to create surveillance systems, to mobilize immunization programmes and to implement public health measures.

2.3.2 Hepatitis B

Dr Robert Alison, United States Centers for Disease Control and Prevention, presented a review of the epidemiology of hepatitis B and recent regional progress in elimination. The burden of hepatitis B remains significant: 257 million people worldwide live with chronic HBV infection, approximately 25% of people infected with chronic HBV during infancy die prematurely from cirrhosis or liver cancer, and 115 million (45%) with chronic HBV infection reside in the Western Pacific Region. Development of chronic HBV infection is inversely related to age; if no preventive action is taken, it occurs in up to 90% of those infected perinatally with approximately 30% infected during early childhood and 6% infected after age 5. After three doses of hepatitis B vaccine, more than 95% of infants develop immunity.

The Regional Action Plan for Viral Hepatitis in the Western Pacific 2016–2020 set the regional 2017 milestones: achieve at least 95% birth dose and third dose HBV vaccination coverage. In 2019, the Region had 84% birth dose coverage, which greatly surpassed the 2020 goal of 50% birth dose coverage. As well, the Region had 94% third dose coverage, surpassing the 2020 global goal for viral hepatitis of 90%.

During the last ERP meeting in 2018, members endorsed the following interim targets:

1. All countries and areas in the Region should reduce HBsAg prevalence among 5-year-olds to less than 1% by 2025.

2. Countries and areas that reduced prevalence to less than 1% should further reduce HBsAg prevalence to less than 0.3% among 5-year-olds by 2025.

The Western Pacific Region has been a global leader in prioritizing hepatitis B control for nearly two decades. In 2005, the Region set the goal of reducing the prevalence of hepatitis B infection to less than 2% in 5-year-old children by 2012. By 2012, 30 out of 36 countries and areas met this 2% goal. In 2013, the Regional Committee set 2017 as the year to achieve less than 1% regional prevalence. To date, 21 countries in the Region have been verified as having achieved less than 1 % HBsAg prevalence among 5-year-olds; five countries have serosurvey evidence of having achieved less than 1% but have not yet been verified, and nine countries continue to have over 1% prevalence. The Region as a whole has met the less than 1% seroprevalence target.
To meet the global 0.1% prevalence target by 2030, countries must:

- integrate HBV prevention services into the reproductive, maternal, newborn and child health continuum of care;
- advocate for increased health facility births;
- scale up use of hepatitis B birth dose out-of-cold chain approach (advocate for prequalification);
- prevent stock-outs of commodities and vaccines;
- increase education of healthcare workers and during antenatal care for pregnant women;
- increase links with communities and outreach vaccination; and
- continue to prepare for and respond to COVID-19-related impacts.

2.4 Session 4: Prevention: Elimination of mother-to-child transmission of HBV

With the objective to discuss the role of EMTCT in the overall viral hepatitis response, share progress of EMTCT in the region since the 2018 ERP/STAC meeting and address current questions on implementation of global recommendations related to EMTCT, Dr Anne Brink, Medical Officer, HIV, Hepatitis and STI unit, presented on triple EMTCT of HIV, syphilis and hepatitis B.

Mother-to-child transmission of HIV, hepatitis B and syphilis has potentially devastating consequences for infants who become infected, causing lifelong disease or death in a substantial proportion of cases. Mother-to-child transmission is preventable, through testing of mothers attending antenatal care, linkage to care and treatment for pregnant women found to be infected and prophylaxis given to exposed infants. Antenatal testing also provides an entry point for partners and other family members to receive testing and linkage to care, if needed. Integration of EMTCT interventions on the common maternal, neonatal and child health platform and provided at the primary health care level can address access to services under the principles of UHC.

EMTCT-related goals and targets are articulated in numerous WHO strategies and action plans, notably the Global Health Sector Strategies on HIV, viral hepatitis and sexually transmitted infections for 2016-2021 and in the global guidance for validation for EMTCT of HIV and syphilis. In 2020, global discussions examined how to integrate EMTCT of HBV into overall validation of elimination of viral hepatitis and of EMTCT of HIV and syphilis, in alignment with the global multi-disease elimination framework currently in development. This framework will guide countries to develop integrated disease elimination strategies covering multiple priority diseases, identify programme synergies and seek efficiency gains.


The 2019 WHO consolidated guidelines on HIV testing approaches state that “all pregnant women should be tested for HIV, syphilis and HBsAg at least once and as early as possible”. The 2020 Prevention of Mother-to-Child Transmission of Hepatitis B Virus: Guidelines on Antiviral Prophylaxis in Pregnancy recommend that pregnant women testing positive for HBV infection with an HBV DNA viral load above 200 000 IU/ml, should be given tenofovir prophylaxis from 28 weeks gestation until at least birth. Tenofovir prophylaxis is given in addition to HBV vaccination of infants, including the timely hepatitis B birth dose, to lower the HBV viral load around the time of delivery and reduce the risk of mother-to-child transmission of HBV in high-risk pregnancies. In settings in which HBV DNA
testing is not available, hepatitis B e-antigen or HBeAg testing can be used as an alternative to determine eligibility for tenofovir prophylaxis. WHO issued *Operationalizing Elimination of Mother-to-Child Transmission of Hepatitis B Virus in the Western Pacific Region*, which gives practical guidance on implementing EMTCT interventions for pregnant women and their infants, as well as programmatic considerations and validation of EMTCT of HBV.

Significant progress has been made in the Western Pacific against the 2020 milestones identified in the Regional Framework for Triple Elimination, with all priority countries having developed or planning to develop coordination mechanisms, plans and guidelines that include EMTCT of hepatitis B. Coordinated data systems, which link data collected across maternal and child health, disease programmes and the Expanded Programme on Immunization to allow for EMTCT programme monitoring, are less well developed.

Data reported through the United Nations Children’s Fund (UNICEF) show that in 2019, 13 out of 23 reporting countries achieved the antenatal coverage target of at least 95%, with a further seven countries achieving rates above 80%, and 17 out of 27 reporting countries achieved the at least 95% skilled birth attendance target, with all but two countries reaching at least 80% coverage. Data on antenatal testing and treatment coverage for EMTCT are very limited, with only a handful of countries reporting data on HIV and syphilis testing and treatment coverage to the Global AIDS Monitoring system and no data reported on EMTCT of HBV. Immunization has been and remains the foundation for prevention of mother-to-child transmission of hepatitis B. The Western Pacific Region has been a global leader in HBV control through immunization, with the 2017 prevalence target of less than 1% HBsAg among children aged 5 years reached ahead of time, 21 countries and areas verified for having achieved this target, and 84% and 94% regional coverage, respectively, of hepatitis B birth dose and third dose vaccination in 2019. At country level in 2019, 11 out of 25 countries with a policy on universal HBV vaccine birth dose achieved at least 95% coverage, with a further five countries having reached 80% and 14 out of 27 countries having achieved at least 95% coverage of hepatitis B third dose vaccination, with only three countries with coverage below 80%.

Twenty-two out of 28 reporting countries and areas have a policy for triple testing for HIV, hepatitis B and syphilis during antenatal care, 11 out of 28 countries and areas provide HBV antiviral prophylaxis to eligible HBV-infected pregnant women, and 9 out of 28 countries and areas conduct HBV-exposed infant follow-up including post-vaccination serological testing. Antenatal care, delivery and immunization services are free in most settings, but interventions related to the prevention of mother-to-child transmission incur user fees in many countries, particularly for antenatal testing for syphilis and hepatitis B, partner testing, treatment for syphilis and maternal prophylaxis for hepatitis B.

Dr Benjamin Cowie, Epidemiologist Physician, Victorian Infectious Diseases Reference Laboratory (VIDRL), moderated the panel discussion during which the panellists Dr Rosmawati Mohamed, Dr Samuel So, Dr Su Wang, Dr Fuqiang Cui and Dr Mari Nagai as well as other participants, considered the following questions:

1) How can access to integrated antenatal testing for HIV, hepatitis B and syphilis be ensured at the lowest level of care, and at the lowest cost possible?

2) What is needed to decentralize further evaluation of pregnant women with hepatitis B and provide tenofovir to those who are eligible?

3) How can follow-up of HBV-exposed infants, including post-vaccination serological testing, be operationalized?

4) What steps can be taken to ensure active community involvement in all stages of planning, design and implementation of EMTCT programmes?
5) How can EMTCT-related programme data best be collected and compiled for programme monitoring and evaluation?

**Service provision:** The need for simplification of care for HBV-infected pregnant women was noted to be critical. Test kits, testing protocols, non-invasive assessment of liver disease, management algorithms and standing orders should all be simplified as much as possible. Under the principles of UHC, the cost of services should not be a barrier to access. The persistence of user fees for antenatal testing for HIV, hepatitis B and syphilis and substantial costs associated with further testing (such as maternal viral load) and treatment (antiviral medicines) of affected pregnant women and their families limit the impact of these important preventive services.

**Health workforce:** Systems challenges include the importance of considering the perspective of midwives at primary care level who bear the additional workload of EMTCT and who may not see the link between EMTCT interventions, prevention of new hepatitis B infections and prevention of liver cancer. Most midwives are women, and some will themselves have chronic hepatitis B and may become pregnant. Options for incentivization include prioritization for HBV vaccination for HBsAg-negative health-care workers. The importance of educating health-care providers so they can give correct information to patients was noted, as well as the potential shown by digital platforms and the ECHO model to reach large numbers for training.³

**Family-based testing:** On antenatal testing, it was noted that maternal HBV screening as part of triple EMTCT opens a new avenue for a family-based approach to (one-time) HBV screening of family members, recognizing that if one family member is HBV-infected, there is a 50% risk of HBV infection of another household member as well as the potential to reduce stigma of the mother and increase benefits for males in the household at higher risk for severe liver disease. Counselling and education of pregnant women found to be HBV-infected needs to start antenatally and include information on all the intervention steps, including stronger messaging promoting the hepatitis B vaccine timely birth dose as the most effective means to prevent perinatal transmission and liver cancer as well as the need for and importance of post-vaccination serological testing of the infant to evaluate the outcome of interventions.

**EMTCT interventions:** The lack of multiplex, point-of-care rapid tests for HIV, hepatitis B and syphilis and of a WHO pre-qualified HBeAg rapid test was noted. The use of multiple single tests increases the workload of managing and procuring for antenatal care services and for delivery of testing services. WHO guidelines recommend the use of tenofovir for pregnant women with high HBV viral load. The cost of tenofovir has fallen significantly and availability has increased, but these lower costs are not always accessible to countries or facilities. Infant follow-up with post-vaccination serological testing poses significant operational challenges, including difficulties obtaining blood samples from infants and lack of clarity on who is responsible for this service. Using dried blood spots as a sample collection method would facilitate operations if this can be used for infant post-vaccination serological testing. The timing of infant follow-up should be linked, for example, to the routine measles immunization visit, with the opportunity to increase coverage of both interventions.

**Barriers to service access:** Important barriers to provision of equitable services to vulnerable and marginalized populations remain, including punitive laws related to hepatitis and to substance use and other behaviours. Pregnant women and families affected by hepatitis B, as well as other vulnerable populations including key populations, adolescents, migrants, rural communities and minority groups, continue to experience stigma and discrimination, as well as geographical and financial barriers to service access. In the Pacific island countries, where many people live in outer islands, there is a need to strengthen integrated primary care through capacity-building of dedicated primary health care staff.

³ ECHO: [https://hsc.unm.edu/echo/echo-impact/](https://hsc.unm.edu/echo/echo-impact/).
and interventions to improve community knowledge through education, advocacy and awareness. Careful attention must be paid to not, inadvertently, increase stigma towards pregnant women with hepatitis infection and their families. Testing as a routine component of antenatal care was highlighted as an avenue to normalize testing and reduce stigma, educating women and their partners and increasing the visibility of EMTCT as a women’s issue and an issue of women’s rights, and involving women and women’s groups in all stages of planning, implementation, monitoring and evaluation of EMTCT programmes.

**Data collection:** Countries generally do not have systems to collect or compile EMTCT data systematically from the different programmes and services, in part due to a lack of resources and personnel. Communication between different health facility locations and information transfer are difficult. Health cards for mothers and infant should contain relevant EMTCT-related information. Electronic medical records can help. Follow-up of exposed infants, including post-vaccination serological testing, needed to identify infants with chronic hepatitis B and for programme monitoring requires coordinated or interlinked data systems that link mother–infant pairs and compile data on EMTCT service uptake.

The session concluded with consensus that scale-up of antenatal screening using point-of-care diagnostics and antiviral prophylaxis for eligible HBV-infected pregnant women, in addition to infant HBV vaccination are needed to further reduce and eliminate mother-to-child transmission of HBV by 2030. Antenatal testing is an entry point into testing, treatment and care for pregnant women with chronic hepatitis B and their families. Triple EMTCT offers opportunities to integrate service delivery, laboratory and data systems. User fees, geographical barriers, and stigma and discrimination, coupled with structural factors and punitive laws against risk behaviours, are important barriers to accessing services, particularly for vulnerable and marginalized groups, and efforts must continue to address these barriers.

**2.5 Session 5: Testing and treatment**

Dr Po-Lin Chan, Medical Officer (Hepatitis), HIV, Hepatitis and STI unit, provided a detailed overview of the regional progress in implementation focusing on the how of unblocking systems barriers to get to hepatitis elimination in the Western Pacific Region, including lessons and opportunities. To get to elimination by 2030, focus on accelerating operations will be critical. In 2020, most countries including several Pacific island countries have begun to or established hepatitis testing and treatment services as part of the comprehensive national response to viral hepatitis. While hepatitis testing and treatment services exist in policy, the delivery, coverage and decentralized capacity to provide hepatitis care are limited and fragmented. System barriers vary widely among countries and include access to high-priced medicines such as for direct-acting antivirals (DAAs) that cure HCV infection, high costs of test kits, patent barriers, provision of affordable care for chronic conditions, capacity of health-care providers to deliver hepatitis care, reaching key and vulnerable populations, and working with the private sector and others beyond the health sector. Among high-income countries, the challenge concerns leaving no one behind, high costs of DAA drugs, and expansion of coverage for more and vulnerable people towards UHC.

Working with a broad range of regional and country partners, WHO has tailored support according to country needs. As an example, in China, unblocking the price barrier for hepatitis B and C medicines was critical to accelerate the national conversation surrounding hepatitis elimination. In 2015, the price for tenofovir was US$ 3000 per year; with systematic evidence building and working with partners, in 2019, central negotiations for generic medicines lowered these costs to less than US$ 10 per year. Similarly, working across different sectors beyond health in price negotiations with the Chinese
Government resulted in a reduction of the prices of DAA by 85% and enabling DAAs to be included under health insurance coverage. Notable lessons include the use of a whole-of-systems approach and multi-year support to nudge the agenda forward, and this required deep knowledge on navigating the complexities of health systems as well as country intelligence beyond the health sector. Catalytic work with government and other partners in China also afforded lessons on applying an approach involving work from the ground up for global impact – specifically in triple EMTCT of HIV, syphilis and hepatitis B, which is now a regional and global strategic imperative. China continues to lead the world on implementing the triple elimination approach and generating real-world evidence to inform regional and global knowledge in this area. This was borne from the approach of catalysing innovations, rethinking current strategies, redesigning, continuous learning, and working across multiple partners and multiple WHO levels to ensure the “grounds-up” country wisdom is part of strategy discussions. In the Philippines, pilots of hepatitis B and C services established in the middle of 2019 using a UHC service delivery network approach were scaled up in 2020 at the height of the COVID-19 pandemic in the country, underscoring the importance of decentralized services for better access to essential health services. Led by Médecins Sans Frontières (MSF) in partnership with the Ministry of Health of Cambodia, more than 130 000 people were screened for HCV and offered treatment. The MSF pilots showed nurse-led initiation at primary care settings is feasible with good patient outcomes and would be one of the models to support task-shifting for decentralization of services. Of note, in Papua New Guinea, a public–private partnership is being piloted in a province using employers’ health services networks. This pilot provides hepatitis care for 10 000 staff members, their families and surrounding communities with the potential for upscaling to other locations and providing a best practice model of how services can be delivered in the country. In the Pacific island countries, partnerships are critical to support countries’ implementation of their hepatitis response and capacities to deliver clinical hepatitis services given the complex geography, limited resources and uniqueness as small island states.

Reflections on the continued challenges in the regional response include gaps in services among people who inject drugs and those incarcerated, which will require a multi-agency approach and work beyond the health sector including community response as part of the solution. Bloodborne infection prevention remains important in the safety of the health workforce and better resilience of health systems. Preliminary data from several countries indicate high prevalence of hepatitis B and C among healthcare providers, which will need focused attention in the regional response. Taking advantage of NCD–hepatitis synergies is a major area where the sum of individual efforts would translate to better overall impact and outcome. WHO is working on cross-programme synergies with NCDs, including joint communications, a regional scoping review on liver cancer and risk factors, cancer (CanLEAD) stewardship, integrated NCD–hepatitis models of service delivery, and leveraging the different networks and partners to find a common ground.

In conclusion, the next phase of regional work needs to focus on: saturating prevention and care through cross-programme synergies such as with HIV, tuberculosis, NCDs, neglected tropical diseases and others; promoting integration towards more efficient people-centred service delivery; coming up with innovative approaches for simplified delivery models, decentralisation to primary care, task-shifting, chronic care, different ways to fund services and scale-up, promotion of self-care management and treatment literacy; and addressing stigma and discrimination and adopting telemedicine to support capacity-building of providers. Multisectoral approaches to engage beyond the health sector, including engagement of communities, public–private partnership, and to work with the private sector are important. Hepatitis elimination is part of For the Future vision for WHO in the Western Pacific Region and will contribute to impacting the Triple Billion targets of the WHO Thirteenth Global Programme of Work.
Two breakout group discussions focused on the following:

- **How to accelerate synergism and scale-up of integrated hepatitis testing, treatment and chronic care as part of UHC**, including cancer surveillance among those who are affected with chronic hepatitis: what synergies, integration, convergence, linkage, entry pathways and efficiencies can be leveraged to deliver the continuum of hepatitis testing, linkage to treatment, and chronic care management including liver cancer screening across the different levels of health system (primary, secondary, tertiary levels). What kinds of cross-programme/service efficiencies for testing, how to link those affected to treatment services and deliver chronic care management, decentralization and task shifting to primary care teams and other providers of health including peer support, expert patients, laypersons, paramedical staff, balance of key populations services vs. general population services, task shifting such as nurse-led prescriptions, and testing by laypersons; and the questions around saturation of coverage for hepatitis care, for example people who inject drugs, prisoners, other HIV key populations such as sex workers, men who have sex with men, dialysis and organ transplant patients, people who live with HIV; and the role of the private sector in hepatitis elimination. How can the private sector play their role? And what are the changes needed to shift mindsets, practice, systems and programmes to deliver hepatitis as tracer/reflective of UHC delivery in the Western Pacific Region? How to break out of “hepatitis seen as a vertical/silo/one-disease”.

- **How to ensure sustainable financing for hepatitis testing, treatment and chronic care as part of essential service**, including the impact of COVID-19 on financing in the Region, options for sustainable financing and how to get this done; and options for innovations/innovative financing models and how to get this done, in the short and medium term.

### 2.5.1 Group discussion 1: Accelerate synergies and systems scale-up

Moderated by Dr Margaret Hellard, Deputy Director (Programs), Burnet Institute, the session began with a so-called think-piece presentation by Dr Vivian Lin, Executive Associate Dean, School of Public Health, The University of Hong Kong, on UHC and viral hepatitis elimination, setting the scene for further discussion and explaining how entry points need to be found and systems designed to reach the unreached for testing and linkage to care and treatment.

The original UHC “cube” presents a financing model but does not include quality and delivery of people-centred services. Providing money does not mean people will use services and does not change the mindset of health-care workers. UHC viewed as multiple vertical programme siloes joined up to form a system (triple EMTCT is an example of this kind of programme coordination) still does not explain how to reach the unreached and integrate services around them. Putting people at the centre requires linking people to services and integrating services around people’s needs, a change of mindset, flow of money, information and different ways of working. The familiar UHC building blocks in themselves are not enough; it is the interconnections that are critical: how are services delivered, financing and governance aligned towards a common goal? Viewing hepatitis as a tracer condition involves following patients and people at risk of hepatitis to see how they move through a health system, to identify what is wrong with the system and how to fix it, connecting services with people and money with services, with governance mechanisms in place to support the system and to ensure accountability and cost-effectiveness. A legislative umbrella is needed that protects confidentiality, removes stigma, and ensures drugs and commodities are available at the right price. Developing this kind of system takes time, to build trust, establish lines of communication, and coordinate and collaborate. It requires clear definitions of the roles of generalists and specialists and the removal of financial barriers, while ensuring that incentives exist for providers. Patients and communities must have a say. Critical conversations must be held among key stakeholders.
Decentralizing hepatitis testing and care to the primary health care level: It was noted that while decentralization is necessary to scale up testing and treatment for impact on morbidity and mortality, the system must be able to engage people in testing and move them into care. Traditionally, management of viral hepatitis has been the domain of specialists, while decentralization requires transfer of care to generalists, primary care physicians and nurses. Many things can be done at the primary care level but trust in the providers must be established. This can be achieved through clear processes for education of primary care physicians on hepatitis and cancer surveillance, with clarification of competencies and mentorship and support. Guidelines for referral to specialists must be clear. As hepatitis may be seen to be outside the scope of primary care physicians, it is important to disseminate examples of decentralized models. In some places, for example in Australia, this has been made possible through legislation allowing for prescription of hepatitis medicines by general practitioners and nurse practitioners. Medication needs to be available at unified prices. General practitioners are not always well supported by governments and may not be included sufficiently under health insurance schemes. Prices in the private sector may be very different to public sector prices. Price unification requires central procurement processes, which in turn can facilitate decentralization of care among patients. Advocacy is needed to clarify that integration is cost-effective and can be cost-saving.

Scale-up of testing: In high-prevalence settings, testing may identify large numbers of people requiring treatment and questions of affordability particularly for chronic care need to be considered. These questions include the cost-effectiveness and the required number of people to be treated to prevent one case of cancer. This emphasizes the need for countries to have data on prevalence in different populations, so that interventions can be developed strategically. There is a need for increased visibility to the public on the importance and benefits of testing and assessment for treatment initiation. Questions include: Can the environment for testing be improved through multiplex point of care tests and better use of polymerase chain reaction (PCR) platforms that are being used for tuberculosis and HIV such as the GeneXpert, but are not currently widely used for HBV/HCV? Is it possible to identify opportunities in COVID-19 testing that may open up space for hepatitis testing, now that the public understands more about the importance of communicable disease? It is important that WHO be at the table during COVID-19 discussions to advocate for integration and synergies, wherever feasible.

Synergies with NCD programmes. It was noted that the NCD burden in the Region, and particularly in the Pacific, is large, with systems in place for health promotion, prevention, screening and treatment, though hepatitis, a chronic condition, is not necessarily included in these programmes. Hepatitis should be included in multisectoral NCD strategies, and there needs to be high-level advocacy and inclusion of hepatitis in the work with civil society and faith-based organizations, women’s groups and other stakeholders. For instance, Egypt has integrated diabetes and hypertension check-ups into the national hepatitis scale-up of population-wide testing and took advantage of other NCD opportunities.

Private sector: The role of the private sector varies between countries according to patient expectations and value systems. Some health systems have a public–private mix of service provision; in others, the private sector is unregulated, out of sight and out of mind, and people only think about government services. In many countries, a significant proportion of long-term care of patients with viral hepatitis is provided in the private sector and there is a need for public–private partnership, as the public sector cannot handle the volume of cases. The biggest barrier to cooperation is the mindset of institutions and providers. Changing mindsets involves thinking about where people go for services in different settings. Screening for viral hepatitis, monitoring and medication can be offered by the private sector. If the availability of HCV medicines is low in the private sector, strong links to the public sector to access treatment must be established. Private sector services also need to be people-centred, with quality training and clear referral pathways and linkages to the public sector and specialists. Data collection
and monitoring of service provision in the private sector can be challenging as there may be little motivation to report. It may require legislation or can be achieved through systems for notifiable disease surveillance.

**Motivation to work differently:** Cancer screening and prevention are already well established in primary health care in some settings and can be extended to include liver cancer screening, prevention and surveillance. Patient confidence in practitioners and health systems needs to be considered. Patients may choose to bypass family doctors due to lack of confidence or trust. Changing this mindset could be approached through certification and postgraduate education of primary care physicians. Patients need to know that there is a strong system for timely handover to tertiary care, if needed. Efficient and effective referral mechanisms need good communications and seamless transitions so that the next level can pick up where the previous one left off, minimizing duplication and treatment delays. It is also important to address pre-service education to change the mindset and practice of the next generation of health-care workers.

### 2.5.2 Group discussion 2: Ensure sustainable financing for hepatitis testing, treatment and chronic care as part of essential services

The session was moderated by Dr John Ward, ERP member, and Dr Peter Cowley, Coordinator, Health Policy and Financing, presented a regional overview of the impact of COVID-19 on financing, and what this would mean for sustainable financing for hepatitis services and response.

Pandemic measures put in place to control and suppress COVID-19 such as repeated lockdown measures have significant negative impact on the economies in Asia and the Pacific. The “great lockdown” due to the global pandemic had far greater negative impact on gross domestic product (GDP) growth, compared to the global financial crisis in 2007–2010 and the Asian financial crisis in the late 1990s. There is declining fiscal space for health with government revenue conservatively estimated to be 5–10% lower than planned in countries of the Western Pacific Region. Reductions in GDP growth will decrease employment, reduce household wealth and increase poverty headcounts in the Region. Social health insurance contributions are estimated to decline due to unemployment and, at times, with temporary suspension of contributions. These translate to a “revenue shock” for most countries. At the same time, governments have increased expenditures due to COVID-19 by more than 5% of GDP, which in most cases is a more than 25% increase in government expenditures as compared to levels immediately prior to the pandemic. This “expenditure shock” includes population-wide income support, lending to businesses, encouraging private credit and increased health expenditures. Almost universally, the response to revenue and expenditure shocks has been increased deficit spending by governments, with governments taking on more debt or releasing precious fiscal reserves as a result. Indeed, governments in the Region are actively looking to reduce expenditures, delaying capital spending, increase efficiencies and freeze government salaries. Recent reports from countries in the Region already show a slowing of cash flow, a reduction in budgets for travel or a set percent decrease of government financing across all sectors (including health).

In view of the current economic and fiscal climate, opportunities remain to ensure there is funding for comprehensive hepatitis services in the short and medium term. Advocacy should be proactive. Health budgets should be declared a priority and as an investment to mitigate the impact of COVID-19 and prepare against future pandemic shocks. To assure fiscal stability, hepatitis budgets should not be included under the “reserved” budget categories whereupon hepatitis funds would be released later in the year through supplemental budgets or “virements” (administrative transfers of budgets from one sector to another).
As national hepatitis responses are not vertical programmes – that is, multiple programmes and health departments deliver towards hepatitis elimination outcomes – recommendations are for moving hepatitis advocacy forward and for sustainable midterm hepatitis planning together with partners. Further, as fiscal space for health is projected to tighten in the short and medium term, governments will critically review the use of medium-term plans, expenditure frameworks and budgets (cycles of 3-5 years) especially around disease elimination-targeted funding. As COVID-19 has resulted in public financial management, human resources and service delivery changes (especially telemedicine and digital health), these changes often translate into greater efficiencies. Hepatitis interventions that piggyback or learn from these COVID-19-inspired innovations and at the same time improve upon concrete hepatitis programme outcomes will be highly valued by ministries of health and finance, especially if they are proven to be cost-efficient and cost-effective. For instance, it behoves hepatitis programme managers to learn from “lockdown lessons” such as those in maternal and child services where there has been a resurgence and upswing of clients who came back for maternal and child health services. Health literacy because of COVID-19 also has grown, and hepatitis advocates and programme managers can piggyback on these trends. It will be important, nonetheless, to showcase the outputs and outcomes of current funding and investments for hepatitis response, as these will support negotiations for further financing for disease elimination in the medium term.

**Sustainable financing for hepatitis as part of essential services:** COVID-19 has spurred further the discourse as well as opportunities to rethinking financing for health. In fact, many are concerned with directing resources for COVID-19, as it may lead to difficulty in maintaining essential health services. This discourse often results in the conclusion that a strong health system will mitigate future epidemics or other shocks while at the same time ensure that essential health services are provided in an equitable and cost-effective manner.

Debate is ongoing, depending on country contexts, on the need for greater per capita and government budget spending for health. However, many countries spend more on servicing debt, giving rise to tension between spending more and adding/optimizing the value of current budgets. Issues such as debt servicing payments threaten the sustainability of essential health service spending, especially when there are now the added expenses of addressing COVID-19 and pandemic preparedness more broadly. In general, with greater spending in health, there is greater social protection and better UHC coverage. There is also evidence to show that with greater public spending on health, there is less impoverishment from health-care expenses (one of the critical aims of UHC). Nonetheless, country efficiency in spending budgets will be critical as sometimes more money does not translate to increased UHC coverage for the population.

It is important for WHO to be part of the larger conversations on financing and positioning the priorities of health – and hepatitis should be part of this. Indeed, arguments calling for increased spending on essential health services includes or should include monies for robust hepatitis prevention, treatment and care service coverage. Cost-effectiveness analyses and investment cases for hepatitis have universally shown that HCV is cost-effective and HBV is highly cost-saving. Thus, there is a two-pronged argument for adequate hepatitis funding: the first is for inclusion of cost-effective HCV interventions and cost-saving HBV interventions as part of essential services, and the second is to ensure adequate funding for essential services despite the increased fiscal needs of COVID-19 and pandemic preparedness. Fortunately, some of the strategies and discussions on optimizing hepatitis care and synergies, including as part of essential health services, have been in progress before the pandemic. There is need to continue and accelerate this conversation as many global donors such as the Global Fund, development banks and others are re-evaluating their financing approaches. This includes reducing costs of services and prices of commodities to improve affordability. Business cases that
articulate the tangible costs such as lives saved and returns on investment may still be important. Synergies with other areas and programmes such as with NCDs through the lens of cirrhosis and liver cancer should be accelerated.

A global study on the impact of COVID-19 and hepatitis C care hinted that it is certainly not an “either essential services or COVID-19” situation and indicated a 30–40% reduction in testing and treatment in high-income countries and around 60–90% reduction in low-income countries. The reported collapse in testing and treatment is largely driven by decreased demand but is suspected to be also influenced by a decreased supply of hepatitis care services and further that this decreased supply is in part driven by funding shortfalls for hepatitis testing and treatment services.

**Innovations and innovative financing options:** Experiences, such as in Kazakhstan, in working on innovative hepatitis financing and public–private partnerships were discussed. Segmentation of the health-care market reduced government expenditures by targeting government hepatitis treatment expenditures on people with low incomes or who cannot afford to pay. At the same time, policies encouraged supply enhancement of a wide choice of private sector fee-for-service hepatitis treatment service outlets for middle- and higher-income individuals and families. Other examples of protecting the poor during economic and fiscal crises come from Central and Eastern Europe during the 2008 economic crises where governments began to offer more support for the poor and for costlier services. For example, instead of offering 100% coverage of all costs for all persons, coverage would be offered 100% for the poor and 80% for the rest who could pay. An existing system for identification of the poor by non-health sector ministries was a precursor for the ability to actively target the poor in 2008 in many countries in Europe.

Because private sector health services are part of overall health systems, one of the innovative hepatitis financing opportunities could be to attempt to have low prices in medicines and diagnostics. Implementation projects in Africa indicate the major issue in access to hepatitis care is the unaffordability of commodities. Although bulk prices are low, the reality is that retail prices are very high. Addressing this issue and making drug and test prices low in the private sector could mean expanding access to the population, whether financed by government or self financed. Overall, private sector options of care should be part of the strategy for financing health services, and segmentation would be needed. Broad stakeholder engagement will be required.

The group surmised that the current dialogue on health financing and preparations of health systems against other pandemic shocks should be leveraged to ensure hepatitis is part of the continuity of essential services for prevention, testing, treatment and chronic care. It is critical for WHO to continue to advocate for health as a priority sector for financing and beyond the COVID-19 response at all three levels of the Organization (global, regional and country). Medium-term plans that show outputs, outcomes of investment and innovations that facilitate efficiencies would be of value to funding institutions such as the finance ministries. Advocacy should be maintained for comprehensive hepatitis prevention, treatment and care including that for better cross-programme synergies.

**2.6 Session 6: Surveillance and data management**

The session was moderated by Dr Fuqiang Cui, Professor and Head, Department of Laboratorial Science and Technology, School of Public Health, Peking University, and Dr Linh-Vi Le, Epidemiologist, HIV, Hepatitis and STI unit, presented on the progress and challenges of integrating and sustaining strategic information systems for hepatitis elimination in the Western Pacific Region. Integration is the approach that WHO is supporting Member States to undertake because of the limited
resources for the hepatitis programme, and it is an approach that applies UHC principles on sustainability.

Most countries have established acute surveillance with viral hepatitis included in the notifiable diseases reporting system, although some systems still need improvement to be able to differentiate acute from chronic hepatitis B and C infections. With respect to chronic infections, WHO has successfully advocated for inclusion of HCV and adult HBV biomarkers in national surveys (China and Malaysia) and made progress supporting countries (Cambodia and Mongolia) to conduct seroprevalence and HBV vaccination studies among health workers. The Organization is also advocating COVID-19 serosurveys and plans that integrate hepatitis and other vaccine-preventable diseases, for example in Mongolia for the next COVID-19 survey round, but funding for reagents need to be identified where external funding for serosurveys are conducted given vertical programmatic funding streams for COVID-19. For targeted populations, the HIV programme’s surveys have incorporated HBV and HCV into serosurveys among key populations such as people who inject drugs. Data on prisoners and other incarcerated populations are still needed. Attributable fractions for hepatitis B and C among cirrhosis and liver cancer cases are difficult to obtain in almost all countries, and WHO is taking the opportunity during the pandemic to improve civil registration and vital statistics. Support to establish cancer registries is particularly needed in many middle-income countries, including Papua New Guinea, the Lao People’s Democratic Republic and the Pacific island countries.

Many of the prevention indicators are being collected by other programme areas. For example, the HIV programme reports needle and syringe coverage among people who inject drugs to the annual Global AIDS Monitoring report. There is less information on injection safety; these require facility surveys, which few countries conduct, so the data come more often from alternative sources such as population-based surveys. Currently, few countries can report national-level data on the number of people tested and diagnosed positive, numbers eligible for treatment, treated and who have achieved viral suppression or cure. This will require governance to facilitate integration of hepatitis into existing national health information systems and funding to support software module development and data entry.

At the regional level, WHO is moving forward systems integration and harmonization initiatives, including sessions at the 2019 Meeting on Strengthening Health Information Systems for SDG and UHC Monitoring in the Western Pacific Region on coordinating and integrating facility-based data systems and population-based surveys. As a result, the new Data, Strategy and Innovation Group has begun undertaking activities aimed at improving quality and use of health facility and population-based survey data for surveillance, programme monitoring and impact measurement, and decision-making. Finally, based on the viral hepatitis STAC recommendations from 2018, the WHO Collaborating Centre for Viral Hepatitis, VIDRL, is developing an operational guide to assist countries in collecting monitoring and evaluation indicators for viral hepatitis.

Dr Le emphasized that in order to make progress in collecting data for viral hepatitis responses, there will need to be an integrated health systems approach, including data harmonization and coordination with stakeholders. Support is needed across all stakeholders to mobilize resources, establish simple and low-cost patient monitoring systems and a trained workforce for interpreting and applying data. WHO country office focal points reiterated the challenges of not having the human resources to enter data (Viet Nam), needing governance to collect hepatitis indicators across different owners of the data (China, Viet Nam), high-level advocacy to obtain political will for integrating systems (Cambodia, Malaysia), and resources to address gaps in the cascade (Mongolia).

Participants recognized the difficulties in measuring viral hepatitis because of the complexity of the diseases and recommended developing simple templates for adaptation by countries which would achieve the highest-quality data on the most important indicators. Advocacy aimed at different donors
is needed for inclusion of viral hepatitis in other programmes, particularly HIV and TB programmes. Specific recommendations include conducting pilots linking hospital and health centre data to centralized national health information systems, including prevention of mother-to-child transmission of HBV. Further, WHO should provide support to Member States in harmonizing data collection, ensuring data quality and use for improving patient care for the pilots and during scale-up. Where there are no centralized systems, support can be provided to sites providing routine hepatitis testing such as antenatal serology testing, haemodialysis centres and blood banks. An alternative approach to estimate the total number of people treated is to collect information on sales of hepatitis medication from the manufacturers and other agencies like IQVIA that collect volume sales of pharmaceuticals in many countries. The patient group representative advised that more integrated electronic medical records or national registries are seen to be beneficial for patients so that patient results could be accessed in various health care settings. Furthermore, a recommendation was made to look for opportunities with COVID-19 to improve overall surveillance systems for health.

3. CONCLUSIONS AND RECOMMENDATIONS

3.1 Conclusions

The Expert Consultation concluded the following:

(1) Recognized that viral hepatitis continues to represent an enormous burden for the Region, and that liver cancer is the sixth most frequent cause of death in the Region, mostly attributable to chronic hepatitis B or C infection.

(2) Acknowledged the significant progress that has been made in the Region in hepatitis B control through childhood immunization in the last 20 years; and congratulated 21 countries that have been verified for having achieved the 2017 regional target of less than 1% HBsAg prevalence among children 5 years of age, 20 countries that have developed comprehensive national action plans towards hepatitis elimination as a public health threat by 2030, and countries that have started providing hepatitis testing and treatment under the principles of UHC.

(3) Acknowledged that the 2018 Hepatitis B ERP and Viral Hepatitis STAC recommendations were properly carried out by many countries in the Region.

(4) Noted that in October 2020 the Regional Committee endorsed the Regional Strategic Framework for Vaccine-preventable Diseases and Immunization in the Western Pacific (2021–2030), which includes regional goals, targets and strategic directions for control of hepatitis A and elimination of hepatitis B.

(5) Agreed that coordinated efforts for an integrated and people-centred life-course approach are needed to reach unreached populations for the prevention, testing, treatment and care of viral hepatitis to achieve the ambitious regional and global elimination targets and goals for viral hepatitis, particularly hepatitis B and C, for 2030.

3.1.1 Prevention

Hepatitis A

Sero-epidemiology of hepatitis A in the Western Pacific Region has shown a shift from high to low prevalence in most countries, and vulnerable populations are shifting from children to adults. These shifts, coupled with persisting pockets of high endemicity in some countries and increased population mobility, represent a high risk for recurrent outbreaks of hepatitis A. Only five countries in the Western Pacific Region include hepatitis A vaccine in their national immunization schedules. Public health
interventions, such as laboratory surveillance, outbreak detection and response, and vaccination are required to properly control hepatitis A in the Region.

**Hepatitis B (vaccination and triple elimination)**

The burden of chronic hepatitis B infection in the Western Pacific remains the highest among all WHO regions, and hepatitis B is a major cause of morbidity and mortality in the Region. Regional hepatitis B third-dose coverage of 94% in 2019 exceeds the global target of 90% but has not yet met the regional target of at least 95%. Regional hepatitis B timely birth dose coverage of 84% in 2019 has not yet met either the global target of at least 90% or the regional target of at least 95%. Vaccine hesitancy continues to impact the gains of timely and full immunization with hepatitis B vaccines in the Region. As of 2020, 21 out 36 countries and areas in the Western Pacific have achieved the regional target of less than 1% HBsAg prevalence among children 5 years of age. The COVID-19 pandemic has affected performance of national health-care systems, including implementation of hepatitis B vaccination.

Countries and areas in the Western Pacific Region need a tiered approach to screening at least 95% of pregnant women for chronic hepatitis B infection, administering hepatitis B immunoglobulin (HBIG) to infants born to HBsAg-positive mothers, and offering eligible pregnant women prophylaxis or treatment with antiviral drugs, in addition to achieving at least 95% hepatitis B timely birth dose coverage and at least 95% third-dose vaccination coverage, to achieve EMTCT of hepatitis B and to reach the global hepatitis B elimination goal of 0.1% or less HBsAg prevalence among children 5 years of age by 2030. Antenatal screening using point-of-care diagnostics and antiviral prophylaxis for eligible hepatitis B-infected pregnant women, in addition to infant hepatitis B vaccination, are needed to further reduce and eliminate mother-to-child transmission of hepatitis B by 2030. Antenatal screening is an important entry point into testing, treatment and care for pregnant women with chronic hepatitis B and their families. Triple EMTCT of HIV, hepatitis B and syphilis offers opportunities to integrate service delivery, laboratory and data systems. More countries have established national coordination mechanisms for triple EMTCT and developed coordinated plans and have started implementing interventions for EMTCT of hepatitis B including antenatal screening, maternal antiviral prophylaxis and follow-up of exposed infants. User fees, geographical barriers, and stigma and discrimination, coupled with structural factors and punitive laws against risk behaviours, are important barriers to accessing EMTCT and other services, particularly for vulnerable and marginalized groups.

### 3.1.2 Testing and treatment

Several countries in the Region have started rolling out testing and treatment services for viral hepatitis through domestic financing and health insurance coverage of treatment. These efforts need to be accelerated to achieve the 2030 targets of 90% coverage of diagnosis and 80% coverage of treatment. Decentralized models of testing and treatment services, including task-shifting, public–private partnerships, and collaboration with noncommunicable diseases and other programmes, can deliver cost-efficiencies and have shown promise for increasing the reach of services. Substantial price reductions for antiviral drugs to cure hepatitis C and treat hepatitis B mean there is potential to significantly scale up treatment to reduce mortality. However, not all countries or facilities are able to access drugs and diagnostics at optimized prices. Business cases are needed for financing hepatitis interventions in the short and medium term, articulating the value and returns on investment in the context of COVID-19.

### 3.1.3 Surveillance

More countries have a better understanding of the burden of hepatitis B and hepatitis C in the population. Many challenges remain to systematically collect data in countries to monitor hepatitis service
implementation and uptake, including services for the prevention of mother-to-child-transmission of hepatitis B. Surveillance of hepatocellular carcinoma and cirrhosis is still weak, and many countries do not collect etiological information to estimate the attribution of cirrhosis and hepatocellular carcinoma morbidity and mortality to hepatitis B and hepatitis C.

3.2 Recommendations for WHO

WHO is requested to consider the following:

(1) Establish a regional mechanism to ensure interventions needed for the acceleration and achievement of control and elimination of viral hepatitis are more effectively coordinated and integrated in an overall viral hepatitis elimination effort in the Region, through linking and integrating relevant health programmes, such as immunization, maternal and child health, HIV/sexually transmitted infections, noncommunicable diseases and cancer control, in the overall health system, with the principle of UHC as the foundation.

(2) Support countries of the Region in aligning their national viral hepatitis elimination efforts with the targets and goals of the recently adopted Regional Strategic Framework for Vaccine-preventable Diseases and Immunization in the Western Pacific (2021–2030), as well as the Regional Action Plan for Viral Hepatitis in the Western Pacific 2016–2020 and the Regional Framework for the Triple Elimination of Mother-to-Child Transmission of HIV, Hepatitis B and Syphilis in Asia and the Pacific, 2018–2030, and other WHO frameworks and action plans.

3.2.1 Prevention

**Hepatitis A**

(1) Conduct epidemiologic analysis of the current status and recent trends of viral hepatitis A in the Region to support the formulation of national goals, targets and strategies for preventing morbidity and mortality due to hepatitis A in countries where hepatitis A is a public health problem.

(2) Support countries in initiating and/or strengthening country-specific public health interventions such as surveillance, laboratory diagnostics, outbreak detection and response to address the burden and risk of viral hepatitis A.

(3) Introduce hepatitis A vaccine into routine immunization programmes in countries for which hepatitis A is a major public health concern in alignment with the Regional Strategic Framework.

**Hepatitis B (vaccination and triple elimination)**

(1) Support countries in integrating hepatitis B virus prevention services including screening pregnant women for chronic hepatitis B infection, offering eligible hepatitis B-infected pregnant women treatment or prophylaxis with antiviral drugs, administering HBIG to infants born to HBsAg-positive mothers, and administering a timely birth dose and at least three total doses of hepatitis B vaccination into the continuum of reproductive, maternal, newborn and child health care to reach the 2030 global hepatitis B elimination goal.

(2) Further support countries in achieving and maintaining the global and regional hepatitis B vaccination coverage targets through: promoting health facility births, preventing vaccine stock-outs, increasing links with communities and implementing outreach vaccination, scaling up the use of hepatitis B birth dose vaccine out of cold chain, and including vaccination of health-care workers in the national immunization calendar.
3.2.1 Immunization

(3) Support countries in identifying the reasons for hepatitis B vaccine hesitancy in the local context, establishing mechanisms to monitor vaccine acceptance and demand, as well as implementing tailored strategies and activities to address barriers to vaccination.

(4) Support the remaining 15 countries and areas in preparing for verification for the 2017 regional target of less than 1% HBsAg prevalence among children 5 years of age.

(5) Support countries in recovering the performance of national immunization programmes affected by the COVID-19 pandemic.

(6) Support countries to integrate interventions for triple EMTCT into maternal and child health systems by simplifying maternal and child health-based delivery models and capacity-building for service provision including at the primary health care level, with mechanisms to support timely, appropriate and seamless referral to higher levels of care.

(7) Support countries to leverage EMTCT as an entry point to promote better health of entire families, and support countries to implement a family-based approach by providing routine triple antenatal screening and extending services to partners and other family members.

(8) Empower and involve communities (such as mothers and women living with chronic hepatitis B) in all stages of planning and implementation of services and provide timely information and health education.

3.2.2 Testing and treatment

(1) Support high-level advocacy in countries for greater political commitment and increase public awareness of viral hepatitis, including interventions for prevention, testing and treatment of viral hepatitis and prevention of stigma and discrimination.

(2) Support countries to scale up testing and treatment, through policy development and multiple entry points following a life-course approach, such as antenatal screening, workplace health, noncommunicable disease and cancer screening, and advocacy for procurement of drugs and commodities at the lowest prices possible.

(3) Support countries to establish service delivery networks that include the primary health care level through simplified models, capacity-building, task-shifting and referral mechanisms, in coordination with other health programmes and services.

(4) Support countries to protect their health workforce from chronic viral hepatitis and liver cancer through vaccination, testing and treatment and non-discriminatory policies on education and employment.

3.2.3 Surveillance

(1) Provide high-level advocacy and support to countries to improve data collection, including from the private sector, patient monitoring, aggregation of notifiable diseases reporting systems and links to insurance systems for all viral hepatitis cases.

(2) Support countries to link health facility data to enable aggregation at the national level to monitor and improve the quality of hepatitis services, including EMTCT.

(3) Support countries to improve civil registration and vital statistics to include reporting of etiological factors of viral hepatitis-related mortality.

(4) Develop simplified templates and operational guidance for reporting for countries to adapt.
ANNEXES

Annex 1. List of participants

TEMPORARY ADVISERS

Dr Robert Allison, Epidemiologist, Global Immunization Division, Centers for Disease Control and Prevention, 1600 Clifton Road, Atlanta, Georgia 30329, United States of America
Email: xlj4@cdc.gov

Dr An Zhijie, Deputy Director, National Immunization Programme (vaccine evaluation and policy), China CDC, Beijing, People's People's Republic of China, Email: ANZJ@chinacdc.cn

Professor Benjamin Cowie, (ERP Member), Epidemiologist Physician, Victorian Infectious Diseases Reference Laboratory, Wrecklyn Street, North Melbourne, Victoria 3051, Australia,
Email: Benjamin.Cowie@mh.org.au

Dr Chan Henry Lik Yuen, (STAC Member), Professor Department of Medicine and Therapeutics Director, Centre for Liver Health, The Chinese University of Hong Kong, Hong Kong, Prince of Wales Hospital, Shatin, N.T., Hong Kong, E-mail: hlychan@cuhk.edu.hk

Dr Fuqiang Cui, (ERP Member), Professor and Head, Department of Laboratorial Science and Technology, Director of Vaccine Research Center, School of Public Health, Peking University Beijing, People's People's Republic of China, E-mail: cuifuq@126.com

Professor Dambadarjaa Davaalkham, (ERP Member), Head, Department of Epidemiology and Biostatistics, Health Sciences University, Ulaanbaatar, Mongolia, E-mail: davaalham@yahoo.com

Dr Margaret Hellard, (STAC Member), Deputy Director (Programs), Burnet Institute, 85 Commercial Rd, Melbourne VIC 3004, Australia, Email: margaret.hellard@burnet.edu.au

Ms Kathleen Jackson, (STAC Member), Senior Scientist and Director to the WHOCC Regional Reference Laboratory for Viral Hepatitis, Research & Molecular Development, Victorian Infectious Diseases Reference Laboratory, Melbourne, Australia, Email: Kathy.Jackson@vidrl.org.au

Dr Youngmee Jee, (ERP Member), Special Advisor to the Prime Minister in Health, Special Representative for Health Diplomacy, Korea Foundation, Visiting Professor, GSPA, Seoul National University, Ministry of Health and Welfare, 13,Doum 4-ro, Sejong-si 30113, Republic of Korea,
Tel: +82-10-4112-1493, E-mail: jeey62@gmail.com; jeey62@snu.ac.kr

Dr Mark Kane, (ERP Member), Consultant on Immunisation Policy, 4816, West Mercer Way, Washington D.C. 98040, United States of America, Email: mark.a.kane@gmail.com

Dr Tatsuya Kanto, (STAC Member), Chief Division of Advanced Medical Therapy for Liver Diseases, The Research Center for Hepatitis and Immunology, National Center for Global Health and Medicine, 1-7-1, Kohnodai, Ichikawa, 272-8516, Tokyo, Japan, Email: kantotatsuya@gmail.com

Dr Donald Li, President, World Organisation of Family Doctors (WONCA), Hong Kong,
Email: dr2318@gmail.com
Dr Vivian Lin, Executive Associate Dean, School of Public Health, The University of Hong Kong, 21 Sasson Road, Hong Kong, Email: vklin@hku.hk

Professor Lisa Maher, (STAC Member), Program Head, Viral Hepatitis, Epidemiology and Prevention, Kirby Institute for Infection and Immunity Level 6, Wallace Wurth Building, UNSW Sydney, New South Wales 2052, Australia, Email: lmaher@kirby.unsw.edu.au

Dr Eric Mast, (ERP Member), Associate Director for Science, Global Immunization Division, Center for Global Health, Centers for Disease Control and Prevention, 1600 Clifton Road NE, Atlanta, GA 30333, United States of America, Email: emast@cdc.gov

Dr Rosmawati Mohamed, (STAC Member), Consultant Hepatologist, University Malaya Medical Center, Kuala Lumpur, Malaysia, Email: ros@ummc.edu.my

Dr Mari Nagai, Deputy Director, Health System Team Lead, Bureau of International Health Cooperation, National Center for Global Health and Medicine (NCGM), 1-21-1, Toyama Shinjuku-ku Tokyo 162-8655, Japan, Email: mnagai@it.ncgm.go.jp

Dr Brian Oldenburg, Director, WHO Collaborating Centre for Implementation Research and Prevention and Control of NCDs, Noncommunicable Disease Control Unit, Centre for Health Equity, School of Population and Global health, University of Melbourne, Room: 424, 207-221 Bouverie St., Parkville, 3010 Victoria, Australia, Email: brian.oldenburg@unimelb.edu.au

Dr Janus Ong, (STAC Member), Hepatology Society of the Philippines, Clinical Associate Professor, UP College of Medicine, Ermita, Manila, Philippines, Email: janus.ong@gmail.com

Dr Si Thu Win Tin, Team Leader – Noncommunicable Diseases Prevention and Control Programme, Public Health Division, Pacific Community (SPC), FNCT Road 2, Off Beaumont Road, Narere, Fiji, Email: sithuwintin@gmail.com; sithuw@spc.int

Dr Samuel So, (STAC Member), Director, Asian Liver Center, 780 Welch Ave., CJ130, Palo Alto, CA 94304, United States of America, Email: samso@stanford.edu

Dr Heidi Marie Soeters, Epidemiologist and Technical Lead for Hepatitis A and E vaccines, Global Immunization Division, Center for Global Health, Centers for Disease Control and Prevention 1600 Clifton Road NE, Atlanta, GA 30333, United States of America, Email: hidisoeters@gmail.com; Hzx8@cdc.gov

Dr Takaji Wakita, (ERP Member), Director General, National Institute of Infectious Diseases (NIID), 1-23-1, Toyama, Shinjuku, Tokyo 162-8640, Japan, Email: wakita@nih.go.jp

Dr Su Wang, (STAC Member), President of the Executive Board, World Hepatitis Alliance, 7, Rue du Marche, 1204 Geneva, Switzerland, Email: Su.Wang@rwjbh.org; suwang8@gmail.com

Dr John Ward, (ERP Member), Director, Program for Viral Hepatitis Elimination, The Task Force for Global Health, Senior Scientist, National Center for HIV/AIDS, Viral Hepatitis, STD and TB Prevention, 330 West Ponce de Leon Ave., Decatur Georgia 30030, United States of America Email: jward@taskforce.org

Dr Wei Lai, (STAC Member), Professor, Department of Hepatology and Medicine, Peking University People’s Hospital, Hepatology Institute in Beijing, Xicheng district, Beijing, People’s Republic of China, Email: weelai@163.com
OBSERVERS

Dr Paige Armstrong, Associate Director, Global Health Division of Viral Hepatitis, Centers for Disease Control and Prevention, Atlanta, Georgia, United States of America, Email: yzu9@cdc.gov

Dr Sheriah Laine M. De Paz-Silava, Associate Professor, Department of Medical Microbiology College of Public Health, University of the Philippines Manila, Email: smdepaz@up.edu.ph

Dr Julian Gold, Director, The Albion Centre, WHO Collaborating Centre for Capacity Building and Health Care Worker Training in HIV/AIDS Care Treatment and Support, 150 Albion Street, 2010 NSW, Australia, Email: Julian.Gold@health.nsw.gov.au

Dr Philippa Hetzel, Director, National Serology Reference Laboratory, St. Vincent's Institute of Medical Research, WHO CC for Diagnostics and Laboratory Support for HIV/AIDS and Other Blood-borne Infections, Victoria 3065, Australia, Email: philippa@nrlquality.org.au

Mr Mickael Le Paih, Head of mission, Medicins sans Frontieres (Cambodia), #205, street 132 Sangkat Teok La Ak1, 12150 - Khan Toul Kork, Phnom Penh, PO Box 845, Cambodia, Email: msff-kh-hom@paris.msf.org

Professor Sharon Lewin, Director, The Peter Doherty Institute for Infection and Immunity, WHO Collaborating Centre for Viral Hepatitis, 792 Elizabeth Street, 3000 Victoria Melbourne, Australia Email: sharon.lewin@unimelb.edu.au

Mr Christopher Munoz, Adviser, Yellow Warriors Society Philippines, Manila, Philippines Email: ywsp.connect@gmail.com; chrisxs89@yahoo.com

Dr Homie Razavi, Director, Center for Disease Analysis Foundation, Louisville, Colorado, United States of America, Email: hrazavi@cdafound.org

Ms Irene So, Executive Director, Zeshan Foundation, 26/F Bank of East Asia, Harbour View Centre, 56 Gloucester Road, Wanchai, Hong Kong, Email: ireneso@zeshanfoundation.org

Dr Rania A. Tohme, Team Lead, Hepatitis B and Tetanus Team Accelerated Disease Control Branch Global Immunization Division, Center for Global Health, Centers for Disease Control and Prevention, 1600 Clifton Road NE, MS H-24-3, Atlanta, GA 30329, Email: rtohme@cdc.gov

Dr Wang Xun, Deputy Director of Shanghai Institute for Blood Transfusion, Head of Transfusion-transmitted Disease Laboratory, Shanghai Blood Center, 1191, Hong Qiao Road, Shanghai 200051, People's People's Republic of China, Email: wangxun@sbc.org.cn

Ms Magdalena Witschi, Viral Hepatitis Country Support Manager, Singapore, Clinton Health Access Initiative (CHAI), Viral Hepatitis Program, Singapore, Email: MWitschi@clintonhealthaccess.org
Dr Tatsuya Yamashita, Associate Professor, Advanced Preventive Medical Sciences Research Center, Kanazawa University, Department of Gastroenterology, Kanazawa University Hospital, WHO Collaborating Center for Chronic Hepatitis and Liver Cancer, 13-1 Takara-Machi, Kanazawa, Ishikawa 920-8641 Japan, Tel. direct; +81 76 265 2232 or +81 76 265 2863 Fax; +81 76 234 4250 or +81 76 234 4248, E-mail; ytatsuya@m-kanazawa.jp; alternative e-mail: ytatsu@staff.kanazawa-u.ac.jp;

SECRETARIAT

WHO REGIONAL OFFICE FOR THE WESTERN PACIFIC

Dr Naoko Ishikawa, Coordinator, HIV, Hepatitis and STI, Division of Programmes for Disease Control, World Health Organization, Regional Office for the Western Pacific, United Nations Avenue, 1000 Manila, Philippines, Email: ishikawan@who.int

Dr Yoshihiro Takashima, Coordinator, Vaccine-Preventable Diseases and Immunization, Division of Programmes for Disease Control, World Health Organization, Regional Office for the Western Pacific, United Nations Avenue, 1000 Manila, Philippines, Email: takashimay@who.int

Dr Po-Lin Chan, Medical Officer (Hepatitis), HIV, Hepatitis and STI Unit, Division of Programmes for Disease Control, World Health Organization, Regional Office for the Western Pacific, United Nations Avenue, 1000 Manila, Philippines, Email: chanpo@who.int

Dr Tigran Avagyan, Technical Officer, Vaccine-Preventable Diseases and Immunization, Division of Programmes for Disease Control, World Health Organization, Regional Office for the Western Pacific, United Nations Avenue, 1000 Manila, Philippines, Email: avagyant@who.int

Dr Linh-Vi Le, Epidemiologist, HIV, Hepatitis and STI, Division of Programmes for Disease Control, World Health Organization, Regional Office for the Western Pacific, United Nations Avenue, 1000 Manila, Philippines, Email: leli@who.int

Dr Anne Brink, Medical Officer, HIV, Hepatitis and STI, Division of Programmes for Disease Control, World Health Organization, Regional Office for the Western Pacific, United Nations Avenue, 1000 Manila, Philippines, Email: brinka@who.int

Dr Nina G. Gloriani, Short-term Consultant, Vaccine-Preventable Diseases and Immunization, World Health Organization, Regional Office for the Western Pacific, United Nations Avenue, 1000 Manila, Philippines, Email: ninagloriani@gmail.com

Dr Peter Cowley, Coordinator, Health Policy and Financing, Division of Health Systems and Services, World Health Organization, Regional Office for the Western Pacific, United Nations Avenue, 1000 Manila, Philippines, Email: cowleypet@who.int

Dr Elick Narayan, Technical Officer, Management of Noncommunicable Diseases, Division of Programmes for Disease Control, World Health Organization, Regional Office for the Western Pacific, United Nations Avenue, 1000 Manila, Philippines, Email: narayane@who.int
WHO CAMBODIA
Dr Serongkea Deng, Technical Officer, WHO Office in Cambodia, No. 61-64 Preah Norodom Blvd. (corner Street 306), Sangka Boeung Keng Kang I, Khan Chamkarmorn, Phnom Penh
Email: dengs@who.int

WHO CHINA
Dr Chen Zhongdan, Technical Officer, WHO Office in China, 401 Dongwai Diplomatic Office Building, 23 Dongzhimenwai Dajie, Chaoyang District, 100600 Beijing, Email: chenzho@who.int

WHO LAO PEOPLE'S DEMOCRATIC REPUBLIC
Dr Vilath Seevisay, Technical Officer, WHO Office in the Lao People's Democratic Republic, 125 Saphanthong Road, Unit 5, Ban Saphangthongtai, Sisattanak District, Vientiane Capital
Email: seevisayv@who.int

WHO MALAYSIA
Dr Karina Razali, Consultant, WHO Office in Malaysia, 4th Floor Prima 8 Block 3508 Jalan Teknokrat 6, 63000, Cyberjaya, Selangor, Email: razalik@who.int

WHO MONGOLIA
Dr Anuzaya Purevdagva, Technical Officer, WHO Office in Mongolia, Ministry of Health, Government Building No. 8, Ulaanbaatar, Email: purevdagvaa@who.int

WHO PAPUA NEW GUINEA
Dr Anup Gurung, Team Leader, WHO Office in Papua New Guinea, 4th Floor AOPI Centre Waigani Drive, Port Moresby, Email: gurunga@who.int

WHO PHILIPPINES
Dr Maria Nerissa Dominguez, National Professional Officer, WHO Office in the Philippines, Ground Floor Building 3, Department of Health, San Lazaro Compound, Rizal Avenue, Sta. Cruz, Manila, Email: DominguezM@who.int

WHO SAMOA
Dr Lepaitai Blanche Hansell, National Professional Officer, WHO Office in Samoa, Ioane Viliamu Building, Beach Road, Apia, Email: hanselll@who.int

WHO SOLOMON ISLANDS
Dr Lanique Naolina Pitasua, Health and Wellbeing Specialist, WHO Office in Solomon Islands, Ministry of Health Building, Chinatown, Honiara, Email: pitasual@who.int

WHO SOUTH PACIFIC
Dr Dennie Iniakwala, Consultant, WHO Office in the South Pacific, Level 4 Provident Plaza One Downtown, Boulevard 33 Ellery Street, Suva, Email: iniakwalad@who.int
Dr Ada Moadsiri, Technical Officer, WHO Office in the South Pacific, Level 4 Provident Plaza One Downtown, Boulevard 33 Ellery Street, Suva, Email: moadsiria@who.int
WHO VIET NAM
Dr Nguyen Van Thi Thuy, Technical Officer (HIV/AIDS), WHO Office in Viet Nam, 304 Kim Ma Street, Hanoi, Email: nguyenva@who.int

CLO VANUATU
Dr Philippe Guyant, Medical Officer, MOH Iatika Complex, P.O. Box 177, Port Vila
Email: guyantp@who.int

WHO HEADQUARTERS
Dr Olufunmilayo Lesi, Technical Officer, Cross Cutting Lead, Global Hepatitis Programme, HQ/HIV Cross-cutting HIV Expert UCN, World Health Organization, Avenue Appia 20, CH – 1211 Geneva 27, Switzerland, Email: lesio@who.int

Dr Philippa Easterbrook, Scientist, Global Hepatitis Programme, World Health Organization, Avenue Appia 20, CH – 1211 Geneva 27, Switzerland, Email: easterbrookp@who.int

WHO REGIONAL OFFICE FOR SOUTH-EAST ASIA
Dr Mukta Sharma, Regional Advisor HIV/Hepatitis/STI, WHO South-East Asia Regional Office, World Health House, Indraprastha Estate, Mahatma Gandhi Marg, New Delhi 110 002, India
Email: sharmamu@who.int

Dr Rewari Bharat, Technical Officer, WHO South-East Asia Regional Office, World Health House, Indraprastha Estate, Mahatma Gandhi Marg, New Delhi 110 002, India
Email: bharatr@who.int
Annex 2: Programme of activities

<table>
<thead>
<tr>
<th>Time</th>
<th>Activities</th>
<th>Speaker / Moderator</th>
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<tr>
<td>Day 1: Tuesday, 1 December 2020)</td>
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<tr>
<td>0830 – 0850</td>
<td>1. Opening and introduction</td>
<td>Dr Naoko Ishikawa and Dr Yoshihiro Takashima</td>
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<td></td>
<td>• Welcome remarks</td>
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<td>• Opening remarks by Regional Director</td>
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<td>• Introduction of participants</td>
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<td>• Objectives</td>
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<td>• Administrative announcements and virtual photo</td>
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<td>0850 – 0950</td>
<td>2. Overview of Viral hepatitis in Western Pacific Region: progress and achievements</td>
<td>Dr Yoshihiro Takashima</td>
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<td>2.1. Work and contribution of Hepatitis B Expert Review Panel (ERP)/Vaccine-Preventable Diseases and Immunization unit</td>
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<td>2.2. Work and contribution of Viral Hepatitis Strategic Technical Advisory Committee (STAC)/HIV, Hepatitis and STI unit</td>
<td>Dr Rosmawati Mohamed/Dr Naoko Ishikawa</td>
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<td>2.3. Plenary discussion</td>
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<td>0950 – 1005</td>
<td>Break</td>
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<td>1005 – 1145</td>
<td>3. Prevention: Vaccination</td>
<td>Dr Nina Gloriani</td>
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<td>3.1. Hepatitis A (30 min presentation and discussion)</td>
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<td>3.2. Hepatitis B (50 min presentation and discussion)</td>
<td>Dr Robert Allison</td>
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<td>Day 2: Wednesday, 2 December 2020</td>
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<td>0830 – 1000</td>
<td>4. Prevention: Elimination of mother-to-child transmission (EMTCT of HBV)</td>
<td>Dr Benjamin Cowie</td>
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<td>4.1. Plenary presentation (15 min) Brief history of triple EMTCT and country progress and updates</td>
<td>Dr Anne Brink</td>
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<td>4.2. Panel discussion based on key questions + Q &amp; A (40 + 20 min)</td>
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<td>Time</td>
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<td>1. How can access to free, integrated ANC screening be ensured at the lowest level of care?</td>
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<td>2. What is needed to decentralize further evaluation of pregnant women with hepatitis B and provide tenofovir to those who are eligible?</td>
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<td>3. How can follow up of HBV-exposed infants be operationalized?</td>
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<td>4. What steps can be taken to ensure active community involvement in all stages of planning, design and implementation of EMTCT?</td>
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<td>5. How can EMTCT-related programme data best be collected and compiled for monitoring and evaluation?</td>
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<td>1000 – 1015</td>
<td>4.3. Wrap-up (15 min)</td>
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<td>1015 – 1145</td>
<td><strong>Testing and treatment</strong></td>
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<td>5.1. Plenary presentation (10 min): Unblocking systems barriers – country implementation progress, challenges and lessons</td>
<td>Dr Po-Lin Chan</td>
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<td>5.2. Group discussions based on key questions (breakout room: (50 min)</td>
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<td>Group 1: accelerate synergism and scale up of services</td>
<td>Dr Margaret Hellard (Group 1)</td>
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<td></td>
<td>How to accelerate synergism and scale up of integrated testing, treatment and chronic care as part of UHC?</td>
<td>Dr John Ward (Group 2)</td>
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<td>Group 2: sustainable financing for hepatitis</td>
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<td>How to ensure sustainable financing for hepatitis testing, treatment and chronic care as part of essential service?</td>
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<td>5.3. Plenary report back of group work (20 min)</td>
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<td>5.4. Wrap up (10 min)</td>
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<td>Day 3: Thursday, 3 December 2020</td>
<td>6. <strong>Surveillance and data management</strong></td>
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<td>0830 – 1000</td>
<td>6.1. Plenary presentation (30 min)</td>
<td>Dr Fuqiang Cui</td>
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<td>Current situation of hepatitis systems in focus countries and challenges in collecting impact and program monitoring data</td>
<td>Dr Linh-Vi Le</td>
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<tr>
<td>Time</td>
<td>Activities</td>
<td>Speaker / Moderator</td>
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<td>6.2.</td>
<td>Discussion: integrating and sustaining hepatitis strategic information in existing systems (50 min)</td>
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<td>Key questions</td>
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<td>How can countries work with stakeholders on hepatitis data in the context of very limited resources or without centralized reporting systems?</td>
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<td>How can WHO better support countries to overcome systems challenges in establishing or sustaining strategic information systems for viral hepatitis?</td>
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<td>What other partners are there to leverage and build a network to assist countries in integrating and sustaining strategic information systems?</td>
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<td>6.3.</td>
<td>Wrap up (10 min)</td>
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<tr>
<td>1000 – 1015</td>
<td>Break</td>
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<td>1015 – 1145</td>
<td>7. Conclusions and Recommendations</td>
<td>STAC/ERP</td>
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<td>Closing</td>
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