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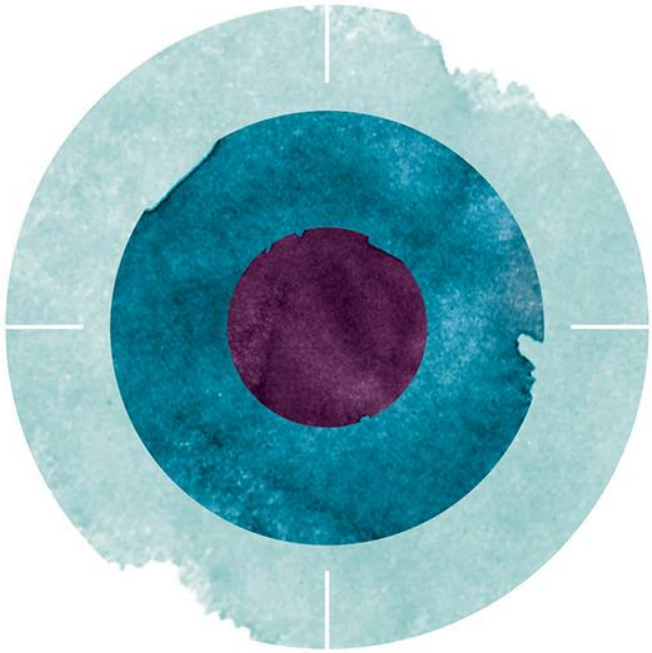

Workshop on development of costed action plans for viral hepatitis in the South-East Asia Region

Kathmandu, Nepal, 19-23 August 2019

World Health Organization
Regional Office for South-East Asia

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1. EXECUTIVE SUMMARY

1.1. Background

Countries in the South-East Asia Region (SEAR) face a large burden of disease from hepatitis B virus (HBV) and hepatitis C virus (HCV). A Regional Action Plan for Viral Hepatitis in South-East Asia Region (2016-21) was developed in consultation with Member States and endorsed by the Regional committee. This plan provides an actionable framework of priority evidence-based interventions to support national responses for prevention, control and management of viral hepatitis within Member States of the Region. However, as of 2019, only three (27%) countries had an action plan for hepatitis, and of those with a plan, few included information on costing, budgeting and financing.

1.2. Objective

With the overall objective to support the development of fully costed national action plans, the workshop involving all 11 countries in the South-East Asia Region was organized with the following specific objectives:

- To familiarize with tools and templates to develop national costed action plans on viral hepatitis;
- To demonstrate cost effectiveness of interventions for hepatitis B and C at country level;
- To share experiences on advocacy, community engagement, service delivery and resource mobilization as part of action plan development; and
- To support finalization of national action plans to scale-up up health sector response for viral hepatitis.

1.3. Activities during the workshop

We regrouped focal points of the national viral hepatitis programmes of the 11 countries of the South-East Asia Region, along with WHO country office counterparts and civil society representatives from the region during a five-day workshop in Kathmandu, Nepal. They engaged in an applied learning exercise by doing activities so that they could provide the key elements of their national plans, including (1) baseline assessment, (2) priority setting, (3) cost effectiveness estimates, (4) logical framework and (5) costing. A team of specialists gathered and assisted the teams of national programmes and focal points during the following activities:

Day one: Review of country profiles and priority setting;

Day two: Interactive work to estimate the cost of cirrhosis and hepatocellular carcinoma and to generate cost-effectiveness estimates for HBV and HCV treatment, with the Hep B and Hep C online cost-effectiveness calculators;

Day three: Developing logical frameworks for the main activities;

Day four: Use of OneHealth tool to estimate costs and preparation of a slide presentation for a debrief of the key building blocks of the national plan; and

Day five: Feedback of the slide presentations with key building blocks of the national plan, with peer review.

1.4. Products and tools prepared for and pilot-tested during the workshop

To facilitate this process, we prepared a number of products and tools that were pilot tested during the workshop. These included:

1. Country profiles based on the 10 core indicators and including a cascade of care of Hepatitis B and Hepatitis C;
2. A tool to estimate the cost of cirrhosis and hepatocellular carcinoma in view of the preparation of cost-effectiveness estimates;
3. Logical framework templates that could be used in the development of action plans; and
4. An application of the OneHealth software tool dedicated to hepatitis, including a quick reference guide for users.

1.5. Output

- Each country left with the key elements and/or outlines of their national action plans, with steps proposed to be taken with their respective programmes.
- Participants indicated direct benefit from all workshop sessions: Improvement is recorded in before-after scores of the anonymous assessment conducted online.
- Four tools as explained above, have been prepared and pilot tested that can be reused in WHO country support activities.

1.6. Expected outcome

All countries expressed their keen interest in taking forward the work initiated during the workshop and demonstrated application of key learning from the workshop in their outlines made during the respective country presentations. Towards this, participants agreed that several follow-up steps are required at the country level after this workshop is concluded. The WHO South-East Asia Regional Office (SEARO) will continue to work with the member states to ensure the key elements of the plans lead to adoption of national action plans that are fully costed, budgeted and financed.

2. BACKGROUND:

Viral hepatitis is one of the leading causes of death and disability worldwide. Globally, the burden of disease due to viral hepatitis is increasing compared to other communicable diseases. The main causes of death are a consequence of chronic infection due to hepatitis B and C, which are cirrhosis and liver cancer.

Following the inclusion of viral hepatitis in the Sustainable Development Goals (SDGs) the WHO Global Health Sector Strategy for Viral Hepatitis (2016-2021) was developed. In order to take this forward, the Regional Action Plan for Viral Hepatitis in South-East Asia Region (2016-21) was developed in consultation with Member States and endorsed by the Regional committee.

The regional action plan provides an actionable framework of priority evidence-based interventions to support national responses for prevention, control and management of viral hepatitis within Member States of the Region. This action plan aims to strengthen existing programmes to promote vaccination and improve sanitation and ensure food and water safety. It also calls for innovations to scale up prevention, diagnosis and treatment, and will facilitate the monitoring of health sector responses to prevention, diagnosis and treatment of hepatitis.

Some countries in the region have taken lead in developing national strategies and action plans based on the global strategy and regional action plan. However, progress is uneven across the region. Moreover, current plans are not detailed enough to enable resource mobilisation and high coverage of programmes.

The present workshop will take stock of the epidemic and response particularly in the context of the regional action plan priority strategies, indicators and targets. The participants will be taken through the process of action planning, that will involve working on the various steps such as quantifying disease burden from estimates, prioritising key interventions, developing clear monitoring frameworks, and costing of action plans. The overall objective is to support Member States in developing costed and prioritised viral hepatitis action plans, for which the following specific objectives have been set.

3. WORKSHOP OBJECTIVES:

- To familiarize with tools and templates to develop national costed action plans on viral hepatitis;
- To demonstrate cost effectiveness of interventions for hepatitis B and C at country level;
- To share experiences on advocacy, community engagement, service delivery and resource mobilization as part of action plan development;
- To support finalization of national action plans to scale-up up health sector response for viral hepatitis

4. OPENING

4.1. Inaugural session

The workshop was inaugurated by Mr Ram Prasad Thapalia, Secretary, Ministry of Health and Population (MOHP), Nepal. Dr Sushil Nath Pyakuryal, Director General, Department of Health Services and Mr Mahendra Prasad Shrestha, Chief, Health Coordination Division, MOHP, Nepal were also present on the occasion. They expressed on behalf of the Government of Nepal, their gratitude for hosting this regional workshop in Nepal and reiterated their commitment towards taking forward the regional and global agenda on viral hepatitis.

Dr Bharat Bhushan Rewari, Scientist, WHO SEARO, gave introductory remarks and briefly outlined the objectives of the workshop for the dignitaries. On behalf of Dr Poonam Khetrapal Singh, Regional Director, WHO SEARO, the acting WHO Representative to Nepal, - Dr Md Khurshid Alam Hyder delivered her message.

The Regional Director noted that around 257 million people are living with hepatitis B globally, while 71 million are living with hepatitis C. An estimated 1.4 million people die due to viral hepatitis every year. Roughly 39 million people among the 257 million living with Hepatitis B, and 10 million people among the estimated 71 million with Hepatitis C, are in the South East Asia Region. The mortality due to viral hepatitis is more than that of HIV-related illness, and close to that of tuberculosis. Hepatitis B and C together account for more than 90% of all hepatitis-related mortality.

Dr Khetrapal Singh pointed out that the significance of the situation is not reflected in the global allocation of resources for viral hepatitis. It is in this context that WHO adopted the theme for this year's World Hepatitis Day, "Invest in Eliminating Hepatitis". Hence, the work undertaken at this workshop and the activities in follow-up assumes great significance.

The Regional Director observed that WHO's Global Health Sector Strategy for Viral Hepatitis (2016-21) gives an operational outline on combating viral hepatitis, as envisaged under the Sustainable Development Goals (SDG), towards its elimination as a public health threat by 2030. To achieve this, the Regional Action Plan for Viral Hepatitis was developed in consultation with Member States and endorsed by the Regional Committee in 2017. Dr Khetrapal Singh thanked all Member States for their commitment towards the Action Plan. She highlighted that to eliminate viral hepatitis as a public health threat by 2030 we must achieve a 30% reduction in incidence by 2020, and a 90% reduction by 2030. Similarly, there must be a 10% reduction in mortality by 2020 and a 65% reduction by 2030.

The Regional Director emphasized the need to accelerate the pace of work and fully utilize the opportunities we have, including advances in the prevention, testing and treatment of viral hepatitis, as well as the significant reduction in the cost of viral hepatitis diagnostics and therapeutics. In this regard, Dr Khetrapal Singh urged the participants to consider the following imperatives.

First is the need to think about the allocation of resources as an investment. By doing so participants will appreciate the direct benefits from the provision of prevention, testing and treatment services as well as the significant cost-savings to health systems more broadly. The tools on cost-effectiveness used during this workshop will help when this is taken forward through investment cases.

Second is the need to have better estimates of the disease burden and comprehensive cost data on various interventions. As part of this, surveillance systems at the country level must provide more accurate estimates of the disease burden generally, and particularly among subpopulations.

Third is the need to leave no one behind, as per the overall ambit of universal health coverage. To do this, finding out and addressing the challenges key populations face in accessing services is essential. The targets for viral hepatitis control, and the eventual goal of its elimination as a public health threat, cannot be reached without addressing this important aspect.

In conclusion, Dr Khetrapal Singh reiterated WHO's continued commitment to supporting the Member States, at this workshop and beyond, and urged to make the most of the crucial opportunity. She wished everyone an engaging and productive workshop and looked forward to being apprised of its outcome.

The inaugural session concluded with the lighting of a ceremonial lamp.

4.2. Global update

Dr Yvan Hutin, WHO, Geneva, provided an update on the global progress towards viral hepatitis elimination. He drew participants' attention to key insights from the Global Hepatitis Report, 2017, that gave baseline data for 2015. Accordingly, there is an estimated 257 million people living with HBV in the world. However, the cumulated incidence of chronic HBV infection in children under-five years of age fell from 4.7% in the pre-vaccine era to 1.3% in 2015. This considerable reduction of incidence is attributable to progress in immunization coverage. Among the regions, African and Western Pacific regions account for 68% of those living with HBV. South-East Asia accounts for third largest number among all the WHO regions.

Similarly, 71 million people are living with HCV globally. The number of persons with HCV infection is about the same in all regions, even though there are differences across countries and sometimes within countries. Overall there are still 1.75 million new infections in the world each year. Considering that this number is more than the number of persons who were cured in 2015, it indicates a growing epidemic.

Mortality trends over the last 10 years shows that for HIV, tuberculosis and malaria, the numbers have decreased. However, for viral hepatitis, the mortality is increasing, with 1.34 million deaths in 2015. 96% of the mortality from viral hepatitis is attributable to the sequelae of HBV and HCV infections, which include cirrhosis and hepatocellular carcinoma. It is also to be noted that 2.7 million out of the 257 million with HBV and 2.3 million out of the 71 million with HCV infections are co-infected with HIV. In 2015, the board of the Global fund to fight AIDS, TB and Malaria agreed to cover cost for management of co-infections.

In this regard, the pledge made at the World Health Assembly in 2016 towards elimination of viral hepatitis by 2030 was recalled. Accordingly, the Global Health Sector Strategy (GHSS) on viral hepatitis (2016-21) it was agreed that five core interventions with sufficient coverage would lead to the elimination targets of 90% reduction in incidence, as well as 65% reduction in mortality. The five core interventions and the globally agreed targets are summarized in the table below:

Core Interventions	Indicator	2015	2020	2030
3 dose HBV vaccine	Coverage	84%	90%	90%
HBV PMTCT	Coverage	39%	50%	90%
Blood / injection safety	Screened donations	97%	100%	100%
	Safe injections	95%	100%	100%
Harm reduction	Sets/PWID/year	27	200	300
HBV and HCV testing and treatment	% diagnosed	9/20%	30%	90%
	% treated	8/7%	N/A	80%

The 2015 baselines show major gaps in HBV PMTCT (HBV birth dose coverage), harm reduction, as well as HBV and HCV treatment, vis-a-vis the 2020 and 2030 targets. In addition to the GHSS, WHO has come up with a series of guidelines, manuals, tools and reporting system on viral hepatitis, in order to better support the member states in achieving these targets. As of February 2019, 124 countries had national hepatitis plans, 44 of which are at the draft stage. In 2017, 58% of the plans included some domestic funding.

In conclusion, Dr Hutin observed that while the global strategy and targets have indeed created major momentum, the impact is limited in many countries to date. While national plans for implementation are increasingly available, testing and treatment scale-up is at early stage and limited to ‘champion’ countries. Despite harm reduction for persons who inject drugs being central to HCV elimination, coverage rates are too low, and increasingly challenged in countries. There is an opportunity globally to position the viral hepatitis response within broader Universal Health Coverage (UHC). This opportunity must be utilized in the way forward towards elimination.

4.3. Regional update

Dr Bharat Bhushan Rewari, WHO SEARO, shared a regional overview of viral hepatitis situation and response in the South East Asia Region (SEAR) of WHO.

In terms of disease burden SEAR has 40 million persons living with HBV and 11 million with HCV. These numbers amount to 16% and 15% of the global burden respectively. Each year, 410,000 deaths due to viral hepatitis are happening in the region of which, 81% are attributed to chronic complications of hepatitis B and C. HBsAg prevalence is estimated at 2.0% [1.5% - 4%] and the estimated number of hepatitis B carriers is 39 million [29 – 77 million]. Similarly, the prevalence of hepatitis C is estimated at 0.5 % [0.4% - 0.9%] with the estimated number of hepatitis C carriers being 10 million [8.0– 18 million]. In terms of the cascade of care for both HBV and HCV, based on data from the Polaris observatory, the following graph shows the immense efforts required:

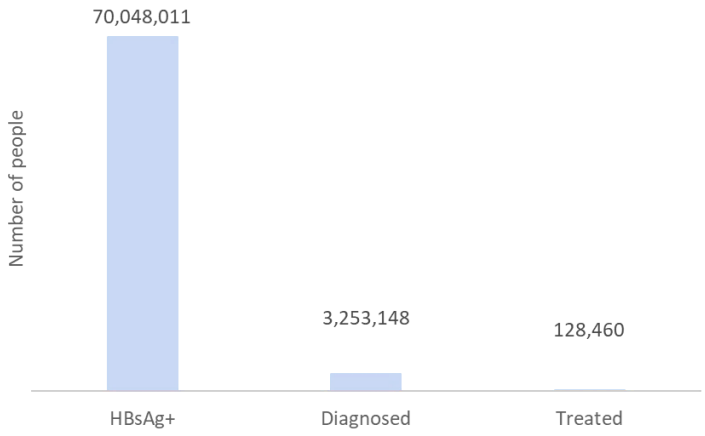


Figure 1. Hepatitis B cascade of care in the region

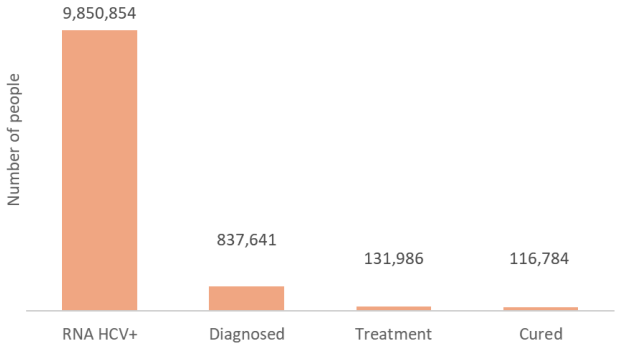


Figure 2. Hepatitis C cascade of care in the region

There is a need to ramp up action on viral hepatitis in line with the GHSS and the South-East Asia Region (SEAR) has been responding to this growing recognition. Accordingly, the Regional Action Plan for Viral Hepatitis in South-East Asia (2016-2021) was launched and several activities

initiated towards scaling up health sector response to viral hepatitis. The regional action plan has also set ambitious region-specific targets as shown in the table below:

Table 1. Targets set by the Regional Action Plan for Viral Hepatitis in South-East Asia (2016-21)

Interventions	Indicator	SEAR Baseline estimates	SEAR Regional Targets (2020)	Global Targets (2020)
Hepatitis B vaccination	HEPB3 coverage	93%	95%	90%
HBV PMTCT	HEP vaccine birth dose coverage	53%	90%	50%
Blood safety	Donations screened with quality assurance	85%	100%	95%
Injection safety*	Proportions of unsafe injections	5.2%	50%	100%
Harm reduction	Syringes & needles distributed/PWID/year	92	200	200
Testing services	%HBV-infected diagnosed	4.7%	50%	30%
	%HCV-infected diagnosed	8.5%	50%	30%
Treatment	%diagnosed with HBV on treatment	4.0%	75%	5 million
	%diagnosed with HCV started on treatment	17.8%	75%	3 million

**The target set for injection safety is 50% of all injections in Member States administered with safety-engineered devices.*

Regarding other targets of the action plan which are related to developing or adopting the following at national level: 1) prevalence estimates; 2) action plans for hepatitis; 3) guidelines for testing; and 4) guidelines for treatment; the member states are at various stages of implementation. Considering the importance of having costed and prioritized action plans, WHO SEARO is organizing the present workshop.

Key challenges faced in the path to elimination of viral hepatitis as a public health threat by 2030 were also discussed and summarized as follows:

- National and representative burden of disease still not known in many countries;
- Early diagnosis remains an issue as only 10% of infected people know their status currently;
- National Plans for viral hepatitis are still in draft stage in most of countries;
- Governance issues point to the need for multi sectoral and coordinated responses;
- Addressing viral hepatitis among Key Populations (KPs) – harm reduction among PWID is another challenge;
- Unsafe injections continue to be an issue;
- Stigma widespread and continues;
- Lack of wide availability of Rapid Diagnostic Tests (RDT), limited lab capacity, and lack of focus on whom to prioritize for testing;
- Lack of access to cheap drugs in some countries, and life-long therapy for HBV poses financial challenges;
- Lack of dedicated catalytic funds unlike HIV

Dr Rewari summarized the focus areas that require attention within the ambit of the SEARO mantra of Sustain-Accelerate-Innovate. These priority areas are summarized in the table below:

Table 2. Key activities proposed under the SEARO Mantra Sustain-Accelerate-Innovate

Sustain **The momentum and willingness in countries to have national action plans**	• Focus on data generation and use of cost effectiveness tools for advocacy • Continue to provide technical support to Countries to develop and implement national action plan • Advocacy for national funding using hep B calculator, investment case

Accelerate
 	
Implementation of activities for elimination of viral hepatitis
	• Accelerate the implementation of National action plans for hepatitis
	  ○ Accelerate adoption of rapid diagnostic tests for viral hepatitis diagnosis
	  ○ Accelerate birth dose immunization for Hep B
	  ○ Accelerate use of Reuse Prevention (RUP) syringes
	  ○ Build capacity of health force at primary and secondary level
	  ○ Do not lose focus on A and E –safe water and hygiene
	• Periodically review the progress on viral hepatitis action plan implementation

Innovate **Sustainability of interventions**	• Newer tools for finding the missing millions infected with hepatitis • Integrated service delivery models for efficient use of resources

4.4. Planning process and workshop overview

Through a joint presentation, Dr Nabeel Mangadan-Konath, WHO SEARO, and Dr Niklas Luhmann, WHO Geneva, shared a brief overview of planning process in the context of developing national action plans for viral hepatitis, as well as, an outline of the workshop agenda.

Attention was drawn to the 'Manual for the development and assessment of national viral hepatitis plans' published by WHO in 2015. It was emphasized that planning processes in the context of national viral hepatitis action plans must be guided by the following key principles: 1) Leadership and governance; 2) Human rights and equity; 3) Health systems strengthening and integration; 4) Evidence-informed policy and planning; 5) Feasibility, cost-effectiveness and impact; and 6) A public health approach.

The importance of the different components in planning cycle vis-a-vis a) needs assessment and situational analysis; b) developing the plan; c) implementing and monitoring the plan; d) evaluation; and e) utilizing knowledge, was stressed upon. In terms of what must go into an action plan, it is essential to include health information systems; essential services; population coverage for equity; as well as costing details and financing plans. Under essential services it is important to include health promotion; prevention; testing and clinical care and treatment.

The various strategies under prevention that are recommended include: Vaccination for hepatitis B; blood safety; infection prevention and control, including injection safety; harm reduction for people who inject drugs; prevention of sexual transmission; sanitation, clean water and food safety. The interventions are to be planned based on the estimations of disease burdens and patterns and targets set accordingly. In doing so, it is essential to ensure that objectives defined under the action plans be SMART – i.e. Specific, Measurable, Achievable, Relevant, and Time-bound. With this background, the objectives of the workshop were recalled as follows:

- To familiarize with tools and templates to develop national costed action plans on viral hepatitis;
- To demonstrate cost effectiveness of interventions for hepatitis B and C at country level;
- To share experiences on advocacy, community engagement, service delivery and resource mobilization as part of action plan development;
- To support finalization of national action plans to scale-up up health sector response for viral hepatitis

In order to achieve the above objectives an agenda (Annex) for five days have been put together with minimal didactic sessions and more of interactive and hands-on sessions. Broadly, the agenda is structured as follows:

- Day 1: Setting the stage: From situational analysis to national action plans
  - Reviewing and synthesizing existing data on disease burden and response; and
  - Outlining the targets to be set, based on baselines
- Day 2: Defining key strategies using cost-effectiveness analyses
  - Demonstrating cost-effectiveness of interventions using standard tools, towards defining key strategies and prioritizing top-level activities
- Day 3: Translating strategies to plans: Logical framework approach and costing
  - Developing logical frameworks for action plans and orienting to cost elements
- Day 4: Costing for priority interventions and preparing national action plans
  - Drafting Action Plans based on logical frameworks and costing of priority interventions
- Day 5: Taking forward draft plans towards implementation
  - Discuss and share feedback on key elements of national action plan outlines; and
  - Outline process of finalizing action plan in country

4.5. National viral hepatitis plans: Chutes and ladders

Dr Yvan Hutin, WHO Geneva, shared global experiences based on countries' work on developing national action plans. As of February 2019, 124 countries have developed national viral hepatitis plans with 44 of them at the draft stage. He also noted that in 2017, 58% of plans included some domestic funding. He drew the attention of participants to the analogy of the board game chutes and ladders, highlighting some broad determinants of successful planning, based on global experiences.

Bringing people together as a working group within and outside of Ministry of Health is one of the priority processes to undertake in the beginning. The focus here must be to agree on a vision, strategic goals and targets, and to later agree on roles and responsibilities. In the operational plan, focus must be on priority actions for the immediate future. Above all, costing and funding the national plan is key towards achieving the outputs in terms of the five key strategic interventions namely Infant vaccination; Prevention of mother-to-child transmission; Blood and injection safety; Harm reduction; and Diagnosis and treatment.

Depending on country context, a national plan could be a stand-alone document focusing on all or some types of viral hepatitis; or a section within a broader disease plan such as for example, HIV, STIs, or other communicable diseases; or a section within the national health plan. In any case, it should include strategic priorities; description of operations; and funding.

Four potential chutes and tips to turn them into ladders by addressing the key issues therein were summarized as follows:

1. Long unfocused background: This will lead to an unnecessarily long document that lacks purpose. In addition, it will dilute the problem. This can be avoided by undertaking a quantified situation analysis with attention to the know the situation with the ten core indicators and to measure the coverage gaps. This approach will help to bring back the focus required.

2. Lack of quantified priorities: Having long wish lists without any rationale and differentiation will not serve much purpose. Instead, the focus must be on explicit targets, with a list of workable and cost-effective interventions. It is also important to have rationale for prioritization.

3. Unclear description of the plan: Describing the plans with unclear actions and without any logical models means no measurement is possible. Hence it is important to have a logical framework with the 'what, where and who' clearly depicted and with a results chain. This will provide an Indicators framework that would be useful for monitoring and evaluation as well.

4. No information on financing: This means the plan will be unclear about the cost implications with no budget and no funding source identified. Hence it is important to have a financing plan inclusive of unit costing of the interventions, budgeting for implementing the plan, and with funding sources identified.

Dr Hutin further emphasized that by working together as a community of practice and by focusing on gap analysis, target setting, logical framework and costing, the source code of future national plans including key essential building blocks can be outlined as an output from the workshop.

4.6. Moving ahead on viral hepatitis plans under Universal Health Coverage (UHC)

Dr Sandhya Kabra, National Viral Hepatitis Control Program (NVHCP), India, shared experiences in moving ahead on viral hepatitis plans under UHC. Drawing from the Sustainable Development Goals (SDG) and India's National Health Policy, 2017, she explained how the program is rooted in the principles of 1) equity in access, 2) quality of services, and 3) protection against financial risk, under UHC.

Under the UHC approach, NVHCP has a focus on all five hepatitis viruses, and is planned for all geographies within the country. By focusing on priority groups initially, the objective is to cover all people with the required services. Needs of key populations as identified for different viruses would be addressed as priority populations. Appropriate interventions are identified for the priority populations, as equity in access forms a key aspect of this UHC approach.

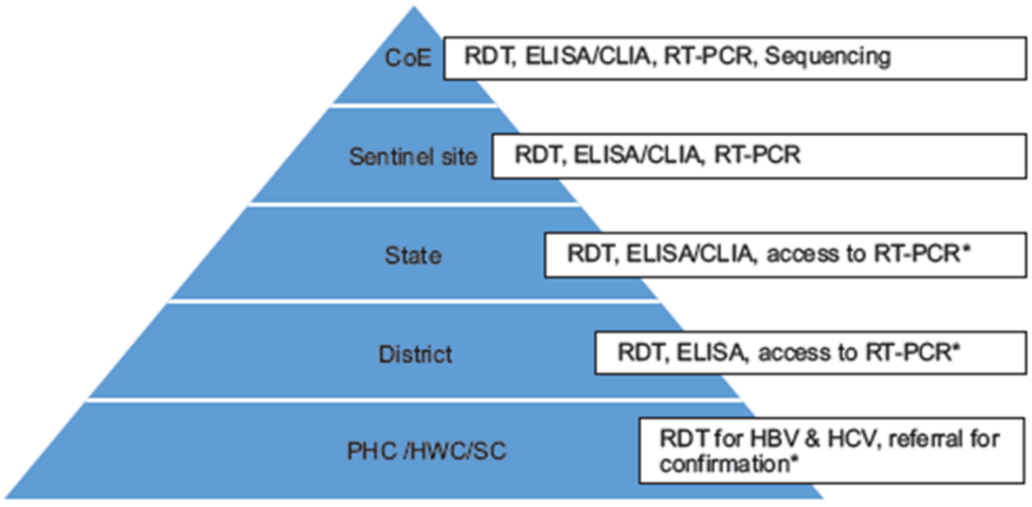
Training and capacity building as well as measures to improve data quality are taken up as part of overall efforts to ensure quality. Besides, specific measures for ensuring quality of services as well as quality of commodities used in the programme are included. The finances for NVHCP comes under the National Health Mission (NHM) i.e. domestic budget, inclusive of financing of cross-cutting areas by other programmes as well as under *Aysuhman Bharat* – the National

Health Protection Scheme. An integrated approach is being followed that avoids duplication. Moreover, financing through domestic budget improves the sustainability as well.

With this backdrop, Dr Kabra briefly explained what the national action plan for viral hepatitis in India addresses: causes of viral hepatitis; global and national burden of disease; aims, objectives and key features of NVHCP; the model adopted in terms of program management, diagnosis and treatment; linkages with existing programs; new initiatives; and monitoring and evaluation. The key highlights are:

- Enhance community awareness on hepatitis and lay stress on preventive measures
- Provide early diagnosis and management of viral hepatitis at all levels of healthcare
- Develop capacities for implementation of standard diagnostic and treatment protocols
- Strengthen the existing infrastructure facilities
- Build capacities of existing human resource
- Raise additional human resources, only where required
- Develop linkages with the existing programs and activities of not only health, but other ministries including National AIDS Control Programme (NACP), Immunisation, and Drinking water and Sanitation.

The national program is also developing a web-based “Viral Hepatitis Information and Management System” to maintain a registry of persons affected with viral hepatitis and its sequelae. The diagnostic and treatment service delivery envisaged across different tiers under NVHCP are summarised in the following two diagrams.



**If samples are to be transported, they need to be collected, packaged and transported within six hours of collection under suitable environmental conditions.*

Figure 3. Service delivery model for diagnosis

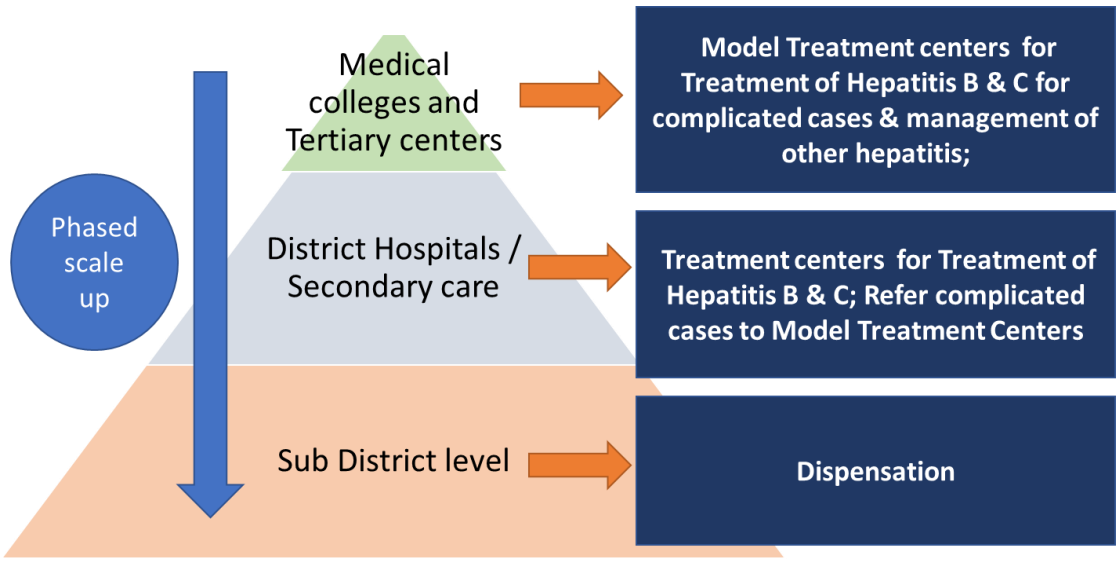


Figure 4. Service delivery model for treatment

Dr Kabra concluded by summarising the key enablers of India's NVHCP adopting a UHC approach. These include inter-sectoral coordination; harnessing existing capacities; central procurement for economies of scale; community involvement; technical working groups; supply chain management; online monitoring and evaluation system; and sustained domestic funding.

4.7. Role of Civil Society in Advocacy, Demand Generation and Service Delivery Models

Mr Ningombam Pramod Singh, representing Community Network for Empowerment (CoNE) briefly shared experiences of the organization in channelizing community and civil society efforts towards advocacy, demand generation and service delivery models for viral hepatitis.

CoNE is a state-level network of 13 Community-Based Organizations (CBOs) established in 2011, and working since then, in the state of Manipur, India. Their activities are aimed at improving access to prevention, testing and treatment of HCV; stopping human rights violation in drug treatment centres; improving access to second line Antiretroviral Therapy (ART), and viral load testing for HIV; improving access to Naloxone for drug overdose management; and scaling up of Opioid Substitution Therapy (OST) centres in the state.

As a background, Mr Singh provided a background of Manipur, where studies had documented as high as 98% prevalence of HCV among PWID. More recent studies mention 70% HCV among PWID and 29% HIV/HCV co-infection. The national HIV program did not include critical components of HCV prevention care and treatment. Moreover, level of awareness or understanding on HCV is very low. As such, access to HCV related services is poor. Challenges with state-level data on HCV has been another challenge.

CoNE's advocacy encompasses working with a range of partners including through Public-Private Partnership. Hence CoNE's work involves government, pharma companies, research community such as the Indian Council of Medical Research (ICMR), as well as community organizations with shared responsibilities.

Mr Prawchan KC, representing SPARSHA, Nepal, shared the experiences or stories of community mobilization in Nepal under the aegis of SPARSHA in Nepal in shaping the early response to the epidemic in the country. SPARSH had been working with the communities of people who inject drugs and other groups who were facing vulnerabilities in the context of HIV and related issues in Nepal. These experiences as well as the networks they had at the grassroots, helped them mobilize themselves as well as modest resources from Government and other partners in initiating early response and advocate for comprehensive services in addressing viral hepatitis in the country.

In summary, Mr Prawchan emphasized based on the experiences of SPARSHA, Nepal, how communities and civil society organizations can be actively engaged and lead in the response to viral hepatitis, including to mobilize resources, and contribute to other supply side, as well as, demand side factors. This approach is essential to ensure access and coverage of essential services for viral hepatitis.

4.8. The WHO viral hepatitis elimination goals: what does this mean for people who use drugs?

Dr Niklas Luhmann, WHO Geneva, discussed the key issues as faced by people who use drugs in the context of viral hepatitis and provided strategic directions to consider while developing national action plans.

All viral hepatitis epidemics are different and depending on the country, major regional differences may also exist. Priority populations are in general, those over-proportionally affected by the epidemic and with challenges in accessing HCV care and services. Citing recent data and published literature, several instances were shown were PWID are over-proportionally affected by viral hepatitis in SEAR and elsewhere. Moreover, evidence also points that prioritizing harm reduction interventions including Opioid Substitution Therapy (OST) and provision of clean injection equipment, can help achieve progress towards elimination targets. Hence, PWID may be highly relevant for targeted prevention, testing and treatment in order to achieve high impact.

In this regard, Dr Luhmann shared an example of a blueprint for HCV elimination in Canada. There are five identified Priority populations and one birth cohort of interest under this blueprint: People who inject or use drugs; Indigenous peoples (First Nations, Inuit, Métis); People with experience in the federal or provincial prison system; Immigrants and newcomers from countries where HCV is common; Gay, bisexual and other men who have sex with men; and the 1945-1975 birth cohort: adults living with hepatitis C.

Based on the Global Hepatitis Report, 2017, few recommendations related to public health and equity were highlighted. The highest burden from viral hepatitis is found in low- and middle-income countries. As such, eliminating hepatitis will be possible if these countries follow a public health approach that strengthens health systems and reduces inequities. Hepatitis services should be prioritized for those populations with a higher incidence, prevalence and/or increased vulnerability, and adapted to their specific needs. Progress in reducing inequities can be measured by disaggregating incidence, prevalence and service coverage data at country level for specific populations.

In order to achieve WHO's HCV elimination targets especially in countries with concentrated epidemics, key recommendations for PWID were provided. These include: 1) Scale up and sustain harm reduction measures to prevent incident infections (OST and NSP); 2) Increase testing, linkage to care and uptake of direct-acting antiviral (DAA) therapy among people who use drugs; 3) 'Treat all'- Offer treatment to all HCV RNA+ who are above 12 years of age, irrespective of disease stage; 4) Use of pangenotypic DAA regimens for chronic HCV infection in people above 18 years; 5) Structural interventions are part of a comprehensive public health approach; and to utilize the strong synergy with HIV prevention and care and other drug use related public health issues, such as overdose or TB programmes.

In conclusion, Dr Luhmann highlighted the following Key messages:

- Defining priority populations is essential for impact and equity;
- PWID are globally an important priority population for HCV elimination;
- Even though not absolutely essential to be prioritised by all countries in SEAR to achieve progress in the area of HBV elimination, high prevalence rates are observed among PWID;
- Several countries in SEARO have important HCV epidemics among PWID and in some countries up to 10% of cases of chronic HCV can be found in current PWID alone;
- PWID do contribute high levels of incident cases;
- A combination of evidence-informed prevention and high treatment coverage will have the strongest effect on elimination targets;
- Promote removal of structural barriers, criminalization, stigma and discrimination; and
- Universal Health Coverage provides an opportunity

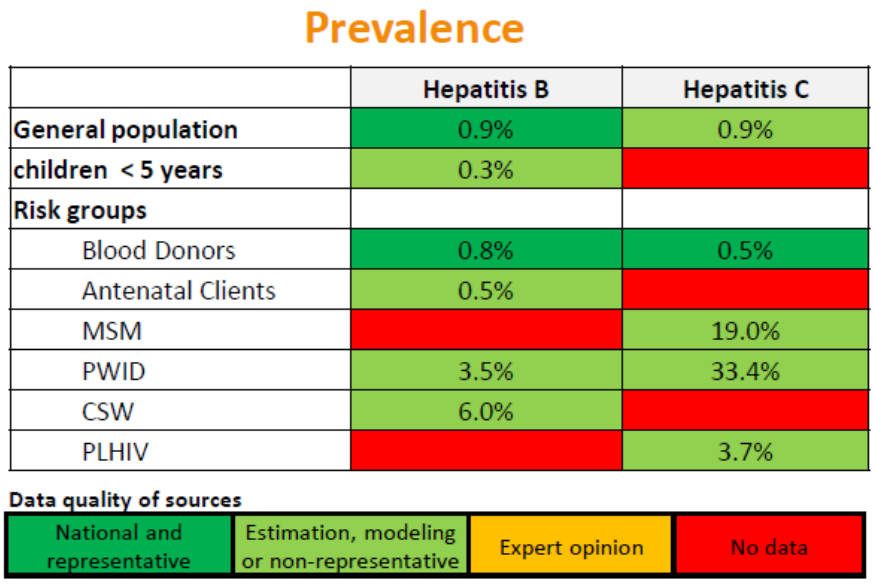
5. SUMMARY OF WORKSHOP SESSIONS ON DAY 1

5.1. Review of country profiles

Dr Chesco Nogareda, Epidemiologist, Madrid, Spain, introduced the key objective and background of this workshop session, where the participants undertook a detailed review of the data included in the draft country profiles for all 11 countries in the region. The country profiles aim to summarize in one page the current situation and services provided regarding viral hepatitis to help plan and set objectives and targets for the national action plans. These country profiles were shared with the respective focal points in national programmes and WHO Country Offices prior to the workshop for preliminary review and feedback. Dr Nogareda further explained the sources of information used and the key indicators included in the country profiles. Data was collected from various sources and in many instances, from the inputs provided by WHO Country Office focal persons also in consultation with the respective national programme staff.

Considering the diversity of the epidemiologic and programmatic contexts in different countries including some data challenges, it was decided that a round of detailed review is undertaken during the workshop as this baseline is important for further steps in action plan development. The core indicators along with related information included in the country profiles are as follows:

- Prevalence estimates (general population and Key Populations)
- Mortality attributable to viral hepatitis
- Cascade of care – proportion of individuals diagnosed and treatment
- Policies – vaccination, blood and injection safety, testing and treatment policies
- Access and cost of treatment
- Health sector response – vaccination coverage, harm reduction in PWID and testing facilities



Prevalence

	Hepatitis B	Hepatitis C
General population	0.9%	0.9%
children < 5 years	0.3%	
Risk groups		
Blood Donors	0.8%	0.5%
Antenatal Clients	0.5%	
MSM		19.0%
PWID	3.5%	33.4%
CSW	6.0%	
PLHIV		3.7%

Data quality of sources

National and representative	Estimation, modeling or non-representative	Expert opinion	No data

Figure 5. Sample Table on prevalence from the draft country profile. (Note: the colour coding indicate the nature of the source from which data for a particular indicator has been quoted.)

A sample of the table for prevalence used in the country profile is shown in figure 5 above, also explaining the colour code, i.e. based on the type of data source. The major sources used for this indicator include the following: 1) Biomarkers surveys, Basic Health Surveys, key population surveys, reports, etc.; 2) WHO Global and Country Estimates of chronic HBV infection[1]; 3) Integrated Biological and Behavioural Surveillance (IBBS); and 4) Estimation and modelling by the Polaris Observatory. Similarly, Mortality data was obtained from the Global Health Estimates (GHE) [2] - 2016, and cascade of care details from the Polaris Observatory maintained by the Centre for Disease Analysis. Most of the other information in the country profiles were obtained from the responses provided by WHO country focal points through an online form that was aimed to collect preliminary information.

[1] http://whohbsagdashboard.com/#hbv-country-profiles

[2] https://www.who.int/healthinfo/global_burden_disease/en/

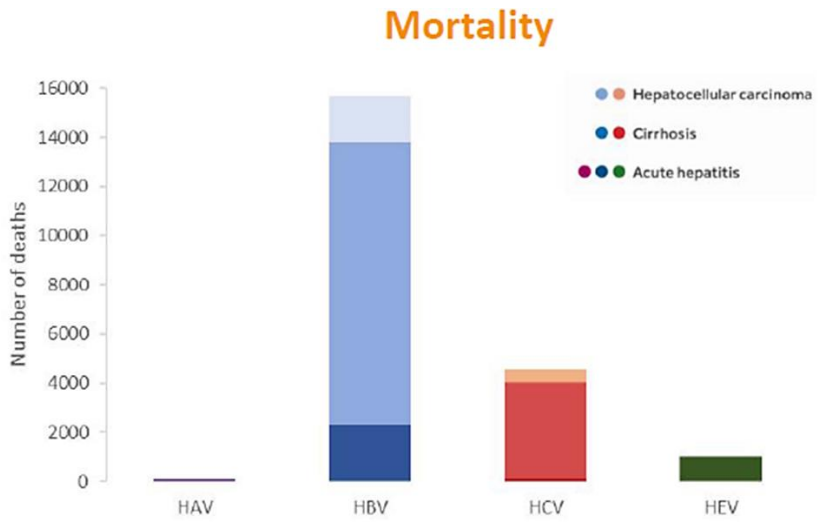


Figure 6. Sample Graph on mortality due to viral hepatitis, as presented in the draft country profile.

Following the initial presentation, participants assembled within the country groups to review the values against indicators presented in the draft country profiles. Discussions focused on validating these data/values or proposing other estimates that are more updated or accurate. Wherever available, they provided revised estimates along with the information source or reference. In the case of some countries, it was agreed that more time is required to come back with reasonable estimates for certain indicators. In any case, it was agreed that this will be taken up as a priority and country focal persons will update the data as soon as possible, while the planning process need to be undertaken with whatever data is available at present. All 11 country profiles were updated during this session (see Annex 4).

As part of this exercise, countries also reviewed the current status of the targets of their respective national viral hepatitis plans, wherever it is existing. The first step was to identify a national plan document if any and then to extract value of the impact targets if any. Other than incidence, prevalence and mortality targets, country groups also sought to extract current values for the service coverage targets, wherever available, for the five core interventions.

5.2. Target setting

Ms Sarah Blach, Center for Disease Analysis Foundation (CDAF), USA, introduced this session by providing a brief outline of the global service coverage targets towards eliminating viral hepatitis as a public health threat by 2030, which are summarized in the table below. By analysing key global trends with the service coverage indicators and by using modelling exercises, she shared useful insights to be considered while SEAR countries approach target setting.

Level	Areas	Indicators	Baseline 2015	2020 target	2030 target
Service coverage	Prevention	1. Three-dose hepatitis B vaccine for infants (coverage %)	82%	90%	90%
		2. Prevention of mother-to-child transmission of HBV: hepatitis B birth-dose vaccination or other approaches (coverage %)	38%	50%	90%
		3a. Blood safety: donations screened with quality assurance (coverage %)	89%	95%	100%
		3b. Injection safety: use of engineered devices (coverage %)*	5%	50%	90%
		4. Harm reduction (sterile syringe/needle sets distributed per person per year for PWID)	20	200	300
	Testing and treatment	5a. Diagnosis of HBV and HCV (coverage %)	<5%	30%	90%
		5b. Treatment of HBV and HCV (coverage %)	<1%	5 million (HBV) 3 million (HCV)	80% eligible treated

Table 3. Service coverage targets for eliminating viral hepatitis as a public health threat by 2030. (Source: Consolidated Strategic Information Guidelines for Viral Hepatitis. Planning and tracking progress towards elimination. World Health Organization 2019)

The global cascade of care for viral hepatitis was shown as an example wherein approximately 80% of HCV infected persons remain undiagnosed and 93% remain untreated. Analysing similar cascades at country levels can help identify gaps, which can form a key consideration in setting targets for national action plans. Having targets for both treatment as well as diagnosis is important. Trends in some countries show that the number of treated patients is decreasing as the pool of diagnosed patients is depleting. Hence, while setting targets for treatment, it is important that commensurate targets for diagnosis are also there.

Based on modelling undertaken by CDAF, Ms Blach demonstrated that achieving the WHO targets for HCV will take a substantial commitment to increase prevention, diagnostic and treatment efforts. Nevertheless, modelling also shows that even the current efforts are better than doing nothing at all. Hence it is important to note that any efforts above and beyond the status quo will have a meaningful impact on the hepatitis epidemic at a national level and will improve the lives of patients.

The above insights based on trends analysis and modelling, along with the global targets, can guide target-setting process at country-levels. It is also important that target-setting in the context of national action plans are done in alignment with national priorities and taking into consideration the local contexts and ground realities.

With this background, participants reconvened in their groups to undertake preliminary work to propose targets for their national action plans. To aid this process, an excel based tool was used wherein the targets for treatment and diagnosis can be worked out based on the inputs from the country profiles and by looking at scenarios with different levels of service coverage. In relation to both the sessions undertaken i.e. on country profiles and target setting, it was agreed that the process is not that simple, nevertheless it is useful to get out of comfort zones and to have working estimates. It was also emphasized that these figures are not written in stones, but an exercise towards learning an approach. As such, all parameters can be updated and improved, as this is a work in progress that must be continued.

6. SUMMARY OF WORKSHOP SESSIONS ON DAY 2

6.1. Overview of modelling to estimate impact on the basis of service coverage targets

The second day started with a brief recap of the previous day and was followed by a forenoon session that addressed 1) where do interventions take us and 2) what is the value for money. Ms Sarah Blach from the Center for Disease Analysis Foundation (CDAF), provided a brief overview of the modelling exercises undertaken by CDAF globally, to estimate impact based on the service coverage targets.

The key characteristics of CDAF models include 1) an easy to use excel-based platform; 2) transparency with all formulae being unprotected and visible to the stakeholders; 3) historical/published data which is used to calibrate the model; and 4) an interface to input potential strategies so as to measure the impact of future decisions. In terms of the process employed in CDAF's modelling exercise for viral hepatitis, the steps are summarized in the diagram below:

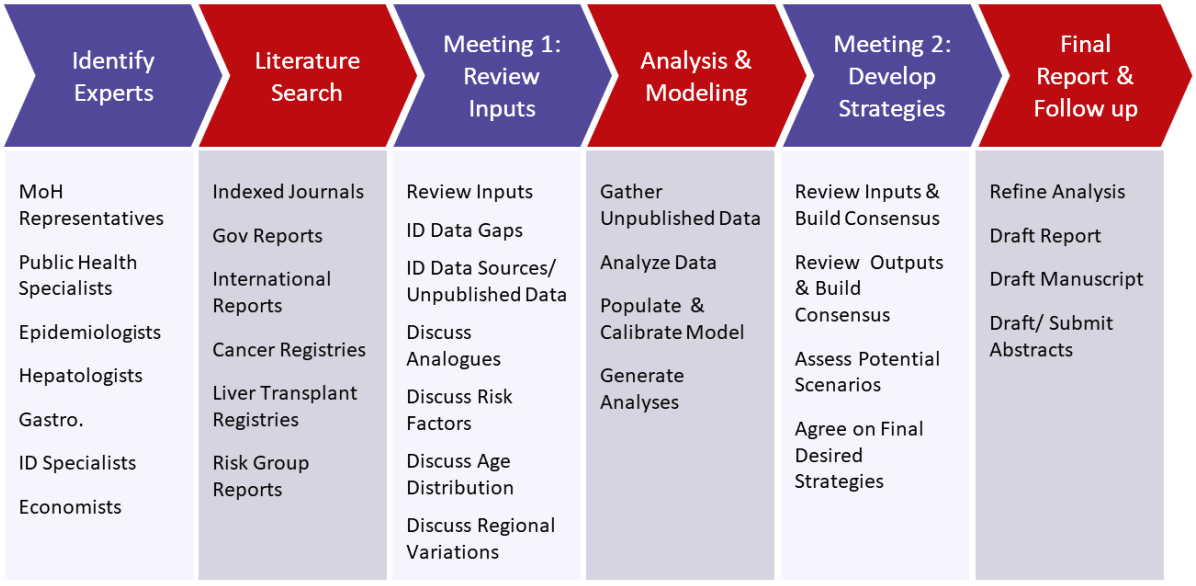


Figure 7. Modified Delphi process used to develop consensus estimates for inputs in CDAF's modelling exercises

Based on an array of inputs including historical trends as well as user inputs on assumptions related to future incidence, diagnosis, costs, treatment eligibility, treatment outcomes etc., calculations are performed regarding the progression of patients as well as associated costs and various economic impact parameters. Separate disease progression simulation models are used for hepatitis B and C respectively. As outputs of these calculations, a summary table as well as detailed results charts are then generated.

6.2. Case studies on modelling

Ms Sarah Blach further shared experiences from case studies in modelling undertaken in countries within and outside the SEAR. In most instances, morbidity and mortality are expected to increase under the current treatment rate, indicating a need to step up efforts. Modelling also showed that achieving the WHO targets would avert several cases of hepatocellular carcinoma, and decompensated cirrhosis, and thereby resulting in thousands of lives saved through 2030. As per scenario-based modelling, achieving even 50% of the WHO targets had benefits too, though lesser in magnitude than with achieving the targets fully.

Using modelling examples, it was also highlighted that often a combination of priority interventions would be required to achieve desired results. For example, even though HBsAg prevalence will decrease as a result of vaccination, HBV related morbidity and mortality are projected to increase, in the absence of scaled up diagnostic and treatment services. Finally, it was also emphasized that the elimination strategy will require upfront investment, and at the same time doing nothing, will cost more over a longer period of time.

6.3. Overview of economic analysis

With a conviction on the impact of achieving different service coverage targets, participants were then taken through methods involved in answering the question - what is the value for money. Dr David Hutton, University of Michigan, presented an overview of the principles of cost-effectiveness analysis. This is a relevant exercise within the overall gambit of planning. It will help improve efficiency or in other words, to do more with less, by focusing on priority interventions, simplified management, price reduction strategies for diagnostics and medicines, and improving service delivery. This will also help in financing, i.e. mobilizing resources through external and domestic funding, innovative financing mechanisms, as well as ensuring fair allocation of budget.

6.4. Cost-effectiveness of testing and treatment, and the Hep B and C Calculators

Ms. Sonjelle Shilton, Foundation for Innovative New Diagnostics (FIND), Geneva, continued the discussions by presenting important insights related to cost-effectiveness of diagnosis of hepatitis C. Testing approaches will depend on maturity of programmes. Citing examples including from the region, Ms Shilton shared that first key step in many countries would be to establish treatment programmes for hepatitis C. Typically once treatment program is established there will be a pool of patients already identified as infected and thus need to be confirmed and put on treatment path. The programme must consider how to perform testing for viremia in this population. As a next step, strategies for how to identify patient pool that does not know their status must be determined.

In terms of the stages of economic analysis for hepatitis test, the following diagram summarises what each stage means for the overall cost-effectiveness of testing.

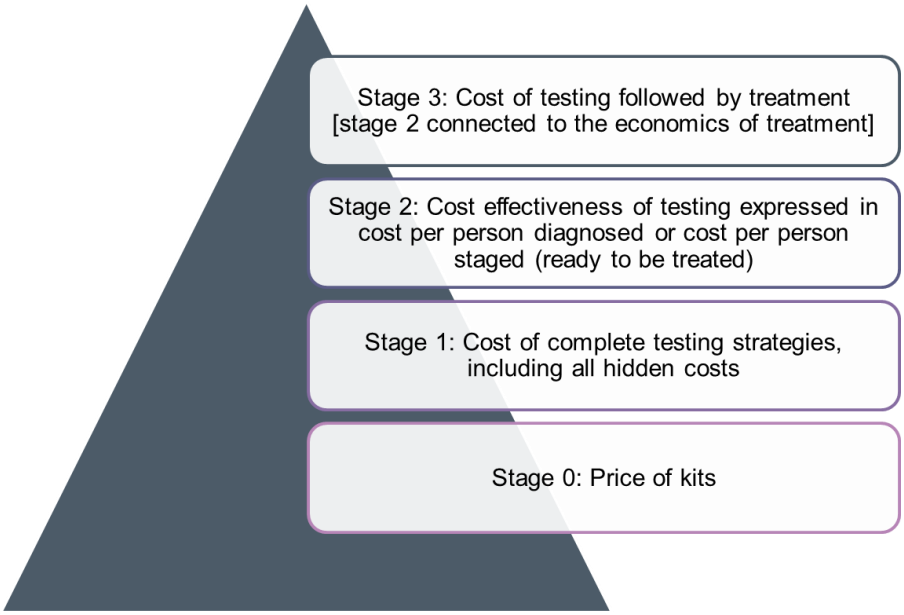


Figure 8. Stages of economic analysis relating to hepatitis testing

Citing examples of implementations in different centres, Ms Shilton shared that integrated diagnostic platforms for multiple diseases can improve diagnostic pathways and reduce costs. Cost-savings and other advantages are seen at the levels of clients, laboratories and equipment. In terms of the different dimensions of cost-effectiveness analysis of testing, the following factors need to be considered: 1) The prevalence ratio in the population targeted; 2) The size of the target population; and 3) The proportion of the pool of infected that will be diagnosed. Thus, testing approach cannot be one size fits all, and needs to be customised.

Following the discussions on cost-effectiveness of testing, Dr David Hutton, Dr Rakesh Aggarwal, and Dr Amit Goel, made brief presentations as well as guided examples on estimating the cost of treating sequalae of viral hepatitis and how this information can contribute to the specific analyses that can be undertaken using the online tools Hep B and Hep C calculators available to determine cost-effectiveness of treatment in different country contexts.

Two options to collect information for prices and quantities, were suggested to obtain the inputs for estimating cost of treating sequalae:

1. Survey of providers (Easier): An interviewer can administer the data collection tool to a medical doctor or other health care providers. The provider would then estimate how many resources would be used for a patient with specific sequelae and typical costs for resources.
2. Review of medical records of patients (Harder): A statistical sample (i.e., representative from a statistical point of view) could lead to an excessive work load. Instead, an option is to select at least 30 patients through an approach that captures ranges in cost and various levels of health care facilities that usually manage patients with the relevant sequelae.

In addition, for indirect costs/ productivity loss, additional precision can be obtained from patient interviews. A Microsoft Excel based tool to assist with costing of sequelae was shared with participants to estimate the annual costs of the following sequelae:

- Chronic Hepatitis (F0-F3)
- Compensated Cirrhosis
- Decompensated Cirrhosis
- Hepatocellular Carcinoma
- Transplant (year of transplant and subsequent years)

Two elements of costs are needed for each of the above, i.e. 1) a unit cost of the commodities or services, and 2) the quantity of units consumed per year. The resources used are grouped into categories of health care facility use; health care procedures; medicines; lab tests; other diagnostic tests; and other health expenses. Once the costs of treating sequalae and other country specific parameters required for the Hep B[3] and Hep C[4] calculators were estimated and agreed, participants worked in their respective country teams towards undertaking cost-effectiveness analysis using these tools.

7. SUMMARY OF WORKSHOP SESSIONS ON DAY 3

7.1. A short introduction to the Logical Framework Approach

Dr Niklas Luhmann, introduced the basic principles of the Log Frame Approach (LFA), particularly in relation to developing costed national action plans for viral hepatitis. While some participants would be familiar with the concepts of LFA and its application, many participants had indicated they would benefit from revisiting and refamiliarizing with it.

Referring to the 'Chutes and Ladders' analogy from the first day of the Workshop, Dr Luhmann emphasized that plans with unclear actions, without clear logic models and where no measurement is possible, will not serve any purpose. It is in this context that the LFA can help in defining the 'What', 'Where' and 'Who' of any plan, demonstrate the result chain through a logic model, and also help development of an indicator framework.

7.2. From Principles to Practice: A walk through the logical framework approach

Following the introductory session on LFA, Dr Nabeel Mangadan-Konath facilitated an interactive session where participants with all levels of exposure to LFA in their previous work experiences were encouraged to participate in a learning exercise. The concepts were revisited by drawing on the 'coffee shop' example discussed earlier in the workshop to explain 'results chain'. Following the initial conceptual interactions, participants discussed and debated on how to apply the concepts of LFA revisited during the workshop to a dummy costed action plan for viral hepatitis.

[3] www.hepbcalculator.org
[4] www.hepccalculator.org

A suggestive template was shared with participants so as to develop logical frameworks for their respective national action plans. This template has been adapted in such a way that it helps to include summary costing information as well as a broad structure for a monitoring and evaluation framework. Following the conclusion of the interactive session, participants went back into their groups to initiate their work on at least one of the interventions to be include in their action plans.

7.3. Introduction to the OneHealth Tool

Dr Neil Thalagala, Public Health Specialist and Consultant in Health Economics, Sri Lanka, introduced the basic concepts of costing in the context of planning public health programmes. He gave an overview of the OneHealth Tool (OHT), which is an open source software used to inform national strategic health planning.

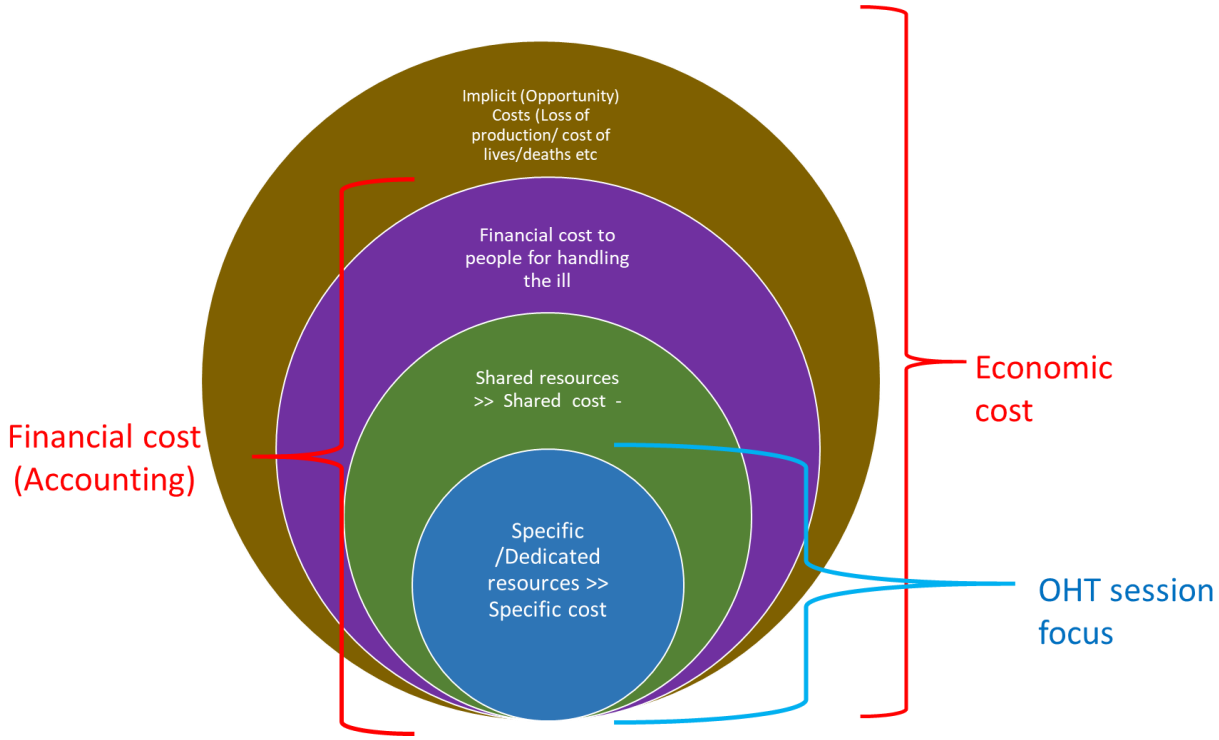


Figure 9. Types of costs

A brief introduction on the different types of costs involved in a public health programme, with specific references to viral hepatitis was provided, as summarised in the diagram above. As for the focus of the OHT session facilitated at this workshop, only specific, dedicated costs and resources will be considered when the guided example is demonstrated, to enable ease of learning. In addition to clearing their doubts, Dr Thalagala and other facilitators worked with participants who were not able to complete the installation and basic configuration of the software in their laptops, so as to be prepared for the hands-on session coming up on the next day.

8. SUMMARY OF WORKSHOP SESSIONS ON DAY 4

8.1. Costing using the OneHealth Tool

Continuing from the introductory session conducted on the previous day, Dr Neil Thalagala stressed that the OneHealth Tool is helpful in assessing the cost of health systems and action plans; health impacts; and resource needs. It can be useful a) while planning, to facilitate iterative target setting, depending on the resource availability; b) after completing the plan; or c) using both approaches. Outputs from the tool can help planners to answer the following key questions:

1. What would be the health system resources needed to implement the strategic health plan (for example, number of nurses and doctors required over the next 5-10 years)?
2. How much would the strategic plan cost, by year and by input?
3. What is the estimated health impact?
4. How do costs compare with estimated available financing?

During the sessions in this workshop including hands on exercise, the focus is more on answering the second question above. Nevertheless, participants were oriented about the overall features of the tool. The following diagram summarizes the types of costs included in the tool.

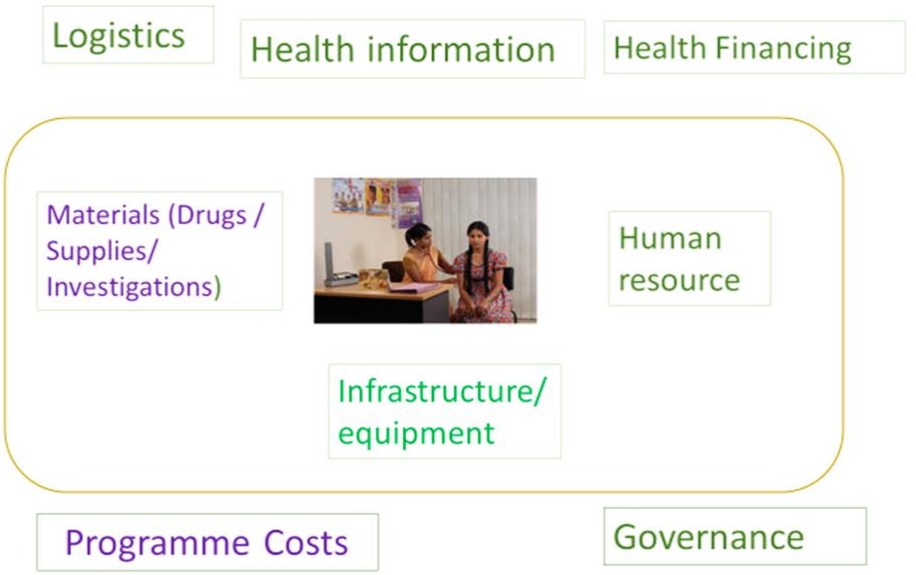


Figure 10. Cost Components in the model demonstrated with OneHealth Tool, for costing viral hepatitis plans

In terms of the relation to the different cost components with the modules in OHT, the following diagram was shared:

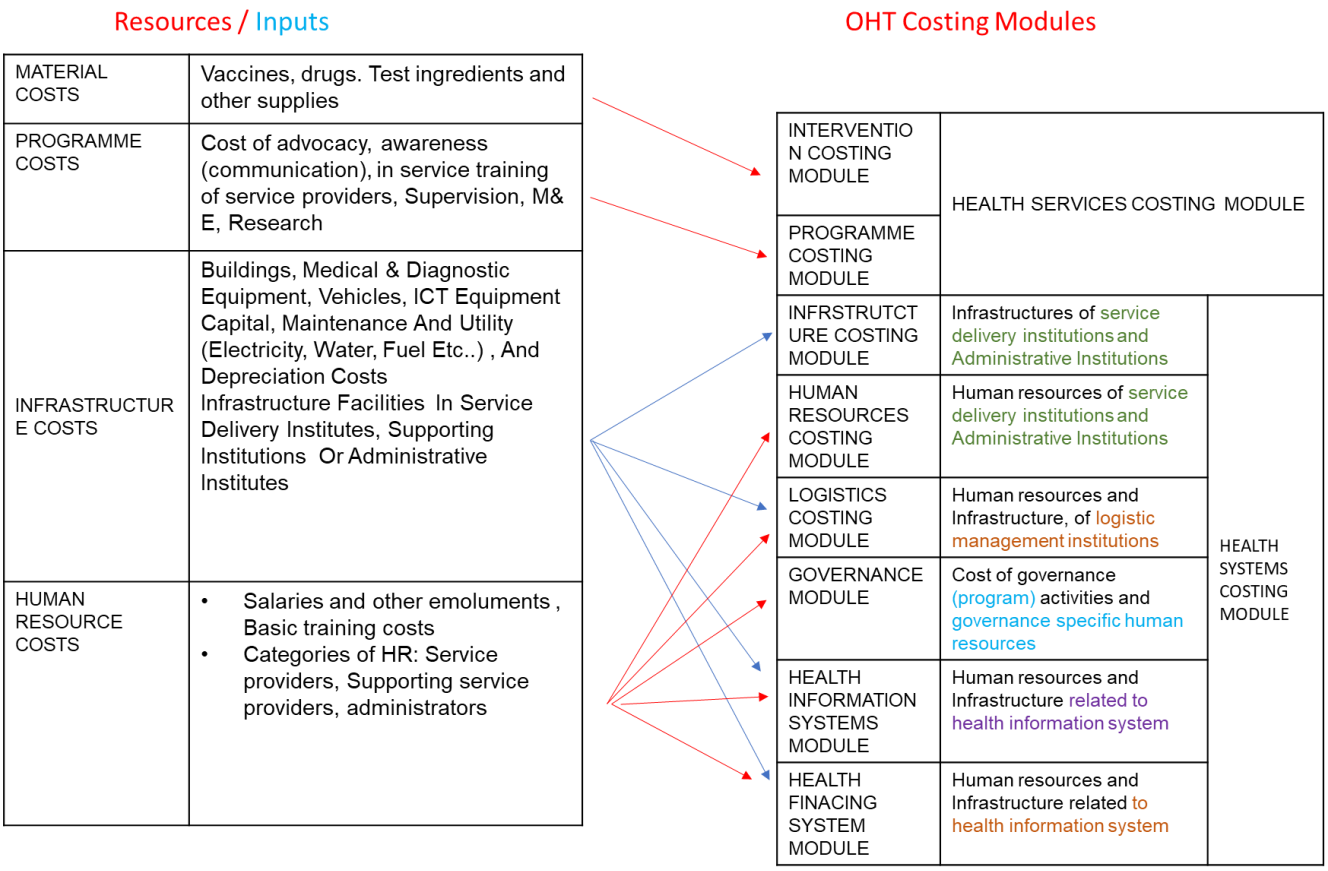


Figure 11. Relationship between cost components and OHT modules

A hands-on approach was followed where key concepts were reinforced with each step in the process. The lead facilitators and co-facilitators worked with participants through the different steps in estimating the overall costs, with the help of a Quick Reference Guide (QRG) that was prepared for this purpose. In terms of the overall process in undertaking a detailed costing, participants were reminded to have clear idea on the following key questions:

1. What are the interventions used in prevention and management? What are current level of coverages and scale up targets related to them?
2. Who are the people - both dedicated and shared staff - involved in viral hepatitis programme, including service providers, support personnel, administrators, who are permanent staff of the health system? Are there any temporary or non-permanent staff who are specifically recruited for viral hepatitis programme dedicated work such as paid volunteers, programme personnel and consultants?
3. What type of health system infrastructure are involved (clinics, hospitals, laboratories) in hepatitis programme delivery? Are there any existing or planned dedicated infrastructure such as PWID methadone centres, laboratories, and vehicles?
4. What are programme activities arising out of the outputs and activities on your logical framework. For example, activities such as advocacy, awareness programmes, communication campaigns, IEC material development, policy and strategy changes/development, development of and dissemination of new guidelines, curriculum

development, staff training, supervision activities, monitoring activities, review programmes, information collection/surveillance, research or any other programme activity which is not a direct intervention but an activity facilitating or improving the quality of intervention delivery and utilization of services.

Following the conclusion of the hands-on session on OHT, participants went back to their respective country teams where they continued working with their facilitators and team members towards reflecting the workshop sessions over the four days and outlining the way forward with the respective national action plans on viral hepatitis.

9. SUMMARY OF WORKSHOP SESSIONS ON DAY 5

9.1. Plenary session: country presentations

On day 5 of the workshop, all eleven country teams made presentations in the plenary session, where they summarised the work undertaken over the previous four days. Putting together the different pieces of hands-on work undertaken through the mini-workshops, a broad outline of the work they intend to take forward was outlined. Accordingly, the following broad aspects were touched upon in the country presentations:

- Brief situational analysis of the epidemic and response
- Current status on core indicators
- Targets set for the action plan
- Rationale for the targets of the action plan
- Cost of sequelae, cost effectiveness
- Logical framework for action plan
- Costing the action plan
- Achievements and remaining challenges
- Recommendations to address challenges
- Way forward with costed national action plans for viral hepatitis

Country delegations appreciated that this regional workshop has been scheduled at the opportune moment, considering the early and preparatory stages most countries are at present, in relation to developing costed national action plans for viral hepatitis. Having an opportunity to work on the current baseline situation of disease burden; available interventions for viral hepatitis prevention and treatment; identifying gaps and challenges; and the economic impact of management of chronic viral hepatitis infection in terms of cost of managing sequalae vis-a-vis cost of prevention and treatment interventions; were all identified to be particularly useful. Working on developing logical frameworks as well as costing using the OneHealth Tool (OHT) were also considered to be useful skills that country teams acquired during the workshop.

Accordingly, most of the teams worked towards identifying, prioritising and costing the interventions that would reduce mortality and morbidity associated with hepatitis. Country teams attempted setting realistic target for the respective action plans, which could be achievable and

contribute towards achieving the global and regional targets. They used cost-effectiveness data in order to justify these interventions, Further, participants demonstrated the learning on logical framework by outlining one or two interventions in the suggested template shared with them for the exercise. Few country presentations also outlined broadly the technical assistance that they will require in carrying forward this work. Building on the preliminary work undertaken during this workshop, it was shared by all country teams that they are keen to take this work forward.

9.2. Panel discussion: Financing the viral hepatitis response in the context of Universal Health Coverage (UHC)

Dr Yvan Hutin, WHO HQ, moderated the panel discussion on financing the viral hepatitis response in the context of Universal Health Coverage (UHC). The panellists were Ms Sarah Blach, Center for Disease Analysis Foundation (CDAF), United States; Dr Bhuwan Paudel, Ministry of Health and Population, Nepal; Ms Jennifer Johnston, Coalition to Eradicate Viral Hepatitis in Asia Pacific (CEVHAP); Mr Than Naing Oo, PSI's TOP Clinics, Myanmar; Mr Giten Khwairakpam, TREAT Asia/amfAR, Thailand; and Ms Yuhui Chan, Clinton Health Access Initiative (CHAI).

In his opening remarks, Dr Hutin emphasised the importance and need for harmonization of viral hepatitis response with other programmes in countries. Citing examples, he shared how countries can reach high coverage through UHC approach and by ensuring coverage in both public and private sectors. He added that sustainable financing comes if the programme is optimized for cost and impact.

Ms Sarah Blach reiterated that viral hepatitis elimination programmes will cost society less than the long-term cost of doing nothing, i.e. elimination is cost-effective and in many cases cost-saving. However, an elimination program will require an up-front investment, and unfortunately donors are not coming for hepatitis. Following scenarios can be considered:

1. **Self-funding**: If funds are available, countries can finance the elimination programmes on their own. This can be either through domestic financing by national governments, large employers or insurance systems.
2. **Patient co-financed:** Any program including patient co-pays needs to ensure costs are below the catastrophic health expenditure rate.
3. **Loans or bonds:** If funds are not available, countries can borrow money to finance their viral hepatitis programmes or raise bonds.
4. **Catalytic funding:** If funds are not available and countries cannot raise money, a catalytic investment with patient financing can minimize the cost to the governments. Such arrangements involve a patient subsidised programme that pays back the upfront costs after patients are diagnosed or treated. However, the government needs to make concessions by removing tariffs, use pooled procurement rather than the national tender process, and provide healthcare workers.

An example for catalytic funding was shared about the Global Procurement Fund (GPRO) pilot in Uzbekistan, which includes pooled procurement and supply chain management, run by GPRO, through CDAF. The pilot's objectives include screening of 250,000 people for HBV and HCV,

streamlined confirmation testing, treatment of infected patients and repayment of the upfront investment. The highlights of this pilot are:

- GPRO handled the up-front investment by purchasing the diagnostics and treatments at a discount and providing them to the clinics and pharmacies.
- The government supplied healthcare workers and everyone in the 250,000 population is offered screening free of charge. Confirmation and related diagnostic tests are also free to the patients.
- Patients who are HCV+ or HBV+ are started on treatment, with ~80% who can afford, paying for their treatment and ~20% receiving the treatment for free. Payments are used to cover the cost of the up-front investment and allow for another round of purchasing for diagnostics and treatments.
- The price for HCV and HBV treatment for the patients who can pay covers the cost of screening and diagnostic test, program management, patient registry and treatment for people who cannot pay. Yet, the final price is still considerably lower than market value of treatment.
- In order for this to occur, the government had to make concessions to prevent mark-ups on products inside the country. For example, the government agreed to remove tariffs, use the pooled procurement system rather than the national tender process and provide healthcare workers operating on a streamlined screening and diagnostic protocol.

Dr Bhuwan Paudel briefly explained the social health security programme of the government of Nepal. The key objectives of this programme are in line with UHC, to ensure access and quality, to protect from financial hardship and to build capacity. The health insurance system in Nepal is contributory and family-structure based. If the family has up to five members, they pay an annual premium of USD 35 and can avail benefits worth USD 1000 annually. However, if the family size is more than 5, then there is additional premium for each added individual and the maximum cap for the claim id USD 2000. The social health security programme is governed by an independent body ad is completely IT-enabled operations. It provides for subsidy in premium for poor and targeted groups. The subsidy means that the premium is paid by the government. All serious health conditions are included in the programme with some omissions like accidents due to alcohol, modern dental treatment, reading glasses etc. Viral hepatitis is also covered, though this is still at an infantile stage and there needs to be revisions based on costing for the various components such as investigations, that are needed. There is additional provision for management of hepato-cellular carcinoma. Targeted groups include the vulnerable populations and their premium is paid by the government.

Ms Jennifer Johnston provided a background of the activities carried out by the Coalition to Eradicate Viral Hepatitis in Asia Pacific (CEVHAP). Attention was drawn to the large number of lives lost in Asia Pacific region every year due to viral hepatitis. While the number of people who are infected is very high, only very few are diagnosed and even fewer receive treatment. As such, the Asia Pacific region shares a significantly high proportion of the global burden of viral hepatitis. Hence, CEVHAP was founded in 2010 following a non-governmental policy workshop held in Beijing. They work as an independent regional advocacy group to advocate for policy reforms for addressing viral hepatitis in the region.

Besides its focus on policy reforms, communications and Human Rights, CEVHAP also contributes to other related areas of work. For example, they have undertaken a situation analysis of viral hepatitis in Indonesia in 2018. Similarly, civil society voice facilitated through CEVHAP's work positively impacted in Australia's first Hepatitis C Strategy 1999, and Hepatitis B Strategy in 2010. As countries in the WHO South-East Asia Region are proceeding with their work in viral hepatitis, Ms Johnston urged all participants that civil society should be at the centre of the response to Connect, Communicate, Collaborate and Campaign.

Mr Thang Naing Oo, highlighted the integration of related services such as TB and HIV programme, and PREP programme, based on their experiences in Myanmar. Mr Giten Khwairakpam, highlighted that in terms of availability of viral hepatitis treatment, and the policies that ensued, it has been very rapid in comparison to other conditions public health concern. Utilizing the advantages of these progress, countries need to implement them. Few years back, it used to cost USD 40 for one vial of Pegylated-interferon but now the Directly Acting Antivirals' (DAA) full course is available at USD 40. This is a significant step forward but there is much to be done for hepatitis B.

For hepatitis C, there were first public health guidelines by WHO, and now, in a very short span, WHO has recommended the policy of treat all and use of pan-genotypic regimens in 2018. The generic industry has also evolved, and several countries have their manufacturing, including Bangladesh, India, Pakistan, Egypt and Indonesia. However, there is a need to discuss more with the regulatory authorities in the countries. Only two countries in the region have access to Velpatasvir. There is need to use the WHO collaborative process of registration wherever feasible and where there are delays. UNDP procurement process is also an option for the countries to explore as it can get good pricing. Additionally, if the countries have global fund grant, they can also use the same system for procurement of TDF for hep B. However, the budget for this shall be provided by the country. He added that the Fixed Dose Combination (FDC) of Sofosbuvir and Daclatasvir in single pill is under prequalification.

Ms Yuhui Chan, provided her inputs on access to drugs, based on experiences working with the Clinton Health Access Initiative (CHAI). Globally, prices are coming down for WHO prequalified (PQ) drugs with overall increases in patient volumes. For example, Rwanda: USD 60 / cure for PQ drugs, and India: USD 39 / cure for locally approved drugs. However, she noted that lower global pricing is not translating to lower pricing in some countries. In general, CHAI is seeing a few levers of pricing as summarised here:

- Market competition: The more registered drugs there are in a country, the lower the prices. For example, Myanmar is procuring smaller volumes but have multiple generic suppliers registered, and are seeing lower prices than what is available in the region
- Volumes: In Rwanda, political will and domestic financing commitment to make initial procurement helped secure USD 60 pricing. Overall, the larger the orders, the lower the pricing. Countries without resources to procure high volumes can still optimize order sizes through quantification and planning exercises to ensure that they can receive the lowest volume-based pricing.

- Distributor mark-ups and other supply chain costs: CHAI is seeing big ranges on in-country pricing across countries. To get best pricing, it is important to understand the cost components that make up the final price such as, what the ex-works price is, and other variable costs including transport, and shipping are involved. This approach can help ministries and national programmes evaluate opportunities for efficiencies.

Ms Chan further highlighted CHAI's supply-side work in countries using few specific examples. Negotiating global pricing deals is one important part of this work. For example, Roche's expansion of its access price of USD 8.90 to viral hepatitis diagnostics, and Hologic's all-inclusive price of USD 12 per patient sample across multiple diseases, with no upfront costs or capital expenditure. The Hologic deal is currently open to countries in Sub Saharan Africa but the company is looking to expand to Asia.

CHAI also encouraging pricing transparency through disseminating market intel to help governments understand market landscape and help suppliers determine best competitive pricing points. For example, in Rwanda, government combined its HCV commitment with market intel to secure best pricing available. CHAI also encourages alternative pricing mechanisms and supplier initiatives that provide additional value compared to traditional price per unit contracts. For example, quality-assured commodities can be bundled with the idea being that the bundled price would be less than procuring each commodity individually.

Overall, supply-side activities are important but demand-side activities to overcome barriers to drugs actually reaching sites in-country are important as well. These include determining where and who to treat, maintaining high quality of care, building good supply chain systems, and using data to inform decisions.

The panellists' opening remarks were followed by questions and comments from participants, and discussions thereafter. Participants were informed that in addition to various support mechanisms mentioned, there is a regional network to facilitate registration of drugs in countries and this can be supported. There were concerns on the limited funding on awareness generation for viral hepatitis. Due to silent nature, as well as due to stigma attached, people do not readily access services in public sector and many opt for private sector. It was also highlighted that comparing all aspects of viral hepatitis responses with HIV may raise difficulties in adequate financing for viral hepatitis. Though there are overlapping areas, it is not as much that the whole viral hepatitis response can be piggy backed on HIV programmes. Hence, associating viral hepatitis with HIV can limit adequate financing.

Concerns were also highlighted on the lack of inclusion of drugs for treatment of viral hepatitis in essential medicines list. Some participants responded that the inclusion is important, but it may be worthwhile to have a price discovery done based on central procurement, utilizing economies of scale, before the drugs are included in state level essential list of medicines. Similarly, it was observed that diagnostics related to viral hepatitis also need to be in essential diagnostics list in countries.

9. CLOSING

10.1. Taking forward the shared goal

On behalf of WHO SEARO, Dr B. B. Rewari thanked the Government of Nepal and WHO Country Office in Nepal for being great hosts for this regional workshop. In providing a quick recap of the workshop, Dr Rewari noted that the preliminary discussions on planning process and the "Chutes and Ladders" based on global experiences was a perfect way to set the stage for the remaining part of the workshop proceedings. How a UHC approach can accelerate roll out of viral hepatitis plans; and how the voices of civil society and community partners are critical in the process through their on-the-ground experiences were other key highlights of day 1.

After the inaugural and introductory sessions, situation assessment focusing on the core indicators was undertaken. The aim was to review and synthesise existing data on disease burden and response; and outlining the structure of national action plans. Accordingly, participants reviewed possible interventions and their cost implications, which gave confidence to look at target setting. Even though data challenges were acknowledged, it was also agreed that lot can be done even with existing data.

The aim of sessions for day 2 was to demonstrate cost-effectiveness of interventions using standard tools, towards defining key strategies and prioritizing top-level activities. The global and regional modelling discussed made it clear that "business as usual" is not an option considering the elimination target. Number of infections, and the resultant morbidity and mortality are expected to increase with the current intervention rates. Modelling also showed the benefits in terms of number of deaths averted and reduction in new infections if countries adopt and implement interventions as per WHO GHSS on hepatitis. Cost-effectiveness analysis using the Hep B and Hep C calculators and other tools showed how in almost all the SEAR country contexts, introduction of testing and treatment for Hep B and Hep C is not only cost effective, but also cost-saving. It was recalled how one of the participants remarked on seeing the incremental cost effectiveness ratio graph: "What are we waiting for, then?"

Developing logical frameworks for action plans and undertaking costing of interventions were the focus on day 3. With the heightened conviction about the benefits of rolling out interventions for viral hepatitis, participants continued their enthusiastic participation with this. Participants revisited the basics of planning process; and the importance of having a "logical approach" in climbing the steps towards achieving our goals. In the process, the importance of SMART objectives was also emphasized. It was interesting to note how participants made friends with a "log frame" table that initially looked complicated to many, but soon tamed towards becoming the blueprints of action plans. Once participants got a fair idea about the core interventions that need to go into logical models, they also started thinking towards giving an estimate cost for these interventions in the national programmes.

Day 4 of the workshop gave participants familiarity with the OneHealth Tool (OHT) for costing as it was something new for most participants. Participants learnt how OHT can help to cost for every component required for implementing viral hepatitis action plans. A session on day 4 also

reinforced the importance, necessity and cost-effectiveness of Harm Reduction through OST and NSP for PWID, considering the disproportionately high burden of HCV among PWID.

Putting together all the pieces - the results of the hard work over the week at the workshop – country teams reflected upon their work and summarised in brief presentations on day 5. All countries expressed their keen interest in taking forward the work initiated during the workshop and demonstrated application of key learning from the workshop in their outlines made during the respective country presentations. While acknowledging the collective achievement of everyone during the preparatory days as well as during the workshop, it was emphasized that a plan how so ever nicely written is not useful unless it is implemented. Participants agreed that several follow-up steps are required at the country level after this workshop is concluded. WHO both at HQ and SEARO reiterated support to member states in this regard and requested countries to identify areas where support is required. Towards this, it was agreed that WHO country offices can facilitate teleconferences of the country teams and national programme staff who participated with SEARO to discuss the next steps and identify technical assistance requirements if any.

10.2. Closing session

After five days of active deliberations, the workshop concluded through a brief closing session. The workshop was formally closed by Dr Sushil Nath Pyakuryal, Director General, Department of Health Services, in the presence of Dr Md Khurshid Alam Hyder, acting WHO Representative to Nepal, and Dr B. B. Rewari, Scientist, WHO SEARO.

Dr Pyakuryal appreciated all the participants for the five days of intense deliberations. He urged everyone that now is the time to take this work forward in the respective countries. He requested continued support from WHO in this area of work and to adopt similar approach in other priority areas. In his address, Dr Hyder highlighted that making investment cases for viral hepatitis at the country-level, including advocacy must be a priority following this workshop. There should be greater focus on a prevention programme for hepatitis, even as current efforts are sustained and strengthened. Going for a Universal Health Coverage (UHC) and ensuring adequate human resources, finances, and partnerships will be key. Dr Rewari thanked the Government of Nepal and WHO Country Office in Nepal for hosting and facilitating this important workshop. He also thanked the resource persons from WHO HQ as well as external experts, and all the participants for making it a successful workshop.

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ANNEX 2 WORKSHOP AGENDA

Workshop on development of costed action plans for viral hepatitis in South-East Asia Region

19-23 August 2019, Kathmandu, Nepal

Day 1: Setting the stage: From situational analysis to national action plans (Reviewing and synthesizing existing data on disease burden and response; and outlining the structure of national action plans)		
Timeline	**Agenda item**	**Lead facilitator**
9h00-9h30	**Inaugural session** - Introductory remarks and objectives of the workshop – B B Rewari, WHO SEARO - RD's message (read by) - Dr Md Khurshid Alam Hyder, Acting WHO Representative to Nepal - Address by special guest – Mr Mahendra Prasad Shrestha ,Chief, Health Coordination Division, MOHP, Nepal - Address by the chief guest – Mr Ram Prasad Thapaliya, Secretary, MOHP, Nepal - Address by the chair of session – Dr Sushil Nath Pyakuryal, Director General, Dept of Health Services, MoHP, Nepal	
9h30-10h00	**Healthy break and group photograph**	
Session 1	**Towards a national action plan that gets funded and implemented** **Chair/Co-chair: Dr SM Golam Kaisar, Mr Lekey Khandu**	
10h00-10h15	Global update on viral hepatitis responses	**Yvan Hutin, WHO**
10h15-10h45	South East Asia Regional situation and response to hepatitis	**BB Rewari**
10h45-11h15	National planning process: An overview of the workshop	**Nabeel Mangadan, Niklas Luhmann**
11h15-11h45	Lessons learned from national plans: Chutes and ladders	**Yvan Hutin**
11h45-12h00	Moving ahead on hepatitis plans under Universal Health Coverage (UHC)	**National Programme, India**
12h00-12h30	Role of civil society in advocacy, demand generation and service delivery models	**N.Pramod Singh, Prawchan KC**
12h30-13h30	**Lunch**	
Session 2	**Defining priority interventions and targets** (based on core indicators and other indicators relevant to country situations) **Chair/Co-chair: Dr Sandhya Kabra, Dr Thilanga Ruwanpathirana**	
13h30-14h00	Inclusion of interventions for people who inject drugs (PWID) in national action plans	**Niklas Luhmann**
14h00-14h30	Introduction to draft country profiles	**Chesco Nogareda**
14h30-15h00	Introduction to target-setting for the core interventions	**Sarah Blach**
15h00-15h30	**Healthy break**	
15h30-17h30	**Workshop 1:** Review and update country profiles; and propose coverage targets for core interventions (focusing on the main gaps identified through country profiles)	**Facilitated session**
17h30-17h45	Wrap up day 1	**BB Rewari**

Day 2: Defining key strategies using cost-effectiveness analyses (Demonstrating cost-effectiveness of interventions using standard tools, towards defining key strategies and prioritizing top-level activities)		
Session 3	**Where do interventions take us and what is the value for money** **Chair/Co-chair: Dr Indri Sukmaputri, Ms Rugiyya Mohamed**	
9h00-9h15	Summary of Day 1	**Sarah Blach**
9h15-9h30	Brief overview of modelling to estimate impact on the basis of service coverage targets	**Sarah Blach**
9h30-10h15	Case studies on modelling	**Sarah Blach**
10h15-10h30	**Healthy break**	
10h30-11h30	Overview of economic analysis with focus on treatment	**David Hutton**
11h30-12h00	Cost effectiveness of testing	**Sonjelle Shilton, Ekta Gupta**
12h00-12h15	Introducing the Hep B Calculator	**David Hutton, Amit Goel**
12h15-12h30	Introducing the Hep C Calculator	**Rakesh Aggarwal**
12h30-13h30	**Lunch**	
Session 4	**Workshop 2: Cost effectiveness**	
13h30-14h30	Calculating the cost of hepatitis sequelae management Brief presentation on overview of the tool Facilitate workshop with countries to calculate the cost of sequelae of HBV and HCV infection	**David Hutton, Amit Goel, and WHO country staff**
14h30-15h30	The hep B calculator Brief presentation on overview of tool Facilitate workshop with countries to calculate the cost-effectiveness of interventions using the hepatitis B calculator	**David Hutton, Amit Goel, and WHO country staff**
15h30-16h00	**Healthy break**	
16h00-16h45	The hep C calculator Brief presentation on overview of tool Facilitate workshop with countries to demonstrate cost-effectiveness of treatment using the hepatitis C calculator	**Rakesh Aggarwal, and WHO country staff**
16h45-17h30	Cost-effectiveness of hepatitis B and C testing Brief presentation on overview of tool Facilitate workshop with countries to use the tool on cost-effectiveness of testing	**Yvan Hutin , Sonjelle Shilton , Ekta Gupta and WHO country staff**
17h30-17h45	Wrap up day 2	**Rakesh Aggarwal**

Day 3: Translating strategies to plans – Logical framework approach and costing (Developing logical frameworks for action plans and undertaking costing of interventions)		
Session 5	**Using logical framework approach** **Chair/Co-chair: Dr Khin Sanda Aung, Dr Arjun Acharya**	
9h00-9h15	Summary of day 2	**Prawchan KC**
09h15-10h30	Principles of log framing; and Introduction to logical framework template	**Niklas Luhmann, Nabeel Mangadan**
10h30-11h00	**Healthy break**	
11h00-12h30	**Workshop 3:** Using logical framework approach Brief presentation: Introduction to the workshop Facilitate workshop with countries to develop logical frameworks (Focusing on testing, treatment, vaccination and harm reduction, also based on main gaps identified on day one)	**Niklas Luhmann, Nabeel Mangadan and WHO country staff**
12h30-13h30	**Lunch**	
13h30-15h15	**Workshop 3:** Using logical framework approach - *Continued*	**Niklas Luhmann, Nabeel Mangadan and WHO country staff**
15h15-15h45	**Healthy break**	
Session 6	**Costing using the One Health Tool** **Chair/Co-chair: Dr Pornsak Yoocharoen, Dr Sheena Jevatiene Dias Viegas**	
15h45-16h:15	Methods to use in costing: Introduction to the One Health Tool	**Neil Thalagala**
16:15-17h:15	Preparing for the costing workshop: Familiarization with the One Health Tool	
17h15-17h30	Wrap up day 3: Trouble-shooting and lessons learned	**Niklas Luhmann**

Day 4: Costing for priority interventions and preparing national action plans (Drafting Action Plans based on Log Framing and Costing of Priority Interventions)		
Session 6 (Continued)	**Costing using the One Health Tool**	
9h00-9h15	Summary of day 3	**Edo Augustian**
9h15-9h45	Introduction to the workshop and Quick Reference Guide (QRG)	**Neil Thalagala**
9h45-10h30	**Workshop 4:** Costing with the One Health Tool • Identifying Cost Elements based on log framing exercise and preparing a country specific OHT projection;	**Neil Thalagala and WHO country staff**
10h30-11h00	**Healthy break**	
11h00-12h30	**Workshop 4:** Costing with the One Health Tool - *Continued*	**Neil Thalagala and WHO country staff**
12h30-13h30	**Lunch**	
Session 7	**Workshop on preparing national action plans**	
13h30-13h45	Introduction to the workshop	**BB Rewari**
13h45-15h30	**Workshop 5:** Preparing national action plans	**Facilitated session**
15h30-16h00	**Healthy break**	
16h00-17h15	**Workshop 5:** Preparing national action plans - *Continued*	**Facilitated session**
17h15-17h30	Wrap up: Trouble-shooting and lessons learned	**Neil Thalagala**

Day 5: Taking forward draft plans towards implementation Discuss and share feedback on key elements of national action plans; and outline process of finalizing action plan in country		
Session 8	**Plenary: Country presentations and discussion on national action plans**	
9h00-10h30	Plenary Session - Country presentations and discussion	**Facilitators** • Yvan Hutin • BB Rewari • Chesco Nogareda • David Hutton • Sarah Blach
10h30-11h00	**Healthy break**	
11h00-12h00	Country presentations and discussion - *Continued*	
12h00-13h00	**Lunch**	
Session 9	**Financing, way forward and wrap up**	
13h00-14h30	Panel discussion: Financing the hepatitis response in the context of UHC - Innovative financing of viral hepatitis response - Health insurance - Role of community and civil society experiences - Access to Drugs	**Moderator:** **Yvan Hutin** **Panelists:** • **Sarah Blach** • **Bhuwan Paudel** • **Jennifer Johnston** • **Than Naing Oo** • **Giten Khwairakpam** • **Yuhui Chan**
14h30-15h30	Country feedbacks Lessons learned, next steps, way forward	**BB Rewari,** **Nabeel Mangadan**
15h30-16h00	Closing session	**Ministry of Health and Population, Nepal; and WHO Nepal**
16h00	**Healthy break**	

ANNEX 3 SUMMARY RESULTS OF POST-WORKSHOP ONLINE ASSESSMENT

Q1: The agenda of the workshop was relevant to achieve the objectives

ANSWER CHOICES	RESPONSES	
Strongly agree	47.83%	22
Agree	52.17%	24
Neither agree nor disagree	0.00%	0
Disagree	0.00%	0
Strongly disagree	0.00%	0
TOTAL		46

Q2: The documents shared before and during the workshop were substantive to the needs of the workshop

ANSWER CHOICES	RESPONSES	
Strongly agree	26.67%	12
Agree	60.00%	27
Neither agree nor disagree	13.33%	6
Disagree	0.00%	0
Strongly disagree	0.00%	0
TOTAL		45

Q3: The support from WHO/SEARO staff was adequate in achieving your expectation?

ANSWER CHOICES	RESPONSES	
Extremely valuable	39.13%	18
Very valuable	47.83%	22
Somewhat valuable	13.04%	6
Not so valuable	0.00%	0
Not at all valuable	0.00%	0
TOTAL		46

Q4: The support from consultants and facilitators was adequate in achieving your expectation?

ANSWER CHOICES	RESPONSES	
Extremely valuable	35.56%	16
Very valuable	53.33%	24
Somewhat valuable	8.89%	4
Not so valuable	2.22%	1
Not at all valuable	0.00%	0
TOTAL		45

Q5: How confident did you feel BEFORE and AFTER the workshop regarding the following?

(For details of data points, please see table provided below)

To prepare/update and use your country data profile		
	Before	After
Extremely confident	0.0%	12.5%
Very confident	25.0%	67.5%
Somewhat confident	43.2%	20.0%
Not so confident	27.3%	0.0%
Not at all confident	4.5%	0.0%
To set your targets for the hepatitis programme		
	Before	After
Extremely confident	2.3%	5.1%
Very confident	18.6%	79.5%
Somewhat confident	48.8%	15.4%
Not so confident	30.2%	0.0%
Not at all confident	0.0%	0.0%
To assess/demonstrate the cost effectiveness of hepatitis programmes		
	Before	After
Extremely confident	0.0%	15.0%
Very confident	15.9%	55.0%
Somewhat confident	36.4%	30.0%
Not so confident	36.4%	0.0%
Not at all confident	11.4%	0.0%
To prepare a logframe		
	Before	After
Extremely confident	4.5%	20.0%
Very confident	20.5%	57.5%
Somewhat confident	45.5%	22.5%
Not so confident	22.7%	0.0%
Not at all confident	6.8%	0.0%
To cost the hepatitis programme		
	Before	After
Extremely confident	2.3%	10.0%
Very confident	13.6%	55.0%
Somewhat confident	31.8%	32.5%
Not so confident	38.6%	2.5%
Not at all confident	13.6%	0.0%

ANNEX 4 COUNTRY PROFILES UPDATED DURING THE WORKSHOP

One-Page Country profiles are appended in the subsequent pages of this Annex:

1. Bangladesh
2. Bhutan
3. Democratic People's Republic of Korea
4. India
5. Indonesia
6. Maldives
7. Myanmar
8. Nepal
9. Sri Lanka
10. Thailand
11. Timor-Leste

Bangladesh

Country Fact Sheet

Prevalence

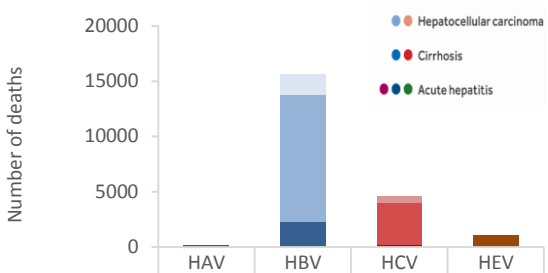
	HBV	HCV
	Estimate	Estimate
General population	5.5%	0.6%
children < 5 years	0.05%	
Risk groups		
Blood Donors	1.4%	0.1%
Antenatal Clients	0.4%	
MSM		0.7%
PWID	6.2%	25.4%
SW		
PLHIV	4.2%	60.7%

Data quality of sources

National and representative	Estimation, modeling or non-representative	Expert opinion	No data

Source: Mahtab (2008), Repon C Paul (2018), Rudro (2010), Shirin (2008), Shamsuzzaman (2011) , Munshi (2008) Rahman (2016), Gebrely (2019), Alam (2016)

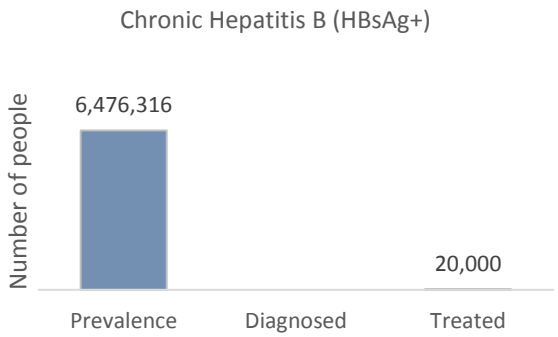
Mortality



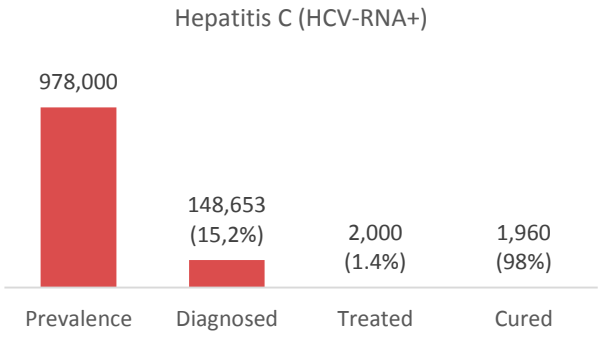
	HAV	HBV	HCV	HEV
Hepatocellular carcinoma	0	1860	527	0
Cirrhosis	0	11500	3927	0
Acute hepatitis	100	2300	100	1000

Source: Global Health Estimates (WHO, 2016) corrected by country estimates

Cascade of care



Sources: Prevalence: Mahtab (2008); Diagnosed: no data; Treated: expert opinion



Sources: Prevalence: Mahtab (2008); Diagnosed, treated and cured: Expert opinion

Policies

Hepatitis B vaccination

Three doses in routine child immunization	✓
Birth dose of Hep B vaccine	✗
Vaccination for HCWs	✓
Vaccination for high risk groups	✗

Blood and injection safety

Screening of donated blood for HBV/HCV	✓
Safe Injection and IPC policy	✓
Hepatitis B screening to all pregnant women	✓
Harm reduction services for PWID	✓

Testing and treatment

National testing policy aligned with WHO guidelines	✗
Use of WHO pre-qualified test kits	✗
National treatment guidelines aligned with WHO	✗

Source:: Country survey

Access to treatment

Availability of medicines for Hep B treatment	✓
Annual cost for Hep B treatment	360 USD

Availability of DAAs for Hep C treatment	✓
Cost for Hep C treatment	1000 USD

Source:: Country survey

Health sector response

National Plan for viral hepatitis	Drafted
Coverage of 3-dose Hep B vaccine schedule	90%
Coverage of Hep B vaccine for newborns	-
Estimated PWIDs population size	34,000
Needles and syringes distributed per PWID/year	205 (34% covered)
Percentage of PWID receiving OST in 2018	3.1%

Facilities offering serological testing (HBsAg) for HBV	7200
Facilities offering nucleic acid testing (NAT) for HBV	15
Facilities offering serological testing (Anti-HCV) for HCV	7200
Facilities offering nucleic acid testing(NAT) for HCV	15

Source:: Country survey, WHO vaccine-preventable diseases: monitoring system (2019), UNAIDS – Key population Atlas.

Bhutan

Country Fact Sheet

Prevalence

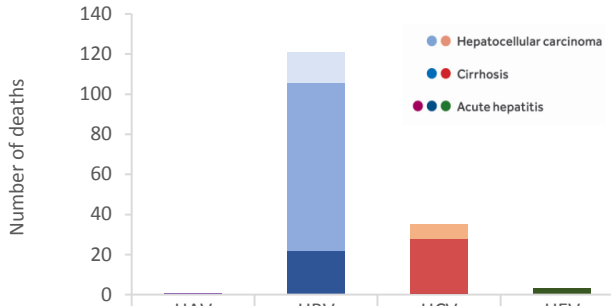
	HBV	HCV
General population	2.0%	0.3%
children < 5 years	0.0%	
Risk groups		
Blood Donors	0.8%	0.1%
Antenatal Clients	0.6%	
MSM	0.0%	0.0%
PWID	8.4%	
SW	1.4%	
PLHIV	0.3%	0.15%

Data quality of sources

National and representative	Estimation, modelling or non-representative	Expert opinion	No data

Source: National seroprevalence survey (2017), Da Villa (1997), National Blood Bank Report (2015), IBBS (2016).

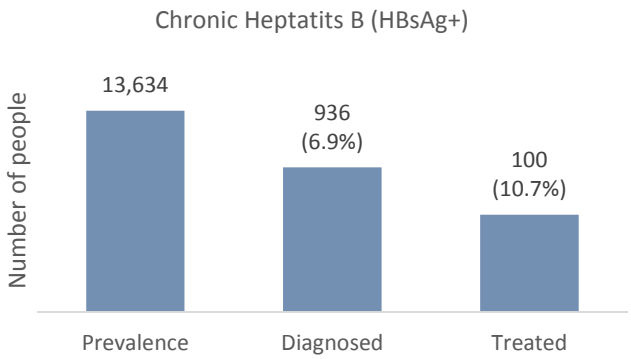
Mortality

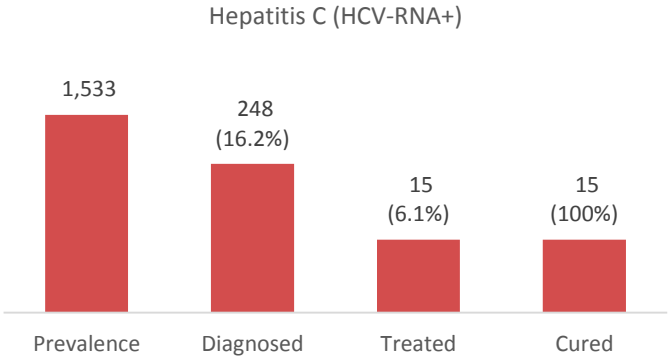


	HAV	HBV	HCV	HEV
Hepatocellular carcinoma		15	7	
Cirrhosis		84	27	
Acute hepatitis	1	22	1	3

Source: Global Health Estimates (WHO, 2016)

Cascade of care





Sources: Prevalence: Sero-survey (2017); Diagnosed and treated: country data

Sources: Prevalence: Sero-survey (2017); Diagnosed, treated and cured: country data

Policies

Hepatitis B vaccination

Three doses in routine child immunization	✓
Birth dose of Hep B vaccine	✓
Vaccination for HCWs	✓
Vaccination for high risk groups	✗

Blood and injection safety

Screening of donated blood for HBV/HCV	✓
Safe Injection and IPC policy	✓
Hepatitis B screening to all pregnant women	✓
Harm reduction services for PWID	✗

Testing and treatment

National testing policy aligned with WHO guidelines	✓
Use of WHO pre-qualified test kits	✓
National treatment guidelines aligned with WHO	✓

Source:: Country survey

Access to treatment

Availability of medicines for Hep B treatment	✓
Annual cost for Hep B treatment/patient	USD 260

Availability of DAAs for Hep C treatment	✓
Annual cost for Hep C treatment/patient/course	USD 1159

Source:: Country survey and Program Data

Health sector response

National Plan for viral hepatitis	Drafted
Coverage of 3-dose Hep B vaccine schedule	97%
Coverage of Hep B vaccine for new-borns	87%
Estimated PWID population size	-
Needles and syringes distributed per PWID/year	-
Percentage of PWID receiving OST in 2018	-

Facilities offering serological testing (HBsAg) for HBV	236
Facilities offering nucleic acid testing (NAT) for HBV	01*
Facilities offering serological testing (Anti-HCV) for HCV	26
Facilities offering nucleic acid testing(NAT) for HCV	01*

*** The national referral hospital, JDWNRH sends sample to Laboratory outside the country.**

Source:: Country survey, WHO vaccine-preventable diseases: monitoring system (2019), UNAIDS – Key population Atlas.

DPRK

Country Fact Sheet

Prevalence

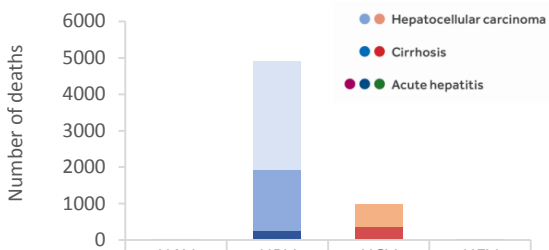
	HBV	HCV
General population	5.0%	0.4%
children < 5 years	0.5%	
Risk groups		
Blood Donors	0.57%	0.09%
Antenatal Clients		
MSM		
PWID		
SW		
PLHIV		

Data quality of sources

National and representative	Estimation, modeling or non-representative	Expert opinion	No data

Source: Country survey (2019) and HBV Country Profile (WHO 2015), Blood Bank data

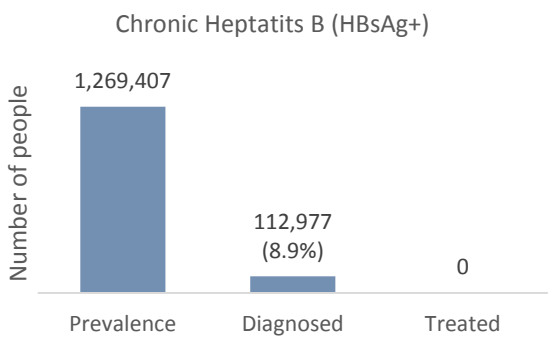
Mortality



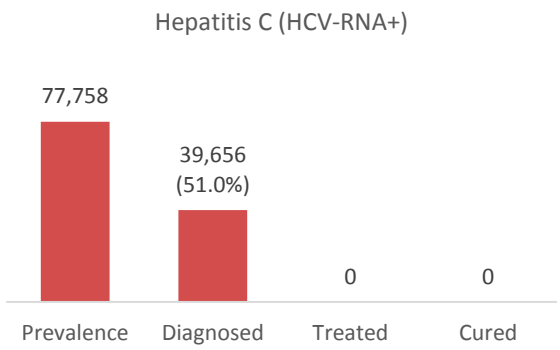
	HAV	HBV	HCV	HEV
Hepatocellular carcinoma		2976	606	
Cirrhosis		1684	364	
Acute hepatitis	11	251	5	21

Source: Global Health Estimates (WHO, 2016)

Cascade of care



Sources: Prevalence: Expert opinion; Diagnosed: country data; Treated: treatment not available



Sources: Prevalence: Expert opinion; Diagnosed: country data; Treated and cured: treatment not available

Policies

Hepatitis B vaccination

Three doses in routine child immunization	✓
Birth dose of Hep B vaccine	✓
Vaccination for HCWs	✓
Vaccination for high risk groups	✗

Blood and injection safety

Screening of donated blood for HBV/HCV	✓
Safe Injection and IPC policy	✓
Hepatitis B screening to all pregnant women	✓
Harm reduction services for PWID	✗

Testing and treatment

National testing policy aligned with WHO guidelines	✓
Use of WHO pre-qualified test kits	✗
National treatment guidelines aligned with WHO	✗

Source:: Country survey

Access to treatment

Availability of medicines for Hep B treatment	✗
Annual cost for Hep B treatment	-

Availability of DAAs for Hep C treatment	✗
12 weeks cost for Hep C treatment	-

Source:: Country survey

Health sector response

National Plan for viral hepatitis	Drafted
Coverage of 3-dose Hep B vaccine schedule	97%
Coverage of Hep B vaccine for newborns	98%
Estimated PWID population size	-
Needles and syringes distributed per PWID/year	-
Percentage of PWID receiving OST in 2018	-

Facilities offering serological testing (HBsAg) for HBV	346
Facilities offering nucleic acid testing (NAT) for HBV	-
Facilities offering serological testing (Anti-HCV) for HCV	346
Facilities offering nucleic acid testing(NAT) for HCV	-

Source:: Country survey, WHO vaccine-preventable diseases: monitoring system (2019), UNAIDS – Key population Atlas.

India

Country Fact Sheet

Prevalence

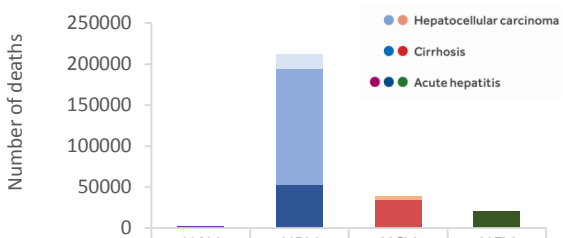
	HBV	HCV
General population		
Children < 5 years		
Risk groups		
Blood Donors	0.92%	0.3%
Antenatal Clients		
MSM		
PWID		
SW		
PLHIV		

Data quality of sources

National and representative	Estimation, modeling or non-representative	Expert opinion	No data

Source: Country data – Blood bank data

Mortality



	HAV	HBV	HCV	HEV
Hepatocellular carcinoma		17376	4504	
Cirrhosis		141381	33484	
Acute hepatitis	2420	52971	1081	20832

Source: Global Health Estimates (WHO, 2016)

Cascade of care

No data available

Policies

Hepatitis B vaccination

Three doses in routine child immunization	✓
Birth dose of Hep B vaccine	✓
Vaccination for HCWs	✓
Vaccination for high risk groups	✓

Blood and injection safety

Screening of donated blood for HBV/HCV	✓
Safe Injection and IPC policy	✓
Hepatitis B screening to all pregnant women	✗
Harm reduction services for PWID	✓

Testing and treatment

National testing policy aligned with WHO guidelines	✓
Use of WHO pre-qualified test kits	✗
National treatment guidelines aligned with WHO	✓

Source:: Country survey

Access to treatment

Availability of medicines for Hep B treatment	✓
Annual cost for Hep B treatment	115 USD*

Availability of DAAs for Hep C treatment	✓
12 weeks cost for Hep C treatment	55 USD**

* presumptive cost as procurement ongoing and includes both TDF and Entacavir as per program guidelines.

** Cost for all the regimens used in the country

Source:: Country survey

Health sector response

National Plan for viral hepatitis	Developed
Coverage of 3-dose Hep B vaccine schedule	94%
Coverage of Hep B vaccine for newborn	60%
Estimated PWID population size	177,000
Needles and syringes distributed per PWID/year	366
Percentage of PWID receiving OST in 2018	19.5%

Facilities offering serological testing (HBsAg) for HBV	-
Facilities offering nucleic acid testing (NAT) for HBV	-
Facilities offering serological testing (Anti-HCV) for HCV	-
Facilities offering nucleic acid testing(NAT) for HCV	-

Source:: Country survey, WHO vaccine-preventable diseases: monitoring system (2019), UNAIDS – Key population Atlas, National IBBS Report 2014-15.

Indonesia

Country Fact Sheet

Prevalence

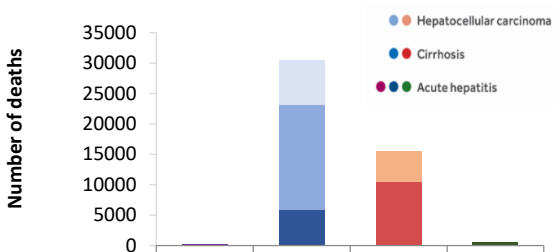
	Hepatitis B	Hepatitis C
General population	7.1%[1]	1.0%[1]
children < 5 years	4.2%[1]	
Risk groups		
Blood Donors	1.5%[2]	0.4%[2]
Antenatal Clients	1.8%[3]	
MSM	7.6%[4]	0.7%[4]
PWID	3.6%[4]	66.9%[4]
SW	2.8%[4]	0.4%[4]
PLHIV		
Prisoners	1.8%-5.3%[4]	18.6%-34.1%[4]

Data quality of sources

National and representative	Estimation, modelling or non-representative	Expert opinion	No data

Source:
[1] Basic Health Survey, 2013 MoH
[2] Programme Data, DG Health Services, MoH 2015
[3] Programme Data, DG Disease Prevention and Control, MoH 2018
[4] Country data, IBBS 2015

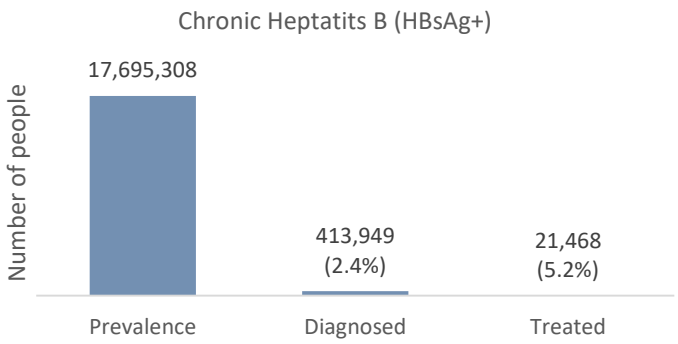
Mortality



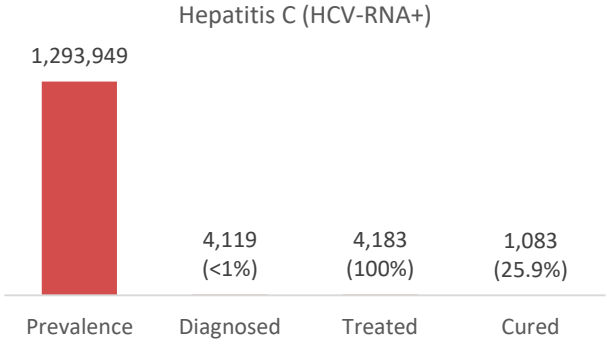
	HAV	HBV	HCV	HEV
Hepatocellular carcinoma		7370	5031	
Cirrhosis		17390	10272	
Acute hepatitis	207	5806	132	597

Source: Global Health Estimates (WHO, 2016)

Cascade of care



Source: Prevalence: BHS (2013); Diagnosed and treated: The Polaris Observatory



Source: Prevalence: The Polaris Observatory; Diagnosed, treated and cured: Country data

Policies

Hepatitis B vaccination

Three doses in routine child immunization	✓
Birth dose of Hep B vaccine	✓
Vaccination for HCWs	✓
Vaccination for high risk groups (HCWs)	✓

Blood and injection safety

Screening of donated blood for HBV/HCV	✓
Safe Injection and IPC policy	✓
Hepatitis B screening to all pregnant women	✓
Harm reduction services for PWID	✓

Testing and treatment

National testing policy aligned with WHO guidelines	✓
Use of WHO pre-qualified test kits	✓
National treatment guidelines aligned with WHO	✓

Source: Country survey

Access to treatment

Availability of medicines for Hep B treatment	✓
Annual cost for Hep B treatment	-

Availability of DAAs for Hep C treatment	✓
Annual cost for Hep C treatment	-

Source: Country survey

Health sector response

National Plan for viral hepatitis	Developed
Coverage of 3-dose Hep B vaccine	93.5%*
Coverage of Hep B Birth Dose vaccine for new-borns	53.9%*
Estimated PWID population size	33,500†
Needles and syringes distributed per PWID/year	2.5[2]
Percentage of PWID receiving OST in 2018	10.5%[2]

Facilities offering serological testing (HBsAg) for HBV	6433
Facilities offering nucleic acid testing (NAT) for HBV	12
Facilities offering serological testing (Anti-HCV) for HCV	6433
Facilities offering nucleic acid testing(NAT) for HCV	12

* Programme Data, DG Disease Control and Prevention, MoH 2018 August 2019
† Global AIDS monitoring report

Source: Country Survey 2019

Maldives

Country Fact Sheet

Prevalence

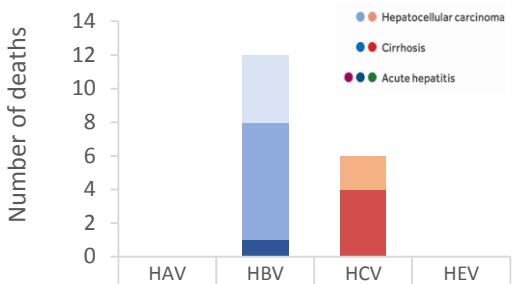
	Hepatitis B	Hepatitis C
General population	1.4%	0.7%
children < 5 years	0.2%	
Risk groups		
Blood Donors		
Antenatal Clients		
MSM	6.0%	0.0%
PWID	0.8%	0.5%
SW	0.0%	0.0%
PLHIV	0.0%	0.0%

Data quality of sources

National and representative	Estimation, modeling or non-representative	Expert opinion	No data

Source: HBV Country Profile (WHO 2015), The Polaris Observatory, IBBS (2008), Country data, Grebely (2019)

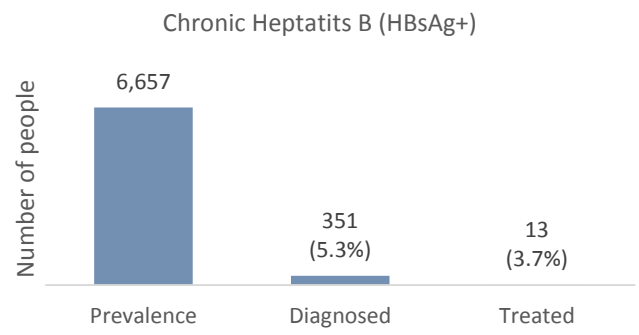
Mortality

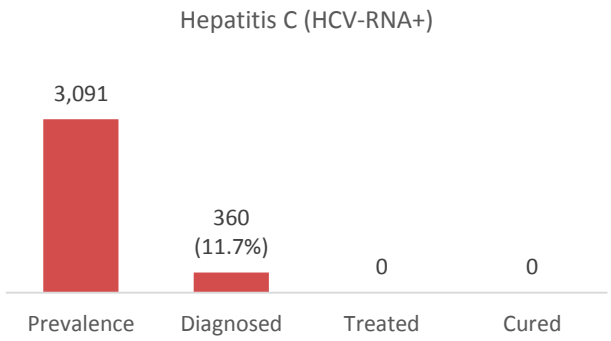


	HAV	HBV	HCV	HEV
Hepatocellular carcinoma		4	2	
Cirrhosis		7	4	
Acute hepatitis	0	1	0	0

Source: Global Health Estimates (WHO, 2016)

Cascade of care





Source: Prevalence: HBV Country estimtares (WHO 2015); Diagnosed and treated: The Polaris Observatory

Source: The Polaris Observatory; No treatment available

Policies

Hepatitis B vaccination

Three doses in routine child immunization	✓
Birth dose of Hep B vaccine	✓
Vaccination for HCWs	✓
Vaccination for high risk groups	✗

Blood and injection safety

Screening of donated blood for HBV/HCV	✓
Safe Injection and IPC policy	✓
Hepatitis B screening to all pregnant women	✓
Harm reduction services for PWID	✗

Testing and treatment

National testing policy aligned with WHO guidelines	✗
Use of WHO pre-qualified test kits	✓
National treatment guidelines aligned with WHO	✗

Source:: Country survey

Access to treatment

Availability of medicines for Hep B treatment	✗
Annual cost for Hep B treatment	-

Availability of DAAs for Hep C treatment	✗
12 weeks cost for Hep C treatment	-

Source:: Country survey

Health sector response

National Plan for viral hepatitis	Drafted
Coverage of 3-dose Hep B vaccine schedule	99%
Coverage of Hep B vaccine for newborns	99%
Estimated PWID population size	793
Needles and syringes distributed per PWID/year	-
Percentage of PWID receiving OST in 2018	Stopped in 2017

Facilities offering serological testing (HBsAg) for HBV	>20
Facilities offering nucleic acid testing (NAT) for HBV	1
Facilities offering serological testing (Anti-HCV) for HCV	>20
Facilities offering nucleic acid testing(NAT) for HCV	1

Source:: Country survey, WHO vaccine-preventable diseases: monitoring system (2019), UNAIDS – Key population Atlas.

Myanmar

Country Fact Sheet

Prevalence

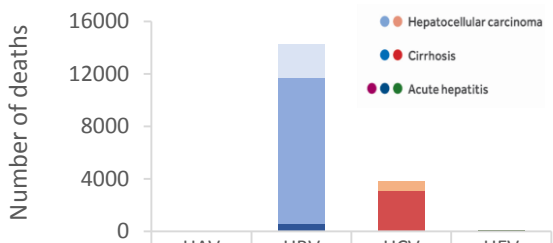
	Hepatitis B	Hepatitis C
General population	6.5%	2.7%
children < 5 years	2.0%	
Risk groups		
Blood Donors	2.3%	0.5%
Antenatal Clients		
MSM		
PWID	7.3%	47.7%
SW		
PLHIV		

Data quality of sources

National and representative	Estimation, modeling or non-representative	Expert opinion	No data

Source:National seroprevalence survey (2015), HBV Country Profile (WHO 2015), Country data (2015), IBBS (2014), Grebely (2019), Annual report of national Blood Center(2008)

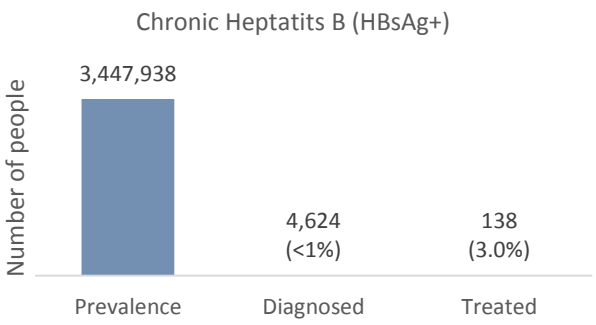
Mortality



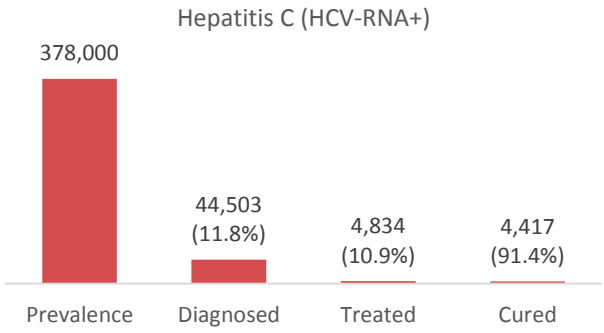
	HAV	HBV	HCV	HEV
Hepatocellular carcinoma		2554	744	
Cirrhosis		11152	3030	
Acute hepatitis	38	578	18	90

Source: Global Health Estimates (WHO, 2016)

Cascade of care



Sources: Prevalence: Serosurvey (2015); Diagnosed and treated: The Polaris Observatory



Source: Prevalence and diagnosed: The Polaris Observatory; Treated and cured: country data

Policies

Hepatitis B vaccination

Three doses in routine child immunization	✓
Birth dose of Hep B vaccine	✗
Vaccination for HCWs	✓
Vaccination for high risk groups	✓

Blood and injection safety

Screening of donated blood for HBV/HCV	✓
Safe Injection and IPC policy	✓
Hepatitis B screening to all pregnant women	✓
Harm reduction services for PWID	✓

Testing and treatment

National testing policy aligned with WHO guidelines	✓
Use of WHO pre-qualified test kits	✓
National treatment guidelines aligned with WHO	✓

Source:: Country survey

Access to treatment

Availability of medicines for Hep B treatment	✓
Annual cost for Hep B treatment(Private sector)	187 USD/person

Availability of DAAs for Hep C treatment	✓
12 weeks cost for Hep C treatment (Sofosbuvir + Daclatasvir)	93 USD/person

Source:: Country survey

Health sector response

National Plan for viral hepatitis	Developed
Coverage of 3-dose Hep B vaccine schedule	91%
Coverage of Hep B vaccine for newborns	7%
Estimated PWID population size	93,000
Needles and syringes distributed per PWID/year	351
Percentage of PWID receiving OST in 2018	17.2%

Facilities offering serological testing (HBsAg) for HBV	11,910
Facilities offering nucleic acid testing (NAT) for HBV	3
Facilities offering serological testing (Anti-HCV) for HCV	11,910
Facilities offering nucleic acid testing(NAT) for HCV	8

Source:: Country survey, WHO vaccine-preventable diseases: monitoring system (2019), UNAIDS – Key population Atlas.

Nepal

Country Fact Sheet

Prevalence

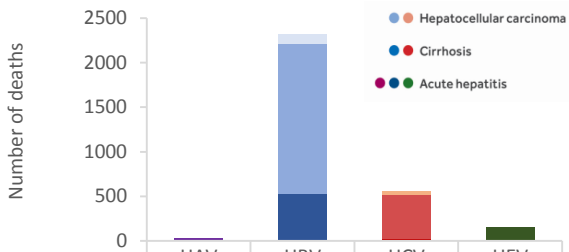
	Hepatitis B	Hepatitis C
General population	0.9%	0.6%
children < 5 years	0.3%	
Risk groups		
Blood Donors	0.38%	0.38%
Antenatal Clients	0.5%	
MSM		19.0%
PWID	3.5%	41.9%
SW	6.0%	
PLHIV		3.7%

Data quality of sources

National and representative	Estimation, modeling or non-representative	Expert opinion	No data

Source: Shrestha (2012), Shrestha (1998), HBV Country Profile (WHO 2015), The Polaris Observatory, Karki (2008), Country data (2015), Kenkel (2015), IBBS (2016), Grebely (2019), Nepal (2016), Badal, Marcelo (2018)

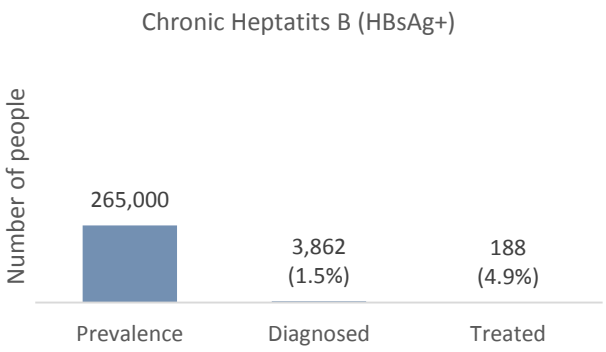
Mortality



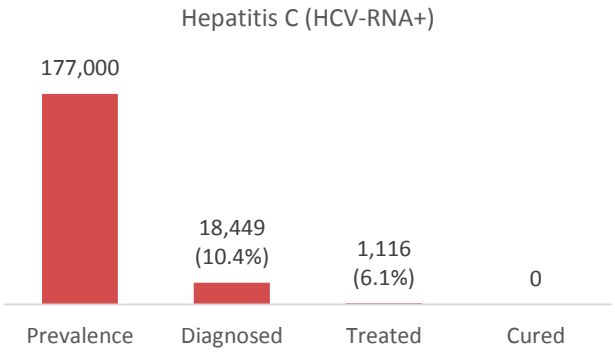
	HAV	HBV	HCV	HEV
Hepatocellular carcinoma		108	40	
Cirrhosis		1681	502	
Acute hepatitis	26	532	17	147

Source: Global Health Estimates (WHO, 2016)

Cascade of care



Source: Prevalence: Shrestha (2012); Diagnosed and treatment: The Polaris Observatory



Source: Prevalence: Shrestha (1998); Diagnosed: The Polaris Observatory. Treatment not available

Policies

Hepatitis B vaccination

Three doses in routine child immunization	✓
Birth dose of Hep B vaccine	✗
Vaccination for HCWs	✗
Vaccination for high risk groups	✗

Blood and injection safety

Screening of donated blood for HBV/HCV	✓
Safe Injection and IPC policy	✓
Hepatitis B screening to all pregnant women	✗
Harm reduction services for PWID	✓

Testing and treatment

National testing policy aligned with WHO guidelines	✓
Use of WHO pre-qualified test kits	✓
National treatment guidelines aligned with WHO	Drafted

Source:: Country survey

Access to treatment

Availability of medicines for Hep B treatment	✓
Annual cost for Hep B treatment	300 USD/person

Availability of DAAs for Hep C treatment	✓
12 weeks cost for Hep C treatment	700 USD/person

Source:: Private Sector - Country survey

Health sector response

National Plan for viral hepatitis	Planned
Coverage of 3-dose Hep B vaccine schedule	91%
Coverage of Hep B vaccine for newborns	-
Estimated PWID population size	30,900
Needles and syringes distributed per PWID/year	85
Percentage of PWID receiving OST in 2018	2.8%

Facilities offering serological testing (HBsAg) for HBV	125
Facilities offering nucleic acid testing (NAT) for HBV	1
Facilities offering serological testing (Anti-HCV) for HCV	125
Facilities offering nucleic acid testing(NAT) for HCV	1

Source:: Country survey, WHO vaccine-preventable diseases: monitoring system (2019), UNAIDS – Key population Atlas.

Sri Lanka

Country Fact Sheet

Prevalence

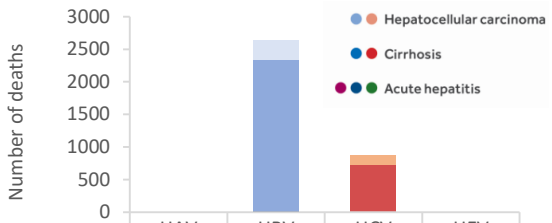
	Hepatitis B	Hepatitis C
General population	0.46% [1]	0.70% [2]
children < 5 years	0.01% [3]	
Risk groups		
Blood Donors	0.11% [4]	0.20% [4]
Antenatal Clients	0.0% [5]	
MSM	0.40% [6]	0.0% [6]
PWID	0.10% [6]	6.20% [6]
SW	0.37% [6]	0.40% [7]
PLHIV	0.32% [6]	0.0% [8]
Prisoners	0.25% [9]	6.9% [10]

Data quality of sources

National and representative	Estimation, modeling or non-representative	Expert opinion	No data

Sources: [1] Sub national Community Survey in Colombo District -2003; [2] The Polaris Observatory (2016); [3] Subnational data (unpublished); [4] National Blood transfusion service (2017); [5] Vidanagama, D. (2004) – Sub national survey; [6] IBBS National survey (2018); [7] HIV Sentinel sero surveys (2016); [8] National STD/AIDS control Programme – HMIS; [9] Dolan (2016); [10] Niriella et al – survey 2014.

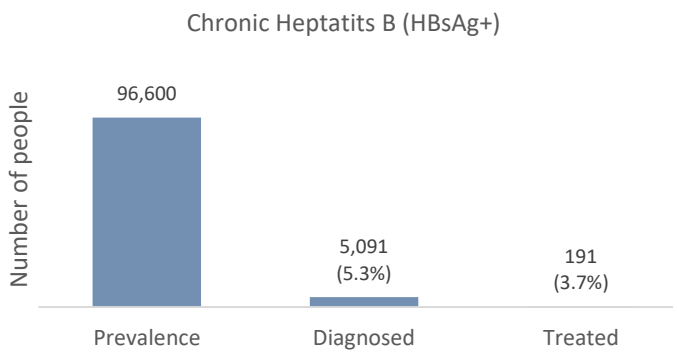
Mortality

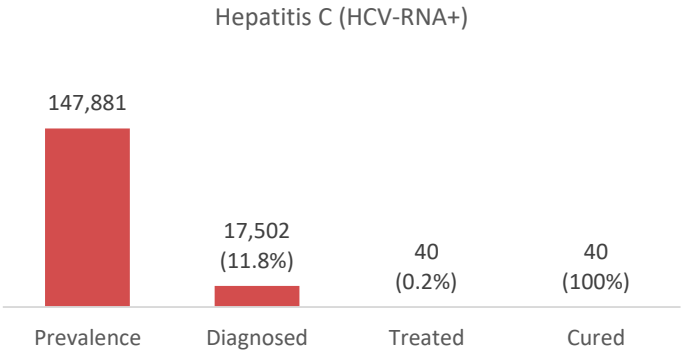


	HAV	HBV	HCV	HEV
Hepatocellular carcinoma		297	141	
Cirrhosis		2320	725	
Acute hepatitis	0	16	0	2

Source: Global Health Estimates (WHO, 2016)

Cascade of care





Source: Prevalence: Subnationa survey (2003); Diagnosed and treated: The Polaris Observatory

Source: The Polaris Observatory; Treated and cured: Country data

Policies

Hepatitis B vaccination

Three doses in routine child immunization	✓
Birth dose of Hep B vaccine	✗
Vaccination for HCWs	✓
Vaccination for high risk groups	✓

Blood and injection safety

Screening of donated blood for HBV/HCV	✓
Safe Injection and IPC policy	✓
Hepatitis B screening to all pregnant women	✗
Harm reduction services for PWID	✗

Testing and treatment

National testing policy aligned with WHO guidelines	✗
Use of WHO pre-qualified test kits	✓
National treatment guidelines aligned with WHO	✗

Source:: Country survey

Access to treatment

Availability of medicines for Hep B treatment	✓
Annual cost for Hep B treatment	USD

Availability of DAAs for Hep C treatment	✓
Annual cost for Hep C treatment	USD

Source:: Country survey

Health sector response

National Plan for viral hepatitis	Drafted
Coverage of 3-dose Hep B vaccine	99%
Coverage of Hep B Birth Dose vaccine for newborns	-
Estimated PWID population size	2,700
Needles and syringes distributed per PWID/year	-
Percentage of PWID receiving OST in 2018	-

Facilities offering serological testing (HBsAg) for HBV	11
Facilities offering nucleic acid testing (NAT) for HBV	4
Facilities offering serological testing (Anti-HCV) for HCV	11
Facilities offering nucleic acid testing(NAT) for HCV	4

Source:: Country survey, WHO vaccine-preventable diseases: monitoring system (2019), UNAIDS – Key population Atlas.

Thailand

Country Fact Sheet

Prevalence

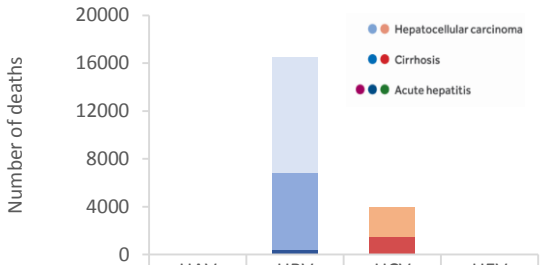
	Hepatitis B	Hepatitis C
General population	5.1%	0.94%
children < 5 years	0.2%	
Risk groups		
Blood Donors	2.6%	0.5%
Antenatal Clients	3.4%	
MSM		0.9%
PWID	14.0%	66.4%
SW		
PLHIV	8.7%	7.8%

Data quality of sources

National and representative	Estimation, modeling or non-representative	Expert opinion	No data

Source: Leroi C (2016), Wasittankasem (2016), Chimparlee (2009), Sukone (2005), Jackson (2014), Sungkanuparph (2004), Hayashi (2011), Grebely (2019).

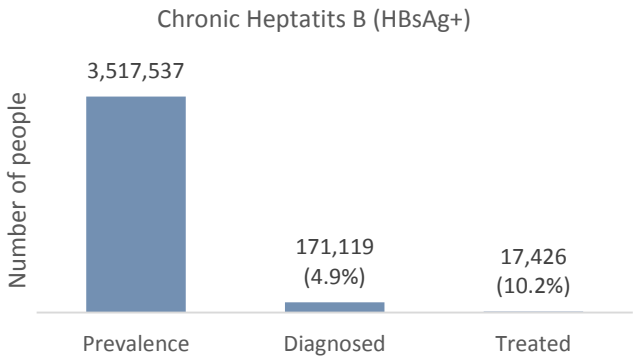
Mortality



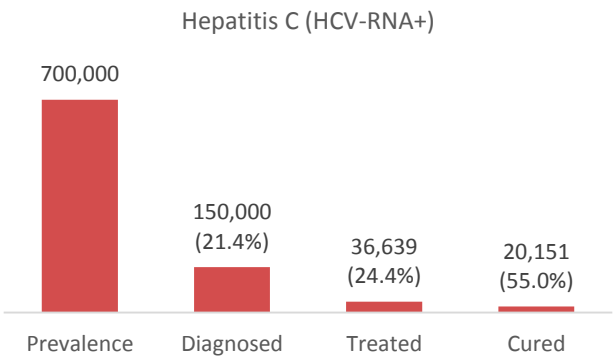
	HAV	HBV	HCV	HEV
Hepatocellular carcinoma		9683	2432	
Cirrhosis		6399	1514	
Acute hepatitis	7	430	14	43

Source: Global Health Estimates (WHO, 2016)

Cascade of care



Source: Prevalence: Leroi C (2016); Diagnosed and treated: The Polaris Observatory



Sources: Prevalence: Wasittankasem (2016); Diagnosed, treated and cured: country data

Policies

Hepatitis B vaccination

Three doses in routine child immunization	✓
Birth dose of Hep B vaccine	✓
Vaccination for HCWs	✗
Vaccination for high risk groups	✗

Blood and injection safety

Screening of donated blood for HBV/HCV	✓
Safe Injection and IPC policy	✓
Hepatitis B screening to all pregnant women	✓
Harm reduction services for PWID	✓

Testing and treatment

National testing policy aligned with WHO guidelines	✓
Use of WHO pre-qualified test kits	✗
National treatment guidelines aligned with WHO	✗

Source:: Country survey

Access to treatment

Availability of medicines for Hep B treatment	✓
Annual cost for Hep B treatment	Lamivudine 75 USD TDF 132 USD

Availability of DAAs	✓
12 weeks cost for Hep C treatment	SOF+Peg INF (G3) 1550 USD SOF/LDV (non G3) 336 USD

Source:: Country survey

Health sector response

National Plan for viral hepatitis	Developed
Coverage of 3-dose Hep B vaccine schedule	97%
Coverage of Hep B vaccine for newborns	99%
Estimated PWID population size	42,650
Needles and syringes distributed per PWID/year	13
Percentage of PWID receiving OST in 2018	14%

Facilities offering serological testing (HBsAg) for HBV	1100
Facilities offering nucleic acid testing (NAT) for HBV	100
Facilities offering serological testing (Anti-HCV) for HCV	1100
Facilities offering nucleic acid testing(NAT) for HCV	100

Source:: Country survey, WHO vaccine-preventable diseases: monitoring system (2019), UNAIDS AIDS Data Hub Asia pacific.

Timor Leste

Country Fact Sheet

Prevalence

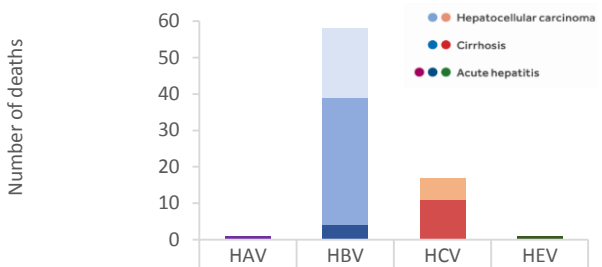
	Hepatitis B	Hepatitis C
General population	5.5%	0.5%
children < 5 years	No Data	
Risk groups		
Blood Donors	5.5%	0.5%
Antenatal Clients		
MSM	10.2%	
PWID		
SW	8.3%	
PLHIV		

Data quality of sources

National and representative	Estimation, modeling or non-representative	Expert opinion	No data

Source: Blood bank data (2018), IBBS (2011)

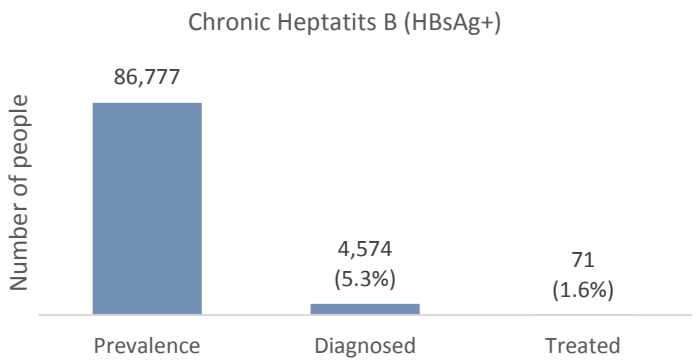
Mortality

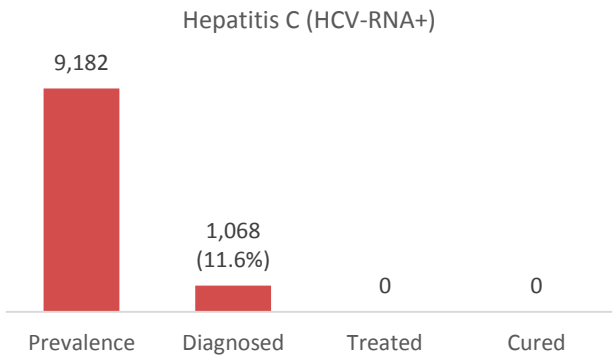


	HAV	HBV	HCV	HEV
Hepatocellular carcinoma		19	6	
Cirrhosis		35	11	
Acute hepatitis	1	4	0	1

Source: Global Health Estimates (WHO, 2016)

Cascade of care





Source: Prevalence and diagnosed: The Polaris Observatory; Treated: Country data

Source: The Polaris Observatory. No treatment available

Policies

Hepatitis B vaccination

Three doses in routine child immunization	✓
Birth dose of Hep B vaccine	✓
Vaccination for HCWs	✓
Vaccination for high risk groups	✓

Blood and injection safety

Screening of donated blood for HBV/HCV	✓
Safe Injection and IPC policy	✓
Hepatitis B screening to all pregnant women	✓
Harm reduction services for PWID	✓

Testing and treatment

National testing policy aligned with WHO guidelines	✓
Use of WHO pre-qualified test kits	✗
National treatment guidelines aligned with WHO	✓

Source:: Country survey

Access to treatment

Availability of medicines for Hep B treatment	*Partially*
Annual cost for Hep B treatment	-

Availability of DAAs for Hep C treatment	✗
12 weeks cost for Hep C treatment	-

Source:: Country survey

Health sector response

National Plan for viral hepatitis	Developed
Coverage of 3-dose Hep B vaccine schedule	83%
Coverage of Hep B vaccine for newborns	66%
Estiamted PWID population size	-
Needles and syringes distributed per PWID/year	-
Percentage of PWID receiving OST in 2018	-

Facilities offering serological testing (HBsAg) for HBV	6
Facilities offering nucleic acid testing (NAT) for HBV	1
Facilities offering serological testing (Anti-HCV) for HCV	-
Facilities offering nucleic acid testing(NAT) for HCV	-

Source:: Country survey, WHO vaccine-preventable diseases: monitoring system (2019), UNAIDS – Key population Atlas.