DoHe-CTA Hepatitis B Strategy and Action Plan Document 2021
Draft for Discussion by Stakeholders

Adaptation of WHO, SEARO and India Country Viral Hepatitis Strategic Action Plans
(Version 1.0 Dated 15th Feb. 2021)

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Consultant: DoHe-CTA Hepatitis B Program
**OVERVIEW OF WHO VISION, GOAL, KEY INDICATORS AND TARGETS**

<table>
<thead>
<tr>
<th>Indicators / Target</th>
<th>2015</th>
<th>2020</th>
<th>2030</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Service Coverage</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prevention 1. Three-dose hepatitis B vaccine for infant (coverage %)</td>
<td>82%</td>
<td>90%</td>
<td>90%</td>
</tr>
<tr>
<td>Prevention 2. Prevention of mother-to-child transmission of HBV: hepatitis B birth-dose vaccination or other approaches (coverage %)</td>
<td>38%</td>
<td>50%</td>
<td>90%</td>
</tr>
<tr>
<td>Prevention 3. Blood &amp; injection safety (coverage %)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Blood safety: donations screened with quality assurance</td>
<td>89%</td>
<td>95%</td>
<td>100%</td>
</tr>
<tr>
<td>Injection safety: use of engineered devices</td>
<td>5%</td>
<td>50%</td>
<td>90%</td>
</tr>
<tr>
<td>Prevention 4. Harm reduction (sterile syringes/needle set distributed per person per year for the people who inject drugs (PWID))</td>
<td>20</td>
<td>200</td>
<td>300</td>
</tr>
<tr>
<td><strong>Treatment</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5a. Diagnosis of HBV and HCV (Coverage %)</td>
<td>&lt;5%</td>
<td>30%</td>
<td>90%</td>
</tr>
<tr>
<td>5b. Treatment of HBV and HCV (Coverage %)</td>
<td>&lt;1%</td>
<td>-</td>
<td>80% eligible</td>
</tr>
<tr>
<td><strong>Impact leading to elimination</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Incidence of chronic HBV and HCV infection</td>
<td>-</td>
<td>30% reduction</td>
<td>90% reduction</td>
</tr>
<tr>
<td>Mortality from chronic HBV and HCV infection</td>
<td>-</td>
<td>10% reduction</td>
<td>65% reduction</td>
</tr>
</tbody>
</table>

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The **Goal** of “DoHe-CTA Viral Hepatitis Strategy and Action Plan” is to eliminate viral hepatitis as a major public health threat by 2030. Department of Health, Central Tibetan Administration (DoHe-CTA) will actively pursue the **aims** and **objectives** and **strategic directions** framed by Government of India (ref--) and at the same time take into consideration the unique epidemiology and the specific needs of Tibetan population in South Asia. The aims and objectives of India are stated as:

**AIM**

1. Combat hepatitis and achieve country wide elimination of Hepatitis C by 2030
2. Achieve significant reduction in the infected population, morbidity and mortality associated with Hepatitis B and C viz. Cirrhosis and Hepatocellular carcinoma (liver cancer)
3. Reduce the risk, morbidity and mortality due to Hepatitis A and E.

**OBJECTIVE**

1. Enhance community awareness on hepatitis and lay stress on preventive measures among general population especially high-risk groups and in hotspots.
2. Provide early diagnosis and management of viral hepatitis at all levels of healthcare
4. Strengthen the existing infrastructure facilities, build capacities of existing human resource and raise additional human resources, where required, for providing comprehensive services for management of viral hepatitis and its complications in all districts of the country.
5. Develop linkages with the existing national programmes towards awareness, prevention, diagnosis and treatment for viral hepatitis
6. Develop a web-based “Viral Hepatitis Information and Management System” to maintain a registry of persons affected with viral hepatitis and its sequelae.

**Strategic Direction 1: Information for Focused Action**

**A. Understanding the epidemic and the response:** Viral hepatitis is seventh leading cause of mortality worldwide (Ref--). While death due to communicable diseases has declined globally, death due to viral hepatitis will continue to increase in the immediate future due to anticipated increase in hepatitis B and C induced liver cirrhosis and liver cancer (HCC) and this has special relevance to Tibetans residing in South Asia because of the high prevalence of hepatitis B currently estimated at 7% (ref--) and higher prevalence of chronic viral hepatitis B infection in the past. The PRM hepatitis B and hepatitis C prevalence survey (ref--) conducted in 2019 estimated the prevalence of hepatitis B and hepatitis C at 7% and 0.03% respectively. The PRM hepatitis B survey also revealed that cumulative incidence rate (prevalence of children at 5 years of age) of children at 5 years of age was 0.03% and prevalence of under-5 children was zero (refer table annexure).

In 2013, DoHe-CTA and Johns Hopkins University conducted a hepatitis B prevalence and treatment needs survey among the Tibetan refugees residing in Bylakuppe Tibetan settlement in South India4,5. Bylakuppe is the largest Tibetan settlement in India and the survey confirmed the high prevalence of hepatitis B among Tibetans living in Bylakuppe, revealing a prevalence of 11.9% among the household population surveyed and 8.9% among overall population including school and monastic populations. In 1987, a study carried out by Shrestha SM and others 6,2 found the prevalence of hepatitis B among Tibetan refugee community in Nepal to be around 17%. The main mode of transmission of hepatitis B in the subcontinent was probably during child birth and in early childhood (ref--); sexual and other mode of transmissions playing a secondary role. The above studies indicate that universal immunization of hepatitis B in infancy was effective in reducing the transmission rate. We do not know the prevalence of hepatitis A and E in the community. The community-based immunization survey (ref--) conducted in 2016 by DoHe-CTA revealed that hep3 coverage rate of infants was 85% and at-birth coverage rate was 48%. Between 2014-2017, catch-up hepatitis B vaccination campaign in schools was launched and 10780 school going children covering > 90% of children from residential schools were vaccinated. The prevalence of hepatitis B among pregnant women attending ANC (study from few hospitals and PHCs is estimated at about 9% and though DoHe-CTA gives free hepatitis B Immunoglobulin (HBIG) to newborns whose mothers are HBsAg positive during ANC screening, we do not have a coverage estimate of post-exposure prophylaxis (PEP) at present.

Vaccination of hepatitis A is not included in the universal immunization program of infant. However, routine hepatitis A vaccination (at least one dose) of under-5 children recorded in the 2019 DoHe-CTA DHIS2 routine immunization database revealed a coverage rate of ----% (DoHe-CTA need to give me the data from DHIS2) among those who were registered in the software system.

In 2019, the “Standard Operating Procedure (SOP) for the Management of Chronic Hepatitis-B among Tibetans by Primary Care Physicians of DoHe-CTA” document was published. The SOP follows the Government of India hepatitis B operational guidelines.

**B. Viral Hepatitis Information System for Evidence Based Decision Making:**

i. **Acute viral hepatitis for crude estimation of incidence and trend analysis:** Routine data for acute viral hepatitis A, B, C and E can be recorded in the DoHe-CTA Integrated HIS system i.e., OPD, IPD and Outreach modules of DHIS2 software or through the OPEN-MRS software which is an open-sourced
electronic medical record (EMR) system. Six primary care hospitals operate the OPEN-MRS system while other primary care hospitals and health centres/posts use the DHIS-2 software system. The case definition for above viral hepatitis follow the standardised case definition of WHO. Viral hepatitis is included in the “watch-list” category for outbreak surveillance.

**Note: Challenges:** It is less than two years since DHIS2 and OPEN-MRS software system were operationalised and now we could focus on improving the quality of data reported from these systems. The DHIS2 analytic module could be made accessible to the program managers and the officials who are authorised to make policy and other decisions. For easy interpretation of information, the DHIS2 dashboard could have data visualisation features (including surveillance) using GIS and control charting.

ii. **Chronic viral hepatitis including complications:** OPEN-MRS and DHIS2 software systems have the ability to record these conditions for routine data and trend analysis.

iii. **Hepatitis B treatment tracking:** In 2019, the hepatitis B patient card/register was designed for implementation at the field level and an e-version of the patient card/register in epi-info software is planned for 2021.

**Note:**

**Survey:** Community based hepatitis B prevalence survey using representative sample will be carried out in 2025 for midterm assessment of progress of indicators. A similar survey for hepatitis B will be conducted in 2030.

**Gap, Barrier and Opportunity Analysis:** At-birth hepatitis B vaccination coverage rate is poor at <50%. Gap, barrier and opportunity analysis will be conducted by year 2025 in the settlements where the coverage rate is poor.

**Strategic Direction 2: Interventions for Impact**

**A. Vaccination**

i. **Strengthen Universal Infant Immunization Service in priority areas:** To maximize hep3 coverage and improve at-birth vaccination coverage rate.

ii. **Coordinate with private maternity hospitals:** To ensure timely administration of at-birth hepatitis B vaccination. Household based immunization survey for children born between 2014 and 2016 showed that >60% of the deliveries were conducted in the Indian private hospitals.

iii. **Vaccinate high risk adults or other priority groups against hepatitis B:** These include health workers, household contact of people with hepatitis B positive status, PWID, women of reproductive age group.

iv. **Onetime catch-up vaccination of school going children** were implemented between 2014 and 2017.

**B. Ensuring blood safety**

i. Promote rational use of blood and blood products.

ii. Ensure quality assurance of laboratory testing for viral hepatitis B and C.

iii. Strengthen systems for hemovigilance i.e., surveillance of blood donors for hepatitis B & C and post-transfusion hepatitis.

iv. Encourage nonremunerated voluntary blood donation, and rational use of blood and blood products.

**C. Prevention of viral hepatitis in health-care settings**
i. Enforce, strengthen and sustain universal precaution and routine infection prevention and control measures in healthcare settings.

ii. Develop and implement a safe injection policy and practices and, where feasible, promote the use of WHO prequalified safety-engineered injection devices

iii. Ensure health-care provider safety, including access to immunization and post-exposure prophylaxis

iv. Monitor blood-borne outbreaks of infection in health-care settings.

D. Prevention of mother-to-child transmission (PMTCT)

i. Encourage and ensure at-birth vaccination of hepatitis B

ii. Screen pregnant women for hepatitis B and use hepatitis B immunoglobulin (HBIG) in infants born to mothers who are HBsAg positive

iii. Coordinate with MCH department for safe delivery practices

E. Prevention of transmission through sharing of injecting equipment

i. Address HBV and HCV-related stigma and discrimination in the society through community engagement to reach more PWIDs and improve access to preventive services including screening, treatment and continuum of care

ii. Carry out outreach services to reach more PWIDs for free hepatitis B vaccination

iii. Ensure access to safe injections and needles, such as low dead-space syringes

iv. Ensure access to opioid substitution therapy (OST) for opioid-dependent individuals.

v. Carry out outreach SBCC for PWID or substance users through PWID survivors and champions

vi. Ensure access to harm reduction services for people who use drugs

F. Prevention of sexual transmission

i. Actively promote condom use for prevention of STIs

ii. Train health workers working at primary care level in syndromic approach to STI management and treatment

iii. Ensure access to STI services and maintain confidentiality and avoid stigma and discrimination from the society

iv. Conduct contact tracing for partner management & counselling

G. Access to safe water and sanitation

i. Ensure intersectoral collaboration with the water & sanitation departments

ii. Ensure intra-departmental collaboration and involve WASH project staff

H. Diagnosing chronic hepatitis infection & enhancing clinical management of chronic liver disease
i. “Standard Operating Procedure (SOP) for the Management of Chronic Hepatitis-B among Tibetans by Primary Care Physicians of DoHe-CTA” was published in 2019 and operationalised. SOP follows the Government of India hepatitis B operational guidelines.

ii. Improve the availability of affordable, quality assured point-of-care diagnostic test kits for the diagnosis of viral hepatitis B and C

iii. Engage with communities and conduct public awareness and advocacy for increasing the demand for screening of hepatitis B and C, especially for key and vulnerable populations

iv. Ensure access to clinical management for hepatitis B and treatment for hepatitis C at the primary care level

v. Review and strengthen existing health systems necessary for scaling up treatment for viral hepatitis so that no one is left behind for lack of access to care

vi. Monitor the cascade of treatment and care to identify and address barriers to early linkage and retention in care

vii. Conduct rapid assessment where necessary to identify barrier, challenges and opportunities.

viii. Maintain a cancer registry

**Strategic Direction 3: Delivering for Equity**

**A. Strengthen Viral Hepatitis Services**

i. Screen 65% of the population by 2025 through house-house outreach so that no one left behind from the area.

ii. Include hepatitis B diagnosis and management under the “Universal Health Care” scheme.

iii. Strengthen monitoring and information systems to include indicators that capture the quality and equity of services, including access to services

iv. Strengthen health system so that all settlements are covered by a MBBS doctor for treatment and continuum of care of viral hepatitis

**B. Strengthening Human Resources**

i. Review and strengthen pre-service and In-service curricula of health-care cadres to include knowledge, skills and capacity-building for managing viral hepatitis at various levels of health-care service delivery

ii. Identify opportunities for task-shifting and task-sharing to extend the capacity of the health workforce

iii. Implement measures to reduce the risk of transmission of viral hepatitis in health-care settings, and ensure the safety and security of health-care providers.

iv. Ensure access to post-exposure prophylaxis (PEP) and treatment for health-care providers infected with viral hepatitis B and C.

v. Increase awareness and training of healthcare workers to reduce stigma and discrimination in health-care settings

**Strategic Direction 4: Financing for Sustainability**
A. Develop a national investment case for viral hepatitis to advocate for and make a case for adequate resource allocation.

B. Include essential interventions for hepatitis prevention and management within the universal health service package

**Strategic Direction 5: Innovation for Acceleration**

A. Use IT enabled services (ITES) for health system strengthening

B. Use mobile outreach units with point-of-care testing for health service coverage

C. Design and use operational research during viral hepatitis program implementation

D. Use population approach (house-house visits) for hepatitis B screening for universal and equitable access to diagnosis and continuum of care

E. Use integrated Health Information system
## DoHe-CTA Core Viral Hepatitis Indicators (Adapted from CDC Framework)

<table>
<thead>
<tr>
<th>Indicator of Progress</th>
<th>Indicator Name and Definition</th>
<th>Hepatitis Virus</th>
<th>Data Source</th>
<th>Target</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Increase hepatitis A and hepatitis B vaccination in children</strong></td>
<td>Coverage of At-birth HBV Vaccination</td>
<td>C3: Number and proportion of timely hepatitis B vaccine birth dose (within 24 hours of birth)</td>
<td>B</td>
<td>Survey - DHIS2 Immunization Module</td>
</tr>
<tr>
<td>i.</td>
<td>-</td>
<td>48.90% - 90% 95%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ii.</td>
<td>Coverage of Complete (hep3) infant HBV Vaccination</td>
<td>C3: Number and proportion of at-least three doses hepatitis B vaccine among infants</td>
<td>B</td>
<td>-</td>
</tr>
<tr>
<td>iii.</td>
<td>Coverage of HAV Vaccination under-5</td>
<td>Number and proportion of at-least one dose hepatitis A vaccine among under-5</td>
<td>A</td>
<td>-</td>
</tr>
<tr>
<td><strong>2. Decrease Perinatal Viral Hepatitis Infections</strong></td>
<td>At-birth HBV vaccination of new-born born to HBsAg + mother</td>
<td>Number and proportion of infant born to HBsAg positive mother given HBV vaccination at-birth (within 24 hours)</td>
<td>B</td>
<td>-RMNCH Program data -Survey?</td>
</tr>
<tr>
<td>i.</td>
<td>-</td>
<td>-</td>
<td></td>
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<tr>
<td>ii.</td>
<td>Screening for HBV during pregnancy</td>
<td>Number &amp; proportion of pregnant women screened for HBsAg during anti-natal visit</td>
<td>B</td>
<td>-</td>
</tr>
<tr>
<td>iii.</td>
<td>Post exposure prophylaxis (PEP)</td>
<td>Number and proportion of new-borne (HBsAg positive mother) who received hepatitis B Immunoglobulin (HBIG)</td>
<td>B</td>
<td>-</td>
</tr>
<tr>
<td><strong>3. Reduce New Infection among High-risk Groups through Hepatitis B Vaccination</strong></td>
<td>PWID (also include oral nonmedical substance addiction)</td>
<td>Number and proportion of PWID (also include oral nonmedical substance addiction) given three dose hepatitis B vaccine among those who volunteered for vaccination</td>
<td>B</td>
<td>-Survey -Register</td>
</tr>
<tr>
<td>i.</td>
<td>-</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ii.</td>
<td>Household contact</td>
<td>Hepatitis B vaccine coverage for household contacts of a person who is HBsAg positive</td>
<td>B</td>
<td>-</td>
</tr>
<tr>
<td>iii.</td>
<td>Health Workers</td>
<td>A16: Hepatitis B vaccine coverage for DoHe-CTA health workers</td>
<td>B, C</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>% of health workers under DoHe-CTA whose antibody to HbsAg (Anti-HBs) status is known</td>
<td>-</td>
<td>B</td>
<td>-</td>
</tr>
<tr>
<td>% of health workers under DoHe-CTA with antibody to HbsAg (Anti-HBs) is &gt;10 IU/mL</td>
<td>B</td>
<td></td>
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</tbody>
</table>

**B. Reduce Morbidity**

1. **Awareness of Infection**
   - Increase proportion of people with hepatitis B who know their infection status
     - C6: Number & proportion of people living with HBV diagnosed
     - B: -Survey
     - ?? 30% 70% 90%
   - Increase proportion of people with hepatitis C who know their infection status
     - C6: Number & proportion of people living with HCV diagnosed
     - C: -Survey
     - ?? 30% 50% 90%

2. **Engagement in Cascade of Care**
   - Increase proportion of people with hepatitis B engaged in hepatitis B-directed medical care
     - C7: Number and proportion of people with HBV taking treatment for HBV (those eligible for treatment as per SOP)
     - B: -Survey
     - ?? -HBV Treatment Register (Digitised version in EPI-INFO)
     - ?? Get data 30% 80%
   - Increase proportion of people with hepatitis C engaged in hepatitis C-directed medical care
     - C7: Number and proportion of people with HCV taking treatment for HCV
     - C: -HCV Treatment Register (Digitised version EPI-INFO)
     - ?? - 30% 80%
   - Increase proportion of people with hepatitis C who have cleared hepatitis C virus infection
     - C8: Number and proportion of people with chronic hepatitis C started on DDR anti-viral reporting cure for chronic HCV
     - C: Survey
     - HCV Treatment Register (Digitised version EPI-INFO)
   - Viral suppression of hepatitis B
     - C8: Number and proportion of people with HBV and needing treatment taking treatment and reporting viral suppression for chronic hepatitis B as per guideline/SOP
     - B: HBV Treatment Register (Digitised version in EPI-INFO)
   - Facility level injection safety
     - C5: Number and proportion of unsafe injections among known PWID
     - B, C: Rapid assessment (survey)
     - 5% 0%
   - Blood safety
     - A18: Number and proportion of blood/blood products transfusion given which are screened for HBV, HCV
     - B, C: Rapid assessment (survey)
     - 100% 100%
     - Number and proportion of non-remunerated voluntary blood donations.
     - B, C: Rapid assessment (survey)
     - 100% 100%
   - STI services
     - Number and proportion of DoHe-CTA health facilities providing or assist linkage
     - B, C: Rapid assessment (survey)
     - 100% 100%
<table>
<thead>
<tr>
<th>C. Reduce Disparities</th>
<th>B, C</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Increase utilization of hepatitis B and hepatitis C prevention services among PWIDs</td>
<td>B, C</td>
</tr>
<tr>
<td>i. Complete HBV Vaccination</td>
<td>See above</td>
</tr>
<tr>
<td>ii. Needle Syringe Exchange</td>
<td>C4: Syringes &amp; needles distributed/PWID/year</td>
</tr>
<tr>
<td>iii. OST services</td>
<td>Number and proportion of opioid-dependent PWID who received OST</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>D. Develop &amp; Strengthen Surveillance Mechanism</th>
<th>B, C</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Strengthen capacity to accurately report viral hepatitis by health facilities</td>
<td>B, C -Survey -DHIS2</td>
</tr>
<tr>
<td>2. Strengthen capacity to analyse, describe, and disseminate viral hepatitis data for public health action</td>
<td>A, B, C -Annual Report</td>
</tr>
<tr>
<td>3. Develop effective outbreak response and surveillance systems in place to monitor HAV and HEV outbreaks and outcome</td>
<td>DoHe-CTA has effective outbreak response and surveillance systems in place to monitor HAV and HEV outbreaks and outcome</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>E. Achieve Elimination of Viral Hepatitis as Disease of Public Health Importance</th>
<th>B, C</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Reduce HBV Incidence</td>
<td>C9: Cumulative incidence of HBV infection in children 5 years of age</td>
</tr>
<tr>
<td>2. Reduce HCV Incidence</td>
<td>C9 Incidence of HCV infection</td>
</tr>
<tr>
<td>3. Reduce Mortality</td>
<td>C10 Number and proportion of death from hepatocellular carcinoma (HCC)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>F. Disease Burden</th>
<th>B, C</th>
<th>B, C</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. HBV Prevalence</td>
<td>C1: Prevalence of chronic HBV infection</td>
<td>B -Survey</td>
</tr>
<tr>
<td>2. HCV Prevalence</td>
<td>C1: Prevalence of chronic HCV infection</td>
<td>C -Survey</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>G. Improve Health System</th>
<th>B, C</th>
</tr>
</thead>
<tbody>
<tr>
<td>to care for STI services, including access to condoms, lubricants, HIV testing</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Strengthen Infrastructure for HBV testing</td>
</tr>
<tr>
<td>---</td>
<td>----------------------------------------</td>
</tr>
<tr>
<td>2</td>
<td>Strengthen Infrastructure for HCV testing</td>
</tr>
<tr>
<td>3</td>
<td>IPC Policy: Develop and implement safe injection and infection prevention and control (IPC) policies.</td>
</tr>
</tbody>
</table>

**H. Reduce Hepatitis A and E**

Coordinate with WASH project officer to implement key WASH indicators

Refer SPHERE handbook, page 131-156 under section “WASH in disease outbreaks and healthcare settings”.

|   | A, E | - |   |   |   |   |   |

**Challenges in monitoring progress and outcome of WHO targets:**

i. We do not have 2015 baseline for many indicators

ii. Some priority indicators for DoHe-CTA are not in the WHO core indicators e.g., Number and proportion new-borne (HBsAg positive mother) who received hepatitis B Immunoglobulin (HBIG)

iii. It is difficult to calculate rate for some indicators e.g., Incidence of hepatitis B & C