NATIONAL STRATEGY FOR VIRAL HEPATITIS B AND C

2023-2030

Government of Nepal
Ministry of Health and Population
National Centre for AIDS and STD Control
Teku, Kathmandu

NATIONAL STRATEGY FOR VIRAL HEPATITIS B AND C

2023-2030

Government of Nepal
Ministry of Health and Population
National Centre for AIDS and STD Control
Teku, Kathmandu

National Strategy for Viral Hepatitis B and C 2023-2030

Approved by: Hon'ble Minister, Ministry of Health and Population on 20th February 2023

Published: April, 2023

Government of Nepal
Ministry of Health & Population
Ramshahpath, Kathmandu
Nepal

Phone : 4. 262987
262590
262802
262706
262935
262862

Ref: .....

Date : .....

Foreword

The Ministry of Health and Population is committed to ensure health for all citizens as a fundamental human right by increasing access to quality health services through a provision of just and accountable health system.The National Strategy on Viral Hepatitis B and C (NSVH) 2023-2030 is a joint effort to ensure that prevention, diagnosis and treatment services for viral hepatitis are easily accessible to all in Nepal.The NSVH 2023-2030 targets for elimination of viral hepatitis B and C as public health problem by 2030 which is line with country commitment to achieve the Sustainable Developmental Goals and the Global Health Sector Strategy on Viral Hepatitis. The strategy further prioritizes the key risk populations and priority populations including health workers and pregnant mothers to increase access to viral hepatitis preventive and care services.

The Ministry of Health and Population (MoHP) recognizes the important role of hepatitis B vaccination for newborn, children and adults as effective tools for viral hepatitis prevention. The progress in hepatitis diagnosis, increased access and affordability to effective medicines have made the targets of NSVH 2023-2030 achievable. The National Viral Hepatitis Program will further strengthen and will be able to achieve the National goals and targets for elimination of viral hepatitis B and C.

I want to thank the DoHS, NCASC and all the experts and stakeholders for developing this strategic document on viral hepatitis. I further re-affirm commitment of Government of Nepal for elimination of Viral Hepatitis in Nepal as public health problem.

Dr. Roshan Pokhrel
Secretary

Government of Nepal
Ministry of Health and Population
Department of Health Services
..... Division

4-261712
4-261436
Fax: 4-262268

Pachali, Teku
Kathmandu, Nepal

Ref No.:

Foreword

Viral hepatitis affects millions of people worldwide, leading to chronic disease and deaths due to liver cirrhosis and liver cancer. Although Nepal has a low burden of viral hepatitis B and C, the prevalence of these diseases is higher in some risk and vulnerable groups. We have affordable treatments for hepatitis C and effective tools for preventing viral hepatitis B. The National Strategy on Viral Hepatitis (NSVH) 2023-2030 aims to ensure that the at- risk and other vulnerable groups have easy and affordable access to prevention, diagnosis and treatment options for viral hepatitis B and C.

The National Strategy on Viral Hepatitis (NSVH) 2023-2030 aims to achieve the ambitious targets of 90 percent reduction in new cases of chronic Hepatitis B and C and 65 percent reduction in mortality by chronic Hepatitis B and C by 2030, contributing to the attainment of the Sustainable Development Goal (SDG). The foundationof this National Strategy on Viral Hepatitis 2023-2030 is the National Health Policy 2071 which envisions all Nepalese citizens being able to live productive and quality life while being in good physical, mental, social and emotionalhealth.

The NSVH 2023-2030 also highlights the need for multi-sectoral engagement, community led responses and coordination across various divisions and centers of the Ministry of Health and Population (MoHP) for the efficient delivery of services for viral hepatitis B and C. I assure that the MoHP will make adequate investment for successful implementation of this national strategy, and I am confident that stakeholders and partners will support for successful implementation of this strategic plan.

I would like to congratulate Dr. Sudha Devkota, Director of the National Center for AIDS and STI Control, and the entire team who contributed to the development of this strategy.

Dr. Dipendra Raman Singh
Director General
Department of Health Services

Director General

Government of Nepal
Ministry of Health and Population
National Centre for AIDS & STD Control

4261653
4262753
4258219
Fax: 4261406

Email: ncasc@ncasc.gov.np
Website: www.ncasc.gov.np
Taku, Kathmandu, Nepal

Ref. No. :

Government of Nepal
Ministry of Health and Population
National Centre for AIDS & STD Control
Taku, Kathmandu

Date: .....

Foreword

The prevalence of Hepatitis B and C among the general population in Nepal is low, it is significantly higher among people living with HIV, people who inject drugs and sex workers. The National Strategy on Viral Hepatitis B and C prioritizes the risk population to increase access to Viral Hepatitis prevention, diagnosis and treatment services. The screening of Hepatitis B among pregnant mothers is a priority intervention in the strategy to prevent vertical transmission from pregnant mother to newborn.

Nepal has made significant progress in response to the HIV epidemic. This was mostly possible and achieved due to integrated health system, trained cadres of health workers in the health facility and community, and engagement of the communities in planning, policy design and implementation of the activity. The National Strategy on Viral Hepatitis (NSVH) 2023-2030 will be initiated on the strength of the HIV program.

The National Strategy on Viral Hepatitis (NSVH) 2023-2030 is the aspiration of the many health workers, community members, national experts, and multi-sectoral representative who were consulted over the years for its development. The NSVH 2023-23 targets to achieve the elimination of Viral Hepatitis B and C from Nepal by 2030 and prioritizes epidemiologic and operational research to further strengthen Viral Hepatitis Program in the country.

On behalf of National Centre for AIDS and STD Control (NCASC), I would like to express our sincere gratitude to all the Steering Committee members, stakeholders and NCASC team who worked diligently during the months of consultations to complete this national strategy.

.....

Dr. Sudha Devkota
Director DIRECTOR

TABLE OF CONTENTS

ABBREVIATIONS

ANC	Ante- Natal Care
BBP	Blood Borne Pathogen
BCC	Behaviour Change Communication
DoHS	Department of Health Services
EDCD	Epidemiology and Disease Control Division
FWD	Family Welfare Division
HAI	Health Care-Associated Infections
HBV	Hepatitis B Virus
HCV	Hepatitis C Virus
HCWM	Health Care Waste Management
HIV	Human Immunodeficiency Virus
HCW	Health Care Worker
IHIMS	Integrated Health Information Management Section
IHMIS	Integrated Health Management Information System
IBBS	Integrated Biological and Behavioural Surveillance Survey
IEC	Information, Education and Communication
KP	Key Population
MoHP	Ministry of Health and Population
MSM	Men who have sex with Men
NCASC	National Centre for AIDS and STD Control
NPHL	National Public Health Laboratory
NSP	Needle Syringe Program
NSVH	National Strategy for Viral Hepatitis B and C
OST	Opioid Substitution Therapy
PLHIV	People Living with HIV
PMTCT	Prevention of Mother to Child Transmission
PWID	People Who Inject Drugs
QC	Quality Control
TG	Transgender
TTIs	Transfusion Transmitted Infections
USP	Universal Safety Precautions
WHA	World Health Assembly
WHO	World Health Organization
WUENIC	WHO and UNICEF estimates of national immunization coverage

LIST OF TABLES

LIST OF FIGURES

EXECUTIVE SUMMARY

Viral hepatitis B and C is responsible for an estimated 1.1 million deaths per year globally - a toll comparable to that of HIV and tuberculosis. Nepal is categorized as low prevalence country for viral hepatitis B and C among general population (HBV 0.9% and 0.38% HCV). However, the prevalence is higher among specific risk populations such as people living with HIV, people who inject drugs and sex-workers. The National Strategy for Viral Hepatitis B and C (NSVH) 2023-2030 is the first national strategic document on viral hepatitis and the Government of Nepal is committed towards elimination of viral hepatitis as a public health problem in Nepal.

The Government of Nepal has ensured universal childhood vaccination against Hepatitis B in the national immunization programme. In July 2019, the WHO South East-Asia Regional Office (WHO-SEARO) declared Nepal to have controlled Hepatitis B though childhood vaccination.

The national viral hepatitis strategic plan is expected to achieve the following targets for Nepal:

1. 90% reduction of new cases of chronic viral hepatitis B and C by 2030.
2. 65% reduction of viral hepatitis B and C deaths by 2030.

This NSVH 2023-2030 is based on Global Health Sector Strategy for Viral Hepatitis (2016–2021) following the framework of universal health coverage. It details priority areas for action within the health sector to ensure an efficient response to prevent, diagnose, treat and care for viral hepatitis. Initiatives outlined in this document looks at capitalising on initiatives and activities being carried out under various health programs.

Achieving the targets set under the NSVH will require an integrated approach from different stakeholders at federal, provincial, and local government level including civil society, community organizations, research institutions and private sector. The implementation of this strategic plan will be a combined effort of all stakeholders working towards achieving the common goal. The NSVH details collaboration, coordination, and cooperation among all stakeholders in the process of elimination of hepatitis as a public health threat in Nepal.

The total cost of the NSVH 2023-2030 is estimated to be around US$ 4,629,183 in the year 2023 which will increase over time due to scale-up of interventions and inflation and reach US$ 12,307,928 in 2030. The overall cost of plan implementation from 2023-2030 will be around US$ 73,840,631.

The development of NSVH 2023-2030 has been a collaborative effort between all the stakeholders from federal and provincial governments, development partners, civil society organizations, and community representatives.

1 INTRODUCTION – THE PROBLEM

Viral Hepatitis: A major public health problem

The viral hepatitis takes a heavy toll on lives, communities, and health systems. According to WHO Global Hepatitis Report 2021, viral Hepatitis B and C caused 1.1 million deaths in 2019, a number comparable to deaths caused by tuberculosis and HIV. Viral hepatitis is also, a growing cause of mortality among people living with HIV (Table 1).

The Hepatitis viruses (A, B, C, D and E) are very different, with different modes of transmission, affecting different populations and resulting in different health outcomes. While Hepatitis A and E usually result in acute infections and may cause outbreaks, B and C infections lead to chronic liver disease and its complications like cirrhosis and liver cancer. An effective response requires a range of common actions, while at the same time delivering tailored interventions for each of the viruses is important.

Both Hepatitis B and C attacks the liver and can cause both acute and chronic disease. Hepatitis B virus is mostly transmitted from mother to child during birth and delivery, as well as through contact with blood or other body fluids during sex with an infected partner, unsafe injections, or exposures to sharp instruments. Immunization is the most effective strategy for prevention of Hepatitis B virus infection.

Hepatitis C virus is a bloodborne virus and most infection occur through exposure to blood from unsafe injection practices, unsafe health care, unscreened blood transfusions, injection drug use and sexual practices that lead to exposure to blood. Antiviral medicines can cure more than 95% of persons with hepatitis C infection, but access to diagnosis and treatment is low. Currently there is no effective vaccine against Hepatitis C.

Table 1: Global burden of viral hepatitis

Hepatitis B and C	■ An estimated 296 million people are living with chronic Hepatitis B virus (HBV) infection and 58 million people with chronic Hepatitis C virus (HCV) infection. ■ 3 million people were newly infected with chronic Hepatitis B and C infection in 2019. ■ 1.1 million people died from Hepatitis B and C infection in 2019.
HIV Co-infection	■ Viral hepatitis is also growing cause of mortality among people living with HIV. ■ About 2.7 million people living with HIV are co-infected with Hepatitis B virus and 2.3 million with Hepatitis C virus.

Source: WHO, 2021

National Scenario of Viral Hepatitis

Nepal is categorized as low disease burden country for Hepatitis B and C with HCV prevalence among general population as 0.38 % and 0.9% for HBV. However, certain risk groups like PWID, PLHIV have higher incidence. Table 2 highlights the disease burden estimates for the Hep B and C based on the estimates conducted by NCASC/ WHO and published research data.

Table 2: Prevalence of Hepatitis B and C in Nepal

Population	Hepatitis B	Hepatitis C
General population	0.9 %	0.38%
Children under 5	0.3%	NA
Blood donors	0.8%	0.38%
Pregnant women	0.5%	0.38%
PWID	3.5%	27.48%
PLHIV	4.6 %	26.17%

Source: NCASC/WHO regional estimates (2019)

The priority populations which require interventions for prevention, diagnosis and treatment of Hepatitis B and C infection have been listed in Box 1.

Box 1: Priority population for Viral Hepatitis B and C infection

a. People Living with HIV (PLHIV)
b. Person who inject intravenous drugs (PWID)
c. Sex workers, men who have sex with men, transgender and migrants
d. Prisoners and previously incarcerated persons
e. Health-care workers
f. Patients on haemodialysis
g. Patient with chronic liver disease
h. Recipients of blood transfusion prior to the introduction of HCV screening of blood and blood products
i. Patient with conditions requiring multiple blood transfusion
j. Persons who have received surgical or dental interventions or received tattoo/piercing in unsterile setting
k. Pregnant women

II NATIONAL STRATEGY FOR VIRAL HEPATITIS B AND C 2023-2030

The Government of Nepal is committed to the resolution 69.22 endorsed at the 69th World Health Assembly (WHA) towards ending viral hepatitis as a major public health threat by 2030. The SDG Goal 3.3 also targets the elimination of viral hepatitis by 2030.

The Constitution of Nepal has established basic and emergency health services as the fundamental rights of the citizens. The Public Health Service Act 2075 BS (2018) have identified vaccination service; motherhood, infant and paediatric health service; and service relating to communicable diseases among services available under the free basic health service. National Health Policy 2076 BS (2019) has been formulated based on the constitution that guarantees basic and emergency health services for all citizens as a fundamental right. The Public Health Service Regulation 2020 specifies Hepatitis B immunization services for children and health services related to the infectious diseases.

The National Center for AIDS and STD Control (NCASC) have initiated screening and treatment for HIV and viral Hepatitis B & C co-infections as a key intervention in line with the National HIV Strategic Plan (NHSP) 2021-2026. The National Strategy for Viral Hepatitis B and C 2023-2030 is a step towards providing comprehensive services for elimination of viral hepatitis as a public health problem in Nepal.

While acknowledging the importance of viral Hepatitis A and E, both of which cause acute viral hepatitis, this strategy focuses primarily on chronic viral Hepatitis B and C which account for 96% of all viral hepatitis mortality due to cirrhosis and hepatocellular cancer. This national strategy envisions the goal of elimination of viral hepatitis and highlights the need of radical change in the national hepatitis response.

Vision

Transmission of Hepatitis B and C transmission is halted and everyone has access to safe, affordable, and effective prevention, care and treatment services.

Goal

Eliminate viral Hepatitis B and C as a major public health threat by 2030.

Targets

The national strategic plan is expected to achieve the following impact targets for Nepal by 2030:

1. 90% reduction of new cases of chronic viral Hepatitis B and C by 2030.
2. 65% reduction of viral Hepatitis B and C deaths by 2030.

1. STRATEGIC PRIORITIES

Combinations of interventions are considered in this strategic plan, recognizing that some interventions will only be effective, or achieve maximum impact, if they are delivered in combination with other interventions. The National Strategy on Viral Hepatitis (NSVH) enlists hepatitis-specific priority strategic actions along the continuum of viral hepatitis prevention, diagnosis, and treatment services which are outlined as below.

1.1 Prevention

Nepal is categorized as a low prevalence country for viral Hepatitis B and C, necessitating focus on prevention. Viral Hepatitis B and C has high prevalence among people living with HIV (PLHIV) and the People who inject drugs (PWID). And risk groups who have a history of exposure and/or high-risk behaviours for infection have higher prevalence than the general population. Vaccination, PMTCT program, harm reduction program for PWID, blood safety and universal safety precautions are key prevention strategies to reduce transmission of viral hepatitis.

1.1.1 Hepatitis B vaccination program

Hepatitis B immunization is a critical intervention for the elimination of Hepatitis B virus epidemic. Increasing access to the safe and effective Hepatitis B virus vaccines through universal childhood vaccination and by delivery of birth-dose will drastically reduce new Hepatitis B infections, reducing rates of chronic illness and death.

Current Hep B vaccination program in Nepal

The national immunization program targets children below 15 months of age. Immunization Act 2072 BS (2016) of Nepal recognizes vaccination as the right of all Nepalese children. Nepal achieved all targets under MDG goal 4 of reducing child mortality. Immunization program has been considered as one of the main contributors to the decline in infants and child deaths in Nepal.

Nepal achieved Hepatitis B control in 2019 through childhood vaccination. The national immunization program provides Hepatitis B vaccine to infant at 6, 10 and 14 weeks of age. The immunization coverage for the 3rd dose of Hepatitis B vaccine among children was 91% in 2021 (WUENIC, 2022). Birth dose of Hepatitis B vaccination for new-born is not currently available in Nepal.

The National HIV Testing and Treatment Guidelines 2020 also recommends Hepatitis B vaccination as part of the comprehensive HIV care for the PLHIV.

Objectives for vaccination program

1	Sustain high coverage of Hepatitis B vaccine among newborn and children.
2	Ensure Hepatitis B vaccine coverage among all health care workers.
3	Ensure at risk population have access to Hepatitis B vaccine.

Strategic action

1.1.1.1 Ensure all new-borns receives a birth dose of Hepatitis B vaccine as soon as possible following birth.

A. Ensure political commitment for birth dose Hep B vaccine and the resources required for implementation.

B. Engage with the Family Welfare Division (FWD) in developing policy documents and program implementation strategy to mainstream and roll out of birth dose immunization strategy.

C. Inform, educate, and communicate the importance of a birth dose of Hepatitis B vaccine to pregnant women and to healthcare providers in both public and private sectors.

1.1.1.2 Ensure universal coverage of the Hep B vaccine for children.

A. Review catch-up vaccination plan for cohorts of children with low coverage.

B. Engage with the FWD to review strategy to improve coverage of hep B vaccine coverage.

1.1.1.3 Ensure Hepatitis B immunization of all healthcare workers.

A. Engage with the FWD to develop recommendations and operational plan for vaccination of all HCWs.

B. Include health worker vaccination for Hep B as part of the National Health insurance policy for all healthcare workers.

1.1.1.4 Ensure Hepatitis B vaccination for priority populations

A. Conduct an epidemiological review of disease burden of Hepatitis B and C among the priority populations.

B. Engage with the FWD to develop recommendations and operational plan for Hepatitis B vaccination for priority populations.

C. Include Hepatitis B vaccination as part of the National Health insurance policy for priority populations.

1.1.2 Prevention of mother to child transmission of viral hepatitis

Hepatitis B virus can be transmitted from infected mothers to their infants during the perinatal period. Elimination of mother-to-child transmission of Hepatitis B virus will require a comprehensive approach that includes prevention of Hepatitis B virus infection in pregnant mothers, testing, and care of pregnant women with chronic Hepatitis B virus infection, Hepatitis B virus vaccination of the new-born, safe delivery practices, strengthened maternal and child health services, and the development of interventions to prevent transmission.

Current program in Nepal

Comprehensive Prevention of Mother to Child Transmission (PMTCT) services started in Nepal in February 2005. Community-based PMTCT (CB-PMTCT) program has been expanded in all 77 districts where HIV screening and counselling is done in every ANC visit at all health facilities and ARV medicines for HIV positive pregnant women are made available in all districts of Nepal.

The annual estimated number of pregnancies in Nepal is around 752,506 and overall institutional delivery is around 77.5% (MICS, 2019). 82% of the expected pregnant women are screened for HIV (NCASC Factsheet 2022).

Objectives of PMTCT program

1	Increase Hepatitis B screening among ANC mothers.
2	Ensure comprehensive care for Hep B infected mothers.

Strategic actions

1.1.2.1 Ensure all pregnant mothers receive Hepatitis B service as part of PMTCT/ ANC service package.

A. Develop a package of services covering immunization, diagnosis, treatment care and support for pregnant women. This should include:
   - Pre and Post-test counselling for Hepatitis along with HIV.
   - Screening for pregnant mothers as a part of ANC package.
   - Linking all positive pregnant mothers to treatment and care services.
   - Institutional delivery mechanism for all mother reactive to Hepatitis.

1.1.3 Harm Reduction Program

Current program in Nepal

The National HIV strategic plan lists the HIV key population in Nepal as sex workers, men who have sex with men (MSM), transgender (TG) and people who inject drugs (PWID), migrants and prison population. These groups are vulnerable to get infected with Hepatitis B and C especially the PWID and PLHIV where the prevalence and risk of transmission is high. Effective prevention and control of viral hepatitis transmission necessitates targeting the risk population for prevention, diagnostic and care services.

The National HIV program conducts the harm reduction program for the PWIDS. Needle and syringe programmes (NSP), opioid substitution therapy (OST), IEC/BCC and Counselling are the recommended interventions for prevention of Hep B, Hep C infection among the PWIDs.

Objectives of harm reduction program for PWID

1	Improve quality of care of harm reduction program for prevention of viral hepatitis.
2	Strengthen community engagement for improving the coverage of harm reduction program.
3	Promote behaviour change among PWIDs.

Strategic actions

1.1.3.1 Improved health services to prevent viral hepatitis transmission among PWIDs and PLHIV

A. Build political commitment and advocacy for investment for hepatitis and HIV prevention and care.

B. Integrate the hepatitis services into existing harm reduction services to facilitate integrated prevention, treatment, and care for PWIDs.

C. Develop community-led prevention services to include hepatitis at the hospital and community setting.

1.1.3.2 Increased awareness regarding Viral Hepatitis among the key populations

A. Develop targeted IEC/BCC activities on Hepatitis transmission, diagnosis, and treatment.

B. Work towards reducing stigma associated with Hepatitis infection.

1.1.4 Blood Safety

The risk of transmission of Hepatitis B and C (HIV and other blood borne infections) through the transfusion of contaminated blood and blood products is extremely high, and, despite being preventable, still occurs because of the absence, or poor quality of screening in blood transfusion services. Ensuring the availability of safe blood and blood products is a vital public health duty for every national government.

Current program in Nepal

National Public Health Laboratory (NPHL) is the focal point for blood safety in the country and develops policy, guidelines, and protocols for blood transfusion services. The centre ensures quality control measures in Transfusion Transmitted Infection (TTIs) testing at Blood Banks.

Objectives of blood safety

1	Ensure 100% screening of donated blood for Hepatitis B and C.
2	Promote policies and awareness on blood safety.

Strategic actions

1.1.4.1 Ensure availability of safe blood products..

A. Strengthen the implementation of National Policy on Blood Safety (National Blood Transfusion Policy) for screening for HBV and HCV.
B. Build capacity of blood-bank staff to ensure compliance.
C. Develop referral mechanism for donors who are hepatitis positive on screening.
D. Strengthen the reporting and surveillance system of viral hepatitis data by all blood banks.
E. Strengthen quality control (QC) systems to ensure safe blood.

1.1.5 Strengthen Infection Control Practices

Health Care-Associated Infections (HAI) are one of the most common adverse events in care delivery and a major public health problem with an impact on morbidity, mortality, and quality of life. At any one time in developing countries 10% of health care workers will acquire at least one healthcare associated infections. However, a large percentage are preventable through effective infection prevention and control measures.

Consistent implementation of infection control practices, including safe injection measures in health care and community settings, will reduce transmission of viral

hepatitis and other infections to both users of health care services as well as health care workers.

Current program in Nepal

Infection prevention and control measures are being implemented at all levels of health facilities as per the national guideline on infection prevention and control to reduce the health care associated infections among health care workers and patients. The Health Care Waste Management (HCWM) Guidelines Nepal 2014 recommends standard disposable practices as recommended by WHO. Waste minimization, waste segregation based on colour code, safe storage/transportation, treatment of waste based on type and safe disposal practices based on waste type to address safe HCWM practices are documented in this guideline.

Objectives for infection control

1	Ensure establishment and implementation of health care waste management regulations.
2	Ensure safety of health care workers from HAI.
3	Ensure safe delivery of medical/surgical procedures.
4	Promote policies and awareness on infection control at all health care settings.

Strategic actions

1.1.5.1 Strengthen government commitment and policies that ensure infection control practices.

A. Advocacy at the highest level for infection prevention at all healthcare settings.
B. Review and update policies on universal safety precautions, reprocessing of instruments and equipment, handling and use of blood and blood products and occupational risks.

1.1.5.2 Strengthen infection control at all levels of health care.

A. Build capacity of medical, para-medical and support staff, for effective implementation of the Universal Safety Precautions (USP) and medical waste management disposal practices.
B. Promote the use of safe devices, needlestick surveillance programs, and safe disposal of sharp instrument.
C. Develop and implement prevention and management protocol for occupational exposure of blood borne pathogens (BBPs).

1.2 Diagnosis and treatment

Hepatitis B and C infection can cause both acute and chronic diseases ranging in severity from a mild illness to a serious, lifelong illness including liver cirrhosis and cancer. Early diagnosis and treatment can prevent health problems that may result from infection and prevent transmission of the Hepatitis virus.

Current program in Nepal

National guidelines for diagnosis and treatment of viral Hepatitis C has been developed, however, the services for diagnosis and treatment of Hepatitis B and C needs to expand.

Objectives for diagnosis and treatment

1	Increase access to viral Hepatitis testing at federal, provincial and local level.
2	Provide safe, effective, and affordable treatment to patients with Hepatitis B and C.

Strategic actions

1.2.1 Strengthen diagnostic services for viral hepatitis

A. Integrate viral hepatitis testing for priority population into national policies and guidelines.

B. Strengthen and expand public health laboratory systems to provide quality assured diagnostic services for viral hepatitis.

C. Establish linkages between local, provincial and federal laboratory for diagnosis, confirmation and monitoring of patient.

1.2.2 Strengthen case management for viral Hepatitis

A. Scale up the number of treatment facilities providing HBV and HCV treatment to improve access to services.

B. Establish a robust monitoring and evaluation of Hepatitis Care Service at each treatment facility.

C. Prioritize testing and treatment initiation of Hepatitis B & C in priority populations.

D. Provide linkage for Hep B & C treatment in the National Health Insurance Policy.

E. Train HCWs on viral hepatitis, diagnosis, treatment, and adherence counselling.

F. Strengthen counselling and referral services for Hepatitis patients.

1.2.3 Establishing private public partnership and community-based models of service delivery

A. Develop private sector engagement plan for the viral hepatitis program.

B. Engage and collaborate with communities and civil societies for effective delivery of hepatitis services.

2. SURVEILLANCE, MONITORING AND EVALUATION

Developing a surveillance system to record and report all cases of Viral Hepatitis from health facility at public and private sector is key to effective planning, monitoring and evaluation. The new surveillance system should also be linked to the existing National Health Information System.

Current program in Nepal

EDCD conducts regular surveillance and response to the water borne diseases including Viral Hepatitis A and E. The laboratory tests conducted for Viral Hepatitis at the health facility are reported in the National Integrated Health Management Information System (IHMIS). However, comprehensive information on diagnostics and treatment cascade are limited.

Objectives

1	To strengthen integrated information system for recording and reporting data on prevention, diagnosis, and treatment of viral hepatitis.

Strategic actions

1.2 Strengthening M&E and surveillance systems for viral hepatitis.

A. Develop a monitoring and evaluation plan for the National Viral Hepatitis Program.
B. Integration of the data recording and reporting to National IHMIS.
C. Capacity building of health workers on data recording and reporting system.

1.3 Strengthening the capacity of laboratories for surveillance activities.

A. Strengthen laboratory system to conduct viral hepatitis testing.
B. Capacity building of laboratory staff on viral Hepatitis diagnosis.
C. Develop a laboratory quality assurance system for sentinel surveillance sites.

3. GOVERNENCE AND IMPLEMENTATION STRUCTURE

The implementation of a National Strategy on Viral Hepatitis Strategy will require coordination and cooperation of different Divisions and Centres of the MoHP, inter-ministerial coordination and engagement with communities and civil societies. This will require leadership, commitment, and meaningful engagement with all stakeholders. In addition, meaningful involvement of people living with viral hepatitis, communities and civil societies will promote awareness-raising for hepatitis B and C, enhance equitable responses to viral hepatitis and ensure to address the stigmatization, discrimination, social marginalization, and gender-based violence faced by people living with viral hepatitis and those at risk.

The NCASC will work closely with various divisions, centres of the MoHP at the federal level and key stakeholders at the provincial and local levels to strengthen the integrated approach of Hepatitis interventions in Nepal. NCASC will conduct regular review and coordination meeting to review progress and challenges of hepatitis control.

3.1 Management structure and governance arrangements.

The component of the governance and implementation structure are:

i. Steering Committee
ii. Technical Working Group
iii. Hepatitis Unit (NCASC)

i. Steering Committee

A high-level National Hepatitis Program Steering Committee chaired by Secretory, MoHP and co-chaired by Director General, DoHS should be constituted. Key Functions of this committee is to provide guidance in policy planning, advocacy, coordination, collaboration and resource mobilization across health and non- health sectors.

ii. Technical Working Group (TWG)

The Technical Working Group will include experts in viral hepatitis from public and private sectors, academia, research institutions, MoHP, community members and stakeholders. The key function will be to support development of national strategy, guidelines for prevention and treatment of viral hepatitis and provide expert advice. The WHO will provide secretariat role for the TWG.

iii. Hepatitis Unit (NCASC)

The Hepatitis unit at the NCASC will be established for improving prevention, testing and treatment services at all health facilities. The unit will:

- Coordinate with other divisions, centres and technical groups and support to deliver the strategic interventions to meet the targets of NSVH 2023-2030.
- Conduct program monitoring and evaluation in collaboration with key stakeholders.
- Support supply chain management and ensure uninterrupted supply of test kits, reagents, drugs, and all other equipment required for the implementation of the program.
- Ensure implementation of standard operating procedures on diagnosis & treatment guidelines and quality control measures.
- Coordinate with Integrated Health Information Management Section (IHIMS) to strengthen the recording and reporting of Hepatitis data.
- Budgeting and planning for hepatitis program interventions.

3.2 Community engagement to improve diagnostic and treatment services on Hepatitis

The HIV program has successfully involved the community at various stages, starting from identifying KPs to the delivery of services. The rich experience of community-led approaches and the lessons learnt from them have fed back into the program and helped in evolving a more systematic, robust, and effective model of Targeted Interventions (TIs) and care support programmes. This national strategy proposes to continue community empowerment with their participation in the National hepatitis program through committees and technical resource groups. Community members are part of the national technical committees and have been active members in policy and planning for viral hepatitis interventions. Community strengthening activities and community services for viral hepatitis will further be undertaken to aid successful elimination of viral hepatitis as public health threat by 2030.

4. SUMMARY OF COSTED NATIONAL STRATEGY

Adequate investment to fund the strategic priority areas are essential to achieve the 2030 targets of the National Strategy for Viral Hepatitis. The key principals for financing for sustainable hepatitis response in Nepal requires actions in the following areas:

- The MoHP to address viral hepatitis as a public health problem and set up to fund the National Strategy.
- Supplement the national investment through external resource mobilization.
- Improve efficiency in the health system through integration.
- Ensure social protection through innovative financing mechanisms within the health insurance systems.
- Engagement with private sector health care for expanding the coverage of care.

Costing Methodology

The cost estimated the additional or incremental financial investment that will be required for implementing the proposed strategic interventions and associated activities. Shared resources that are already being financed by other health programs are not factored in the cost of NSVH. The scope of the costing the National Strategy covered only the expenditures that are not already being met by existing budgets in the system.

The following items were considered as cost components:

- Newborn and adult Hepatitis B vaccines and injecting materials such as syringes, swabs, safety boxes.
- Test materials (RDT kits, eliza test ingredients, and viral load test).
- Cost of the antivirals depending on the type of diagnosis.
- Cost of viral hepatitis dedicated infrastructure items that will be newly introduced to the system.
- Minimum cost of viral hepatitis dedicated human resource employment and operations.
- Logistics cost as 15% of purchase costs of drugs and other supplies.
- Program activities identified under strategic priorities.

Estimated Total Cost of the National Strategy for Viral Hepatitis 2023-2030

The cost of the NSVH was estimated to be around US$ 4,629,183 in the year 2023. Thereafter annual costs will be increased over time due to scale-up of interventions and inflation and in 2030, the total cost will be US$ 12,307,928. The total cost of the plan implementation from 2023 to 2030 will be around US$ 73,840,631. Figure 1 and Table 3 show the trends in total cost of NSVH including all interventions and different cost elements.

Only the human resources additions dedicated to viral hepatitis program were considered under the human resource costs. Their salaries, recurrent operational costs and one-time cost of establishing an office for each of them were included in the human resource costs. The total human resource cost for the 2023 to 2030 period will be around US$ 270,597.

Logistics costs accounted for around 15% of the material supply costs. Logistics costs varied from US$ 508,533 in 2023 to US$ 1,399,083 in 2030. The increase is due to increasing intervention coverage and inflation.

Program cost is to implement activities for capacity building, advocacy, communication, monitoring and evaluation and research activities. The program activities are developed to accelerate in the first few years of the implementation of the National Strategy. The total program cost for the 2023 to 2030 period will be around US$ 2,873,075.

The largest share (around 84%) of the estimated cost of NSVH 2023-2030 can be attributed to the material costs that include vaccines, test materials, and antiviral drugs. A review of the composition of material costs indicated that the main cost driver among them is anti-viral drugs.

Figure 1: Total annual costs of NSVH 2023-2030 (US dollar in million)

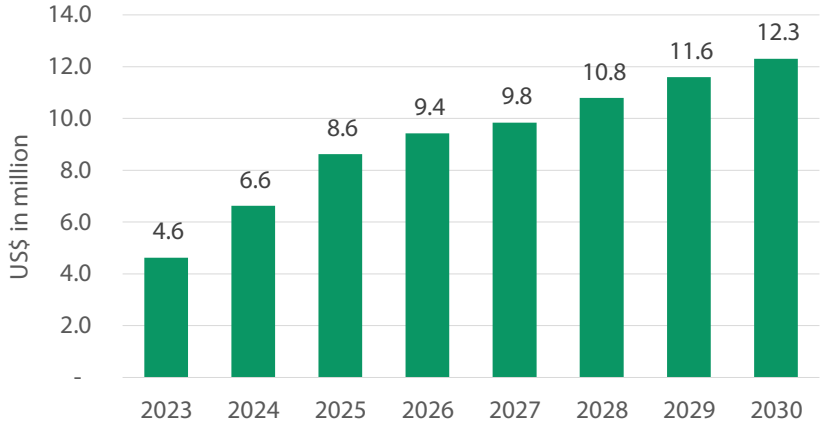


Table 3: Total cost of NSVH 2023-2030 by different cost elements (US dollar)

Cost element	2023	2024	2025	2026	2027	2028	2029	2030	Total
Material cost	3,911,790	5,210,790	6,696,674	7,889,974	8,565,017	9,400,481	10,126,778	10,762,177	62,563,681
Human resource cost	27,855	29,452	31,105	32,812	34,573	36,386	38,250	40,163	270,597
Logistic cost	508,533	677,403	870,568	1,025,697	1,113,452	1,222,063	1,316,481	1,399,083	8,133,279
Program costs	181,005	711,877	1,022,104	471,821	126,458	132,760	120,545	106,505	2,873,075
Total	**4,629,183**	**6,629,523**	**8,620,450**	**9,420,304**	**9,839,499**	**10,791,690**	**11,602,054**	**12,307,928**	**73,840,631**

The cost of the NSVH 2023-2030 by interventions to illness

Table 4 presents the total cost of NSVH 2023-2030 disaggregated by type of illness (Hepatitis B & C). The program costs and human resource costs (salaries of the hepatitis unit staff) were considered as shared costs between Hepatitis B & C. A review of the total cost of the NSVH indicated that the major cost was towards the Hepatitis B.

Table 4: Total cost of NSVH 2023-2030 by type of illness (US dollar)

Interventions by type of disease	2023	2024	2025	2026	2027	2028	2029	2030	Total
Hepatitis B specific	3,406,531	4,650,121	6,143,645	7,545,936	8,445,536	9,436,268	10,417,720	11,283,929	61,329,686
Hepatitis C specific	1,013,793	1,238,073	1,423,597	1,369,734	1,232,932	1,186,274	1,025,539	877,332	9,367,274
Both Hepatitis B & C (Program Cost and HR))	208,860	741,330	1,053,209	504,633	161,031	169,146	158,795	146,668	3,143,672
Total	**4,629,183**	**6,629,523**	**8,620,450**	**9,420,304**	**9,839,499**	**10,791,690**	**11,602,054**	**12,307,928**	**73,840,631**

The cost of the NSVH 2023-2030 by major purpose of expenditure

Figure 2 and Table 5 presents the distribution of the total cost of implementing NSVH 2023-2030 by the purposes (prevention, testing, treatment, and human resource and program costs) of expenditures. The largest share 51.8% of the total expenditure of NSVH 2023-2030 was spent on purchasing of drugs for treating Hepatitis B & C. The second highest (30%) expenditure was for purchasing testing materials, while 14% of costs were spent on purchasing preventive materials, mainly Hepatitis B vaccines.

Figure 2: Total cost of the NSVH 2023-2030 costs by purpose of expenditure (US dollar in million)

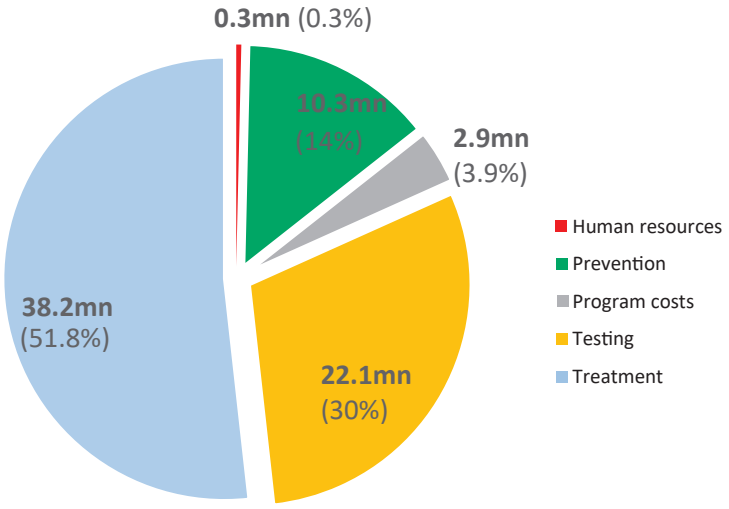


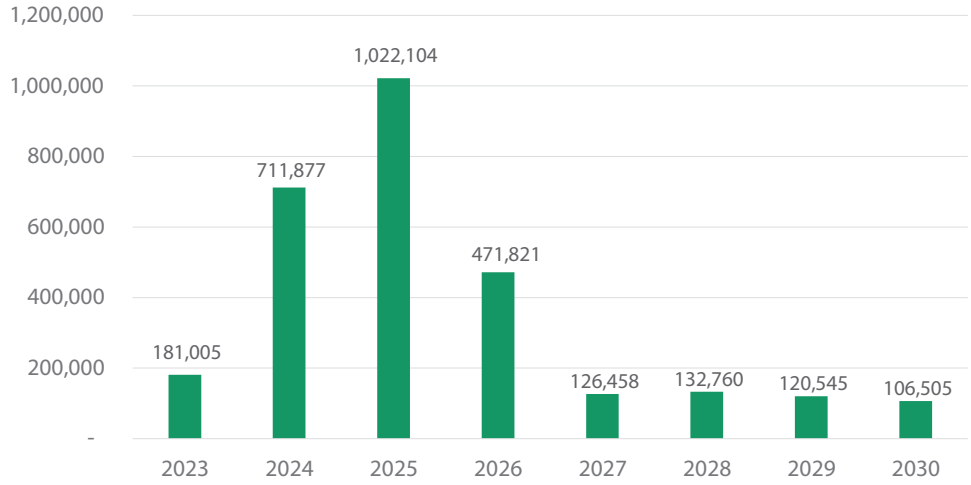
Table 5: Total cost of the NSVH 2023-2030 by purpose of expenditure (US dollar)

Cost type	2023	2024	2025	2026	2027	2028	2029	2030	Total
Prevention	822,842	1,050,360	1,362,216	1,577,506	1,381,221	1,366,636	1,354,803	1,439,047	10,354,631
Testing	2,366,811	2,550,694	2,719,098	2,833,438	2,854,072	2,892,305	2,929,153	2,973,826	22,119,398
Treatment	1,230,669	2,287,138	3,485,927	4,504,727	5,443,175	6,363,603	7,159,303	7,748,387	38,222,930
Human resources	27,855	29,452	31,105	32,812	34,573	36,386	38,250	40,163	270,597
Program costs	181,005	711,877	1,022,104	471,821	126,458	132,760	120,545	106,505	2,873,075
Total	**4,629,183**	**6,629,523**	**8,620,450**	**9,420,304**	**9,839,499**	**10,791,690**	**11,602,054**	**12,307,928**	**73,840,631**

Program Cost

A review of NSVH 2023 -2030 in Table 3 and Fig 3, showed the total program cost for the 2023-2030 period will be around US$ 2,873,075. The annual investment needs for program cost is shown in Figure 3.

Figure 3: Annual investment needs for program activities (US dollar)



LIST OF REFERENCES

1. Annual Report, Department of Health services 2020/2021.
2. Global Hepatitis Report 2017, WHO https://apps.who.int/iris/bitstream/handle/10665/255016/9789241565455-eng.pdf?sequence=1.
3. Global progress report on HIV, viral hepatitis and sexually transmitted infections, 2021. Accountability for the global health sector strategies 2016–2021: actions for impact. Geneva: World Health Organization; 2021. Licence: CC BY-NC-SA 3.0 IGO.
4. Health Care Waste Management (HCWM) Guideline (2014,), Nepal Health Research Counsel; Government of Nepal.
5. Immunization Nepal 2022 country profile. WHO and UNICEF estimates of national immunization coverage (WUENIC), 2022. https://www.who.int/publications/m/item/immunization-npl-2022-country-profile
6 Infection Prevention and Control Guideline (2079), MoHP, Nepal.
7. Infectious Disease Control Guideline (2014), Epidemiology and Disease Control Division (EDCD), Ministry of Health, Nepal http://www.edcd.gov.np/resources/download/infectious-disease-control-guideline.
8. Kinkel H-T, et al. (2015) Prevalence of HIV, Hepatitis B and C Infections and an assessment of HCV-Genotypes and Two IL28B SNPs among People Who Inject Drugs in Three Regions of Nepal. PLoS ONE 10(8): e0134455. https://doi.org/10.1371/journal.pone.0134455
9. Multiple Indicator Cluster Survey (MICS) 2019 Nepal, Nepal Planning Commission, Government of Nepal.
10. National Centre for AIDS and STD Control, Fact Sheet, 2022
11. National Centre for AIDS and STD Control, IBBS Survey among PWID in Nepal, 2020.
12. National Centre for AIDS and STD Control, National Mapping and Size Estimation of at-risk population in Nepal, March 2017.
13. National HIV Testing and Treatment Guidelines, NCASC, 2020. https://www.aidsdatahub.org/national-hiv-testing-and-treatment-guidelines-2017-national-centre-aids-and-std-control-nepal-2017
14. Nepal and the MDGs, Final Status Report 2000 – 2015, Government of Nepal, National Planning Commission. https://npc.gov.np/en/category/mdg_progress_report .

15. Platt L, Easterbrook P, Gower E, McDonald B, Sabin K, McGowan C et al. Prevalence and burden of HCV coinfection in people living with HIV: a global systematic review and meta-analysis. Lancet Infect Dis. 2016;16 (7):789–808. http://www.natap.org/2016/HCV/PIIS1473309915004855.pdf.
16. Shrestha A. Viral Hepatitis in Nepal: Past, Present, and Future. Euroasian J Hepato-Gastroenterol 2016;6(1):59-61. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5578562/
17. Shrestha DB,et. Al (2021) Prevalence of Hepatitis B and C among HIV Infected Patients in Nepal over 1990-2020. Kathmandu Univ Med J. Online First.
18. WHO South East-Asia Regional (WHO-SEAR) action plan for viral hepatitis
19. World Health Organization, Position Paper on Immunization, Vaccination and Biologics (2018). https://www.who.int/immunization/documents/positionpapers/en/.
20. World Health Organization. Global health sector strategy on viral hepatitis, 2016–2021.

ANNEX

NATIONAL INDICATORS

S. No	Impact Indicator	Baseline 2020	2025 targets	2030 targets
Coverage Indicators				
1	Hepatitis B – Percentage of people living with Hepatitis B diagnosed / and treated	NA	60%/50%	90%/80%
2	Hepatitis C – Percentage of people living with Hepatitis C diagnosed / and cured	NA	60%/50%	90%/80%

Government of Nepal
Ministry of Health and Population
National Centre for AIDS and STD Control
Teku, Kathmandu