NSW GOVERNMENT

NSW Hepatitis B Strategy

2023–2026

NSW Health

We acknowledge Aboriginal people as the Traditional Custodians of the lands and waters in which we all work, live and learn. We recognise the incredible richness, strength and resilience of the world's oldest living cultures, including cultural practices, languages and connection to Country.

The artwork is called 'Baalee'. It is inspired by the original artwork of Aboriginal artist Tanya Taylor and designed by the National Aboriginal Design Agency. This artwork symbolises the Centre for Aboriginal Health working in partnership with Aboriginal people to support holistic health and wellbeing and its role in the health system to build a culturally safe and responsive health service.

Minister's Foreword

New South Wales (NSW) is a world leader in responding to blood-borne viruses and sexually transmissible infections. We recognise the importance of supporting the community to be healthy, well and protected against vaccine-preventable diseases. Immunisation is recognised as the most effective primary prevention strategy against chronic hepatitis B. Despite being a vaccine-preventable disease, hepatitis B is a substantial public health issue in Australia and internationally. Chronic hepatitis B is a major cause of liver disease and cancer. NSW has committed to supporting National and World Health Organization (WHO) strategic goals to eliminate hepatitis B as a public health concern by 2030.

In NSW, approximately 80,000 people are living with chronic hepatitis B. NSW is estimated to have the second-highest prevalence of hepatitis B and the highest burden of chronic hepatitis B-attributable deaths in Australia[1,3]. The risk of chronic hepatitis B is highest when exposed at birth or in early childhood. As a result of successful vaccination programs in Australia, most people living with chronic hepatitis B in NSW are born overseas, with the most common regions of origin being North-East Asia and South-East Asia[3].

NSW is proud of the success of the infant hepatitis B vaccination program, which continues to deliver high vaccination coverage. Significant work however is needed, particularly for people from culturally and linguistically diverse (CALD) communities and Aboriginal people living with chronic infection. We need to ensure people with chronic hepatitis B are engaged and supported to receive timely and appropriate care. Strong partnerships between government, community organisations, communities, primary care, clinicians, and academics will drive our response and support our collective goal to eliminate hepatitis B as a public health concern by 2030.

The new Strategy builds on the progress of the previous Strategy by:

- Monitoring high childhood vaccination coverage and antenatal hepatitis B screening
- Reducing the impacts of chronic hepatitis B infection and preventing poor health outcomes by linking people to care and ensuring access to information, with a focus on primary care
- Enhancing health literacy and awareness amongst communities and the health workforce about the importance of vaccination, regular testing, monitoring and treatment
- Partnering with communities most impacted by hepatitis B.

NSW is setting new targets and an ambitious goal for hepatitis B prevention, early diagnosis, and linkage to care. The cornerstone of our response will focus on addressing stigma and discrimination and strengthening the system's capacity. Effective strategies will sit across both hepatitis B and C strategies.

I am pleased to present the NSW Hepatitis B Strategy 2023-2026, which will guide the prevention, diagnosis, and care of hepatitis B and support the health and wellbeing of key populations in NSW.

Hon. Brad Hazzard, MP
Minister for Health

NSW Hepatitis B Strategy (2023-2026)

Aim:
Make improved progress towards eliminating hepatitis B as a public health threat by 2030.

Vision:
A NSW where hepatitis B transmission is prevented and people with hepatitis B know their status and have access to regular monitoring, appropriate treatment and care without barriers.

Focus areas

Ensure culturally and linguistically diverse people impacted by hepatitis B are identified and linked to care.

Ensure pregnant women are screened and diagnosed, and strategies to reduce transmission to the child are fully implemented.

Ensure people impacted by hepatitis B are informed, followed up and engaged in care.

Goals

1. Prevention
Prevent new infections and chronic disease.

2. Early diagnosis
Diagnose infection and normalise regular testing to avoid late diagnosis.

3. Linkage to care
Appropriately treat and regularly monitor people living with chronic hepatitis B. Facilitate assessment of individuals at higher risk of liver disease and comorbidities.

4. Access and Equity
Enable equitable access to services, reduce hepatitis B-related stigma, and remove barriers to seeking healthcare.

Targets

i) 95% or higher hepatitis B childhood vaccination coverage, including birth dose.
ii) 100% of pregnant women are screened for hepatitis B.
iii) 100% of infants born to hepatitis B positive mothers receive immunoglobulin within 12 hours of birth.
iv) 100% of pregnant women with a high viral load* are offered treatment in their third trimester.

i) 90% of people living with hepatitis B are diagnosed.
ii) Less than 10% of late diagnosis** among people presenting with liver failure or liver cancer.

i) 100% of people living with hepatitis B receive care.
ii) 20% of people living with hepatitis B receive antiviral treatment.
iii) 20% reduction in hepatitis B-related mortality.

i) 75% reduction in discriminatory attitudes held towards people at risk of or living with hepatitis B by healthcare workers.
ii) 75% reduction in discriminatory attitudes held towards people at risk of or living with hepatitis B by the general public.

* Pregnant women with high viral load (>200,000 or 5.3 log10 IU/mL) should be offered tenofovir from the 28th week of pregnancy to reduce the risk of perinatal transmission of hepatitis B[4].
** Late diagnosis is hepatitis B diagnosis within 2 years prior, at time of, or after admission for liver failure or liver cancer.

Contents

Future Health: Strategic Framework 2022-2032

This Strategy is guided by NSW Health Future Health: Strategic Framework – Guiding the Next Decade of Care in NSW 2022–2032, to improve health services and patient care for the NSW community.

The initiatives in this Strategy aim to ensure:

- Patients and carers have positive experiences and outcomes that matter
- Safe and timely care is delivered across all settings
- People are healthy and well
- Staff are supported to deliver safe, reliable person-centred care driving the best outcomes and experiences
- Research and innovation, and digital advances inform service delivery.

Other key strategies

The NSW Hepatitis B Strategy 2023-2026 is influenced by, and operates alongside, a number of statewide strategies and policies including:

- NSW Aboriginal Health Plan 2013–2023
- NSW Plan for Healthy Culturally and Linguistically Diverse Communities: 2019-2023
- NSW Refugee Health Plan 2022-2027
- The NSW Cancer Plan 2022-2027
- NSW Hepatitis C Strategy 2022-2025
- NSW HIV Strategy 2021-2025
- NSW Sexually Transmissible Infections (STI) Strategy 2022-2026
- Brighter Beginnings – the first 2000 days of life
- Accreditation of Community Prescribers - s100 Highly Specialised Drugs for HIV and Hepatitis B
- Management of healthcare workers with a blood borne virus and those doing exposure prone procedures.

The clinical management of hepatitis B should be in line with National best practice guidelines, including the Australia consensus recommendations for the management of hepatitis B – March 2022[4] and the National Hepatitis B Testing Policy[5].

Hepatitis B in New South Wales

Hepatitis B is the most prevalent blood-borne viral infection[3] and is the leading cause of liver cancer in Australia[6]. Hepatitis B affects an estimated 79,522 people in NSW, many of whom may not be aware they have the virus[1]. Hepatitis B is transmitted through blood and other blood contaminated bodily fluids. Transmission risks include from mother-to-child during birth, injecting drug use, and sexual and close household contact[4]. Hepatitis B can be prevented by vaccination, access to sterile injecting equipment and use of condoms.

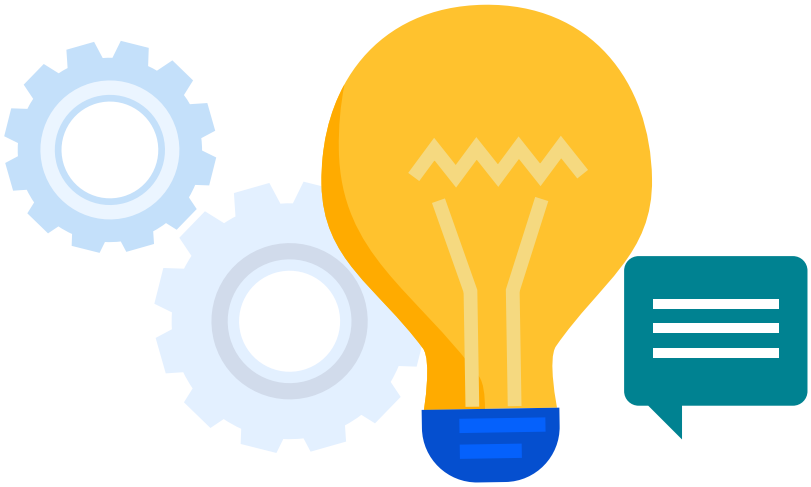
The risk of chronic hepatitis B is highest when exposed at birth or in early childhood. Over 95% of people exposed to hepatitis B in adulthood will clear the infection naturally without treatment and will not develop chronic infection[4]. Hepatitis B treatment is not currently curative however can substantially reduce the risk of liver disease and cancer. Without medical intervention, chronic hepatitis B can cause advanced liver diseases, including cirrhosis (liver scarring) and liver cancer in up to one-quarter of people affected[7,8]. Liver cancer is the sixth most common cause of cancer mortality and the fastest increasing cause of cancer-related death in Australia[3].

In 2020, NSW was estimated to have the second-highest prevalence of hepatitis B and the highest burden of chronic hepatitis B-attributable deaths in Australia[1]. Most people with chronic hepatitis B were born in high prevalence countries and now reside in NSW. The most common countries of birth are China and Vietnam, together representing more than one-third of people living with chronic hepatitis B in NSW[9]. Aboriginal people are also disproportionately affected by hepatitis B. Aboriginal people have a higher prevalence of chronic hepatitis B and are at an increased risk of liver cancer-related mortality than non-Indigenous populations[10].

Hepatitis B infection is not evenly distributed across NSW and is highest in metropolitan Sydney. The distribution and cultural diversity amongst priority populations present unique and individual challenges for hepatitis B management and service delivery. Actions addressing hepatitis B require local coordination and integration of care, informed by local data and culturally responsive models of care. To effectively engage with communities most affected by hepatitis B, it is important that healthcare providers partner with organisations that support, engage, and provide services to these populations. Understanding the diverse social, cultural and legal needs of affected communities is core to delivering culturally safe and responsive care.

While NSW has made notable progress under the first NSW Hepatitis B Strategy 2014-2020, including maintaining high rates of hepatitis B vaccination amongst Australian-born children (including Aboriginal children), the burden of chronic hepatitis B continues to impact the lives of thousands. Modelling indicates the burden of chronic hepatitis B will continue to increase over the lifetime of this Strategy, reflecting migration patterns and overseas prevalence. Under this Strategy, NSW has committed to National and WHO strategic goals to eliminate hepatitis B as a public health concern by 2030, including improving diagnosis, monitoring, treatment, and management, all of which profoundly impacts hepatitis B-related mortality. NSW has achieved success in the proportion of people diagnosed however significant improvements are required in treatment and care uptake. In 2020, it was estimated that 79.2% of people with chronic hepatitis B in NSW were diagnosed (National target, 80%), 27% were receiving care (National target, 50%), and 12.9% of people with chronic hepatitis B were receiving treatment (National target, 20%)[1,2].

What we will do



The NSW Hepatitis B Strategy 2023-2026 provides a system-wide framework for NSW Health and partners to respond to hepatitis B from 2023 to 2026. This Strategy guides decisions, investments as well as the implementation and evaluation of programs. This Strategy represents the NSW commitment to support the implementation of the National Hepatitis B Strategy.

NSW is setting new targets and an ambitious goal for hepatitis B prevention, early diagnosis, linkage to care and access and equity.

Our key priorities are to:

- partner with communities most impacted by hepatitis B, including CALD communities and Aboriginal people
- improve health literacy, awareness, and access to hepatitis B information
- prevent mother-to-child transmission
- link people with hepatitis B to care, with a focus on primary care.

NSW Health, Local Health Districts (LHDs) and Specialty Health Networks (SHNs), the Commonwealth Department of Health and the NSW Primary Health Networks (PHNs) have committed to working in partnership to deliver patient-centered healthcare[11]. Sustained partnerships are required to achieve the goals and targets of this Strategy. Effective hepatitis B care requires collaboration and care integration across primary health, community, hospital and social care services. NSW Health will enhance cross-sector integration and engagement with primary health care to sustain hepatitis B prevention and chronic disease management. The role of pharmacy will be explored in context of sustaining and embedding care.

This Strategy acknowledges the structural, societal, community and individual barriers that impact access to services. Barriers can include stigma and discrimination, cultural, social and economic factors, inequitable access to services and legal needs. These factors may dissuade people from seeking health services and engaging in care. This Strategy recognises the need to effectively address these barriers to achieve the goal and targets.

Priority Populations

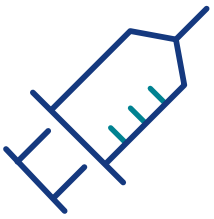
Priority populations are identified as groups with a higher prevalence or risk of hepatitis B or who experience barriers to accessing services. People belonging to several priority populations are especially vulnerable.

In this Strategy, Aboriginal and Torres Strait Islander people are referred to as Aboriginal people in recognition that Aboriginal people are the original inhabitants of NSW. Additionally, this Strategy refers to pregnant women and mothers, acknowledging all people who are pregnant and birthing parents of all gender identities.

Aboriginal people

People from culturally and linguistically diverse (CALD) backgrounds

People living with chronic hepatitis B



People who have ever injected drugs

Pregnant women living with hepatitis B and their babies

Although not represented as a distinct priority population, international students and temporary visa holders, healthcare workers, men who have sex with men, people in custodial settings or who have ever been in custodial settings, and sex workers may be at increased risk of hepatitis B. It is important that the needs of these population groups are addressed through the actions in this Strategy and with other blood-borne virus and sexually transmissible infections strategies and policies.

Key Settings

Not all settings or access points are intended to service all priority populations. Not every setting may be appropriate for all priority populations.

Aboriginal Community Controlled Health Services (ACCHS) and Aboriginal Medical Services (AMS)

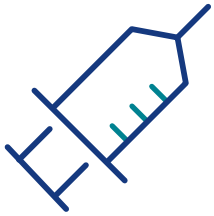
Antenatal, maternity and family care services

Culturally and linguistically diverse (CALD) community organisations and services

Custodial settings (including community corrections and parole services)

General practice and other primary care services

Multicultural health and refugee health services



Needle and syringe program outlets

Publicly funded sexual health clinics (PFSHC)

Guiding Principles

Accessibility, affordability, acceptability, and equity for all

Collaboration, Openness, Respect, Empowerment (CORE)

Cultural safety, responsiveness, and competency

Health promotion and prevention

Innovation and evidence-based program development

Patient-centred, holistic and integrated care

1. Prevention

Prevent new infections and chronic disease.

1.1 Neonatal vaccination and prevention

Immunisation is recognised as the most effective primary prevention strategy and cost-effective tool against chronic hepatitis B. In NSW, all infants are offered hepatitis B vaccine at birth, 6 weeks, 4 and 6 months of age. Additional boosters or serology to measure hepatitis B surface antibody levels is recommended for low-birthweight infants (<2000g) and/or infants born before 32 weeks of gestation, regardless of weight. Infants born to mothers with a high viral load may require further serology. All pregnant women should be offered screening and information about hepatitis B. All mothers with chronic hepatitis B and their babies must be prioritised and managed in accordance with *The Australian Immunisation Handbook*[12] and guideline-based management[4,5,13,14], including need for treatment, to prevent mother-to-child transmission (refer to 3.1). In NSW, all public and private hospitals are required to report on neonatal prevention and treatment measures.

NSW Health will monitor and report infant vaccination coverage, and prevention and treatment measures for babies born to hepatitis B positive mothers, including timely immunoglobulin administration and follow-up care. Educating healthcare providers, mothers and their families about the importance of childhood vaccinations is a priority, particularly in areas with a higher prevalence of hepatitis B. Follow-up care and vaccination in primary care is key in successfully preventing childhood infections.

1.2 At risk adult populations

Hepatitis B vaccination is recommended and free for key population groups including, but not limited to, Aboriginal people, household and sexual contacts of cases, immunosuppressed people and people who inject drugs[12]. Although the risk of chronic infection is higher when exposed early in life, identifying unvaccinated people and offering vaccination plays a critical role in preventing chronic infection and transmission and provides an opportunity to screen individuals at higher risk of infection. Vaccinating adults and identifying drivers of vaccine hesitancy remains an ongoing priority under this Strategy. Other evidence-based prevention measures include sterile needles, syringes, and condoms to reduce transmission risks associated with injecting drug use and sexual activity.

High alcohol consumption and coinfection with other diseases, including hepatitis C, are associated with a higher risk of advanced liver disease[15]. Strategies to improve overall health are required, including multidisciplinary education and training for healthcare providers involved in hepatitis B care.

NSW Health is committed to improving access to condoms and sterile injecting equipment. This Strategy will support continued improvements in the delivery of the NSW Needle and Syringe Program in line with NSW Health strategies, and promotes management of comorbidities, including hepatitis C and alcohol and drug use.

1.3 Health promotion

Culturally appropriate and sensitive health promotion tailored to priority populations is essential to improving a person's health and wellbeing and preventing liver-related mortality. Effective engagement requires consultation with priority populations to inform tailored health promotion messages and services. This Strategy aims to improve community knowledge and awareness about hepatitis B prevention through collaborative and co-designed education and awareness initiatives.

Prevention Action Areas

Action		Description	Partners
1.1 Neonatal vaccination and prevention	1.1.1	Ensure all pregnant women are screened for hepatitis B during pregnancy or at time of admission to hospital or labour ward (if no antenatal care was received)[12].	HPNSW, MoH, Public and Private Maternity Services, PHUs, LHDs, ASHM, ACCHS, AH&MRC, PHNs, RACGP, MHAHS, HNSW.
	1.1.2	Ensure all infants born to hepatitis B surface antigen (HBsAg) positive women are administered hepatitis B immunoglobulin shortly after birth and within 12 hours of birth[12].	
	1.1.3	Ensure routine infant hepatitis B vaccination (6 weeks, 4 and 6 months of age) is completed during regular post-natal appointments in primary care settings, including additional serology and hepatitis B vaccine booster for low-birthweight infants (<2000g) and/or infants born before 32 weeks of gestation, regardless of weight[12].	
	1.1.4	Increase understanding of the importance of hepatitis B childhood vaccination amongst primary care providers, midwives, pregnant women and their families, focusing on geographic areas with higher rates of maternal chronic hepatitis B.	
1.2 At risk adult populations	1.2.1	Increase access to and uptake of hepatitis B vaccination among at risk adults.	HPNSW, MoH, Public and Private Maternity Services, LHDs, AOD services, ASHM, ACCHS, AH&MRC, PFSHCs, JHFMHN, PHNs, RACGP, ethno-specific medical organisations, CALD community organisations, MHAHS, HNSW.
	1.2.2	Increase awareness and uptake of other hepatitis B prevention strategies, including safer sex practices and using sterile injecting equipment.	
	1.2.3	Promote interventions that enhance all aspects of health and wellbeing of people living with hepatitis B, such as coinfection and comorbidities, diet, exercise, smoking cessation, and reducing harmful substance use (such as alcohol and drug use).	
1.3 Health promotion	1.3.1	Co-design health promotion activities with people living with, and communities most affected by hepatitis B.	CALD community organisations, MHAHS, HNSW, Multicultural health and refugee health services, ACCHS, AH&MRC, research organisations, PFSHCs, MoH, CINSW.
	1.3.2	Engage with priority populations at community events to enhance awareness of hepatitis B primary and secondary prevention.	
	1.3.3	Integrate hepatitis B awareness in liver health promotion activities and initiatives.	

2. Early diagnosis

Diagnose infection and normalise regular testing to avoid late diagnosis.

2.1 Primary Care

Primary healthcare services, including general practice, play a key role in providing education, testing, treatment, early diagnosis and monitoring services for hepatitis B and liver cancer prevention. Late diagnosis of hepatitis B is a missed opportunity to reduce hepatitis-B related morbidity and mortality. This Strategy identifies general practice and other primary care services as key settings for hepatitis B diagnosis and ongoing care. Enhancing partnerships and shared care arrangements between primary healthcare providers (including pharmacies), non-specialist services and specialist services (including maternity services) is a priority under this Strategy.

NSW Health will partner with PHNs and other organisations to identify primary care providers with high caseloads of people from high prevalence countries and will support training, improved testing, and guideline-based management of hepatitis B. This Strategy will also identify opportunities to export hepatitis B data in medical audit software to identify and facilitate testing for at risk people to prevent missed screening opportunities.

2.2 Testing technologies

New diagnostic methods, such as point-of-care testing, can lead to early detection and remove access barriers and associated stigma to testing[16,17]. Innovative testing technologies and strategies can provide an opportunity to educate and engage people in testing and care, particularly when used in the community by community and peer-based workers[16,18].

This Strategy will support research evaluating the impact of new technologies on hepatitis B testing uptake in key settings and populations and explore opportunities to enhance access to testing amongst priority populations, particularly in areas with limited access to services and culturally appropriate care.

2.3 Community education and outreach

Given a larger proportion of people with chronic hepatitis B in NSW are from CALD backgrounds, it is vital that services can be navigated and easily accessed. Community co-design and consultation ensures health promotion messaging and campaigns are relevant and understood, maximising reach and engagement whilst also building community capacity, voice and kinship. Community workers and CALD community organisations are vital to delivering communication and education, and can effectively reach people most at risk of chronic hepatitis B who may experience difficulty accessing health services and programs. This Strategy recognises factors including cultural, social and legal needs that may create other barriers to testing and ongoing care.

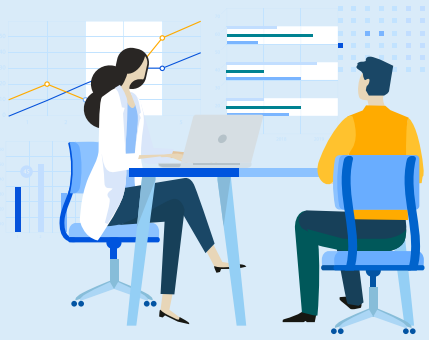
NSW Health will partner with the Multicultural HIV and Hepatitis Service (MHAHS) and Hepatitis NSW (HNSW) to improve the availability of in-language information and resources for people living with, and communities most affected by, hepatitis B. This Strategy will also identify appropriate outreach models that respond to the needs of different priority populations.

Early diagnosis Action Areas

Action	Description		Partners
2.1 Primary Care	2.1.1	Improve shared care arrangements between general practitioners (GPs), non-specialist services and specialist services (including maternity services) to ensure all newly diagnosed people are supported into a pathway of care.	PHNs, RACGP, Public and Private Maternity Services, Specialist Services, LHDs, MoH, ASHM, ACCHS, AH&MRC, ethno-specific medical organisations, MHAHS, HNSW, Pharmacy Guild, PSA.
	2.1.2	Improve partnerships between locum GPs, nurse practitioner workforce, and community providers to ensure continuity of care in rural and remote areas.	
	2.1.3	Support pharmacists to provide vaccinations and community education.	
	2.1.4	Ensure clinicians assess and record hepatitis B status within Medicare Benefits Schedule Item 715 Aboriginal and Torres Strait Islander Health Assessments and utilise existing care plans, such as chronic disease management plans.	
	2.1.5	Support implementation of clinical audits to identify people at risk or living with hepatitis B for testing and follow-up.	
2.2 Testing technologies	2.2.1	Explore the use of alternative testing technologies to enhance hepatitis B diagnosis.	Research organisations, NSW Pathology, Commonwealth Department of Health, MoH, HPSW, LHDs, PHU, PHNs, ASHM, ACCHS, AH&MRC, MHAHS, HNSW, Multicultural health and refugee health services.
	2.2.2	Increase guideline-based testing in priority populations, including through community-provided testing approaches and outreach and, where possible, case finding and follow-up for people who have previously tested hepatitis B positive.	
2.3 Community education and outreach	2.3.1	Implement targeted community-led communication campaigns in partnership with priority communities to educate people with chronic hepatitis B about the importance of testing and regular monitoring.	LHDs, MHAHS, HNSW, Multicultural health and refugee health services, CALD community organisations, ACCHS, AH&MRC, PFSHCs.
	2.3.2	Deploy community and multilingual hepatitis B workers to promote awareness of hepatitis B prevention, testing and care.	
	2.3.3	Involve people living with, and communities most affected by, hepatitis B in developing and delivering programs and initiatives.	
	2.3.4	Develop resources and explore models that support health service navigation for people who are newly diagnosed with hepatitis B.	

3. Linkage to care

Appropriately treat and regularly monitor people living with chronic hepatitis B. Facilitate assessment of individuals at higher risk of liver disease and comorbidities.



3.1 Linkage to care and monitoring

NSW is achieving high rates of hepatitis B diagnosis, however significant improvements in care uptake (treatment or monitoring) are required to reduce morbidity and mortality[1]. Many individuals may not engage in care as they are unaware of their infection and may feel well. Guideline-based care for chronic hepatitis B requires regular and lifelong monitoring to assess disease progression, liver damage and liver cancer. Regular monitoring includes an annual viral load test, six monthly liver function tests and with or without hepatocellular carcinoma (HCC) surveillance[4]. Medicare benefits assigned to annual viral load testing are available.

Antenatal screening for hepatitis B provides an opportunity for early detection and intervention in pregnant women and their infants. Diagnosis during pregnancy also provides opportunities to promote testing and vaccination among family and household contacts. Pregnant women with high viral load should be offered treatment and care in accordance with guideline-based management.

This Strategy will support locally coordinated and multidisciplinary responses to ensure sustained monitoring and engagement of people with chronic infection. This Strategy will also prioritise follow-up care and vaccination of infants born to hepatitis B positive mothers to prevent transmission to infants in the first few months of life. Effective engagement and partnerships with maternity services, specialists and, importantly, primary care providers will be critical to this success.

3.2 Liver cancer and surveillance

People with chronic hepatitis B infection have a high risk of developing HCC if left untreated. Liver cancer in NSW varies according to region. Areas with higher liver cancer rates also have a higher prevalence of chronic hepatitis B[3]. In Australia, the rates of liver cancer among Vietnamese migrants is five-times greater than Australian born-populations[19]. The increased risk for liver cancer among migrants from China and Vietnam is consistent with the estimated prevalence of chronic hepatitis B by country of birth living in NSW.

Antiviral treatment plays a crucial role in the secondary prevention of hepatitis B-associated liver disease and cancer[20]. Although treatment reduces the risk of liver disease progression, late diagnosis and other factors including alcohol use, age, gender, comorbidities, and coinfection contribute to increased risk of liver morbidity and mortality. HCC surveillance should be performed in accordance with guideline-based management[4,15].

This Strategy will support the implementation of the NSW Cancer Plan (2022–2027) to prevent hepatitis B-attributable cancer. NSW Health will partner with key stakeholders and priority settings to identify improvements in surveillance, guideline-based risk assessment and management of HCC, and support assessment of coinfection and comorbidities associated with increased disease burden.

3.3 Models of care

Models of care should be implemented according to local contexts, populations and community needs to ensure best practice care and access to information, testing and multidisciplinary care is available. Connections between priority populations, the health workforce, specialist services and community organisations must be made to ensure rapid follow-up and strong coordination of care is sustained. Multidisciplinary team care models should consider the use of interpreter services, health and community workers to support service navigation and awareness.

Protocols that support mothers who are diagnosed during pregnancy into a pathway of care and, where appropriate, access to treatment must be implemented. This Strategy aims to identify and implement innovative and successful models of care for hepatitis B prevention and management, including nurse and community-led and co-designed initiatives and outreach programs.

3.4 Community s100 prescribers

In NSW, the number of people receiving treatment has increased gradually over time, however uptake slowed between 2019 and 2020 due to service disruption and other factors related to the COVID-19 pandemic[21].

GPs and nurse practitioners may apply for authority to prescribe section 100 (s100) highly specialised drugs for the treatment of hepatitis B in community setting. NSW Health will partner with the Australasian Society for HIV, Viral Hepatitis and Sexual Health Medicine (ASHM) to provide training and authorisation for hepatitis B prescribers in NSW and to meet the ongoing needs of community s100 prescribers.

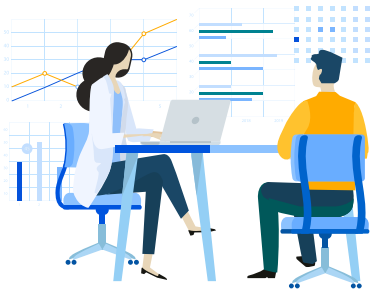
3.5 Data, research and surveillance

The collection and reporting of hepatitis B notification, screening, diagnosis, treatment and monitoring data identify areas with increased prevalence and areas that require service delivery enhancements. Continuous improvement of data collection, data linkage and research is important to support resource allocation and evaluate the impacts of interventions and models of care.

This Strategy will prioritise improved collection, linkage, analysis and reporting of data to support resource allocation, program planning and delivery. This Strategy will also support a balance of social, behavioural, epidemiological and clinical research to develop a strong evidence base for managing and preventing hepatitis B in the community and enabling access to care.

Linkage to care Action Areas

Action	Description		Partners
3.1 Linkage to care and monitoring	3.1.1	Ensure all pregnant women with a high viral load are referred to a liver clinic or specialist hepatologist for an appointment prior to 32 weeks gestation[13], and considered for treatment.	Public and Private Maternity Services, LHDs, PHUs, PHNs, PFSHCs, ACCHS, AH&MRC, ASHM, MoH, HPNSW, RACGP, ethno-specific medical associations, MHAHS, HNSW.
	3.1.2	Ensure all people with chronic infection, including women diagnosed with hepatitis B in pregnancy and their babies, are actively linked to a pathway of care for follow-up and ongoing management.	
	3.1.3	Ensure hepatitis B status is assessed in people at increased risk, and midwives, nurses and GPs are aware of available referral pathways.	
	3.1.4	Improve access to care and support for mothers who give birth outside the health system and their babies.	
3.2 Liver cancer and surveillance	3.2.1	Support the implementation of the NSW Cancer Plan 2022-2027 and related strategies.	MoH, CINSW, LHDs, ACCHS, AH&MRC, ASHM, JHFMHN, Public and Private Maternity Services, RACGP, PHNs, ethno-specific medical associations, MHAHS, HNSW.
	3.2.2	Identify methods to undertake and scale up guideline-based HCC surveillance.	
	3.2.3	Support prioritisation of liver health and cancer prevention in key settings.	



Action		Description	Partners
3.3 Models of care	3.3.1	Implement antenatal treatment protocols in line with guideline-based management and *The Australian Immunisation Handbook*[12].	Public and Private Maternity Services, LHDs, PHUs, MoH, HPNSW, PFSHCs, ACCHS, AH&MRC, PHNs, ASHM, CALD community organisations, MHAHS, HNSW, eHealth.
	3.3.2	Improve access to hepatitis B treatment prior to commencement of chemotherapy or other immunosuppressive treatment.	
	3.3.3	Explore innovative and successful person-centred models of care, including outreach, community-led and nurse-led initiatives, to improve hepatitis B management and linkage to care.	
	3.3.4	Involve peers, cultural support workers and community-based groups in designing and planning service models.	
	3.3.5	Scale up the use of digital tools, such as telehealth and shared models of care to improve access to services, particularly in rural and remote areas or areas of workforce shortages.	
3.4 Community s100 prescribers	3.4.1	Provide education programs to clinicians to increase the number of s100 hepatitis B community prescribers.	ASHM, MoH, PHN, RACGP, Pharmacy Guild, PSA, ethno-specific medical associations, MHAHS, HNSW.
	3.4.2	Increase community prescriber, community and pharmacy awareness and participation in the s100 co-payment initiative to improve patient access to s100 highly specialised drugs.	
3.5 Data, research and surveillance	3.5.1	Explore the completeness of hepatitis B data, including collecting Aboriginal and Torres Strait Islander status, country of birth, and preferred language.	HPNSW, research organisations, MoH, CINSW, LHDs, Public and Private Maternity Services, AH&MRC, MHAHS, HNSW.
	3.5.2	Support data linkage research to enhance surveillance, particularly on perinatal transmission and viral load testing in pregnancy.	
	3.5.3	Improve collection, analysis and reporting of data on hepatitis B-associated morbidity and mortality, including HCC.	
	3.5.4	Ensure regular data collection and reporting on screening of pregnant women, prevention and treatment measures of babies born to hepatitis B positive mothers, referral of hepatitis B positive mothers with a high viral load, follow-up of infants born to hepatitis B positive mothers and neonatal vaccination.	
	3.5.5	Monitor incidents where antenatal screening did not occur or where infant immunoglobulin and birth dose vaccination was not administered to babies born to hepatitis B positive mothers.	
	3.5.6	Ensure current and future programs and activities are evaluated to ensure alignment with the priority areas and targets of this Strategy.	

4. Access and Equity

Enable equitable access to services, reduce hepatitis B-related stigma, and remove barriers to seeking healthcare.

4.1 Accessible services

In NSW, over 70% of people living with hepatitis B were born overseas[21]. It is estimated that 10% of Australians with chronic hepatitis B do not have access to Medicare[22]. In NSW, compassionate access to treatment and healthcare is provided to Medicare ineligible patients for notifiable conditions under the Medicare Ineligible and Reciprocal Health Agreement Policy Directive[23] and asylum seekers through Medicare Ineligible Asylum Seekers - Provision of Specified Public Health Services Policy Directive[24].

NSW Health will partner with LHDs, multicultural, refugee, and Aboriginal health services to support access to treatment for people who are not eligible for subsidised healthcare.

4.2 Information and communication

A feature of this Strategy is the need for improved access to culturally appropriate and tailored hepatitis B information and resources that are visible and available to both communities and healthcare professionals, and co-designed with people living with, or impacted by, hepatitis B.

This Strategy will improve the availability of and promote in-language information and resources through channels and services that are commonly accessed by priority populations and health professionals. NSW Health will partner with organisations that support health professionals to improve and promote access to clinical resources and information to deliver high-quality and culturally responsive care.

4.3 Workforce development

Health and community-based workers are well positioned to identify risks associated with hepatitis B and provide education, intervention and referral. Providing hepatitis B vaccination, prevention activities, testing, monitoring, treatment, and care is founded on a highly skilled workforce.

In NSW, a hepatitis B community workforce is not well-defined or readily available. A community workforce may include people with lived experience of hepatitis B, cultural and linguistic peers, or cultural support workers with knowledge of health service navigation and hepatitis B. Aboriginal health workers are also integral to mainstream healthcare, providing culturally appropriate services to Aboriginal people.

Ongoing training and capacity building of all providers of hepatitis B care and education in priority settings will enhance service delivery and prevent missed opportunities for diagnosis and management. This Strategy will prioritise delivering culturally responsive health and community workforce education and training. NSW Health will partner with the MHAHS, HNSW and the Aboriginal Health and Medical Research Council (AH&MRC) to increase access to a community and peer workforce and Aboriginal health workers.

4.4 Data and research

For people living with hepatitis B, stigma and discrimination, inequitable access to services, legal needs, cost, and cultural factors may dissuade people from seeking healthcare. There is limited evidence and data providing clear and sustained information about interventions that effectively address the different cultural, social, and legal barriers of people with hepatitis B and how these impact access and equity.

This Strategy acknowledges investment in hepatitis B research is required to identify the various enablers and barriers to priority populations seeking healthcare and recognises the importance of strengthening the voices of affected communities in all aspects of research.

Access and Equity Action Areas

Action	Description		Partners
4.1 Accessible services	4.1.1	Support the implementation of relevant policies to enhance access to treatment and care for Medicare ineligible individuals.	MHAHS, HNSW, CALD community organisations, Multicultural health and refugee health services, ACCHS, AH&MRC, MoH, LHDs, PHNs, Commonwealth Department of Health.
	4.1.2	Establish sustained partnerships with multicultural, refugee, and Aboriginal health services and community organisations to identify the ongoing needs of priority populations.	
4.2 Information and communication	4.2.1	Improve the availability of hepatitis B information and resources online, including in-language information.	MoH, HPNSW, LHDs, Public and Private Maternity Services, CALD community organisations, MHAHS, HNSW, Multicultural health and refugee health services, PHNs, RACGP, ASHM, ACCHS, AH&MRC, ethno-specific medical associations.
	4.2.2	Promote and, where required, improve initiatives that support clinical management and screening of hepatitis B in primary and tertiary care settings.	
	4.2.3	Provide all pregnant women verbal and written information about hepatitis B disease, including management of infants born to hepatitis B positive women.	
4.3 Workforce development	4.3.1	Provide targeted and ongoing workforce development and training to GPs and other primary care providers to increase vaccination, testing, management and follow-up, prioritising areas with high caseloads of people from priority populations and areas with higher prevalence.	ASHM, MHAHS, HNSW, ACCHS, AH&MRC, MoH, LHDs, PHNs, Pharmacy Guild, PSA, CALD community organisations, Multicultural health and refugee health services.
	4.3.2	Develop and deliver training and mentorship to increase the number of peers and multilingual workers.	
	4.3.3	Ensure people with chronic hepatitis B have access to community or peer support workers, including Aboriginal health workers.	
	4.3.4	Provide culturally responsive workforce education and training to health professionals (including midwives, nurses pharmacists and other primary care providers), Aboriginal health workers, and community-based workers.	
4.4 Data and research	4.4.1	Support research to identify drivers of stigma and discrimination among priority populations and use outcomes to inform policy and program development.	Research organisations, AH&MRC, MHAHS, HNSW, Commonwealth Department of Health, MoH, LHDs, CALD community organisations, ACCHS, Multicultural health and refugee health services.
	4.4.2	Support research addressing legal, regulatory, policy, and other cultural barriers that impact access to care and use outcomes to inform policy and program development.	
	4.4.3	Improve data collection, analysis, reporting and monitoring of experiences of stigma and discrimination, including self-reported experiences.	

Monitoring and governance

A monitoring and evaluation framework will track the implementation of this Strategy and report progress towards meeting the targets for prevention, early diagnosis, linkage to care and access and equity. The NSW Ministry of Health (MoH) will lead the implementation of this Strategy and establish the NSW Hepatitis B Implementation Committee. Each LHD will monitor through clinical governance mechanisms.

A NSW Hepatitis B Strategy Data Report will be published annually to report on key indicators. These reports will be used to adjust the NSW approach to hepatitis B as required, and to respond to new and emerging issues. An Endpoint Hepatitis B Strategy Report will be produced to evaluate the Strategy and progress towards targets.

The requirements for neonatal hepatitis B prevention and vaccination specified in this Strategy should be implemented in accordance with the current edition of *The Australian Immunisation Handbook*[12] and guideline-based management of hepatitis B.

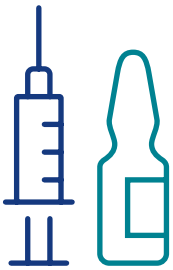
Data Sources

Target: 95% or higher hepatitis B childhood vaccination coverage, including birth dose

Data sources: Neonatal Hepatitis B Vaccination Program, NSW Health.
Availability: Quarterly

Target: 100% of pregnant women are screened for hepatitis B

Data sources: Neonatal Hepatitis B Vaccination Program, NSW Health.
Availability: Quarterly



Target: 100% of infants born to hepatitis B positive mothers receive immunoglobulin within 12 hours of birth

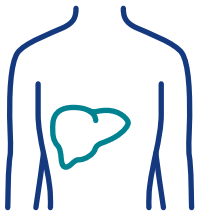
Data sources: Neonatal Hepatitis B Vaccination Program, NSW Health.
Availability: Quarterly

Target: 100% of pregnant women with a high viral load* are offered treatment in their third trimester

Data source: NSW Health.
Availability: Periodic

Target: 90% of people living with hepatitis B diagnosed

Data sources: National BBV STI Surveillance and Research Program: Surveillance for hepatitis B indicators.
Availability: Annually



Target: Less than 10% of late diagnosis among people presenting with liver failure or liver cancer**

Data source: NSW Data Linkage Study.
Availability: Periodic

Target: 100% of people living with hepatitis B receive care

Data sources: Medicare Benefits Schedule, Department of Services Australia; National BBV STI Surveillance and Research Program: Surveillance for hepatitis B indicators.
Availability: Annually

Target: 20% of people living with hepatitis B receive antiviral treatment

Data sources: Pharmaceutical Benefits Schedule Highly Specialised Drugs Program; National BBV STI Surveillance and Research Program: Surveillance for hepatitis B indicators.
Availability: Annually

Target: 20% reduction in hepatitis B-related mortality

Data sources: NSW Data Linkage Study; National BBV STI Surveillance and Research Program: Surveillance for hepatitis B indicators.
Availability: Annually

Target: 75% reduction in discriminatory attitudes held towards people at risk of or living with hepatitis B by healthcare workers

Data sources: Stigma Indicators Monitoring Project, Centre for Social Research in Health (UNSW).
Availability: Periodic

Target: 75% reduction in discriminatory attitudes held towards people at risk of or living with hepatitis B by the general public

Data sources: Stigma Indicators Monitoring Project, Centre for Social Research in Health (UNSW).
Availability: Periodic

* Pregnant women with high viral load (>200,000 or 5.3 log10 IU/mL) should be offered tenofovir from the 28th week of pregnancy to reduce the risk of perinatal transmission of hepatitis B[4].

** Late diagnosis is hepatitis B diagnosis within 2 years prior, at time of, or after admission for liver failure or liver cancer.

Abbreviations

ACCHS	Aboriginal Community Controlled Health Service
AH&MRC	Aboriginal Health and Medical Research Council
AMS	Aboriginal Medical Services
AOD	Alcohol and Other Drugs
ASHM	Australasian Society for HIV, Viral Hepatitis and Sexual Health Medicine
CALD	Culturally and linguistically diverse
CINSW	Cancer Institute NSW
COVID-19	Coronavirus disease
GP	General practitioner
HBsAg	Hepatitis B surface antigen
HCC	Hepatocellular carcinoma
HIV	Human Immunodeficiency Virus
HNSW	Hepatitis NSW
HPNSW	Health Protection NSW
JHFMHN	Justice Health and Forensic Mental Health Network
LHD	Local Health District
MHAHS	Multicultural HIV and Hepatitis Service
MoH	NSW Ministry of Health
NSW	New South Wales
PFSHC	Publicly Funded Sexual Health Clinics
PHN	Primary Health Network
PHU	Public Health Unit
PSA	Pharmaceutical Society of Australia
RACGP	Royal Australian College of General Practitioners
s100	Section 100
SHN	Specialty Health Network
UNSW	University of NSW
WHO	World Health Organization

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SHPN (CPH) 221004
ISBN 978-1-76023-368-6

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ISBN 978-1-76023-368-6