Australian Government

Department of Health

SECOND

National Hepatitis B Strategy

2014–2017

Second National Hepatitis B Strategy 2014–2017

ISBN: 978-1-74186-164-8
Online ISBN: 978-1-74186-165-5
Publications approval number: 10716

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SECOND

National **Hepatitis B** Strategy

2014–2017

Foreword

Australia has made great progress in addressing blood-borne viruses and sexually transmissible infections over the last three decades. Our continued response to HIV, viral hepatitis and sexually transmissible infections over the life of the new national strategies comes at a time of both unprecedented opportunity and ongoing challenge.

Scientific advances in prevention, testing and treatment are providing us with the knowledge and the means to make dramatic reductions in new infections and significant improvements in health outcomes. At the same time, these conditions still represent a significant burden of disease in this country, with the number of people affected by blood-borne viruses and sexually transmissible infections remaining too high and, for some conditions, increasing.

Australia's five national strategies set the direction for a coordinated, national response to HIV, hepatitis B, hepatitis C, sexually transmissible infections, and blood-borne viruses and sexually transmissible infections in the Aboriginal and Torres Strait Islander population until 2017. The national strategies are endorsed by all Australian Health Ministers and, for the first time, contain targets which provide a renewed focus for action and a framework for accountability.

Achieving the targets will be challenging and will require the concerted effort of all governments, affected communities, health care providers, the community sector and researchers. Together we need to take action to overcome the barriers that impede our efforts to scale up prevention, testing, management, care and support for people living with and at risk of blood-borne viruses and sexually transmissible infections.

Each national strategy identifies the priority actions that will support achievement of the targets across the areas of prevention; testing; management, care and support; workforce; protection of human rights; and surveillance, research and evaluation.

Implementing the priority actions will see evidence-based and targeted prevention activities remaining fundamental to the national response, and efforts

to increase testing rates and early diagnosis being scaled up. The role of primary care in blood-borne viruses and sexually transmissible infections management, care and support will become increasingly important, and the workforce will need to be supported accordingly. Continuing to build an enabling environment where stigma and discrimination does not prevent people from accessing health and community services will underpin success across all areas. More effective surveillance, monitoring, research and evaluation will continue to inform our national response and measure our progress.

The strong partnership approach that has been a hallmark of Australia's response to blood-borne viruses and sexually transmissible infections to date is required now more than ever. Despite the challenges, and with concerted and collective action, I am confident that Australia is well placed to step up the pace in our response to these conditions. I will be closely monitoring our progress over the coming years.

The Hon Peter Dutton MP
Minister for Health

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1. Introduction

Australia is still in the early stages of establishing a strong response to hepatitis B. This *Second National Hepatitis B Strategy 2014–2017* (the Strategy) looks to build on the achievements of the first strategy, strengthening Australia's hepatitis B response.

Hepatitis B is a potentially life-threatening liver infection caused by the hepatitis B virus (HBV) and transmitted through contact with the blood or some other body fluids of a person living with hepatitis B. While many people clear the virus, in others it can cause chronic liver disease and chronic infection and puts people at high risk of death from cirrhosis of the liver and liver cancer.

Hepatitis B is a significant concern worldwide, with the World Health Organization (WHO) declaring that the world is facing a silent epidemic of viral hepatitis (hepatitis B and C) with up to 500 million people affected [1].

In Australia there is a significant public health burden related to chronic hepatitis B infection. It is currently estimated that over 207 000 people are living with hepatitis B [3]. It is thought that only half (55 per cent) of those living with chronic hepatitis B know they have it, resulting in poor health outcomes and risk of transmission [4].

The burden of disease caused by the hepatitis B virus includes liver cirrhosis, cancer and potential need for transplant. In the last few years liver cancer has been identified as the fastest increasing cause in cancer death of Australians [4], to which chronic hepatitis B infection is a significant contributor. The high proportion of people who have undiagnosed, and hence untreated, hepatitis B will contribute significantly to the rise in these conditions in the future.

Most people living with chronic hepatitis B contracted the infection at birth or in early childhood, when the risk of progression to chronic infection is high. People born overseas in areas endemic for hepatitis B, including the Asia–Pacific region and Africa, together with Aboriginal and Torres Strait Islander people, are estimated to represent approximately two-thirds of those living with chronic hepatitis B in Australia [4].

Australia's principal tool to prevent new hepatitis B infection is our universal infant vaccination program, which started in 2000. The program has been highly successful, with coverage of infant vaccination remaining higher than 90 per cent. New infections among those eligible for childhood and adolescent vaccination have been declining [3]. This program will continue to play an essential role in preventing newly acquired infections in the longer term. Other effective actions are infection-control strategies, maternal hepatitis B screening, and ensuring the safety of the blood supply.

Despite the success of these prevention activities, strategies focusing on improving the diagnosis of people with chronic hepatitis B infection and on active monitoring and management are critical to addressing the increasing burden associated with chronic hepatitis B.

Australia's first *National Hepatitis B Strategy 2010-2013* aimed to reduce the transmission of, and the morbidity and mortality associated with, hepatitis B and to minimise the personal and social impact. This first strategy focused on building partnerships and strengthening community action, preventing transmission, and optimising diagnosis, screening and clinical management.

In partnership with state and territory governments and community organisations, models of care have been developed to assist healthcare professionals to conduct appropriate follow-up tests, assessments, referrals and management. A National Hepatitis B Testing Policy has also been developed, and targeted awareness campaigns have been implemented for some priority populations. Australia has recently been recognised by the WHO as meeting the regional hepatitis B control target of a prevalence of less than 1 per cent among children less than five years of age.

Despite the progress made under the first strategy, we need to do a lot more to address hepatitis B in Australia. Priority actions include reducing the high rate of unidentified chronic infection by improving access to and uptake of testing. We also need to expand monitoring and antiviral therapy to turn around the increasing incidence of poor outcomes, including primary liver cancer and liver failure. This will require finding effective ways to reach out to high-risk populations.

Promoting comprehensive and inclusive activities to link and involve those communities most affected by hepatitis B is also essential to improve health outcomes and reduce avoidable deaths. Continuing education for healthcare professionals will sustainably develop a workforce to deliver services for people living with chronic hepatitis B.

This Strategy aligns with the directions of the Auckland Statement on Viral Hepatitis 2012, which aims to focus attention on viral hepatitis as an urgent health concern that needs immediate action to prevent new infections and stop the rising death toll from cirrhosis and liver cancer.

2. Hepatitis B in Australia

Hepatitis B is a vaccine-preventable disease; however, chronic hepatitis B-associated mortality and morbidity contributes to a high public health burden in Australia. This burden is not evenly distributed among the Australian population; rather, it disproportionately affects often already marginalised populations such as migrant communities with origins in Asia, the Pacific and Africa [5], Aboriginal and Torres Strait Islander people [4], individuals with a history of injecting drug use [6], and other men who have sex with men [7,8]. Of these groups, approximately two-thirds of Australians living with chronic hepatitis B were either born overseas or are Aboriginal and Torres Strait Islander people [4].

Hepatitis B vaccine is included in Australia's National Immunisation Program as part of routine childhood immunisation. Coverage of infant vaccination since 2000 has remained higher than 90 per cent and the incidence of hepatitis B infections among those eligible for childhood and adolescent vaccination has been declining [3]. A catch-up program provided for adolescents aged 10 to 13 years is scheduled to be completed in all states and territories in 2014.

In Aboriginal and Torres Strait Islander children, vaccination coverage at two years of age is similar to non-Indigenous children (94 per cent), but lacks timeliness with only about 85 per cent vaccinated at one year of age compared to 92 per cent of non-Indigenous children. In adults of priority populations, vaccination coverage is anecdotally relatively low; however, systematic estimates are not readily available.

The successful infant, child and adolescent vaccination program in Australia has ensured that prevalence of hepatitis B infection has remained at less than 1 per cent among children under five years of age.

Overall, the number and rate of diagnosis of newly acquired hepatitis B infection has steadily declined over the last five years, from 262 new diagnoses and a rate of 1.2 per 100 000 population in 2008 to 193 new diagnoses and a rate of 0.8 per 100 000 population in 2012 [3]. More than 80 per cent of these occur in those aged over 25 years, and around 70 per cent in those born overseas [3].

However, there are a large number of people living with chronic hepatitis B in Australia, at risk of significant morbidity and mortality. In 2012, it is estimated that approximately 207 000 people were living with hepatitis B infection, an overall prevalence of 1.0 per cent [3]. Nearly half of those assumed to be living with chronic hepatitis B remain undiagnosed [4], and are hence unaware of their infection.

The burden of disease caused by the hepatitis B virus, including liver cirrhosis, cancer and potential need for transplant, continues to rise. By 2010, liver cancer had become the ninth most common cause of cancer death in Australians, increasing faster than any other cause of cancer related mortality [2, 9]. It has been estimated that between 2011 and 2020, annual liver cancer incidence in Australia will increase from 1520 to 2465 cases [10], with a substantial proportion of these cancers being attributable to hepatitis B [11, 12]. Chronic hepatitis B infection was estimated to be the underlying cause of liver disease in 5.6 per cent of liver transplants in 2012 [3].

3. Achievements

Over the last four years, from 2010 to 2013, a number of milestones and achievements have been reached in Australia to reduce the transmission of hepatitis B. These achievements will be built on over the next four years to achieve the goals, objectives and targets of this Strategy.

The hepatitis B mapping project has assisted in the identification and targeting of priority populations. The project developed estimates of chronic hepatitis B prevalence at the local level to help inform awareness and intervention campaigns to suit the particular local needs of people living with chronic hepatitis B infection and those providing services to them [4].

Continued investment occurred in behavioural, clinical, epidemiological and social research to inform policy and priority setting in the hepatitis B response, and improved systems were implemented for the monitoring and surveillance of hepatitis B. For example, social research projects and data collection by professional and community-based organisations during this period enhanced understanding of the epidemiology of hepatitis B and targeting of priority populations.

The development of a National Hepatitis B Testing Policy has provided guidance and enhanced consistency around hepatitis B testing nationally. Access and capability to improve hepatitis B management was supported by two factors: the removal of liver biopsy as a prerequisite for subsidised treatment; and the development of a pilot education curriculum and associated resources for primary care providers. The pilot included the introduction of programs in some states and territories for Section 100 community prescribing for the maintenance and treatment of hepatitis B and provision of patient information on hepatitis B.

During the period 2010–2013, Australia was formally recognised by the WHO as meeting the regional hepatitis B control target of prevalence of less than 1 per cent among children among children less than five years of age.

4. Measuring Progress

4.1 Goals

The goals of the Strategy are to reduce the transmission of, and morbidity and mortality caused by, hepatitis B and to minimise the personal and social impact of Australians living with hepatitis B.

4.2 Objectives

The Strategy aims to achieve the above goal through six combined objectives. These objectives are to:

1. reduce new hepatitis B infections
2. achieve and maintain high levels of hepatitis B vaccination
3. increase the proportion of people with chronic hepatitis B who have been diagnosed
4. increase access to appropriate management and care for people with chronic hepatitis B
5. reduce the burden of disease attributed to chronic hepatitis B
6. eliminate the negative impact of stigma, discrimination, and legal and human rights issues on people's health.

4.3 Targets

Targets are included for the first time in this Strategy. These aspirational targets provide a specific focus for the efforts of all partners in moving towards the achievement of the above objectives and the overall goal. These targets are an initial step, and will be reviewed and updated as necessary. The targets are, by 2017, to:

1. achieve HBV childhood vaccination coverage of 95 per cent
2. increase hepatitis B vaccination coverage of priority populations
3. increase to 80 per cent the proportion of all people living with chronic hepatitis B who are diagnosed
4. increase to 15 per cent the proportion of people living with chronic hepatitis B who are receiving antiviral treatment.

Vaccination remains the key prevention activity for hepatitis B. Achieving a national 95 per cent HBV vaccination coverage in infants at one and two years of age aligns with the *National Immunisation Strategy 2013-2018*, in which the improvement of immunisation coverage is the first strategic priority. While coverage for infants is consistently above 90 per cent, there are significant gains to be had in improved timeliness and coverage in high-risk population groups. Improvements in vaccination among adults at higher risk of infection are important in reducing transmission.

It is estimated that only 55 per cent of people living with chronic hepatitis B are diagnosed [4]. Expert opinion is that increasing the proportion of those diagnosed to 80 per cent would significantly contribute to opportunities to reduce hepatitis B associated morbidity and mortality, and reducing transmission.

While estimates for the proportion of people living with chronic hepatitis B who are on treatment are uncertain, they are very low, ranging from 2.5–5 per cent [13, 14]. Similarly, there is limited information on the proportion of people living with chronic hepatitis B who are eligible for treatment; however, Australian and international estimates range from 10–25 per cent [15, 16, 17]. The target of 15 per cent, which equates to about 31 000 people on treatment, will see significant benefits in achieving the goal.

4.4 Indicators

Indicators will be used to monitor the implementation of the Strategy, report against progress in achieving targets and objectives, and inform changes in the response as required.

There are limitations in the availability and quality of indicators to measure progress against several of the Strategy's objectives and targets. The indicators identified below have an existing national collection mechanism, and can be reported on from the initiation of this Strategy.

Further work on refining and developing indicators is required, and will be progressed during the life of this Strategy. Indicators to report against each of the targets will need to be specifically defined. An important gap to be addressed is the lack of a nationally agreed indicator for measuring progress in reducing the health impact of stigma, discrimination, and legal and human rights in the context of this Strategy. Additionally, work on indicators to measure the burden of disease associated with hepatitis B and vaccination in adult priority groups is essential to assessing progress. Other areas for revision and updating include indicators for the measurement of appropriate treatment and management, and estimates around the undiagnosed proportion of chronic hepatitis B. Further limitations and gaps are discussed in section 7.6, 'Surveillance, Research and Evaluation'.

Objective	Indicator
Reduce hepatitis B infections	Annual rate of notifications of newly acquired hepatitis B
Achieve and maintain high levels of hepatitis B vaccination	Coverage of hepatitis B vaccination at 12 and 24 months
Increase the proportion of people with chronic hepatitis B who have been diagnosed	Estimated proportion of people with chronic hepatitis B who have not been diagnosed
	Annual rate of notifications of unspecified hepatitis B
	Prevalence of hepatitis B in pregnant women, by country of birth and Aboriginal and Torres Strait Islander status
Increase access to appropriate management and care for people with chronic hepatitis B	Proportion of people with chronic hepatitis B dispensed drugs for hepatitis B infection through the Highly Specialised Drugs Program
Reduce burden of disease attributed to chronic hepatitis B	
Eliminate the negative impact of stigma, discrimination, and legal and human rights issues on people's health	

4.5 Implementation and Evaluation

This Strategy sets high-level directions for action over the next four years. Implementation and evaluation of the Strategy will be supported by an 'Implementation and Evaluation Plan' and a 'Surveillance and Monitoring Plan'. These plans will be developed in consultation with state and territory governments and partners and will detail the way in which priority actions will be implemented, including roles and responsibilities, timeframes and lines of accountability, and how the goals, targets and objectives will be monitored.

Australia's world-recognised partnership approach will remain central to our response to blood-borne viruses (BBV) and sexually transmissible infections (STI). Undertaking the actions set out in this Strategy by December 2017 requires Commonwealth and state and territory governments, community organisations, service delivery organisations, professional bodies, and research

institutions to work together. In doing this, we need to ensure that affected individuals and communities remain at the heart of our response and involved in activities as they are proposed, developed and implemented.

This Strategy builds on its predecessor, which guided Australia's response to hepatitis B between 2010 and 2013. It is one of five interrelated national strategies aiming to reduce the transmission and impact of BBV and STI. The other strategies are the:

- *Seventh National HIV Strategy*
- *Fourth National Aboriginal and Torres Strait Islander Blood Borne Viruses and Sexually Transmissible Infections Strategy*
- *Fourth National Hepatitis C Strategy*
- *Third National Sexually Transmissible Infections Strategy.*

The five national strategies share common structural elements, designed to support a coordinated effort in addressing common concerns. Much of the prevention, healthcare and community responses contained in the strategies are intrinsically linked through co-infections, commonalities in risk factors, and shared responsibility for the clinical management of BBV and STI. The strategies support and align with state and territory BBV and STI strategies and provide a framework to guide coordinated action in this area by state and territory governments and other partners until 2017.

Epidemiology, policy context and priority areas for action specific to addressing HIV in the Aboriginal and Torres Strait Islander population are included in more depth in the *Fourth National Aboriginal and Torres Strait Islander Blood Borne Viruses and Sexually Transmissible Infections Strategy*.

5. Guiding Principles Underpinning Australia's Response

The guiding principles informing this Strategy are drawn from Australia's efforts over time to respond to the challenges, threats and impacts of HIV, STI and viral hepatitis.

Human Rights

People with BBV and STI have a right to participate fully in society, without experience of stigma or discrimination. They have the same rights to comprehensive and appropriate information and health care as other members of the community, including the right to the confidential and sensitive handling of personal and medical information.

Access and Equity

Health and community care in Australia should be accessible to all based on need. The multiple dimensions of inequality should be addressed, whether related to geographic location, gender, sexuality, drug use, occupation, socioeconomic status, migration status, language, religion or culture. Special attention needs to be given to working with Aboriginal and Torres Strait Islander people to close the gap between Aboriginal and Torres Strait Islander health status and that of other Australians [34].

Health Promotion

The Ottawa Charter for Health Promotion provides the framework for effective BBV and STI health promotion action. It facilitates the active participation of affected communities and individuals to increase their influence over the determinants of their health, and formulation and application of law and public policy that supports and encourages healthy behaviours and respects human rights.

Prevention

The transmission of hepatitis B is preventable through the appropriate use of combinations of evidence-based approaches. All prevention efforts are underpinned by targeted and culturally appropriate health promotion activities. Vaccination is the most effective means of preventing the transmission of hepatitis B.

Harm Reduction

Harm-reduction approaches underpin effective measures to prevent transmission of HIV and viral hepatitis, including needle and syringe programs and drug treatment programs.

Shared Responsibility

Individuals and communities share responsibility to prevent themselves and others from becoming infected, and to inform efforts that address education and support needs. Governments and civil society organisations have a responsibility to provide the necessary information, resources and supportive environments for prevention.

Commitment to Evidence-based Policy and Programs

The national response to BBV and STI has at its foundation an evidence base built on high-quality research and surveillance, monitoring and evaluation. A strong and constantly refining evidence base is essential to meet new challenges and evaluate current and new interventions and effective social policy.

Partnership

An effective partnership between affected communities, professional and community organisations, government, researchers and health professionals is characterised by consultation, cooperative effort, respectful dialogue, resourcing and action to achieve the goals of the strategies. It includes leadership from the Australian Government, and the full cooperative efforts of all members of the partnership to implement agreed directions.

Meaningful Involvement of Affected Communities

The meaningful participation of people living with BBV and STI and of affected communities in all aspects of the response is essential to the development, implementation, monitoring and evaluation of programs and policies.

6. Priority Populations

Hepatitis B is an issue for the whole of Australian society; however, targeting responses to priority populations is critical to maximising the impact and sustainability of our response. The priority populations for this Strategy reflect Australia's epidemiological data and social context. Individuals may be members of more than one priority population.

Priority populations identified in this Strategy are:

- people from culturally and linguistically diverse backgrounds, particularly people with an Asia-Pacific or Sub-Saharan African background
- Aboriginal and Torres Strait Islander people
- children born to mothers with chronic hepatitis B and children with chronic hepatitis B
- unvaccinated adults at higher risk of infection, including:
  - other men who have sex with men
  - sex workers
  - people who inject drugs
  - partners and other household and intimate contacts of people who have acute or chronic hepatitis B infection
  - people in custodial settings
  - people with HIV or hepatitis C or both.

Further details on the main reasons for priority population status, specific subpopulations of higher prevalence and/or higher risk, and the main barriers and facilitators to effective responses, are included in the Appendix.

7. Priority Areas for Action

Prevention activities are an essential element of the response. Actions will focus on continuing to prevent new cases of acute hepatitis B through vaccination, while minimising the adverse health outcomes for people living with chronic hepatitis B.

An increase in testing in priority populations is crucial to reducing the morbidity and mortality associated with chronic hepatitis B infection. This is important in reducing the extent of undiagnosed infection and linking people to monitoring and treatment programs.

The goal of chronic hepatitis B management is to improve quality of life and survival by preventing the progression of liver disease. All people with chronic hepatitis B require lifelong regular monitoring to ensure appropriate and timely management decisions, including the appropriate initiation of treatment. Primary and community care play the central role in this, requiring a renewed focus on strengthening their capacity to respond.

High quality surveillance, monitoring, research and evaluation will inform our knowledge of hepatitis B and guide the most effective response in the Australian context.

Many people with blood-borne viral infections have experienced stigma and discrimination. More evidence is required regarding the impact of stigma and discrimination in relation to hepatitis B, which should be addressed to enable a nationally coordinated response.

7.1 Prevention

Priority Actions

- Increase hepatitis B vaccination rates in children.
- Increase the uptake of hepatitis B vaccination among priority populations.
- Build knowledge and skills in priority populations, healthcare professionals, policy makers and the general community around hepatitis B transmission risks and the availability of a vaccine.
- Maintain and increase safer sexual and safer injecting practices in priority populations.
- Strengthen monitoring and appropriate care of pregnant women with chronic hepatitis B and children born to these mothers, and support the development of nationally consistent protocols to support best practice.

Nationally funded hepatitis B vaccination for children is implemented under the National Immunisation Program Schedule (the Schedule). The Schedule includes a course of four vaccinations, commencing with a birth dose. Coverage rates for hepatitis B vaccine are good overall; however, challenges remain in the rate of timely vaccination for Aboriginal and Torres Strait Islander children (at one year of age) and in the reporting of the birth dose.

In 2011, the coverage rates for hepatitis B vaccination for Aboriginal and Torres Strait Islander children at one year of age was 85.05 per cent, compared to 91.93 per cent for non-Indigenous children. Coverage rates for both Aboriginal and Torres Strait Islander and non-Indigenous children are above 94 per cent at two years of age.

Although coverage of the three-dose primary vaccination schedule (two, four and six months) is high (over 85 per cent) and assessed via the Australian Childhood Immunisation Register [18], coverage of the birth dose is not systematically reported and information regarding timely receipt of the birth dose (within 24 hours of birth) is limited in Australia. Surveillance and evaluation of birth-dose information across Australia would better inform the coverage rates and indicate whether further work to improve uptake is needed.

The vaccine prevents new infections, which is particularly important in newborns and children as the risk of developing chronic hepatitis B following infection is greater the younger the age at infection. Up to 90 per cent of infants and 30 per cent of children will develop chronic hepatitis B after exposure to infection, compared to 5 per cent in adults [19]. As such, vaccination remains central to prevention efforts for the long-term management of hepatitis B in Australia.

In Australia, systematic testing for, and identification of, hepatitis B during antenatal care is generally done well. Reducing transmission to the newborn could be strengthened through improved maternal care, including improved provision of appropriate information to pregnant women about their own care, appropriate access to management and treatment, and the development and implementation of nationally consistent best practice protocols. Screening of pregnant women for hepatitis B and providing babies born to hepatitis B-positive mothers with post-exposure prophylaxis remains an important element in prevention of transmission of the virus.

Key action areas of the *National Immunisation Strategy 2013-2018* include increasing immunisation coverage for priority populations and ensuring equity of access to immunisation services, including Aboriginal and Torres Strait Islander people. Also, under the National Partnership Agreement on Essential Vaccines, states and territories have agreed to maintain or improve vaccination coverage for Aboriginal and Torres Strait Islander people.

The *Australian Immunisation Handbook* [21] recommends vaccination for the adult priority populations of this Strategy as they are at higher risk of acquiring hepatitis B or are at higher risk of severe disease. It provides guidance as to when pre-vaccination serological testing is indicated which includes the priority populations. Despite this, evidence suggests the uptake of vaccination among priority populations at higher risk of infection remains suboptimal [21, 22, 23, 24, 25, 26].

Unsafe injective practices account for at least 50 per cent of new hepatitis B infections, and approximately 5 per cent of adults living with hepatitis B will go on to develop chronic hepatitis B [19]. The provision and uptake of hepatitis B vaccination among people who inject drugs is strongly correlated to the service models, availability of information, and accessibility of vaccination that they encounter [25]. Needle and syringe services may be ideally positioned to promote and deliver hepatitis B vaccination to this high-risk population.

Factors such as low awareness of transmission risks and the availability of the

vaccine, including confusion between the different hepatitis viruses [27], have been identified as barriers to vaccination. As the burden of hepatitis B can be identified by geographic area and by population group, prevention activities should also be targeted to local health areas where priority populations at higher risk of hepatitis B are located. Better awareness about vaccination would enable effective promotion through education and awareness to priority populations, through integrated safe sex programs, and safe injecting health promotion and education programs.

7.2 Testing

Priority Actions

- Increase testing in priority populations to decrease the undiagnosed proportion of people living with chronic hepatitis B.
- Improve health literacy in priority populations to increase their awareness of chronic hepatitis B and the importance of testing.
- Promote the use of the National Hepatitis B Testing Policy among healthcare professionals who work with priority populations.
- Develop a model of care that supports healthcare professionals who diagnose chronic hepatitis B to conduct appropriate follow-up testing, assessment, management and referral.
- Develop a national protocol for the public health management of hepatitis B.

It is estimated that 45 per cent of people living with chronic hepatitis B have not been diagnosed [4]. Late diagnosis leads to ongoing transmission and poor health outcomes, as opportunities to prevent progression to advanced liver disease and cancer are missed. Improvements in testing in priority populations are needed to identify undiagnosed infection and provide appropriate monitoring and treatment to maximise health outcomes.

Those communities most affected by chronic hepatitis B in Australia often experience multiple barriers to accessing appropriate testing for hepatitis B. These barriers can include highly disrupted lives and limited access to healthcare services in their country of origin, cultural and language differences, and variable levels of education and health literacy [27]. Improving testing rates

among priority populations, particularly given the high rate of infection in people with culturally and linguistically diverse backgrounds, requires specific, targeted culturally appropriate education and awareness initiatives and ongoing testing models appropriate to these diverse populations.

The National Hepatitis B Testing Policy [28] provides evidence-based recommendations for whom to test, how to test, and the interpretation of pathology results. This policy, and other relevant resources, should be promoted among healthcare professionals to ensure nationally consistent testing, pathology reporting and follow-up procedures. Testing strategies and models will need to be reviewed and updated to allow new testing technologies, such as rapid testing, to be included as they become available.

Chronic hepatitis B is a dynamic disease and people require lifelong regular monitoring. Primary healthcare services, particularly those working in high prevalence areas, and community organisations providing support and advice to priority populations will continue to play an increasingly important role in hepatitis B testing and monitoring. Programs to improve testing need to recognise the value of these organisations and services, and work to integrate opportunistic testing into current activities.

Education and appropriate support of the workforce is required to ensure knowledge and competency remains current. The renewed focus in Australia on responding to local health priorities can be harnessed to target clinical education and public health programs to address hepatitis B where the burden is greatest, in areas where there is a higher proportion of residents from priority populations [29].

Increased testing in priority populations will lead to an increase in the identification of people with hepatitis B. The information and support needs of people who are newly diagnosed must be discussed and met to assist them to manage their hepatitis B over their lifetime, in partnership with healthcare providers.

To maximise opportunities for increasing the identification and diagnosis of people living with hepatitis B, and reducing transmission, the public health response should include appropriate testing and vaccinating of household contacts and sexual partners, and the provision of information to reduce the risk of ongoing transmission [30]. A national protocol on the public health response to hepatitis B, which addresses the important role of primary care, is needed to improve national consistency.

7.3 Management, Care and Support

Priority Actions

- Increase the number of people living with chronic hepatitis B infection receiving appropriate management.
- Improve awareness among priority populations of the long-term consequences of chronic hepatitis B and the availability of appropriate management, treatment and community support.
- Work towards improving access to hepatitis B medications, through general practitioner prescribing and community dispensing.
- Examine strategies to encourage the development and implementation of models of care that increase involvement of general practitioners.
- Explore tools to improve continuity of care.

7.3.1 Management

The management of chronic hepatitis B is complex, requiring a spectrum of care ranging through diagnosis, education, support, regular monitoring and (where appropriate) antiviral therapy. Best practice management involves lifelong regular monitoring of all people with chronic infection to enable decisions regarding antiviral treatment and to detect progressive liver disease and complications of infection, including liver cancer.

The delivery of such comprehensive, yet flexible and culturally appropriate, care requires a multidisciplinary team approach. A renewed focus on the central role of primary healthcare and community care in achieving this is essential. In addition to strengthening support for the role of general practitioners, this could include an exploration of alternative arrangements for care, including possible roles for nurse practitioners or integrated primary and tertiary nursing models.

While ongoing management for all people with chronic hepatitis B is needed, treatment is not recommended for all stages of disease. There is limited evidence to inform the percentage of people living with chronic hepatitis B who are eligible for treatment, with estimates range from 10 to 25 per cent [15, 16, 17] (based on cost effectiveness studies into screening, prevention and treatment strategies, mostly identified through cohort or survey data) [6]. Currently, it is

estimated that treatment levels in Australia are 5 per cent or less, and increasing the number of people accessing clinical treatment is an important element of this Strategy.

Supporting the increasingly critical role primary healthcare plays in hepatitis B management will require strategies to improve access to the tools important for management. Difficulties are experienced by the primary healthcare sector in accessing the non-invasive diagnostic tools necessary to assess liver disease severity and thus make decisions regarding appropriate management, including initiation of antiviral therapy. Current arrangements restrict prescribing and dispensing of antiviral therapy to specialist services.

An important element of appropriate management is the six-monthly monitoring for hepatocellular carcinoma in certain individuals and introduction of antiviral therapy when appropriate. There is evidence that a systematic approach to screening and managing chronic hepatitis appropriately is likely to be a cost-effective cancer prevention intervention in the Australian context [31]. To address the increasing burden of liver cancer in Australia, the cost-effectiveness and utility of establishing options for implementation of such an approach should be considered.

Due to significant variations in the geographic distribution of priority populations and existing infrastructure and support in Australia, primary healthcare governance at the local level is essential to deliver appropriately targeted interventions. Improved knowledge about the geographic distribution of these communities, the prevalence of chronic hepatitis B, and other factors (including the incidence of liver cancer and surveillance notifications) will help guide these local interventions [4].

Localised priority setting, through geographical mapping of the burden of disease, will allow individual primary healthcare governance and general practice to identify hepatitis B as a health burden for their community that requires addressing [7]. Additionally, identifying areas where access to appropriate diagnosis, management and treatment is lowest relative to the estimated burden of hepatitis B provides an opportunity to prioritise health interventions and improve local service delivery [7].

7.3.2 Care and Support

People living with chronic hepatitis B infection come from a diverse cross-section of cultural, linguistic and social backgrounds, and often experience a range of complex social and psychological challenges in settings with decreased access to healthcare services.

To be effective, community-based specialist hepatitis and primary healthcare services must be physically accessible and culturally responsive to the specific needs of the priority populations. Communities need resources that incorporate references and experiences that translate relevant complex biomedical information into accessible language. Relationships with local multicultural health workforce and community organisations will strengthen care delivery as well as personal and community-level support for the individual. Better understanding of hepatitis B and treatment availability is also required for some general practitioners and non-hepatology specialists, such as those involved in antenatal care, where maternal treatment can significantly reduce the risk of transmission to the baby.

Improving understanding of hepatitis B and the health services available is essential for people living with chronic hepatitis B to stay healthy and avoid health risks. Given the complexity of chronic hepatitis B, innovative, sustainable and culturally appropriate health promotion activities are required. Access to culturally and linguistically appropriate support and information about hepatitis B and treatment options is required to address low levels of hepatitis B awareness and knowledge in communities most at risk. A person with hepatitis B who has a good understanding of the impact of chronic hepatitis B infection, the purpose of treatment and the clinical process for treatment is more likely to adhere to the recommendations on lifelong monitoring and treatment and respond effectively to clinical advice.

Communities play a pivotal role in ensuring that people with hepatitis B are effectively supported in promoting their health and maintaining compliance with clinical management. It is important that programs supporting these communities impart the knowledge and skills to deliver these activities.

7.4 Workforce

Priority Actions

- Improve knowledge of hepatitis B diagnosis and management among primary healthcare professionals.
- Support healthcare professionals and community organisations to provide for the needs of priority populations, improve health literacy and to deliver appropriate and evidence-based care.
- Provide the primary healthcare workforce with support and mentorship, to ensure successful management and transition to primary care.

Services providing care and support for people with chronic hepatitis B are diverse. For example, the workforce within these sectors is varied, and includes healthcare professionals as well as the community-based workforce, such as community organisations, community workers and peer-education and support workers.

Additionally, some organisations are tailored towards individual priority population groups and the specific needs of a population, such as for people with culturally and linguistically diverse backgrounds. This varied workforce requires access to accurate information about hepatitis B, the skills to promote prevention, and the links to engage with appropriate services in order to ensure the most appropriate provision of care and workforce capacity as possible.

A move towards a primary healthcare focus of management will increase access, reduce the health costs and personal consequences of unmanaged hepatitis B, and increase healthcare integration. Professional education programs must address testing and assessing, monitoring, managing and treating hepatitis B in order to ensure expanding access to care is done safely.

Developing cultural competency across clinical services and community organisations is important to increase engagement with priority populations. Understanding the different needs of each priority population group is important to ensure appropriate and effective service delivery. This requires continued and sustained collaboration with communities most affected by chronic hepatitis B.

Further support for healthcare professionals prescribing hepatitis B antivirals will be essential to scale-up treatment access. Some of the curriculum, resources and oversight were developed under the auspices of the first *National Hepatitis B Strategy 2010–2013*. Supporting prescribing in primary care, such as through mentorship for prescribers, and regulatory changes to Section 100 prescribing and dispensing arrangements, should be explored during the lifetime of this Strategy.

Understanding the characteristics of the local population and the prevalence of hepatitis B at the local level will support the development, targeting and intensity of health promotion programs and shared care service delivery mechanisms. It will support establishing partnerships between key organisations—including Aboriginal community-controlled health services, specific community groups, and other health and community organisations—to take a targeted approach to raise awareness, increase testing and support compliance with management and treatment protocols at the local level.

7.5 Enabling Environment

Priority Actions

- Eliminate stigma and discrimination in community and healthcare settings and empower priority populations.
- Remove institutional, regulatory and systems barriers to equality of care for people infected and affected by hepatitis B in the health sector.
- Develop programs to assess and address hepatitis B-related stigma and discrimination.
- Maintain effective partnerships between governments and organisations representing the interests of people affected by or living with hepatitis B at local, state and territory and national levels.
- Develop health promotion interventions to improve health literacy in people with chronic hepatitis B and their families and communities, to foster culturally sensitive environments in which it is safe to disclose hepatitis B infection and support their clinical and non-clinical needs.

Little is known about the impact of stigma and discrimination on people with hepatitis B. Social exclusion and isolation affect the health status of communities from culturally and linguistically diverse backgrounds. Language differences and cultural beliefs and practices influence health literacy, including access to health services.

Hepatitis B infections disproportionately affect marginalised populations, such as migrant communities with origins in Asia, the Pacific and Africa; Aboriginal and Torres Strait Islander people; individuals with a history of injecting drug use; and other men who have sex with men [5, 21, 22, 23, 24, 25, 26]. Modelling data indicates that a significant number of people living with hepatitis B who were born overseas, and the predominant countries of birth include China, Vietnam, Cambodia, Malaysia and the Philippines.

People from affected communities require protection from multiple forms of discrimination [32], not only those associated with fears of contagion but also a range of other social phobias related to sexuality, drug use, or being a sex worker or person in a custodial setting [33].

All partners in Australia's hepatitis B response have a responsibility to work towards ensuring the response to hepatitis B—and indeed all BBV and STI—is based in human rights. Discrimination, unfair treatment and social burdens increase the negative impact of health status and can reduce access to care.

Programs that address advocacy and empowerment of populations to access prevention, treatment, care and support in the community, education, workplace, healthcare and legal settings should be promoted. Approaches include awareness-raising initiatives, education and training programs, supporting advocacy and empowerment, improving access to effective complaint systems, and promoting research.

Organisations involved in community responses to BBV require support for programs relating to hepatitis B and to further develop and implement community engagement and partnership building.

Communities and people living with hepatitis B need to be equipped with the language and skills to negotiate through the experience of their infection (including understanding the impact of their diagnosis), the clinical management options (including compliance and monitoring and expectations of treatment), and informing their contacts of the implications of the infection.

A priority action area for the first *National Hepatitis B Strategy 2010–2013* was to build partnerships and strengthen community action, recognising the need for collaboration between communities most affected by hepatitis B and all levels of government as well as between community-based organisations and the medical, healthcare, research and scientific communities.

These partnerships have been established, and the challenge for this Strategy is to both maintain effective partnerships to deliver targeted health promotion activities, testing, treatment, care and support to priority populations, particularly those where social exclusion and isolation affect health status and access to effective management.

7.6 Surveillance, Research and Evaluation

Priority Actions

- Strengthen the hepatitis B component of the National BBV & STI Surveillance and Monitoring Plan.
- Improve our understanding of the burden of disease attributable to hepatitis B and the associated risk factors, develop appropriate evidence-based public health responses, and evaluate the impact of these programs on the increasing incidence of morbidity and mortality.
- Provide support to ensure research is undertaken across the relevant diseases and disciplines, including social, behavioural, epidemiological, clinical and basic research to inform the delivery of the Strategy.
- Evaluate health promotion, testing, treatment, care, support and education and awareness campaigns, programs and activities to ensure they are effective.

7.6.1 Surveillance and Monitoring

The quality and coverage of surveillance data for hepatitis B infection requires significant improvement. In 2013, only half of the eight indicators identified in the *National BBV and STI Surveillance and Monitoring Plan 2010-13* to monitor the implementation of the first *Hepatitis B Strategy* were able to be reported on; further, two of these were based on weak data and/or methods. The revised set of indicators for this Strategy contains six indicators which can be nationally reported on, and identifies several significant gaps.

A key issue in the data collection that needs to be addressed is the need to improve data completeness for Aboriginal and Torres Strait Islander status and country of birth for newly acquired and unspecified hepatitis B notifications.

There is currently no ability to monitor and report on the disease-related mortality and morbidity attributed to chronic hepatitis B nationally. The development of a new indicator is critical, given the public health disease burden attributed to hepatitis B. Consideration could be given to indicators that measure the proportion of liver cancer attributed to hepatitis B and the number of deaths attributable to hepatitis B infection.

While antiviral treatment is an important aspect of hepatitis B management, the emphasis is on ensuring appropriate monitoring and care. Further work is needed to develop a measure of the delivery of appropriate comprehensive management. Examples include the proportion of people with chronic hepatitis B who have a recorded management plan and / or received at least an annual hepatitis B virus DNA test.

Support for high quality denominator data is essential to inform progress towards the target of 80 per cent of people living with hepatitis B being diagnosed. There is a need to strengthen data collection on vaccination uptake and record uptake in high-risk adults as well as research and monitoring to determine the most effective strategies for different priority populations.

An important gap, identified across all five strategies, is the ability to monitor the impact of stigma, discrimination, and legal and human rights. Options need to be explored to develop an indicator that informs activities and strategies in a meaningful way.

Behavioural surveillance encompassing risk behaviours, prevention practices, testing and treatment uptake and health services for priority populations is important to inform policy and programs addressing emerging prevention, testing, treatment, care and support needs.

Recent mapping work will allow additional information to be collected to analyse surveillance notifications, liver cancer incidence and antiviral treatment uptake in order to reflect the shifting epidemiology of hepatitis B in Australia and the impact of interventions to address hepatitis B infection at a population level [7].

7.6.2 Research and Evaluation

Research guides the development, implementation and evaluation of policies and programs at all levels of the national response to chronic hepatitis B. Research is needed to investigate the impact of chronic hepatitis B in priority populations and communities.

A culture of continuous improvement needs to underpin program and service development, including strong formative and evaluation research.

Mapping work identifying areas of high hepatitis B prevalence and the proportion of people receiving treatment will also help measure the impact of health promotion programs and interventions at the population level [3]. Recording linkages between notifications of chronic hepatitis B with outcomes—including liver cancer and mortality—would enable a better understanding of the impact of hepatitis B.

Monitoring and evaluating the implementation of the priority actions, and the supporting indicators and Implementation and Evaluation Plan, will ensure we are progressing towards, and remain focused on, reaching the targets outlined in this Strategy.

Systematic evaluation of activities and programs should also focus on aligning outcomes with identified priority actions. The interrelationship between priority actions and associated programs should be monitored and linkages enhanced where appropriate.

A significant number of activities and programs have been undertaken in the first *Hepatitis B Strategy* and by state and territory, peak and community organisations and research centres across all six priority action areas. The opportunities for scaling-up these activities and programs to a national level should be evaluated and explored.

Acknowledgements

The *Second National Hepatitis B Strategy 2014–2017* was developed through a broad and inclusive consultation process with contributions from governments, professional and community organisations, researchers and expert health professionals. Thanks go to all those involved in developing this Strategy.

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Appendix: Priority Populations

Priority Population	Reason for Priority Status	Issues and considerations	Additional Focus
Culturally and linguistically diverse people	■ High prevalence with estimates that the prevalence of hepatitis B in Australia among people from culturally and linguistically diverse backgrounds typically reflects the prevalence of hepatitis B in the countries of origin.	■ Language, cultural and gender issues. ■ Low health literacy and perception of risk. ■ Limited health-seeking behaviour. ■ Lack of familiarity with health system and services. ■ Previous negative experiences of healthcare. ■ Issues relating to privacy and confidentiality (e.g. use of interpreters). ■ Refugees and asylum seekers may have experienced significant trauma or violence.	■ Priority subpopulations are migrants from countries with high prevalence, such as Viet Nam (12.5 per cent of the population) and China (12.3 per cent of the population).[1]
Aboriginal and Torres Strait Islander people	■ High prevalence of an estimated 3.7 per cent of the Aboriginal and Torres Strait Islander population[2] compared with the 1.03 per cent[3] in the Australian population.	■ Concerns regarding access and/or acceptance of culturally appropriate services including primary healthcare services for many communities. ■ Language and cultural issues, including family and community relationships.	■ Prevalence of chronic hepatitis B varies according to place of residence, with 2 per cent in urban populations to 8 per cent in rural populations.

Priority Population	Reason for Priority Status	Issues and considerations	Additional Focus
Children born to mothers with chronic hepatitis B and children with chronic hepatitis B	▪ High risk, with only 10 per cent of neonates and infants clearing the hepatitis B virus after infection.	▪ Lack of viral load testing for pregnant women with chronic hepatitis B.[4, 5]	
Un-vaccinated adults at higher risk of infection	▪ High risk due to increased or potentially increased exposure to the hepatitis B virus. ▪ Injecting drug use is the highest reported source of hepatitis B infection. (15.5 per cent of newly acquired infections.) [6] ▪ Includes: – people who inject drugs – other men who have sex with men – sex workers – household and intimate contacts of people who have chronic hepatitis B infection – people in custodial settings – people who are immunocompromised, have HIV or hepatitis C or both, or have chronic liver disease.	▪ Criminalisation. ▪ Access to treatment is difficult, and exit screening is not as high as entry screening in people in custodial settings.	▪ Solid organ and haematopoietic stem cell transplant recipients.

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All information in this publication is correct as at July 2014

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