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Department of Health and Ageing

NATIONAL

Hepatitis B

STRATEGY 2010–2013

National Hepatitis B Strategy

2010–2013

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1. Background

This is the first national hepatitis B strategy to be adopted in Australia. It is one of a suite of five strategies aiming to reduce the transmission of sexually transmissible infections (STIs) and blood borne viruses (BBVs), and the morbidity, mortality and personal and social impacts they cause. The relationship of the First National Hepatitis B Strategy 2010–2013 (this strategy) to the other four is detailed in section 1.2.

1.1 Roles and responsibilities of parties to this strategy

While governments are the formal parties to this document, a partnership approach has been central to the development of this strategy. This has included significant consultation with, and input from, community organisations, researchers, clinicians and health sector workforce organisations. A number of people who contributed are members, or representative members, of the advisory committees detailed further below.

The priority actions identified in this strategy will be progressed through a continuation of this partnership between governments and the community sector, representing people with the infections and their communities, researchers, clinicians and health sector workforce organisations.

Leadership is provided by the Australian Government which works through the Australian Health Ministers' Conference and its sub-committees to facilitate national policy formulation and coordination. The Blood Borne Virus and Sexually Transmissible Infections Sub-Committee of the Australian Population Health Development Principal Committee includes representatives of all governments as well as community based organisations. It provides expert advice to health ministers through the principal committee and the Australian Health Ministers' Advisory Council. The Australian Government further seeks advice from the Ministerial Advisory Committee on Blood Borne Viruses and Sexually Transmissible Infections.

These groups will work in the context of funding arrangements for the health system, reshaping existing policies and programs or extending them where possible. These funding arrangements are provided jointly by the Commonwealth and the states and territories under the National Healthcare Agreement, which is a Schedule to the Council of Australian Governments Intergovernmental Agreement on Federal Financial Relations (which came into effect on 1 January 2009). Related national partnership agreements provide the broad basis for funding reform in the Australian health system. The partnerships relevant to these strategies include the Indigenous Early Childhood Development Partnership and the National Essential Vaccines Partnership.

The Australian Government also funds community and professional organisations, and program delivery organisations and research centres to engage with, and build a knowledge base for, communities affected by BBVs and STIs—to put effective responses in place. The involvement of these organisations and research centres has helped develop the overall response to these health challenges.

1.2 Relationship to other strategies

This strategy is one of a suite of five strategies aiming to reduce the transmission of STIs and BBVs in Australia, and the morbidity, mortality and personal and social impacts they cause. The five strategies, which cover the period 2010–13, are the:

- National Hepatitis B Strategy (this strategy)
- Sixth National HIV Strategy
- Second National Sexually Transmissible Infections Strategy
- Third National Hepatitis C Strategy
- Third National Aboriginal and Torres Strait Islander Blood Borne Viruses and Sexually Transmissible Infections Strategy.

While the first four strategies listed focus on individual infections, the fifth strategy focuses on the combined health impact these infections have on Aboriginal and Torres Strait Islander peoples in Australia. Despite their specific focus, each strategy shares common structural elements. This is designed to support a coordinated effort across stakeholder groups and pinpoint common concerns. The shared structural elements are:

- guiding principles (Chapter 4 in each strategy)
- priority populations (Chapter 5)
- shared or similar priority action areas (Chapter 6)
- shared issues around surveillance, research and workforce development (later chapters).

1.3 Hepatitis B in Australia

Hepatitis B is a blood-borne and sexually transmitted viral infection. The virus is transmitted either through percutaneous (puncture of skin) or mucosal exposure to contaminated blood or body fluids. Serum, semen and saliva can be infectious for hepatitis B. The liver is the major site of hepatitis B viral replication.

Hepatitis B transmission occurs:

- from mother to infant at or around birth (perinatal)
- between children
- in household settings between children and adults
- through sexual contact
- in healthcare settings, including from exposure to contaminated equipment, blood products and body tissues or fluids
- through the unsafe sharing of injecting equipment.

More than 2 billion people globally have been exposed to hepatitis B and an estimated 350 to 400 million people have chronic hepatitis B infection. Hepatitis B is a leading cause of death worldwide with most deaths occurring in the Asia-Pacific region[1], which currently contributes two thirds of all migration to Australia.

The number of people living with chronic hepatitis B in Australia was estimated in 2000 to be between 90 000 and 160 000, representing a prevalence rate of 0.5% to 0.8%.[2] The authors of this study support a national blood survey to resolve uncertainty in these estimates. A more recent survey estimates the range between 153 000 and 175 000 of people living with chronic hepatitis B[3,4] In 2008, 245 incident cases of hepatitis B and 6600 notifications of hepatitis B (unspecified) were reported to the Australian Government's National Notifiable Diseases Surveillance System. By 2017, it is estimated there will be a two- to three-fold increase in the number of hepatitis B-induced liver cancer cases and a marked increase in the number of deaths attributable to hepatitis B under current treatment patterns.[5]

The major issues relating to hepatitis B in Australia are, and will remain, the need to prevent new infection and manage established chronic infection. This strategy provides guidance on the development of activities needed to identify and manage undiagnosed (and therefore unmanaged) cases of hepatitis B. New infections in adults rarely lead to chronic infection and vaccination programs will largely prevent domestic acquisition in the longer term.

Australia has reduced the impact of hepatitis B by: securing a safe blood supply; implementing a national hepatitis B immunisation program; and providing treatment for people with chronic hepatitis B through the Pharmaceutical Benefits Scheme. The National Hepatitis B Strategy 2010–2013 broadens this approach by promoting comprehensive and inclusive strategies. The involvement of communities most affected by hepatitis B is essential to all levels of the national response.

2. Goal

The goal of the First National Hepatitis B Strategy 2010–2013 is to reduce the transmission of, and morbidity and mortality caused by, hepatitis B and to minimise the personal and social impact of hepatitis B.

3. Objectives and indicators

This section details objectives and indicators that will be used to monitor progress under the strategy. Indicators are measurable targets that apply to the related objective.

The primary indicators are those that have been agreed to under the National Healthcare Agreement. These have been specified and will be regularly reported on during the life of the agreement. Additional indicators have been included for the more specific objectives relevant to this strategy. Further work will be undertaken during the implementation phase to develop a surveillance and monitoring plan. This will include further work on specifications for the indicators, and development of an agreed process for reporting on them. In some circumstances further data development may also be needed.

GOAL	OBJECTIVE	INDICATOR[1]
To reduce the transmission of hepatitis B	Reduce hepatitis B infections	Incidence of hepatitis B (National Healthcare Agreement)
		Coverage of hepatitis B vaccination among children and adolescents (Essential Vaccines National Partnership Agreement)

GOAL	OBJECTIVE	INDICATOR(1)
To reduce the morbidity and mortality caused by hepatitis B	Reduce the proportion of people with chronic hepatitis B who have not been diagnosed	Estimated proportion of people with chronic hepatitis B who have not been diagnosed Notifications of acute and unspecified hepatitis Proportion of people who die from hepatocellular carcinoma within 12 months of hepatitis B diagnosis
To minimise the personal and social impact of hepatitis B	Improve the health and wellbeing of people with chronic hepatitis B, through access to clinical services, screening, treatment, education and support	Proportion of people with chronic hepatitis B who meet the criteria for hepatocellular carcinoma and who are receiving annual screening
		Incidence of hepatocellular carcinoma attributed to hepatitis B
		Proportion of people with chronic hepatitis B dispensed drugs for hepatitis B infection through the Highly Specialised Drugs (s100) Program

(1) In areas with available data

4. Guiding principles

The principles informing this strategy are drawn from Australia's efforts over time to respond to the challenges, threats and impacts of HIV, STIs and hepatitis C. Strategies addressing each of these diseases, including as they relate to Aboriginal and Torres Strait Islander peoples, seek to minimise their transmission and impacts on individuals and communities and establish directions based on their unique epidemiology, natural history and public health imperatives.

The guiding principles underpinning Australia's response to HIV, STIs and viral hepatitis are:

- The transmission of HIV, STIs and hepatitis C can be prevented by adopting and maintaining protective behaviours. Vaccination is the most effective means of preventing the transmission of hepatitis B. Vaccination, education and prevention programs, together with access to the means of prevention, are prerequisites for adopting and applying prevention measures. Individuals and communities have a mutual responsibility to prevent themselves and others from becoming infected.
- The Ottawa Charter for Health Promotion[4] provides the framework for effective HIV, STI and viral hepatitis health promotion action and facilitates the:
  - ~ active participation of affected communities and individuals, including peer education and community ownership, to increase their influence over the determinants of their health
  - ~ formulation and application of law and public policy that support and encourage healthy behaviours and respect human rights as this protects those who are vulnerable or marginalised, promotes confidence in the system and secures support for initiatives.

- Harm reduction principles underpin effective measures to prevent transmission of HIV and viral hepatitis, including the needle and syringe programs and drug treatment programs.
- People with HIV, STIs and viral hepatitis have a right to participate in the community without experience of stigma or discrimination, and have the same rights to comprehensive and appropriate healthcare as do other members of the community (including the right to the confidential and sensitive handling of their personal and medical information).
- An effective partnership of affected governments, affected communities, researchers and health professionals is to be characterised by consultation, cooperative effort, respectful discussion and action to achieve this strategy's goal. This includes:
  - ~ non-partisan support for the pragmatic social policy measures necessary to control HIV, STIs and viral hepatitis
  - ~ recognition that those living with, and at risk of, infection are experts in their own experience and are therefore best placed to inform efforts that address their own education and support needs
  - ~ timely and quality research and surveillance to provide the necessary evidence base for action
  - ~ a skilled and supported workforce
  - ~ leadership from the Australian Government, the full cooperative efforts of all members of the partnership struck to implement this strategy's agreed directions, and early adoption of a framework for monitoring and evaluating.

5. Priority populations

Unlike hepatitis C, HIV and the STIs predominantly addressed in this suite of strategies, hepatitis B can be prevented by vaccine. The vaccine prevents new infections, particularly important in newborns and children as they have a greater risk of adverse events and disease progression if infected with hepatitis B. The importance of childhood vaccination is recognised by its inclusion in the National Immunisation Program Schedule. Activities that aim to reduce the burden of disease for those with existing chronic infection are also discussed in this strategy.

The greatest burden of hepatitis B is borne by those who already have hepatitis B infection (chronic infection), many of whom were infected at birth or as children and who may be unaware of their infection. As a result, this strategy explores priorities relating to the detection and subsequent management of chronic hepatitis B.

Prevention of hepatitis B transmission

This strategy covers the prevention of hepatitis B transmission in three priority populations:

1. people from Culturally and Linguistically Diverse (CALD) backgrounds
2. Aboriginal and Torres Strait Islander peoples
3. children born to mothers with chronic hepatitis B (pregnant women).

It also covers these other four main populations of interest:

- unvaccinated adults at higher risk of infection specifically:
  - ~ men who have sex with men

  - sex workers
  - people who inject drugs
  - partners and other household and intimate contacts of people who have chronic hepatitis B infection
  - people in custodial settings
  - people with human immunodeficiency virus (HIV) or hepatitis C, or both
- healthcare workers and emergency services workers
- people travelling to and from high prevalence countries, particularly those visiting families and friends in their country of origin
- vulnerable populations, including the homeless and people with mental health issues.

Monitoring, detecting and treating chronic hepatitis B

This strategy also covers monitoring, detecting and treating chronic hepatitis B in two priority populations:

- people from CALD backgrounds
- Aboriginal and Torres Strait Islander peoples.

All people with chronic hepatitis B require monitoring to determine if treatment is required and to detect early signs of related liver disease. People at risk of, or people who have, chronic hepatitis B often come from a diverse cross-section of ethnic and social backgrounds. Hepatitis B infection often exists in communities that have less access to general health services, such as in Aboriginal and Torres Strait Islander communities.

The migration patterns in Australia and also the variation in the infrastructure available for specific communities means that interventions for these

communities must occur at local level. The implementation plan for this strategy takes these variations into account.

There is a need to ensure that the specific population groups most affected by chronic hepatitis B are not stigmatised through being identified or named. This is important so that the individuals within these groups are not reluctant to access healthcare and consequently increase the burden of chronic hepatitis B on the Australian community.

The remainder of this chapter provides further information about this strategy's priority populations—for both the prevention of hepatitis B transmission and for monitoring, detecting and treating chronic hepatitis B.

5.1 People from culturally and linguistically diverse backgrounds

Hepatitis B disproportionately affects people from low and middle income countries. In these countries, high rates of chronic hepatitis B are related to high levels of mother-to-child and early childhood transmission due to a lack of comprehensive immunisation programs and a secure blood supply.

Priority CALD communities for hepatitis B in Australia can be identified in several ways, including by:

- examining hepatitis B prevalence data on countries of birth, especially countries where prevalence is high or intermediate
- examining census and immigration data and trends
- consulting with community organisations and multicultural health services.

Estimates of the prevalence of hepatitis B in Australia among people from CALD backgrounds are generally consistent with prevalence in their countries of origin.

Table 1: Compares prevalence of chronic hepatitis B in country of birth and estimates burden of chronic hepatitis B among Australians born overseas

Country	Prevalence of chronic hepatitis B in country[1] (%)	Estimated residential population by country of birth (% of total Australian population)[2]	Estimate of chronic hepatitis B[3] among overseas-born Australians
China	10.7–11.8	313 572 (1.5)	35 300
Fiji	9.0–11.8	59 241 (0.3)	6 200
Hong Kong	7.7–11.8	87 510 (0.4)	8 500
India	2.6–3.6	239 295 (1.1)	7 400
Indonesia	7.2–9.0	64 567 (0.3)	5 200
Malaysia	6.0–9.0	120 053 (0.6)	9 000
Philippines	7.0–9.0	155 124 (0.7)	12 400
South Korea	5.0–11.8	78 260 (0.4)	6 600
Taiwan	10.6–11.8	32 394 (0.2)	3 600
Thailand	8.7–9.0	43 047 (0.2)	3 800
Vietnam	10.5–11.8	193 288 (0.9)	21 600

(1) chronic hepatitis B prevalence estimates based on seroprevalence studies in countries of origin

(2) Australian Bureau of Statistics, Migration, Australia 3412.0, 2007–08

(3) estimate of chronic hepatitis B based on prevalence estimate or midpoint of prevalence range, with rounding to closest 100

In describing the experience of people living with chronic hepatitis B, the National Hepatitis B Needs Assessment 2008 found that:

- communities most affected by chronic hepatitis B have often experienced highly disrupted lives and limited or non-existent access to healthcare services in their countries of origin

- people with hepatitis B report their diagnosis as 'shocking' reflecting a lack of preparation for a possible positive diagnosis or of pre or post test discussion
- communities can play an important role in providing information about hepatitis B but have few resources available for people with hepatitis B or their families to help them understand the infection.

5.2 Aboriginal and Torres Strait Islander peoples

While Aboriginal and Torres Strait Islander peoples represent only 2% of the Australian population, they make up an estimated 16% of those living with chronic hepatitis B.

The prevalence of chronic hepatitis B among Aboriginal and Torres Strait Islander Australians varies according to place of residence, with estimates varying from 2% for urban Aboriginal and Torres Strait Islander populations to 8% for rural Aboriginal and Torres Strait Islander populations with remote Aboriginal communities likely to have higher prevalence rates and higher rates of liver cancer.[5] A study from Darwin in 2003 found an overall prevalence of hepatitis B surface antigen in Aboriginal and Torres Strait Islander pregnant women of 4.07% and non-indigenous women of 1.16%.[6]

On notifications of chronic hepatitis B, differences have been identified between the Aboriginal and Torres Strait Islander population and the non-indigenous population. Age standardised rates were 89 per 100 000 in 2004 and 114 per 100 000 in 2005 for the Aboriginal and Torres Strait Islander population, versus 15 per 100 000 in 2004 and 16 per 100 000 in 2005 for the non-indigenous population. Significantly higher rates were also found among Aboriginal and Torres Strait Islander peoples in remote areas (153 per 100 000) compared to rural areas (24 per 100 000) and urban areas are (47.5 per 100 000).[7]

Death rates for all causes of chronic liver disease and cirrhosis between 1991 and 1995 were 4 and 5.5 times higher for Aboriginal and Torres Strait Islander men and women respectively compared to the general Australian population.[8] While few clinical specialists report treating Aboriginal or Torres Strait Islander peoples, Alice Springs Hospital report Aboriginal people dying as a result of chronic hepatitis B infection.[9]

5.3 Children born to mothers with chronic hepatitis B (pregnant women)

While 95 per cent of adults clear their initial hepatitis B infection, only 10 per cent of neonates and children do, meaning they have chronic hepatitis B throughout their lives and a higher lifetime risk of advanced liver disease. It is therefore crucial to promote screening of pregnant women for hepatitis B infection, as recommended in the Australian and New Zealand Chronic Hepatitis B Recommendations, to allow intervention to prevent transmission from mother to child.[10] Furthermore, any woman diagnosed with chronic hepatitis B should be referred to a clinician with expertise in managing viral hepatitis during pregnancy. Recent Australian evidence suggests that transmission occurs in approximately 10 per cent of women diagnosed antenatally.[11]

Any child born to a mother with chronic hepatitis B should be assessed for chronic hepatitis B infection after the course of vaccination has been completed. Children diagnosed with chronic hepatitis B should be referred to a paediatric service with expertise in viral hepatitis. Although most will have minimal liver disease early in life, this is not true for all children with chronic infection.[12] A recent study reported that referral of these children for assessment is rarely occurring in Australia.[13]

5.4 Unvaccinated adults at higher risk of infection

This population of interest for the prevention of hepatitis B transmission includes:

- 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

While the potential to progress from acute to chronic hepatitis B infection diminishes significantly following childhood, some unvaccinated adults remain at particular risk of hepatitis B infection and continue to have a low risk of progressing to chronic infection. More than 40 per cent of acute hepatitis B cases are attributed to injecting drug use, reflecting low levels of vaccine uptake among this population set. Both men who have sex with men and sex workers are at increased risk of infection, particularly if engaging in unprotected sex.

Protection against co-infection with hepatitis B is a priority for people with HIV or chronic hepatitis C to avoid the increased individual impact of disease experienced by those living with co-infections. People entering custodial settings have higher rates of previous hepatitis B infection compared to the general community but only around 50 per cent of people entering custodial settings have immunity to hepatitis B. Household or sexual contacts of people recently diagnosed with hepatitis B are also at increased risk of exposure to the hepatitis B virus.

6. Priority action areas

This National Hepatitis B Strategy 2010–2013 has five priority action areas:

1. building partnerships and strengthening community action
2. preventing hepatitis B transmission
3. optimising diagnosis and screening
4. clinical management of people with chronic hepatitis B
5. developing health maintenance, care and support for people with hepatitis B.

This is Australia's first nationally coordinated response to hepatitis B and significant groundwork is needed to support implementation. Limited data were available to guide the development of the first National Hepatitis B Strategy 2010–2013 and support its implementation. An evidence base is needed so the healthcare system can respond effectively and efficiently.

Stigma and discrimination continue to be unfortunate responses to BBVs. Many interventions supported by this strategy seek to directly or indirectly lessen the effects of stigma and discrimination. This includes gathering evidence on these issues as they relate to hepatitis B to better inform a nationally coordinated response.

6.1 Building partnerships and strengthening community action

Effective implementation of this strategy depends on engaging the communities most affected by hepatitis B. An effective national response recognises the need for collaboration between these communities and all levels of government as well as between community-based organisations

and the medical, healthcare, research and scientific communities at local, state, territory and national levels.

Epidemiological information reveals great diversity in the population groups in communities at higher risk of transmission of hepatitis B and the effects of chronic hepatitis B infection. Social exclusion and isolation affect the health status of people from CALD backgrounds, some of whom are also coping with other social hardships. Language differences and cultural health beliefs and practices influence health literacy, including access to health services.

CALD communities may also have different understandings of liver disease, including the transmission of viruses, which operate outside of the paradigm of western medicine. This fundamentally affects their health literacy and their willingness or ability to access medical care. Providing education and information about hepatitis B using culturally appropriate methods is therefore necessary.

In most states or territories (jurisdictions), partnership forums—including ministerial or departmental advisory structures—advise key stakeholders on BBVs such as HIV and hepatitis C. This partnership approach acknowledges collaboration across whole-of-government, including with health, immigration, justice, housing, welfare, income support, education and community service agencies.

General practitioners providing care to the CALD communities most at risk of chronic hepatitis B are a link to targeted health promotion interventions. Engaging with these health service providers and their representative bodies is crucial to a nationally coordinated response.

Chronic hepatitis B is a complex issue and, as a result, organisations already involved in national responses to BBVs require support to develop their expertise in hepatitis B and the culturally-based issues affecting responses to the virus.

Priority actions around building partnerships and strengthening community action

- Increase access to clinical services.
- Map and identify partners to be included in local, state, territory and national responses to chronic hepatitis B.
- Develop partnerships between BBV committees and organisations representing communities most at risk of chronic hepatitis B. infection at local, state and territory, and national levels
- Support Aboriginal and Torres Strait Islander health organisations to develop their capacity and expertise in hepatitis B.
- Develop health promotion interventions for people with chronic hepatitis B and their families to:
  - ~ build health literacy
  - ~ create supportive environments in which it is safe to disclose infection
  - ~ support their clinical and non-clinical needs.

6.2 Preventing hepatitis B transmission

Hepatitis B transmission is preventable through hepatitis B vaccination. Effective implementation of Australia's vaccination program will largely eradicate transmission and the subsequent impact of infection.

The hepatitis B vaccine is available through the Immunise Australia Program for infants at birth and at 2, 4, 6 and 12 months, as well as for children aged 10 to 13 years. Identifying mothers with chronic hepatitis B during pregnancy is essential for reducing transmission to the newborn and providing care to the mother.[14] This will also provide an opportunity to vaccinate others in households.

Levels of knowledge about hepatitis B are poor among people who inject drugs. This group is often unaware of hepatitis B vaccination[15] and often

does not complete vaccination regimens.[16] There is evidence of efficacy with an accelerated vaccination schedule which may make vaccination more accessible.[17] Needle and syringe programs may also play a role in assessing hepatitis B virus status and providing vaccination where indicated.

There is a lack of consistency between jurisdictions in the level of public information through departmental websites about accessing funded hepatitis B vaccination, resulting in at-risk communities not being aware of the availability of funded vaccination. Effective promotion through peer education to both people who inject drugs and sex workers would assist in increasing awareness about the availability of the vaccine for hepatitis B.

As well as promoting the vaccination broadly, opportunistic hepatitis B testing and vaccination in young people should be considered, particularly for young people with multiple risk factors or who may have missed childhood vaccination. This could be incorporated into Adult Health Checks for Aboriginal and Torres Strait Islander peoples; on engagement with the juvenile justice system; and in association with recruitment activities such as is the case with the Australian Defence Force.

Improving the capacity of countries in Australia's region—particularly those with a greater hepatitis B burden—to develop and successfully implement immunisation campaigns will have a long-term systemic impact on reducing the burden of hepatitis B on the Australian community.

Priority actions in prevention

- Promote national consistency in groups and communities eligible for funded vaccination, giving priority to communities at greatest risk of hepatitis B infection.
- Increase the uptake of hepatitis B vaccination among priority populations, thereby reducing the social impact, morbidity and mortality associated with undetected or untreated infection.

- Increase awareness of hepatitis B prevention through integrated health promotion interventions promoting safe sex and safe injecting.
- Identify an appropriate follow-up schedule for children born to at-risk mothers and promote appropriate monitoring.

6.3 Optimising diagnosis and screening

Appropriate screening, and a coordinated and consistent hepatitis B diagnostic testing process, can reduce the impact of hepatitis B infection. The diagnostic process can provide people with chronic hepatitis B with relevant and accurate information about their infection. Unlike other BBVs, no formal process currently exists for providing a chronic hepatitis B diagnosis.

Ninety-five per cent of all hepatitis B notifications are for chronic hepatitis B. The primary public health response to these notifications is to follow up cases of acute hepatitis B infection, and yet approximately one third of people with chronic hepatitis B are undiagnosed.

Late diagnosis has a significant impact on mortality and morbidity, with one quarter of all hepatitis B-related deaths in one study occurring within six months of notification. Understanding of hepatitis B has changed and the concept of 'healthy carriers' is no longer valid and should no longer be used. Education is required, particularly targeting general practitioners and other clinicians, to ensure that current information regarding chronic hepatitis B, its treatment and other aspects of its management, is widely and better understood.

Practitioner-initiated testing, or screening, in primary healthcare—including general practice and awareness raising in the community—are the main approaches for identifying undiagnosed chronic hepatitis B. Programs to assist practitioners in primary care to take on this role have been developed.

These need to incorporate diagnosing, monitoring, supporting, treating and referring patients, all of which will benefit from developing partnerships between agencies.

It is important to raise awareness of hepatitis B among medical practitioners as various drugs, including chemotherapy, can cause hepatitis B flares which can be fatal. Hepatitis B can also complicate the management of a range of other conditions.

Priority actions in testing and diagnosis

- Review the Hepatitis C Testing Policy (2007) and consider expanding it to a Viral Hepatitis Testing Policy to include hepatitis B testing.
- Develop a model of care that helps doctors who diagnose chronic hepatitis B to conduct appropriate follow-up tests, assessments, referrals and management as appropriate.
- Promote household (and other appropriate contact) follow up for newly diagnosed chronic and acute hepatitis B cases with specific priority given to checking the immunisation profile and serostatus of household members—including, as a priority, vaccinating children in the same household.

6.4 Clinical management of people with chronic hepatitis B

Increasing the number of people accessing clinical management is imperative to reducing the burden of hepatitis B.

Only two per cent of people with chronic hepatitis B, and very few Aboriginal and Torres Strait Islander peoples, receive any clinical management for their infection.[18] Factors contributing to low levels of treatment uptake include:

- poor understanding of hepatitis B within communities most at risk of chronic infection and by primary care practitioners
- the asymptomatic nature of chronic hepatitis B infection for most people
- mandatory liver biopsy to obtain government-funded treatment
- concerns about antiviral drug resistance
- the toxicity of interferon-based therapy
- limited infrastructure for delivery of treatment, particularly in rural and remote areas.

The goal of hepatitis B treatment is to suppress viral replication, reduce the risk of progression to advanced liver disease and reduce the development of complications such as liver failure or liver cancer.

Improving the health of people with chronic hepatitis B includes clinical management through antiviral therapy and regular long-term monitoring, including for the development of hepatocellular carcinoma. This process of monitoring can be challenging, particularly with expectations from patients that clinical service delivery equals the provision of pharmaceutical treatment.

Treatment options for chronic hepatitis B have expanded rapidly. These changes, in addition to the complexity of the virus, complicate the development and implementation of management algorithms, and increase the difficulty of delivering optimal treatment for general practitioners and specialists who do not have a substantial chronic hepatitis B caseload. General practice as part of a healthcare team is central to the healthcare experience of people living with chronic hepatitis B. A first step to reducing the burden of hepatitis B is to improve the level of awareness among primary care doctors generally.

People requiring hepatitis B management often experience complex social and psychological challenges. A patient with a good understanding of

the impact of chronic infection, the purpose of treatment and the clinical process for treatment is more likely to adhere to treatment and respond effectively to the advice of their treating doctor.

Community-based liver clinics that are physically accessible and respond to the specific needs of the patient group—including by providing trained interpreters, cross cultural training of staff, staff from similar cultural background to patients, and flexibility in delivering care to accommodate patients' difficulties in attending appointments—are effective.[19]

The burden of chronic viral hepatitis on specialist liver services is increasing and existing services have lengthy waiting periods for new referrals. This situation necessitates the development of a model of care for delivering hepatitis B care through a range of services (including through the primary care sector) and identifying mechanisms to appropriately resource service delivery.

Liver biopsy is a requirement for access to government-funded hepatitis B treatment. Therefore, people without access to biopsy services cannot access treatment. This has a specific impact on remote Aboriginal and Torres Strait Islander communities. In addition, the cultural beliefs of some CALD communities can conflict with liver biopsy as a procedure.

Priority actions in clinical management

- Trial innovative models of the monitoring and treatment of hepatitis B which will increase access to clinical services (including increased involvement of general practitioners, nurses and other healthcare professionals in monitoring and follow up) and address the needs of a range of populations, including those living in remote communities and custodial settings.
- Explore options for primary care practitioners to prescribe hepatitis B treatments, particularly in areas with limited access to specialist care, to free up access to specialist services for more complex management.

- Review the evidence for removing the requirement for mandatory liver biopsy for treatment, taking into account the impact of this requirement on Aboriginal and Torres Strait Islander communities.

6.5 Developing health maintenance, care and support for people with hepatitis B

An increased understanding of hepatitis B infection and support for those who are infected, at personal and community level, will help reduce the burden associated with acute and chronic hepatitis B infection and improve health outcomes.

People with chronic hepatitis B need knowledge and skills to understand and use information on disease prevention and treatment, to avoid health risks and stay healthy. Health literacy involves understanding the services available within the health system and how to access and navigate them to achieve appropriate care. Given the complexity of chronic hepatitis B, innovative and sustainable methods of developing and providing education and support to people and communities are required.

Barriers to accessing relevant information and services for communities most affected by chronic hepatitis B include lack of English language proficiency, lack of awareness of available information and services, lack of cultural sensitivity and appropriateness of services and information, family and cultural responsibilities and obligations, social isolation, access to transport, and cost.

Priority actions in health maintenance, care and support

- Develop accurate and appropriate information for people with chronic hepatitis B to inform them about: the impact of infection; its natural history; the availability of health promotion information, including how to reduce their risk of developing liver disease and how to access specialist services; and their legal rights.

- Ensure organisations working with communities with a greater prevalence of chronic hepatitis B are able to provide services, information and support.
- Establish forums in which lessons learned by service providers are shared.
- Use referral mechanisms between general practitioners, specialist clinics and other health and welfare services to help with the clinical and psychosocial needs of patients.
- Develop chronic disease management strategies that incorporate changes to diet, exercise and alcohol intake.
- Identify barriers to accessing information on hepatitis B and to the support available in rural and remote areas and custodial settings.

7. Surveillance and research

Research provides an evidence base for the development and implementation of policies and programs at all levels of the national response to chronic hepatitis B.

Limited data are available on the impact of chronic hepatitis B, and how the communities most affected respond to the infection. The evidence base for an effective public health response to the epidemic will be established through well-conducted national and international research and surveillance, including the collection of data on deaths.[20]

Acute and chronic hepatitis B infection cases are routinely notified through public health surveillance systems with limited demographic information. These cases are forwarded to the Australian Government's National Notifiable Diseases Surveillance System for collating and national reporting.

Notifications of newly acquired hepatitis B underestimate the true incidence of the infection, while notifications of unspecified or chronic cases underestimate the burden of disease related to hepatitis B. This mechanism is also poor in reporting country of birth and Aboriginal and Torres Strait Islander status.

Priority actions in surveillance and research

- In the context of the development of a surveillance plan for the five national BBV and STI strategies, develop a national hepatitis B surveillance strategy, under the supervision of the Communicable Diseases Network of Australia.
- Improve reporting of country of birth and Aboriginal and Torres Strait Islander status on routine hepatitis B notifications.
- Encourage prioritisation within national research funding bodies of socio-behavioural and clinical research to identify the barriers to testing and accessing treatment.

- Encourage prioritisation within national research funding bodies of basic science research to improve understanding of hepatitis B pathogenesis, identify biomedical markers for disease progression and antiviral drug resistance.
- Investigate the establishment of a national database to track antiviral drug resistance, including clinical correlates.

8. Workforce and organisational development

Strengthening the capacity of health and community services to respond effectively to hepatitis B will reduce the chronic hepatitis B burden on Australia.

Chronic hepatitis B infection is a complex disease and services providing care and support are diverse. It is essential that these sectors have access to accurate information about hepatitis B and the skills to impart this knowledge.

General practitioners, primary healthcare teams, hospital-based nurses and interpreter services play a significant role in identifying, monitoring, supporting and managing people with chronic hepatitis B infection and will play an expanding role in treatment. Some of these healthcare workers have not received specific training on hepatitis B (particularly the management of the sequelae of chronic hepatitis B) in their pre-service training so catch-up strategies, continuing professional education and on-the-job training is required to increase clinical skills and cultural competency.

Developing cultural competency requires sustained collaboration with communities most affected by chronic hepatitis B. There will be organisations in which cultural competence at an individual or professional level is underpinned by systemic and organisational commitment and capacity so that services are effectively provided to people with chronic hepatitis B.

Priority actions in workforce and organisational development

- Identify research on the capacity and need for workforce development and models which may be transferable.

- Develop nationally consistent and accurate information about chronic hepatitis B for the community and health sectors, including national benchmarks or minimum standards.
- Develop education on chronic viral hepatitis B for the medical practitioners, nurses, pharmacists, other healthcare workers, interpreters and people working with communities most affected.

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