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Department of Health

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Hepatitis C
Strategy

2014-2017

Fourth National Hepatitis C Strategy 2014–2017

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Hepatitis C
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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 BBV and STI 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

Hepatitis C continues to be a significant public health issue in Australia. In 2012, an estimated 230 000 people were living in Australia with chronic hepatitis C infection, including 58 000 with moderate to severe liver disease. While prevention remains the cornerstone of Australia's response to hepatitis C, recent advances in antiviral treatments have the potential to significantly improve the chances of cure.

Chronic hepatitis C infection can result in progressive liver inflammation (viral hepatitis), which may progress to scarring (fibrosis and cirrhosis). If left untreated, inflammation can lead to mild, moderate or serious liver disease and, in some cases, liver cancer and liver failure [1].

The World Health Organization estimates that there are around 150 million people living with chronic hepatitis C globally, with three to four million people becoming newly infected each year. In Australia, the burden of liver disease caused by the hepatitis C virus continues to rise. Notably, deaths from primary liver cancer, for which untreated hepatitis C is a major driver, are rising faster than for any other type of cancer.

In Australia, most new hepatitis C infections are related to the sharing of injecting equipment. As long as new infections of hepatitis C continue to occur, prevention efforts must be strengthened and remain targeted towards people who inject drugs.

Groundbreaking antiviral treatments for hepatitis C will become available in Australia during the life of this Strategy. These treatments will improve the chance of being cured of hepatitis C to more than 90 per cent in many cases. Those with cirrhosis or who have previously failed therapy can also expect treatment success [2,3,4,5]. Additional benefits expected from future generations of treatments include decreased toxicity, less complex dosing and reduced treatment duration. The vast majority of people living with chronic hepatitis C are people who inject or have injected drugs. This group must be prioritised in efforts to improve treatment opportunities.

This *Fourth National Hepatitis C Strategy 2014–2017* (the Strategy) sets the direction for coordinated action over the next four years to achieve the targets of reducing the incidence of new hepatitis C infections by 50 per cent and

increasing the number of people on treatment. The Strategy aligns with the Auckland Statement on viral hepatitis 2012, which was endorsed by Australian peak bodies, researchers and key organisations. The Auckland Statement focuses 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.

The Strategy's priority actions include increasing access to and use of sterile injecting equipment promoting increased testing and high quality support at the time of diagnosis, shifting the focus of treatment to primary healthcare settings, reducing stigma and discrimination and developing evidence-based public health responses.

Reducing the incidence of new hepatitis C infections by 50 per cent will require a continued focus on prevention activities. Evidence available suggests that the incidence of hepatitis C has been stable, and possibly decreasing, in Australia. This suggests that current prevention strategies are working and emphasises that these approaches, including needle and syringe programs (NSPs) and peer education, need to be continued and strengthened.

Achieving the target of increasing the number of people on treatment for hepatitis C demands a concerted effort to address barriers to treatment uptake. While new antiviral treatments are expected to increase demand, this alone will not be enough. The stigma and discrimination associated with hepatitis C and injecting drug use remain a key challenge in responding to hepatitis C in Australia due to the impact on access to prevention, treatment, care and support.

Improving the understanding of hepatitis C within the community is required to engender more supportive attitudes, particularly within the media, amongst employers and across the healthcare sector. Increasing the role and capacity of the primary healthcare sector to manage hepatitis C and provide services to most at-risk populations is critical to ensuring Australia is well placed to harness the full potential of new treatments.

2. Hepatitis C in Australia

Hepatitis C is a significant public health problem and one of the most common notifiable diseases in Australia. Of those exposed to the virus, 75 per cent go on to develop a chronic hepatitis C infection. The risk of progressive hepatitis C-related liver disease increases with the duration of chronic infection.

At the end of 2012, there were an estimated 230 000 people living with chronic hepatitis C infection in Australia, one-third of whom have moderate to severe liver disease [1]. The burden of liver disease caused by the hepatitis C virus – including liver cirrhosis, liver cancer, liver failure and the potential need for liver transplant – is continuing to rise. Chronic hepatitis C was estimated to be the underlying cause of liver disease in 22 per cent of liver transplants in 2012 [1].

Deaths from primary liver cancer in Australia are rising faster than for any other type of cancer, having tripled between 1982 and 2007 [2]. Untreated hepatitis C and B infections are the major drivers of this rise in mortality [3]. The annual number of hepatitis C liver disease-related deaths had surpassed mortality related to HIV by the year 2000 and has continued to rise since.

There were a total of 10 114 new cases of hepatitis C diagnosed in 2012 [1]. Due to lack of symptoms at the time of infection, many had acquired the infection some years previously. Reported cases of newly acquired infections of hepatitis C account for less than 5 per cent of total cases; however, the number of diagnoses of newly acquired hepatitis C infection have gradually increased, from 365 in 2008 to 466 in 2012 [1].

Despite having a high diagnosis rate, at over 80 per cent, Australia has a very low treatment rate. The estimated number of people receiving treatment for hepatitis C through the Highly Specialised Drug Program declined from a peak of 3397 in 2009 to 2360 (1 per cent) in 2012 [1]. Those who achieve a sustained virological response (SVR) following hepatitis C treatment are considered to be cured; however, those who already have cirrhosis will continue to be at increased risk of liver cancer regardless of having achieved a cure.

Hepatitis C is a blood-borne virus and approximately 90 per cent of newly acquired hepatitis C infections and 80 per cent of prevalent cases in Australia are a result of unsafe injecting drug use practices. Within the population of people who inject drugs, those at particularly elevated risk of hepatitis C are

females, those with a history of incarceration, and Aboriginal and Torres Strait Islander people. Of the people who acquired hepatitis C infection due to unsafe injecting drug use practices, approximately one-third currently inject drugs and two-thirds no longer do so [5].

The burden of disease is also higher among people born overseas in endemic areas, particularly in Asia and parts of Africa and southern Europe [6]. The risk of mother-to-child transmission is around 5–6 per cent. Other risks include receipt of contaminated blood or blood products, unsafe tattooing or body piercing, and breakdowns in infection control procedures in healthcare settings. Heterosexual transmission is rare; however, more recently some cases have been attributed to unprotected sexual contact between men involving men co-infected with HIV and hepatitis C. There is no vaccine for hepatitis C and previous infection does not provide immunity to re-infection.

3. Achievements

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

Important achievements include the reduction in hepatitis C prevalence among attendees of NSPs, and relatively low levels of sharing of injecting equipment continues to be reported among respondents to the Australian NSP Survey.

Progress has been made in the development of models of care to increase the involvement of primary health care in treatment. Furthermore, two new drugs (Boceprevir and Telaprevir) associated with greatly improved cure rates of hepatitis C, were registered by the Therapeutic Goods Administration in 2012 and listed on the Pharmaceutical Benefits Scheme in April 2013.

The Hepatitis Australia *Consensus Statement: Addressing Hepatitis C in Custodial Settings* was developed to provide an evidence base and recommended actions for addressing hepatitis C in Australian custodial settings.

Continued investment occurred in behavioural, clinical, epidemiological and social research to inform policy and priority setting in the hepatitis C response, and improved systems were implemented for monitoring and surveillance of hepatitis C.

The hepatitis C sector mobilised around adopting and achieving hepatitis C targets and approaches, both in Australia and internationally, and the Auckland Statement on Viral Hepatitis 2012 is a product of this strong collaboration and commitment. This statement contains clear targets and actions to focus attention on viral hepatitis as an urgent health concern that needs immediate response to prevent new infections and stop the rising death toll from cirrhosis and liver cancer.

4. Goal, Indicators and Targets

4.1 Goal

The goal of this Strategy is to reduce the transmission of, and morbidity and mortality caused by, hepatitis C, and to minimise the personal and social impact of the epidemic.

4.2 Objectives

The Strategy has five objectives which, in combination, support achievement of the Strategy's goal. The objectives are to:

1. reduce the incidence of hepatitis C
2. reduce the risk behaviours associated with the transmission of hepatitis C
3. increase access to appropriate management and care for people with chronic hepatitis C
4. reduce the burden of disease attributed to chronic hepatitis C
5. eliminate the negative impact of stigma, discrimination, legal and human rights issues on people's health.

4.3 Targets

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

1. reduce the incidence of new hepatitis C infections by 50 per cent
2. increase the number of people receiving antiviral treatment by 50 per cent each year.

Hepatitis C virus transmission continues to occur in Australia, with new infections continuing to be identified. Halving new infections will reduce the growing disease burden attributed to chronic hepatitis C.

In Australia during 2012 the number of people accessing treatment for chronic hepatitis C had declined to 2360 [6], or approximately 1 per cent. During the life of this Strategy the number of people accessing treatment will be supported by the introduction and availability of new, more effective direct-acting antiviral treatments. Future generations will be better tolerated and more easily administered. It is expected that the uptake of treatment will increase as those people living with hepatitis C virus (HCV) who have delayed treatment initiation will take advantage of the new treatments. The target regarding improving treatment uptake may need review, in light of the availability of these advances in treatment options, during the Strategy's lifetime.

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 C 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 hepatitis C. Further limitations and gaps are discussed in section 7.6, 'Surveillance, Monitoring, Research and Evaluation'.

Objective	Indicator
Reduce the incidence of hepatitis C	Annual incidence of hepatitis C in people who inject drugs
Reduce the risk behaviours associated with the transmission of Hepatitis C	Per capita number of needles and syringes distributed in the previous calendar year
	Proportion of all injections by people who inject drugs in which a new needle and syringe was used in the previous calendar year
	Proportion of people who inject drugs reporting re-using another person's used needle and syringe in the previous month
Increase access to appropriate management and care for people with chronic hepatitis C	Proportion of people with chronic hepatitis C dispensed drugs for their infection through the Highly Specialised Drugs (Section 100) Program in the previous calendar year
	Treatment uptake for hepatitis C in people who inject drugs
Reduce burden of disease attributed to chronic hepatitis C	
Eliminate the negative impact of stigma, discrimination, and legal and human rights issues on people's health	

4.5 Implementation and Evaluation

The *Fourth National Hepatitis C Strategy 2014–2017* 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 jurisdictional governments and partners and will detail how 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 three predecessors, which have guided Australia's response to hepatitis C between 1999 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
- Third National Sexually Transmissible Infections Strategy
- Second National Hepatitis B 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 jurisdictional BBV and STI strategies and provide a framework to guide coordinated action in this area by jurisdictional 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 blood-borne viruses and sexually transmissible infections 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 [3].

Health Promotion

The Ottawa Charter for Health Promotion provides the framework for effective BBV and STI health promotion action and facilitates the active participation of affected communities and individuals to increase their influence over the determinants of their health, and the formulation and application of laws and public policies that support and encourage healthy behaviours and respect human rights.

Prevention

The transmission of HIV, STI and viral hepatitis can be prevented through the appropriate combination of evidence-based biomedical, behavioural and social approaches. Education and prevention programs, together with access to the means of prevention, are prerequisites for adopting and applying prevention measures.

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, 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

While hepatitis C is an issue for the whole of Australian society, targeting responses to priority populations is critical to maximise 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 living with hepatitis C
- people who inject drugs
- people who inject or have injected drugs from:
 - Aboriginal and Torres Strait Islander backgrounds
 - culturally and linguistically diverse backgrounds
 - young injectors and/or new initiates to injecting
 - older people
 - sex workers
- people in custodial settings.

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

Hepatitis C transmission is preventable. In Australia, most hepatitis C transmission occurs through unsafe injecting drug use practices. Effective prevention interventions can reduce hepatitis C transmission and the subsequent impact of infection on both individuals and the community. A combination of strategies is required to successfully minimise hepatitis C transmission.

Timely and appropriate hepatitis C testing allows the diagnosis of hepatitis C as soon as possible after infection. Given that people with hepatitis C are at risk of progressive liver disease, early diagnosis and linkage to treatment and support is very important. As the treatment options change and management requirements become less complex, a shift in focus from tertiary care to community and primary healthcare settings will be possible. Strategies enabling this shift will need to be implemented during the life of this Strategy.

The increase in demand for hepatitis C prevention, diagnosis, and treatment and support services has created challenges for the workforce. This demand will continue to increase as these new therapies become more widely available, and the collaborative engagement of the workforce in a multidisciplinary pathway to care for people with hepatitis C will become increasingly important.

Information from surveillance, monitoring and research is vital to improving our understanding of the hepatitis C epidemic, to design appropriate evidence-based responses, and to monitor the impact of these responses. Increasing the amount and quality of data available for hepatitis C will be necessary to adequately inform Australia's response under this Strategy.

7.1 Prevention

Priority Actions

- Increase availability, access to and use of sterile injecting equipment among people who inject drugs.
- Continue to support increased access to evidence-based harm-reduction and drug treatment programs, including NSPs, peer education and opioid pharmacotherapy programs.
- Build greater understanding of, and skills within, priority populations, healthcare professionals and the community sector as they relate to hepatitis C transmission.
- Consider the impact of new drug therapies that will cure the large majority of hepatitis C cases.

Prevention of hepatitis C transmission requires a combination of harm-reduction strategies with health promotion activities such as education and communication. Effective engagement with priority populations is necessary to ensure that these strategies are tailored to best meet the needs of these groups and reach the priority populations adequately [27].

It is estimated that 90 per cent of newly acquired hepatitis C infections in Australia are caused by unsafe injecting drug use [26]. The risk of acquiring hepatitis C is highest in the first year of injecting, highlighting the need to target activities to those who are new to injecting [13]. The drug of choice is also changing, with the injection of methamphetamines and performance and image-enhancing drugs creating new groups at risk of hepatitis C, and thus new target groups.

The principal prevention tool in Australia is the Needle and Syringe Program (NSP). The NSP is cost-efficient and highly effective in reducing transmission of hepatitis C and other BBV, such as HIV. It has been estimated that over the decade 2000–2009, NSPs directly averted 97 000 new hepatitis C infections [28].

However, the annual NSP survey shows that the rate of people re-using needles and syringes in the month prior to the survey has remained stable, at 25–28 per cent over the past five years, indicating the need to undertake more focused efforts to reduce the sharing of injecting equipment. Barriers to

the access and safe use of sterile injecting equipment in Australia are varied and include limited after-hours service availability, geographic access, and stigma and discrimination experienced by some people who inject drugs when accessing health and some NSP services.

NSPs will play a central role in increasing the availability, access to and use of sterile injecting equipment. Models currently in use should be reviewed and updated to better address the known barriers and meet the changing needs of people who inject drugs in Australia. Models should consider how best to involve peers in the distribution of NSP equipment, which has shown to be cost effective. Legislative barriers restrict some of these practices at present, and should be reviewed in light of the goal of this Strategy.

Evidence also supports the use of opioid substitution treatment (OST), in addition to NSPs, to reduce hepatitis C transmission [29]. OST is a demand-reduction strategy, with the objective of decreasing the need to inject drugs. Increasing use and access to OST in all settings is strongly supported.

A continuing and ongoing focus on the NSP and on OST is strongly supported as the success of these strategies in achieving reductions in infections require many years of sustained intervention. Their effectiveness is also dependent on being used as part of a combination of strategies [30].

Peer education has played an important role in reducing the risk of hepatitis C transmission in Australia. Peers are credible, trusted sources of information and can assist in connecting with some hard-to-reach populations by overcoming some of the physical and socio-cultural barriers. With appropriate training and support, people with or at risk of hepatitis C are well placed to communicate prevention messages. Continued peer education and support by and for people who inject drugs is needed.

Health promotion activities must continue to target injecting drug users, including education regarding prevention activities and testing, and referral and linkage to testing and clinical services. Peer networks and educators, as well as NSPs, play an important role in delivering these activities. It is also important to recognise that knowledge of hepatitis C transmission is low among the general

population and those at risk of injecting. Health promotion, education and awareness activities, which include up-to-date information about hepatitis C, transmission risk and prevention strategies (including the NSP) are also important to improve knowledge in the general community.

Aboriginal and Torres Strait Islander people are at particular risk of BBV transmission through injecting drug use. There is a significantly higher rate of diagnosis of hepatitis C among Aboriginal and Torres Strait Islander people who inject or have injected drugs. The rate of hepatitis C infection among Indigenous injecting drug users (IDU) is between three and 13 times higher than that of the non-Indigenous IDU population [28]. Furthermore, in 2012 a greater proportion of newly diagnosed HIV infections were attributable to injecting drug use in Aboriginal and Torres Strait Islander people compared to non-Indigenous people (13 per cent compared to 2 per cent) [6].

Specific efforts are therefore required to improve health promotion activities and the use of harm-reduction strategies in this population. Barriers to accessing the NSP may be exacerbated for some Aboriginal and Torres Strait Islander people who inject drugs, such as the geographic and social aspects of living in rural and remote communities, socio-economic difficulties, and high levels of stigma and discrimination. Improvements in the use of sterile injecting equipment will require specific consideration of these issues, including the implementation of peer education. The role for the peer distribution of sterile injecting equipment may also be considered in a targeted manner, as there is some evidence that Aboriginal and Torres Strait Islander people prefer obtaining sterile injecting equipment from known friends and others [31].

The prevalence of hepatitis C is disproportionately higher among people in custodial settings, due primarily to a high rate of imprisonment for drug-related offences and unsafe injecting drug use in prisons. New drug therapies which will cure the large majority of hepatitis C cases should inform future approaches.

7.2 Testing

Priority Actions

- Increase voluntary testing of hepatitis C in priority populations.
- Improve referral and access to high quality support services at the time of diagnosis for people with or at risk of hepatitis C to initiate a pathway to care.
- Assess the feasibility, accessibility and cost effectiveness of the range of existing and emerging testing methods.
- Implement targeted initiatives to improve understanding and skills related to hepatitis C testing for priority populations, healthcare professionals and services, and the community sector.

Hepatitis C is a slowly progressive disease that causes liver fibrosis, eventually going on to develop cirrhosis in 20 per cent of people and increased risk of liver failure, hepatocellular carcinoma and death [32]. Early diagnosis of chronic infection and linkage to appropriate management is necessary to reduce hepatitis C transmission, morbidity and mortality.

In Australia, approximately 80 per cent of people with hepatitis C infection have been diagnosed. However, it is estimated that 40 000 to 50 000 Australians remain unaware that they are chronically infected with hepatitis C [6].

Improving the diagnosis of people with chronic hepatitis C requires supporting hepatitis C testing in multiple settings, focused on those commonly used by priority populations such as drug and alcohol treatment services and clinics providing care to culturally and linguistically diverse populations from countries with a high prevalence of hepatitis C. Evidence supports the use of systematic comprehensive screening programs in these types of services to achieve high uptake of hepatitis C testing and assessment [33, 34, 35, 36]. Therefore, reviewing models of care used by these services to include hepatitis C testing may increase the uptake of treatment and identify people that require additional treatment and management services.

In primary healthcare settings, interventions based on targeted case-finding and risk-based assessment are more effective in increasing testing [37, 38, 39, 40]. Improvements in appropriate testing by primary healthcare professionals will require education regarding hepatitis C and the high priority subpopulations of people who inject or have injected drugs they are likely to see, such as older people and people from certain high prevalence culturally and linguistically diverse backgrounds.

Guidance on testing for hepatitis C is provided by the National Hepatitis C Testing Policy (the Policy) [41], and is based on an assessment of the presence of risk factors for transmission. The Policy, and other relevant resources, should be promoted among healthcare professionals – with a focus on those in primary healthcare – to improve delivery of best practice recommendations for screening and testing for hepatitis C. National guidance should be updated to include information on the frequency of hepatitis C testing for individuals who continue to have exposure risk.

Peer support programs offering hepatitis C education may be useful to enhance existing education activities and improve engagement in hepatitis C assessment and treatment [43, 44]. The role of peer educators and counsellors trained to undertake hepatitis C tests in helping to increase testing rates will be further explored. Such a service should be linked into peer-based drug-user organisations, community health services and NSPs.

Development of improved testing technology, including point-of-care tests, will assist in simplifying the testing process for individuals, including addressing improved access and acceptability for priority populations. These may prove particularly useful in settings commonly used by people who inject drugs. Testing strategies and models will need to be developed and reviewed to allow new testing technologies to be included as they become available.

7.3 Management, Care, Support

Priority Actions

- Improve awareness and knowledge in priority populations about treatment options.
- Support and implement appropriate models of care for primary healthcare, drug and alcohol services, health services in custodial settings, Aboriginal community-controlled health services and community health services.
- Implement strategies to increase the involvement of primary healthcare professionals in the management of people with hepatitis C.
- Implement strategies to encourage increased involvement of primary healthcare governance at the local level to ensure better integration of services.

7.3.1 Management

The successful management of hepatitis C requires a comprehensive approach. Regular monitoring is required to detect progressive liver disease and complications of infection, including liver cancer, and to guide decisions regarding antiviral treatment. Hepatitis C care plans must also address co-morbidities, risk factors that may accelerate progression of liver disease, and psychosocial care and support needs. Recent estimates from an Australian trial into hepatitis C treatment report that around 30 per cent of those who had recently acquired hepatitis C were also HIV positive [48, 49]. Hepatitis and HIV co-infection complicates care, as hepatitis C can be more severe and progress more rapidly to liver disease in people with HIV.

Many people with significant liver fibrosis would benefit from commencing treatment as soon as possible to ensure their liver disease does not progress to cirrhosis and to reduce the risk of hepatocellular carcinoma (liver cancer) or liver failure. However, we know that many people have disengaged from the healthcare sector and are not receiving ongoing management. Treatment levels are very low, at only approximately 1 per cent.

Hepatitis C treatment will change markedly during the life of this Strategy as highly effective and tolerable direct-acting antivirals become available. Treatment efficacy will be greatly improved, will involve single daily oral doses

(eventually removing the need for injections), and treatment duration will reduce substantially. The estimated number of people receiving treatment for hepatitis C infection has declined from a peak of 3397 in 2009 to 2360 in 2012 [6], possibly reflecting that people living with HCV and their clinicians are delaying treatment initiation until the newer treatments are available. It is anticipated that the new treatments will increase demand from those living with hepatitis C, and this has implications for the ways in which the health system must adapt.

Models of care should adapt to take advantage of the opportunities offered by these treatment advances. These models will need to provide increased options for assessment of liver disease outside of specialist settings, and could consider healthcare settings commonly used by priority populations, such as drug and alcohol treatment services, custodial settings, and some Aboriginal community-controlled health services. This must be accompanied by strategies to improve access to the tools necessary for assessment, including access to the non-invasive diagnostic tools for assessing liver disease severity, which currently has limited availability beyond specialist services.

As treatment duration decreases and drug tolerances improve, transitioning treatment from specialist tertiary-based healthcare settings to more involvement of primary healthcare professionals will become important. State and territory governments and clinical research centres, in partnership, have been developing models of care based on shared care across specialist facilities and primary health care. As for increasing assessment options, the expansion of treatment provision could also be considered in health settings commonly used by priority populations such as drug and alcohol treatment clinics [45]. This shift in treatment responsibilities must be accompanied by careful monitoring of treatment effectiveness, safety and impact.

To support this transition, efforts will be needed to increase the involvement of primary health care while sustaining those already participating in the process. Primary healthcare governance at the local level provides an opportunity to improve engagement with primary healthcare organisations and practitioners, including general practitioners, and to better target the delivery of appropriate services. These networks will be important to improving the integration of all services necessary for appropriate hepatitis C management, providing a smoother pathway for people living with hepatitis C.

Aboriginal and Torres Strait Islander people have a higher rate of hepatitis C and lower rates of treatment than non-Indigenous Australians. Specific efforts are required to improve management and treatment in these communities. Models developed to increase the involvement of primary healthcare providers and other services should include Aboriginal community-controlled health services and other Indigenous-specific services.

7.3.2 Care and Support

Comprehensive management of hepatitis C requires all aspects of care and support to be addressed. This necessitates the appropriate referral and linkage to services such as drug and alcohol, community health, and mental health services where appropriate.

The provision of information and education to people living with hepatitis C is essential to supporting beneficial lifestyle choices, safe behaviours, and management choices. Importantly, improvements in management and treatment uptake will only be seen if the advances in treatment options are accompanied by appropriate information and education for the priority populations. People must be given the opportunity to re-link in with the health sector, and take advantage of these new treatments as appropriate. Community-based organisations and peer groups are essential to delivering this.

Peer support plays an important role across all aspects of hepatitis C prevention, testing and management. Several jurisdictions have combined peer support in hepatitis C models of care in some settings, and these findings should be used to inform the future. In addition to improving and increasing the engagement of the main priority populations, peer support is an important strategy to improve the uptake and completion of hepatitis C treatment. The partnership with community-based organisations is crucial to the development and ongoing evaluation of these peer-based support components.

Studies have indicated that people who inject drugs are ageing. Over the long term, people who inject drugs experience health conditions not experienced by people of the same age who do not inject drugs, and people who inject report considerable difficulties in accessing health and welfare services [50]. The increasing number of older people who inject drugs have particular needs that will need to be addressed by treatment, support and care services.

Custodial settings have the potential to be a focal point for hepatitis C testing, education and treatment. While hepatitis C treatment services are available for people in some custodial settings, they are not consistently available nationally. Continuity of care for people in custodial settings can be challenging as hepatitis C treatment requires coordination between justice and health systems.

7.4 Workforce

Priority Actions

- Improve awareness and knowledge of hepatitis C in the health workforce.
- Provide the primary healthcare workforce with support and mentorship to ensure successful testing, management and treatment in primary healthcare.
- Support community organisations and the healthcare workforce to increase appropriate engagement with priority populations to improve health literacy and maximise health.

To meet the goals of this Strategy the provision of appropriate management and care for people living with hepatitis C must be expanded beyond liver clinics in tertiary healthcare settings. New treatments available during the life of this Strategy are expected to result in a rise in the number of people living with hepatitis C wanting to access health services. New approaches and the adaptation of models of care to address this will have significant implications for the health and community-based workforce. Multiple organisations and practitioner groups will need to be involved to ensure equitable access through multiple pathways to care.

Increasing the awareness and knowledge of the healthcare workforce will be essential to improving health outcomes for people living with hepatitis C. Specific education and support for general practitioners and primary healthcare nurses regarding hepatitis C transmission, diagnosis, assessment and management will be needed to build confidence and capacity in primary healthcare settings. Current programs, such as the hepatitis C community prescriber program, will need to be reviewed, adapted and expanded as appropriate as the treatment environment changes.

The health workforce within settings commonly used by priority populations must also be targeted for education and support. This will include specialists working in infectious disease, and drug and alcohol treatment, as well as HIV prescribers.

Some high-priority subpopulations may not readily access services where the majority of hepatitis C treatment will be provided. People with hepatitis C from culturally and linguistically diverse backgrounds, Aboriginal and Torres Strait Islander people and young people have special needs in relation to accessing hepatitis C treatment and care. Targeted training is required in services that see priority populations for hepatitis C to enable the delivery of appropriate services.

Establishing partnerships between key organisations, including Aboriginal community-controlled health services, specific community groups, and other health and community organisations will be essential for targeting the approach to raise awareness, increase testing and support appropriate management at the local level.

As those most at risk of and living with hepatitis C, people who inject or have injected drugs, and people living with HCV can play a role in workforce education, particularly in relation to addressing the stigma and discrimination barriers to accessing treatment, care and support.

7.5 Enabling Environment

Priority Actions

- Explore the development of a national hepatitis C public education campaign.
- Create supportive and enabling environments, promote the health and rights of those living with or at risk of hepatitis C, and support access to hepatitis C prevention, treatment and care services.
- Identify and work to address legal barriers to evidence-based prevention activities across jurisdictions.
- Support the implementation and expansion of post-release testing, management and treatment programs for priority populations in custodial settings.

An enabling policy and legal environment that addresses criminalisation, stigma, and discrimination and human rights issues will help to increase access to services and improve the health and lives of people with hepatitis C.

People from affected communities require protection from multiple forms of discrimination [51], not only because they may be thought to be living with a blood-borne virus but also because of the stigma they may suffer because of their vulnerable status [52]. The report by the NSW Anti-Discrimination Board into hepatitis C discrimination noted the serious, ongoing impact of discrimination in the lives of many, and the very close association of hepatitis C with injecting drug use.

People living with and at risk of hepatitis C experience discrimination within the healthcare system, in employment and social networks [53,54,55,56]. Discrimination is a barrier to accessing information, prevention, support, testing, treatment and care [56,57,58]. Development of education and awareness activities to dispel the myths and misconceptions around hepatitis C, and to reduce the prevalence of discriminatory attitudes and behaviour, will be explored.

Although individuals from all cultural and socio-economic groups in Australian society use illicit drugs, drug-related illnesses and death are disproportionately higher among people living in poverty, Aboriginal and Torres Strait Islander people and those from culturally and linguistically diverse backgrounds.

Research examining hepatitis C-related discrimination has demonstrated that poor attitudes towards people with a history of injecting drug use creates barriers to accessing critical health and social services [59]. In particular, concerns about having to identify as a person who injects drugs, and the resultant stigma and discrimination, have been identified as common barriers to accessing NSPs [55]. As long as the position of injecting drug use remains so highly stigmatised there is a need to provide users with a range of options to access sterile injecting equipment to respect and facilitate people's preferences for access.

In some settings, most notably custodial settings, aspects of social disadvantage are clearly compounded, with Aboriginal and Torres Strait Islander people representing a significantly higher rate of incarceration. The prevalence of hepatitis C is disproportionately high in custodial settings due to a high rate of imprisonment for drug related offences, and unsafe injecting drug use. Up to two-thirds of females in custodial settings are hepatitis C infected, compared to

one-third of their male counterparts, and 43 per cent of Aboriginal and Torres Strait Islander people in custodial settings screened are infected with hepatitis C, compared with 33 per cent of non-Indigenous detainees [60].

Access to health prevention information and health services is improved where supporting and enabling environments are created that are free of discrimination and stigma that can prevent priority populations from effectively accessing prevention, treatment and care services.

Hepatitis C prevention, treatment and care provision varies across custodial settings in Australia. However, through custodial settings people at high risk of infection can gain access to education, diagnosis and treatment, as well as screening for other BBV. The delivery of prevention, treatment and care for hepatitis C in custodial settings has been monitored against the *Hepatitis C Prevention, Treatment and Care: Guidelines for Australian Custodial Settings* in the last few years. Ongoing monitoring of the implementation of these guidelines is strongly supported.

Partnerships with drug and alcohol and NSP services which engage prisons post-release, particularly for Aboriginal and Torres Strait Islander people, should be supported to increase access to testing, treatment and management of people with hepatitis C.

A whole-of-government response is required to maximise the efforts to prevent the transmission of BBV, including HIV and hepatitis C, to enable the human rights of people who inject drugs. Promoting cross-sectional links is required to ensure consistent approaches and coordinated responses between justice (police, attorneys-general, custodial staff and management) and health agencies (government, medical profession, and community sector).

7.6 Surveillance, Monitoring, Research and Evaluation

Priority Actions

- Strengthen the hepatitis C component of the National BBV & STI Surveillance and Monitoring Plan.
- Improve our understanding of the burden of disease attributable to hepatitis C and the associated risk factors.
- Develop appropriate evidence-based public health responses and evaluate the impact of these programs on the increasing morbidity and mortality due to hepatitis C.
- Promote balance in research to take account of social, behavioural, epidemiological and clinical research to better inform all aspects of the response.
- Evaluate health promotion, testing, treatment, care, support and education and awareness programs and activities to ensure they are effective.

7.6.1 Surveillance and Monitoring

Information from research and surveillance is vital to our ability to understand the hepatitis C epidemic and design responses to it. Existing national hepatitis C surveillance systems need to be improved to provide accurate data to inform the planning and delivery of prevention and disease management options. This work will be progressed through strengthening of the *National BBV and STI Surveillance and Monitoring Plan*.

Gaps have been identified in the ability to monitor the implementation and measure the success of this Strategy against the objectives and targets. Several indicators rely on denominator data derived from modelling, which has significant limitations. To allow more reliable measures of incidence, access to sterile injecting equipment, and treatment coverage, these estimates require updating.

There is a gap in the ability to report reliably on disease-related mortality and morbidity attributed to chronic hepatitis C infection nationally. There is an urgent need to consider and develop an appropriate indicator, given the public health disease burden attributable to hepatitis C. Consideration could be given to indicators that report on hospitalisations or the number of deaths attributed to hepatitis C, and the proportion of liver cancer attributable to hepatitis C.

Indicators for the management and treatment of hepatitis C would benefit from review and updating during the life of the Strategy, particularly as treatments and management changes. A measure of comprehensive management should be considered, such as the proportion of people with hepatitis C on care plans.

The Australian Needle and Syringe Program Survey currently provides valuable annual estimations of point prevalence to monitor changes over time in patterns of HCV (and HIV) antibody prevalence and risk behaviours among NSP clients. There is significant benefit in improving annual incidence measures of HCV through prioritising testing and reporting on hepatitis C virus RNA as part of this program.

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.

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 hepatitis C. Research is needed to investigate the impact of hepatitis C in priority populations and communities. It must be linked to the needs of affected communities, particularly people who inject or have injected drugs.

There are a broad range of research areas contributing to reducing the transmission and impact of hepatitis C, including virology, epidemiology, clinical research, and social and behavioural research. Collaboration between these research areas and people at risk of and living with hepatitis C can expand our understanding of the epidemic. Antiviral resistance must also be monitored and researched for the new direct acting antivirals.

Even with the advent of new therapies, a vaccine for hepatitis C is of critical importance to prevent hepatitis C transmission and to enhance current prevention strategies. Research in this area, including research into means of implementing vaccine delivery and issues such as acceptability and likelihood of uptake by those most affected, will be an essential element to significantly reducing the transmission of hepatitis C.

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

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 under the previous hepatitis C strategies and by state and territory, professional 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.

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Appendix: Priority Populations

Priority Population	Reasons for Priority Status	Issues and considerations	Additional focus
People living with hepatitis C	<p>An estimated 230 000 people in Australia living with chronic hepatitis C.¹</p> <p>Undiagnosed chronic hepatitis C can lead to progressive liver disease and associated morbidity and treatment complications.</p>	<p>The stigma and discrimination associated with hepatitis C infection and injecting drug use may impact upon many aspects of life, including decisions about accessing health services.</p> <p>People exposed to hepatitis C through injecting drug use who no longer inject drugs may not recognise their exposure risk and may have undiagnosed hepatitis C.</p> <p>For people with co-morbidities, one treatment regimen may exacerbate another disorder.</p>	<p>People who inject or have injected drugs</p> <p>Older people who inject or have injected drugs</p> <p>People with hepatitis C with co-morbidities</p> <p>People with undiagnosed hepatitis C</p> <p>Aboriginal and Torres Strait Islander people</p> <p>People from culturally and linguistically diverse backgrounds</p>
People who inject drugs	<p>Highest priority population at risk of hepatitis C infection.</p> <p>Approximately 90 per cent of new and 80 per cent of existing hepatitis C infections attributable to sterile injecting drug use.</p>	<p>Stigma associated with injecting drug use,</p> <p>Concerns about admitting to illegal injecting drug use,</p> <p>Access to harm reduction services and injecting equipment and peer education.</p>	<p>People in custodial settings who inject drugs,</p> <p>Aboriginal and Torres Strait Islander people who inject drugs,</p> <p>People from culturally and linguistically diverse backgrounds who inject drugs,</p> <p>People at risk of hepatitis C infection as new or potential injectors,</p> <p>Women who inject drugs,</p>

Priority Population	Reasons for Priority Status	Issues and considerations	Additional focus
People in custodial settings	<p>The prevalence of hepatitis C infection among male inmates is estimated to be 35–47 per cent, and 50–70 per cent in women.</p> <p>Increased risk due to systemic behaviours, such as use of non-sterile injecting equipment, and sharing of tattooing and piercing equipment and other blood-to-blood contact.</p>	<p>Access to harm-reduction services and equipment can be limited,</p> <p>There is no systematic surveillance for hepatitis C in custodial settings.</p> <p>Low rates of hepatitis C testing uptake among prisoners at reception and limited uptake of best practice testing algorithms have the potential to contribute to transmissions and act as barriers to appropriate care.</p> <p>Access to treatment is difficult, and exit screening for hepatitis C is not as high as entry screening in people in custodial settings.</p>	<p>Prisoners who inject drugs.</p> <p>Aboriginal and Torres Strait Islander people in custodial settings.</p> <p>Women in custodial settings.</p>
Sex workers	<p>Increased or potentially increased exposure to the hepatitis C virus.</p> <p>Lack of high quality data.</p>	<p>Legal and regulatory frameworks, including criminalisation, licensing, registration.</p> <p>Lack of consistent and effective anti-discrimination protections.</p>	Sex workers who inject or have injected drugs.

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