

# *National Blood-borne Viruses and Sexually Transmissible Infections Surveillance and Monitoring Plan 2018-2022*

*Prepared through the Communicable Diseases Network Australia (CDNA)*

*Noted by the Australian Health Protection Principal Committee (AHPPC)*

## Revision History

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1.0	17 February 2020	Developed by the Office of Health Protection in collaboration with the National Bloodborne Virus and Sexually Transmissible Infections Surveillance Sub-Committee of CDNA	Original  Endorsed by CDNA: 14 May 2020  Noted by AHPPC: 25 May 2020

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## Background

The *National Blood-borne Viruses (BBV) and Sexually Transmissible Infections (STI) Surveillance and Monitoring Plan 2018-2022* (the Plan) supports the *National BBV and STI Strategies 2018-22* (National Strategies). The Plan monitors progress towards achieving the targets of the National Strategies.

### *National BBV and STI Strategies 2018-2022*

In November 2018, the Minister for Health, the Hon Greg Hunt MP launched the National Strategies. The National Strategies are endorsed by all Australian Health Ministers and sets the direction for a coordinated, national response to HIV, hepatitis B, hepatitis C and STI in the Australian population. The National Strategies provide a framework for action and accountability with objectives to scale up prevention, testing, management, care and support for people living with and at risk of BBV and STI.

The goals of the National Strategies are to reduce transmission of HIV, STIs, hepatitis B and hepatitis C, and to reduce the morbidity, mortality and personal and social impacts they cause. Each of the National Strategies contains a set of targets for monitoring progress towards these goals.

## Implementation and Governance

The Plan and the *Implementation and Evaluation Plan 2018-2022* (the Implementation Plan) provide a framework to support achieving the priority actions and targets of the National Strategies.

The Plan was developed through the National BBV and STI Surveillance Sub-Committee (NBBVSTISSC) an expert committee of the Communicable Diseases Network Australia (CDNA) and noted by Australian Health Protection Principal Committee (AHPPC). The NBBVSTISSC is responsible for overseeing the Plan and reporting progress to CDNA.

## Purpose and overview of the document

The Plan outlines the indicators that are used to monitor progress towards achieving the targets in each of the National Strategies.

The Plan is divided into five sub-sections, reflecting the five National Strategies. Within each of these sub-sections the targets have been numbered under which the related indicators and how each indicator will be measured ('reporting against the indicator') are presented. A consolidated table of targets and related indicators from all of the National Strategies detailing the data custodian and data availability is at [Appendix A](#).

It is important to note that the programs mentioned in the Plan were operational at the time of writing. Inclusion of programs in the Plan does not denote funding from the Australian Government Department of Health.

## Review

The Plan will be reviewed periodically to ensure currency and alignment with the National Strategies and will be updated as appropriate to reflect new data sources and changes to existing systems and programs. The review will be led by the Australian Government Department of Health in consultation with the NBBVSTISSC.

## Reporting

The Kirby Institute at the University of New South Wales will produce a report annually, published at the end of each calendar year, on the progress towards achieving the targets of the National Strategies. Reporting on progress under the Plan will complement reporting against the Implementation Plan.

## Abbreviations

ABS	Australian Bureau of Statistics
ACCHS	Aboriginal Community Controlled Health Services
ACCESS	Australian Collaboration for Coordinated Enhanced Sentinel Surveillance of STIs and BBVs
AIR	Australian Immunisation Register
AHOD	Australian HIV Observational Database
AHPPC	Australian Health Protection Principal Committee
AMS	Aboriginal Medical Services
ANSPS	Australian Needle and Syringe Program Survey
ANZLTR	Australian and New Zealand Liver Transplant Registry
APSU	Australian Paediatric Surveillance Unit
ARCSHS	Australian Research Centre in Sex, Health and Society
ART	Antiretroviral Therapy
ASHM	Australasian Society for HIV, Viral Hepatitis and Sexual Health Medicine
AuSSA	Australian Survey of Social Attitudes
BBV	Blood-borne Viruses
BBVSS	The Blood-borne Viruses and Sexually Transmissible Infection Subcommittee
CDNA	Communicable Diseases Network Australia
CHB	Chronic hepatitis B
CHC	Chronic hepatitis C
CLAIC	Condom-less anal intercourse with casual partners
CSRH	Centre for Social Research in Health
ECDC	European Centre for Disease Prevention and Control
GCPS	Gay Community Periodic Survey
GOANNA	Sexual Health and Relationships in Young Aboriginal and Torres Strait Islander people
HBV	Hepatitis B
HCV	Hepatitis C
HIV	Human Immunodeficiency Virus
HPV	Human Papillomavirus
MBS	Medicare Benefits Scheme
MSM	Men who have sex with men
NBBVSTISSC committee	National Blood-borne Virus and Sexually Transmissible Infections Surveillance Sub-
NIP	National Immunisation Program
NNDSS	National Notifiable Diseases Surveillance System
NSP	Needle and Syringe Program
OHP	Office of Health Protection

PBS	Pharmaceutical Benefits Scheme
PrEP	Pre-Exposure Prophylaxis
PWID	People Who Inject Drugs
SSASH	National Survey of Australian Secondary Students & Sexual Health
STI	Sexually Transmissible Infections
UAI	Unprotected Anal Intercourse
VIDRL	Victorian Infectious Diseases Reference Laboratory
WHO	World Health Organization

# Strategies and targets

## **1. *National Hepatitis B Strategy***

- 1.1. Achieve and maintain hepatitis B childhood vaccination coverage of 95% at 12 and 24 months.
- 1.2. Reduce the number of newly acquired hepatitis B infections across all age groups by 50% with a focus on priority populations.
- 1.3. Increase the proportion of people living with chronic hepatitis B who are diagnosed to 80%.
- 1.4. For people living with chronic hepatitis B, increase the proportion receiving antiviral treatment to 20%.
- 1.5. Increase the total proportion of people living with chronic hepatitis B receiving care to 50%.
- 1.6. Reduce hepatitis B attributable mortality by 30%.
- 1.7. Minimise the reported experience of stigma among people living with hepatitis B, and the expression of stigma, in respect to hepatitis B status.

## **2. *National Hepatitis C Strategy***

- 2.1. Reduce the number of newly acquired hepatitis C infections, with a focus on priority populations, by 60%.
- 2.2. Increase the proportion of people living with hepatitis C who are diagnosed to 90%.
- 2.3. Increase the cumulative proportion of people living with chronic hepatitis C who have initiated direct-acting antiviral treatment to 65%.
- 2.4. Reduce hepatitis C attributable mortality overall by 65%.
- 2.5. Reduce by 50 % the reported experience of stigma among people living with hepatitis C, and the expression of stigma, in respect to hepatitis C status.

## **3. *National Sexually Transmissible Infections Strategy***

- 3.1. Achieve and maintain human papillomavirus adolescent vaccination coverage of 80%.
- 3.2. Reduce the prevalence of gonorrhoea, chlamydia and infectious syphilis.
- 3.3. Increase STI testing coverage in priority populations.
- 3.4. Eliminate congenital syphilis.
- 3.5. Minimise the reported experience and expression of stigma in relation to STI.

## **4. *National HIV Strategy***

- 4.1. Increase the proportion of people with HIV (in all priority populations) who are diagnosed to 95%.
- 4.2. Increase the proportion of people diagnosed with HIV on treatment to 95%.
- 4.3. Increase the proportion of those on treatment with an undetectable viral load to 95%.
- 4.4. Reduce the incidence of HIV transmissions in men who have sex with men.

- 4.5. Reduce the incidence of HIV transmission in other priority populations.
  - 4.6. Sustain the virtual elimination of HIV among sex workers, among people who inject drugs and from mother to child through the maintenance of effective prevention programs.
  - 4.7. Increase the proportion of eligible people who are on PrEP, in combination with STI prevention and testing to 75%.
  - 4.8. 75% of people with HIV report good quality of life.
  - 4.9. Reduce by 75% the reported experience of stigma among people with HIV, and expression of stigma, in relation to HIV status.
- 5. *National Aboriginal and Torres Strait Islander Blood-borne Viruses and Sexually Transmissible Infections Strategy***
- 5.1. Achieve and maintain hepatitis B childhood vaccination coverage of 95% at 12 and 24 months.
  - 5.2. Achieve and maintain HPV adolescent vaccination coverage of 80%.
  - 5.3. Increase STI testing coverage with a focus on areas of highest need.
  - 5.4. Increase the use of sterile injecting equipment for every injecting episode.
  - 5.5. Reduce the incidence and prevalence of infectious syphilis, with a particular focus on areas of highest disease burden.
  - 5.6. Eliminate congenital syphilis.
  - 5.7. Reduce the incidence and prevalence of gonorrhoea and chlamydia, with a focus on young people.
  - 5.8. Reduce the number of newly acquired hepatitis C infections by 60%.
  - 5.9. Reduce the incidence of HIV transmissions.
  - 5.10. Achieve the 95–95–95 HIV diagnosis and treatment targets:
    - a. Increase to 95% the percentage of people with HIV who are diagnosed;
    - b. Increase to 95% the percentage of people diagnosed with HIV on treatment;
    - c. Increase to 95% the percentage of those on treatment with an undetectable viral load.
  - 5.11. Increase the proportion of people living with hepatitis C who are diagnosed to 90% and the cumulative proportion who have initiated direct acting antiviral treatment to 65%.
  - 5.12. Increase the proportion of people living with hepatitis B who are diagnosed to 80%; receiving care to 50%; and on antiviral treatment to 20%.
  - 5.13. Reduce hepatitis C attributable mortality by 65%.
  - 5.14. Reduce hepatitis B attributable mortality by 30%.
  - 5.15. Reduce the reported experience of stigma among Aboriginal and Torres Strait Islander people with BBV and STI, and the expression of stigma, in relation to BBV and STI status.



# 1. National Hepatitis B Strategy

The goals of the Third National Hepatitis B Strategy are to:

- Make significant progress towards eliminating hepatitis B as a public health threat
- Reduce mortality and morbidity related to hepatitis B
- Eliminate the negative impact of stigma, discrimination, and legal and human rights issues on people's health
- Minimise the personal and social impact of hepatitis B.

## Targets – Hepatitis B

The seven targets in the National Hepatitis Strategy provide a specific focus for the efforts made towards achieving the goals of this Strategy:

- 1.1 Achieve and maintain hepatitis B childhood vaccination coverage of 95% at 12 and 24 months
- 1.2 Reduce the number of newly acquired hepatitis B infections across all age groups by 50 %, with a focus on priority populations
- 1.3 Increase the proportion of people living with chronic hepatitis B who are diagnosed to 80%
- 1.4 Increase the total proportion of people living with chronic hepatitis B receiving care to 50%
- 1.5 For people living with chronic hepatitis B, increase the proportion of people receiving antiviral treatment to 20%
- 1.6 Reduce hepatitis B attributable mortality by 30%
- 1.7 Minimise the reported experience of stigma among people living with hepatitis B, and the expression of stigma, in respect to hepatitis B status.

Indicators to monitor progress towards achieving the goals targets are presented under the seven sub-headings below representing the specific targets.

## 1.1. Achieve and maintain high levels of hepatitis B childhood vaccination coverage of 95% at 12 and 24 months of age

### Indicator/s

- Coverage of hepatitis B vaccination of children at 12 and 24 months of age.

### Indicator notes

#### Vaccination coverage in children

The Australian Immunisation Register (AIR) is a national register, maintained by the Australian Government Department, Services Australia that can record vaccinations for people of all ages given by a registered vaccination provider.

Hepatitis B vaccination is recommended for infants and children in a 4 dose schedule at birth, 2, 4 and 6 months of age, and is provided under the National Immunisation Program. Doses delivered on or before a child's 1<sup>st</sup> and 2<sup>nd</sup> birthday will be considered when calculating vaccination coverage for children aged 12 and 24 months of age, noting there is a minimum 3-month lag time for immunisation notifications to AIR<sup>a</sup>.

Hepatitis B vaccination records are reported to the AIR by providers which then allows the data to be used for program monitoring and evaluation. Data are reviewed regularly with coverage estimates frequently reported and published.

### Reporting against indicators

#### Coverage of hepatitis B vaccination at 12 months of age

Indicator components	Source	Description	Custodian/stakeholder	Availability of data for reporting
Numerator	AIR	Number of children who have the recommended number of doses by 12 months of age as indicated in the Australian Immunisation Handbook <sup>b</sup>	Services Australia	Quarterly
Denominator	AIR	Total number of children 12 months of age registered in AIR <sup>c</sup>	Services Australia	Quarterly <sup>d</sup>

#### Coverage of hepatitis B vaccination at 24 months of age

Indicator components	Source	Description	Custodian/stakeholder	Availability of data for reporting
Numerator	AIR	Number of children who have the recommended number of doses by 24 months of age as indicated in the Australian Immunisation Handbook <sup>b</sup>	Services Australia	Quarterly
Denominator	AIR	Total number of children 24 months of age registered in AIR <sup>c</sup>	Services Australia	Quarterly <sup>d</sup>

<sup>a</sup> Birth dose of Hepatitis B is not considered when calculating 12 and 24 month old coverage rates.

<sup>b</sup> Australian Immunisation Handbook: <https://immunisationhandbook.health.gov.au/>

<sup>c</sup> Individuals are automatically registered for AIR when enrolled in Medicare.

<sup>d</sup> Count of individuals registered for AIR at the same point in time as the numerator.

## 1.2. Reduce newly acquired hepatitis B infections across all age groups by 50% with a focus on priority populations

### Indicator/s

- Annual rate of newly acquired hepatitis B notifications.

### Indicator notes

Hepatitis B is a nationally notifiable disease. De-identified data are provided daily by all jurisdictions to the National Notifiable Disease Surveillance System (NNDSS). The NNDSS is managed by the Australian Government Department of Health under the provisions of the National Health Security Agreement (2008) which is underpinned by the *National Health Security Act (2007)*.<sup>1</sup> Hepatitis B cases are notified as either newly acquired, where evidence was available that the infection was acquired within 24 months prior to diagnosis; or unspecified, where the infection was acquired more than 24 months prior diagnosis or the period of infection is unspecified.

Determination of a case as newly acquired is reliant on public health follow-up and the availability of previous serology test results, with the method and intensity of follow-up varying by jurisdiction and over time. Notified cases (newly acquired and unspecified) over time do not solely reflect changes in disease prevalence. Changes in testing policies; screening programs, including preferential testing of high-risk populations; the use of less invasive and more sensitive diagnostic tests; and periodic awareness campaigns, may influence the number of notifications (both newly acquired and unspecified) that are received over time.<sup>2</sup>

Another major limitation of the notification data is that they represent only a proportion of the total cases occurring in the community, that is, only those cases for which health care was sought, a test conducted and a diagnosis made, followed by a notification to health authorities. The degree of under-representation of all cases is unknown but is most likely variable by jurisdiction.

### Hepatitis B enhanced data – priority populations

Enhanced hepatitis B data (newly acquired cases only) are collected against nationally agreed data specifications and reported, by some jurisdictions, to NNDSS. These data are collected in addition to the core dataset, and are analysed and reported in the annual reports for the Kirby Institute and the NNDSS. Enhanced data fields for hepatitis B include:

- Injecting drug use as a risk factor;
- Other risk factors (e.g. imprisonment);
- Country of birth.

These enhanced data are important as they allow valid inferences to be drawn from the core dataset. The surveillance of and identification of high-risk populations, including people who inject drugs and people from high prevalence countries, is essential for informing intervention strategies. Completion of these fields is variable by jurisdiction and is reliant on public health follow-up.

**Reporting against indicator****Annual rate of newly acquired hepatitis B notifications**

<b>Indicator components</b>	<b>Source</b>	<b>Description</b>	<b>Custodian/ stakeholder</b>	<b>Availability of data for reporting</b>
<b>Numerator</b>	NNDSS	Number of newly acquired hepatitis B notifications reported to NNDSS	Department of Health	As required ('live' data <sup>e</sup> )
<b>Denominator</b>	ABS	Australian population estimates reported by the ABS	Australian Bureau of Statistics	Quarterly <sup>f</sup>

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<sup>e</sup> Data are transmitted at least once a day from jurisdictions to the NNDSS however there may be a delay between patient diagnosis and reporting to the NNDSS.

<sup>f</sup> Population estimates by sex for Australia and each of the states and territories are published quarterly as at 31 March, 30 June, 30 September and 31 December in [Australian Demographic Statistics](#) (cat. no. 3101.0).

### 1.3. Increase the proportion of people living with chronic hepatitis B who have been diagnosed to 80%

#### Indicator/s

- Estimated proportion of people with chronic hepatitis B who have been diagnosed.
- Annual rate of hepatitis B notifications (unspecified and newly acquired).
- Proportion of people entering custodial settings with evidence of past or current hepatitis B infection.

#### Indicator notes

##### *Proportion of people diagnosed*

Diagnosis is the essential first step for a person living with chronic hepatitis B (CHB) to engage in clinical care for their condition. The estimate of the number of people who have been diagnosed is based on the number of unspecified hepatitis B cases notified to the NNDSS.

Estimates of the total number of people living with CHB, have been derived using a deterministic compartmental mathematical model of hepatitis B infection in the Australian population from 1951-2050. The model was parameterised using a wide range of data sources including population data from the ABS, existing mathematical models, surveillance notifications, epidemiological research and clinical studies. Important factors such as migration, attributable and all-cause mortality, the ageing of the population, the variable natural history of CHB infection and the impact of vaccination were incorporated.<sup>3,4</sup>

These modelled data are reliant on the reliability of underlying source data and assumptions, and missing data in historical surveillance datasets limit ability to estimate this indicator at a jurisdictional level. The estimation of this indicator at a whole of population level eliminates many of the biases inherent in estimating access to diagnosis in a select group of the affected population, however these estimates could be enhanced through comparison with data derived from clinical cohorts of people living with, or at risk of, CHB in Australia.

##### *Notifications (prevalence of hepatitis B)*

Refer to indicator notes in [section 1.2](#) for notes on hepatitis B notifications.

##### *People in custodial settings (past and current hepatitis B infection)*

People in custodial settings are at a heightened risk of hepatitis B transmission due to the high prevalence of hepatitis B among prisoners and increased possibility of exposure risks associated with transmission, such as tattooing, fighting and other blood contact.<sup>5</sup> The National Prison Entrants' Blood-borne Virus Survey (NPEBBVS), in its fifth iteration at the time this surveillance plan was developed, provides an estimate of hepatitis B (and other bloodborne viruses) among prison entrants across six jurisdictions. The survey is conducted over a two week period triennially, with participants screened for hepatitis B core antibody (and other markers for bloodborne viruses and STI) and asked to complete a questionnaire on risk behaviours (including injecting behaviour and drug use) and hepatitis B immunisation.

#### Reporting against indicators

##### Estimated proportion of people with chronic hepatitis B who have been diagnosed

Indicator components	Source	Description	Custodian/stakeholder	Availability of data for reporting
<b>Numerator</b>	NNDSS	Cumulative number of unspecified hepatitis B notifications reported to NNDSS	Department of Health	As required ('live' data <sup>g</sup> )
<b>Denominator</b>	Doherty Institute	Modelled estimates of the number of people living with CHB	Doherty Institute	Annually

<sup>g</sup> Data are transmitted at least once a day from jurisdictions to the NNDSS however there may be a delay between patient diagnosis and reporting to NNDSS.

**Annual rate of hepatitis B notifications (newly acquired and unspecified)**

<b>Indicator components</b>	<b>Source</b>	<b>Description</b>	<b>Custodian/ stakeholder</b>	<b>Availability of data for reporting</b>
<b>Numerator</b>	NNDSS	Number of notifications of hepatitis B (newly acquired and unspecified) reported to NNDSS	Department of Health	As required ('live' data <sup>h</sup> )
<b>Denominator</b>	ABS	Australian population reported by the ABS	Australian Bureau of Statistics	Quarterly <sup>i</sup>

**Proportion of people entering custodial settings with evidence of past or present hepatitis B infection**

<b>Indicator components</b>	<b>Source</b>	<b>Description</b>	<b>Custodian/ stakeholder</b>	<b>Availability of data for reporting</b>
<b>Numerator</b>	NPEBBVS	Number of respondents hepatitis B core antibody positive	Kirby Institute	Triennially
<b>Denominator</b>	NPEBBVS	Total number of respondents	Kirby Institute	Triennially

<sup>h</sup> Data are transmitted at least once a day from jurisdictions to the NNDSS however there may be a delay between patient diagnosis and reporting to the NNDSS.

<sup>i</sup> Population estimates by sex for Australia and each of the states and territories are published quarterly as at 31 March, 30 June, 30 September and 31 December in [Australian Demographic Statistics](#) (cat. no. 3101.0).

## 1.4. Increase the total proportion of people living with chronic hepatitis B receiving care to 50%

### Indicator/s

- Proportion of people with chronic hepatitis B who were in care.
- Proportion of people with chronic hepatitis B not on treatment who had:
  - ever had a viral load test
  - a viral load test in the previous 12 months
  - a viral load test in the previous 24 months.

### Indicator notes

Monitoring data for hepatitis B represent the number of individuals who received a viral load test through the Medicare Benefits Schedule (MBS) in a given year while not receiving any treatment items through the Pharmaceutical Benefits Scheme (PBS) in the past 12 months, in order to identify those undergoing off-treatment monitoring separately from those monitored during treatment. This number was then combined with the number of individuals who were receiving treatment (see *antiviral treatment* in [section 1.5](#)), to generate the number in care.<sup>4</sup> It is important to note that not all people with chronic hepatitis B (CHB) require annual hepatitis B viral load testing and thus the proportion of people with CHB in care is likely to be an underestimate.

### Reporting against indicators

#### Proportion of people with chronic hepatitis B who were in care for CHB

Indicator components	Source	Description	Custodian/stakeholder	Availability of data for reporting
<b>Numerator</b>	PBS and MBS	Number of people who received a viral load test (not receiving treatment) and number of people dispensed drugs for CHB	Services Australia	Annually
<b>Denominator</b>	Modelling data	Modelled estimate of the number of people living with CHB	Doherty Institute	Annually

#### Proportion of people with chronic hepatitis B not on treatment who had a viral load test

Indicator components	Source	Description	Custodian/stakeholder	Availability of data for reporting
<b>Ever had a viral load test</b>				
<b>Numerator</b>	MBS	Number of people not receiving treatment for CHB who received a viral load test	Services Australia	Annually
<b>Denominator</b>	Modelling data	Modelled estimate of the number of people living with CHB not on treatment	Doherty Institute	Annually
<b>Had a viral load test in the previous 12 months</b>				
<b>Numerator</b>	MBS	Number of people not receiving treatment for CHB who received a viral load test in the previous 12 months	Services Australia	Annually
<b>Denominator</b>	Modelling data	Modelled estimate of the number of people living with CHB not on treatment	Doherty Institute	Annually
<b>Had a viral load test in the previous 24 months</b>				
<b>Numerator</b>	PBS and MBS	Number of people not receiving treatment for CHB who received a viral load test in the previous 24 months	Services Australia	Annually
<b>Denominator</b>	Modelling data	Modelled estimate of the number of people living with CHB not on treatment	Doherty Institute	Annually

## 1.5. For people living with chronic hepatitis B increase the proportion of people receiving antiviral treatment<sup>j</sup> to 20%

### Indicator/s

- Proportion of people with chronic hepatitis B dispensed drugs for chronic hepatitis B infection.

### Indicator notes

Appropriate antiviral treatment has been shown to be effective in preventing adverse outcomes (such as liver cancer) in people living with chronic hepatitis B (CHB) noting treatment is only beneficial in some stages of hepatitis B infection.

Subsidised antiviral treatment for CHB is available through the Pharmaceutical Benefits Scheme (PBS). Treatment data for CHB represent the number individuals who are dispensed any drugs listed on the PBS for treatment of CHB (adefovir, entecavir, lamivudine, pegylated interferon alfa-2a and tenofovir) and are collected by the Australian Government Department of Services Australia. The data obtained for this analysis exclude those patients receiving treatment for HIV. Although these data do not include those who receive treatment outside the PBS (i.e. paid for by individual patients or subsidised by state government services) previous analyses and comparison with other source data demonstrate that the vast majority of testing and treatment services for patients with hepatitis B are provided through Medicare.<sup>4,6</sup>

Denominator data are derived using mathematical modelling of the number of people living with CHB in Australia, based on a wide range of data sources including the ABS, existing mathematical models, surveillance notifications, epidemiological research and clinical studies.

### Reporting against indicator

#### Proportion of people with chronic hepatitis B dispensed drugs for CHB infection

Indicator components	Source	Description	Custodian/ stakeholder	Availability of data for reporting
<b>Numerator</b>	PBS	Number of people dispensed drugs for CHB	Services Australia	Annually
<b>Denominator</b>	Modelling data	Modelled estimate of the number of people living with CHB	Doherty Institute	Annually

<sup>j</sup> Treatment is only beneficial in some stages of hepatitis B infection.



## 1.6. Reduce hepatitis B attributable mortality by 30%

### Indicator/s

- Estimated number of deaths due to chronic hepatitis B related to decompensated cirrhosis and hepatocellular carcinoma.
- Proportion of liver transplant recipients with hepatitis B.

### Indicator notes

#### Deaths

The estimated number of deaths due to chronic hepatitis B (CHB) related decompensated cirrhosis and hepatocellular carcinoma are derived using mathematical modelling. These estimates are produced by the World Health Organization Collaborating Centre for Viral Hepatitis at the Doherty Institute.

#### Liver transplants (morbidity)

The burden of disease caused by hepatitis B virus includes liver cirrhosis, hepatocellular cancer and potential need for transplant. Currently, there is no comprehensive registry of advanced illness related to hepatitis B in Australia.

The Australian and New Zealand Liver Transplant Registry (ANZLTR) is a network of liver transplant centres in Australia and New Zealand which has collected information on the characteristics of people undergoing liver transplantation since 1985. People undergoing liver transplantation have been routinely tested for hepatitis B infection and hepatitis C infection since antibody testing became available in 1990 through the ANZLTR. Information is sought on the primary and secondary causes of liver disease including the results of tests for hepatitis B virus.

Caution should be taken when interpreting ANZLTR data as the numbers are small and changes will be influenced by liver donor supply and overall transplant rates.

### Reporting against indicators

#### Estimated number of deaths due to CHB related cirrhosis and hepatocellular carcinoma

Indicator components	Source	Description	Custodian/stakeholder	Availability of data for reporting
Single measure	Modelling data	Modelled estimate of the number of deaths due to CHB related decompensated cirrhosis and hepatocellular carcinoma	Doherty Institute	Annually

#### Proportion of liver transplant recipients with hepatitis B

Indicator components	Source	Description	Custodian/stakeholder	Availability of data for reporting
Numerator	ANZLTR	Number of liver transplant recipients with CHB related diseases, including hepatocellular cancers	ANZLTR	Annually
Denominator	ANZLTR	Total number of liver transplants in a year	ANZLTR	Annually

## 1.7. Minimise the reported experience of stigma among people living with hepatitis B, and the expression of stigma, in respect to hepatitis B status

### *Indicator/s*

- Proportion of people who report that they experienced stigma or discrimination as a result of their hepatitis B.
- Proportion of health care workers reporting or witnessing negative behaviour towards people with hepatitis B.
- Proportion of the Australian public who report they would express stigma or discrimination towards people living with hepatitis B.

### *Indicator notes*

Stigma is recognised as being a critical barrier to effective responses to bloodborne viruses and sexually transmissible infections. Among affected communities, stigma is associated with mental health issues, social isolation, and can discourage people from accessing essential health care and medical treatment, including testing, treatment uptake and adherence to medications. This can have adverse implications for public health initiatives that target prevention and management of infection. Therefore, monitoring of the experiences of stigma and discrimination by affected communities is essential to assess the achievement of this goal.

The Centre for Social Research in Health (CSRH) received funding from the Australian Government Department of Health to develop an indicator of stigma among priority groups identified in the five national strategies addressing bloodborne viruses and sexually transmissible infections: people living with HIV; men who have sex with men; people who inject drugs; people living with hepatitis C; health care workers and; the general public.

### *People experiencing stigma*

CSRH developed an indicator to assess the level of stigma experienced by priority populations at risk of or living with chronic hepatitis B. Two questions were developed to assess experienced stigma in relation to hepatitis B status: “In the last 12 months, to what extent have you experienced any stigma or discrimination (e.g. avoidance, pity, blame, shame, rejection, verbal abuse, bullying) in relation to your hepatitis B status” and “In the last 12 months, to what extent do you agree that the following occurred?” “Health workers treated me negatively or different to other people” and “People didn’t want to have sex or an intimate relationship with me”.

### *Health care workers*

CSRH developed an indicator to assess expressed stigma by health care workers towards people living with hepatitis B. A single question was selected to indicate expressed stigma in relation to hepatitis B status: “In the last 12 months, to what extent have you treated patients/clients differently to other people in relation to their hepatitis B status?” The wording of this question was revised in the subsequent round of the survey to clarify that the indicator referred to discriminatory behaviour: “In the last 12 months, do you feel that you may have discriminated against patients/clients because of their hepatitis B status?” An online survey was developed for health care workers. Participants were recruited through the Australasian Society for HIV, Viral Hepatitis and Sexual Health Medicine (ASHM). It is important to note that this sample is not representative and is likely to show an underrepresentation of stigma expressed by health care workers more generally.

### *Australian public*

CSRH also developed a mirrored stigma indicator to assess expressed stigma by members of the Australian public towards people living with hepatitis B. The mirrored indicator was included in three waves of the 2017 Australian Survey of Social Attitudes (AuSSA), conducted by the Australian Consortium for Social and Political Research Incorporated. A single question was selected to indicate the extent to which people would discriminate against other people due to their hepatitis B status: “Would you behave negatively towards other people because of their hepatitis B status?”.

### *Reporting against indicators*

#### **Proportion of people who report that they experienced stigma or discrimination as a result of their hepatitis B status**

<b>Indicator components</b>	<b>Source</b>	<b>Description</b>	<b>Custodian/ stakeholder</b>	<b>Availability of data for reporting</b>
<b>Numerator</b>	CSRH	Number of survey participants reporting that they would rarely, sometimes, often or always experienced stigma and discrimination as a result of their hepatitis B status	CSRH	Periodically
<b>Denominator</b>	CSRH	Number of survey participants	CSRH	Periodically

#### **Proportion of health care workers reporting or witnessing negative behaviour towards people with hepatitis B**

<b>Indicator components</b>	<b>Source</b>	<b>Description</b>	<b>Custodian/ stakeholder</b>	<b>Availability of data for reporting</b>
<b>Numerator</b>	ASHM in association with CSRH	Number of surveyed health care workers who report expressing or witnessing any stigma or discrimination towards clients with hepatitis B	ASHM	Periodically
<b>Denominator</b>	ASHM in association with CSRH	Number of survey participants	ASHM	Periodically

#### **Proportion of the Australian public who report they would express stigma or discrimination towards people living with hepatitis B**

<b>Indicator components</b>	<b>Source</b>	<b>Description</b>	<b>Custodian/ stakeholder</b>	<b>Availability of data for reporting</b>
<b>Numerator</b>	AuSSA	Proportion of the general public who report that they would express any stigma or discrimination towards people living with hepatitis B	CSRH	Periodically
<b>Denominator</b>	AuSSA	Number of survey participants	CSRH	Periodically

## 2. National Hepatitis C Strategy

The goals of the [Fifth National Hepatitis C Strategy](#) are to:

- Make significant progress towards eliminating hepatitis C as a public health threat
- Reduce mortality and morbidity related to hepatitis C
- Eliminate the negative impact of stigma, discrimination, and legal and human rights issues on people's health
- Minimise the personal and social impact of hepatitis C.

### **Targets – Hepatitis C**

The five targets in the National Hepatitis C Strategy provide a specific focus for the efforts made towards achieving the goals of this Strategy:

- 2.1 Reduce the number of newly acquired hepatitis C infections, with a focus on priority populations by 60%
- 2.2 Increase the proportion of people living with hepatitis C who are diagnosed to 90%
- 2.3 Increase the cumulative proportion of people living with chronic hepatitis C who have initiated direct-acting antiviral treatment to 65%
- 2.4 Reduce hepatitis C attributable mortality overall by 65%
- 2.5 Reduce by 50% the reported experience of stigma among people living with hepatitis C, and the expression of stigma, in respect to hepatitis C status.

Indicators to monitor progress towards achieving the targets are presented under the five sub-headings below representing the specific targets.

## 2.1. Reduce the number of newly acquired hepatitis C infections, with a focus on priority populations by 60%

### *Indicator/s*

#### Part A – Notifications

- Annual rate of newly acquired hepatitis C notifications.
- Annual rate of newly acquired hepatitis C notifications in people aged <25 years.
- Incidence of hepatitis C in people who inject drugs attending health services.

#### Part B – Exposure and risk behaviours

- Proportion of people who inject drugs with evidence of past or current hepatitis C infection (HCV antibody).
- Proportion of people who inject drugs with evidence of a current hepatitis C infection (HCV RNA).
- Proportion of people entering custodial settings with evidence of past or current hepatitis C infection.
- Needles and syringes distributed per person who injects drugs in the previous calendar year.
- Proportion of injections covered by sterile syringe in the previous calendar year.
- Proportion of people who inject drugs who used a new needle and syringe for all injections in the previous month.
- Proportion of people who inject drugs reporting re-using another person's used needle and syringe in the previous month.

### **Part A - Notifications**

#### *Indicator notes*

Hepatitis C is a nationally notifiable disease. De-identified data are provided daily by all jurisdictions to the National Notifiable Disease Surveillance System (NNDSS). The NNDSS is managed by the Australian Government Department of Health under the provisions of the National Health Security Agreement (2008) which is underpinned by the National Health Security Act (2007). Hepatitis C is notified as either 'newly acquired', where evidence was available that the infection was acquired within 24 months prior to diagnosis; or 'unspecified', where the infection was acquired more than 24 months prior diagnosis or the period of infection is unspecified.

Determination of a case as 'newly acquired' is reliant on public health follow-up and the availability of previous serology test results, with the method and intensity of follow-up varying by jurisdiction and over time. Notified cases (newly acquired and unspecified) over time do not solely reflect changes in disease prevalence. Changes in testing policies; screening programs, including preferential testing of high-risk populations; the use of less invasive and more sensitive diagnostic tests; and periodic awareness campaigns, may influence the number of notifications (both newly acquired and unspecified) that are received over time.<sup>2</sup>

Another major limitation of the notification data is that, for most diseases, it represents only a proportion of the total cases occurring in the community, that is, only those cases for which health care was sought, a test conducted and a diagnosis made, followed by a notification to health authorities. The degree of under-representation of all cases is unknown but is most likely variable by jurisdiction.

#### *Enhanced data – priority populations*

Enhanced hepatitis C ('newly acquired') data, including injecting drug use as a risk factor, will be a useful adjunct measure of incidence within the population of people who inject drugs (PWID). These data are collected against nationally agreed data specifications and reported, by some jurisdictions, to NNDSS. These data are collected in addition to the core dataset, and are analysed and reported in the annual reports for the Kirby Institute and the NNDSS. Enhanced data fields for newly acquired hepatitis C include:

- Injecting drug use as a risk factor
- Other risk factors (e.g. imprisonment)
- Country of birth.

These data are important as they allow valid inferences to be drawn from the core dataset. The surveillance of and identification of high-risk populations, including PWID, is essential for informing intervention strategies. Completion of these fields is variable by jurisdiction and is reliant on public health follow-up.

#### *Data from clinical services – incidence of hepatitis C*

The Australian Collaboration for Coordinated Enhanced Sentinel Surveillance of Bloodborne Viruses and Sexually Transmitted Infections (ACCESS) project, a collaboration between the Burnet Institute, Kirby Institute and National Serology Reference Laboratory, collects patient data from health services that provide specialised care and management in relation to hepatitis C (e.g. sexual health clinics and high case load general practices), are services that have large caseloads of people at high-risk of hepatitis C and from public and private laboratories.<sup>10,11</sup> There is representation from all jurisdictions on the ACCESS project; however there is some variation in the number of health services/laboratories participating within each jurisdiction. Overall testing numbers and subsequent notification of infection collected through the ACCESS project may be influenced by testing policies and preferential testing among high-risk groups such as PWID who attend these services and may not be representative of broader trends in the Australian population of PWID.

While ACCESS does not capture all new hepatitis C diagnoses it does provide valuable information on priority populations and opportunities to track (anonymously) patients between services, overtime and with testing and treatment outcomes<sup>10</sup>.

Newly acquired (incident) hepatitis C is defined as a negative antibody test followed by either a positive antibody test or a positive RNA test, or a negative RNA test followed by a positive RNA test.<sup>12</sup>

#### **Reporting against indicator/s**

##### **Annual rate of newly acquired hepatitis C notifications**

<b>Indicator components</b>	<b>Source</b>	<b>Description</b>	<b>Custodian/stakeholder</b>	<b>Availability of data for reporting</b>
<b>Numerator</b>	NNDSS	Number of newly acquired hepatitis C notifications reported to NNDSS	Department of Health	As required ('live' data <sup>k</sup> )
<b>Denominator</b>	ABS	Australian population estimates reported by the ABS	Australian Bureau of Statistics	Quarterly <sup>l</sup>

##### **Annual rate of newly acquired hepatitis C notifications in people aged <25 years**

<b>Indicator components</b>	<b>Source</b>	<b>Description</b>	<b>Custodian/stakeholder</b>	<b>Availability of data for reporting</b>
<b>Numerator</b>	NNDSS	Number of newly acquired hepatitis C notifications in people aged <25 years reported to NNDSS	Department of Health	As required ('live' data <sup>k</sup> )
<b>Denominator</b>	ABS	Australian population estimates for people aged <25 years reported by the ABS	Australian Bureau of Statistics	Quarterly <sup>l</sup>

<sup>k</sup> Data are transmitted at least once a day from jurisdictions to the NNDSS however there may be a delay between patient diagnosis and reporting to the NNDSS.

<sup>l</sup> Population estimates by sex for Australia and each of the states and territories are published quarterly as at 31 March, 30 June, 30 September and 31 December in [Australian Demographic Statistics](#) (cat. no. 3101.0).

## Incidence of hepatitis C in people who inject drugs attending a health service participating in the ACCESS network

Indicator components	Source	Description	Custodian/stakeholder	Availability of data for reporting
<b>Numerator</b>	ACCESS	Number of people who inject drugs attending a health service <sup>m</sup> diagnosed with newly acquired hepatitis C	Burnet/Kirby Institute	Annually
<b>Denominator</b>	ACCESS	Number of people who inject drugs attending a health service <sup>m</sup>	Burnet/Kirby Institute	Annually

## Part B – Exposure and risk behaviours

### Indicator notes

#### *People who inject drugs (PWID)*

The majority of hepatitis C infections are a result of unsafe injecting drug use practices. The Australian Needle and Syringe Program Survey (ANSPS) is conducted annually over a one to two week period and collects data from a large heterogeneous sample of community-based PWID accessing approximately 50 Needle and Syringe Programs (NSP) services from a range of geographical areas across all states and territories. The ANSPS provides serial point prevalence estimates of hepatitis C antibody prevalence, derived through serological testing of dried blood spots among PWID. Since 2015 the ANSPS has also conducted HCV RNA testing to determine estimates of HCV clearance and HCV RNA prevalence.<sup>7</sup> Self-reported risk behaviour, including injecting behaviour, and uptake of hepatitis C treatment data are collected through a questionnaire by survey participants.<sup>8</sup>

It is important to note that the ANSPS involves PWID who attended prevention services (NSPs). Hence whilst the ANSPS is representative of PWID who attend NSPs in Australia<sup>9</sup> the findings may not be generalizable to broader population of Australian PWID.

#### *People in custodial settings (past and current hepatitis C infection)*

People in custodial settings are at a heightened risk of hepatitis C transmission due to the high prevalence of hepatitis C among prisoners and increased possibility of exposure risks associated with transmission, such as tattooing, fighting and other blood contact.<sup>5</sup> The National Prison Entrants' Blood-borne Virus Survey (NPEBBVS), currently in its fifth iteration provides an estimate of hepatitis C (and other bloodborne viruses) among prison entrants across six jurisdictions. The survey is conducted over a two week period triennially, with participants screened for hepatitis C antibodies (and other markers for bloodborne viruses and STI) and asked to complete a questionnaire on risk behaviours (including injecting behaviour and drug use), hepatitis C treatment uptake and where applicable if they were cured as a result of the treatment.

#### *Distribution of needles and syringes*

National needle and syringe distribution data (numerator) are available through the Needle Syringe Program National Minimum Data Collection (NSP NMDC). The NSP NMDC also estimates the size of the PWID population, defined as people who have injected drugs for at least 12 months, with injection in most months and this is updated annually.<sup>13</sup>

The mean number of needles and syringes distributed per PWID can be calculated and is a useful measure to monitor trends over time. Additional analyses can be conducted to assess the extent that demand for sterile syringes from PWID is met. This measure estimates the proportion of injections covered by a sterile syringe, using data on frequency of injection from the ANSPS.

<sup>m</sup> Including sexual health clinics and general practices.

## Reporting against indicator/s

### Proportion of people who inject drugs with evidence of past or current hepatitis C infection (HCV antibody)

Indicator components	Source	Description	Custodian/ stakeholder	Availability of data for reporting
<b>Numerator</b>	ANSPS	Number of HCV antibody positive survey respondents	Kirby Institute	Annually
<b>Denominator</b>	ANSPS	Total number of respondents	Kirby Institute	Annually

### Proportion of people who inject drugs with evidence of a current hepatitis C infection (HCV RNA)

Indicator components	Source	Description	Custodian/ stakeholder	Availability of data for reporting
<b>Numerator</b>	ANSPS	Number of HCV RNA positive respondents	Kirby Institute	Annually
<b>Denominator</b>	ANSPS	Total number of respondents who had a HCV RNA test	Kirby Institute	Annually

### Proportion of people entering custodial settings with evidence of past or current hepatitis C infection

Indicator components	Source	Description	Custodian/ stakeholder	Availability of data for reporting
<b>Numerator</b>	NPEBBVS	Number of HCV antibody positive respondents	Kirby Institute	Triennially
<b>Denominator</b>	NPEBBVS	Total number of respondents	Kirby Institute	Triennially

### Needles and syringes distributed per person who injects drugs in the previous calendar year

Indicator components	Source	Description	Custodian/ stakeholder	Availability of data for reporting
<b>Numerator</b>	NSP NMDC	Number of needles and syringes distributed by public and pharmacy needle and syringe program sectors reported by state and territory health departments	Kirby Institute	Annually
<b>Denominator</b>	PWID population estimates	Estimated number of people who inject drugs	Kirby Institute	Annually

### Proportion of injections covered by a sterile syringe in the previous calendar year

Indicator components	Source	Description	Custodian/ stakeholder	Availability of data for reporting
<b>Numerator</b>	NSP NMDC	Number of needles and syringes distributed by public and pharmacy needle and syringe program sectors reported by state and territory health departments	Kirby Institute	Annually
<b>Denominator</b>	NSP NMDC and ANSPS	Total estimated number of injections per annum, calculated using ANSPS data on frequency of injection	Kirby Institute	Annually



**Proportion of people who inject drugs who used a new needle and syringe for all injections in the previous month**

<b>Indicator components</b>	<b>Source</b>	<b>Description</b>	<b>Custodian/ stakeholder</b>	<b>Availability of data for reporting</b>
<b>Numerator</b>	ANSPS	Number of respondents who report using a new needle/syringe for all injections in in the month preceding the survey	Kirby Institute	Annually
<b>Denominator</b>	ANSPS	Total number of respondents who report injecting drugs in the previous month	Kirby Institute	Annually

**Proportion of people who inject drugs who report re-using of another person's used needle and syringe in the previous month**

<b>Indicator components</b>	<b>Source</b>	<b>Description</b>	<b>Custodian/ stakeholder</b>	<b>Availability of data for reporting</b>
<b>Numerator</b>	ANSPS	Number of respondents who report re-use of another person's used needle and syringe in the month preceding the survey	Kirby Institute	Annually
<b>Denominator</b>	ANSPS	Total number of respondents who report injecting drugs in the previous month	Kirby Institute	Annually

## 2.2. Increase the proportion of people living with hepatitis C who are diagnosed to 90%

### *Indicator/s*

- Estimated proportion of people with chronic hepatitis C who have been diagnosed.
  - Number of detections of new hepatitis C infections.
  - Annual rate of hepatitis C notifications (newly acquired and unspecified).
  - Proportion of people who inject drugs who have been tested for hepatitis C in the previous 12 months.
  - Proportion of people who inject drugs who have ever been tested for hepatitis C.
  - Proportion of people who inject drugs attending a health service who have been tested for hepatitis C in the previous 12 months.
  - Proportion of gay and bisexual men attending a health service who have been tested for hepatitis C in the previous 12 months.
- Proportion of people hepatitis C antibody positive who have had a hepatitis C RNA test attending a health service.

### *Indicator notes*

#### *Proportion of people diagnosed*

The number of people who have been diagnosed is derived from totalling hepatitis C notifications from 1991 to the end of the reporting period (from NNDSS) and adjusting for duplicates in notifications, spontaneous hepatitis C clearance, emigration deaths and individuals cured through treatment.<sup>14</sup>

Estimates for the number of people living with hepatitis C is derived using a mathematical model of hepatitis C transmission and disease progression in Australia, produced collaboratively between the Center for Disease Analysis (CDA) and the Kirby Institute. Inputs for the model come from a variety of data sources. The model estimates chronic hepatitis C prevalence, new infections, incidence, morbidity due to hepatitis C and hepatitis C related liver mortality annually. It takes into account hepatitis C notifications, the number of people who have been diagnosed and estimates for the percentage undiagnosed, and the number of individuals cured through treatment.<sup>14,15</sup>

#### *Detection of new hepatitis C infections*

Population-level monitoring of testing related to diagnosis can be done through the Medical Benefits Scheme (MBS) claims dataset, when restricted to item numbers 69499 and 69500 as they are used for testing to detect current hepatitis C infection and not used for tests associated with treatment monitoring. These data are collected by the Australian Government Department, Services Australia.

#### *Notifications (prevalence of hepatitis C)*

Due to the chronic nature of hepatitis C infection, duplicate notifications to the NNDSS from individuals having multiple notifications across states and territories may be present in the dataset. Methodologies to identify duplicate notifications in the NNDSS are currently being developed in consultation with state and territory representatives. See [section 2.1](#) for further notes on NNDSS notifications of newly acquired and unspecified hepatitis C.

#### *People who inject drugs (PWID)*

See [section 2.1](#) for further information on the ANSPS.

#### *Data from clinical services (PWID, gay and bisexual men and HCV antibody and RNA testing)*

See [section 2.1](#) for further information on the ACCESS network.

The ACCESS clinical network collates data on consultations, HCV antibody and RNA tests conducted and test outcomes from clinics that see high caseloads of people at risk of hepatitis C. Individuals' records within ACCESS networks are linked between clinics and over time.

**Reporting against indicator/s****Estimated proportion of people with chronic hepatitis C who have been diagnosed**

Indicator components	Source	Description	Custodian/stakeholder	Availability of data for reporting
<b>Numerator</b>	Modelling data	Estimated number of people diagnosed with hepatitis C	Kirby Institute	Annually
<b>Denominator</b>	Modelling data	Estimated number of people living with hepatitis C	Kirby Institute	Annually

**Number of Medicare-eligible people receiving a test to detect a new hepatitis C infection**

Indicator components	Source	Description	Custodian/stakeholder	Availability of data for reporting
<b>Single measure</b>	MBS	Number of Medicare eligible people receiving hepatitis C RNA test (MBS item numbers 69499 and 69500)	Services Australia	Annually

**Annual rate of hepatitis C notifications (newly acquired and unspecified)**

Indicator components	Source	Description	Custodian/stakeholder	Availability of data for reporting
<b>Numerator</b>	NNDSS	Number of notifications of hepatitis C (newly acquired and unspecified) reported to NNDSS	Department of Health	As required ('live' data <sup>n</sup> )
<b>Denominator</b>	ABS	Australian population estimates reported by the ABS	Australian Bureau of Statistics	Quarterly <sup>o</sup>

**Proportion of people accessing needle and syringe programs (people who inject drugs) who have been tested for HCV in the previous 12 months**

Indicator components	Source	Description	Custodian/stakeholder	Availability of data for reporting
<b>Numerator</b>	ANSPS	Number of respondents who report having had an HCV test in the last 12 months	Kirby Institute	Annually
<b>Denominator</b>	ANSPS	Total number of respondents	Kirby Institute	Annually

**Proportion of people accessing ANSPS (people who inject drugs) who have ever been tested for HCV**

Indicator components	Source	Description	Custodian/stakeholder	Availability of data for reporting
<b>Numerator</b>	ANSPS	Number of respondents who report having ever had a HCV test	Kirby Institute	Annually
<b>Denominator</b>	ANSPS	Total number of respondents	Kirby Institute	Annually

**Proportion of people who inject drugs who have been tested for hepatitis C<sup>p</sup> in the previous 12 months attending a health service participating in the ACCESS network**

Indicator components	Source	Description	Custodian/stakeholder	Availability of data for reporting
<b>Numerator</b>	ACCESS	Number of people who inject drugs attending a health service <sup>q</sup> tested for hepatitis C in the previous 12 months	Burnet/Kirby Institute	Annually
<b>Denominator</b>	ACCESS	Number of people who inject drugs attending a health service <sup>q</sup> in the previous 12 months	Burnet/Kirby Institute	Annually

<sup>n</sup> Data are transmitted at least once a day from jurisdictions to the NNDSS however there may be a delay between patient diagnosis and reporting to the NNDSS.

<sup>o</sup> Population estimates by sex for Australia and each of the states and territories are published quarterly as at 31 March, 30 June, 30 September and 31 December in [Australian Demographic Statistics](#) (cat. no. 3101.0).

<sup>p</sup> HCV antibody only or HCV antibody and RNA or HCV RNA only.

<sup>q</sup> Including sexual health clinics and general practices.

**Proportion of gay and bisexual men who have been tested for hepatitis C<sup>r</sup> in the previous 12 months attending a health service participating in the ACCESS network**

<b>Indicator components</b>	<b>Source</b>	<b>Description</b>	<b>Custodian/stakeholder</b>	<b>Availability of data for reporting</b>
<b>Numerator</b>	ACCESS	Number of gay and bisexual attending a health service <sup>s</sup> tested for hepatitis C in the previous 12 months	Burnet/Kirby Institute	Annually
<b>Denominator</b>	ACCESS	Number of gay and bisexual men attending a health service <sup>s</sup> in the previous 12 months	Burnet/Kirby Institute	Annually

**Proportion of people hepatitis C antibody positive who have had a hepatitis C RNA test attending a health service participating in the ACCESS network**

<b>Indicator components</b>	<b>Source</b>	<b>Description</b>	<b>Custodian/stakeholder</b>	<b>Availability of data for reporting</b>
<b>Numerator</b>	ACCESS	Number of people attending a health service <sup>s</sup> who are hepatitis C antibody positive who have had a hepatitis C RNA test	Burnet/Kirby Institute	Annually
<b>Denominator</b>	ACCESS	Number of people who are hepatitis C antibody positive attending a health service <sup>s</sup>	Burnet/Kirby Institute	Annually

<sup>r</sup> HCV antibody only or HCV antibody and RNA or HCV RNA only.

<sup>s</sup> Including sexual health clinics and general practices.

## 2.3. Increase the cumulative proportion of people living with chronic hepatitis C who have initiated direct-acting antiviral treatment to 65%

### Indicator/s

- Cumulative number of people initiating direct-acting antiviral treatment since March 2016.
- Proportion of people with chronic hepatitis C dispensed drugs for their infection in the previous calendar year.
- Proportion of people who inject drugs who reported having had any hepatitis C antiviral treatment.
- Proportion of people who inject drugs who reported having had hepatitis C antiviral treatment in the last 12 months.
- Proportion of people entering custodial settings who reported having any hepatitis C antiviral treatment.
- Number of people who have achieved treatment-induced hepatitis C cure.

### Indicator notes

#### Dispensed drugs for hepatitis C

On 1 March 2016, new interferon-free direct-acting antiviral (DAAs) treatment regimens became available through the Pharmaceutical Benefits Scheme (PBS). These new medicines offer greater efficacy than the subsidised treatment options for hepatitis C prior to March 2016. From 2017 onwards, the number of individuals dispensed medications for chronic hepatitis C (CHC) will refer to interferon-free treatments provided through the PBS.

#### Sustained virological response

The Real world Efficacy of Antiviral therapy in Chronic Hepatitis C (REACH-C) project comprises of national network of 22 diverse clinical services. Data are collected through these sites on individuals commencing treatment for hepatitis C with DAAs, including treatment outcomes such as sustained virological response<sup>t</sup> (SVR).

#### People who inject drugs

See [section 2.1](#) for notes on ANSPS.

#### People in custodial settings

See [section 2.1](#) for notes on the NPEBBVS.

#### People cured

The numerator for this indicator is estimated by multiplying the number of people receiving hepatitis C treatment and the expected sustained virological response as indicated in the literature and adjusted for deaths and overseas migration.<sup>16</sup>

The denominator, estimated number of people living and diagnosed with hepatitis C, is described at [section 2.2](#).

### Reporting against indicator/s

#### Cumulative number of people initiating direct-acting antiviral treatment since March 2016

Indicator components	Source	Description	Custodian/stakeholder	Availability of data for reporting
Single measure	PBS	Cumulative number of people dispensed DAAs since March 2016	Services Australia	Quarterly

<sup>t</sup> SVR defined as undetectable plasma hepatitis C RNA 12 weeks after completion of DAA therapy.

**Proportion of people with chronic hepatitis C dispensed drugs for their infection in the previous calendar year**

<b>Indicator components</b>	<b>Source</b>	<b>Description</b>	<b>Custodian/ stakeholder</b>	<b>Availability of data for reporting</b>
<b>Numerator</b>	PBS	Number of individuals dispensed medications for CHC infection in the previous calendar year	Services Australia	Quarterly
<b>Denominator</b>	Modelling data	Estimated number of people living and diagnosed with hepatitis C infection in Australia indicated for treatment	Kirby Institute	Annually

**Proportion of people who inject drugs who reported ever having had hepatitis C antiviral treatment**

<b>Indicator components</b>	<b>Source</b>	<b>Description</b>	<b>Custodian/ stakeholder</b>	<b>Availability of data for reporting</b>
<b>Numerator</b>	ANSPS	Number of respondents who report any history of hepatitis C antiviral treatment over their lifetime	Kirby Institute	Annually
<b>Denominator</b>	ANSPS	Total number of HCV antibody positive respondents (excluding those who self-reported spontaneous clearance)	Kirby Institute	Annually

**Proportion of people who inject drugs who reported having had hepatitis C antiviral treatment in the last 12 months**

<b>Indicator components</b>	<b>Source</b>	<b>Description</b>	<b>Custodian/ stakeholder</b>	<b>Availability of data for reporting</b>
<b>Numerator</b>	ANSPS	Number of respondents who report receiving hepatitis C antiviral treatment in the last 12 months	Kirby Institute	Annually
<b>Denominator</b>	ANSPS	Total number of HCV antibody positive respondents (excluding those who self-reported spontaneous clearance) in the last 12 months	Kirby Institute	Annually

**Proportion of people entering custodial settings who reported having any hepatitis C antiviral treatment**

<b>Indicator components</b>	<b>Source</b>	<b>Description</b>	<b>Custodian/ stakeholder</b>	<b>Availability of data for reporting</b>
<b>Numerator</b>	NPEBBVS	Number of respondents who report any history of hepatitis C antiviral treatment over their lifetime	Kirby Institute	Triennially
<b>Denominator</b>	NPEBBVS	Total number of respondents	Kirby Institute	Triennially

**Proportion of people with chronic hepatitis C who have achieved treatment-induced cure**

<b>Indicator components</b>	<b>Source</b>	<b>Description</b>	<b>Custodian/ stakeholder</b>	<b>Availability of data for reporting</b>
<b>Numerator</b>	Modelled estimates	Estimated number of people who have achieved treatment-induced hepatitis C cure	Kirby Institute	Annually
<b>Denominator</b>	Modelled estimates	Estimated number of people living and diagnosed with hepatitis C infection in Australia indicated for treatment	Kirby Institute	Annually

**Proportion of people who received direct-acting antiviral treatment who achieved a sustained virological response attending a REACH-C clinical service**

<b>Indicator components</b>	<b>Source</b>	<b>Description</b>	<b>Custodian/ stakeholder</b>	<b>Availability of data for reporting</b>
<b>Numerator</b>	REACH-C	Number of people who achieved a sustained virological response 12 weeks post DAA therapy	Kirby Institute	Annually
<b>Denominator</b>	REACH-C	Number of people receiving DAAs	Kirby Institute	Annually

## 2.4. Reduce hepatitis C attributable mortality overall by 65%

### *Indicator/s*

- Estimated number of people with decompensated cirrhosis, hepatocellular cirrhosis and liver related deaths.
- Estimated number of deaths attributable to chronic hepatitis C.
- Proportion of liver transplant recipients with hepatitis C.

### *Indicator notes*

#### *Cirrhosis and deaths*

To plan appropriate clinical care and treatment responses to the hepatitis C epidemic, accurate estimates of the rates of hepatitis C infection and its sequelae are essential.

The estimated number of people with decompensated cirrhosis, hepatocellular cirrhosis (HCC), and estimated number of liver-related deaths are derived using mathematical modelling after incorporating the impact of hepatitis C treatment, produced collaboratively between the Center for Disease Analysis (CDA) and the Kirby Institute. Data are presented separately for: people living with chronic hepatitis C infection and those who have been cured of infection but still have hepatitis C related morbidity and mortality, and people with chronic hepatitis C infection only.

#### *Liver transplants (morbidity)*

The burden of disease caused by hepatitis C virus includes liver cirrhosis, hepatocellular cancer and potential need for transplant. Currently, there is no comprehensive registry of advanced illness related to hepatitis C in Australia.

The Australian and New Zealand Liver Transplant Registry (ANZLTR) is a network of liver transplant centres in Australia and New Zealand which has collected information on the characteristics of people undergoing liver transplantation since 1985. People undergoing liver transplantation have been routinely tested for hepatitis C infection and hepatitis C infection since antibody testing became available in 1990. Information was sought on the primary and secondary causes of liver disease including the results of tests for hepatitis C virus. Caution should be taken when interpreting ANZLTR data as the numbers are small and changes will be influenced by liver donor supply and overall transplant rates.

### *Reporting against indicator/s*

**Estimated number of people with decompensated cirrhosis, hepatocellular carcinoma and liver related deaths**

Indicator components	Source	Description	Custodian/ stakeholder	Availability of data for reporting
Single measure	Modelling data	Estimated number of people with decompensated cirrhosis, HCC and liver related deaths	Kirby Institute	Annually

**Estimated number of deaths attributable to chronic hepatitis C**

Indicator components	Source	Description	Custodian/ stakeholder	Availability of data for reporting
Single measure	Modelling data	Estimated number of deaths related to hepatitis C	Kirby Institute	Annually



**Proportion of liver transplant recipients with hepatitis C**

<b>Indicator components</b>	<b>Source</b>	<b>Description</b>	<b>Custodian/ stakeholder</b>	<b>Availability of data for reporting</b>
<b>Numerator</b>	ANZLTR	Number of liver transplant recipients with chronic hepatitis C related diseases, including hepatocellular cancers	ANZLTR	Annually
<b>Denominator</b>	ANZLTR	Total number of liver transplants in a year	ANZLTR	Annually

## 2.5. Reduce by 50% the reported experience of stigma among people living with hepatitis C, and the expression of stigma, in respect to hepatitis C status

### *Indicator/s*

- Proportion of people who report that they experienced stigma or discrimination as a result of their hepatitis C status.
- Proportion of people who inject drugs who report experiencing any stigma or discrimination as a result of their hepatitis C status in the last 12 months.
- Proportion of people who inject drugs who report experiencing any stigma or discrimination in relation to their use of drugs for injecting in the last 12 months.
- Proportion of health care workers reporting or witnessing negative behaviour towards people with hepatitis C.
- Proportion of health care workers reporting or witnessing negative behaviour towards people who inject drugs.
- Proportion of the Australian public who report they would express stigma or discrimination towards people living with hepatitis C.
- Proportion of the Australian public who report they would express stigma or discrimination towards people who inject drugs.

### *Indicator notes*

Further information on the development of the stigma related indicators see [section 1.7](#).

#### *People experiencing stigma*

The Centre for Social Research in Health (CSRH) developed an indicator to assess the level of stigma experienced by priority populations at risk of or living with chronic hepatitis C. Questions were developed to assess experienced stigma in relation to hepatitis C status: “In the last 12 months, to what extent have you experienced any stigma or discrimination (e.g. avoidance, pity, blame, shame, rejection, verbal abuse, bullying) in relation to your hepatitis C status”

The question has been included in surveys, however recruitment challenges for these surveys has resulted in smaller sample sizes that may not be representative.

#### *Priority population - people who inject drugs*

An indicator to indicate the extent to which people who inject drugs had experienced stigma related to their injecting drug use was developed by CSRH and included in the ANSPS. A question was selected to indicate stigma in relation to injecting drug use: “In the last 12 months, to what extent have you experienced any stigma or discrimination (e.g. avoidance, pity, blame, shame, rejection, verbal abuse, bullying) in relation to your use of drugs for injecting?”.

#### *Health care workers*

CSRH developed a stigma indicator to assess expression of stigma by health care workers towards clients living with hepatitis C and those who inject drugs. Questions were selected to indicate expressed stigma in relation to hepatitis C status: “In the last 12 months, do you feel that you may have discriminated against patients/clients because of their hepatitis C status?”; “In the last 12 months, do you feel that you may have discriminated against patients/clients because of their use of drugs for injecting?”

An online survey was developed for health care workers. Participants were recruited through the Australasian Society for HIV, Viral Hepatitis and Sexual Health Medicine (ASHM). It is important to note that this sample is not representative and is likely to show an underrepresentation of stigma expressed by health care workers more generally.

#### *Australian public*

The CSRH has also developed stigma indicators to assess expressed stigma by members of the Australian public towards people living with hepatitis C and people who use drugs for injecting. The indicators were included in

the Australian Survey of Social Attitudes (AuSSA), conducted by the Australian Consortium for Social and Political Research Incorporated (ACSPRI). Questions were selected to indicate the extent to which people would discriminate against other people due to their hepatitis C status and use of drugs for injecting: “Would you behave negatively towards other people because of their hepatitis C status?”; Would you behave negatively towards other people because of their use of drugs for injecting?”.

***Reporting against the indicator/s***

**Proportion of people who report that they experienced stigma or discrimination as a result of their hepatitis C status**

<b>Indicator components</b>	<b>Source</b>	<b>Description</b>	<b>Custodian/ stakeholder</b>	<b>Availability of data for reporting</b>
<b>Numerator</b>	CSRH	Number of survey participants reporting that they would rarely, sometimes, often or always experienced stigma and discrimination as a result of their hepatitis C	CSRH	Periodically
<b>Denominator</b>	CSRH	Total number of survey participants	CSRH	Periodically

**Proportion of people who inject drugs who report experiencing any stigma or discrimination as a result of their hepatitis C status in the last 12 months**

<b>Indicator components</b>	<b>Source</b>	<b>Description</b>	<b>Custodian/ stakeholder</b>	<b>Availability of data for reporting</b>
<b>Numerator</b>	ANSPS	Number of survey participants who inject drugs reporting that they would rarely, sometimes, often or always have experienced stigma and discrimination as a result of their hepatitis C status	Kirby Institute	Annually
<b>Denominator</b>	ANSPS	Total number of survey participants	Kirby Institute	Annually

**Proportion of people who inject drugs who report experiencing any stigma or discrimination in relation to their use of drugs for injecting in the last 12 months**

<b>Indicator components</b>	<b>Source</b>	<b>Description</b>	<b>Custodian/ stakeholder</b>	<b>Availability of data for reporting</b>
<b>Numerator</b>	ANSPS	Number of survey participants who inject drugs reporting that they would rarely, sometimes, often or always have experienced stigma and discrimination in relation to injecting drug use	Kirby Institute	Annually
<b>Denominator</b>	ANSPS	Total number of survey participants	Kirby Institute	Annually

**Proportion of health care workers reporting or witnessing negative behaviour towards people with hepatitis C**

<b>Indicator components</b>	<b>Source</b>	<b>Description</b>	<b>Custodian/ stakeholder</b>	<b>Availability of data for reporting</b>
<b>Numerator</b>	ASHM in association with CSRH	Number of surveyed health care workers who report expressing or witnessing any stigma or discrimination towards clients with hepatitis C	ASHM	Periodically
<b>Denominator</b>	ASHM in association with CSRH	Total number of survey participants	ASHM	Periodically

**Proportion of health care workers reporting or witnessing negative behaviour towards people who inject drugs**

<b>Indicator components</b>	<b>Source</b>	<b>Description</b>	<b>Custodian/ stakeholder</b>	<b>Availability of data for reporting</b>
<b>Numerator</b>	ASHM in association with CSRH	Number of surveyed health care workers who report expressing or witnessing any stigma or discrimination towards clients who inject drugs	ASHM	Periodically
<b>Denominator</b>	ASHM in association with CSRH	Total number of survey participants	ASHM	Periodically

**Proportion of the Australian public who report they would express stigma or discrimination towards people living with hepatitis C**

<b>Indicator components</b>	<b>Source</b>	<b>Description</b>	<b>Custodian/ stakeholder</b>	<b>Availability of data for reporting</b>
<b>Numerator</b>	AuSSA	Proportion of the general public who report that they would express any stigma or discrimination towards people living with hepatitis C	CSRH	Periodically
<b>Denominator</b>	AuSSA	Total number of the general public surveyed	CSRH	Periodically

**Proportion of the Australian public who report they would express stigma or discrimination towards people who inject drugs**

<b>Indicator components</b>	<b>Source</b>	<b>Description</b>	<b>Custodian/ stakeholder</b>	<b>Availability of data for reporting</b>
<b>Numerator</b>	AuSSA	Proportion of the general public who report that they would express any stigma or discrimination towards people who inject drugs	CSRH	Periodically
<b>Denominator</b>	AuSSA	Total number of the general public surveyed	CSRH	Periodically

### 3. National Sexually Transmissible Infections Strategy

The goals of the Fourth National Sexually Transmissible Infections Strategy are to:

- Reduce transmission of, and morbidity and mortality associated with STIs in Australia
- Eliminate the negative impact of stigma, discrimination and legal and human rights issues on people's health
- Minimise the personal and social impact of STI.

#### **Targets – Sexually Transmissible Infections**

The five targets in the National STI Strategy provide a specific focus for the efforts made towards achieving the goals of this Strategy:

- 3.1 Achieve and maintain HPV adolescent vaccination coverage of 80%
- 3.2 Reduce the prevalence of gonorrhoea, chlamydia and infectious syphilis
- 3.3 Increase STI testing coverage in priority populations
- 3.4 Eliminate congenital syphilis
- 3.5 Minimise the reported experience and expression of stigma in relation to STI.

Indicators to monitor progress towards achieving the goals targets are presented under the five sub-headings below representing the specific targets.

### 3.1. Achieve and maintain high levels of HPV adolescent vaccination coverage of 80%

#### *Indicator/s*

- HPV two dose vaccination coverage for males and females aged 15 years of age.

#### *Indicator notes*

The Australian Immunisation Register (AIR) is a national register, maintained by the Australian Government Department, Services Australia that can record all vaccinations for people of all ages given by a registered vaccination provider.

The HPV vaccine is recommended for people aged 12 to 13 years and is provided through school programs or by General Practitioners under the National Immunisation Program (NIP). Catch-up vaccines are available through the NIP for individuals up to the age of 19 years. HPV vaccination records are reported to the AIR by providers which then allows the data to be used for program monitoring and evaluation. Data are reviewed regularly with coverage estimates for males and females frequently reported and published.

Immunisation coverage is measured in individuals aged 15 years to account for catch-up vaccinations, if some are missed in earlier years. Reporting coverage among 15 year olds is consistent with World Health Organization reporting.

#### *Reporting against indicator*

Indicator components	Source	Description	Custodian/ stakeholder	Availability of data for reporting
<b>Numerator</b>	AIR	Number of males and females aged 15 years who have the recommended vaccine dosage as indicated in the Australian Immunisation Handbook <sup>u</sup>	Services Australia	Quarterly
<b>Denominator</b>	AIR	Total number of males and females aged 15, registered in AIR <sup>v</sup>	Services Australia	Quarterly <sup>w</sup>

<sup>u</sup> Australian Immunisation Handbook: <https://immunisationhandbook.health.gov.au/>

<sup>v</sup> Individuals are automatically registered for AIR when enrolled in Medicare.

<sup>w</sup> Count of individuals registered for AIR at the same point in time at the numerator.

### 3.2. Reduce the prevalence of gonorrhoea, chlamydia and infectious syphilis

#### Indicator/s

##### Part A - Notifications and testing

- Annual rate of gonorrhoea notifications.
- Annual rate of chlamydia notifications.
- Annual rate of infectious syphilis notifications.
- Incidence of STIs in sex workers attending a sexual health clinic.
- Incidence of STIs in gay and bisexual men attending a health service.
- Proportion of chlamydia tests that yield a positive result in the 15-29 year age group.
- Proportion of gonorrhoea tests that yield a positive result in the 15-29 year age group.

##### Part B - Knowledge and risk behaviours

- Proportion of secondary school students giving the correct answer to STI knowledge and behaviour questions.
- Proportion of secondary school students reporting certain risky sexual behaviours.
- Proportion of young people (15-29 year olds) giving the correct answer to STI knowledge questions.
- Proportion of young people (15-29 year olds) reporting consistent condom use with sexual partners in the previous 12 months.
- Proportion of gay and bisexual men who reported consistent condom use with casual sexual partners in the previous 12 months.

#### Indicator notes

#### Part A - Notifications and testing

##### Notifications

De-identified notification data are provided daily by all jurisdictions to the National Notifiable Disease Surveillance System (NNDSS). The NNDSS is managed by the Australian Government Department of Health under the provisions of the *National Health Security Act (2007)*.<sup>1</sup> Notifications of gonorrhoea, chlamydia and infectious syphilis (less than two years duration) are routinely reported by all jurisdictions to NNDSS, providing a stable robust measure of disease prevalence. However, changes in testing policies; screening programs, including the preferential testing of high-risk populations; the use of less invasive and more sensitive diagnostic tests; and periodic awareness campaigns, may influence the number of notifications that occur over time.

Another major limitation of the notification data is that, for most diseases, it represents only a proportion of the total cases occurring in the community, that is, only those cases for which health care was sought, a test conducted and a diagnosis made, followed by a notification to health authorities. The degree of under representation of all cases is unknown, however it is assumed to be high for chlamydia due to the often asymptomatic nature of infection. Although there are limitations with notification data it is the most feasible and cost-effective mechanism to monitor trends in STI prevalence overtime in Australia.

##### Testing for chlamydia and gonorrhoea

Medicare Benefits Scheme (MBS) data provide a reasonable representation of the number of chlamydia and gonorrhoea tests undertaken in Australia. These data also provide a suitable denominator for measuring population level estimates of chlamydia and gonorrhoea testing rates among 15-29 year olds in general practices. There are currently three MBS item numbers that are used specifically to bill for services related to the detection of *Chlamydia trachomatis* (item numbers 69316, 69317, 69319), item numbers 69317 and 69319 allow for testing of a second and third organism respectively, which is predominately *Neisseria gonorrhoeae*.<sup>17,18</sup>

There are priority populations that access other services, such as sexual health clinics, that fund STI testing and do not bill Medicare, either for all patients or for those who do not have a Medicare card. These tests are not captured in the MBS data. Although not necessarily representative of the general population, it is important that

options for surveillance are explored within these priority groups. Sentinel surveillance, such as the Australian Collaboration for Coordinated Enhanced Sentinel Surveillance of Blood Borne Viruses and Sexually Transmissible Infections (ACCESS) project <sup>11</sup>, provides an opportunity to collect data on priority populations, including gay and bisexual men and sex workers that complement existing surveillance systems.

#### *Data from clinical services*

The ACCESS project, a collaboration between the Burnet Institute, Kirby Institute and National Serology Reference Laboratory, collects patient data from health services providing specialised care and management in relation to STIs (e.g. sexual health clinics and high case load general practices), services that have large caseloads of people at high-risk of STIs and from public and private laboratories.<sup>10,11</sup> There is representation from all jurisdictions on the ACCESS project, however there is some variation in the number of health services/laboratories participating within each jurisdiction. Overall testing numbers and subsequent notification of infection collected through the ACCESS project may be influenced by testing policies and preferential testing among high-risk groups such as sex workers and people using pre-exposure Prophylaxis (PrEP) for HIV, and may not be representative of broader trends in the Australian population.

While ACCESS does not capture all new STI diagnoses, it does provide valuable information on priority populations and opportunities to track (anonymously) patients between services, overtime and with testing and treatment outcomes.<sup>10</sup>

#### *Other priority populations*

While data are not currently available for all priority populations, including trans and gender diverse people and culturally and linguistically diverse people, many groups are already included in broader priority populations for whom data are available. For example, many trans and gender-diverse people are part of populations such as trans men who have sex with men; non-binary sex workers; Aboriginal and Torres Strait Brotherboys and Sistagirls/Sistergirls; and people who inject drugs and may share some of the same risk exposures of other priority populations. Irrespective, options will be explored to collect data on additional distinct priority populations that can inform activities and strategies in a meaningful way and adds to our understanding of disease prevalence and incidence among these population groups.

#### **Reporting against indicators**

##### **Annual rate of gonorrhoea notifications**

<b>Indicator components</b>	<b>Source</b>	<b>Description</b>	<b>Custodian/stakeholder</b>	<b>Availability of data for reporting</b>
<b>Numerator</b>	NNDSS	Number of gonorrhoea notifications reported to NNDSS	Department of Health	As required ('live' data <sup>x</sup> )
<b>Denominator</b>	ABS	Australian population estimates reported by the ABS	Australian Bureau of Statistics	Quarterly <sup>y</sup>

<sup>x</sup> Data are transmitted at least once a day from jurisdictions to the NNDSS however there may be a delay between patient diagnosis and reporting to NNDSS.

<sup>y</sup> Population estimates by sex for Australia and each of the states and territories are published quarterly as at 31 March, 30 June, 30 September and 31 December in [Australian Demographic Statistics](#) (cat. no. 3101.0).



**Annual rate of chlamydia notifications**

Indicator components	Source	Description	Custodian/ stakeholder	Availability of data for reporting
<b>Numerator</b>	NNDSS	Number of chlamydia notifications reported to NNDSS	Department of Health	As required ('live' data <sup>z</sup> )
<b>Denominator</b>	ABS	Australian population estimates reported by the ABS	Australian Bureau of Statistics	Quarterly <sup>aa</sup>

**Annual rate of infectious syphilis notifications**

Indicator components	Source	Description	Custodian/ stakeholder	Availability of data for reporting
<b>Numerator</b>	NNDSS	Number of infectious syphilis notifications reported to NNDSS	Department of Health	As required ('live' data <sup>z</sup> )
<b>Denominator</b>	ABS	Australian population estimates reported by the ABS	Australian Bureau of Statistics	Quarterly <sup>aa</sup>

**Incidence of STI in sex workers attending a sexual health clinic participating in the ACCESS network**

Indicator components	Source	Description	Custodian/ stakeholder	Availability of data for reporting
<b>Numerator</b>	ACCESS	Number of incident infections <sup>bb</sup> of chlamydia, gonorrhoea and/or syphilis among sex workers attending sexual health clinics	Burnet/ Kirby Institute	Annually
<b>Denominator</b>	ACCESS	Sex workers attending sexual health clinics undergoing repeat chlamydia, gonorrhoea and/or syphilis testing at sexual health clinics by the person's time at risk <sup>cc</sup>	Burnet/ Kirby Institute	Annually

<sup>z</sup> Data are transmitted at least once a day from jurisdictions to the NNDSS however there may be a delay between patient diagnosis and reporting to NNDSS.

<sup>aa</sup> Population estimates by sex for Australia and each of the states and territories are published quarterly as at 31 March, 30 June, 30 September and 31 December in [Australian Demographic Statistics](#) (cat. no. 3101.0).

<sup>bb</sup> Incident infections defined as a negative test followed by a positive test or diagnosis.

<sup>cc</sup> Persons time at risk determined by the time between repeat tests.

**Incidence of STI in gay and bisexual men attending a health service participating in the ACCESS network**

Indicator components	Source	Description	Custodian/ stakeholder	Availability of data for reporting
<b>Numerator</b>	ACCESS	Number of incident infections <sup>dd</sup> of chlamydia, gonorrhoea and/or syphilis in gay and bisexual men attending a health service <sup>ee</sup>	Burnet/ Kirby Institute	Annually
<b>Denominator</b>	ACCESS	Gay and bisexual men undergoing repeat chlamydia, gonorrhoea and/or syphilis testing at a health service by the person's time at risk <sup>ff</sup>	Burnet/ Kirby Institute	Annually

**Proportion of chlamydia tests that yield a positive result in 15-29 year age group**

Indicator components	Source	Description	Custodian/ stakeholder	Availability of data for reporting
<b>Numerator</b>	NNDSS	Number of chlamydia notifications in 15-29 year olds reported to NNDSS	Department of Health	As required ('live' data <sup>gg</sup> )
<b>Denominator</b>	MBS	Number of chlamydia tests conducted for 15-29 year olds reported to Medicare (item numbers 69316, 69317, 69319)	Services Australia	Monthly

**Proportion of gonorrhoea tests that yield a positive result in 15-29 year age group**

Indicator components	Source	Description	Custodian/ stakeholder	Availability of data for reporting
<b>Numerator</b>	NNDSS	Number of gonorrhoea notifications in 15-29 year olds reported to NNDSS	Department of Health	As required ('live' data <sup>gg</sup> )
<b>Denominator</b>	MBS	Number of gonorrhoea tests conducted for 15-29 year olds reported to Medicare (item numbers 69316, 69317, 69319)	Services Australia	Monthly

<sup>dd</sup> Incident infections defined as a negative test followed by a positive test or diagnosis.

<sup>ee</sup> Including sexual health clinics and general practices.

<sup>ff</sup> Persons time at risk determined by the time between repeat tests.

<sup>gg</sup> Data are transmitted at least once a day from jurisdictions to the NNDSS however there may be a delay between patient diagnosis and reporting to NNDSS.

## Part B - Knowledge and risk behaviours

### *Self-reported STI knowledge and sexual behaviours in young people*

The National Survey of Australian Secondary Students and Sexual Health (SASSH)<sup>19</sup>, administered by the Australian Research Centre in Sex, Health and Society (ARCSHS) at Latrobe University, provides a picture of sexual attitudes, knowledge and experiences of young Australian people. The survey is undertaken periodically, approximately every 5 years, and provides a representative sample of students in year 10, 11 and 12 across government, Catholic and independent school systems from all jurisdictions. Results from SASSH may not be generalisable to all young Australian people due to the use of convenience sampling rather than random sampling.

In 2017 the first edition of the online Debrief Survey<sup>20</sup>, a national behavioural survey on sexual health among young people aged 15-29 years administered through the Centre for Social Research in Health (CSRH) at the University of New South Wales, commenced. The survey collected data from heterosexual and non-heterosexual participants residing in all states and territories, recruited through online advertisements on Facebook and Instagram. Although this method of recruitment enabled easier recruitment of participants, survey data collected may be affected by declaration bias and may not be representative of young people who use social media or the population of young people aged 15-29 years residing in Australia.<sup>20</sup>

### *Self-reported risk behaviours in gay men*

The Gay Community Periodic Surveys (GCPS)<sup>21,22</sup> co-ordinated through CSRH in partnership with the Kirby Institute is currently the only on-going mechanism for monitoring risk behaviours, such as unprotected anal intercourse, among gay men. Data collection for the GCPS commenced in some states in 1996, with a consistent methodology of recruitment of gay men attending community events applied across all surveys. These data enable a reasonable degree of comparability over time, at a jurisdictional and national level, using a well-validated data collection instrument. While the data are age standardised and adjusted to account for variations in recruitment across venues and jurisdictions, in some instances, the differences are severe making adjustments to the dataset difficult.

There is some variability in the period of the sample (e.g. annual versus biennial) and data collection formats across the jurisdictions (e.g. online versus in person). Over time, gay men have become less frequent attenders of gay commercial venues and more sexual contacts are organised electronically through the use of hand-held devices and hook-up applications. The GCPS is currently administered by self-completed pencil paper questionnaire unlinked from biological measures (testing), at community venues and events, but is currently being extended to include a complementary online format. Given the large proportion of gay men who organise sexual contact through hand-held devices, rather than through community events, it is likely that high-risk men are under-numerated by the current system.

### *Reporting against indicators*

#### **Proportion of secondary school students giving the correct answer to STI knowledge and behaviour questions**

<b>Indicator components</b>	<b>Source</b>	<b>Description</b>	<b>Custodian/stakeholder</b>	<b>Availability of data for reporting</b>
<b>Numerator</b>	SSASH	Number of respondents answering STI knowledge questions correctly	ARCSHS	Periodically
<b>Denominator</b>	SSASH	Total number of respondents	ARCSHS	Periodically

**Proportion of secondary school students reporting certain risky sexual behaviours**

Indicator components	Source	Description	Custodian/stakeholder	Availability of data for reporting
<b>Numerator</b>	SSASH	Number of respondents reporting certain risky sexual behaviours	ARCSHS	Periodically
<b>Denominator</b>	SSASH	Total number of respondents	ARCSHS	Periodically

**Proportion of young people (15-29 year olds) giving the correct answer to STI knowledge questions**

Indicator components	Source	Description	Custodian/stakeholder	Availability of data for reporting
<b>Numerator</b>	Debrief Survey	Number of respondents answering STI knowledge questions correctly	CSRH	Periodically
<b>Denominator</b>	Debrief Survey	Total number of respondents	CSRH	Periodically

**Proportion of young people (15-29 year olds) reporting consistent condom use with sexual partners in the previous 12 months**

Indicator components	Source	Description	Custodian/stakeholder	Availability of data for reporting
<b>Numerator</b>	Debrief Survey	Number of respondents who have consistently used condoms with sexual partners in the previous 12 months	CSRH	Periodically
<b>Denominator</b>	Debrief Survey	Total number of respondents who have had sex in the previous 12 months	CSRH	Periodically

**Proportion of gay and bisexual men who reported consistent condom use with casual sexual partners in the previous 12 months**

Indicator components	Source	Description	Custodian/stakeholder	Availability of data for reporting
<b>Numerator</b>	GCPS	Number of respondents who reported consistent condom use with casual sexual partners in the previous 12 months	CSRH/Kirby Institute	Annually Biennially
<b>Denominator</b>	GCPS	Total number of respondents	CSRH/Kirby Institute	Annually Biennially

### 3.3. Increase STI testing coverage among priority populations

#### Indicator/s

- Proportion of 15-29 year olds receiving at least one chlamydia test in the previous 12 months.
- Proportion of 15-29 year olds receiving at least one gonorrhoea test in the previous 12 months.
- Proportion of gay and bisexual men who report having had an STI test in the previous 12 months.
- Proportion of gay and bisexual men attending a health clinic receiving a chlamydia, gonorrhoea and infectious syphilis test at least once in the previous 12 months.
- Proportion of gay men who report having had comprehensive STI testing in the previous 12 months.
- Proportion of sex workers attending a health clinic receiving a chlamydia, gonorrhoea or infectious syphilis test in the previous 12 months
- Proportion of young people (15-29 years) who reported having sex and have had an STI and/or HIV test in the previous 12 months.

#### Indicator notes

##### *Chlamydia tests in 15-29 year olds*

See indicator notes in Part A of [section 3.2](#) for notes on Medicare Benefits Scheme (MBS) data.

##### *Gonorrhoea tests in 15-39 year olds*

See indicator notes in Part A of [section 3.2](#) for notes on MBS data.

##### *STI testing at sentinel sites*

See indicator notes in Part A of [section 3.2](#) for notes on the Australian Collaboration for Coordinated Enhanced Sentinel Surveillance of STIs and BBVs (ACCESS).

##### *Other priority populations*

See indicator notes in Part A of [section 3.2](#) for notes on priority populations.

##### *Self-reported STI testing in gay men*

See indicator notes in Part B of [section 3.2](#) for notes on the Gay Community Periodic Survey (GCPS).

##### *Self-reported STI testing in young people*

See indicator notes in Part B of [section 3.2](#) for notes on the Debrief Survey.

#### Reporting against indicators

##### Proportion of 15-29 year olds receiving a chlamydia test at least once in the previous 12 months

Indicator components	Source	Description	Custodian/stakeholder	Availability of data for reporting
<b>Numerator</b>	MBS	Number of individuals aged 15-29 years tested at least once in the previous 12 months reported to Medicare (item numbers 69316, 69317, 69319)	Services Australia	Monthly
<b>Denominator</b>	ABS	Australian population estimates aged 15-29 years reported by the ABS	Australian Bureau of Statistics	Quarterly <sup>hh</sup>

<sup>hh</sup> Population estimates by sex for Australia and each of the states and territories are published quarterly as at 31 March, 30 June, 30 September and 31 December in [Australian Demographic Statistics](#) (cat. no. 3101.0).

**Proportion of 15-29 year olds receiving a gonorrhoea test at least once in the previous 12 months**

Indicator components	Source	Description	Custodian/ stakeholder	Availability of data for reporting
<b>Numerator</b>	MBS	Number of individuals aged 15-29 years tested at least once in the previous 12 months reported to Medicare (item numbers 69316, 69317, 69319)	Services Australia	Monthly
<b>Denominator</b>	ABS	Australian population estimates aged 15-29 years reported by the ABS	ABS	Quarterly <sup>ii</sup>

**Proportion of gay and bisexual men attending a health service participating in the ACCESS network receiving a chlamydia, gonorrhoea or syphilis test at least once in the previous 12 months**

Indicator components	Source	Description	Custodian/ stakeholder	Availability of data for reporting
<b>Numerator</b>	ACCESS	Number of gay and bisexual men attending a health service <sup>jj</sup> who received a chlamydia, gonorrhoea and syphilis test at least once in the previous 12 months	Burnet/ Kirby Institute	Annually
<b>Denominator</b>	ACCESS	Number of gay and bisexual men attending a health service <sup>jj</sup> in the previous 12 months	Burnet/ Kirby Institute	Annually

**Proportion of gay and bisexual men who report having had comprehensive STI testing in the previous 12 months**

Indicator components	Source	Description	Custodian/ stakeholder	Availability of data for reporting
<b>Numerator</b>	GCPS	Number of respondents who reported having comprehensive STI testing <sup>kk</sup> in the previous 12 months	CSRH/Kirby Institute	Annually Biennially
<b>Denominator</b>	GCPS	Total number of respondents	CSRH/Kirby Institute	Annually Biennially

<sup>ii</sup> Population estimates by sex for Australia and each of the states and territories are published quarterly as at 31 March, 30 June, 30 September and 31 December in [Australian Demographic Statistics](#) (cat. no. 3101.0).

<sup>jj</sup> Including sexual health clinics and general practices.

<sup>kk</sup> At least four different samples (anal swab, throat swab, penile swab, urine, blood test) collected for STI testing (chlamydia, gonorrhoea, syphilis and where indicated, HIV) in the 12 months prior to the survey.

**Proportion of sex workers attending a sexual health clinic participating in the ACCESS network receiving a chlamydia, gonorrhoea or syphilis test at least once in the previous 12 months**

<b>Indicator components</b>	<b>Source</b>	<b>Description</b>	<b>Custodian/ stakeholder</b>	<b>Availability of data for reporting</b>
<b>Numerator</b>	ACCESS	Number of sex workers attending sexual health clinics who received a chlamydia, gonorrhoea and/or syphilis test at least once in the previous 12 months	Burnet/ Kirby Institute	Annually
<b>Denominator</b>	ACCESS	Number of sex workers attending sexual health clinics in the previous 12 months	Burnet/ Kirby Institute	Annually

**Proportion of young people (15-29 years) who reported having sex and have had a STI and/or HIV test in the previous 12 months**

<b>Indicator components</b>	<b>Source</b>	<b>Description</b>	<b>Custodian/ stakeholder</b>	<b>Availability of data for reporting</b>
<b>Numerator</b>	Debrief Survey	Number of respondents who reported having sex <sup>II</sup> and have been tested for STIs and/or HIV in the previous 12 months	CSRH	Periodically
<b>Denominator</b>	Debrief Survey	Total number of respondents who reported having sex <sup>II</sup> in the previous 12 months	CSRH	Periodically

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<sup>II</sup> Oral, vaginal and/or anal sex.

### 3.4. Eliminate congenital syphilis

#### *Indicator/s*

- Number of congenital syphilis notifications.
- Notification rate of congenital syphilis per 100,000 live births.
- Annual notification rate of infectious syphilis in women of reproductive age (15-44 years of age).

#### *Indicator notes*

Congenital syphilis is a nationally notifiable disease (see [section 3.2](#) for notes on NNDSS notifications). Although the majority of congenital syphilis cases are diagnosed at birth, diagnosis can occur at a later stage in life.

Live birth data are sourced from the ABS and refers to the number of births that occurred in Australia including births to mothers whose place of usual residence was overseas.<sup>23</sup> Stillbirths and foetal deaths are excluded.

#### *Women of reproductive age*

Foetal infection with syphilis is most likely to occur if the mother has infectious syphilis (primary, secondary and early latent stage) but it can occur in the latent stages of infection, defined as an infection greater than 2 years duration, although the risk is lower.<sup>24</sup>

Elevated rates of infectious syphilis among women of reproductive age, defined by the Australian Institute of Health and Welfare as women 15-44 years of age, increases the risk of congenital syphilis. Development of national enhanced data specifications for women pregnant at the time of their syphilis diagnosis is currently underway, and once finalised will be presented in future iterations of this Plan.

Notes on NNDSS notifications can be found in [section 3.2](#).

#### *Reporting against indicators*

##### **Number of congenital syphilis cases**

<b>Indicator components</b>	<b>Source</b>	<b>Description</b>	<b>Custodian/stakeholder</b>	<b>Availability of data for reporting</b>
<b>Numerator</b>	NNDSS	Number of congenital syphilis notifications reported to NNDSS	Department of Health	As required ('live' data <sup>mm</sup> )

##### **Notification rate of congenital syphilis per 100,000 live births**

<b>Indicator components</b>	<b>Source</b>	<b>Description</b>	<b>Custodian/stakeholder</b>	<b>Availability of data for reporting</b>
<b>Numerator</b>	NNDSS	Number of congenital syphilis notifications reported to NNDSS	Department of Health	As required ('live' data <sup>mm</sup> )
<b>Denominator</b>	ABS	Number of registered births in Australia	Australian Bureau of Statistics	Annually

<sup>mm</sup> Data are transmitted at least once a day from jurisdictions to the NNDSS however there may be a delay between patient diagnosis and reporting to NNDSS.



**Annual notification rate of infectious syphilis in women of reproductive age (15-44 years of age)**

<b>Indicator components</b>	<b>Source</b>	<b>Description</b>	<b>Custodian/ stakeholder</b>	<b>Availability of data for reporting</b>
<b>Numerator</b>	NNDSS	Number of infectious syphilis (defined as infection of less than 2 years duration) notifications in women of reproductive age (15-44 years of age) reported to NNDSS	Department of Health	As required ('live' data <sup>nn</sup> )
<b>Denominator</b>	ABS	Population estimates for women aged 15-44 years of age reported by the ABS	Australian Bureau of Statistics	Annually

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<sup>nn</sup> Data are transmitted at least once a day from jurisdictions to the NNDSS however there may be a delay between patient diagnosis and reporting to the NNDSS.

### 3.5. Minimise the reported experience and expression of stigma in relation to STI

#### *Indicator/s*

- Proportion of young people reporting negative behaviour towards people with an STI.
- Proportion of people who report that they would expect to experience stigma if they had an STI.
- Proportion of young people who report that they experienced stigma or discrimination due to their STI.
- Proportion of health care workers reporting or witnessing negative behaviour towards people with an STI.

#### *Indicator notes*

Further information on the development of the stigma related indicators see [section 1.7](#).

#### *Young people (15-29 year olds)*

The Centre for Social Research in Health (CSRH) has developed an indicator to assess the level of stigma experienced by young Australians aged 15-29 in relation to their STI status. The Debrief survey, an online cross-sectional national behavioural survey of young Australians aged 15-29 years sexual health. Participants are recruited via paid targeted advertising on Facebook and Instagram. Three questions were selected to indicated expressed and/or experienced stigma “Would you behave negatively towards other people because they have (or have had) an STI?”, “In the past 12 months, have you experienced any stigma or discrimination in relation to having an STI?” and “If you ever had an STI, do you think you would experience any stigma or discrimination in relation to this STI?”.

#### *Healthcare workers*

CSRH developed an indicator to assess expressed stigma among health care workers towards clients with and STI. Two questions were selected to indicate expressed and witnessed stigma in relation to STI status: “Would you behave negatively towards other people because of their STI?” and “In the last 12 months, have you witnessed any health workers behaving negatively towards patients/clients because of their STI?”.

An online survey was developed for health care workers. Participants were recruited through the Australasian Society for HIV, Viral Hepatitis and Sexual Health Medicine (ASHM). It is important to note that this sample is not representative and is likely to show an underrepresentation of stigma expressed by health care workers more generally.

#### *Reporting against indicators*

##### **Proportion of young people reporting negative behaviour towards people with an STI**

<b>Indicator components</b>	<b>Source</b>	<b>Description</b>	<b>Custodian/ stakeholder</b>	<b>Availability of data for reporting</b>
<b>Numerator</b>	Debrief Survey	Number of survey participants reporting that they would rarely, sometimes, often or always behave negatively towards people with an STI	CSRH	Periodically
<b>Denominator</b>	Debrief Survey	Number of survey participants	CSRH	Periodically

**Proportion of young people who report that they would expect to experience stigma or discrimination if they had an STI**

<b>Indicator components</b>	<b>Source</b>	<b>Description</b>	<b>Custodian/ stakeholder</b>	<b>Availability of data for reporting</b>
<b>Numerator</b>	Debrief Survey	Number of survey participants reporting that they would rarely, sometimes, often or always expect to experience stigma and discrimination if they had an STI	CSRH	Periodically
<b>Denominator</b>	Debrief Survey	Number of survey participants	CSRH	Periodically

**Proportion of young people who report that they experienced stigma or discrimination due to their STI**

<b>Indicator components</b>	<b>Source</b>	<b>Description</b>	<b>Custodian/ stakeholder</b>	<b>Availability of data for reporting</b>
<b>Numerator</b>	Debrief survey	Number of survey participants reporting that they rarely, sometimes, often or always experienced stigma and discrimination due to their STI	CSRH	Periodically
<b>Denominator</b>	Debrief survey	Number of survey participants	CSRH	Periodically

**Proportion of health care workers reporting or witnessing negative behaviour towards people with an STI**

<b>Indicator components</b>	<b>Source</b>	<b>Description</b>	<b>Custodian/ stakeholder</b>	<b>Availability of data for reporting</b>
<b>Numerator</b>	ASHM in association with CSRH	Number of surveyed health care workers who report expressing or witnessing any stigma or discrimination towards clients with an STI	ASHM	Periodically
<b>Denominator</b>	ASHM in association with CSRH	Number of survey participants	ASHM	Periodically

## 4. National HIV Strategy

The goals of the [Eighth National HIV Strategy](#) are to:

- Virtually eliminate HIV transmission in Australia within the life of this Strategy
- Sustain the virtual elimination of HIV transmission among people who inject drugs, among sex workers and from mother to child
- Reduce mortality and morbidity related to HIV
- Eliminate the negative impact of stigma, discrimination, and legal and human rights issues on people's health
- Minimise the personal and social impact of HIV.

### Targets – HIV

The nine targets in the National HIV Strategy provide a specific focus for the efforts made towards achieving the goals of this Strategy:

- 4.1. Increase the proportion of people with HIV (in all priority populations) who are diagnosed to 95%
- 4.2. Increase the proportion of people diagnosed with HIV on treatment to 95%
- 4.3. Increase the proportion of those on treatment with an undetectable viral load to 95%
- 4.4. Reduce the incidence of HIV transmissions in men who have sex with men
- 4.5. Reduce the incidence of HIV transmissions in other priority populations
- 4.6. Sustain the virtual elimination of HIV among sex workers, among people who inject drugs and HIV transmission from mother to child through the maintenance of effective prevention programs
- 4.7. Increase the proportion of eligible people who are on PrEP, in combination with STI prevention and testing to 75%
- 4.8. 75% of people with HIV report good quality of life
- 4.9. Reduce by 75% the reported experience of stigma among people with HIV, and expression of stigma, in relation to HIV status.

Indicators to monitor progress towards achieving the targets are presented under the eight sub-headings (targets 4.4 and 4.5 have been combined for reporting purposes) below representing the specific targets.

#### 4.1. Increase the proportion of people with HIV (in all priority populations) who are diagnosed to 95%

##### *Indicator/s*

- Proportion of people living with HIV who are diagnosed.
- Proportion of gay and bisexual men who have been tested for HIV 1 time or more in the previous 12 months.
- Proportion of gay and bisexual men who have been tested for HIV 3 times or more in the previous 12 months.
- Proportion of people who inject drugs who have been tested for HIV in the previous 12 months.
- Proportion of people from priority populations who have been tested for HIV in the previous 12 months.
- Proportion of new HIV diagnoses determined to be late (CD4 count < 350 cell/μL) by exposure category.
- Self-reported HIV prevalence among gay and bisexual men.
- Prevalence of HIV among people who inject drugs.
- Prevalence of HIV among people in custodial settings.

##### *Indicator notes*

##### *Notifications*

HIV infection is a notifiable disease in all jurisdictions and is reported to the National HIV Registry maintained by the Kirby Institute at the University of New South Wales under the provisions of the *National Health Security Act (2007)*.<sup>1</sup> Information sought on the notification form includes demographic information, country of birth, Indigenous status, date of diagnosis, CD4+ cell count at diagnosis, source of exposure to HIV and evidence of newly acquired HIV infection.

The pattern of HIV transmission is monitored through surveillance of newly diagnosed cases of HIV infection. However newly diagnosed cases may be a reflection of current testing practices, rather than recent transmission, and may fluctuate. Surveillance of recent infection, derived from newly diagnosed cases (previous negative test, onset of primary HIV infection and/or an indeterminate test less than 365 days), indicate the lower bound to the extent of recent HIV transmission. Completeness of recent HIV infection is hard to estimate precisely. If cases have evidence of a previous test then this information is used to determine recency 100% of the time. It is difficult to know the extent of sensitivity and specificity on primary HIV infection symptoms.

Incidence is a difficult indicator to measure, and notifications are used as a surrogate, recognising that for most infections, notifications represent only a proportion of the total cases and may be influenced by changes to testing patterns. While there is currently no mechanism to measure the true incidence of HIV, these indicators aim to measure progress towards increased testing in high-risk groups resulting in more diagnoses at an early stage of infection. It is expected that increased testing will initially result in higher rates of HIV case detection and in the longer-term a reduction in onward transmission and thus declines in HIV diagnoses.

##### *Diagnosed HIV*

The number of people living with diagnosed HIV infection is estimated using annual notifications, removal of duplicates, estimated mortality rates, and overseas migration rates.

The European Centre for Disease Control (ECDC) HIV modelling tool is used to estimate the overall number of people living with HIV, both diagnosed and undiagnosed. The ECDC tool is a multistate back calculation model using notifications data and estimates for the rate of CD4+ cell count decline to fit diagnoses rates over time, producing estimates for HIV incidence, time between infection and diagnosis, and the undiagnosed population by CD4+ cell count strata, using surveillance data on new HIV and AIDS diagnoses.

#### *HIV tests and self-reported prevalence in gay and bisexual men*

The Gay Community Periodic Surveys (GCPS)<sup>21,22</sup>, co-ordinated through the Centre for Social Research in Health (CSRH) in partnership with the Kirby Institute, is currently the only on-going mechanism for monitoring risk behaviours, such as unprotected anal intercourse, among gay men. Data collection for the GCPS commenced in some states in 1996, with a consistent methodology of recruitment of gay men attending community events applied across all surveys. These data enable a reasonable degree of comparability over time, at a jurisdictional and national level, using a well validated data collection instrument. While the data are age standardised and adjusted to account for variations in recruitment across venues and jurisdictions, in some instances, the differences are severe making adjustments to the dataset difficult.

There is some variability in the period of the GCPS sample (e.g. annual versus biennial) and data collection formats across the jurisdictions (e.g. online versus in person). Over time, gay men have become less frequent attenders of gay commercial venues and more sexual contacts are organised electronically through the use of hand-held devices and hook-up applications. The GCPS is currently administered by self-completed pencil and paper questionnaire unlinked from biological measures (testing), at community venues and events, but is currently being extended to include a complementary online format. Given the large proportion of gay men who organise sexual contact through hand-held devices, rather than through community events, it is likely that high-risk men are under-numerated by the current system.

#### *HIV tests in people who inject drugs*

HIV prevalence among people who inject drugs (PWID) remains low following successful prevention programs in this population. PWID remain a priority population due to the potential for HIV transmission via unsafe injecting practices and other risk behaviours.

The Australian Needle and Syringe Program Survey (ANSPS) is conducted annually over a one to two week period and collects data from a large heterogeneous sample of community-based PWID accessing approximately 50 Needle and Syringe Programs (NSP) services from a range of geographical areas across all states and territories. The ANSPS provides serial point prevalence estimates of HIV antibody prevalence, derived through serological testing of dried blood spots among PWID. Self-reported risk behaviour, including injecting and sexual behaviour are collected through a questionnaire by survey participants.<sup>8</sup>

It is important to note that the ANSPS involves PWID who attended prevention services such as NSPs, so the findings may not be generalizable to the broader population of Australian PWID

#### *Data from clinical services – testing in priority populations*

The Australian Collaboration for Coordinated Enhanced Sentinel Surveillance of Bloodborne Viruses and Sexually Transmitted Infections (ACCESS), a collaboration between the Burnet Institute, Kirby Institute and National Serology Reference Laboratory, collects patient data from health services that provide specialised care and management in relation to HIV (e.g. sexual health clinics and high case load general practices), services that have large caseloads of people at high-risk of HIV and from public and private laboratories.<sup>10,11</sup> There is representation from all jurisdictions on the ACCESS project, however there is some variation in the number of health services/laboratories participating within each jurisdiction. Overall testing numbers and subsequent notification of infection collected through the ACCESS project may be influenced by testing policies and preferential testing among high-risk groups such as sex workers and people using pre-exposure Prophylaxis (PrEP) for HIV, and may not be representative of broader trends in the Australian population.

While ACCESS does not capture all new HIV diagnoses it does provide valuable information on priority populations and opportunities to track (anonymously) patients between services, overtime and with testing and treatment outcomes.<sup>10</sup>

### *Late diagnoses by exposure category*

Late HIV diagnosis are defined as new HIV diagnosis with a CD4+ cell count of less than 350 cells/ $\mu$ L. Notifications classified as newly acquired are excluded from late or advanced categorisation.

### *People in custodial settings*

People in custodial settings are at a heightened risk of HIV transmission due to increased possibility of exposure risks associated with transmission, such as tattooing, fighting and other blood contact.<sup>5</sup> The National Prison Entrants' Blood-borne Virus Survey (NPEBBVS), currently in its fifth iteration provides an estimate of HIV and other bloodborne viruses among prison entrants across six jurisdictions. The survey is conducted over a two week period triennially, with participants screened for HIV antibodies (and other markers for bloodborne viruses and STI) and asked to complete a questionnaire on risk behaviours (including injecting behaviour and drug use).

### *Reporting against indicators*

#### **Proportion of people living with HIV who are diagnosed**

<b>Indicator components</b>	<b>Source</b>	<b>Description</b>	<b>Custodian/ stakeholder</b>	<b>Availability of data for reporting</b>
<b>Numerator</b>	Modelled estimates	Estimated number of people who have diagnosed HIV infection in Australia	Kirby Institute	Annually
<b>Denominator</b>	Modelled estimates	Estimated number of people living with HIV in Australia	Kirby Institute	Annually

#### **Proportion of gay and bisexual men who have been tested for HIV 1 time or more in the previous 12 months**

<b>Indicator components</b>	<b>Source</b>	<b>Description</b>	<b>Custodian/ stakeholder</b>	<b>Availability of data for reporting</b>
<b>Numerator</b>	GCPS	Number of respondents who have been tested for HIV 1 time or more in the previous 12 months	CSRH/Kirby Institute	Annually
<b>Denominator</b>	GCPS	Total number of respondents	CSRH/Kirby Institute	Annually

#### **Proportion of gay and bisexual men who have been tested for HIV 3 times or more in the previous 12 months**

<b>Indicator components</b>	<b>Source</b>	<b>Description</b>	<b>Custodian/ stakeholder</b>	<b>Availability of data for reporting</b>
<b>Numerator</b>	GCPS	Number of respondents who have been tested for HIV 3 times or more in the previous 12 months	CSRH/Kirby Institute	Annually
<b>Denominator</b>	GCPS	Total number of respondents	CSRH/Kirby Institute	Annually

#### **Proportion of people who inject drugs accessing needle and syringe programs who have been tested for HIV in the previous 12 months**

<b>Indicator components</b>	<b>Source</b>	<b>Description</b>	<b>Custodian/ stakeholder</b>	<b>Availability of data for reporting</b>
<b>Numerator</b>	ANSPS	Number of respondents who report having had an HIV test in the last 12 months	Kirby Institute	Annually
<b>Denominator</b>	ANSPS	Total number of respondents	Kirby Institute	Annually





**Proportion of people from priority populations who have been tested for HIV in the previous 12 months attending a health service participating in the ACCESS network**

Indicator components	Source	Description	Custodian/stakeholder	Availability of data for reporting
<b>Gay and bisexual men</b>				
<b>Numerator</b>	ACCESS	Number of gay and bisexual men attending a health service <sup>oo</sup> tested for HIV in the previous 12 months	Burnet/Kirby Institute	Annually
<b>Denominator</b>	ACCESS	Number of gay and bisexual men attending a health service <sup>oo</sup> in the previous 12 months	Burnet/Kirby Institute	Annually
<b>Female sex workers</b>				
<b>Numerator</b>	ACCESS	Number of female sex workers attending sexual health clinics tested for HIV in the previous 12 months	Burnet/Kirby Institute	Annually
<b>Denominator</b>	ACCESS	Number of female sex workers attending a sexual health clinic in the previous 12 months	Burnet/Kirby Institute	Annually
<b>People who inject drugs</b>				
<b>Numerator</b>	ACCESS	Number of people who inject drugs attending sexual health clinics tested for HIV in the previous 12 months	Burnet/Kirby Institute	Annually
<b>Denominator</b>	ACCESS	Number of people who inject drugs attending a sexual health clinic in the previous 12 months	Burnet/Kirby Institute	Annually
<b>Heterosexuals 16-29 years of age</b>				
<b>Numerator</b>	ACCESS	Number of heterosexuals aged 16-29 years attending sexual health clinics tested for HIV in the previous 12 months	Burnet/Kirby Institute	Annually
<b>Denominator</b>	ACCESS	Number of heterosexuals aged 16-29 years attending a sexual health clinic in the previous 12 months	Burnet/Kirby Institute	Annually

**Proportion of new HIV diagnoses with a late diagnosis of HIV (CD4 count<350 cell/μL)**

Indicator components	Source	Description	Custodian/stakeholder	Availability of data for reporting
<b>Numerator</b>	National HIV Registry	Number of new HIV diagnoses classified as late per year	Kirby Institute	Annually
<b>Denominator</b>	National HIV Registry	Total number of new HIV diagnoses with a CD4 count and not classified as newly diagnosed per year	Kirby Institute	Annually

<sup>oo</sup> High caseload general practice clinics and sexual health clinics.

**Self-reported HIV prevalence among gay and bisexual men**

<b>Indicator components</b>	<b>Source</b>	<b>Description</b>	<b>Custodian/ stakeholder</b>	<b>Availability of data for reporting</b>
<b>Numerator</b>	GCPS	Number of respondents who self-reported as HIV-positive	CSRH/Kirby Institute	Annually Biennially
<b>Denominator</b>	GCPS	Total number of respondents	CSRH/Kirby Institute	Annually Biennially

**Prevalence of HIV among people who inject drugs attending needle and syringe programs**

<b>Indicator components</b>	<b>Source</b>	<b>Description</b>	<b>Custodian/ stakeholder</b>	<b>Availability of data for reporting</b>
<b>Numerator</b>	ANSPS	Number of respondents testing positive for HIV	Kirby Institute	Annually
<b>Denominator</b>	ANSPS	Total number of respondents	Kirby Institute	Annually

**Prevalence of HIV among people in custodial settings**

<b>Indicator components</b>	<b>Source</b>	<b>Description</b>	<b>Custodian/ stakeholder</b>	<b>Availability of data for reporting</b>
<b>Numerator</b>	NPEBBVS	Number of respondents who are HIV antibody positive	Kirby Institute	Triennial
<b>Denominator</b>	NPEBBVS	Total number of respondents	Kirby Institute	Triennial

## 4.2. Increase the proportion of people diagnosed with HIV on treatment to 95%

### Indicator/s

- Proportion of people living with diagnosed HIV who are receiving ART.
- Proportion of HIV positive gay and bisexual men receiving ART.

### Indicator notes

#### Antiretroviral treatment (ART)

Subsidised ART for HIV is available through the Pharmaceutical Benefits Scheme (PBS). Treatment data (100% sample of PBS data) for HIV represent the number of individuals dispensed any drugs listed on the PBS for treatment of HIV and are collected by the Australian Government Department, Services Australia.

Added to the PBS number an estimate for the number of HIV-positive temporary residents taking ART through compassionate access schemes, as temporary residents are not eligible for Medicare and hence not counted in the PBS sample. An unknown number of people, mostly those who are not eligible for Medicare, purchase HIV ART from overseas via the Internet, therefore the number of people dispensed treatment will under-estimate the actual number of people on treatment.

#### Gay and bisexual men receiving ART

See indicator notes in [section 4.1](#) for notes on the GCPS.

### Reporting against indicators

#### Proportion of people living with diagnosed HIV who are receiving ART

Indicator components	Source	Description	Custodian/stakeholder	Availability of data for reporting
Numerator	PBS (Medicare eligible)	Number of Medicare eligible people with HIV dispensed ART through the PBS and the estimated number of people ineligible for Medicare receiving HIV treatment	Services Australia (Medicare eligible)	Annually
	Estimate (Medicare ineligible)		Kirby Institute (Medicare ineligible)	
Denominator	Modelled estimate	Model-based estimate of number of people living with diagnosed HIV	Kirby Institute	Annually

#### Proportion of HIV positive gay and bisexual men receiving ART

Indicator components	Source	Description	Custodian/stakeholder	Availability of data for reporting
Numerator	GCPS	Number of HIV positive respondents receiving ART	CSRH/Kirby Institute	Annually
Denominator	GCPS	Total number of HIV positive respondents	CSRH/Kirby Institute	Annually
Numerator	ACCESS	Number of gay and bisexual HIV positive men receiving ART attending a health service <sup>PP</sup>	Burnet/Kirby Institute	Annually
Denominator	ACCESS	Number of gay and bisexual HIV positive men attending a health service <sup>PP</sup>	Burnet/Kirby Institute	Annually

<sup>PP</sup> High caseload general practice clinics and sexual health clinics.

### 4.3. Increase the proportion of people on treatment with an undetectable viral load to 95%

#### Indicator/s

- Proportion of people receiving antiretroviral treatment for HIV infection whose viral load is less than 200 copies/mL.
- Proportion of gay and bisexual men receiving antiretroviral treatment for HIV infection whose viral load is less than 200 copies/mL.
- Proportion of people from culturally and linguistically diverse backgrounds receiving antiretroviral treatment for HIV infection whose viral load is less than 200 copies/mL.
- Proportion of people who inject drugs receiving antiretroviral treatment for HIV infection whose viral load is less than 200 copies/mL.

#### Indicator notes

The Australian HIV Observational Database (AHOD) is a large observational cohort of over 4,550 adults diagnosed with HIV and receiving care at clinical sites around Australia. Estimates of proportions of patients with undetectable viral load while receiving antiretroviral treatment (ART) for HIV are based on the AHOD, which is an older cohort with the inherent problems of representativeness and survival biases.

Virological suppression is defined as less than 200 viral copies per ml. The proportion of people on ART with viral suppression was taken to be the proportion of people recorded in the AHOD database who have less than 200 copies per/ml at their last viral load test. Uncertainty bounds are estimated by calculating the 95% confidence interval for this proportion. Estimating the number of people living with HIV on ART with viral suppression is calculated by multiplying this proportion and range by the estimated number of people receiving ART.

*Data from clinical services –priority populations*

See indicator notes in [section 4.1](#) for notes on data collected through ACCESS.

#### Reporting against indicators

##### Proportion of people receiving ART for HIV infection whose viral load is less than 200 copies/mL

Indicator components	Source	Description	Custodian/stakeholder	Availability of data for reporting
<b>Numerator</b>	AHOD	Number of people receiving ART for HIV whose viral load is less than 200 copies/mL reported in the AHOD	Kirby Institute	Annually
<b>Denominator</b>	AHOD	Number of people receiving ART for HIV reported in the AHOD	Kirby Institute	Annually

##### Proportion of gay and bisexual men receiving ART for HIV infection whose viral load is less than 200 copies/mL attending a health service in the ACCESS network

Indicator components	Source	Description	Custodian/stakeholder	Availability of data for reporting
<b>Numerator</b>	ACCESS	Number of gay and bisexual men receiving ART for HIV whose viral load is less than 200 copies/mL attending a health service <sup>qq</sup>	Burnet/Kirby Institute	Annually
<b>Denominator</b>	ACCESS	Number of gay and bisexual men receiving ART for HIV attending a health service <sup>qq</sup>	Burnet/Kirby Institute	Annually

<sup>qq</sup> High caseload general practice clinics and sexual health clinics.

**Proportion of people from culturally and linguistically diverse backgrounds receiving ART for HIV infection whose viral load is less than 200 copies/mL attending a health service in the ACCESS network**

<b>Indicator components</b>	<b>Source</b>	<b>Description</b>	<b>Custodian/stakeholder</b>	<b>Availability of data for reporting</b>
<b>Numerator</b>	ACCESS	Number of people from culturally and linguistically diverse backgrounds <sup>rr</sup> receiving ART for HIV whose viral load is less than 200 copies/mL attending a health service <sup>ss</sup>	Burnet/Kirby Institute	Annually
<b>Denominator</b>	ACCESS	Number of people from culturally and linguistically diverse backgrounds <sup>rr</sup> receiving ART for HIV attending a health service <sup>ss</sup>	Burnet/Kirby Institute	Annually

**Proportion of people who inject drugs receiving ART for HIV infection whose viral load is less than 200 copies/mL attending a health service in the ACCESS network**

<b>Indicator components</b>	<b>Source</b>	<b>Description</b>	<b>Custodian/stakeholder</b>	<b>Availability of data for reporting</b>
<b>Numerator</b>	ACCESS	Number of people who inject drugs receiving ART for HIV whose viral load is less than 200 copies/mL attending a health service <sup>ss</sup>	Burnet/Kirby Institute	Annually
<b>Denominator</b>	ACCESS	Number of people who inject drugs receiving ART for HIV attending a health service <sup>ss</sup>	Burnet/Kirby Institute	Annually

<sup>rr</sup> For this indicator people from culturally and linguistically diverse (CALD) backgrounds includes people born overseas where English is not the primary language, which is in-line with characteristics recommended by the Australian Bureau of Statistics to determine CALD backgrounds.

<sup>ss</sup> Including general practice clinics and sexual health clinics.

#### 4.4. Reduce the incidence of HIV transmissions in men who have sex with men and other priority populations

##### *Indicator/s*

- Annual notification rate of new HIV diagnoses.
- Number of HIV notifications by exposure category.
- Incidence of recent HIV infection among HIV diagnoses by exposure category.
- Incidence of HIV among people who inject drugs.
- Incidence of HIV among female sex workers.

##### *Indicator notes*

##### *Notifications*

See indicator notes in [section 4.1](#) for notes on the National HIV Registry.

##### *Data from clinical services – sex workers*

See indicator notes in [section 4.1](#) for notes on the ACCESS.

##### *People who inject drugs*

See indicator notes in [section 4.1](#) for notes on the ANSPS.

Incidence estimates, using the ANSPS, among people who inject drugs is determined by linking HIV serological results of repeat ANSPS respondents attending needle and syringe programs and identifying those cases that reported an infection following an initial negative test.<sup>25</sup>

##### **Annual notification rate of new HIV diagnoses**

<b>Indicator components</b>	<b>Source</b>	<b>Description</b>	<b>Custodian/stakeholder</b>	<b>Availability of data for reporting</b>
<b>Numerator</b>	National HIV Registry	Number of newly diagnosed HIV infections recorded in the National HIV Registry	Kirby Institute	Annually
<b>Denominator</b>	ABS	Australian population reported by the ABS	Australian Bureau of Statistics	Quarterly <sup>tt</sup>

##### **Number of HIV notifications by exposure category**

<b>Indicator components</b>	<b>Source</b>	<b>Description</b>	<b>Custodian/stakeholder</b>	<b>Availability of data for reporting</b>
<b>Single measure</b>	National HIV Registry	Number of newly diagnosed HIV infections recorded in the National HIV Registry by exposure category	Kirby Institute	Quarterly

<sup>tt</sup> Population estimates by sex for Australia and each of the states and territories are published quarterly as at 31 March, 30 June, 30 September and 31 December in [Australian Demographic Statistics](#) (cat. no. 3101.0).

**Incidence of recent HIV infection among HIV diagnoses by exposure category**

<b>Indicator components</b>	<b>Source</b>	<b>Description</b>	<b>Custodian/ stakeholder</b>	<b>Availability of data for reporting</b>
<b>Numerator</b>	National HIV Registry	Number of newly diagnosed cases with a negative test, onset of primary HIV infection and/or an indeterminate HIV test in the previous year by exposure category	Kirby Institute	Annually
<b>Denominator</b>	National HIV Registry	Number of HIV notifications recorded in the National HIV Registry by exposure category	Kirby Institute	Annually

**Incidence of HIV among people who inject drugs attending needle and syringe programs**

<b>Indicator components</b>	<b>Source</b>	<b>Description</b>	<b>Custodian/ stakeholder</b>	<b>Availability of data for reporting</b>
<b>Numerator</b>	ANSPS	Number of incident cases among people who inject drugs attending needle and syringe programs infection, defined as positive results for HIV preceded by a previous negative test	Kirby Institute	Annually
<b>Denominator</b>	ANSPS	Number of people who inject drugs attending needle and syringe programs participating in more than one round of ANSPS who were HIV negative at first participation	Kirby Institute	Annually

**Incidence of HIV among female sex workers**

<b>Indicator components</b>	<b>Source</b>	<b>Description</b>	<b>Custodian/ stakeholder</b>	<b>Availability of data for reporting</b>
<b>Numerator</b>	ACCESS	Number of incident cases, defined as positive results or diagnoses preceded by a previous negative test	Burnet/Kirby Institute	Annually
<b>Denominator</b>	ACCESS	Person years at risk, defined as the time between the first and last test in the cohort time period	Burnet/Kirby Institute	Annually

#### 4.5. Sustain the virtual elimination of HIV among sex workers, among people who inject drugs and HIV transmission from mother to child through the maintenance of effective prevention programs

##### *Indicator/s*

- Incidence of HIV among people who inject drugs.
- Incidence of HIV among female sex workers.
- HIV transmission to newborns perinatally exposed to HIV.

##### *Indicator notes*

Indicators for people who inject drugs and sex workers are presented in [section 4.4](#).

##### *Mother to child transmission*

Data from the Australian Paediatric Surveillance Unit (APSU) is recorded in the Australian Perinatal HIV Surveillance System (APHSS). Paediatricians and other child health professionals participating in the APSU notify infants born to HIV-positive mothers. Further information is then sought including demographics of infant and mother, maternal HIV exposure risk, HIV prevention interventions used including ART, mode of delivery, breastfeeding status and the infant's HIV status. It should be noted that not all cases of HIV due to mother to child transmission are reported to the APSU and so caution should be applied in the interpretation of these figures.

##### *Reporting against indicator*

##### **HIV transmission to newborns perinatally exposed to HIV**

<b>Indicator components</b>	<b>Source</b>	<b>Description</b>	<b>Custodian/ stakeholder</b>	<b>Availability of data for reporting</b>
<b>Numerator</b>	APSU (as recorded in APHSS)	Number of HIV positive infants born to HIV- positive mothers	Kirby Institute	Annually
<b>Denominator</b>	APSU (as recorded in APHSS)	Number of infants born to HIV-positive mothers	Kirby Institute	Annually



#### 4.6. Increase the proportion of eligible people who are on PrEP, in combination with STI prevention and testing, to 75%

##### Indicator/s

- Number of people with one or more PBS-subsidised PrEP prescriptions in the previous 12 months.
- Proportion of the eligible population receiving PBS-subsidised PrEP in the previous 12 months.
- Proportion of non-HIV-positive gay men who have received PrEP in the previous 12 months.
- Proportion of gay and bisexual men who have received PrEP and had at least 1 STI tests.
- Proportion of gay and bisexual men who have received PrEP and had 3 or more STI tests.
- Proportion of gay men who have engaged in condomless anal intercourse with casual male partners in the previous six months who have received PrEP.
- Proportion of people who inject drugs who report re-use of someone else's needle and syringe in the previous month.

##### Indicator notes

##### *Pre-exposure prophylaxis (PrEP)*

On 1 April 2018, PrEP was listed on the Pharmaceutical Benefits Scheme (PBS) for people at medium and high risk of HIV.<sup>26</sup> People at risk of HIV are also at risk of acquiring other STIs, in particular gonorrhoea, infectious syphilis and chlamydia. It is required that every three months after initiation of PrEP prescribed under the PBS that individuals are tested for STIs along with other clinical follow-up and monitoring.<sup>26,27</sup> PBS-subsidised PrEP uptake is generated from a 100% sample of all dispensed PBS-subsidised PrEP prescriptions from the PBS listing date in April 2018.

PrEP eligibility is a modelled estimate based on criteria, including risk behaviours such as condom-less anal intercourse with casual male partners (CLAIC) and drug use, to determine people who may be at medium and high risk of HIV infection.<sup>28</sup>

##### *Data from clinical services – STI testing in gay and bisexual men receiving PrEP*

See indicator notes in [section 4.1](#) for notes on the ACCESS.

##### *Unprotected anal intercourse, self-reported PrEP uptake and STI testing in gay and bisexual men*

See indicator notes in [section 4.1](#) for notes on the GCPS.

Over time gay men have increasingly used a number of HIV transmission risk reduction strategies in addition to the use of condoms, such as sero-sorting, PrEP and long term ART of a HIV positive sexual partner. Hence a measure of the proportion of gay men who engaged in unprotected anal intercourse with casual partners may no longer reflect behaviours for which there is a high risk of HIV acquisition.

##### *Reusing someone else's needle and syringe for injecting*

See indicator notes in [section 4.1](#) for notes on the ANSPS.

##### *Reporting against indicators*

##### **Number of people dispensed one or more PBS-subsidised PrEP prescriptions in the previous 12 months**

Indicator components	Source	Description	Custodian/stakeholder	Availability of data for reporting
Single measure	PBS	Number of people dispensed one or more PBS-subsidised PrEP prescriptions in the previous 12 months	Services Australia	Annually

**Proportion of the eligible population dispensed PBS-subsidised PrEP in the previous 12 months**

Indicator components	Source	Description	Custodian/stakeholder	Availability of data for reporting
<b>Numerator</b>	PBS	Number of people dispensed one or more PBS-subsidised PrEP prescriptions in the previous 12 months	Services Australia	Annually
<b>Denominator</b>	Modelled Estimate	Number of people eligible for PBS-subsidised PrEP	Kirby Institute/CSRH	Periodically

**Proportion of non-HIV-positive gay men who have received PrEP in the previous 12 months**

Indicator components	Source	Description	Custodian/stakeholder	Availability of data for reporting
<b>Numerator</b>	GCPS	Number of non-HIV-positive respondents who received PrEP in the previous 12 months	CSRH/Kirby Institute	Annually
<b>Denominator</b>	GCPS	Total number of non-HIV-positive respondents	CSRH/Kirby Institute	Annually

**Proportion of gay and bisexual men who have received PrEP and have had an STI test**

Indicator components	Source	Description	Custodian/stakeholder	Availability of data for reporting
<b>Numerator</b>	ACCESS	Number of gay and bisexual men attending a health service <sup>uu</sup> who received PrEP and had at least one STI test in the previous 12 months	Burnet/Kirby Institute	Annually
<b>Denominator</b>	ACCESS	Number of gay and bisexual men attending a health service <sup>uu</sup> who received PrEP	Burnet/Kirby Institute	Annually
<b>Numerator</b>	ACCESS	Number of gay and bisexual men attending a health service <sup>uu</sup> who received PrEP and had three or more STI tests in the previous 12 months	Burnet/Kirby Institute	Annually
<b>Denominator</b>	ACCESS	Number of gay and bisexual men attending a health service <sup>uu</sup> who received PrEP	Burnet/Kirby Institute	Annually
<b>Numerator</b>	GCPS	Number of respondents who received PrEP and had at least one STI test in the previous 12 months	CSRH/Kirby Institute	Annually
<b>Denominator</b>	GCPS	Total number of respondents who reported receiving PrEP	CSRH/Kirby Institute	Annually

<sup>uu</sup> Including general practice clinics and sexual health clinics.

**Proportion of gay men who have engaged in condomless anal intercourse with casual (CLAIC) male partners in the previous six months who have received PrEP**

<b>Indicator components</b>	<b>Source</b>	<b>Description</b>	<b>Custodian/ stakeholder</b>	<b>Availability of data for reporting</b>
<b>Numerator</b>	GCPS	Number of respondents who report any CLAIC with casual male partners in previous six months and report using PrEP	CSRH/Kirby Institute	Annually
<b>Denominator</b>	GCPS	Total number of respondents who report any CLAIC with casual male partners in previous six months	CSRH/Kirby Institute	Annually

**Proportion of people who inject drugs attending needle and syringe programs who report re-use of someone else's used needle and syringe in the previous month**

<b>Indicator components</b>	<b>Source</b>	<b>Description</b>	<b>Custodian/ stakeholder</b>	<b>Availability of data for reporting</b>
<b>Numerator</b>	ANSPS	Number of respondents who report re-using another person's used needle and syringe in the previous month	Kirby Institute	Annually
<b>Denominator</b>	ANSPS	Total number of respondents	Kirby Institute	Annually

## 4.7. 75% of people with HIV report good quality of life

### *Indicator/s*

- Proportion of people with HIV who report their general health status and their general well-being to be excellent or good.

### *Indicator notes*

The HIV Futures study<sup>29</sup>, conducted through the Australian Research Centre in Sex, Health and Society (ARCSHS) at La Trobe University, is the only regular cross-sectional study of the experiences of people living with HIV nationally. The survey collects data about the experience of living with HIV and the current needs of this population. The proportion of people with HIV who report their general health status and their general wellbeing to be excellent or good in the Futures study has been identified as a measurable indicator for characterising the perceived quality of life of people living with HIV more broadly. This study complements clinical indicators related to people living with HIV to provide a broad indication of the morbidity and the social impact of HIV infection.

Data have been collected through the HIV Futures study periodically since 1997 enabling a comparative overview of national trends. However, due to the anonymity of the survey, directly linking individual responses over time is not possible. Completion of the survey is also limited to those who have reasonable literacy, come from an English speaking background and are not geographically or socially isolated.

### *Reporting against indicator*

**Proportion of people with HIV who report their general health status and their general well-being to be excellent or good**

<b>Indicator components</b>	<b>Source</b>	<b>Description</b>	<b>Custodian/ stakeholder</b>	<b>Availability of data for reporting</b>
<b>Numerator</b>	HIV Futures study	Number of people with HIV who report their general health status and their general wellbeing to be excellent or good in the HIV Futures Study	ARCSHS, LaTrobe University	Periodically
<b>Denominator</b>	HIV Futures study	Number of people with HIV who participate in the HIV Futures study	ARCSHS, LaTrobe University	Periodically

#### 4.8. Reduce by 75% the reported experience of stigma among people with HIV, and expression of stigma, in relation to HIV status

##### *Indicator/s*

- Proportion of surveyed people living with HIV who report experiencing any stigma or discrimination in relation to their HIV status in the last 12 months.
- Proportion of surveyed men who have sex with men who report experiencing any stigma or discrimination in relation to their sexual orientation in the last 12 months.
- Proportion of health care workers expressing stigma or discrimination towards clients living with HIV.
- Proportion of the Australian public who report they would express stigma or discrimination towards people living with HIV.

##### *Indicator notes*

Further information on the development of the stigma related indicators see [section 1.7](#).

##### *People experiencing stigma*

The Centre for Social Research in Health (CSRH) developed an indicator to assess the level of stigma experienced by people living with HIV. A single question was selected to indicate stigma in relation to HIV status: “In the last 12 months, to what extent have you experienced any stigma or discrimination (e.g. avoidance, pity, blame, shame, rejection, verbal abuse, bullying) in relation to your HIV status?”.

##### *Health care workers*

The CSRH developed a stigma indicator to assess expression of stigma by health care workers towards clients living with HIV. A single question was selected to indicate expressed stigma in relation to HIV status: “In the last 12 months, to what extent have you treated patients/clients differently to other people in relation to their HIV status?” The wording of this question was subsequently revised to clarify that the indicator referred to discriminatory behaviour: “In the last 12 months, do you feel that you may have discriminated against patients/clients because of their HIV status?” A single question was also asked in relation to sexual orientation: “In the last 12 months, to what extent have you treated patients/clients differently to other people in relation to their sexual orientation?” The wording of this question was subsequently revised: “In the last 12 months, do you feel that you may have discriminated against patients/clients because of their sexual orientation?”

An online survey was developed for health care workers. Participants were recruited through the Australasian Society for HIV, Viral Hepatitis and Sexual Health Medicine (ASHM). It must be noted that this sample is not representative, and is likely to show an underrepresentation of stigma expressed by health care workers more generally.

##### *Australian public*

The CSRH has also developed a stigma indicator to assess expressed stigma by members of the Australian public towards people living with HIV. The mirrored indicator was included in three waves of the 2017 Australian Survey of Social Attitudes (AuSSA), conducted by the Australian Consortium for Social and Political Research Incorporated (ACSPRI).

A single question was selected to indicate the extent to which people would discriminate against other people due to their HIV status: “Would you behave negatively towards other people because of their HIV status?”

## Reporting against indicators

### Proportion of surveyed people living with HIV who report experiencing any stigma or discrimination in relation to their HIV status in the last 12 months

Indicator components	Source	Description	Custodian/ stakeholder	Availability of data for reporting
<b>Numerator</b>	CSRH	Proportion of surveyed people living with HIV who report experiencing any stigma or discrimination in relation to their HIV status in the last 12 months	CSRH	Periodically
<b>Denominator</b>	CSRH	Total number of people living with HIV surveyed	CSRH	Periodically

### Proportion of surveyed men who have sex with men who report experiencing any stigma or discrimination in relation to their sexual orientation in the last 12 months

Indicator components	Source	Description	Custodian/ stakeholder	Availability of data for reporting
<b>Numerator</b>	CSRH	Proportion of surveyed men who have sex with men who report experiencing any stigma or discrimination in relation to their sexual orientation in the last 12 months	CSRH	Periodically
<b>Denominator</b>	CSRH	Total number of men who have sex with men surveyed	CSRH	Periodically

### Proportion of health care workers expressing stigma or discrimination towards clients living with HIV

Indicator components	Source	Description	Custodian/ stakeholder	Availability of data for reporting
<b>Numerator</b>	CSRH	Proportion of surveyed health care workers who report expressing any stigma or discrimination towards clients living with HIV, and because of their sexual orientation	CSRH	Periodically
<b>Denominator</b>	CSRH	Total number of health care workers surveyed	CSRH	Periodically

### Proportion of the Australian public who report they would express stigma or discrimination towards people living with HIV

Indicator components	Source	Description	Custodian/ stakeholder	Availability of data for reporting
<b>Numerator</b>	CSRH	Proportion of the general public who report that they would express any stigma or discrimination towards people living with HIV	CSRH	Periodically
<b>Denominator</b>	CSRH	Total number of the general public surveyed	CSRH	Periodically

## 5. National Aboriginal and Torres Strait Islander BBV and STI Strategy

The goals of the fifth [National Aboriginal and Torres Strait Islander BBV and STI Strategy](#) are to:

- Significantly reduce the transmission of BBV and STI among Aboriginal and Torres Strait Islander people;
- Close the gap in BBV and STI incidence, prevalence, testing and treatment rates between Aboriginal and Torres Strait Islander and non-Indigenous populations;
- Reduce morbidity and mortality related to BBV and STI;
- Minimise the personal and social impact of BBV and STI;
- Minimise the negative impact of stigma, racism, discrimination, and legal and human rights issues on Aboriginal and Torres Strait Islander people's health.

### Targets

The 15 targets of the National Aboriginal and Torres Strait Islander BBV and STI Strategy provide a specific focus for the efforts made towards achieving the goals of this Strategy:

Achieve and maintain hepatitis B childhood vaccination coverage of 95% at 12 and 24 months of age

- 5.1. Achieve and maintain hepatitis B childhood vaccination coverage of 95% at 12 and 24 months of age
- 5.2. Achieve and maintain HPV adolescent vaccination coverage of 80%
- 5.3. Reduce the incidence prevalence of infectious syphilis with a focus on areas of highest disease burden
- 5.4. Reduce the incidence prevalence gonorrhoea and chlamydia with a focus on young people
- 5.5. Increase STI testing coverage with a focus on areas of highest need
- 5.6. Eliminate congenital syphilis
- 5.7. Reduce the number of newly acquired hepatitis C infections by 60%
- 5.8. Increase the use of sterile injecting equipment for every injecting episode
- 5.9. Increase the proportion of people living with hepatitis C who are diagnosed to 90% and the cumulative proportion who have initiated direct acting antiviral treatment to 65%
- 5.10. Reduce hepatitis C attributable mortality by 65%
- 5.11. Increase the proportion of people living with hepatitis B who are diagnosed to 80%, receiving care to 50%, and on antiviral treatment to 20%
- 5.12. Reduce hepatitis B attributable mortality by 30%
- 5.13. Reduce the incidence of HIV transmissions
- 5.14. Achieve the 95–95–95 HIV diagnosis and treatment targets
  - a. Increase to 95% the percentage of people with HIV who are diagnosed
  - b. Increase to 95% the percentage of people diagnosed with HIV on treatment
  - c. Increase to 95% the percentage of those on treatment with an undetectable viral load
- 5.15. Reduce the reported experience of stigma among Aboriginal and Torres Strait Islander people with BBV and STI, and the expression of stigma, in relation to BBV and STI status.

Indicators to monitor progress towards achieving the targets are presented under the 14 sub-headings (targets 5.3 and 5.4 have been combined for reporting purposes) below representing the specific targets.

Please note hereafter Aboriginal and Torres Strait Islander peoples will be respectfully be referred to as Indigenous people.

## 5.1. Achieve and maintain hepatitis B childhood vaccination coverage of 95%

### Indicator/s

- Coverage of hepatitis B vaccination of Indigenous children at 12 and 24 months of age.

### Indicator notes

#### Vaccination coverage in children

The Australian Immunisation Register (AIR) is a national register that can record vaccinations for people of all ages given by a registered vaccination provider. Indigenous status on the AIR is recorded as 'Indigenous', 'non-Indigenous' or 'unknown', as reported by the person (or parent/carer) to Medicare or by the immunisation provider to the AIR. Since 2005, reporting of Aboriginal and Torres Strait Islander status in the AIR data has been considered reliable for reporting childhood immunisation coverage rates at the national and state and territory level.<sup>30</sup>

Hepatitis B vaccination is recommended for infants and children in a 4 dose schedule at birth, 2, 4 and 6 months of age, and is provided under the National Immunisation Program. Doses delivered on or before a child's 1<sup>st</sup> and 2<sup>nd</sup> birthday will be considered when calculating vaccination coverage for children 12 and 24 months of age, noting there is a minimum 3-month lag time for immunisation notifications to AIR<sup>vv</sup>.

Hepatitis B vaccination records are reported to the AIR by providers which then allows the data to be used for program monitoring and evaluation. Data are reviewed regularly with coverage estimates frequently reported and published.

### Reporting against indicator/s

#### Coverage of hepatitis B vaccination at 12 months of age

Indicator components	Source	Description	Custodian/stakeholder	Availability of data for reporting
<b>Numerator</b>	AIR	Number of Indigenous children who have the recommended number of doses by 12 months of age as indicated in the Australian Immunisation Handbook <sup>ww</sup>	Services Australia	Quarterly
<b>Denominator</b>	AIR	Total number of Indigenous children aged 12 months of age registered in AIR <sup>xx</sup>	Services Australia	Quarterly <sup>yy</sup>

#### Coverage of hepatitis B vaccination at 24 months of age

Indicator components	Source	Description	Custodian/stakeholder	Availability of data for reporting
<b>Numerator</b>	AIR	Number of Indigenous children who have the recommended number of doses by 24 months of age as indicated in the Australian Immunisation Handbook <sup>ww</sup>	Services Australia	Quarterly
<b>Denominator</b>	AIR	Total number of Indigenous children aged 24 months of age registered in AIR <sup>xx</sup>	Services Australia	Quarterly <sup>yy</sup>

<sup>vv</sup> Birth dose of Hepatitis B is not considered when calculating 12 and 24 months coverage rates.

<sup>ww</sup> Australian Immunisation Handbook: <https://immunisationhandbook.health.gov.au/>

<sup>xx</sup> Individuals are automatically registered for AIR when enrolled in Medicare.

<sup>yy</sup> Count of individuals registered for AIR at the same point in time at the numerator.



## 5.2. Achieve and maintain HPV adolescent vaccination coverage of 80%

### Indicator/s

- HPV two dose vaccination coverage for Indigenous males and females aged 15 years of age.

### Indicator notes

See [section 5.1](#) for notes on the Australian Immunisation Register (AIR)

The HPV vaccine is recommended for people aged 12 to 13 years and is provided through school programs or by general practitioners under the National Immunisation Program. Catch-up vaccines are available through the National Immunisation Program for individuals up to the age of 19 years. HPV vaccination records are reported to the AIR by providers which then allows the data to be used for program monitoring and evaluation. Data are reviewed regularly, with coverage estimates for males and females frequently reported and published. Immunisation coverage is measured in individuals aged 15 years to account for catch-up vaccinations, if some are missed in earlier years. Reporting coverage amongst 15 year olds is consistent with World Health Organization reporting.

### Reporting against indicator/s

Indicator components	Source	Description	Custodian/stakeholder	Availability of data for reporting
Numerator	AIR	Number of Indigenous males and females aged 15 years who have the recommended vaccine dosage as indicated in the Australian Immunisation Handbook <sup>zz</sup>	Services Australia	Quarterly
Denominator	AIR	Total number of Indigenous males and females aged 15, registered in AIR <sup>aaa</sup>	Services Australia	Quarterly <sup>bbb</sup>

<sup>zz</sup> Australian Immunisation Handbook: <https://immunisationhandbook.health.gov.au/>

<sup>aaa</sup> Individuals are automatically registered for AIR when enrolled in Medicare.

<sup>bbb</sup> Count of individuals registered for AIR at the same point in time at the numerator.

### 5.3. Reduce the incidence and prevalence of infectious syphilis, gonorrhoea, chlamydia, with a focus on young people and areas of highest disease burden

#### *Indicator/s*

##### Part A - Notifications

- Annual rate of infectious syphilis notifications in Indigenous people by age and sex.
- Annual rate of chlamydia notifications in Indigenous people by age and sex.
- Annual rate of gonorrhoea notifications in Indigenous people by age and sex.
- Annual rate of infectious syphilis notifications in Indigenous people by remoteness area.
- Annual rate of chlamydia notifications in Indigenous people by remoteness area.
- Annual rate of gonorrhoea notifications in Indigenous people by remoteness area.

##### Part B – Knowledge and risk behaviours

- Proportion of young (16-29 years) Indigenous people giving correct answers to knowledge questions on BBV and STI.
- Proportion of young (16-29 years) Indigenous people reporting consistent condom use with sexual partners.
- Proportion of young Indigenous people (16-29 year olds) who reported using a condom during their last sexual encounter.

#### *Indicator notes*

##### **Part A - Notifications**

###### *Notifications*

De-identified notification data are provided daily by all jurisdictions to the NNDSS managed within the Australian Government Department of Health under the provisions of the *National Health Security Act (2007)*.<sup>1</sup> Notifications of gonorrhoea, chlamydia and infectious syphilis (less than two years duration) are routinely reported by all jurisdictions to NNDSS, providing a stable and robust measure of disease prevalence. Indigenous status is usually obtained from medical notification or public health follow-up and completeness varies by disease and by state and territory. This reflects differences in notification requirements (i.e. depending on the jurisdiction, some diseases are primarily or exclusively notified by pathology laboratories rather than clinicians) and the fact that it is not possible to follow-up all cases for diseases with a large volume of notifications and/or not requiring specific case-based public health action.

In 2009, Communicable Diseases Network Australia (CDNA) targeted 18 key NNDSS priority diseases for  $\geq 95\%$  completeness of the Indigenous status identifier as part of its 'Closing the Gap' strategy, including infectious syphilis, congenital syphilis, gonorrhoea, HIV, newly acquired hepatitis B and C and donovanosis. In addition, set a goal of 80% completeness of Indigenous status identifier for other diseases, including chlamydia, unspecified hepatitis B and C.

Incidence is a difficult indicator to measure where notifications have been used as a surrogate, recognising that for most infections, they represent only a proportion of the total cases (e.g. only those cases for which health care was sought, a test conducted and a diagnosis made, followed by a notification to health authorities).

Due to the high proportion of asymptomatic STI, diagnoses are heavily influenced by testing patterns. High rates of STI diagnoses in Indigenous populations may be due to higher levels of screening and not necessarily associated with increased levels of transmission among Indigenous persons. Enhanced opportunistic and targeted screening, active contact tracing and in some instances community-wide screening programs, all contribute to the higher notification rates of infection detection observed in remote regions relative to urban regions. However, higher rates in remote regions may also reflect higher underlying prevalence of disease.

### *Remoteness Area*

'Postcode' is used to allocate notifications to the Australian Bureau of Statistics Australian Statistical Geography Standard (ABS ASGS) Remoteness Areas Structure<sup>31</sup>, noting that due to the small number of notifications in some regions notifications are reported nationally under three remoteness area categories: major cities; inner and outer regional and; remote and very remote. Where a postcode is not provided with the NNDSS notification notifications are excluded from reporting by remoteness area. Postcode usually reflects the residential location of a case at the time of testing, and does not necessarily represent the place where the disease was acquired.

### *Sentinel surveillance networks*

Sentinel surveillance may be a suitable option for monitoring testing coverage and treatment uptake<sup>ccc</sup> in Indigenous people in the future.<sup>32</sup> A network within healthcare settings such as Aboriginal Community Controlled Health Services (ACCHS), including sites in regional, remote and very remote areas of Australia is currently in development. Once in operation the data generated will be considered for inclusion in future iterations of this Plan. It is anticipated that reporting for this network will commence in 2020, with data from 2016 onwards.

### *Reporting against indicator/s*

#### **Annual rate of infectious syphilis notifications in Indigenous people by age and sex**

<b>Indicator components</b>	<b>Source</b>	<b>Description</b>	<b>Custodian/ stakeholder</b>	<b>Availability of data for reporting</b>
<b>Numerator</b>	NNDSS	Number of infectious syphilis (defined as infection of less than 2 years duration) notifications in Indigenous people reported to NNDSS by age and sex	Department of Health	As required ('live' data <sup>ddd</sup> )
<b>Denominator</b>	ABS	Indigenous population estimates reported by the ABS by age and sex	Australian Bureau of Statistics	Annually <sup>eee</sup>

#### **Annual rate of chlamydia notifications in Indigenous people by age and sex**

<b>Indicator components</b>	<b>Source</b>	<b>Description</b>	<b>Custodian/ stakeholder</b>	<b>Availability of data for reporting</b>
<b>Numerator</b>	NNDSS	Number of chlamydia notifications in Indigenous people reported to NNDSS by age and sex	Department of Health	As required ('live' data <sup>ddd</sup> )
<b>Denominator</b>	ABS	Indigenous population estimates reported by the ABS by age and sex	Australian Bureau of Statistics	Annually <sup>eee</sup>

#### **Annual rate of gonorrhoea notifications in Indigenous people by age and sex**

<b>Indicator components</b>	<b>Source</b>	<b>Description</b>	<b>Custodian/ stakeholder</b>	<b>Availability of data for reporting</b>
<b>Numerator</b>	NNDSS	Number of gonorrhoea notifications in Indigenous people reported to NNDSS by age and sex	Department of Health	As required ('live' data <sup>ddd</sup> )
<b>Denominator</b>	ABS	Indigenous population estimates reported by the ABS by age and sex	Australian Bureau of Statistics	Annually <sup>eee</sup>

<sup>ccc</sup> Surveillance indicators from the network include: STI, hepatitis B and C testing coverage; time to treatment following STI diagnosis; and hepatitis C treatment uptake and sustained virological response.

<sup>ddd</sup> Data are transmitted at least once a day from jurisdictions to the NNDSS however there may be a delay between patient diagnosis and reporting to the NNDSS.

<sup>eee</sup> ABS Estimates and Projections, Aboriginal and Torres Strait Islander Australians, 2006 to 2031 ([cat. no. 3238.0](#))

### Annual rate of infectious syphilis notifications in Indigenous people by remoteness area<sup>fff</sup>

Indicator components	Source	Description	Custodian/stakeholder	Availability of data for reporting
<b>Numerator</b>	NNDSS	Number of infectious syphilis (defined as infection of less than 2 years duration) notifications in Indigenous people reported to NNDSS by remoteness area	Department of Health	As required ('live' data <sup>ggg</sup> )
<b>Denominator</b>	ABS	Indigenous population estimates by remoteness area reported by the ABS	Australian Bureau of Statistics	Annually <sup>hhh</sup>

### Annual rate of chlamydia notifications in Indigenous people by remoteness area<sup>fff</sup>

Indicator components	Source	Description	Custodian/stakeholder	Availability of data for reporting
<b>Numerator</b>	NNDSS	Number of chlamydia notifications in Indigenous people reported to NNDSS by remoteness area	Department of Health	As required ('live' data <sup>ggg</sup> )
<b>Denominator</b>	ABS	Indigenous population estimates by remoteness area reported by the ABS	Australian Bureau of Statistics	Annually <sup>hhh</sup>

### Annual rate of gonorrhoea notifications in Indigenous people by remoteness area<sup>fff</sup>

Indicator components	Source	Description	Custodian/stakeholder	Availability of data for reporting
<b>Numerator</b>	NNDSS	Number of gonorrhoea notifications in Indigenous people reported to NNDSS by remoteness area	Department of Health	As required ('live' data <sup>ggg</sup> )
<b>Denominator</b>	ABS	Indigenous population estimates by remoteness area reported by the ABS	Australian Bureau of Statistics	Annually <sup>hhh</sup>

## Part B - Knowledge and risk behaviours

### Indicator notes

*Sexual health and relationships in young Indigenous people survey (GOANNA 2 survey)*

The second 'Sexual health and relationships in young Indigenous people study' (GOANNA 2) surveyed young Indigenous people aged 16-29 years from all jurisdictions except Tasmania, collecting data on participant demographics, STI and BBV risk knowledge, sexual behaviours and access to health services. Participant scores on each of the knowledge questions were aggregated to form a composite knowledge scale, noting that "don't know" responses were treated as incorrect. It is important to note that while this indicator reflects the overall knowledge score based on participant responses, lower scoring knowledge questions (not reported in the Plan) will be explored to inform and prioritise areas for action.

Data collection commenced September 2017 and was completed in December 2019, with the final report of survey results due to be released July 2020. It is unknown how generalizable the findings would be to other Aboriginal and Torres Strait Islander people due to the convenience sampling methodology, and other biases.

<sup>fff</sup> ABS ASGS remoteness area categories reported under three remoteness area categories: major cities; inner and outer regional and; remote and very remote.

<sup>ggg</sup> Data are transmitted at least once a day from jurisdictions to the NNDSS however there may be a delay between patient diagnosis and reporting to the NNDSS.

<sup>hhh</sup> ABS Estimates and Projections, Aboriginal and Torres Strait Islander Australians, 2006 to 2031 (cat. no. 3238.0)

Despite these limitations, the GOANNA 2 study findings are currently the only source of data to measure these indicators.

***Reporting against the indicator/s***

**Proportion of young Indigenous people (16-29 years) giving correct answers to knowledge questions on BBV and STI**

<b>Indicator components</b>	<b>Source</b>	<b>Description</b>	<b>Custodian/ stakeholder</b>	<b>Availability of data for reporting</b>
<b>Numerator</b>	GOANNA survey 2	Number of respondents people giving correct answers to questions on BBV and STI	SAHMRI	Periodically
<b>Denominator</b>	GOANNA survey 2	Total number of respondents	SAHMRI	Periodically

**Proportion of young Indigenous people (16-29 year olds) who reported using condoms consistently with sexual partners in the previous 12 months**

<b>Indicator components</b>	<b>Source</b>	<b>Description</b>	<b>Custodian/ stakeholder</b>	<b>Availability of data for reporting</b>
<b>Numerator</b>	GOANNA survey 2	Number of respondents reporting they 'always' use condoms when they have sex	SAHMRI	Periodically
<b>Denominator</b>	GOANNA survey 2	Total number of respondents reporting they have sex	SAHMRI	Periodically

**Proportion of young Indigenous people (16-29 year olds) who reported using a condom during their last sexual encounter**

<b>Indicator components</b>	<b>Source</b>	<b>Description</b>	<b>Custodian/ stakeholder</b>	<b>Availability of data for reporting</b>
<b>Numerator</b>	GOANNA survey 2	Number of respondents reporting they used a condom during their last sexual encounter	SAHMRI	Periodically
<b>Denominator</b>	GOANNA survey 2	Total number of respondents reporting they have sex	SAHMRI	Periodically

## 5.4. Increase STI testing coverage with a focus on areas of highest need

### Indicator/s

- Proportion of young (16-29 years) Indigenous people who reported ever having an STI test.
- Proportion of young (16-29 years) Indigenous people who reported having an STI test in the last 12 months.

### Indicator notes

While, Medicare Benefits Scheme (MBS) data provide a reasonable representation of the number of chlamydia and gonorrhoea tests undertaken in Australia, completeness of the Voluntary Indigenous Identifier (VII) for Indigenous people in the MBS dataset is not sufficient for reporting.<sup>33</sup> Self-reporting of STI testing among young Indigenous people (see section 1.3) provide a suitable alternative to monitor testing coverage in Indigenous people. It is likely that the STI testing indicator primarily reflects dual testing for gonorrhoea and chlamydia. Testing for syphilis, while part of a comprehensive STI screen, is difficult to measure as it requires serology and repeat testing is undertaken to monitor the response to treatment.

### Sentinel surveillance networks

Data from sentinel surveillance networks, including STI testing coverage and repeat testing as noted in [section 5.3](#), will be considered for inclusion in future iterations of this Plan.

### Reporting against indicator/s

#### Proportion of young (16-29 years) Indigenous people who reported ever having an STI test

Indicator components	Source	Description	Custodian/stakeholder	Availability of data for reporting
<b>Numerator</b>	GOANNA 2 survey	Number of respondents who reported ever having an STI test	SAHMRI	Periodically
<b>Denominator</b>	GOANNA 2 survey	Total number of respondents	SAHMRI	Periodically

#### Proportion of young (16-29 years) Indigenous people who reported having an STI test in the last 12 months

Indicator components	Source	Description	Custodian/stakeholder	Availability of data for reporting
<b>Numerator</b>	GOANNA 2 survey	Number of Indigenous respondents who report having an STI test in the previous 12 months	SAHMRI	Periodically
<b>Denominator</b>	GOANNA 2 survey	Total number of respondents	SAHMRI	Periodically

## 5.5. Eliminate congenital syphilis

### Indicator/s

- Number of Indigenous congenital syphilis notifications.
- Annual notification rate of congenital syphilis per 100,000 live Indigenous births.  
Annual notification rate of infectious syphilis in Indigenous women of reproductive age (15-44 years of age).

### Indicator notes

Congenital syphilis is a nationally notifiable disease (see [section 5.3](#) for notes on NNDSS notifications).

Although the majority of congenital syphilis cases are diagnosed at birth, diagnosis can occur at a later stage in life.

Live birth data sourced from the ABS<sup>23</sup>, refers to the number of births that occurred in Australia including births to mothers whose place of usual residence was overseas. A birth is recorded as being Indigenous where at least one parent reported themselves as being an Aboriginal person, Torres Strait Islander, or both on the birth registration form. Therefore Indigenous births may be attributed to either:

- Aboriginal and/or Torres Strait Islander mothers, including births where both the mother and father are Aboriginal and/or Torres Strait Islander Australians; or
- Aboriginal and/or Torres Strait Islander fathers and non-Indigenous mothers.

Stillbirths and foetal deaths are excluded.

### Women of reproductive age

Foetal infection with syphilis is most likely to occur if the mother has infectious syphilis (primary, secondary and early latent stage). However, it can occur in the late latent stages of infection, defined as an infection greater than 2 years duration, although the risk is lower.<sup>24</sup>

Elevated rates of infectious syphilis among women of reproductive age, defined by the Australian Institute of Health and Welfare as women 15-44 years of age, increases the risk of congenital syphilis. Development of national enhanced data specifications for women pregnant at the time of their syphilis diagnosis is currently underway, and once finalised will be presented in future iterations of this Plan.

Notes on NNDSS notifications can be found in [section 5.3](#).

### Reporting against indicator/s

#### Number of Indigenous congenital syphilis notifications

Indicator components	Source	Description	Custodian/stakeholder	Availability of data for reporting
Single measure	NNDSS	Number of congenital syphilis notifications in Aboriginal and Torres Strait Islander people reported to NNDSS	Department of Health	As required ('live' data <sup>iii</sup> )

<sup>iii</sup> Data are transmitted at least once a day from jurisdictions to the NNDSS however there may be a delay between patient diagnosis and reporting to the NNDSS.

**Annual notification rate of congenital syphilis per 100,000 live Indigenous births**

<b>Indicator components</b>	<b>Source</b>	<b>Description</b>	<b>Custodian/ stakeholder</b>	<b>Availability of data for reporting</b>
<b>Numerator</b>	NNDSS	Number of congenital syphilis notifications in Indigenous people reported to NNDSS	Department of Health	As required ('live' data <sup>kkk</sup> )
<b>Denominator</b>	ABS	Number of registered Indigenous births reported by the ABS	Australian Bureau of Statistics	Annually <sup>jjj</sup>

**Annual notification rate of infectious syphilis in Indigenous women of reproductive age (15-44 years of age)**

<b>Indicator components</b>	<b>Source</b>	<b>Description</b>	<b>Custodian/ stakeholder</b>	<b>Availability of data for reporting</b>
<b>Numerator</b>	NNDSS	Number of infectious syphilis (defined as infection of less than 2 years duration) notifications in Indigenous women of reproductive age (15-44 years of age) reported to NNDSS	Department of Health	As required ('live' data <sup>kkk</sup> )
<b>Denominator</b>	ABS	Indigenous population estimates for women aged 15-44 years of age reported by the ABS	Australian Bureau of Statistics	Annually <sup>lll</sup>

<sup>jjj</sup> ABS Registered Births in Australia ([cat. no. 33010](#)).

<sup>kkk</sup> Data are transmitted at least once a day from jurisdictions to the NNDSS however there may be a delay between patient diagnosis and reporting to the NNDSS.

<sup>lll</sup> ABS Estimates and Projections, Aboriginal and Torres Strait Islander Australians, 2006 to 2031 ([cat. no. 3238.0](#)).



## 5.6. Reduce the number of newly acquired hepatitis C infections by 60%

### Indicator/s

#### Part A - Notifications

- Annual rate of newly acquired hepatitis C notifications in Indigenous people.
- Annual rate of newly acquired hepatitis C notifications in Indigenous people aged <25 years.

#### Part B – Exposure

- Proportion of Indigenous people who inject drugs with evidence of past or current hepatitis C infection (HCV antibody).
- Proportion of Indigenous people who inject drugs with evidence of a current hepatitis C infection (HCV RNA).
- Proportion of Indigenous people entering custodial settings with evidence of past or current hepatitis C infection.

## Part A - Notifications

### Indicator notes

#### Notifications

See Part A [section 5.3](#) for information on NNDSS.

Determination of a case as ‘newly acquired’ is reliant on public health follow-up and the availability of previous serology test results, with the method and intensity of follow-up varying by jurisdiction and over time. Notified cases (newly acquired and unspecified) over time do not solely reflect changes in disease prevalence. Changes in testing policies; screening programs, including prison screening; the use of less invasive and more sensitive diagnostic tests; and periodic awareness campaigns, may influence the number of notifications (both newly acquired and unspecified) that are received over time.<sup>2</sup>

### Reporting against indicator/s

#### Annual rate of newly acquired hepatitis C notifications in Indigenous people

Indicator components	Source	Description	Custodian/ stakeholder	Availability of data for reporting
<b>Numerator</b>	NNDSS	Number of newly acquired hepatitis C notifications in Indigenous people reported to NNDSS	Department of Health	As required ('live' data <sup>mmm</sup> )
<b>Denominator</b>	ABS	Indigenous population estimates reported by the ABS	Australian Bureau of Statistics	Annually <sup>nnn</sup>

#### Annual rate of hepatitis C notifications in Indigenous people aged <25 years

Indicator components	Source	Description	Custodian/ stakeholder	Availability of data for reporting
<b>Numerator</b>	NNDSS notifications	Number of hepatitis C notifications in Indigenous people aged <25 years reported to NNDSS	Department of Health	As required ('live' data <sup>mmm</sup> )
<b>Denominator</b>	ABS	Indigenous population estimates for people aged <25 years reported by the ABS	Australian Bureau of Statistics	Annually <sup>nnn</sup>

<sup>mmm</sup> Data are transmitted at least once a day from jurisdictions to the NNDSS however there may be a delay between patient diagnosis and reporting to the NNDSS.

<sup>nnn</sup> ABS Estimates and Projections, Aboriginal and Torres Strait Islander Australians, 2006 to 2031 ([cat. no. 3238.0](#))

## Part B – Exposure

### *Indicator notes*

Risk behaviours associated with hepatitis C infection are described in [section 5.7](#) below.

#### *People who inject drugs (PWID)*

The majority of hepatitis C infections are a result of unsafe injecting drug use practices. The Australian Needle and Syringe Program Survey (ANSPS) is conducted annually over a one to two week period and collects data from a large heterogeneous sample of community-based PWID accessing approximately 50 Needle and Syringe Programs (NSP) services from a range of geographical areas across all states and territories. The ANSPS provides serial point prevalence estimates of hepatitis C antibody prevalence, derived through serological testing of dried blood spots among PWID. Since 2015 the ANSPS has also conducted HCV RNA testing to determine estimates of HCV clearance and HCV RNA prevalence.<sup>7</sup> Self-reported risk behaviour, including injecting behaviour, and uptake of hepatitis C treatment data are collected through a survey of participants.<sup>8</sup>

It is important to note that the ANSPS involves Indigenous PWID who attended prevention services (NSPs), hence may not be representative of all Indigenous PWID. However Indigenous people comprised between 14-19% of the ANSPS sample between 2010 and 2018, with representation from all states and territories.<sup>34</sup>

#### *People in custodial settings (past and current hepatitis C infection)*

Indigenous people are over-represented in prisons, with an imprisonment rate in 2018 that was more than 15 times that of the non-Indigenous population.<sup>35</sup> People in custodial settings are at a heightened risk of hepatitis C transmission due to the high prevalence of hepatitis C among prisoners and increased possibility of exposure risks associated with transmission, such as use of injection drugs tattooing, fighting and other blood contact.<sup>5</sup> The National Prison Entrants' Blood-borne Virus Survey (NPEBBVS), currently in its fifth iteration provides an estimate of hepatitis C (and other BBV) among prison entrants across six jurisdictions. The survey is conducted over a two week period triennially, with participants screened for hepatitis C antibodies (and other markers for BBV and STI) and asked to complete a questionnaire on risk behaviours (including injecting behaviour and drug use), hepatitis C treatment uptake and where applicable if they were cured as a result of the treatment.

### *Reporting against indicator/s*

#### **Proportion of Indigenous people who inject drugs with evidence of past or current hepatitis C infection (HCV antibody)**

Indicator components	Source	Description	Custodian/stakeholder	Availability of data for reporting
Numerator	ANSPS	Number of Indigenous HCV antibody positive survey respondents	Kirby Institute	Annually
Denominator	ANSPS	Total number of Indigenous respondents	Kirby Institute	Annually

#### **Proportion of Indigenous people who inject drugs with evidence of a current hepatitis C infection (HCV RNA)**

Indicator components	Source	Description	Custodian/stakeholder	Availability of data for reporting
Numerator	ANSPS	Number of Indigenous HCV RNA positive respondents	Kirby Institute	Annually
Denominator	ANSPS	Total number of Indigenous respondents who had a HCV RNA test	Kirby Institute	Annually

**Proportion of Indigenous people entering custodial settings with evidence of past or current hepatitis C infection**

<b>Indicator components</b>	<b>Source</b>	<b>Description</b>	<b>Custodian/ stakeholder</b>	<b>Availability of data for reporting</b>
<b>Numerator</b>	NPEBBVS	Number of Indigenous HCV antibody positive respondents	Kirby Institute	Triennially
<b>Denominator</b>	NPEBBVS	Total number of Indigenous respondents	Kirby Institute	Triennially

## 5.7. Increase the use of sterile injecting equipment for every injecting episode

### Indicator/s

- Proportion of Indigenous people who inject drugs who report using a new needle and syringe for all injections in the previous month.
- Proportion of Indigenous people who inject drugs who report re-using another person's used needle and syringe in the previous month.

### Indicator notes

People who inject drugs (PWID)

See Part A [section 5.6](#) for information on ANSPS.

### Reporting against indicator/s

#### Proportion of Indigenous people who inject drugs who report using a new needle and syringe for all injections in the previous month

Indicator components	Source	Description	Custodian/stakeholder	Availability of data for reporting
<b>Numerator</b>	ANSPS	Number of Indigenous respondents who report using a new needle/syringe for all injections in the month preceding the survey	Kirby Institute	Annually
<b>Denominator</b>	ANSPS	Total number of Indigenous respondents who report injecting drugs in the previous month	Kirby Institute	Annually

#### Proportion of Indigenous people who inject drugs who report re-using of another person's used needle and syringe in the previous month

Indicator components	Source	Description	Custodian/stakeholder	Availability of data for reporting
<b>Numerator</b>	ANSPS	Number of Indigenous respondents who report re-use of another person's used needle and syringe in the month preceding the survey	Kirby Institute	Annually
<b>Denominator</b>	ANSPS	Total number of Indigenous respondents who report injecting drugs in the previous month	Kirby Institute	Annually

## 5.8. Increase the proportion of people living with hepatitis C who are diagnosed to 90% and the cumulative proportion who have initiated direct acting antiviral treatment to 65%

### *Indicator/s*

- Estimated proportion of Indigenous people with chronic hepatitis C who have been diagnosed.
- Annual rate of hepatitis C notifications (newly acquired and unspecified) in Indigenous people.
- Proportion of Indigenous people accessing needle and syringe programs (people who inject drugs) who reported having a hepatitis C test in the previous 12 months.
- Proportion of Indigenous people accessing needle and syringe programs (people who inject drugs) who report ever having a hepatitis C test.
- Proportion of young (16-29 years) Indigenous people who reported ever having a hepatitis C test
- Proportion of young (16-29 years) Indigenous people who reported having a hepatitis C test in the last 12 months.
- Proportion of Indigenous people who inject drugs who reported ever having had hepatitis C antiviral treatment.
- Proportion of Indigenous people who inject drugs who reported having had hepatitis C antiviral treatment in the last 12 months.
- Proportion of Indigenous people entering custodial settings who reported having any hepatitis C antiviral treatment.
- Proportion of young (16-29 years) Indigenous people who reported having ant hepatitis C antiviral treatment.

### *Indicator notes*

#### *Notifications*

See Part A [section 5.3](#) for information on the NNDSS.

#### *People who inject drugs*

See Part A [section 5.6](#) for information on the ANSPS.

#### *GOANNA*

See Part B [section 5.3](#) for information on GOANNA.

#### *People in custodial settings*

See section Part B [section 5.6](#) for information on the NPEBBVS.

#### *Sentinel surveillance networks*

Data from sentinel surveillance networks, including hepatitis C treatment uptake and sustained virological response as noted in Part A [section 5.3](#), will be considered for inclusion in future iterations of this Plan.

### *Reporting against indicator/s*

#### **Estimated proportion of Indigenous people with chronic hepatitis C who have been diagnosed**

<b>Indicator components</b>	<b>Source</b>	<b>Description</b>	<b>Custodian/stakeholder</b>	<b>Availability of data for reporting</b>
<b>Numerator</b>	Modelling data	Estimated number of Indigenous people diagnosed with hepatitis C	Kirby Institute	Annually
<b>Denominator</b>	Modelling data	Estimated number of Indigenous people living with hepatitis C	Kirby Institute	Annually

**Annual rate of hepatitis C notifications (newly acquired and unspecified) in Indigenous people**

Indicator components	Source	Description	Custodian/ stakeholder	Availability of data for reporting
Numerator	NNDSS	Number of notifications of hepatitis C (newly acquired and unspecified) in Indigenous people reported to NNDSS	Department of Health	As required ('live' data <sup>ooo</sup> )
Denominator	ABS	Indigenous population estimates reported by the ABS	Australian Bureau of Statistics	Annually <sup>ppp</sup>

**Proportion of Indigenous people accessing needle and syringe programs (people who inject drugs) who reported having a hepatitis C test in the last 12 months**

Indicator components	Source	Description	Custodian/ stakeholder	Availability of data for reporting
Numerator	ANSPS	Number of Indigenous respondents who reported having had an HCV test in the last 12 months	Kirby Institute	Annually
Denominator	ANSPS	Total number of Indigenous respondents	Kirby Institute	Annually

**Proportion of Indigenous people accessing needle and syringe programs (people who inject drugs) who report ever having a hepatitis C test**

Indicator components	Source	Description	Custodian/ stakeholder	Availability of data for reporting
Numerator	ANSPS	Number of Indigenous respondents who reported having ever had a HCV test	Kirby Institute	Annually
Denominator	ANSPS	Total number of Indigenous respondents	Kirby Institute	Annually

**Proportion of young (16-29 years) Indigenous people who reported ever having a hepatitis C test**

Indicator components	Source	Description	Custodian/ stakeholder	Availability of data for reporting
Numerator	GOANNA 2 survey	Number of Indigenous respondents who reported ever having a hepatitis C test	SAHMRI	Periodically
Denominator	GOANNA 2 survey	Total number of respondents	SAHMRI	Periodically

**Proportion of young (16-29 years) Indigenous people who reported having a hepatitis C test in the last 12 months**

Indicator components	Source	Description	Custodian/ stakeholder	Availability of data for reporting
Numerator	GOANNA 2 survey	Number of Indigenous respondents who reported having a hepatitis C test in the last 12 months	SAHMRI	Periodically
Denominator	GOANNA 2 survey	Total number of respondents	SAHMRI	Periodically

<sup>ooo</sup> Data are transmitted at least once a day from jurisdictions to the NNDSS however there may be a delay between patient diagnosis and reporting to the NNDSS.

<sup>ppp</sup> ABS Estimates and Projections, Aboriginal and Torres Strait Islander Australians, 2006 to 2031 ([cat. no. 3238.0](#)).

**Proportion of Indigenous people who inject drugs who reported ever having had hepatitis C antiviral treatment**

<b>Indicator components</b>	<b>Source</b>	<b>Description</b>	<b>Custodian/ stakeholder</b>	<b>Availability of data for reporting</b>
<b>Numerator</b>	ANSPS	Number of Indigenous respondents who report any history of hepatitis C antiviral treatment over their lifetime	Kirby Institute	Annually
<b>Denominator</b>	ANSPS	Total number of Indigenous HCV antibody positive respondents (excluding those who self-reported spontaneous clearance)	Kirby Institute	Annually

**Proportion of Indigenous people who inject drugs who reported having had hepatitis C antiviral treatment in the last 12 months**

<b>Indicator components</b>	<b>Source</b>	<b>Description</b>	<b>Custodian/ stakeholder</b>	<b>Availability of data for reporting</b>
<b>Numerator</b>	ANSPS	Number of Indigenous respondents who report receiving hepatitis C antiviral treatment in the last 12 months	Kirby Institute	Annually
<b>Denominator</b>	ANSPS	Total number of Indigenous HCV antibody positive respondents (excluding those who self-reported spontaneous clearance) in the last 12 months	Kirby Institute	Annually

**Proportion of Indigenous people entering custodial settings who reported having any hepatitis C antiviral treatment**

<b>Indicator components</b>	<b>Source</b>	<b>Description</b>	<b>Custodian/ stakeholder</b>	<b>Availability of data for reporting</b>
<b>Numerator</b>	NPEBBVS	Number of Indigenous respondents who report any history of hepatitis C antiviral treatment over their lifetime	Kirby Institute	Triennially
<b>Denominator</b>	NPEBBVS	Total number of Indigenous respondents	Kirby Institute	Triennially

**Proportion of young (16-29 years) Indigenous people who reported having any hepatitis C antiviral treatment**

<b>Indicator components</b>	<b>Source</b>	<b>Description</b>	<b>Custodian/ stakeholder</b>	<b>Availability of data for reporting</b>
<b>Numerator</b>	GOANNA 2 survey	Number of Indigenous respondents who report having any hepatitis antiviral treatment	SAHMRI	Periodically
<b>Denominator</b>	GOANNA 2 survey	Total number of respondents	SAHMRI	Periodically

## 5.9. Reduce hepatitis C attributable mortality by 30%

### *Indicator/s*

- Estimated number of Indigenous people with decompensated cirrhosis, hepatocellular carcinoma and liver related deaths.

### *Indicator notes*

The estimated number of Indigenous people who have died due to chronic hepatitis C (CHC) related decompensated cirrhosis and hepatocellular carcinoma are derived using mathematical modelling. These estimates are produced collaboratively between the Center for Disease Analysis (CDA) and the Kirby Institute.

### *Reporting against indicator/s*

#### **Estimated number of Indigenous people with decompensated cirrhosis, hepatocellular carcinoma and liver related deaths**

<b>Indicator components</b>	<b>Source</b>	<b>Description</b>	<b>Custodian/ stakeholder</b>	<b>Availability of data for reporting</b>
<b>Single measure</b>	Modelling/ linkage data	Estimated number of Indigenous people with decompensated cirrhosis, HCC and liver related deaths	Kirby Institute	Annually



## 5.10. Increase the proportion of people living with hepatitis B who are diagnosed to 80%; receiving care to 50%; and on antiviral treatment to 20%

### Indicator/s

- Annual rate of hepatitis B notifications (newly acquired and unspecified) in Indigenous people.
- Proportion of Indigenous people entering custodial settings with evidence of past or present hepatitis B infection.

While modelled estimates of the total number of Indigenous people living with chronic hepatitis B, in care and receiving treatment are not currently available, investigation is underway to source appropriate datasets to inform future estimates.

### Indicator notes

#### Notifications

See Part A [section 5.3](#) for information on the NNDSS.

#### People in custodial settings

See section Part B [section 5.6](#) for information on the NPEBBVS.

#### Sentinel surveillance network

Data from sentinel surveillance networks, including hepatitis B testing coverage as noted in Part A [section 5.3](#), will be considered for inclusion in future iterations of this Plan.

### Reporting against indicator/s

#### Annual rate of hepatitis B notifications (newly acquired and unspecified) in Indigenous people

Indicator components	Source	Description	Custodian/stakeholder	Availability of data for reporting
<b>Numerator</b>	NNDSS	Number of notifications of hepatitis B (newly acquired and unspecified) in Indigenous people reported to NNDSS	Department of Health	As required ('live' data <sup>qqq</sup> )
<b>Denominator</b>	ABS	Indigenous population estimates reported by the ABS	Australian Bureau of Statistics	Annually <sup>rrr</sup>

#### Proportion of Indigenous people entering custodial settings with evidence of past or present hepatitis B infection

Indicator components	Source	Description	Custodian/stakeholder	Availability of data for reporting
<b>Numerator</b>	NPEBBVS	Number of Indigenous respondents who reported hepatitis B core antibody positive	Kirby Institute	Triennially
<b>Denominator</b>	NPEBBVS	Total number of Indigenous respondents	Kirby Institute	Triennially

<sup>qqq</sup> Data are transmitted at least once a day from jurisdictions to the NNDSS however there may be a delay between patient diagnosis and reporting to the NNDSS.

<sup>rrr</sup> ABS Estimates and Projections, Aboriginal and Torres Strait Islander Australians, 2006 to 2031 ([cat. no. 3238.0](#)).

## 5.11. Reduce hepatitis B attributable mortality by 30%

### *Indicator/s*

- Estimated number of deaths in Indigenous people due to chronic hepatitis B related to decompensated cirrhosis and hepatocellular carcinoma.

### *Indicator notes*

The estimated number of deaths due to chronic hepatitis B (CHB) related decompensated cirrhosis and hepatocellular carcinoma are derived using mathematical modelling. These estimates are produced by the WHO Collaborating Centre for Viral Hepatitis at the Doherty Institute.

### *Reporting against indicator/s*

**Estimated number of deaths in Indigenous people due to chronic hepatitis B related cirrhosis and hepatocellular carcinoma**

Indicator components	Source	Description	Custodian/ stakeholder	Availability of data for reporting
Single measure	Modelling data	Modelled estimate of the number of deaths in Indigenous people due to CHB related decompensated cirrhosis and hepatocellular carcinoma	Doherty Institute	Annually

## 5.12. Reduce the incidence of HIV transmissions

### *Indicator/s*

#### Part A- Notifications

- Annual notification rate of HIV in Indigenous people.
- Number of HIV notifications in Indigenous people by exposure category.
- Proportion of new HIV diagnoses in Indigenous people who had evidence of recent HIV infection among HIV diagnoses in Indigenous people by exposure category.
- Annual rate of HIV notifications in Indigenous people by remoteness area.
- Incidence of HIV in Indigenous people who inject drugs attending needle and syringe programs.
- Proportion of young (16-29 years) Indigenous people who reported that they were HIV positive.

#### Part B – Exposure and risk behaviours

- Proportion of young Indigenous people (16-29 year olds) who reported using condoms consistently with sexual partners in the previous 12 months.
- Proportion of young Indigenous people (16-29 year olds) who reported using a condom during their last sexual encounter.

### **Part A – Notifications**

#### *Indicator notes*

##### *Notifications*

HIV infection is a notifiable disease in all jurisdictions and is reported to the National HIV Registry maintained by the Kirby Institute at the University of New South Wales under the provisions of the *National Health Security Act (2007)*.<sup>1</sup> Information sought on the notification form includes demographic information, country of birth, Indigenous status, date of diagnosis, CD4+ cell count at diagnosis, likely source of exposure to HIV and evidence of newly acquired HIV infection. All jurisdictions over the last 10 years have reported high completeness of Indigenous status in the National HIV Registry (>90%).<sup>36</sup>

The pattern of HIV transmission is monitored through surveillance of newly diagnosed cases of HIV infection. However newly diagnosed cases may be a reflection of current testing practices, rather than recent transmission, and may fluctuate. Surveillance of recent infection, derived from newly diagnosed cases (previous negative test, onset of primary HIV infection and/or an indeterminate test less than 365 days prior to diagnosis), indicate the lower bound to the extent of recent HIV transmission. Completeness of recent HIV infection is hard to estimate precisely. If cases have evidence of a previous test then this information is used to determine recency 100% of the time. It is difficult to know the extent of sensitivity and specificity on primary HIV infection symptoms.

Incidence is a difficult indicator to measure, and notifications have been used as a surrogate, recognising that for most infections, they represent only a proportion of the total cases and may be influenced by changes to testing patterns. While there is currently no mechanism to measure the true incidence of HIV, these indicators aim to measure progress towards increased testing in high-risk groups resulting in more diagnoses at an early stage of infection. It is expected that increased testing will initially result in higher rates of HIV case detection and in the longer-term a reduction in onward transmission and thus declines in HIV diagnoses.

##### *Remoteness Area*

See Part A [section 5.3](#) for notes on remoteness area.

##### *People who inject drugs*

See Part A [section 5.6](#) for notes on the ANSPS. Incidence estimates, using the ANSPS, among people who inject drugs is determined by linking HIV serological results of repeat ANSPS respondents and identifying those cases who tested positive following an initial negative test.<sup>25</sup>

**Reporting against indicator/s**

**Annual notification rate of HIV in Indigenous people**

<b>Indicator components</b>	<b>Source</b>	<b>Description</b>	<b>Custodian/ stakeholder</b>	<b>Availability of data for reporting</b>
<b>Numerator</b>	National HIV Registry	Number of newly diagnosed HIV infections in Indigenous people recorded in the National HIV Registry	Kirby Institute	Quarterly
<b>Denominator</b>	ABS	Indigenous population estimates reported by the ABS	Australian Bureau of Statistics	Annually

**Number of HIV notifications in Indigenous people by exposure category**

<b>Indicator components</b>	<b>Source</b>	<b>Description</b>	<b>Custodian/ stakeholder</b>	<b>Availability of data for reporting</b>
<b>Single measure</b>	National HIV Registry	Number of newly diagnosed HIV infections in Indigenous people recorded in the National HIV Registry by exposure category	Kirby Institute	Quarterly

**Proportion of new HIV diagnoses in Indigenous people who had evidence of recent HIV infection by exposure category**

<b>Indicator components</b>	<b>Source</b>	<b>Description</b>	<b>Custodian/ stakeholder</b>	<b>Availability of data for reporting</b>
<b>Numerator</b>	National HIV Registry	Number of newly diagnosed cases in Indigenous people with a negative test, onset of primary HIV infection and/or an indeterminate HIV test in the previous year by exposure category	Kirby Institute	Annually
<b>Denominator</b>	National HIV Registry	Number of HIV notifications in Indigenous people in the previous year recorded in the National HIV Registry by exposure category	Kirby Institute	Annually

### Annual rate of HIV notifications in Indigenous people by remoteness area<sup>sss</sup>

Indicator components	Source	Description	Custodian/stakeholder	Availability of data for reporting
<b>Numerator</b>	National HIV Registry	Number of newly diagnosed HIV infections in Indigenous people recorded in the National HIV Registry by remoteness area	Kirby Institute	Quarterly
<b>Denominator</b>	ABS	Indigenous population estimates reported by the ABS by remoteness area	Australian Bureau of Statistics	Annually

### Incidence of HIV in Indigenous people who inject drugs attending needle and syringe programs

Indicator components	Source	Description	Custodian/stakeholder	Availability of data for reporting
<b>Numerator</b>	ANSPS	Number of incident cases in Indigenous people who inject drugs attending needle and syringe programs, defined as a positive result for HIV preceded by a previous negative test	Kirby Institute	Annually
<b>Denominator</b>	ANSPS	Indigenous person years at risk, defined as the time between the first and last test in the cohort time period	Kirby Institute	Annually

### Proportion of young (16-29 years) Indigenous people who reported that they were HIV positive

Indicator components	Source	Description	Custodian/stakeholder	Availability of data for reporting
<b>Numerator</b>	GOANNA 2 survey	Number of respondents who reported they were HIV positive	SAHMRI	Periodically
<b>Denominator</b>	GOANNA 2 survey	Total number of respondents	SAHMRI	Periodically

## Part B – Exposure and risk behaviours

### Indicator notes

#### *People who inject drugs*

Indicators related to injecting practices in Indigenous people are presented in [section 5.7](#).

#### *GOANNA*

Indicators related to condom use in young Indigenous people are presented in Part B [section 5.3](#).

<sup>sss</sup> ABS ASGS remoteness area categories reported under three remoteness area categories: major cities; inner and outer regional and; remote and very remote.

*Reporting against the indicator/s*

**Proportion of young (16-29 years) Indigenous people who reported using condoms consistently with sexual partners in the previous 12 months**

<b>Indicator components</b>	<b>Source</b>	<b>Description</b>	<b>Custodian/ stakeholder</b>	<b>Availability of data for reporting</b>
<b>Numerator</b>	GOANNA 2 survey	Number of respondents who reported using condoms consistently with sexual partners in the previous 12 months	SAHMRI	Periodically
<b>Denominator</b>	GOANNA 2 survey	Total number of respondents	SAHMRI	Periodically

**Proportion of young (16-29 years) Indigenous people who reported using a condom during their last sexual encounter**

<b>Indicator components</b>	<b>Source</b>	<b>Description</b>	<b>Custodian/ stakeholder</b>	<b>Availability of data for reporting</b>
<b>Numerator</b>	GOANNA 2 survey	Number of respondents who reported using a condom during their last sexual encounter	SAHMRI	Periodically
<b>Denominator</b>	GOANNA 2 survey	Total number of respondents	SAHMRI	Periodically

### **5.13. Achieve the 95–95–95 HIV diagnosis and treatment targets:**

- a. Increase to 95% the percentage of people with HIV who are diagnosed**
- b. Increase to 95% the percentage of people diagnosed with HIV on treatment**
- c. Increase to 95% the percentage of those on treatment with an undetectable viral load**

#### *Indicator/s*

- Proportion of Indigenous people living with HIV who are diagnosed.
- Proportion of Indigenous people who inject drugs accessing needle and syringe programs who have been tested for HIV in the previous 12 months.
- Proportion of young (16-29 years) Indigenous people who reported ever having a HIV test
- Proportion of new HIV diagnoses in Indigenous people with a late diagnosis of HIV (CD4 count < 350 cell/μL).
- Prevalence of HIV among Indigenous people who inject drugs attending needle and syringe programs.
- Prevalence of HIV among Indigenous people in custodial settings.

#### *Indicator notes*

##### *Diagnosed HIV*

The number of Indigenous people living with diagnosed HIV infection is estimated using annual notifications, removal of duplicates, estimated mortality rates, and overseas migration rates.

The European Centre for Disease Control (ECDC) HIV modelling tool is used to estimate the overall number of people living with HIV, both diagnosed and undiagnosed. The ECDC tool is a multistate back calculation model using notifications data and estimates for the rate of CD4+ cell count decline to fit diagnoses rates over time, producing estimates for HIV incidence, time between infection and diagnosis, and the undiagnosed population by CD4+ cell count strata, using surveillance data on new HIV and AIDS diagnoses.

##### *People who inject drugs*

Indicators related to injecting practices in Indigenous people are presented in [section 5.7](#).

##### *GOANNA*

Indicators related to condom use in young Indigenous people are presented in Part B [section 5.3](#).

##### *HIV notifications*

See section Part A [section 5.12](#) for information on the HIV Registry.

##### *People in custodial settings*

See section Part B [section 5.6](#) for information on the NPEBBVS.

##### *Sentinel surveillance networks*

Data from sentinel surveillance networks, as noted in Part A [section 5.3](#), will be considered for inclusion in future iterations of this Plan.

##### *Treatment and undetectable viral load*

While the estimated number of Indigenous people living with HIV on treatment and with an undetectable viral load is not currently available, investigation is underway to source appropriate datasets to inform future estimates.

## Reporting against indicator/s

### Proportion of Indigenous people living with HIV who are diagnosed

Indicator components	Source	Description	Custodian/ stakeholder	Availability of data for reporting
<b>Numerator</b>	Modelled estimates	Estimated number of Indigenous people who are diagnosed with HIV infection in Australia	Kirby Institute	Annually
<b>Denominator</b>	Modelled estimates	Estimated number of Indigenous people living with HIV in Australia	Kirby Institute	Annually

### Proportion of Indigenous people who inject drugs accessing needle and syringe programs who have been tested for HIV in the previous 12 months

Indicator components	Source	Description	Custodian/ stakeholder	Availability of data for reporting
<b>Numerator</b>	ANSPS	Number of respondents who reported having had an HIV test in the last 12 months	Kirby Institute	Annually
<b>Denominator</b>	ANSPS	Total number of respondents	Kirby Institute	Annually

### Proportion of young (16-29 years) Indigenous people who reported ever having a HIV test

Indicator components	Source	Description	Custodian/ stakeholder	Availability of data for reporting
<b>Numerator</b>	GOANNA 2 survey	Number of respondents who reported ever having a HIV test	SAHMRI	Periodically
<b>Denominator</b>	GOANNA 2 survey	Total number of respondents	SAHMRI	Periodically

### Proportion of new HIV diagnoses in Indigenous people with a late diagnosis of HIV (CD4 count <350 cell/μL)

Indicator components	Source	Description	Custodian/ stakeholder	Availability of data for reporting
<b>Numerator</b>	National HIV Registry	Number of new HIV diagnoses in Indigenous people classified as late per year	Kirby Institute	Annually
<b>Denominator</b>	National HIV Registry	Total number of new HIV diagnoses in Indigenous people with a CD4 count per year	Kirby Institute	Annually

### Prevalence of HIV among Indigenous people who inject drugs attending needle and syringe programs

Indicator components	Source	Description	Custodian/ stakeholder	Availability of data for reporting
<b>Numerator</b>	ANSPS	Number of Indigenous respondents testing positive for HIV	Kirby Institute	Annually
<b>Denominator</b>	ANSPS	Total number of Indigenous respondents	Kirby Institute	Annually

### Prevalence of HIV among Indigenous people in custodial settings

Indicator components	Source	Description	Custodian/ stakeholder	Availability of data for reporting
<b>Numerator</b>	NPEBBVS	Number of Indigenous respondents who are HIV antibody positive	Kirby Institute	Triennially
<b>Denominator</b>	NPEBBVS	Total number of Indigenous respondents	Kirby Institute	Triennially



#### **5.14. Reduce the reported experience of stigma among Aboriginal and Torres Strait Islander people with BBV and STI, and the expression of stigma, in relation to BBV and STI status**

*Indicator/s*

- An indicator to monitor this target is currently unavailable. Options will be explored to develop an indicator that informs strategies and activities in a meaningful way.

While data are not currently available for Indigenous people specifically, this priority population is already captured in the general population for whom there are data available (see stigma and discrimination indicators in the hepatitis B, hepatitis C, STI and HIV chapters).

Mechanisms to implement actions to address the current information gaps in this nationally agreed priority will be facilitated through the Implementation Plan, which identifies the development of nationally agreed indicators for the health impacts of stigma and discrimination as a priority area for action.

## Appendix A – Summary of targets and indicators

Targets	Indicators	Data Custodian/s	Data availability			
			Annually	Monthly (M)/ quarterly (Q)/ biannual (B)	As required ('live' data)	Periodically
Hepatitis B						
Achieve and maintain high levels of hepatitis B childhood vaccination coverage of 95% at 12 and 24 months of age	Coverage of hepatitis B vaccination of children at 12 and 24 months of age	Services Australia		Q		
Reduce newly acquired hepatitis B infections by 50% with a focus on priority populations	Annual rate of newly acquired hepatitis B notifications	Department of Health			√	
		Australian Bureau of Statistics		Q		
Increase the proportion of people with chronic hepatitis B who have been diagnosed to 80%	Estimated proportion of people with chronic hepatitis B who have been diagnosed.	Department of Health			√	
	Annual rate of hepatitis B notifications (unspecified and newly acquired).	Doherty Institute	√			
	Proportion of people entering custodial settings with evidence of past or current hepatitis B infection.	Australian Bureau of Statistics		Q		
		Kirby Institute				√ (triennial)

Targets	Indicators	Data Custodian/s	Data availability			
			Annually	Monthly (M)/ quarterly (Q)/ biannual (B)	As required (‘live’ data)	Periodically
Increase the total proportion of people living with chronic hepatitis B receiving care to 50%	Proportion of people with chronic hepatitis B who were in care.	Services Australia	✓			
		Doherty Institute	✓			
	Proportion of people with chronic hepatitis B not on treatment who had: - ever had a viral load test - a viral load test in the previous 12 months - a viral load test in the previous 24 months.	Doherty Institute	✓			
Increase the proportion of people living with chronic hepatitis B receiving antiviral treatment to 20%	Proportion of people with chronic hepatitis B dispensed drugs for chronic hepatitis B infection	Services Australia	✓			
		Doherty Institute	✓			
Reduce hepatitis B attributable morbidity and mortality by 30%.	Estimated number of deaths due to chronic hepatitis B related to decompensated cirrhosis and hepatocellular carcinoma.	Doherty Institute	✓			
	Proportion of liver transplant recipients with hepatitis B.	The Australian and New Zealand Liver Transplant Registry	✓			
Minimise the reported experience of stigma among people living with hepatitis B, and the expression of stigma, in respect to hepatitis B status.	Proportion of people who report that they experienced stigma or discrimination as a result of their hepatitis B.	Centre for Social Research in Health				✓
	Proportion of health care workers reporting	Australian Consortium for				

Targets	Indicators	Data Custodian/s	Data availability			
			Annually	Monthly (M)/ quarterly (Q)/ biannual (B)	As required (‘live’ data)	Periodically
	or witnessing negative behaviour towards people with hepatitis B.	Social and Political Research Incorporated				✓
	Proportion of the Australian public who report they would express stigma or discrimination towards people living with hepatitis B.	Australasian Society for HIV, Viral Hepatitis and Sexual Health Medicine				✓
<b>Hepatitis C</b>						
Reduce the number of newly acquired hepatitis C infections, with a focus on priority populations by 60%.	Part A – Notifications	Department of Health			✓	
	Annual rate of newly acquired hepatitis C notifications.					
	Annual rate of newly acquired hepatitis C notifications in people aged <25 years.	Australian Bureau of Statistics		Q		
	Incidence of hepatitis C in people who inject drugs attending health services.	Burnet/Kirby Institute	✓			
	Part B – Exposure and risk behaviours					
	Proportion of people who inject drugs with evidence of past or current hepatitis C infection (HCV antibody).	Kirby Institute	✓			
	Proportion of people who inject drugs with evidence of a current hepatitis C infection (HCV RNA).	Kirby Institute	✓			

Targets	Indicators	Data Custodian/s	Data availability			
			Annually	Monthly (M)/ quarterly (Q)/ biannual (B)	As required (‘live’ data)	Periodically
	Proportion of people entering custodial settings with evidence of past or current hepatitis C infection.	Kirby Institute				√ (triennial)
	Needles and syringes distributed per person who injects drugs in the previous calendar year.	Kirby Institute	√			
	Proportion of injections covered by sterile syringe in the previous calendar year.	Kirby Institute	√			
	Proportion of people who inject drugs who used a new needle and syringe for all injections in the previous month.	Kirby Institute	√			
	Proportion of people who inject drugs reporting re-using another person’s used needle and syringe in the previous month.	Kirby Institute	√			
Increase the proportion of people living with hepatitis C who are diagnosed to 90%.	Estimated proportion of people with chronic hepatitis C who have been diagnosed.	Kirby Institute	√			
	Number of Medicare-eligible people receiving a test to detect new hepatitis C infections	Services Australia	√	Q		
	Annual rate of hepatitis C notifications (newly acquired and unspecified).	Department of Health			√	

Targets	Indicators	Data Custodian/s	Data availability			
			Annually	Monthly (M)/ quarterly (Q)/ biannual (B)	As required (‘live’ data)	Periodically
	Proportion of people who inject drugs who have been tested for hepatitis C in the previous 12 months.	Australian Bureau of Statistics	✓			
	Proportion of people who inject drugs who have ever been tested for hepatitis C.	Kirby Institute	✓			
	Proportion of people who inject drugs who have been tested for hepatitis C attending a health service.	Burnet/Kirby Institute	✓			
	Proportion of gay and bisexual men who have been tested in the previous 12 months for hepatitis C attending a health service.	Burnet/Kirby Institute	✓			
	Proportion of people hepatitis C antibody positive who have had a hepatitis C RNA test attending a health service.	Burnet/Kirby Institute	✓			
Increase the cumulative proportion of people living with chronic hepatitis C who have initiated direct-acting antiviral treatment to 65%.	Cumulative number of people initiating direct-acting antiviral treatment since March 2016.	Services Australia		Q		
	Proportion of people with chronic hepatitis C dispensed drugs for their infection in the previous calendar year.	Services Australia		Q		
	Proportion of people who inject drugs who reported having had any hepatitis C antiviral treatment.	Kirby Institute	✓			
		Kirby Institute	✓			

Targets	Indicators	Data Custodian/s	Data availability			
			Annually	Monthly (M)/ quarterly (Q)/ biannual (B)	As required (‘live’ data)	Periodically
	Proportion of people entering custodial settings who reported having any hepatitis C antiviral treatment.	Kirby Institute				√ (triennial)
	Number of people who have achieved treatment-induced hepatitis C cure.	Kirby Institute	√			
Reduce hepatitis C attributable mortality overall by 65%.	Estimated number of people with decompensated cirrhosis, hepatocellular cirrhosis and liver related –deaths.	Kirby Institute	√			
	Estimated number of deaths attributable to chronic hepatitis C.	ANZLTR	√			
	Proportion of liver transplant recipients with hepatitis C.	Kirby Institute	√			
Reduce by 50 % the reported experience of stigma among people living with hepatitis C, and the expression of stigma, in respect to hepatitis C status.	Proportion of people who report that they experienced stigma or discrimination as a result of their hepatitis C status.	CSRH				√
	Proportion of people who inject drugs who report experiencing any stigma or discrimination as a result of their hepatitis C status in the last 12 months.	Kirby Institute	√			
	Proportion of people who inject drugs who report experiencing any stigma or discrimination in relation to their use of drugs for injecting in the last 12 months.	Kirby Institute	√			
	Proportion of health care workers reporting					

Targets	Indicators	Data Custodian/s	Data availability			
			Annually	Monthly (M)/ quarterly (Q)/ biannual (B)	As required (‘live’ data)	Periodically
	or witnessing negative behaviour towards people with hepatitis C.	ASHM				✓
	Proportion of health care workers reporting or witnessing negative behaviour towards people who inject drugs.	ASHM				✓
	Proportion of the Australian public who report they would express stigma or discrimination towards people living with hepatitis C.	CSRH				✓
	Proportion of the Australian public who report they would express stigma or discrimination towards people who inject drugs.	CSRH				✓
<b>HIV</b>						
Increase the proportion of people with HIV (in all priority populations) who are diagnosed to 95%.	Proportion of people living with HIV who are diagnosed.	Kirby Institute	✓			
	Proportion of gay and bisexual men who have been tested for HIV 1 time or more in the previous 12 months.	CSRH/Kirby Institute	✓			
	Proportion of gay and bisexual men who have been tested for HIV 3 times or more in the previous 12 months.	CSRH/Kirby Institute	✓			
	Proportion of people who inject drugs who have been tested for HIV in the previous	Kirby Institute	✓			



Targets	Indicators	Data Custodian/s	Data availability			
			Annually	Monthly (M)/ quarterly (Q)/ biannual (B)	As required (‘live’ data)	Periodically
	<p>12 months.</p> <p>Proportion of people from priority populations who have been tested for HIV in the previous 12 months.</p> <p>Proportion of new HIV diagnoses determined to be late (CD4 count&lt;350 cell/<math>\mu</math>L) by exposure category.</p> <p>Self-reported HIV prevalence among gay and bisexual men.</p> <p>Prevalence of HIV among people who inject drugs.</p> <p>Prevalence of HIV among people in custodial settings.</p>	<p>Burnet/Kirby Institute</p> <p>Kirby Institute</p> <p>CSRH/Kirby Institute</p> <p>Kirby Institute</p> <p>Kirby Institute</p>	<p>✓</p> <p>✓</p> <p>✓</p> <p>✓</p>			<p>✓ (triennial)</p>
Increase the proportion of people diagnosed with HIV on treatment to 95%.	<p>Proportion of people living with diagnosed HIV who are receiving ART.</p> <p>Proportion of HIV positive gay and bisexual men receiving ART.</p>	<p>Services Australia</p> <p>Kirby Institute</p> <p>Burnet/Kirby Institute</p>	<p>✓</p> <p>✓</p> <p>✓</p>			
Increase the proportion of those on treatment with an undetectable viral load to 95%.	Proportion of people receiving ART for HIV infection whose viral load is less than 200 copies/mL.	Kirby Institute	✓			

Targets	Indicators	Data Custodian/s	Data availability			
			Annually	Monthly (M)/ quarterly (Q)/ biannual (B)	As required (‘live’ data)	Periodically
	Proportion of gay and bisexual men receiving ART for HIV infection whose viral load is less than 200 copies/mL.	Burnet/Kirby Institute	✓			
	Proportion of people from culturally and linguistically diverse backgrounds receiving ART for HIV infection whose viral load is less than 200 copies/mL.	Burnet/Kirby Institute	✓			
	Proportion of people who inject drugs receiving ART for HIV infection whose viral load is less than 200 copies/mL.	Burnet/Kirby Institute	✓			
Reduce the incidence of HIV transmissions in men who have sex with men and other priority populations.	Annual notification rate of new HIV diagnoses.	Kirby Institute	✓			
		ABS		Q		
	Number of HIV notifications by exposure category.	Kirby Institute		Q		
	Incidence of recent HIV infection among HIV diagnoses by exposure category.	Kirby Institute	✓			
	Incidence of HIV among people who inject drugs.	Kirby Institute	✓			
	Incidence of HIV among female sex workers.	Burnet/Kirby Institute	✓			

Targets	Indicators	Data Custodian/s	Data availability			
			Annually	Monthly (M)/ quarterly (Q)/ biannual (B)	As required (‘live’ data)	Periodically
Sustain the virtual elimination of HIV among sex workers, among people who inject drugs and from mother to child through the maintenance of effective prevention programs.	Incidence of HIV among people who inject drugs.	Kirby Institute	✓			
	Incidence of HIV among female sex workers.	Burnet/Kirby Institute	✓			
	HIV transmission to newborns perinatally exposed to HIV.	Kirby Institute	✓			
Increase the proportion of eligible people who are on PrEP, in combination with STI prevention and testing to 75%.	Number of people with one or more PBS-subsidised PrEP prescriptions.	Services Australia	✓			
	Proportion of the eligible population receiving PBS-subsidised PrEP.	CSRH/Kirby Institute				✓
	Proportion of non-HIV-positive gay men who have received PrEP in the previous 12 months.	CSRH/Kirby Institute	✓			
	Proportion of gay and bisexual men who have received PrEP and had at least 1 STI tests.	CSRH/Kirby Institute	✓			
	Proportion of gay and bisexual men who have received PrEP and had 3 or more STI tests.	Burnet/Kirby Institute	✓			
	Proportion of gay men who have engaged in condomless anal intercourse with casual male partners in the previous six months who have received PrEP.	CSRH/Kirby Institute	✓			

Targets	Indicators	Data Custodian/s	Data availability			
			Annually	Monthly (M)/ quarterly (Q)/ biannual (B)	As required (‘live’ data)	Periodically
	Proportion of people who inject drugs who report re-use of someone else’s needle and syringe in the previous month.	Kirby Institute	✓			
75% of people with HIV report good quality of life.	Proportion of people with HIV who report their general health status and their general well-being to be excellent or good.	ARCSHS				✓
Reduce by 75% the reported experience of stigma among people with HIV, and expression of stigma, in relation to HIV status.	Proportion of surveyed people living with HIV who report experiencing any stigma or discrimination in relation to their HIV status in the last 12 months.	CSRH				✓
	Proportion of surveyed men who have sex with men who report experiencing any stigma or discrimination in relation to their sexual orientation in the last 12 months.	CSRH				✓
	Proportion of health care workers expressing stigma or discrimination towards clients living with HIV.	CSRH				✓
	Proportion of the Australian public who report they would express stigma or discrimination towards people living with HIV.	CSRH				✓
<b>STI</b>						
Achieve and maintain HPV adolescent vaccination coverage of 80%	HPV two dose vaccination coverage for males and females aged 15 years of age.	Services Australia		Q		
Reduce the prevalence of gonorrhoea, chlamydia and infectious syphilis	Part A – notifications and testing Annual rate of gonorrhoea notifications.	Department of Health			✓	
	Annual rate of chlamydia notifications					

Targets	Indicators	Data Custodian/s	Data availability			
			Annually	Monthly (M)/ quarterly (Q)/ biannual (B)	As required (‘live’ data)	Periodically
	Annual rate of infectious syphilis notifications	ABS		Q		
	Incidence of STIs in sex workers attending a sexual health clinic	Burnet Institute/ Kirby Institute	√			
	Incidence of STIs in gay and bisexual men attending a health service	Burnet Institute/ Kirby Institute	√			
	Proportion of chlamydia tests that yield a positive result in the 15-29 year age group	Services Australia		M		
	Proportion of gonorrhoea tests that yield a positive result in the 15-29 year age group	Services Australia		M		
	Part B – knowledge and risk behaviours Proportion of secondary school students giving the correct answer to STI knowledge and behaviour questions.	ARCSHS				√
	Proportion of secondary school students reporting certain risky sexual behaviours.	CSRH				√
	Proportion of young people (15-29 year olds) giving the correct answer to STI knowledge questions.	CSRH				√
	Proportion of young people (15-29 year	CSRH				√

Targets	Indicators	Data Custodian/s	Data availability			
			Annually	Monthly (M)/ quarterly (Q)/ biannual (B)	As required (‘live’ data)	Periodically
	<p>olds) reporting consistent condom use with sexual partners in the previous 12 months.</p> <p>Proportion of gay men who reported consistent condom use with casual sexual partners in the previous 12 months.</p>	CSRH/Kirby Institute	√			
Increase STI testing coverage in priority populations	Proportion of 15-29 year olds receiving at least one chlamydia test in the previous 12 months	Services Australia		M		
	Proportion of 15-29 year olds receiving at least one gonorrhoea test in the previous 12 months	ABS		Q		
	Proportion of gay and bisexual men attending a health clinic receiving a chlamydia, gonorrhoea and infectious syphilis test at least once in the previous 12 months	Burnet Institute/ Kirby Institute	√			
	Proportion of gay men who report having had comprehensive STI testing in the previous 12 months	CSRH/Kirby Institute	√			
	Proportion of sex workers attending a health clinic receiving a chlamydia, gonorrhoea or infectious syphilis test in the previous 12 months	Burnet Institute/ Kirby Institute	√			
	Proportion of young people (15-29 years) who reported having sex and have had an	CSRH				√

Targets	Indicators	Data Custodian/s	Data availability			
			Annually	Monthly (M)/ quarterly (Q)/ biannual (B)	As required (‘live’ data)	Periodically
	STI and/or HIV test in the previous 12 months					
Eliminate congenital syphilis	<p>Number of congenital syphilis notifications.</p> <p>Notification rate of congenital syphilis per 100,000 live births.</p> <p>Annual notification rate of infectious syphilis in women of reproductive age (15-44 years)</p>	<p>Department of Health</p> <p>ABS</p>	√		√	
Minimise the reported experience and expression of stigma in relation to STI.	<p>Proportion of young people reporting negative behaviour towards people with an STI</p> <p>Proportion of people who report that they would expect to experience stigma if they had an STI</p> <p>Proportion of young people who report that they experienced stigma or discrimination due to their STI</p> <p>Proportion of health care workers reporting or witnessing negative behaviour towards people with an STI</p>	<p>CSRH</p> <p>CSRH</p> <p>CSRH</p> <p>ASHM</p>				<p>√</p> <p>√</p> <p>√</p> <p>√</p>
<b>Aboriginal and Torres Strait Islander people</b>						
Achieve and maintain hepatitis B childhood vaccination coverage of 95% at 12 and 24 months.	Coverage of hepatitis B vaccination of Indigenous children at 12 and 24 months of age.	Services Australia		Q		
Achieve and maintain HPV adolescent vaccination coverage of 80%.	HPV two dose vaccination coverage for Indigenous males and females aged 15	Services Australia		Q		

Targets	Indicators	Data Custodian/s	Data availability			
			Annually	Monthly (M)/ quarterly (Q)/ biannual (B)	As required (‘live’ data)	Periodically
	years of age.					
Reduce the incidence and prevalence of infectious syphilis, gonorrhoea and chlamydia with a particular focus on areas of highest disease burden and young people.	Part A - Notifications				√	
	Annual rate of infectious syphilis notifications in Indigenous people by age and sex.	Department of Health  ABS	√			
	Annual rate of chlamydia notifications in Indigenous people by age and sex.					
	Annual rate of gonorrhoea notifications in Indigenous people by age and sex.					
	Annual rate of infectious syphilis notifications in Indigenous people by remoteness area.	Department of Health  ABS	√		√	
	Annual rate of chlamydia notifications in Indigenous people by remoteness area.					
	Annual rate of gonorrhoea notifications in Indigenous people by remoteness area.					
	Part B – Knowledge and risk behaviours	ABS				
	Proportion of young (16-29 years) Indigenous people giving correct answers to knowledge questions on BBV and STI.	SAHMRI				√
	Proportion of young (16-29 years) Indigenous people reporting consistent condom use with sexual partners.					



Targets	Indicators	Data Custodian/s	Data availability			
			Annually	Monthly (M)/ quarterly (Q)/ biannual (B)	As required (‘live’ data)	Periodically
	Proportion of young Indigenous people (16-29 year olds) who reported using a condom during their last sexual encounter.					
Increase STI testing coverage with a focus on areas of highest need.	Proportion of young (16-29 years) Indigenous people who reported ever having an STI test.  Proportion of young (16-29 years) Indigenous people who reported having an STI test in the last 12 months.	SAHMRI				√
Eliminate congenital syphilis.	Number of Indigenous congenital syphilis notifications.  Annual notification rate of congenital syphilis per 100,000 live Indigenous births.  Annual notification rate of infectious syphilis in Indigenous women of reproductive age (15-44 years of age).	Department of Health  ABS Statistics	√		√	
Reduce the number of newly acquired hepatitis C infections by 60%.	Part A - Notifications Annual rate of newly acquired hepatitis C notifications in Indigenous people.  Annual rate of hepatitis C notifications in	Department of Health  ABS			√	

Targets	Indicators	Data Custodian/s	Data availability			
			Annually	Monthly (M)/ quarterly (Q)/ biannual (B)	As required (‘live’ data)	Periodically
	<p>Indigenous people aged &lt;25 years.</p> <p>Part B – Exposure</p> <p>Proportion of Indigenous people who inject drugs with evidence of past or current hepatitis C infection (HCV antibody).</p> <p>Proportion of Indigenous people who inject drugs with evidence of a current hepatitis C infection (HCV RNA).</p> <p>Proportion of Indigenous people entering custodial settings with evidence of past or current hepatitis C infection.</p>	<p>Kirby Institute</p> <p>Kirby Institute</p> <p>Kirby Institute</p>	<p>√</p> <p>√</p>			<p>√ (triennial)</p>
Increase the use of sterile injecting equipment for every injecting episode.	<p>Proportion of Indigenous people who inject drugs who used a new needle and syringe for all injections in the previous month.</p> <p>Proportion of Indigenous people who inject drugs reporting re-using another person’s used needle and syringe in the previous month.</p>	Kirby Institute	√			
Increase the proportion of people living with hepatitis C who are diagnosed to 90% and the cumulative proportion who have initiated direct acting antiviral treatment to 65%.	<p>Estimated proportion of Indigenous people with chronic hepatitis C who have been diagnosed.</p> <p>Annual rate of hepatitis C notifications (newly acquired and unspecified) in</p>	<p>Kirby Institute</p> <p>Department of Health</p>	√		√	

Targets	Indicators	Data Custodian/s	Data availability			
			Annually	Monthly (M)/ quarterly (Q)/ biannual (B)	As required (‘live’ data)	Periodically
	Indigenous people.	ABS	√			
	Proportion of Indigenous people accessing needle and syringe programs (people who inject drugs) who reported having a hepatitis C test in the previous 12 months	Kirby Institute	√			
	Proportion of Indigenous people accessing needle and syringe programs (people who inject drugs) who report ever having a hepatitis C test	Kirby Institute	√			
	Proportion of young (16-29 years) Indigenous people who reported ever having a hepatitis C test	SAHMRI				√
	Proportion of young (16-29 years) Indigenous people who reported having a hepatitis C test in the last 12 months	SAHMRI				√
	Proportion of Indigenous people who inject drugs who reported ever having had hepatitis C antiviral treatment.	Kirby Institute	√			
	Proportion of Indigenous people who inject drugs who reported having had hepatitis C antiviral treatment in the last 12 months	Kirby Institute	√			

Targets	Indicators	Data Custodian/s	Data availability			
			Annually	Monthly (M)/ quarterly (Q)/ biannual (B)	As required (‘live’ data)	Periodically
	Proportion of Indigenous people entering custodial settings who reported having any hepatitis C antiviral treatment.	Kirby Institute				√ (triennial)
	Proportion of young (16-29 years) Indigenous people who reported having ant hepatitis C antiviral treatment.	SAHMRI				√
Reduce hepatitis C attributable mortality by 65%.	Estimated number of Indigenous people with decompensated cirrhosis, hepatocellular carcinoma and liver related deaths.	Kirby Institute	√			
Increase the proportion of people living with hepatitis B who are diagnosed to 80%; receiving care to 50 %; and on antiviral treatment to 20%.	Annual rate of hepatitis B notifications (newly acquired and unspecified) in Indigenous people.	Department of Health			√	
	Proportion of Indigenous people entering custodial settings with evidence of past or present hepatitis B infection.	ABS Kirby Institute	√			√ (Triennial)
Reduce hepatitis B attributable mortality by 30%.	Estimated number of deaths in Indigenous people due to chronic hepatitis B related to decompensated cirrhosis and hepatocellular carcinoma.	Doherty Institute	√			
Reduce the incidence of HIV transmissions.	Part A- Notifications Annual notification rate of HIV in	Kirby Institute		Q		

Targets	Indicators	Data Custodian/s	Data availability			
			Annually	Monthly (M)/ quarterly (Q)/ biannual (B)	As required (‘live’ data)	Periodically
	Indigenous people.	ABS	✓			
	Number of HIV notifications in Indigenous people by exposure category.	Kirby Institute		Q		
	Proportion of new HIV diagnoses in Indigenous people who had evidence of recent HIV infection by exposure category	Kirby Institute	✓			
	Annual rate of HIV notifications in Indigenous people by remoteness area.	Kirby Institute	✓			
		ABS	✓			
	Incidence of HIV in Indigenous people who inject drugs attending needle and syringe programs.	Kirby Institute	✓			
	Proportion of young (16-29 years) Indigenous people who reported that they were HIV positive.	SAHMRI				✓
	Part B – Exposure and risk behaviours					
		SAHMRI				✓
	Proportion of young Indigenous people (16-29 year olds) who reported using condoms consistently with sexual partners in the previous 12 months.					
		SAHMRI				✓
	Proportion of young Indigenous people					

Targets	Indicators	Data Custodian/s	Data availability			
			Annually	Monthly (M)/ quarterly (Q)/ biannual (B)	As required (‘live’ data)	Periodically
	(16-29 year olds) who reported using a condom during their last sexual encounter.					
Achieve the 95–95–95 HIV diagnosis and treatment targets: Increase to 95% the percentage of people with HIV who are diagnosed; Increase to 95% the percentage of people diagnosed with HIV on treatment; Increase to 95% the percentage of those on treatment with an undetectable viral load.	Proportion of Indigenous people living with HIV who are diagnosed.	Kirby Institute	√			
	Proportion of Indigenous people who inject drugs accessing needle and syringe programs who have been tested for HIV in the previous 12 months.	Kirby Institute	√			
	Proportion of young (16-29 years) Indigenous people who reported ever having a HIV test	SAHMRI				√
	Proportion of new HIV diagnoses in Indigenous people with a late diagnosis of HIV (CD4 count<350 cell/μL).	Kirby Institute	√			
	Prevalence of HIV among Indigenous people who inject drugs attending needle and syringe programs.	Kirby Institute	√			
	Prevalence of HIV among Indigenous people in custodial settings.	Kirby Institute				√ (triennial)
Reduce the reported experience of stigma among Aboriginal and Torres Strait Islander people with BBV and STI, and the expression of stigma, in relation to BBV and STI status.	An indicator to monitor this target is currently unavailable. Options will be explored to develop an indicator that informs activities and strategies in a meaningful way.	-	-	-	-	-

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