



Australian Government

Department of Health

THIRD  
National **Sexually  
Transmissible  
Infections** Strategy

2014-2017

## **Third National Sexually Transmissible Infections Strategy 2014–2017**

ISBN: 978-1-74186-166-2

Online ISBN: 978-1-74186-167-9

Publications approval number: 10716

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# Foreword



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

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

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

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

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

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

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

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



**The Hon Peter Dutton MP**

Minister for Health

# Contents

<b>1.</b>	<b>Introduction</b>	<b>1</b>
<b>2.</b>	<b>STI in Australia</b>	<b>3</b>
2.1	Chlamydia	3
2.2	Gonorrhoea	3
2.3	Syphilis	4
2.4	Human Papillomavirus	4
2.5	Herpes Simplex Virus	4
2.6	Trichomonas	5
2.7	Pelvic Inflammatory Disease, Ectopic Pregnancy and Infertility	5
2.8	Emerging Issues	5
<b>3.</b>	<b>Achievements</b>	<b>6</b>
<b>4.</b>	<b>Measuring Progress</b>	<b>7</b>
4.1	Goals	7
4.2	Objectives	7
4.3	Targets	7
4.4	Indicators	9
4.5	Implementation and Evaluation	10

<b>5.</b>	<b>Guiding Principles Underpinning Australia’s Response</b>	<b>12</b>
<b>6.</b>	<b>Priority Populations</b>	<b>15</b>
<b>7.</b>	<b>Priority Areas for Action</b>	<b>16</b>
7.1	Prevention	16
7.2	Testing	19
7.3	Management, Care and Support	21
7.4	Workforce	23
7.5	Enabling Environment	25
7.6	Surveillance, Research and Evaluation	27
	7.6.1 Surveillance and Monitoring	27
	7.6.2 Research and Evaluation	29
	<b>Acknowledgements</b>	<b>30</b>
	<b>References</b>	<b>31</b>
	<b>Appendix: Priority Populations</b>	<b>34</b>
	<b>Notes to the Appendix</b>	<b>38</b>

# 1. Introduction

Australia has made significant progress in the management of sexually transmissible infections (STI) in recent years. Our world-leading, highly successful National Human Papillomavirus (HPV) Vaccination Program was extended in 2013 to include adolescent males as well as females. This program has led to a rapid and significant decline in genital warts among young people around the country, and is expected to decrease the rates of HPV-related cancer in the coming years [1].

In northern Australia we are close to eradicating donovanosis, with only two cases notified over the life of the *Second National Sexually Transmissible Infections Strategy*.

Our strong and sustained health promotion programs among sex workers mean that rates of STI in this group continue to be among the lowest in the world.

However, even though safe and effective treatments are available for many STI, there has been a steady increase in cases of gonorrhoea, chlamydia and syphilis in the last five years. Messages on safer sexual practices seem to no longer be meeting their mark. We need to get better at understanding priority populations and how best to communicate with them and support behaviour change. Young men are a particularly difficult group to reach and we have to work on ways to get them better connected to health services that ask them the right questions and provide them with comprehensive services.

The burden of STI and their complications is disproportionately experienced by Aboriginal and Torres Strait Islander people, and this issue must be urgently addressed. Cultural safety and respect must be paramount in prevention, testing and management of STI in this population and health services need to provide holistic care to address their complex care needs. However, there are significant challenges associated with providing appropriate prevention and management activities in rural and remote communities.

We need to refocus the healthcare community towards the management of STI. Management of STI also underpins HIV control and provides opportunities for diagnosing viral hepatitis infection and providing hepatitis B vaccination where warranted. Our workforce needs support to provide prevention activities, testing and timely treatment for STI, and to reduce barriers to testing among priority populations.

The importance of early detection of each of these infections is essential to a strategic approach to their management. While separate strategies allow for particular targeting, they need to work together to respond to high-risk behaviour and not duplicate effort and approaches.

## 2. STI in Australia

Surveillance data show that high levels of STI continue to occur in Australia, and indicate upward trends for most STI in many priority populations. These data must be carefully interpreted because notifications and trends may not reflect true population prevalence or change, and may be influenced by testing practices and access to health services. Notification data, whilst important in providing information about changing rates of STI, are unable to demonstrate the psychosexual or reproductive consequences of STI.

### 2.1 Chlamydia

Chlamydia is the most frequently reported notifiable infection in Australia, with 82 707 diagnoses in 2012 [2]. Population notification rates continue to rise in both non-Indigenous Australians and Aboriginal and Torres Strait Islander people. Young people are disproportionately affected; with more than 80 per cent of these occurring in people under 29 years of age. Particular groups with very high notification rates include females, those aged 15–19 years, the Aboriginal and Torres Strait Islander population, and people residing in regional and remote locations [1].

### 2.2 Gonorrhoea

The population rate of gonorrhoea notifications in Australia has almost doubled over the past four years (2008–12), reaching a rate of 59 per 100 000 population in 2012. In the non-Indigenous population, the rate increased by 95 per cent. The very high male-to-female ratio in this population suggests transmission is occurring predominantly by sexual contact between men. In the Aboriginal and Torres Strait Islander population there was a 7 per cent increase, with the male-to-female ratio (approximately 2:1) suggesting transmission predominantly through heterosexual contact.

Antimicrobial resistance in *Neisseria gonorrhoeae* is increasing globally, which has important implications for Australia. In Australia, resistance to penicillin and ciprofloxacin varies by state and territory. Decreased susceptibility to ceftriaxone has been increasing in nearby regions and is now well established. In Australia the general trend has been that of incremental increases annually from the proportion (2 per cent) reported in 2009 [3].

## 2.3 Syphilis

The population rate of diagnoses of infectious syphilis has increased over the last two years to reach 6.7 per 100 000 population in 2012. In the non-Indigenous population, where most notifications are due to sexual contact between men, the rate increased 20 per cent from 2008 to 2012, with the highest rates in the 30–39 and 40–49 year age groups. In the Aboriginal and Torres Strait Islander population a 30 per cent increase in the notification rate in 2010–11, attributed to an outbreak of syphilis in some remote communities, was followed by a slight decline in 2011–12 [1].

## 2.4 Human Papillomavirus

Specific subtypes of human papillomavirus (HPV) cause genital warts and abnormalities that can progress to cervical, anogenital and (rarely) some types of oropharyngeal cancers. The largest burden of HPV-associated cancers in Australia is attributable to cervical cancer; however, the incidence of HPV-related cancers in men has been increasing over the past decade [4]. Other men who have sex with men are at a particularly high risk of HPV-associated disease, with the incidence of anal cancer more than 30 times greater in other men who have sex with men than in heterosexual males [5].

Following the implementation of HPV vaccine for females aged 12–13 years in 2007, high coverage in females was reached over a short timeframe and has significantly reduced diagnoses of genital warts in young females [1]. There has also been a reduction in genital warts in young heterosexual males, probably suggestive of herd immunity [1]. While the impact on HPV-related cancers will take many years to document, early signs—such as reductions in abnormal cervical cytology in those under 20 years—have already been demonstrated [6].

## 2.5 Herpes Simplex Virus

Genital herpes infections caused by herpes simplex virus type 2 (HSV-2) are estimated to affect one in eight Australians [7]. Infections can cause psychological and physical morbidity. Transmission to neonates is rare, but potentially fatal. Infection with HSV-2 also increases the risk of acquiring HIV several-fold. HSV type 1 has recently overtaken HSV-2 as the major cause of primary genital herpes in young women and other men who have sex with men [8].

## 2.6 Trichomonas

*Trichomonas vaginalis* infection is often asymptomatic but associated with adverse pregnancy outcomes and increased risk of transmission of HIV [9]. While it is considered endemic in some Aboriginal and Torres Strait Islander populations [10], it is only notifiable in the Northern Territory; hence, no national picture is available. Surveillance data from the Northern Territory show higher notification rates than chlamydia and gonorrhoea in Aboriginal women, up until 40 years of age, than in men. Limited data are available on the prevalence of *T. vaginalis* in men.

## 2.7 Pelvic Inflammatory Disease, Ectopic Pregnancy and Infertility

Untreated STI have been associated with an increased risk of pelvic inflammatory disease (PID), ectopic pregnancy and infertility [11]. They are also associated with adverse maternal and neonatal outcomes [12], such as premature rupture of membranes, premature delivery, low birth weight, and congenital syphilis and neonatal death.

However, specific data are limited. The Prevention of Pelvic Infection (POPI) trial demonstrated that almost 10 per cent of women with untreated chlamydia infection were diagnosed with PID within one year of follow-up [1]. They estimated that untreated chlamydial infections increased the risk of PID by 6.5–25 fold, compared to no infection.

There is some evidence that within just a few weeks between testing and treatment, 2–3 per cent of patients with chlamydia infection have already developed PID. Further, repeat chlamydial infections, when compared to initial infection, increase the risk of chlamydia-related sequelae such as PID and infertility [13].

## 2.8 Emerging Issues

*Mycoplasma genitalium* is an established cause of urethritis and cervicitis, with increasing evidence to support a role in PID [14]. Furthermore, *M. genitalium* may also be associated with increased risk of HIV acquisition. However, our ability to address this issue is limited by a lack of reliable Australian prevalence estimates and testing being limited to sexual health services.

## 3. Achievements

Over the last three years, from 2010 to 2013, a number of milestones and achievements have been reached in Australia to reduce the transmission of STI. These achievements will be built on over the next three years to achieve the goals, objectives and targets of this *Third National Sexually Transmissible Infections Strategy 2014–2017* (the Strategy).

Australia's world-first highly successful vaccination program against HPV was extended to include adolescent boys as well as girls. This program has led to a rapid and significant decline in genital warts among young people around the country, and is expected to decrease the rates of HPV-related cancer in the coming years. In northern Australia, we are close to eradicating donovanosis, with only two cases notified over the life of the previous national strategy.

Our strong and sustained health promotion programs among sex workers mean that rates of STI in this group continue to be among the lowest in the world.

During 2010–13, there was a scaling up of programs to increase STI testing among priority populations, particularly among Aboriginal and Torres Strait Islander people where the burden of STI and their complications is disproportionately high. This was coupled with increased service access.

Sexual health education was included in the national education curriculum being developed by the Australian Curriculum, Assessment and Reporting Authority, reflecting the importance of developing STI-related awareness and knowledge in young people.

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

# 4. Measuring Progress

## 4.1 Goals

The goals of the Strategy are to reduce the transmission of, and morbidity and mortality caused by, STI, and to minimise the personal and social impact of the infections.

## 4.2 Objectives

In order to achieve the above goal, this Strategy's six combined objectives are to:

1. achieve and maintain high levels of HPV vaccination
2. reduce the incidence of STI
3. improve knowledge and safe behaviours associated with the transmission of STI
4. increase testing among priority populations
5. increase appropriate management and reduce associated morbidity
6. eliminate the negative impact of stigma, discrimination and legal and human rights issues on people's health.

## 4.3 Targets

Targets are included for the first time in the Strategy. These aspirational targets provide a specific focus for the efforts of all partners when moving towards the achievement of the above objectives and goal.

For the majority of the targets the available evidence and surveillance data is insufficient to adequately inform the setting of quantitative targets. The focus of this Strategy is on achieving improvements in these areas, while working towards the setting of justifiable targets for the next strategy. This Strategy's targets are, by 2017, to:

1. achieve HPV adolescent vaccination coverage of 70 per cent
2. increase testing coverage in priority populations
3. reduce the incidence of chlamydia
4. reduce the incidence of gonorrhoea
5. reduce the incidence of infectious syphilis and eliminate congenital syphilis.

Australia's world-leading HPV vaccination program should continue to be built on, with the achievement of 70 per cent vaccination coverage nationally through the school-based program. This aligns with the *National Immunisation Strategy 2013–18*, in which the improvement of immunisation coverage is the first strategic priority. While recent data indicates three-dose coverage for females is approximately 70 per cent, with male estimates pending, there are gains to be had in improved coverage in specific population groups.

Reducing the transmission and prevalence of STI is critically dependent on increasing testing coverage. The national report suggests that there has been some increase in the rate of testing in some populations (young people aged 15–24 years) but this still remains low (less than 14 per cent) and levels have remained stable in others (e.g. other men who have sex with men). There is significant room for improved testing in all priority populations.

High prevalence rates of chlamydia and gonorrhoea continue to drive transmission of these infections. A reduction in incidence of both infections is a focus of this Strategy.

Infectious syphilis continues to be transmitted among other men who have sex with men and within some Indigenous communities. Incidence must be reduced to minimise the impact of this infection. The elimination of congenital syphilis is dependent on delivering a strong and integrated public health response.

## 4.4 Indicators

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

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

Further work on refining and developing indicators is required, and will be progressed during the life of this Strategy. Indicators to report against each of the targets will need to be specifically defined. An important gap to be addressed is the lack of a nationally agreed indicator for measuring progress in reducing the health impact of stigma, discrimination, and legal and human rights in the context of this Strategy. Improved measures of testing and incidence for the full range of STI and priority populations are needed, as is the ability to measure STI management and associated morbidity. Further limitations and gaps are discussed in section 7.6, 'Surveillance, Research and Evaluation'.

Objective	Indicator
Achieve and maintain high levels of HPV vaccination	HPV three-dose vaccination coverage for males and females turning 15 years of age
Reduce the incidence of sexually transmitted infections	Annual rate of notifications of gonorrhoea
	Annual rate of notifications of infectious syphilis
	Proportion of chlamydia tests that yield a positive result in 15–29 year age group
Improve knowledge and reduce risk behaviours associated with the transmission of STI	Proportion of secondary school students giving the correct answer to STI knowledge and behaviour questions
Increase testing among priority populations	Proportion of 15–29 year olds receiving a chlamydia test in the previous 12 months
	Proportion of gay men who report having had an STI test in the previous 12 months
Increase appropriate management and reduce associated morbidity	Number of notifications of congenital syphilis annually
Eliminate the negative impact of stigma, discrimination, and legal and human rights issues on people's health	

## 4.5 Implementation and Evaluation

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

Australia's world-recognised partnership approach will remain central to our response to blood-borne viruses (BBV) and STI. Undertaking the actions set out in this Strategy by December 2017 requires Commonwealth and state and territory governments, community organisations, service delivery organisations, professional bodies, and research institutions to work together. In doing this we need to ensure that affected individuals and communities remain at the heart of our response and involved in activities as they are proposed, developed and implemented.

This Strategy builds on its two predecessors, which have guided Australia's response to sexually transmissible infections from 2005 to 2013. It is one of five interrelated national strategies aiming to reduce the transmission and impact of BBV and STI. The other strategies are the:

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

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

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

# 5. Guiding Principles Underpinning Australia's Response

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

## Human Rights

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

## Access and Equity

Health and community care in Australia should be accessible to all based on need. The multiple dimensions of inequality should be addressed, whether related to geographic location, gender, sexuality, drug use, occupation, socioeconomic status, migration status, language, religion or culture. Special attention needs to be given to working with Aboriginal and Torres Strait Islander people to close the gap between Aboriginal and Torres Strait Islander health status and that of other Australians [15].

## Health Promotion

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

## Prevention

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

## Harm Reduction

Harm reduction approaches underpin effective measures to prevent transmission of HIV, viral hepatitis and STI.

## Shared Responsibility

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

## Commitment to Evidence-based Policy and Programs

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

## Partnership

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

## Meaningful Involvement of Affected Communities

The meaningful participation of people living with blood-borne viruses and sexually transmissible infections and of affected communities in all aspects of the response is essential to the development, implementation, monitoring and evaluation of programs and policies.

# 6. Priority Populations

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

Priority populations identified in this Strategy are:

- young people (under 30 years of age)
- Aboriginal and Torres Strait Islander people
- gay men and other men who have sex with men
- sex workers
- culturally and linguistically diverse people
- travellers and mobile workers
- people in custodial settings.

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

# 7. Priority Areas for Action

Primary prevention strategies, combined with voluntary STI testing and early treatment, is the most effective response to the spread of STI. Safer sexual behaviour, including the use of condoms and water-based lubricants, remains the primary tool for preventing transmission of STI. The early detection of STI, through timely and appropriate testing and antibiotic treatment, is essential to reduce further transmission of STI, limiting the facilitation of HIV transmission, and preventing the development of complications.

A clinical, public health and community sector workforce that is well trained and confident in its management of STI is fundamental to the implementation of this Strategy. All five national BBV and STI strategies have identified the difficulties of developing and maintaining such a workforce, including the difficulties associated with recruitment, retention and training of an undersupplied and ageing workforce [16].

## 7.1 Prevention

### Priority Actions

- Increase the use, access to and acceptability of condoms amongst priority populations.
- Increase the promotion of safer sex behaviours and regular testing.
- Build STI-related knowledge and skills in priority populations.
- Increase the uptake of the HPV vaccine.

Complex behavioural change, such as increasing the use of condoms and reducing unsafe sex, requires an integrated and sustained health promotion and disease prevention approach. Comprehensive programs that have multiple components have been demonstrated to be effective in reducing sexual risk behaviour. These components include:

- workshops
- communication skills-building
- community events
- sex education in schools
- trainings of teachers, community leaders, peer educators and counsellors
- distribution of educational materials
- provision of condoms
- social marketing.

STI are predominantly contracted through unsafe sexual practices and, while symptoms may not be obvious, long-term consequences may arise if not treated. Raising awareness and knowledge of STI and their consequences among priority populations continues to be essential. This should include addressing skills to reduce sexual risk behaviour and in accessing and navigating the health system. These activities must be relevant and accessible to the priority populations, whilst acknowledging different cultural, social and language needs.

Peer education and support have played important roles in reducing the risk of STI transmission and in connecting with some hard-to-reach populations. Peers are credible, trusted sources of information and can assist in overcoming physical and socio-cultural barriers [17]. Sex workers, for example, have played a longstanding and pivotal role in health promotion by establishing partnerships in community health initiatives, acting as pioneers in peer education programs [17]. The use of peer support and education models to target prevention activities in priority populations is important.

New media tools provide an opportunity to renew and refresh the ways in which health promotion and prevention activities are delivered. Existing and new media tools, such as interactive videos, email and SMS, should be explored to target activities to the priority populations in an appropriate and meaningful way.

The most recent national secondary schools health survey [18] identifies gaps in secondary students' knowledge, attitudes and behaviour about sexual matters. Reducing the very high notification rates for chlamydia and gonorrhoea in youth will require increased knowledge and skills amongst young people.

Sex education in schools is a highly effective strategy for reducing sexual risk taking in young people [11]. Effective and culturally appropriate sex education should be delivered to all Australian school students. Currently, the delivery of sexual health education in Australian schools depends on the interest and capacity of individual schools and teachers [19]. Additionally, those young people who are of school age but are no longer in the school system miss out on this important component. At particular risk are young Aboriginal and Torres Strait Islander people, a greater proportion of whom are outside the school system. The development and delivery of health promotion interventions targeted to young people, both in and out of school, is a priority.

Vaccination against specific infections is one of the most efficient methods of infectious disease control as it reduces or eliminates the risk of transmission. The HPV-specific vaccine was introduced and funded under the Immunise Australia Program for females aged 12–13 years in 2007, and for males aged 12–13 years in 2013. Recent data reports a 71 per cent vaccination coverage (three-dose) in females turning 15 years of age. Data on the first year for males will shortly be available. The National HPV Vaccination program has been supplemented by catch-up programs.

## 7.2 Testing

### Priority Actions

- Build on successful activities to improve testing rates and coverage in priority populations and age groups.
- Explore the feasibility, accessibility and cost effectiveness of the range of existing and emerging testing methods such as rapid testing.
- Develop and promote nationally consistent STI testing and retesting guidelines.
- Maintain and strengthen links between comprehensive voluntary STI and voluntary HIV testing.

Some of the important individual factors that influence STI-testing decisions include perceived vulnerability to STI, perceived benefits of testing, experiencing STI-related symptoms, and having had unprotected intercourse leading to anxiety and fear of negative attitudes [20]. Social and system-related aspects include physical access to testing and results, costs, and privacy and confidentiality concerns.

There is a significant need to increase STI-related awareness and knowledge in priority populations to improve STI testing. Effective STI education programs, addressing the above factors, will be used to improve engagement in STI testing and treatment. The role of peer educators and counsellors in engaging priority populations, in particular those hard-to-reach populations, will be further explored. These activities could be linked to pre-existing services in community health and needle and syringe programs (NSPs).

This needs to be accompanied by activities and tools which systematically increase the opportunities for priority groups to have voluntary STI tests. While a number of methods have been identified, the evaluation of their effectiveness and their implementation is inconsistent.

Options for health system changes include strengthening the integration of testing into existing health service delivery and reorienting existing services. Opportunities for integration with existing services include offering STI testing with appropriate routine activities (e.g. during visits for pap smears, contraception, general health checks, antenatal visits and appropriate

vaccinations). Other areas of interest include clinic automatic-alert systems, recall systems, and expanding the range of primary healthcare providers who can actively participate in testing activities.

Testing or screening programs may be considered, particularly in areas where there is high community prevalence of STI. It is anticipated that results from the Australian Chlamydia Control Effectiveness Pilot (ACCEPt) will be available during the life of this Strategy to inform the implementation of future STI screening programs. Early reports from this study confirm high rates of chlamydia in young adults and suggest a multifaceted intervention focused on general practitioners can lead to increased testing [21].

In response to high rates of STI in some Aboriginal and Torres Strait Islander communities, pilot projects (using continuous quality improvement programs to specifically increase testing and treatment) are providing promising results. These findings should be leveraged in the coming years, and opportunities for applications to other priority populations may be found.

Access to testing and the delivery of test results are frequently cited as barriers to testing. Outreach programs are particularly useful to target more difficult-to-reach priority groups, and could be considered for groups such as gay men, young people who are most at risk of STI infection, and people in correctional settings. Different methods of delivering STI results are available, such as return visits, phone calls, emails, SMS, and other web-based tools. Continuing work on using a mixture of methods, that are acceptable to and appropriate for different priority populations, is important.

For all of these strategies to be effective, healthcare professionals require improved confidence, knowledge and skills in discussing sexual health and offering STI testing. Education on the importance of regular STI testing and how to identify at-risk behaviour and symptoms is an essential component, and is necessary to support healthcare professionals to offering and carrying out testing.

Testing strategies and models will need to be reviewed and updated to allow new testing technologies, such as rapid testing in non-laboratory settings, to be included as they become available. Several pilot studies looking at acceptability, feasibility and cost-effectiveness of rapid testing in high-prevalence populations are underway and will inform future directions during the life of this Strategy. Chlamydia and gonorrhoea rapid testing may reduce average time to treatment (which may be up to 21 days in some remote Aboriginal communities), and

syphilis rapid tests improve outbreak responses that provide rapid screening and immediate treatment in communities.

Nationally consistent STI testing and treatment guidelines must be current and widely implemented to key groups such as primary healthcare and antenatal care. Recommendations for chlamydia and gonorrhoea testing need to be reviewed to ensure they are evidence based and appropriate, particularly for remote Aboriginal communities and antenatal screening.

Comprehensive sexual health screening, including HIV and viral hepatitis screening where indicated, must be maintained. Efforts are required to maintain comprehensive STI and BBV testing in at-risk individuals as new testing models and technologies become progressively available. The current challenge is to ensure that HIV and STI testing remain linked, as rapid testing for HIV progresses more quickly than for other BBV and STI. This is particularly important in some priority populations at higher risk of HIV, such as gay men and other men who have sex with men, as there is an increased risk of HIV transmission associated with the presence of an STI.

### 7.3 Management, Care and Support

#### **Priority Actions**

- Assess and implement effective tools and activities to improve STI treatment, management and referral.
- Improve models of care for priority populations in primary healthcare settings.
- Explore methods to enhance partner notification and treatment systems.
- Broaden access to current evidence-based sexual health clinical guidelines.

Primary healthcare services are the main providers of sexual health in Australia. Public and private sexual health services also play an essential role in improving access to high-priority groups and managing more complex clinical problems. As well as a clinical role, many of these services have other responsibilities in providing continuing professional development, clinical advice and support, population health advice, contact tracing and research.

A common feature of the priority populations in this Strategy is their difficulty in accessing health services. Services are encouraged to consider how approachable they are for clients, and to ensure they provide a suitable and appropriate service for priority populations.

Models of care need to consider all these factors, and look at innovative ways to improve clinical management, treatment, care and support. These models should deliver best practice care and support and appropriate and timely referral between specialist and primary healthcare services. Services may require reorientation to address the needs of priority populations, in particular young people. Differing roles for different healthcare professionals, particularly nurses and Aboriginal health workers, should be explored as part of these models.

Tools and activities to improve treatment and management need to be piloted, and those determined to be effective should be promoted and adapted as required. These must be targeted towards priority populations. There have been important advances in the use of continuous quality improvement programs in primary healthcare that deserve consideration, including new media and web-based decision-support tools for general practitioners.

Improvements in contact-tracing activities need to be built on, with a particular focus on partner notification and treatment systems. Partner notification is an important factor in increasing the likelihood of diagnosis and treatment in the sexual contacts of people diagnosed with infection. Reducing transmission is dependent on increasing the likelihood of diagnosis and treatment of the sexual contacts of people diagnosed with an STI. It has the potential to reduce re-infection rates in index cases and allow diagnosis and treatment in people who may not realise they have been exposed to an STI.

Traditional methods of partner management rely on the clinician or index case asking their partner/s to attend the clinic for testing and treatment. While these methods are important, they have been shown to reach only 25–40 per cent of partners following referral from the index case [22]. Other methods to increase the testing and antibiotic treatment of sexual partners of individuals diagnosed with an STI need to be considered. These may include promotion of web-based partner notification schemes and the feasibility of using patient delivered partner therapy.

Rural and remote communities pose additional challenges to achieving appropriate management of STI. Difficulties in maintaining confidentiality in smaller rural and remote communities may impede contact tracing and other important activities.

Current and accessible clinical guidelines can be a cornerstone of best clinical practice. There is a range of clinical practice guidelines available for different health service providers in different settings. Improved access to appropriate treatment guidelines and use of decision-support software could help to improve the standard and success of clinical management. The development of guidelines needs to be responsive to emerging issues.

### 7.4 Workforce

#### **Priority Actions**

- Work together with relevant organisations to ensure delivery of targeted responsive and coordinated training, continued education and professional support programs.
- Consider options to broaden the range of healthcare professionals who can diagnose and treat STI.
- Improve skills, knowledge and capacity to increase testing rates and treatment of STI among general practitioners.

Professional support and training is essential for all sectors of health care and the community sector. Improvements in prevention, testing and management rely on the various sectors of the workforce feeling confident and skilled in discussing sexual health sensitively, and encouraging regular sexual health check-ups. Professional and community-based organisations, working with specialist education providers, are well placed to tailor training in response to localised needs driven by epidemiology and workforce capacity. Resources and programs should highlight the sexual health needs of priority population groups.

Primary healthcare services are the main providers of sexual health in Australia, and as such an important ongoing priority is to ensure sufficient numbers and distribution of primary healthcare providers who proactively provide sexual health services. This requires a range of strategies addressing recruitment, retention and training.

Models of service delivery should incorporate multidisciplinary teams and primary healthcare professionals. Members' roles need to be explored and potentially expanded. As the number of practice nurses in primary healthcare settings in Australia increases, their role in providing STI testing, counselling,

treatment, and assistance in partner notification approaches should be further explored. This needs to be accompanied by considerations of appropriate practice incentives and enhancements, and the strengthening of relevant training programs.

A key action for this Strategy is specific ongoing support and training for general practitioners. Education programs need to address a variety of issues relevant to general practice. These include the recording of sexual history, as well as screening, treating non-complex STI presentations, disease notification, contact tracing, referral information, and detection and management of STI complications (such as PID). Such programs should also include information on how to raise an STI-testing opportunity in a non-sexual-health consultation.

Partnerships between key organisations—including Aboriginal community-controlled services, specific community groups, and other health and community organisations—will need to be established or reinvigorated in order to improve the effectiveness of targeted approaches to raising awareness, increasing testing, and supporting compliance with management and treatment protocols at the local level.

## 7.5 Enabling Environment

### Priority Actions

- Develop programs to assess and address STI-related stigma and discrimination.
- Support STI education programs that address the vulnerability of young people, young gay men and Aboriginal and Torres Strait Islander young people within the school system, and also those who are outside the school system.
- Eliminate stigma and discrimination in community and healthcare settings, and empower priority populations.
- Remove institutional, regulatory and systems barriers to equality of care for people infected and affected by STI in the health sector.
- Work towards addressing legal barriers to evidence-based prevention strategies across states and territories.
- Establish a dialogue between health and other sectors aimed at reducing stigma and discrimination against STI-infected and affected individuals and communities.

Discriminatory or unfair treatment increases the negative impact on the health status of people with STI and can reduce access to care. Stigma and discrimination have been correlated with poor access to health care and risk behaviour [23].

People from affected communities require protection from multiple forms of discrimination, not only those associated with fears of contagion but also a range of other social phobias related to sexuality, drug use, or being a sex worker or person in a custodial setting [24].

Adolescence and youth are key life stages with great personal change, including physical development, the establishment of a sense of identity and values, and emotional development. It is an age during which health enablers (such as positive role models and health behaviours) as well as factors negatively impacting on health and wellbeing (such as stigma and discrimination and limited access to education and social services) can affect self-perceptions and behaviours.

The best regulatory approach is a human rights approach that treats priority populations as partners in prevention and education. This Strategy supports continued partnerships with community and peer support groups which seek to break the perpetuating isolation and marginalisation of priority populations (such as sex workers, culturally and linguistically diverse people and Aboriginal and Torres Strait Islander people), which has been demonstrated to limit these groups' ability to seek information, support and health care.

All partners in Australia's STI response have a responsibility to work toward ensuring that the response to STI is based on human rights. There is an ongoing need for Australian governments to continue to review and work towards removing barriers to access to STI prevention, treatment, care and support. Governments should also work towards the promotion and protection of the human rights of people with STI and people among affected communities, and work towards breaking down the stigma and discrimination associated with STI.

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

Support must also be provided to healthcare professionals, such as clinicians at the frontline of STI diagnosis and treatment, to ensure they are well informed about legal issues, including their own legal obligations, and can provide optimal information and support to patients.

Implementation of this Strategy rests within the health system. However, many of the barriers to access and to equal treatment of affected individuals and communities fall outside the responsibility of the health system. For example, criminalisation impacts on priority populations by perpetuating isolation and marginalisation and limiting people's ability to seek information, support and health care. It is important that the health sector enters into a respectful dialogue with other sectors to discuss impacts of wider decisions on the health of priority groups.

## 7.6 Surveillance, Research and Evaluation

### Priority Actions

- Improve surveillance of the incidence of STI in priority populations.
- Improve methods of monitoring testing coverage for STI.
- Support surveillance and research to monitor, identify and address emerging issues.
- Evaluate health promotion, prevention, testing, and treatment programs and activities to ensure they are effective.
- Support research across the relevant disciplines, including social, behavioural, epidemiological, clinical and basic research to inform the delivery of the Strategy.
- Strengthen research and research translation to guide interventions.

### 7.6.1 Surveillance and Monitoring

The core surveillance system for STI in Australia is the National Notifiable Disease Surveillance System (NNDSS). Notification data provided to the NNDSS by states and territories includes date of disease onset, and the person's sex, age, Indigenous status and postcode of residence. Information from a number of fields is frequently incomplete, particularly Indigenous status, which reduces the ability to analyse trends and inform effective interventions.

It is a priority of this Strategy, as well as the *Aboriginal and Torres Strait Islander Sexually Transmissible Infections and Blood Borne Viruses Strategy*, to improve the completeness of surveillance data, particularly in important fields such as Indigenous status. Work has been underway at a national level to respond to this deficiency.

Some important STI are not notified nationally, including genital HSV and genital HPV. *Trichomoniasis* is notifiable in the Northern Territory only, limiting the epidemiological picture to inform our response to this infection. Mechanisms to collect national data on these infections are important to informing targeted and relevant public health actions.

Several gaps have been identified in the ability to measure the implementation and success of this Strategy against the objectives and targets.

While notification rates can inform an understanding of changes in the incidence of gonorrhoea, chlamydia and infectious syphilis, it is important that the need for an ongoing and sustainable surveillance mechanism to monitor the incidence of these STI is addressed during the life of this Strategy. This must be accompanied by improvements in the collection of testing data to inform progress against several key objectives and targets including the interpretation of notification data.

The measurement of students' knowledge and behaviour is addressed through the National Secondary Schools Survey, and an essential component of the surveillance strategy is to address the sustainability of this important measure.

There is currently no ability to monitor and report on the management of STI and STI-related mortality and morbidity. There is a need to consider and develop an appropriate indicator, which may involve considering international efforts in this area.

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

Other areas for development of surveillance tools include the monitoring of the reach or coverage of prevention activities and workforce priorities.

With the increasing international and Australian focus on antimicrobial resistance, consideration should be given to surveillance requirements of STI-related antibiotic resistance. Attention will need to be given the increasing requirements for the adequate surveillance of *Neisseria gonorrhoeae* resistance. As antibiotics options become limited, tests of cure and continuing surveillance are essential to inform treatment guidelines in Australia.

### 7.6.2 Research and Evaluation

In partnership with the community sector, research will continue into the social, behavioural, clinical and structural drivers for and barriers to achieving optimal sexual health for all Australians. This includes research on patterns of sex work, mobility and migration, and barriers to accessing services, with a focus on identifying particularly vulnerable or marginalised groups.

Identifying specific research priorities in relation to primary healthcare access, epidemiological surveillance and health promotion needs for Aboriginal and Torres Strait Islanders is supported.

There is increasing evidence to support an important role for *Mycoplasma genitalium* in both acute and complicated STI disease; however, there is a lack of reliable Australian seroprevalence estimates to describe the size and epidemiology of the problem in Australia. In addition, lack of an available commercial testing assay and limited awareness beyond specialised sexual health services inhibits the ability to improve our knowledge base and act appropriately. Improvements will be required to ensure appropriate action can be taken in the future.

Gonococcal antimicrobial resistance requires a multi-factorial response. Research in Australia on mapping resistant mutations may enhance our ability to monitor and manage resistance in the future. Globally, new antibiotics that are highly effective against resistant gonorrhoea will be required.

The National HPV Vaccination Program will continue to be monitored to ensure that the anticipated short-term outcomes in males and long-term outcomes for HPV-related cancers are realised.

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

A significant number of activities and programs have been undertaken under previous STI strategies and by state and territory governments, peak and community organisations and research centres across all six priority action areas. The national scale-up of activities and interventions with evidence for effectiveness and feasibility are recommended to be undertaken during the life of this Strategy. This will be done using proven scale-up methodologies and with monitoring and evaluation mechanisms developed and in place.

# Acknowledgements

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

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# Appendix: Priority Populations

Priority Population	Reason for Priority Status	Issues and Considerations	Additional Focus
Sexually active young people under 30	<p>15–29 year olds have the highest notification rates for chlamydia.<sup>1</sup></p> <p>Notification rates of gonorrhoea were 2–3 times higher in 15–29 year olds than in other age groups.<sup>2</sup></p>	<ul style="list-style-type: none"> <li>■ Accessibility to information and services for young people, including those in regional, rural or remote areas, those who are homeless, those in custodial settings, same-sex-attracted young people, and Aboriginal and Torres Strait Islander young people.</li> <li>■ Normal developmental processes (such as short-term relationships and risk taking) are important for healthy adolescent adjustment but may expose young people to a greater risk of exposure to STI.<sup>3</sup> Factors defining the behavioural, cultural and social contexts (such as alcohol and peer norms) may also contribute to this risk.<sup>4, 5, 6</sup></li> </ul>	<p>A wide variety of strategies and approaches is required to address the diversity of experience and needs of young people in relation to STI.<sup>7</sup> Young people must be involved in the development and implementation of STI programs.</p> <p>Adolescence and young adulthood represent a critical time to focus on a range of health-related factors.</p>

Priority Population	Reason for Priority Status	Issues and Considerations	Additional Focus
Aboriginal and Torres Strait Islander people	The Aboriginal and Torres Strait Islander population continues to be overrepresented in notifications of STI other than HIV.	<ul style="list-style-type: none"> <li>■ The availability and ease of access to culturally appropriate and sensitive services contributes to addressing possible barriers to seeking testing and treatment. Simultaneously, Aboriginal and Torres Strait Islander people should have access to health promotion messages that resonate culturally, are gender and age appropriate, and translate to improved health literacy and health service access and uptake.</li> </ul>	Higher mobility among remote populations could continue to facilitate higher rates of STI8 as demonstrated by mathematical modelling, particularly in small communities.
Gay men and other men who have sex with men	<p>Gay men and other men who have sex with men have a higher prevalence of STI.</p> <p>Other reasons for prioritising this population are the role of STI in HIV transmission, increasing both transmissibility of and susceptibility to HIV, and higher-risk sexual practices.</p>	<ul style="list-style-type: none"> <li>■ Non-condom-based risk-reduction strategies for HIV may result in an increased risk of other STI.</li> <li>■ STI risk is not equal across all gay men and other men who have sex with men, with some sexual practices and cultures having higher risks for STI and therefore requiring specific targeting.</li> </ul>	High-priority subpopulations that require tailored interventions include sexually adventurous gay men, gay men with higher numbers of casual sexual partners, gay men with HIV, and same-sex attracted young men.

Priority Population	Reason for Priority Status	Issues and Considerations	Additional Focus
Sex workers	Sex workers are a priority population because of their significantly higher number of sexual encounters than other community members and the higher potential for transmission of STI.	<ul style="list-style-type: none"> <li>Despite the occupational risks, the incidence of STI in sex workers in Australia is among the lowest in the world. Sustaining this achievement requires the acknowledgement of factors that define the community including: relative youth, discrimination, mobility and migration, and barriers to control over the occupation health and safety conditions of their work and to health service access.<sup>9</sup></li> </ul>	High-priority subpopulations that require targeted interventions include transgender sex workers, street-based sex workers, Aboriginal and Torres Strait Islander sex workers (including those who engage in opportunistic sex work or provide sex for favours), culturally and linguistically diverse sex workers, sex workers who inject drugs, and male sex workers.
Culturally and linguistically diverse people	The culturally and linguistically diverse population has grown rapidly in the last few years in Australia. About 60 per cent of Australia's population growth is from immigration. The 2011 Census revealed that over a quarter (26 per cent) of Australia's population was born overseas, and a further one-fifth (20 per cent) had at least one parent who had been born overseas.	<ul style="list-style-type: none"> <li>Barriers that may affect the culturally and linguistically diverse populations accessing services for STI could be: language and culture; stigma; cost; low awareness and knowledge; unfamiliarity with the Australian health system; traditional beliefs; and fear.</li> </ul>	International students are increasing in numbers. Understanding of sexual health and how to access services may be low in this young culturally and linguistically diverse population.

Priority Population	Reason for Priority Status	Issues and Considerations	Additional Focus
Travellers and mobile workers	<p>People may behave differently when they travel and in ways that may put them at risk of exposure to STI. This group includes Australians who travel overseas and people from other countries who travel to Australia, and comprises:</p> <ul style="list-style-type: none"> <li>people who engage in unsafe sex while travelling</li> <li>fly in–fly out and seasonal workers and the communities they have contact with, particularly in regional, rural and remote areas.</li> </ul>	<ul style="list-style-type: none"> <li>Travellers and mobile workers are often not eligible for Medicare benefits and may have difficulties accessing appropriate healthcare services.</li> <li>Delivering health promotion and health services to mobile populations.</li> </ul>	
People in custodial settings	<p>Whether in custodial settings, people who are incarcerated are at risk for STI and BBV.<sup>10;11,12</sup></p>	<p>The epidemiology of overlapping priority populations, as well as limited access to education and tools prior to incarceration, compounded by similar limited access in prison, results in a very high-risk subpopulation.</p>	<p>Custodial settings can provide people at high risk access to activities, tools and programs.<sup>13.</sup></p>

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