



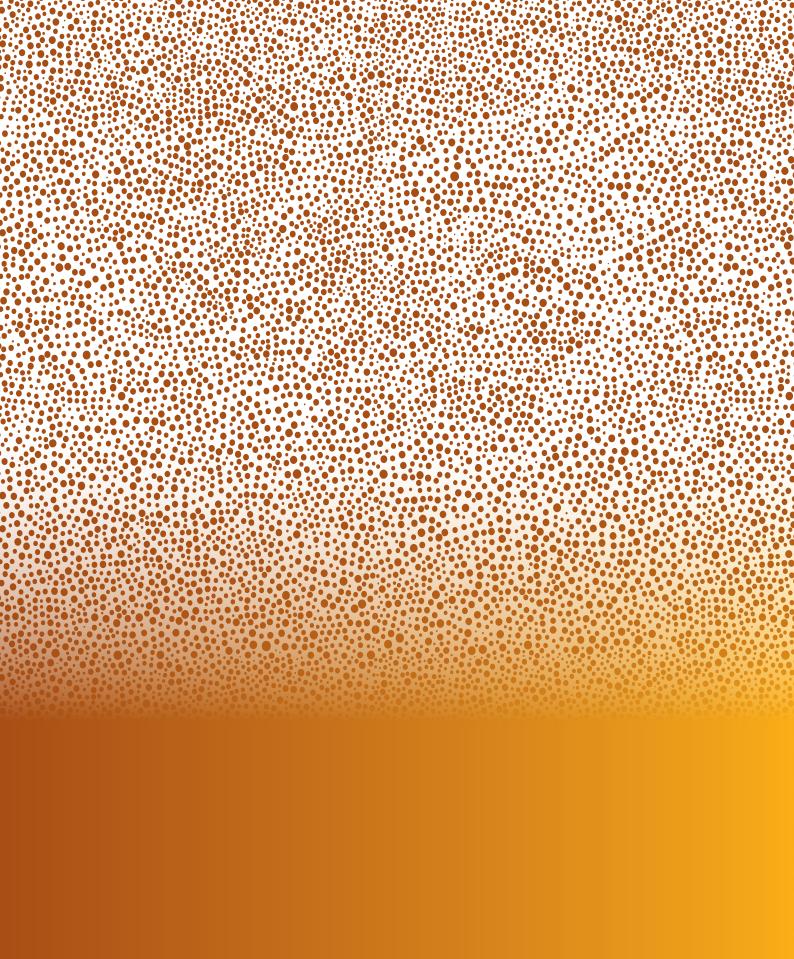


# Department of **Health**

An evidence review from Australia, Aotearoa/New Zealand and Canada for the WA Aboriginal Sexual Health and Blood-borne Virus Strategy

Sexual Health and Blood-Borne Virus Applied Research and Evaluation Network (SiREN)





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#### **Citation:**

An evidence review from Australia, Aotearoa/New Zealand and Canada for the WA Aboriginal Sexual Health and Blood-borne Viruses Strategy. 2019, Perth: Department of Health: Perth, Western Australia.

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## **Abbreviations**

AHW Aboriginal Health Workers

BBV Blood-Borne Virus

CSA Child Sexual Assault

GSD Gender and/or Sexually Diverse

HAART Highly Active Antiretroviral Therapy

HIV Human Immunodeficiency Virus

LGBTQIA+ Lesbian, Gay, Bisexual, Transgender, Queer, Intersex,

Asexual + other identities which fall under this category

i.e. Brotherboy, Sistergirl, Two Spirit, Pansexual

NSP Needle and Syringe Programs

PLWH People Living With HIV

PrEP Pre-Exposure Prophylaxis

PWID/PWUD People Who Inject Drugs / People Who Use Drugs

SHBBV Sexual Health and Blood-Borne Viruses

SRE Sexuality and Relationship Education

STIBBV Sexually Transmitted Infections and Blood-Borne Viruses

TasP Treatment As Prevention

UVL Undetectable Viral Load

WLWH Women Living with HIV

# A note on language

It is noted that there is a high level of heterogeneity amongst different Indigenous groups, both between and within each of the countries included in this review – Australia, Canada and Aotearoa/New Zealand [29-31].

Within Western Australia, the term Aboriginal is used in preference to Aboriginal and Torres Strait Islander, in recognition that Aboriginal people are the original inhabitants of Western Australia. Aboriginal and Torres Strait Islander may be referred to in the national context and Indigenous may be referred to in the international context. No disrespect is intended to our Torres Strait Islander colleagues and community.

Similarly, where the research discusses cervical and pregnancy-related health issues as they affect women and girls, there is a significant portion of the population who experience the same issues but do not identify as women, including brotherboys, trans men, and two-spirit or non-binary people with cervixes [32-35]. Conversely, sistergirls, transgender women, and two-spirit people need access to women-specific health, and to have their needs understood within that context, despite not having a cervix [34, 36, 37]. With that in mind, the overwhelming majority of research in this area only discusses these issues in terms of women's issues, and the language from those studies will therefore be replicated.

# **Executive summary**

## **Domain summary**

#### Prevention and education

Aboriginal people, particularly those living in rural and remote communities, have a significant lack of up-to-date knowledge on sexual health and blood-borne viruses (SHBBV). Approaches that take into account a community's customs and needs, and use alternative methods of knowledge delivery beyond formal sex education, have shown success in improving SHBBV knowledge and attitudes amongst Aboriginal peoples. These approaches include arts programs, peer-, community-and family-focused programs, and continuous education which extends beyond the classroom or sex education activity. There is very limited evidence on specific communities' needs and the ways in which interventions are structured in those communities, as well as a lack of knowledge on the efficacy of more modern knowledge delivery technology (e.g. social media, online factsheets).

#### **Testing and diagnosis**

Rates of sexually transmitted infections and blood-borne viruses (STIBBVs) are significantly high in Aboriginal communities. Conversely, STIBBV testing rates remain low amongst Aboriginal populations, with few exceptions. However, due to issues with data completeness and the lack of data linkage between services, true rates of testing and diagnoses in the population remain difficult to ascertain. Testing and diagnosis rates are improved by methods which facilitate self-testing and point-of-care testing, as well as consulting the community on best practices. There are several barriers to Aboriginal people being tested for STIBBVs, including: systematic, experienced, and perceived discrimination; lack of culturally appropriate service architecture, and; lack of knowledge around available services.

#### Disease management and clinical care

Aboriginal peoples' comfort and capacity to access SHBBV treatment has been significantly impacted by the healthcare system's role in colonisation and the resulting mistrust of healthcare services by many communities. As a result, many Aboriginal communities are still significantly under-treated for SHBBV issues, and clinic attendance rates remain low for the majority of communities. Rural and remote communities, as well as some Aboriginal subpopulations, are particularly at risk of inconsistency, delays, or a total lack in appropriate and timely access to treatment and medical prevention strategies such as vaccines. Approaches to care which have significantly improved community health include those which provide psychological support, address both individual and community needs, and provide alternative care routes, such as outreach services and technology-based care communication pathways.

#### **Workforce development**

Aboriginal Health Workers (AHWs) play a significant role in improving the health of Aboriginal communities through their capacity to build rapport and comprehend a community's needs more deeply than non-Aboriginal workers. In order to maintain and develop the presence of AHWs, there must be a focus on directive and respectful approaches to recruitment, job support, training, workplace structures, and strategic job planning. The role of spirituality and traditional practices must also be respected and accommodated for within these frameworks. Similarly, Aboriginal Community Controlled Health Organisations (ACCHOs) are a crucial aspect of appropriate Aboriginal healthcare, and require systematic and financial support, as well as being included in larger scale decision-making. AHWs and ACCHOs nonetheless experience significant barriers to service provision, including staff inconsistency, lack of appropriate SHBBV training and guidelines, shortage of male staff, and conflict within the community and within the healthcare system.

#### **Enabling environments**

Aboriginal peoples experience significant racial discrimination, both at an individual and structural level. This discrimination is particularly heightened when it intersects with other marginalised identities such as being gender or sexually diverse. Racial discrimination, both experienced and perceived, negatively affects SHBBV testing and treatment rates, by making healthcare sites either uncomfortable or directly hostile. Discriminatory perspectives on Aboriginal people also affect clinicians' capacity to address patients' needs, which results in lack of appropriate testing and inadequate SHBBV treatment. Discrimination needs to be addressed across the spectrum, from direct service provision to how policies are formed. This is done through applying a lens of cultural competence, which includes educating service providers on culturally appropriate care and the impact of colonisation, upholding and highlighting communities' resilience and sense of empowerment, and developing policies which protect Aboriginal peoples' rights and address their needs within the healthcare system.

#### Research, evaluation, and surveillance

Research with Aboriginal communities is most beneficial when it utilises frameworks which focus on community partnership, consultation and empowerment, researcher immersion, and the use of Aboriginal knowledge and methods. These processes can be further improved by engaging with community Elders, who are often the keepers and storytellers of that knowledge. Aboriginal communities also benefit from research which seeks to address both their specific needs and the needs of Aboriginal peoples more broadly. Additionally, communities and individuals benefit from intersectional research approaches which consider the ways in which different points of marginalisation, such as sex work or being HIV+, further affect Aboriginal peoples. Finally, data completeness and lack of inter-organisational linkage continues to adversely affect researchers and health workers' capacity to achieve a clear snapshot of communities' SHBBV needs. These issues can be addressed through better stratification of data collection, storage, and distribution methods, as well as regular evaluations of those processes. Additionally, all forms of research, evaluation and surveillance remain in need of more stable funding, clearer bureaucratic pathways, improved healthcare policies, and regularly-updated guidelines and procedures.

## **Priority populations**

Although all Aboriginal communities experience significant individual, community, and structural sexual health issues, there are several sub-populations with intersecting experiences of marginalisation. These include young Aboriginal people, incarcerated people, Aboriginal people living with HIV (PLWH), sex workers, women and girls, people who inject/use drugs (PWID/PWUD), gender and sexually diverse (GSD) people, and Aboriginal people living in rural and remote communities. These communities experience further stigma and discrimination, and the sexual health issues that stem as a result of those experiences. These include higher risk of sexual assault, increased odds of STIBBV acquisition, inconsistent testing rates, and inadequate access to care. In order to address these issues, these populations require sexual health care and promotion frameworks that are tailored and representative of their communities' needs, destigmatising, consistent, and intersectional. They also benefit from service delivery methods which are outreach, internet, and/or community based, have clear guidelines based in policy, and empower and uphold those communities' resilience.

## **Gaps**

Several knowledge gaps have been identified as a result of this review. While some areas have no direct research, others have limited or conflicting literature. These include:

- Accuracy of clinical data collected in sexual health services and the way these data are linked across services
- ► Community- and language group-specific sexual health needs, including inter-community differences (e.g. rural vs. urban communities)
- ▶ The efficacy of the use of social media, technological aids, language, and traditional methods on health care, promotion, and research
- ▶ The impact of structural factors such as cultural competency training for professionals, architectural accommodation, and consistent gender-appropriate staffing in more traditional communities
- ▶ The effect of Aboriginal peer workers within an Australian sexual health context
- ▶ Alternative testing methods such as self-administration
- ▶ The specific experiences and needs of gender and sexually diverse Aboriginal Australians
- ▶ The application of decolonised/indigenist methodologies within Australia.

# The current review

This review was commissioned by the Department of Health WA as part of the development process for the fourth WA Aboriginal sexual health and blood-borne virus (SHBBV) strategy (2019–2023). This strategy aims to prevent and reduce rates of infection in Australian communities. This review has followed the structure of the third strategy, analysing the data through each domain: prevention and education; testing and diagnosis; disease management and clinical care; workforce development; enabling environments, and; research, evaluation, and surveillance.

The review aims to provide a broad overview of evidence on the way SHBBV health promotion, care, and research are negotiated with Aboriginal populations across three countries: Aotearoa/New Zealand, Australia, and Canada. The data were collected through a scoping review of academic and grey literature (2005-2018), and further developed with the guidance of an advisory group.

Culturally appropriate reviews can provide inroads to more constructive policy-making and research practices in health [45, 46]. Reviews can help to address the gaps in inclusive practice guidelines that are evident in current Australian Aboriginal health strategies, in part due to significant knowledge gaps [47]. In particular, reviews which utilise 'decolonising methodologies' (such as stakeholder consultation and the expansion of what can be considered 'valid' knowledge) can include research that is informed by the needs of communities, as well as the data collected through standard literature searches [48]. Decolonisation, the positioning of Aboriginal-led frameworks at the fore of service delivery, is a crucial aspect of positive and constructive health care, promotion, and research for Aboriginal people [49-51]. It involves directly engaging affected communities, keeping Aboriginal voices amplified and considered throughout institutional processes, practicing reflexivity and immersion, and ensuring that any research or health care/promotion outcomes are addressed with an Aboriginal lens in mind [51-53].

# **Background**

Aboriginal peoples are significantly at risk of a variety of STIBBVs, as well as other sexual health issues such as gynaecological complications, unwanted or complex pregnancies, sexual assault, and a range of intersecting points of marginalisation [16, 47, 54-169]. Additionally, several subpopulations within Aboriginal communities experience even further marginalisation and health issues. These include young Aboriginal people, incarcerated people, Aboriginal PLWH, sex workers, women and girls, PWI/UD, gender and sexually diverse people, and Aboriginal people living in rural and remote communities [34, 63, 68, 96-103, 105, 106, 109-116, 131, 137, 138, 140, 141, 145, 147, 148, 156, 170-201]. These sexual health issues tie in to broader issues around Aboriginal health, many of which stem from colonisation and its erasure of traditional health and spiritual practices, as well as modern experiences of systematic and individual racism, discrimination, disempowerment, and marginalisation [58, 75, 81, 182, 202-228]. While conditions are improving in some sections of Aboriginal health, many health disparities between Aboriginal and non-Aboriginal populations remain, and data in this area have not been effectively analysed by many researchers [29, 179].

## **Advisory group**

This review was significantly aided by an advisory group consisting of Aboriginal and non-Aboriginal service providers and stakeholders. The advisory group provided the research team with invaluable feedback and multiple perspectives on the issues being addressed, and on useful avenues for publication and dissemination. The research team would therefore like to thank Shelley Coleman, Joel Harrington, Anania Tagaro, Amanda Sibosado, and Daniel Vujcich.

# **Approach**

This scoping review utilised a combination of the Joanna Briggs Institute [229] and Arksey and O'Malley [230] methodologies. Initial search terms were identified through a review of the current national *Aboriginal SHBBV strategy*, and by reviewing Indigenous SHBBV national strategies in Canada and Aotearoa/New Zealand. The search terms were run through PubMED, ProQuest, and Scopus to establish any other crucial search terms missing. The analysis from the titles and abstracts found in this search informed the proceeding search terms used for the full search (see Appendix A for the search strings used in the full search). Table 1 shows the inclusion/exclusion criteria used to refine search results and produce the final set of relevant sources.

Table 1: Inclusion and exclusion criteria

Criteria	Include	Exclude
Participants	Aboriginal, Torres Strait Island, Canadian Indigenous/First Nations, and/or Māori people	Non-Indigenous populations
Countries	Australia, Canada, and/or Aotearoa/New Zealand	All other countries
Intervention Type	Any intervention or information relating to sexual health, sexually-transmitted infections, blood-borne viruses, reproductive health, and/or sexual/gender diversity	Broader health interventions that do not directly address SHBBV
Data Types	Journal articles (reviews, evaluations, research), government strategies/reports, NGO reports, education material, books, dissertations, community-level publications, policies and practitioner guidelines, websites	Newspaper articles, videos
Years of Publication	2005-2018	2004 and earlier
Review Level	Peer-reviewed and non-peer-review materials	Redacted studies/materials

The advisory group was consulted regarding the outcomes of an initial search, and any potential knowledge gaps or contradictions to their experiences as service providers. The group's recommendations were utilised to complete a set of directive searches, using PubMED, Scopus, ProQuest, and Google/Google Scholar for grey literature.

The final review consists of 591 articles (see: Figure 1), identified through the initial search, as well as additional purposive searches based on feedback from the advisory group, including gaps which were identified following an analysis of the initial 3591 articles. These purposive searches included a further grey literature search which was conducted through the following databases and websites: Australian Indigenous HealthInfonet, Pennington Institute, Anex, Carla, Centre for Research Excellence into Injecting Drug Use (CREIDU), UNSW National Drug & Alcohol Research, Australian Injecting & Illicit Drug Users League (AIVL), AOD Knowledge Centre, UNSW Kirby Institute, Australian Federation of AIDS Organisations (AFAO), National Drug Research Institute (NDRI), Australian Centre for Research Excellence in Aboriginal Sexual Health and Blood Borne Viruses (CREASHBBV), Centre for Excellence in Rural Sexual Health (CERSH), Burnet Institute, Lowitja Institute, Institute for Immunology and Infectious Diseases (IIID), and Menzies School of Health Research. The literature used in the final review includes peer-reviewed academic research, government reports and resources, third-party evaluations, postgraduate theses, and NGO websites, as well as clinical guidelines and handbooks. Inclusion and exclusion criteria were applied across all searches (Table 1).

The results of this review are themed utilising the Department of Health's Aboriginal SHBBV strategy domains: prevention and education, testing and diagnosis, disease management and clinical care, workforce development, enabling environments, and research, evaluation, and surveillance [231, 232].

An additional section focuses on priority populations within Aboriginal communities that have been identified as being particularly at-risk of STIBBV transmission and other sexual health problems. These include young Aboriginal people, incarcerated people, Aboriginal people living with HIV (PLWH), sex workers, women and girls, people who inject/use drugs (PWID/PWUD), gender and sexually diverse (GSD) people, and Aboriginal people living in rural and remote communities.

These populations exist at intersections of marginalisation which significantly increase their likelihood of experiencing issues such as HIV and hepatitis transmission, sexual assault, and early or rapid-repeat pregnancy and specific strategies are required to address their needs.

## **Prevention and education**



## **Summary of findings**

#### **Key findings**

- ▶ SHBBV knowledge remains low in most Aboriginal communities, which contributes to on-going individual and community-wide issues with STIBBV transmission and lack of sufficient treatment uptake.
- Other factors which negatively impact SHBBV include community members' inability to afford care, insufficient community knowledge of available services, low English and biomedical literacy, and under-funded or under-resourced health promotion and care services.
- ▶ There is a need to focus on skill development for health workers, in sexual health as well as Aboriginal/community-specific health more broadly.
- ► Trust and rapport-building are essential tools for facilitating a collaborative work environment with communities, which in turns allows for more sustainable working environments.
- ▶ There is insufficient impact evaluation research to provide consistent guidelines for the use of social media/apps/websites, however some positive examples do exist.

#### Recommendations

- Providing healthcare workers with Sexuality and Relationship Education (SRE) increases their likelihood of being able to properly negotiate and address any SHBBV concerns they may have with individual clients or parts of the community.
- ▶ Community-based and –led initiatives must be encouraged and supported, as a means of empowering communities.
- ▶ Education frameworks which are continuous, opportunistic, strengths-based, and focusing on families and whole communities significantly improve likelihood of early detection and treatment.
- ▶ Using social media for health promotion and education demonstrates promising outcomes but requires additional evaluation.
- Programs, campaigns, and individual service provision which are oriented towards acknowledging individual and community strengths and resilience are more likely to positively impact that community.
- ▶ Vaccine schedule adherence must become a priority, which may require diversification in delivery methods and sites.

## **Barriers to prevention and education**

Several issues remain in Aboriginal sex education and prevention, namely stigma-based avoidance of sexual health discussions and a lack of education regarding SHBBV [122, 233], despite the provision of education by doctors, schools, and community organisations [70, 73, 234-238]. One fundamental systematic barrier to appropriate education and prevention strategies is a lack of consistent funding and appropriate resources [15, 239-241]. Rural and remote sexual health education continues to be restricted due to a lack of resources and community-specific approaches [242], as well as potential differences in the way sex education is delivered in urban and rural environments [243]. Additionally, some clinic services in rural regions fail to attract appropriate rates of Aboriginal patients, partly due to a lack of awareness of services in those communities [241, 244]. [178, 187, 373-375]. Aboriginal people are also more likely to experience delays and inconsistencies in vaccine schedules [376], and as a result are less likely to develop vaccine-based immunity [377]. Affordability of vaccines and other Treatment as Prevention (TasP) also significantly impacts rates of uptake [254]. Limited access to safe sex resources such as condoms [70], and inconsistencies in products and equipment available at NSPs across different jurisdictions also significantly reduce rates of appropriate individual prevention methods [241].

Overall, health service access forms an on-going issue for Aboriginal populations [245, 246]. Barriers to prevention include transience and mobility patterns which increase difficulty of service access, testing, and likelihood of higher numbers of sexual partners [90, 247-253]. English as a non-primary language, as well as marked differences in lingual description and understanding of body parts, forms a significant barrier [237, 239].

## **Alternative delivery methods**

Current education approaches with Aboriginal communities could be expanded to improve STIBBV prevention outcomes [255, 256]. Alternative education methods such as arts-based programs can provide different bridging points between sexual health providers and primary/secondary education providers [11, 15, 257-260]. Yarning/sharing circles and other Aboriginal, community- or peer-led initiatives are also effective at increasing knowledge and awareness [261-272]. Programs such as Mooditj are successful through utilising fun and humour as a fundamental aspect of their delivery [273]. These approaches also help move towards a continuous education approach, which treats education as an inseparable aspect of everyday life, as opposed to shorter-term, discreet interventions (such as sex education classes), which has shown to be beneficial in some Aboriginal contexts [57, 239]. Finally, SHBBV education which addresses relationships, pleasure, and desire has been shown to be significantly more effective in delivering relatable messaging, particularly to younger people [274, 275]. This education is particularly impactful when delivered in a school context [242, 276], and more useful when provided by well-trained educators [277, 278].

## **Reorienting education frameworks**

The use of Aboriginal ways of knowing, by including the presence and leadership of peers, is a crucial part of assembling relevant, culturally-appropriate, and community-empowering strategies around education and social/health work more broadly [261, 279, 280]. Other approaches which may be more useful are those which take a salutogenic, strengths-based approach to health promotion, focusing on wellness rather than disease, and strengths rather than deficits [256, 281, 282]. Increasing a focus on pleasure and relationships may also improve communities' capacity to connect to education material, particularly for young Aboriginal people [274, 275, 283, 284] Additionally, overcoming sexual health communication barriers between young people and their parents through addressing barriers in relationship dynamics, as well as breaking down intergenerational communication barriers more broadly, significantly improves rates of condom use and other safe sex measures [89, 204, 263, 283, 285-288]. Ultimately, however, there is little evidence to support the role of education in behaviour change; some research suggests it is much more significant in its impact on knowledge and awareness [289].

There is a move towards a 'life skill development' approach to sexual health that equips the whole community [290, 291]. This includes supporting community members in developing a sense of self-efficacy and responsibility around safe sex practices and use of healthcare/treatments [16, 205, 258, 292, 293]. An extension of this community responsibility can be seen in the positive impact of peer education and mentorship, particularly for younger Aboriginal people [76, 83, 241, 258, 265, 280]. Focusing on developing trust and building relationships between services and communities is crucial [294-296], particularly considering the mistrust many Aboriginal people have against the health care system in general, and workers' capacity to maintain their confidentiality and privacy more specifically [207, 254, 268, 287, 297]. Finally, including people with a positive STIBBV diagnosis in developing education strategies helps improve their quality of life [298]. Similarly, providing directive frameworks which upskill health professionals' capacity, such as Sexuality and Relationship Education (SRE) training, significantly improves attitudes towards SRE and addressing topics of sexuality [277].

## Practical means of prevention, promotion, and education

Consistent with treatment as prevention strategies (TasP) for non-Aboriginal populations in Australia, the use of pre-exposure prophylaxis (PrEP), is also recommended as a precautionary means of HIV prevention for Aboriginal people in Australia [299]. Condom machines and the available of NSPs in a variety of different facilities and locations also form a significant part of a holistic prevention strategy for Aboriginal communities [241, 300-302].

The evidence related to the use of social media and mobile apps for health promotion is inconclusive [289, 303]. Research on social media effectiveness is still an emerging field, making evaluations of efficacy in the area of health research even more tenuous [304]. Some studies have shown improvement in STIBBV knowledge using apps [305, 306], while other studies suggest the Internet is not a primary source of sexual health knowledge for some Aboriginal communities [283]. There are also a host of ethical issues surrounding online education and STIBBV service provision, including management of professional/personal boundaries, information confidentiality and disclosure, and data storage security [33, 46, 307].

#### Box 1: The Torres Indigenous Hip Hop Project

This project was geared at improving connections between schools and the community on the subject of sexual health and other forms of health. The program focused on community-based performing arts workshops which worked on developing participants' awareness of the health risks experienced by young Indigenous people [11]. The project was particularly successful in establishing new connections within the community and engaging actively and constructively with the target population [15]. Particular skills developed by participants included: an increased understanding of risk factors and how they might appear in others; increased participant confidence in addressing difficult issues; better approaches to help or communicate with friends and family, and; a change in attitude and level of knowledge regarding services and service providers [19, 20].

# **Testing and diagnosis**

#### **Summary of findings**

#### **Key findings**

- ▶ STIBBV testing, follow-up and monitoring quality and consistency varies widely between communities, with more remote communities and hidden populations (e.g. LGBTQIA+ people) experiencing lower rates.
- ▶ Data linkage has shown to be effective, but both linkage processes and the completeness of data collected remain inconsistent.
- ▶ The majority of STIBBV diagnosis rates remain high across all Aboriginal populations when compared to non-Aboriginal populations.
- ▶ Racial discrimination from service providers at points of testing forms a significant barrier to initial or repeat testing.
- Other barriers include insufficient culturally-appropriate and gender-specific clinical spaces, services and providers, lack of knowledge of available services, and stigma around STIBBVs.

#### Recommendations

- Testing programs and services to acknowledge and negotiate communities' gaps in SHBBV knowledge, as well as the specific needs of each community or group.
- ► Testing services to increase focus on community-based / point-of-care / opt-out / rapid / opportunistic testing in order to reach more hidden or inaccessible communities.
- ▶ Data linkage and completion to be better stratified, executed, and analysed, as they form a significant role in determining individual needs of each community, as well as the needs of the Australian Aboriginal populations more broadly.

#### Rates of infection

Overall rates of STIBBV infection remain high amongst Aboriginal communities compared to the general population [299], despite some indication of reduction in rates of HPV [308] and syphilis [309, 310] historically, as well as improvement in rates of HIV wellbeing thresholds and transmission compared to the non-Aboriginal population [266, 311]. Aboriginal people experience higher rates of herpes simplex 1 and 2 [312-314], hepatitis B and related complications (i.e. cancer) [47, 88, 117-123], hepatitis C [85, 108, 124-127], HIV and lowered capacity for virological suppression [100, 128-141, 253], HIV/HCV co-infection [142, 143], and bacterial STIs acquisition and reinfection (chlamydia, syphilis, gonorrhoea) [73, 93, 111, 144-169, 315, 316].

## Barriers to testing and diagnosis

Despite some studies indicating that Aboriginal people are amongst the most tested vulnerable populations [316-318], there are on-going issues with, and significant variation between health services around, lack of monitoring, testing and follow-up [107, 112, 122, 234, 319-321]. This is due to a variety of factors, including: culturally inappropriate or otherwise 'neutral' services; lack of services in more remote communities; community members' lack of knowledge around use and availability of health services; assumptions made by service providers about the 'type' of person who gets an STI; incapacity for services to recruit or maintain gender-appropriate health workers; fears around confidentiality and the associated stigma of testing, particularly in smaller communities; architectural issues with health service layout; and fear or lack of education around managing positive diagnoses [83, 322-325].

## Follow-up and data completeness

Follow up is a crucial aspect of preventative healthcare for Aboriginal populations [170, 251, 326-329], and inadequately spaced re-testing increases the potential harms (pelvic inflammatory infection and others) for Aboriginal people who have experienced re-infection [110, 113, 330]. One way of increasing the quality of monitoring is through data linkage, which has shown some positive results in Australia and Canada [331-334]. However, data completeness remains an issue in Australia [159, 241, 302, 335], with significantly lower rates for Aboriginal and TSI populations [336-339], which affects the reported number of infections [340]. This includes missing or unanalysed data for services such as condom distribution and NSPs [301, 302]. Data completeness and testing rates exist in close relation, with lower data completeness leading to insufficient knowledge and therefore appropriate provision of testing rates, and vice versa [341].

## Impactful methods of delivery

Community-based, point-of-care, rapid, and otherwise opportunistic testing provide a useful, though economically complex, supplement to clinic-based testing [3, 9, 78, 123, 170, 180, 189, 266, 299, 330, 342-349]. Switching testing to opt-out, rather than opt-in, has also shown promising results with some populations [350-353], despite higher refusal rates for certain groups [354]. Additionally, there is some research that suggests test self-administration may be a preferable alternative for some Aboriginal peoples, in particular Aboriginal women [58, 355, 356]. Although testing rates are increasing in some settings [357], barriers to access do remain [318], including experiences of discrimination and lack of education provision at the point of testing [358]

#### Box 2: Test, Treat ANd GO (TTANGO)

TTANGO focuses on molecular point-of-care testing and treatment as a means of overcoming the significantly lower rates of chlamydia and gonorrhoea testing within Aboriginal communities [3]. The framework aims to test asymptomatic people in order to better improve understandings of STI disease vectors, reduce the potential damage caused by undetected infections, and reduce rates of infection within the population [6]. TTANGO is inexpensive, consistent, and is accessible to a broad range of healthcare workers via training [7]. Healthcare workers have also reflected that TTANGO provides them with better knowledge and tools, as well as improves their perception of the ease and necessity of testing and treatment [9].

# Disease management and clinical care

## **Summary of findings**

#### **Key findings**

- ▶ Treatment and attendance quotas are only being met in some clinics; significantly less rurally.
- ▶ There are on-going issues with consistency, delays, or absence of proper treatment access for many communities.
- ▶ Vaccines are highly effective, however some populations still encounter issues around vertical transmission and inconsistent vaccine schedules.
- ▶ Certain STIBBV strains either largely, or solely, affect certain Aboriginal populations.
- ▶ Likelihood of STIBBV acquisition increases substantially with prior STIBBV diagnoses.
- Aboriginal populations are intergenerationally impacted by the systematic erasure of culture and deprivation of agency which has occurred as a result of colonisation, both in areas of sexual health and more broadly.
- ▶ Psychological care significantly improves health outcomes.

#### Recommendations

- Further research on population-specific STIs is required.
- ▶ Clarifying and solidifying practice requirements e.g. appropriate medication doses, reasons for testing and treatment.
- Providing further avenues to overcome financial barriers to testing and treatment.
- Addressing the intergenerational impact of colonisation through a decolonising framework.

## Insufficient treatment regimes

Australian clinics have maintained the necessary treatment and attendance quotas for Aboriginal people in some communities [359, 360]. However, areas such as the Northern Territory are still not testing at-risk Aboriginal populations at the necessary rate [112]. Other Aboriginal populations have also shown a lack of documented treatment for a diagnosed STIBBV, and significant delays or inconsistencies in accessing treatment [126, 299, 361-369]. In the case of HIV, these insufficient treatment regimens may be the cause for many Aboriginal people in Australia not achieving an undetectable viral load (UVL) [299]. Some research has attributed this to on-going issues with funding [370], and an absence of appropriate information provision at point of diagnosis [233]. Other studies suggest that this may also be due to the non-linear approach many Aboriginal communities have to treatment, which disrupts the cascading models applied in some STIBBV contexts [371].

#### **Barriers to effective treatment**

Some studies indicate that vertical transmission vectors negate the protective effects of vaccines [372], despite their overall effectiveness. Additionally, there are some strains of STIBBV which significantly affect, or are only found within, certain Aboriginal populations (i.e. hepatitis B subgenotype C4) [118, 378, 379]. This requires further research on the epidemiology and specificity of treatment pathways for populations affected by these unique strains. Chances of transmission also increase substantially in the presence of previous STI diagnoses [71, 79, 107].

Additionally, gender and kinship systems are significant cultural barriers to sexual health, particularly when the few staff that are available in more remote locations are in conflict with these traditions (i.e. mostly or entirely female staff in a clinic which is geared at serving both men and women) [324, 325]. Another more practical barrier is unaffordability of both services and treatments themselves. [370]

## **Effective methods of delivery**

Providing psychological support is a crucial aspect of healthcare, particularly for community members who have experienced sexual abuse or other trauma [204, 326, 380, 381]. In general, individualised, person-centred care which acknowledges a client or patient's journey, both geographical (particularly for people in rural and remote communities) and spiritual/emotional significantly improves experiences of treatment [382]. Alongside this personalised approach to care, taking a wider, social ecology perspective allows for improved health quality across entire communities [281, 290]. Treatment that works to integrate Aboriginal and Western medical perspectives (i.e. the use of traditional healers and medicines) has also been shown to more effectively reach Aboriginal communities [89, 195, 213, 254, 383].

Technological advances significantly improve access to sexual health care and information in rural and remote communities; this includes improving Internet access and providing community members with mobile phones [384]. Outreach interventions have also been shown to be effective in addressing SHBBV issues for hard-to-reach populations such as sex workers, rural and remote communities, people experiencing homelessness, and LGBTQIA+ populations [251, 345, 385, 386].

**Box 3:** STI in Remote Communities: Improved and Enhanced Primary Health Care (STRIVE)

STRIVE was a 5-year program initiated in 2011 geared at evaluating a community-focused, culturally safe framework for delivering STI treatment [4]. This evaluation included providing assigned clinics with regular check-ins, strategy formation support, systematic assessment, and regular reporting to keep the service providers up to date [5]. The clinical data reports produced and distributed by STRIVE as part of the assessment in particular significantly improved service delivery experience for workers [5].

# Workforce development

## Summary of findings

#### **Key findings**

- Aboriginal health workers benefit from interdisciplinary and interagency workplaces which have clinical support, community-responsive treatment and testing options, and which directly empower them to connect with their community.
- ▶ STRIVE has been significantly impactful, despite some barriers.
- Spirituality forms a core aspect of health care.
- ACCHOs provide vital health information, improve client comfort, increase community empowerment/governance, create jobs for Aboriginal peers, make Aboriginal healthcare more accessible, and ultimately improve the broader healthcare system.
- ▶ ACCHOs and Aboriginal policy groups benefit from systematic capacity-building, financial incentives and investment, and being embedded within larger decision-making processes.
- ▶ Barriers to Aboriginal healthcare workers' capacity to deliver quality sexual health care include: lack of time and support; high turnover of staff; lack of sexual health training; lack of male staff for men's business; community rejection of certain healthcare providers; inconsistent STIBBV quidelines; and exclusion from, or conflict with, the broader Australian healthcare system.

#### Recommendations

- ▶ Including Aboriginal workers and stakeholders across the healthcare system improves service provision and community attendance at healthcare services, reduces the health and employment gap for Aboriginal people, provides more in-depth community understanding and organisational accountability, and empowers community members to become helpers in their community.
- ▶ Providing Aboriginal health workers with appropriate support, resources, and capacity to engage with their community, including:
  - > sexuality and relationships education
  - > wider range of testing options
  - Aboriginal mentors at an undergraduate level and beyond
  - > orienting cultural sensitivity training to include intra-workplace dynamics.
- Providing Aboriginal health workers with opportunities to integrate traditional methods into their work.
- ▶ Supporting non-Aboriginal health workers to become immersed in the communities they work within helps to develop relationships and build trust.
- ▶ Providing support and development opportunities for existing ACCHOs, as well as encouraging the development of additional ACCHOs in under-serviced areas.

## Impact of Aboriginal participation in healthcare

Despite the increasing understanding of the importance of Aboriginal health workers, there remains a significant gap in rates of employment between Aboriginal and non-Aboriginal health workers in Australia [315]. Inclusion of Aboriginal workers and stakeholders in all levels of the healthcare system carries multiple benefits, as it: improves service provision and attendance; contributes to closing the health gap between Aboriginal and non-Aboriginal people; allows a service to gain more in-depth/otherwise hidden knowledge of the community; increases community accountability; and provides community members with an opportunity to become empowered helpers within their communities [134, 250, 326, 387-394].

## **Supporting Aboriginal health workers**

AHWs require several specific strategies, which broadly focus on successful recruitment and retention, constructive training, appropriately designed workplaces, timely evaluation, and ongoing strategic planning to support workforce integration [395]. AHWs experience increased job satisfaction and productivity by working in services which are interdisciplinary/interagency, clinically supported, use more responsive approaches such as point-of-care testing, and directly empower AHWs and encourage them to share knowledge with colleagues and the broader community [9, 396-399]. For Aboriginal nurses, these benefits are further cemented by the presence of Aboriginal academics and teachers, as well as Aboriginal populations-specific resources at an undergraduate and beyond level [400]. For Māori nurses and Canadian First Nations peoples, spirituality also forms a core aspect of their experience of providing and receiving healing [206, 401, 402]. The STRIVE project has gone to significant lengths to facilitate some of these frameworks [20, 251, 324], though some barriers remain (see below).

## **Barriers for Aboriginal health workers**

On-going barriers to service delivery for AHWs include: time pressure; lack of support; high staff turnover; insufficient sexual health knowledge; lack of male staff to provide sexual health care for men's business; community acceptance of the healthcare providers; lack of importance attributed to clinical and workplace guidelines; inconsistent guidelines and systems for dealing with STIBBV treatment; and exclusion of or conflict with the broader healthcare system [240, 251, 256, 289, 324, 328, 393, 396, 403, 404]. Aboriginal nurses experience significant racism from colleagues during their training and in their workplace, which is also a factor that must be addressed as a means of improving the numbers and comfort of Aboriginal health providers more broadly [405].

## **Education and training**

Training around SRE is a crucial aspect of improving teachers' approaches and attitudes to handling sexual health topics with young Aboriginal people [277]. Similarly, in-depth training on NSPs and HIV-specific service delivery significantly increases the chance of clients feeling welcome and supported [241, 371]. Additionally, higher levels of general health training can also significantly improve workers' capacity [289]

For non-Aboriginal workers, community immersion, interpersonal relationship-building, and depth of contact play a significant role in achieving a richer and more nuanced understanding of the community's needs [406, 407]. One example of this practice is an evaluation of a cohort of University of Western Australia nursing students, who experienced significant immersion and subsequent relationship-building with communities while working on Ngaanyatjarra Lands [408]. Furthermore, reorienting non-Aboriginal workers' communication style towards a yarning model, rather than more direct and questioning styles, helps put patients at ease [409]. While these changes at an individual level are significant, they are significantly improved by ensuring workers are also operating with an organisation which practises Aboriginal cultural safety at a structural level [410].

## Impact of systematic and organisational Aboriginal participation

#### **Box 4:** Models for workforce improvement

#### Circle of courage

The circle of courage is an Aboriginal approaches-led education and support framework [1, 2] which consists of four factors: belonging, mastery, independence, and generosity [10]. These factors work on building young people's capacities to: develop and maintain community and familial connections; problem-solve and negotiate academic or other failure and rejection; become independent and critical in their negotiation of their internal impulses and external sources of authority and control; and become more empathic, kind, and collaborative people who can contribute to their families and communities [13]. It is a young Aboriginal people-focused model, which views education as a continuum of services which are both supportive of, and responsible for, at-risk young Aboriginal people [17]. This continuum approach also extends beyond individual interventions and towards community/ school/program-wide inclusion [18], and takes into consideration how intervention providers negotiate a person's home life as well as school/program attendance [21]. It is currently implemented in multiple countries including Australia [22], New Zealand [23] and Canada [24].

#### Collective impact

Collective impact (CI) is an interagency framework which seeks to provide a more cohesive and interconnected service provision network through a common agenda, shared data collection and impact measurements, mutually reinforcing activities between agencies, continuous interagency communication, and a backbone organization which forms a central pillar for all other participating agencies to connect to [25, 26]. This approaches bridges gaps in communication and collaboration between organisations which operate at diverse levels of proximity, expertise, influence and connection to different affected communities or areas [27, 28]. CI is highly responsive, and takes an iterative/continuous approach to how its goals and approaches are understood and utilised by all participating agencies and communities [38].

This approach does carry some inherent complications, namely the transition from the conceptual framework to the practical application, overcoming barriers in data collection methodologies (including providing qualitative evaluation), and ensuring communities are learned from, listened to, and treated with equity in the process [39-42]. However, when those issues are directly addressed, and outcomes are then introduced at a policy level, collective impact has been shown to significantly improve outcomes for social intervention programs [43, 44].

# **Enabling environments**

#### **Summary of findings**

#### **Key findings**

- ▶ Racial discrimination significantly reduces testing and treatment rates in affected communities.
- ▶ Racial and gender/sexuality discrimination overlap:
  - SSD Aboriginal people are significantly under-educated in sexual health, and experience high rates of isolation and powerlessness
  - > Two-spirit and transgender women in particular experience discrimination and rejection from women's services
  - > Attending to this intersection allows for a better understanding of how to prevent their unique negative health outcomes
  - Using culturally-relevant terminology (i.e. sistergirl) allows for better communication and access.
- ▶ Acknowledging the resilience of Aboriginal peoples allows for more in-depth treatment, promotion and testing approaches.
- Community empowerment significantly improves health outcomes.
- Strengths-based approaches allow for community leadership.
- ► Cultural competence forms an essential aspect of appropriate health service provision, and includes several significant elements:
  - Cultural competence requires an acknowledgement of Aboriginal peoples' psychosocial, economic, historical and contemporary experiences within the health system and society more broadly
  - > Information provision plays a crucial part in culturally competent care
  - Clinician discomfort or lack of knowledge in either/both the areas of Aboriginal health or sexual health can have far-reaching consequences, including providing insufficient/ inappropriate care, excluding Aboriginal peoples from their service, and misdiagnosing or not fully assessing an Aboriginal person's sexual health needs.



#### Recommendations

- ▶ Holistic and systematic approaches work best for Aboriginal populations.
- ▶ Developing relationships between governments, organisations, workers, and communities is a significant tool in reducing stigma and discrimination against those communities.
- ▶ Workers need to be provided with adequate sensitising training which addresses Aboriginal culture and history, as well as the intersecting points of marginalisation that Aboriginal people experience i.e. GSD, sex work, IDU.
- ▶ Increasing cultural competence through a decolonising lens, which includes:
  - acknowledging the intergenerational trauma experienced by Aboriginal people due to colonisation, and addressing this trauma both with direct psychological care and by increasing overall service provider sensitivity to this history
  - > addressing current issues around discrimination against Aboriginal people by healthcare workers through sensitivity training
  - > training staff on the differing needs of specific communities and the broader Aboriginal population (i.e. kinship systems, shame and stigma, men's and women's business)
  - > integrating traditional methods into current healthcare approaches
  - > including Aboriginal staff throughout the service provision chain
  - > using non-verbal aids and language to communicate wherever possible.
- ▶ Gender and sexual diversity, including specific gender categories, to be addressed in health research, care, and promotion, in order to provide a safe environment for those marginalised populations whose needs remain significantly unattended to.

## **Cultural competence**

Traditional cultures provide a significant protective factor for Aboriginal people [92, 386]. Culturally-appropriate workers, services, and institutions are a cornerstone of constructive and impactful Aboriginal healthcare, promotion and research [46, 64, 76, 77, 122, 266, 381, 417-419]. Using a decolonising lens allows us to recognise Aboriginal peoples' experiences of internal, community, and societal shame, fear, stigma, exclusion, and self-blame regarding STIBBVs and other sexual health issues, as well as being aware of Aboriginal people's histories, socioeconomic disadvantages, and contemporary practices, which can assist in providing more co-constructive healthcare approaches [50, 57, 58, 75, 80, 184, 206, 211, 218, 254, 322, 330, 364, 386, 420-431]. Additionally, service providers have a crucial role in providing information, developing a significant interpersonal relationship, and supporting client decisions, particularly in areas of comorbidity [194, 233, 407, 432]. Beyond that, organisations which operate in ways which are culturally safe to Aboriginal peoples substantially improve the chances of cultural competence-trained staff being able to deliver services which are truly comfort- and trust-building for Aboriginal patients [410]. Despite the existence of cultural competency in healthcare guidelines [433], Aboriginal people continue to experience discrimination based on their Aboriginality.

#### **Experienced and perceived interpersonal racism**

Racism at all levels significantly impacts Aboriginal people's experiences of healthcare [434, 435]. Both perceived and experienced interpersonal racism significantly impacts Aboriginal people's health [219-224], particularly when it comes from healthcare providers [404, 436, 437]. Younger Aboriginal people are particularly affected [438-441]. Hospitals and other clinical settings remain confronting spaces for Aboriginal people due to both perceived and experienced racism and discrimination, which creates a reluctance to attend healthcare services as a means of avoiding further harm or discomfort [225-228, 437], as well as a significant reduction in rates of testing [219-221, 297, 435-437, 442]. In additional to patient experiences, Aboriginal health care providers experience significant interpersonal and institutional racism, which significantly impacts their capacity to participate in the workforce [394, 405].

#### Institutional racism

Institutional racism within healthcare can be understood as the deprioritisation, erasure, and marginalisation of Aboriginal peoples, and the devaluing of Aboriginal approaches to health in favour of White/Western biomedicine [394, 443]. This form of racism is embedded in the structures and policies which govern healthcare facilities, and the guidelines which dictate healthcare service provision [226, 436]. This includes the architecture of physical healthcare facilities, as many have been constructed in ways which are not appropriate for the communities in which they exist (e.g. insufficient privacy and separation of gendered facilities) [324, 444]. Discrimination at this level directly impacts Aboriginal people's quality and experiences [445] of healthcare, to the extent where it is considered a significant public health issue [434, 446]. This is partly due to the ways in which institutional racism within healthcare reproduces the systematic racism, discrimination, and both historical and contemporary effects of colonialism experienced by Aboriginal peoples on a wider scale, thereby doubling the trauma experienced by those communities [216, 447, 448].

## Impact of culturally inappropriate or discriminatory service provision

There is a significant cost to lack of clarity or insufficiently-outlined culturally safe healthcare practices: non-culturally appropriate or directly discriminatory treatment and education environments can lead to a decrease in Aboriginal people's participation in healthcare services and sexual health knowledge, thereby increasing their likelihood of treatment aversion, unsafe sexual practices and STIBBV transmission [268, 297, 364, 436, 442, 449-453]. Clinician discomfort or lack of culturally appropriate, sexual health-informed, and sex-affirming knowledge may also negatively affect their capacity to assess and treat Aboriginal peoples' sexual health issues to the same standards as non-Aboriginal populations; this includes lower symptom-based testing rates for STIs, delayed time to treatment for antiretroviral medication, and insufficient gynaecological screening and care [30, 397, 426, 454-456].

## **Culturally competent methods**

#### Syndemic approaches

Research indicates syndemic (holistic/systematic) approaches to working with Aboriginal populations as being a primary focus for improving standards of care [194, 288, 364, 430, 457-459]. It is also important that programs, services, and campaigns focus on resilience [12, 92, 129, 258, 460], empowerment [292, 307, 396], and community connectivity, strengths and leadership [67, 256, 287, 364, 398, 461, 462], as well as on reducing racially discriminatory practices [431]. With these approaches in mind, utilising visual aids, language, traditional methods, and providing an acknowledgement of culture can significantly improve communication and enhance rapport between communities and healthcare workers [60, 92, 132, 236, 237, 254, 305, 386].

## Clinician training and engagement

Providing clinicians with directive education on healthcare areas such as sexual health and remote Aboriginal community care can significantly reduce current knowledge gaps and treatment issues with those communities, and increase clinicians' insight and capacity to critically and holistically evaluate patients' healthcare needs [463, 464]. Clinicians can also have a significant impact on the state of clinical competence by taking on the role of advocate and providing a link between individual treatment and systematic change [465].

## Respectful design

A cornerstone of appropriate healthcare is the construction of culturally safe healthcare spaces which prioritise Aboriginal knowledge [444]. This includes health service architecture which focuses on appropriate gender separation, and clinic structures which increase privacy [322, 324]. Constructing health care services which accommodate for cultural barriers such as shame and men's/women's business can lead to better testing rates [322, 324]. Culturally safe health service design and construction must consult the community at every step of the process in order to ensure it benefits the community [445]. This approach also benefits communities' health when applied more broadly to any construction project being undertaken [466, 467].

## Reducing sexual diversity discrimination

GSD people are significantly well-documented amongst Indigenous/Māori communities [468, 469]. Aboriginal GSD people are some of the most vulnerable subpopulations within Aboriginal communities [36, 470-472]. Young LGBTQIA+ Aboriginal people in particular can experience powerlessness and isolation which lead to reduced sexual healthcare access [235]. Attending to the intersection of gender and/or sexual diversity and Aboriginality provides a more comprehensive understanding of this population and the ways in which discrimination against people at this intersection produces negative health outcomes [106, 473, 474]. There is also a need to increase knowledge of treatment and prevention options for LGBTQIA+ Aboriginal people [197, 238, 475]. For two-spirit and transgender women in particular, discrimination or lack of knowledge around gender diversity can be very damaging in women's services, and can lead to significant reductions in those populations' access to, and quality of, healthcare [37]. Culturally-relevant terminology for sexual and gender diversity (i.e. sistergirl, two-spirit) provides an 'in' to sexual health education and acknowledges the reclamation efforts made by those communities [32, 34, 197, 237].

#### Box 5: Black rainbow

Black rainbow focuses on providing education and organisational training on issues faced by Aboriginal LGBTQIA+ communities in Australia [8]. They also provide direct support to the community, through actions such as donation-support provision of phone and data credit to Aboriginal LGBTQIA+ people in need, providing small grants for LGBTQIA+ events, and supporting writers through a paid writers program in collaboration with Aborignal X. Black rainbow seeks to address issues of gender and sexual diversity with competence, clarity, and a peer-led framework which centres those marginalised voices. Black rainbow's projects have yet to undergo formal evaluation.

# Research, evaluation, and surveillance

## **Summary of findings**

#### **Key findings**

- ▶ Health researchers in the area of Aboriginal sexual health benefit from appropriate interview protocols and methodologies which engage with systematic as well as community-based issues.
- ▶ Researcher reflexivity allows researchers to evaluate their own stigmas and perceptions of the communities they work with, which benefits the analysis and documentation process.
- ► Technological aids are useful for data collection with more rural populations.
- ▶ Involving Aboriginal Elders in research allows for collecting deeper and richer data, negotiating community boundaries and cultural safety more intently, and facilitating consultative processes which give the community power and voice.
- ▶ Intersectional approaches also benefit Aboriginal communities, as they allow for a deeper understanding of how a combination of social and health disadvantages coalesce in their impact on both individuals and communities.
- ▶ Barriers to good research include difficulties around bureaucracy, lack of stable funding, changes in testing methods and guidelines, and other systematic shifts which impact data completeness.

#### Recommendations

- ▶ Program evaluations to be regular and well-structured in order to benefit organisations and communities
- ▶ Data completion to be a focus in order to achieve a more detailed image of the current state of Aboriginal SHBBV.
- Research which also links with clinical services providers and other education programs is highly effective.
- ► Future research will benefit from utilising immersive, transformative, and otherwise communitybased methodologies, with a focus on community inclusion, empowerment, and responsiveness, as well as responsible data distribution which is in line with the communities' desires.

## **Data completeness**

The current *WA Aboriginal SHBBV Strategy 2015-18* indicates that surveillance of certain factors, most significantly the number of people receiving appropriate SHBBV care, is not possible as current systems do not collect Aboriginal status data [232]. These gaps in knowledge represent a broader issue around the completeness and consistency of Aboriginal SHBBV data in Australia [159, 241, 301, 476]. Data completeness and testing also co-influence, with insufficient testing numbers leading to insufficient data, and vice versa [341]. Nonetheless, when evaluations of organisational and program performance have been performed, regularly and in a well-structured way, they have shown to significantly increase the quality and frequency of testing and prevention strategies [399].

## Approaches to research, evaluation and surveillance

The quality of research, evaluation, and surveillance is significantly affected by asking 'the right questions' [460] and working in the 'right ways', which includes treating communities with respect, patience, and no condescension, as well as being aware of the impact of discourses around research with these populations which minimise Aboriginal peoples' experiences and agency [282], and risk placing responsibility entirely within those communities' control [271, 477]. Clinical contact has also shown benefits in terms of research participation, both for Aboriginal and non-Aboriginal people [478]. Elder involvement in particular is highly effective in providing deep Aboriginal knowledge, negotiating with the broader community safely, and engaging in a consultative process which recognises and works with the needs of the community [254, 287, 462, 479]. Additionally, as a means of overcoming barriers around access to research participation, technological aids such as mobile phones can be used effectively for data collection [480-483].

#### Models of research and evaluation

## **Decolonising methodologies**

Using decolonising/indigenist, collective impact, and intersectional methods is a crucial aspect of constructive and in-depth research with Aboriginal populations, including ensuring that Aboriginal people are able to benefit from and access the information collected, and recognising the impact of a community's history with colonisation [203-206, 209, 264, 283, 293, 307, 402, 459, 484-487]. These approaches include reflexive, flexible, responsive, and community-oriented approaches to structuring research and utilising collected knowledge to benefit the community [52, 307]. Community participation can inform and improve data collection, as well as research implementation, and longer-term community involvement is also crucial in documenting and responding to fluctuations in community attitudes and issues [488]. This is particularly true when evaluation teams focus on overcoming challenges to data collection collectively, while retaining the communities' voice and equity [39-44, 46]. Finally, intersectional approaches to research facilitate an unpacking of stigmatic, health-based and cultural cross-overs between Indigeneity and other experiences of health- or socially-based marginalisation [211, 387, 428, 453, 473].

#### **Community-based approaches**

Participatory action research has been successfully used when working with Aboriginal communities, both around sexual health and general health [12, 14, 16, 236, 264, 422, 450, 489]. This includes transformative, body mapping and immersion-based models, which connect research with service provision, personal storytelling, language, and community engagement, education, and ownership around knowledge [12, 42, 46, 81, 83, 95, 174, 182, 257, 260, 267, 288, 382, 386, 421, 459, 490]. These models are further enriched by research approaches which require reflexivity on the researchers' part, particularly in the process of analysis and documentation, as well as identifying and acknowledging the research team's community accountability and need for transparency around the research and publication/policy formation process [46, 52, 53, 422, 491]. Another significant factor is the need to develop not only rapport, but deeper relationships with the community, which create further trust and enhance the collaborative aspect of community-based research [307]. Additionally, while there are on-going issues of trust between Aboriginal people and research teams [492], having peers and ACCHOs in a partnership or leadership position within a research team can substantially improve rapport, trust, and the accuracy of any published outcomes [14, 51, 479, 493].

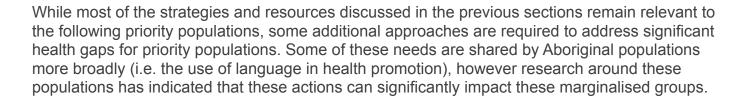
#### Barriers to research and evaluation

Barriers to good research include difficulties managing bureaucracy [462], lack of longer-term, stable, and context-appropriate funding [241, 389, 404], changes in testing methods [330, 344], and shifts or gaps in how data management systems, intake and data collection forms, and delivery are negotiated, which in turn affects data collection completeness [301, 330, 331, 339, 344].

#### **Box 6:** The Indigenous resiliency project

This project is a community-based participatory research-focused collaboration between the University of New South Wales, Aboriginal Community Controlled Health Services in Perth, Redfern, and Townsville, and young Aboriginal people from those respective communities [12]. The project focuses on exploring participants' experiences and perspectives on STIBBVs and the role resilience plays in managing and negotiating them. In part, it aims to make the researched communities an active part of the research process, through the employment of peer researchers, community consultation, and the development of workshops informed by the data being collected [14]. Ultimately, the project produced knowledge and highlighted perspectives around how young people negotiate STIBBVs and understand their own resilience which defy normative, Western concepts of those intersecting experiences [16].

# **Priority populations**



## Gender and sexually diverse people

- Aboriginal men who have sex with men (MSM), sistergirls and brotherboys are at a significantly higher risk of STIBBVs compared to their heterosexual and/or cisgender counterparts [34, 197].
- ▶ Gay and bisexual Aboriginal MSM (both cisgender and transgender) report significantly higher rates of inconsistent condom use, substance use (including IDU) and/or lower testing rates/higher viral loads for HIV compared to their non-Aboriginal counterparts [105, 106, 198-201].
- ▶ Some GSD Aboriginal peoples report higher rates of HIV testing [199, 494, 495], however these rates are not consistent across all Indigenous populations [198].
- ▶ Transgender women are at a high risk of HIV acquisition compared to other Aboriginal subpopulations [428].
- ▶ Additionally, the experience of racial discrimination and gender/sexuality-based discrimination can significantly increase HIV transmission risks [474]. This includes gender/sexuality-based discrimination from within Aboriginal communities themselves [34].
- ▶ Knowledge around HIV treatment as prevention (TasP) also remain low in some populations [238], though other populations have seen significant improvements in health quality as a result of effective TasP program implementation [311].
- ▶ Regardless of Aboriginal status, teaching about GSD experiences remains a controversial topic in the Australian political landscape, making addressing this intersection particularly difficult [276, 496]. GSD people across the board are also more likely to experience marginalisation, exclusion, and misunderstanding within systems such as schools and workplaces [497], which negatively impacts health outcomes and quality of life [498].

#### Men

- ▶ Although Aboriginal women are vulnerable to a variety of gender- and/or sex-specific sexual health issues, Aboriginal men continue to be under-represented for STIBBV testing and treatment [322, 325], as well as experiencing overall some of the worst rates of health across the board [499].
- ▶ Aboriginal men also experience sexual health issues such as infertility and erectile dysfunction at similar rates to the non-Aboriginal male population[500].
- ▶ The lack of inclusion of Aboriginal men in sexual health research contributes to an on-going lack of knowledge and inappropriate clinical care in sexual health [501].
- ▶ Aboriginal men require health approaches which target their specific needs [502].
- ▶ Research in the area is still lacking due to cultural and gendered factors around privacy, shame, substance abuse, and experiences of violence [503, 504].

## Women and girls

- ▶ Many of Aboriginal women's issues revolve around societal stigma, systematic mistrust, and shame resulting from experiences of colonization (i.e. dispossession) [58, 215].
- ▶ Gonorrhoea, chlamydia, pelvic inflammatory disease and other cervical abnormalities, HIV, menstrual hygiene issues, and hepatitis B and C rates and risk levels for Aboriginal women remain significantly higher compared to non-Aboriginal people and Aboriginal men [68, 109, 113, 114, 145, 147, 148, 156, 176-192]. This includes a heightened risk of STIBBV acquisition when a history of STI is present [71, 185], and reduced rates of treatment seeking when IDU is present [505].
- Aboriginal women are more likely to experience STIBBV co-infection compared to their non-Aboriginal counterparts [185, 506-508].
- ▶ Miscarriages remain an issue for Aboriginal women, particularly when alcohol consumption, STIBBVs, or insufficient perinatal screenings are present [54-56].
- ▶ Aboriginal women experience a heightened risk of lack of quality reproductive care, education and testing [181, 192, 385, 424, 509, 510], which fails to appropriately address reproductive health issues such as HPV, HCV, and cervical cancer [57-59].
- ▶ Aboriginal women receive an insufficient amount of education regarding antenatal and postnatal contraception use [218], which can result in further childbirth-related complications [511].

- ▶ Teenage, rapid-repeat and/or unplanned pregnancies are a significant issue in several Aboriginal communities [60-65, 512, 513], and can be a predictor of STIBBV [55, 65]. These risks are exacerbated by 'walking at night', where young Aboriginal women leave their guardians and engage in sometimes riskier sexual behaviours [65, 212].
- ▶ Aboriginal women are at a higher risk of experiencing sexual/physical assault and consequent health issues [66-68, 70-72, 82].
- ► For women who have had a child, child apprehension significantly lowers quality of life and disrupts access to healthcare [514].
- ▶ In certain settings, women have also been more likely to undergo an STI test compared to men, which is a significant protective factor [94, 322, 515]. In contrast, other Aboriginal women populations have shown significantly lower rates of attendance for STIBBV testing [352, 354, 516]. Ultimately, gendered issues around sexual health require a nuanced and responsive approach, which may also benefit from including men where it is culturally appropriate [424, 489].

## People experiencing houselessness

- ▶ The definition of homelessness among Aboriginal people extends beyond a lack of shelter and includes a lack of community and support structures [517]; as the criteria measured to evaluate homelessness is traditionally only focused on inadequate shelter, the terminology discussed will be of houselessness.
- ▶ Aboriginal people are significantly over-represented in the houseless population [517-519].
- ▶ Aboriginal people experiencing houselessness across the lifespan are generally at high risk of SHBBV issues, although much specific data on Aboriginal homeless experiences in the area has not been collected [520].
- ▶ Young Aboriginal people in particular are at a high risk of houselessness [521], and the inherent SHBBV risks involved [76, 77, 79, 85, 86].
- ▶ Houseless Aboriginal women also experience heightened rates of sexual assault and insufficient reproductive health [522].
- ▶ People experiencing houselessness who engage in sex work, particularly in conjunction with other complicating factors such as IDU, are also substantially at risk of STIBBV acquisition [79, 85, 90, 102, 380, 523, 524].
- ▶ Experiencing houselessness may also impede a person's capacity to attend and receive appropriate clinical care [80].

## **People living with HIV**

- ▶ Aboriginal people living with HIV are over-represented in their PLWH population [97-101, 175].
- ▶ Childhood adversity significantly negatively impacts mental and physical health outcomes for Aboriginal PLWH [525], particularly for those who are also PWID [526].
- ▶ Other issues which form barriers to Aboriginal PLWH's capacity to undergo treatment include: clinic architecture, geographic distance, lack of supports, low STIBBV literacy, substance use, cultural responsibilities, lack of finances, and other work or life commitments [371].
- ▶ HIV-related stigma also worsens an already increased likelihood of improper/inconsistent treatment and aversion to accessing services [107, 202, 364, 368, 371, 386, 453, 527-529]. This stigma and lack of understanding is particularly impactful for Aboriginal PLWH who are also PWUD and feel they have to choose between their substance use and their highly active antiretroviral therapy (HAART) [267].
- ▶ Aboriginal PLWH are significantly likely to use substances as a way of reducing the impact of the trauma and stress associated with their diagnosis [429].
- ▶ Aboriginal PLWH experience much higher mortality rates compared to their non-Aboriginal counterparts [426, 530-532], partly as a result of issues with treatment access and appropriateness [193].
- ▶ HIV+ status increases chances of experiencing depression [533], particularly when the person is HIV/HCV co-infected [142]. Depression can also decrease Aboriginal PLWH's capacity to negotiate receiving a diagnosis, leading to anger, shock, and disbelief [210].
- ▶ Aboriginal PLWH are significantly at risk of receiving inadequate HIV treatment and have less HIV-informed clinicians [426, 534].
- ▶ Despite some Aboriginal women undergoing HIV testing more on average compared to Aboriginal men [195], Aboriginal WLWH also make a significant proportion of P/WLWH [352, 428, 534, 535], and experience some of the highest rates of mortality and ill health [186, 536]. They are at significant risk of treatment attrition or aversion [418], particularly when they are also PWUD [452].
- ▶ WLWH who are pregnant, the risk of vertical transmission to their infant is significantly heightened, particularly when there is a lack of proper natal and HIV care [350, 372, 537-541].
- ▶ Aboriginal WLWH appear to be less likely to intentionally bear children compared to their non-Aboriginal counterparts [542].
- ▶ Despite the significant issues that Aboriginal PLWH experience, they are also highly resilient and can navigate the healthcare system in a way which benefits them [186, 267, 425].

## People who are incarcerated

- Aboriginal peoples are significantly over-represented in the Australian prison system [173, 174]. Incarceration has significant health consequences, both for the sexual and general health and wellbeing of Aboriginal peoples [96, 173, 174].
- ▶ Incarceration can significantly increase the likelihood of hepatitis C in some populations [177, 543-546], though outcomes appear to vary amongst populations [547].
- ▶ PWID are particularly at risk for hepatitis C [548], partly due to an increase in unsafe injection practices, such as needle-sharing [85, 549].
- ▶ Some studies indicate that chlamydia rates for incarcerated Aboriginal people may be lower than that of the general Aboriginal population [550], and that hepatitis B immunity may also be higher in this population due to past infections [377].
- ▶ Incarcerated Aboriginal people also report significantly higher rates of high-risk behaviour compared to their non-Aboriginal peers [551].
- ▶ For Aboriginal women, incarceration also increases the rates of HIV treatment attrition [452] and the chance of experiencing sexual abuse and exploitation [66].
- ▶ Aboriginal PWID are significantly more likely to acquire a blood-borne virus (BBV) compared to their non-IDU and/or non-Indigenous counterparts [552].

## People who use/inject drugs

- ▶ Many Aboriginal populations report significantly high rates of substance use, including intravenous use [104-108].
- ▶ In Australia, rates of attendance for Indigenous PWID have increased in recent years [175].
- ▶ Active/dependent substance use negatively impacts HIV drug regime consistency, virological suppression [137, 138, 140, 193], testing, and treatment attendance [138, 194-196]. It also increases the rates of unsafe sex and STIBBV transmission [124, 253, 285, 402, 553-557], particularly when substances are used intravenously [86, 88, 91, 103, 147, 190, 417, 548, 552, 558-562] or when a person has experienced sexual abuse [67].
- ▶ Alcohol consumption can be highly disruptive to Indigenous PWID's adherence addiction or antiretroviral treatments [429, 563].
- ▶ When Aboriginal PWID are also HIV+, quality of life significantly declines [526].
- ► For PWID who are HCV+, Aboriginal status significantly reduces the likelihood of treatment uptake[564].
- ▶ Heightened co-existence of hepatitis C and belonging in the young Aboriginal people category significantly increases mortality rates for Aboriginal PWID [565].

- Some Aboriginal PWID populations, particularly Aboriginal PWID who have lived in the child welfare system, are also more likely to share needles compared to their non-Aboriginal counterparts [91, 495, 548, 549, 566].
- ▶ Unemployment, transience, and other systematic issues can significantly negatively affect Aboriginal PWID health outcomes [90, 567], and in some cases directly impede Aboriginal PWID's capacity to adhere to addiction treatment regimes such as Methadone [207].

#### Rural and remote communities

- ▶ Aboriginal people living in remote communities experience significantly high rates of STIBBVs, and are at a higher risk of other sexual health issues such as teenage pregnancy and pelvic inflammatory infection [63, 109-116].
- ▶ Rural and remote Aboriginal communities require tailored services and testing methods which are not identical to more urban settings [11, 30, 54, 234, 255, 404, 568-571].
- ▶ Often, remote Aboriginal communities require a community-wide approach, as opposed to a more individual and behavioural one [281, 290]. They also require significant upskilling and knowledge provision in sexual health [73, 236, 290, 324].
- ▶ Remote Aboriginal communities need treatment and testing methods which compensate for the communities' mobility patterns and distance from diagnostic and clinical facilities [107, 170, 180, 249, 253, 343-345, 356, 572].
- ▶ Aboriginal people living in remote communities face a number of unique challenges, including lack of service and resource access [70, 76, 241, 573], language barriers [174, 236, 237], cultural differences in understanding health and healing [383], stigma [322], and health workers who are overloaded, inconsistent, not trained in culturally appropriate care, or unable to provide a service due to their gender [5, 29, 240, 324, 463, 464]. These result in insufficient testing rates [112] and increased antibiotic resistance [344].

#### Sex workers

- ▶ Some Aboriginal peoples make up a significant proportion of sex workers within their broader communities [102, 103].
- ► Canadian Aboriginal sex workers are significantly more likely to be HIV+ [574], or at risk of HIV and/or HCV transmission, particularly when experiencing other risk factors (IDU, houselessness, child sexual assault [CSA], chlamydia diagnosis) [79, 85, 90, 102, 380, 524].
- ▶ Aboriginal women who are houseless are significantly more likely to engage in transactional sex work as a primary income source, and are an even higher at-risk population within the general Indigenous sex worker population [523]. They are also more likely to experience sexual assault across their lifetime [82, 575].
- ▶ One study suggests that Aboriginal sex workers are also more likely to have a child apprehended, particularly when working in public spaces [576]. This can significantly reduce their likelihood of accessing healthcare services [514].

## Young people

- ▶ Young Australian Aboriginal people appear to engage in risky sexual behaviour in the same rates as non-Aboriginal young people [553].
- ▶ Young Aboriginal people are at significant risk of HIV acquisition and viral rebound, as well as other STIBBVs [103, 131, 141, 147, 170-172]. This is due to a variety of social determinants including unsafe sex, substance use, shame, low socioeconomic status, houselessness, rural/remote living, sexual abuse, lack of healthcare access, incarceration and other forms of institutionalisation, removal from parents, a sense of invulnerability to STIBBVs, disconnection or dispossession from traditional cultures and customs, and a significant lack of knowledge in the area for most (but not all) young Indigenous populations [16, 73-95, 577].
- ▶ Institutionalised sexual abuse in particular has long-lasting negative impacts on a young person, which can lead to them becoming isolated, psychologically unwell, and otherwise experiencing distance or distrust of community and any figures of authority [214, 578].
- ▶ Rapid-repeat or unwanted pregnancy is also a significant issue for young Aboriginal women [62, 65, 212, 214], and is often a predictor of STIBBV acquisition [55, 164]. These factors are significantly impacted by Aboriginal women's family planning access barriers [579, 580]. For young women in particular, pregnancy often ties in with experiences of sexual abuse [67].
- ▶ Condom use rates vary widely amongst different Aboriginal populations, from less than 40 per cent to more than 80 per cent [285, 286, 449, 553].
- ▶ Young Aboriginal people experience significant issues with trust of service providers, as well as community stigma and conflict between Aboriginal and Western understandings of sexual and reproductive health [89, 235].
- ▶ Some young Aboriginal people's experience of sexual interactions and conceptions of resilience and subjectivity deviate from more Western expectations, which requires a renegotiation of perceptions and means of treatment for professionals [16, 581].

## Addressing health gaps for priority populations

Young Aboriginal people and women of all ages have been shown to significant benefit from family- and community-focused strategies which include a focus on protective factors such as connection to culture, worker compassion, non-clinical and peer-led service provision, personalised information, and age-/gender-appropriate programs and services [92, 214, 241, 263, 264, 270, 346, 358, 385, 582, 583]. They also benefit from early (preferably prior to the person becoming sexually active) sexuality education which addresses relationships, pleasure, and desire alongside the logistics of safe sex [274, 275, 424]. Direct, community-based prevention strategies such as condom machines and a diverse range of needle syringe programs (NSPs) have also shown significant use, particularly for rural and remote young Aboriginal populations [241, 300-302]. These strategies further benefit from being implemented by ACCHOs [414], and having the community involved in policy and strategic planning and research [14, 411]. Additionally, Aboriginal women may significantly benefit from being able to access self-testing for HPV and other cervical health issues, particularly considering how prone they are to these conditions [192, 264, 355, 424].

Aboriginal men's health is significantly improved by support frameworks which focus on emotional support within a group context [499]. They also benefit from approaches which recognise the significant barriers of shame, guilt, and community pressure [503, 504]. This includes health care methods which extend beyond health promotion and move towards intensive changes in how services operate and the level of cultural accessibility they can provide men [500]. Aboriginal men must also be more intentionally included in sexual health research [501]. This is even more applicable to Indigenous people experiencing houselessness, whose experiences of sexual health are nearly entirely absent from the literature, making any population-specific service provider recommendations difficult to ascertain [520].

Other more stigmatised populations, such as GSD people and sex workers, benefit from services which actively attend to the intersection of Indigeneity and other points of marginalisation [584]. This includes recognising the cultural specificity of specific gender and sexuality terminology (i.e. sistergirl, brotherboy) and provides a space for those communities to become further empowered [32, 34], and utilising health frameworks which honour self-determination and traditional language and customs [254, 585]. For GSD Aboriginal people, online education and service provision may also be useful, though current frameworks still experience issues with confidentiality, boundaries and the way health data are ultimately stored [33].

For those populations who are either at risk of non-sexual BBV acquisition (namely PWID) or who have already acquired a BBV (including HIV), there are several useful approaches. Firstly, culturally competent needle and syringe programs have been shown to be a significant factor for PWID [559, 586], particularly PWID who are also incarcerated [587]. This is despite on-going stigma against NSPs within and outside the health industry [588]. Similarly, incarcerated people, including Aboriginal incarcerated people, benefit from condom provision in their facilities [589]. Thirdly, the development of culturally-specific resources provides a helpful link for communities who are at-risk or already affected by STIBBVs such as HIV [272]. For people who have acquired a BBV, receiving appropriately-delivered treatments such as HAART (for HIV) and antiretroviral medications for HCV is shown to significantly improve quality of life and reduce rates of forward and vertical (birthing parent to birthed child) transmission [426, 534, 538, 590]. Overcoming barriers to accessing treatment, such as finances and issues around shame and lack of confidentiality, are also crucial aspects of appropriately supporting Indigenous people living with BBVs [371].

Finally, health gaps for rural and remote communities can be addressed through services which have more consistent staffing and management [357]. This includes ensuring that language and cultural differences can be accounted for, including accommodating for men's and women's business [5, 29, 240, 324, 463, 464, 583]. Communities also benefit from responses which foreground their need for communal cohesion and for maintaining their healthy and distinctly non-urban dynamics [591].

# Research gaps



#### Prevention and education

- ▶ The specific needs of individual communities and language groups vary significantly, and each group's needs exceed the scope of this review
- ► The efficacy of social media on health promotion and education has yet to receive sufficient impact assessment
- ▶ Differences between urban and rural/remote communities' experiences and needs have yet to be evaluated

## **Testing and diagnosis**

- ▶ Due to lack of data completion, there are significant gaps in data on testing and positivity rates
- ▶ Self-administration testing methods currently lack sufficient research on impact, efficacy, and experiences of use
- ▶ There are no data on the impact of improving some of the fundamental systematic issues, such as service architecture and consistent, gender-appropriate staffing in more remote communities

## Disease management and clinical care

- ▶ There have been few impact studies on programs that have used language as part of their delivery
- ▶ There is little knowledge on the impact of stratified sensitivity training for medical providers
- ▶ There appear to be no longer-term studies on the impact of integrated health approaches (Western medicine and Aboriginal approaches to disease management and clinical care)

## Workforce development

- ► The impact of spiritual practices in an Australian Aboriginal context has not received much research
- ► Further knowledge of the impact of Aboriginal mentors on outcomes for Aboriginal health students

## **Enabling environments**

- ► There is a lack of evaluation of systematic attempts at training/re-training workers and institutions on cultural competency
- ▶ Research on the impact of systematic restructuring, including architectural accommodation, is limited
- ▶ There is limited research on the specific sexual health needs of gender diverse Aboriginal peoples, brotherboys and sistergirls specifically within the Australian context, as well as on the particular experiences of sexually diverse Aboriginal peoples

#### Research, evaluation, and surveillance

- ▶ There is little application of intentionally decolonised methodologies in Australia
- ▶ Little knowledge on the effectiveness of technological aids in research activities
- ▶ Data completion remains an issue across multiple segments of Aboriginal sexual health

## **Priority populations**

- ▶ The sexual health needs of people experiencing houselessness and Aboriginal men are significantly under-researched, and few programs are targeted at addressing those needs
- ▶ The needs of specific subpopulations within each priority population, such as Aboriginal transgender people or particular language groups, are still under-evaluated

# **Domain summary**

#### **Prevention and education**

Aboriginal people, particularly those living in rural and remote communities, have a significant lack of up-to-date knowledge on SHBBV. Approaches that take into account a community's customs and needs, and use alternative methods of knowledge delivery beyond formal sex education, have shown success in improving SHBBV knowledge and attitudes. These approaches include arts programs, peer-, community- and family-focused programs, and continuous education which extends beyond the classroom or sex education activity. There is very limited evidence on specific communities' needs and the ways in which interventions are structured in those communities, as well as a lack of knowledge on the efficacy of more modern knowledge delivery technology.

## **Testing and diagnosis**

Rates of STIBBVs are significantly high in Aboriginal communities. Conversely, STIBBV testing rates remain low amongst Aboriginal populations, with few exceptions. However, due to issues with data completeness and the lack of data linkage between services, true rates of testing and diagnoses in the population remain difficult to ascertain. Testing and diagnosis rates are improved by methods which facilitate self-testing and point-of-care testing, as well as consulting the community on best practices. There are several barriers to Aboriginal people being tested for STIBBVs, including: systematic, experienced, and perceived discrimination; lack of culturally appropriate service architecture, and; lack of knowledge around available services.

## Disease management and clinical care

Aboriginal peoples' comfort and capacity to access SHBBV treatment has been significantly impacted by the healthcare system's role in colonisation and the resulting mistrust of healthcare services by many communities. As a result, many Aboriginal communities are still significantly under-treated for SHBBV issues, and clinic attendance rates remain low for the majority of communities. Rural and remote communities, as well as some Aboriginal subpopulations, are particularly at risk of inconsistency, delays, or a total lack in appropriate and timely access to treatment and medical prevention strategies such as vaccines. Approaches to care which have significantly improved community health include those which provide psychological support, address both individual and community needs, and provide alternative care routes, such as outreach services and technology-based care communication pathways.

## Workforce development

Aboriginal Health Workers (AHWs) play a significant role in improving the health of Aboriginal communities through their capacity to build rapport and comprehend a community's needs more deeply than non-Aboriginal workers. In order to maintain and develop the presence of AHWs, there must be a focus on directive and respectful approaches to recruitment, job support, training, workplace structures, and strategic job planning. The role of spirituality and traditional practices must also be respected and accommodated for within these frameworks. Similarly, Aboriginal Community Controlled Health Organisations are a crucial aspect of appropriate Aboriginal healthcare, and require systematic and financial support, as well as being included in larger scale decision-making. AHWs and ACCHOs nonetheless experience significant barriers to service provision, including staff inconsistency, lack of appropriate SHBBV training and guidelines, shortage of male staff, and conflict within the community and within the healthcare system.

## **Enabling environments**

Aboriginal peoples experience significant racial discrimination, both at an individual and structural level. This discrimination is particularly heightened when it intersects with other marginalised identities such as being gender or sexually diverse. Racial discrimination, both experienced and perceived, negatively affects SHBBV testing and treatment rates, by making healthcare sites either uncomfortable or directly hostile. Discriminatory perspectives on Aboriginal people also affect clinicians' capacity to address patients' needs, which results in lack of appropriate testing and inadequate SHBBV treatment. Discrimination needs to be addressed across the spectrum, from direct service provision to how policies are formed. This is done through applying a lens of cultural competence, which includes educating service providers on culturally appropriate care and the impact of colonisation, upholding and highlighting communities' resilience and sense of empowerment, and developing policies which protect Indigenous peoples' rights and address their needs within the healthcare system.

## Research, evaluation, and surveillance

Research with Aboriginal communities is most beneficial when it utilises frameworks which focus on community partnership, consultation and empowerment, researcher immersion, and the use of Aboriginal knowledge and methods. These processes can be further improved by engaging with community Elders, who are often the keepers and storytellers of that knowledge. Aboriginal communities also benefit from research which seeks to address both their specific needs and the needs of Aboriginal people more broadly. Additionally, communities and individuals benefit from intersectional research approaches which consider the ways in which different points of marginalisation, such as sex work or being HIV+, further affect Aboriginal peoples. Finally, data completeness and lack of inter-organisational linkage continues to adversely affect researchers and health workers' capacity to achieve a clear snapshot of communities' SHBBV needs. These issues can be addressed through better stratification of data collection, storage, and distribution methods, as well as regular evaluations of those processes. Additionally, all forms of research, evaluation and surveillance remain in need of more stable funding, clearer bureaucratic pathways, improved healthcare policies, and regularly-updated guidelines and procedures.

# Conclusion

This review has covered evidence on the Department of Health's six domains of Aboriginal SHBBV priority action areas across Aotearoa/New Zealand, Australia, and Canada. This evidence confirms the presence of on-going individual, community, and societal-scale issues in sexual health education, testing, treatment, peer employment, and research. Additionally, there are overarching systemic issues which negatively impact Aboriginal peoples' capacity to receive adequate sexual health treatment, as well as obtain an equal standing in modern Australian society more broadly. In order to address these issues, Aboriginal people's voices need to be considered at every level of sexual health policy and practice, from specific individuals' needs, through specific communities and language groups' needs, and up to the policies which affect the ways those needs are accommodated for.

# **Appendix A: Search strings**

Database / Website	Search String
Scopus	(TITLE-ABS-KEY (aboriginal OR māori OR "First Nations" OR indigenous OR "torres-strait islander" OR two-spirit OR sisboy OR sistergirl) AND TITLE-ABS-KEY ("sexual health" OR chlamydia OR gonorrhoea OR syphilis OR "blood-borne virus" OR hiv OR hepatitis) AND TITLE-ABS-KEY (canada OR australia OR "new zealand" OR aotearoa)) AND PUBYEAR > 2004
Scopus	(TITLE-ABS-KEY (training OR resources OR «service delivery» OR «treatment provi*» OR workforce OR professional ) AND TITLE-ABS-KEY (aboriginal OR indigenous OR maori OR first AND nations OR metis OR inuit ) AND TITLE-ABS-KEY («sexual health» OR sexuality OR hiv OR sti OR «sexually transmitted infection» OR hepatitis OR syphilis OR gonorrhoea OR chlamydia OR «blood borne virus» ) ) AND PUBYEAR > 2004
Scopus	(TITLE-ABS-KEY (training OR resources OR "service delivery" OR "treatment provision" OR workforce OR professional OR decoloni*) AND TITLE-ABS-KEY ("sexual health" OR sexuality OR hiv OR sti OR "sexually transmitted infection" OR hepatitis OR syphilis OR gonorrhoea OR chlamydia OR "blood borne virus") AND TITLE-ABS-KEY (aboriginal OR indigenous OR "first nations")) AND PUBYEAR > 2004
PubMed	(((aboriginal[All Fields] OR maori[All Fields] OR "First Nations"[All Fields] OR indigenous[All Fields] OR "torres-strait islander"[All Fields] OR two-spirit[All Fields] OR ("inuits"[MeSH Terms] OR "inuits"[All Fields] OR "inuit"[All Fields]) OR Metis[All Fields]) AND ("sexual health"[All Fields] OR ("chlamydia"[MeSH Terms] OR "chlamydia"[All Fields]) OR ("gonorrhoea"[All Fields] OR "gonorrhea"[MeSH Terms] OR "gonorrhea"[All Fields]) OR ("syphilis"[MeSH Terms] OR "syphilis"[All Fields]) OR "blood-borne virus"[All Fields] OR ("hiv"[MeSH Terms] OR "hiv"[All Fields]) OR ("hepatitis"[MeSH Terms] OR "hepatitis a"[All Fields])) AND (("canada"[MeSH Terms] OR "canada"[All Fields])) OR ("australia"[MeSH Terms] OR "australia"[All Fields])) OR "new zealand"[All Fields] OR aotearoa[All Fields])) AND ("01/01/2005"[CRDAT]: "3000"[CRDAT])

(((("education" [Subheading] OR "education" [All Fields] OR "training" [All Fields] OR "education" [MeSH Terms] OR "training" [All Fields]) OR ("health resources" [MeSH Terms] OR ("health" [All Fields] AND "resources" [All Fields]) OR "health resources" [All Fields] OR "resources" [All Fields]) OR "service delivery" [All Fields] OR (("therapy" [Subheading] OR "therapy" [All Fields] OR "treatment" [All Fields] OR "therapeutics" [MeSH Terms] OR "therapeutics" [All Fields]) AND (provi\* [All Fields] [All Fields])) OR ("manpower" [Subheading] OR "manpower" [All Fields] OR "workforce" [All Fields]) OR professional [All Fields]) AND (aboriginal [All Fields] OR indigenous [All Fields] OR maori [All Fields] OR "first nations" [All Fields] OR metis [All Fields] OR ("inuits" [MeSH Terms] OR "inuits" [All Fields]))) AND ("sexual health" [All Fields] OR ("sexuality" [MeSH Terms] OR "sexuality" [All Fields]) OR "sexual behavior" [All Fields]) OR ("hiv" [MeSH Terms] OR "hiv" [All Fields]) OR "hiv" [All Fields]) OR "hiv" [All Fields]) OR "hiv" [All Fields])

PubMed

Fields]) OR sti[All Fields] OR "sexually transmitted infection" [All Fields] OR ("hepatitis" [MeSH Terms] OR "hepatitis" [All Fields] OR "hepatitis a" [MeSH Terms] OR "hepatitis a" [All Fields]) OR ("syphilis" [MeSH Terms] OR "syphilis" [All Fields]) OR ("gonorrhoea" [All Fields]) OR "gonorrhea" [MeSH Terms] OR "gonorrhea" [All Fields]) OR ("chlamydia" [MeSH Terms] OR "chlamydia" [All Fields]) OR "blood borne virus" [All Fields])) AND ("01/01/2005" [PDAT]: "3000" [PDAT])

(aboriginal OR māori OR "First Nations" OR indigenous OR "torres-strait islander" OR two-spirit OR brotherboy OR sistergirl) AND ("sexual health"

**ProQuest** 

OR chlamydia OR gonorrhoea OR syphilis OR "blood-borne virus" OR hiv OR hepatitis) AND (canada OR australia OR "new zealand" OR aotearoa) AND peer(yes) AND stype.exact("Books" OR "Scholarly Journals" OR "Dissertations & Theses") AND (loc.exact("Australia" OR "New Zealand" OR "Queensland Australia" OR "Vancouver British Columbia Canada" OR "Ontario Canada" OR "Western Australia Australia" OR "Montreal Quebec Canada" OR "Quebec Canada" OR "New South Wales Australia" OR "Victoria Australia" OR "Arctic region" OR "Nunavut Canada" OR "Toronto Ontario Canada" OR "Alberta Canada" OR "Manitoba Canada" OR "Sydney New South Wales Australia" OR "Canberra Australian Capital Territory Australia" OR "Melbourne Victoria Australia" OR "Torres Strait" OR "Ottawa Ontario Canada" OR "Saskatchewan Canada" OR "Nova Scotia Canada" OR "South Australia Australia") AND pd(20050101-20181231))

Google

"sexual health" Indigenous australia canada "new zealand" aboriginal OR māori OR "First Nations" OR indigenous OR "torres-strait islander" OR two-spirit OR brotherboy OR sistergirl OR chlamydia OR gonorrhoea OR syphilis OR "blood-borne virus" OR hiv OR hepatitis --"United -States" filetype:pdf

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