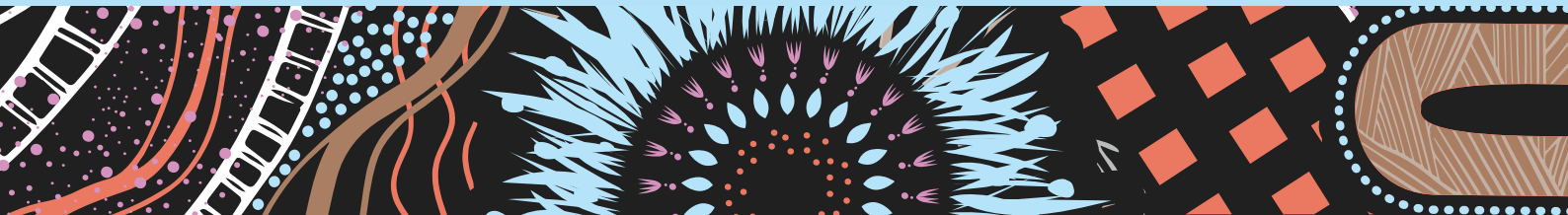




Chronic physical health conditions and the mental health and wellbeing of First Nations people

Summary paper



This paper is a summary of the *Chronic physical health conditions and the mental health and wellbeing of First Nations people* publication on the Australian Institute of Health and Welfare Indigenous Mental Health and Suicide Prevention Clearinghouse. It can be accessed online at <www.indigenoussmhspc.gov.au>.

Some people may find the content of this report confronting or distressing. If you are affected in this way, please contact **13YARN (13 92 76)**, **Lifeline (13 11 14)** or **Beyond Blue (1300 22 4636)**.

Key findings

- Stronger connections between the 7 domains of social and emotional wellbeing (SEWB) – mind and emotions, body, family and kinship, community, culture, Country, spirituality and ancestors – have positive effects on the overall health of First Nations people.
- Physical and mental health are connected through the broader context of SEWB. Chronic physical health conditions can increase the risk of mental ill health, and vice versa.
- The experience of trauma, grief and loss from the ongoing effects of colonisation and past policies of forced child removal (the Stolen Generations) can contribute to chronic disease and physical and mental ill health.
- Many First Nations people have more than one chronic condition. This increases the complexity of care, and the frequency, duration and cost of medical appointments and treatment.
- The limited availability of culturally safe services, and primary care without integrated SEWB care, can exacerbate depression and anxiety for First Nations people with chronic physical health conditions.
- Few government policies explicitly address the mental health of First Nations people with chronic physical health conditions, or the physical health of those with mental health conditions.
- Best-practice approaches include programs that are co-designed with local communities and include elements such as multidisciplinary care, self-management, health behaviours, social connection and relationship building, and the provision of culturally appropriate and person-centred care.

What we know

For Aboriginal and Torres Strait Islander (First Nations) people, good health is more than just physical: to be healthy, a person also needs to be well mentally, spiritually and culturally, and have strong ties to a well-functioning family and community. This is known as social and emotional wellbeing (SEWB) and includes 7 interconnected domains: mind and emotions, body, family and kinship, community, culture, Country, and spirituality and ancestors (Gee et al. 2014). When SEWB is strong, First Nations people are healthy.

Mental health and physical health are 2 facets of overall SEWB. Research has shown strong links between physical ill health and mental ill health (Bremner et al. 2018; Lawrence et al. 2013; RANZCP 2015; Scott et al. 2016).

Overall, many First Nations people are in good health:

- First Nations people born in 2018 can expect to live 80% of their lives in full health without disease or injury (AIHW 2022a).
- In 2018–19, 3 in 4 (77%) First Nations people assessed their health as ‘good’ or better (AIHW 2020).

Nonetheless, chronic diseases are the leading causes of illness, disability and death among First Nations people (AIHW 2022a). The prevalence of chronic illness, and the accessibility and quality of health care, all contribute to the gap in life expectancy for the First Nations population (Sara et al. 2021).

Chronic physical health conditions among First Nations people need to be understood in the broader cultural and historical context. The experience of trauma, grief and loss from the ongoing effects of colonisation and past policies of forced child removal (the Stolen Generations) can contribute to chronic disease and physical and mental ill health (Milroy et al. 2014). Dispossession and the intergenerational legacies of colonisation – grief and loss, abuse, violence, removal from family and cultural dislocation – all contribute to low levels of SEWB (Zubrick et al. 2014). In turn, low levels of SEWB contribute to the high burden of chronic disease and poor health among First Nation people (AHMRC 2012). SEWB is also affected by the social determinants of health, including education and unemployment, substance abuse, racism and discrimination, and social disadvantage (Zubrick et al. 2014).

This paper examines the intersection of chronic physical health conditions and mental health, within the broader SEWB framework. The chronic conditions discussed are those with the highest disease burden for First Nations people and those associated with poorer mental health outcomes: respiratory conditions, musculoskeletal conditions, cardiovascular disease (CVD), type 2 diabetes and chronic kidney disease. A literature review was conducted across academic databases, government reports and ‘grey’ literature.

What is chronic disease?

Chronic disease – also known as chronic conditions, non-communicable diseases, or long-term health conditions – is characterised by long-lasting and persistent effects on health, which can lead to social and economic outcomes that negatively affect quality of life. Common examples of chronic physical health conditions include asthma, cancer, CVD, diabetes, musculoskeletal conditions and stroke. While effective management of chronic conditions can slow the progression of disease and improve quality of life and life expectancy (Thomas et al. 2014; Zhao et al. 2014), they remain major contributors to the burden of disease for the First Nations population (AIHW 2022a; 2023a).

Connection between mental and physical health

Chronic physical health conditions and mental health conditions are interrelated. In general, living with a chronic condition can increase the likelihood of developing mental health issues (and vice versa) (Chen et al. 2017). For First Nations people, poor physical health from chronic conditions and disability can affect both mental health and overall SEWB (AIHW 2016; Dudgeon et al. 2017).

Among First Nations adults with long-term physical health conditions, the likelihood of also having a comorbid mental health condition ranges from 1 in 3 (35%) for those with kidney disease to 3 in 4 (73%) for those with chronic obstructive pulmonary disease (COPD) (AIHW 2023d). For First Nations adults with no long-term physical health conditions, the likelihood of having a mental health condition is 1 in 20 (5.5%) (AIHW 2023d).

Mental ill health, in turn, is associated with health risk factors, such as tobacco smoking, inadequate fruit and vegetable consumption and physical inactivity (Bartlem et al. 2015; Firth et al. 2019). Some mental health conditions can also cause or contribute to physical health conditions; for example, because of its effect on lifestyle, depression can contribute to hardening of the arteries, which is a precursor to heart disease (Chaddha et al. 2016).

The impact of health risk factors

Health risk factors include health behaviours (such as smoking, physical activity and alcohol consumption) and social determinants (such as employment and income, housing, and access to health care). For First Nations people, social determinants also include historical and contemporary effects of colonisation (Dudgeon et al. 2020). Health risk factors can cause or exacerbate chronic physical health conditions and worsen mental ill health. At the same time, chronic physical health conditions and mental ill health can increase the likelihood of being affected by health risk factors such as unemployment and low income (AIHW 2021, 2024f). In 2018, the health risk factors (excluding social determinants) contributing most to disease burden among First Nations people were:

- tobacco use (including second-hand smoke) (contributed 12% to the total burden)
- alcohol use (11%)
- overweight and obesity (9.7%)
- illicit drug use (6.9%)
- dietary risks (for example, a diet low in legumes or high in salt) (6.2%) (AIHW 2022a).

Although, overall, the proportion of First Nations people who reported smoking has been falling, the decline has occurred only among people in non-remote areas. Tobacco smoking has been shown to cause conditions associated with mental ill health, such as COPD, CVD, and type 2 diabetes (Greenhalgh et al. 2024). It also exacerbates asthma and back pain and may be associated with arthritis (Greenhalgh et al. 2024).

Excessive alcohol consumption also influences both physical and mental health. It is a key risk factor for liver disease, heart disease, stroke and diabetes. It places people with existing physical and mental health conditions at a higher risk of cancer; hepatitis B, C or D; or human immunodeficiency virus; it can also exacerbate mental health conditions such as depression and anxiety and induce psychoses (NHMRC 2020). Almost 1 in 5 (18%) First Nations people aged 15 and over reported exceeding the lifetime alcohol risk guidelines (more than 2 standard drinks per day on average) in 2018–19 (AIHW 2023b). Between 2009–10 and 2018–19, hospitalisation rates for alcohol-related conditions increased by 11% and 36% for First Nations males and females, respectively (AIHW 2023b).

Social determinants are not included in either Australian or international burden of disease studies, so their direct contribution to the disease burden of First Nations people is unknown (AIHW 2022a). However, the AIHW (2024d) has analysed the contribution of certain social determinants and other health risk factors to the health gap between First Nations people and non-Indigenous Australians. That showed that 65% of the gap was due to health risk factors, and predominately employment, tobacco smoking, income, overweight and obesity, and educational attainment.

Physical health conditions and their relationship to mental health

Long-term conditions in most major disease groups are associated with mental ill health. Certain disease groups, such as respiratory conditions and musculoskeletal conditions, have shown strong relationships with mental ill health for First Nations people. Other disease groups, such as CVD, contribute substantially to the disease burden for the First Nations population and have been shown to affect mental health in other populations.

Disease groups that have both high prevalence among First Nations people and a strong relationship with mental ill health include:

- **Respiratory conditions:** In 2018–19, almost 1 in 3 (29%) First Nations people were estimated to have a respiratory condition lasting or likely to last 6 months or more. Asthma was most reported (16%), then chronic sinusitis (7.4%) and COPD (3.4%) (ABS 2019). In 2018–19, 3 in 5 (60%) First Nations people with COPD and 2 in 5 (43%) of those with asthma reported high/very high psychological distress (AIHW 2023c).
- **Musculoskeletal conditions:** In 2018–19, an estimated 1 in 5 (21%) First Nations people had a current long-term musculoskeletal condition – the most reported being back problems (13%) and arthritis (11%) (ABS 2019). Musculoskeletal conditions can affect SEWB in several ways. They can cause ongoing pain, physical limitations and depression, which can affect an individual's ability to engage in social, community and occupational activities (Briggs et al. 2016). They can also limit physical activity, which is important for reducing the effects of obesity and chronic disease (Briggs et al. 2016).
- **Cardiovascular disease:** In 2018, 10% of the total burden of disease for First Nations people was attributed to CVD, making it the third leading contributor to disease burden (AIHW 2022a). In 2018–19, an estimated 45% of First Nations people aged 18 and over with heart, stroke and vascular disease reported high/very high psychological distress (AIHW 2023d).
- **Type 2 diabetes:** Type 2 diabetes is a major contributor to morbidity and mortality for First Nations people (AIHW 2022a). First Nations people are more likely to experience severe complications from diabetes, such as lower limb amputation (Rodrigues et al. 2016) or vision loss (Estevez et al. 2019), than non-Indigenous Australians. In 2018–19, about 1 in 10 (11%) First Nations people had type 2 diabetes (AIHW 2024b).
- **Chronic kidney disease:** The number of First Nations people living with kidney failure was around 1,800 in 2017–2021 (AIHW 2024a). Treatment options are kidney replacement therapy – dialysis or kidney transplantation – or comprehensive conservative care, which focuses on quality of life and symptom control, rather than on prolonging life (AIHW 2024a). In 2017–2021, the incidence rate of kidney replacement therapy among First Nations people was 6.2 times that of non-Indigenous Australians (AIHW 2024a). However, First Nations people are less likely to receive kidney transplants than non-Indigenous Australians. Many First Nations people therefore require dialysis for the rest of their lives, which can affect quality of life and SEWB for patients and their carers (Chadban et al. 2005; Devitt et al. 2008; Khanal et al. 2018; Rix et al. 2015). In 2018–19, more than 2 in 5 (45%) First Nations people with kidney disease had high/very high psychological distress (AIHW 2023d).

Multimorbidity and access to services

People who have 2 or more chronic conditions (multimorbidity) usually have complex health needs. Indigenous populations around the world have a twofold greater risk of multimorbidity than their non-Indigenous equivalents (Shahunja et al. 2024). In Australia, an estimated 2 in 3 (67%) First Nations people have 2 or more conditions and 1 in 3 (36%) have 3 or more (AIHW 2024c). Co-existing physical and mental health conditions are common among First Nations people with multimorbidity (Carman et al. 2022), particularly among younger people (Carman et al. 2022; Randall et al. 2018).

People with multimorbidity have more frequent and longer medical appointments and more medications to manage than those without it (RACGP 2023). They incur more direct and indirect costs, due to increased use of health services and decreased work productivity, than those without multimorbidity (Carman et al. 2022). They also require ongoing management and coordination of care across multiple parts of the health system (AIHW 2024e).

Despite having a greater need for health care than non-Indigenous Australians, First Nations people are less likely to access services (AIHW and NIAA 2024; Lin et al. 2017). Many factors contribute to this disparity:

- cultural safety
- availability of services (AIHW 2024d)
- mistrust of government services (AIHW 2015, 2022b; Artuso et al 2013)
- remoteness (AIHW 2024d)
- access to transport (Artuso et al. 2013)
- racism – both individual and structural – and stereotyping (Strong et al. 2015)
- poor communication (Einseidel et al. 2013; Lin et al. 2017) and lack of translators (Artuso et al. 2013)
- wait times (AIHW and NIAA 2024; Artuso et al. 2013).

Relevant policies, programs and initiatives

Policies

Several national strategies and frameworks include, or focus on, the health of First Nations people. These include:

- National Aboriginal and Torres Strait Islander Health Plan 2021
- Fifth National Mental Health and Suicide Prevention Plan 2017–2022
- National Mental Health and Suicide Prevention Plan
- National Agreement on Closing the Gap
- National Aboriginal and Torres Strait Islander Health Workforce Strategic Framework and Implementation Plan 2021–2031
- Cultural Respect Framework for Aboriginal and Torres Strait Islander Health 2016–2026
- National Preventive Health Strategy 2021–2030
- Australia's Primary Health Care 10 Year Plan 2022–2032; focused on strengthening primary health care
- National Strategic Framework for Aboriginal and Torres Strait Islander Peoples' Mental Health and Social and Emotional Wellbeing 2017–2023
- National Strategic Framework for Chronic Conditions.

More detail on these frameworks and strategies, and a number of condition-specific policies, is available in Chapter 5 and Appendix A of the full [Chronic physical health conditions and the mental health and wellbeing of First Nations people](#) publication.

Programs and initiatives

Eight programs targeted at the First Nations population that aim to improve SEWB by improving both mental and physical health were examined (Table 1).

Table 1: Program descriptions and selected evaluation information

Name and brief description	Location/ Indigenous-specific?	Evaluation
AIMhi Stay Strong App Designed to be used by First Nations people engaging with health and community service providers to address mental health literacy needs, and to support client-practitioner communication (Menzies n.d).	Australia Indigenous-specific – Yes	Dingwall et al. (2021) Nagel et al. (2022)
Aunty Jean’s Program Focuses on improving health outcomes through community collaboration, under the leadership of Elders.	New South Wales Indigenous-specific – Yes	Curtis (2004)
Work It Out A chronic disease self-management program. Led by an accredited exercise physiologist with support from a multidisciplinary team.	Queensland Indigenous-specific – Yes	Mills et al. (2017)
Integrated Team Care Program Supports First Nations people with chronic conditions to access health care.	Australia Indigenous-specific – Yes	Nama Jalu Consulting (2023)
Medical Outreach Indigenous Chronic Disease Program Aims to improve access to health services for First Nations people with chronic conditions, regardless of where they live.	Australia Indigenous-specific – Yes	Health Policy Analysis (2022)
Rural Support Service mobile dialysis truck The mobile unit provides short-term dialysis to several communities in South Australia.	South Australia	Conway et al. (2018)
Lighthouse Hospital Project Phase 3 The 3-year initiative (2017-2019) aimed to improve health outcomes for First Nations people with acute coronary syndrome across 18 hospitals in Australia.	Australia	Heart Foundation 2022, cited in NIAA (2024)
Wurli-Wurlinjang Diabetes Day Program Wurli-Wurlinjang is an Aboriginal community-controlled health organisation that delivers culturally appropriate services to First Nations people. It operated a Diabetes Day Program from 2008 to promote self-management and provide comprehensive care (Entwistle et al. 2011).	Northern Territory	Entwistle et al 2011

Findings from the program evaluations included:

- The importance of culturally appropriate services:
 - More work was needed to improve the capacity of mainstream primary care providers to deliver culturally appropriate care (Nama Jalu Consulting 2023).
 - Participants’ understanding of their medical conditions and medications improved through culturally appropriate information sessions (Curtis 2004).
 - Culturally responsive app-based health assessments and interventions helped to improve the wellbeing of First Nations people on dialysis (Dingwall et al. 2021)
 - The Rural Support Service mobile dialysis truck project provided valuable cultural learning opportunities for nursing staff (Conway et al. 2018).

- Improved SEWB for First Nations patients who had relocated for dialysis (Conway et al. 2018), Work It Out participants (Mills et al. 2017) and Wurli-Wurlinjang Diabetes Day Program clients (Entwistle et al. 2011). Mills et al also found that participants with poor SEWB benefited most from the social connectedness of the Work It Out program (2017).
- Improved engagement with the health system/services (Conway et al. 2018; Nama Jalu Consulting 2023).
- The complexity of hospital settings and the need to navigate various challenges (including institutional racism and bureaucracy) affected the progress of the Lighthouse Hospital Project Phase 3 (Heart Foundation 2022, as cited in NIAA 2024).
- Local solutions were the preferred response to service gaps. Outreach should be implemented only when other options are not feasible (Healthy Policy Analysis 2022).
- The importance of empowering First Nations people to self-manage their conditions.

More detail on the programs is available in Appendix B of the full [*Chronic physical health conditions and the mental health and wellbeing of First Nations people*](#) publication.

What works

Improving access to effective health care is essential to improve the SEWB of First Nations people with chronic physical health conditions. Successful programs empower individuals, families and communities through the principles of co-design and First Nations governance (CBPATISIP 2024). Other elements of successful approaches include:

- providing culturally appropriate, person-centred care. Mainstream services can be made more culturally safe by expanding the First Nations workforce, educating non-Indigenous staff and allowing First Nations people to be escorted through health service visits by family or kin
- supporting First Nations people in maintaining connections with family, community and Country while receiving treatment for chronic physical health conditions
- facilitating good patient–practitioner communication, which can encourage First Nations people to access health services in the future
- providing adequate communication between health services to enable continuity of care, which improves health outcomes for patients with chronic conditions
- empowering First Nations people to self-manage their conditions to reduce reliance on health-care services. Chronic disease self-management programs have greater participation when run through Aboriginal community-controlled health organisations and are most effective when co-designed with the local community (Parmenter et al. 2018).

Conclusions

Physical health and mental health are both essential for SEWB. However, First Nations people are particularly exposed to health risk factors that contribute substantially to health disparities between them and non-Indigenous Australians. First Nations people are disproportionately affected by chronic physical health conditions, which are well-known risk factors for mental ill health. Co-occurring chronic physical and mental health conditions increase the complexity of care and worsen patient outcomes. Health outcomes can be exacerbated by delayed diagnosis and management of chronic conditions such as type 2 diabetes, due to barriers that prevent First Nations people from accessing health care.

Quality of life and life expectancy can be improved by effectively managing chronic conditions. However, effective care relies on First Nations people being able to access services that are cultural safe, and where there is effective communication between patient and practitioner.

For First Nations people requiring ongoing chronic disease management, such as dialysis, SEWB can be improved by supporting connections with family, community and Country, even when living away from home for treatment. Aboriginal community-controlled health organisations can help First Nations people to remain connected to their communities by providing local treatment or by providing social support for people living away from home.

References

ABS (Australian Bureau of Statistics) (2019) *National Aboriginal and Torres Strait Islander Health Survey 2018–19*, ABS, Australian Government, accessed 14 August 2024. <https://www.abs.gov.au/statistics/people/aboriginal-and-torres-strait-islander-peoples/national-aboriginal-and-torres-strait-islander-health-survey/latest-release>

AHMRC (Aboriginal Health and Medical Research Council of Australia) (2012) *Social and emotional wellbeing and chronic care: a rapid review*, The George Institute for Global Health.

AIHW (Australian Institute of Health and Welfare) (2015) *The health and welfare of Australia's Aboriginal and Torres Strait Islander peoples 2015*, AIHW, Australian Government, accessed 14 August 2024. <https://www.aihw.gov.au/reports/indigenous-australians/indigenous-health-welfare-2015/contents/table-of-contents>

— (2016) *Australian Burden of Disease Study: impact and causes of illness and death in Aboriginal and Torres Strait Islander people 2011*, AIHW, Australian Government, accessed 14 August 2024. <https://www.aihw.gov.au/reports/burden-of-disease/illness-death-indigenous-australians/summary>

— (2020) *Measure 1.17 Perceived health status – data findings*, AIHW, Australian Government, accessed 28 August 2024. <https://www.indigenoushpf.gov.au/measures/1-17-perceived-health-status>

— (2021) *Chronic condition multimorbidity*, AIHW, Australian Government, accessed 14 August 2024. <https://www.aihw.gov.au/reports/chronic-disease/chronic-condition-multimorbidity/contents/chronic-conditions-and-multimorbidity>

— (2022a) *Australian Burden of Disease Study: impact and causes of illness and death in Aboriginal and Torres Strait Islander people 2018*, AIHW, Australian Government, accessed 14 August 2024. <https://www.aihw.gov.au/reports/burden-of-disease/illness-death-indigenous-2018/summary>

— (2022b) *Cultural safety for Indigenous Australians: monitoring framework*, AIHW, Australian Government, accessed 10 January 2023. <https://www.aihw.gov.au/reports/indigenous-australians/cultural-safety-health-care-framework/contents/summary>

— (2023a) *Measure 1.05 Cardiovascular disease – data findings*, AIHW, Australian Government, accessed 28 August 2024.

- (2023b) *Measure 2.16 Risky alcohol consumption – data findings*, AIHW, Australian Government, accessed 28 August 2024. <https://www.indigenoushpf.gov.au/measures/2-16-risky-alcohol-consumption>
- (2023c) *Physical health [data tables]*, AIHW, Australian Government, accessed 4 September 2024. <https://www.indigenousmhspc.gov.au/topics/physical-health#keystatistics>
- (2023d) *Social and emotional wellbeing* [Excel data tables], Indigenous Mental Health and Suicide Prevention Clearinghouse website, AIHW, Australian Government.
- (2024a) *Chronic kidney disease*, AIHW, Australian Government, accessed 14 August 2024. <https://www.aihw.gov.au/reports-data/health-conditions-disability-deaths/chronic-kidney-disease/overview>
- (2024b) *Diabetes: Australian facts*, AIHW, Australian Government, accessed 9 August 2024. <https://www.aihw.gov.au/reports/diabetes/diabetes/contents/summary>
- (2024c) *Health and wellbeing of First Nations people*, AIHW, Australian Government, accessed 14 August 2024. <https://www.aihw.gov.au/reports/australias-health/indigenous-health-and-wellbeing>
- (2024d) *Mental health services*, AIHW, Australian Government, accessed 3 October 2024. <https://www.aihw.gov.au/mental-health/topic-areas/psychosocial-disability-support>
- (2024e) *Multimorbidity*, AIHW, Australian Government, accessed 14 August 2024. <https://www.aihw.gov.au/reports/australias-health/multimorbidity>
- (2024f) *Physical health of people with mental illness*, AIHW, Australian Government, accessed 14 August 2024. <https://www.aihw.gov.au/reports/mental-health/physical-health-of-people-with-mental-illness>
- AIHW and NIAA (National Indigenous Australians Agency) (2024) *Measure 3.14 Access to services compared with need*, Aboriginal and Torres Strait Islander Health Performance Framework website, AIHW, Australian Government, accessed 14 August 2024. <https://www.indigenoushpf.gov.au/measures/3-14-access-to-services-compared-with-need>
- ANZDATA (Australia and New Zealand Dialysis and Transplant Registry) (2022) *ANZDATA 45th Annual Report 2022*, ANZDATA, accessed 14 August 2024. <https://www.anzdata.org.au/report/anzdata-45th-annual-report-2022-data-to-2021/>
- Artuso S, Cargo M, Brown A and Daniel M (2013) 'Factors influencing health care utilisation among Aboriginal cardiac patients in central Australia: a qualitative study', *BMC Health Services Research*, 13:83, accessed 14 August 2024, doi:10.1186/1472-6963-13-83.
- Bartlem KM, Bowman JA, Bailey JM, Freund M, Wye PM, Lecathelinais C, McElwaine KM, Campbell EM, Gillham KE and Wiggers JH (2015) 'Chronic disease health risk behaviours amongst people with a mental illness', *Australian & New Zealand Journal of Psychiatry*, 49(8):731–741, doi:10.1177/0004867415569798.
- Bremner JD, Campanella C, Khan Z, Shah M, Hammadah M, Wilmot K, Al Mheid I, Lima BB, Garcia EV, Nye J, Ward L, Kutner MH, Raggi P, Pearce BD, Shah AJ, Quyyumi AA and Vaccarino V (2018) 'Brain correlates of mental stress-induced myocardial ischemia', *Psychosomatic Medicine*, 80(6):515–525, doi:10.1097/PSY.0000000000000597.
- Briggs AM, Cross MJ, Hoy DG, Sánchez-Riera L, Blyth FM, Woolf AD and March L (2016) 'Musculoskeletal health conditions represent a global threat to healthy aging: a report for the 2015 World Health Organization World Report on Ageing and Health', *The Gerontologist*, S243–S255, doi:10.1093/geront/gnw002.
- Carman W, Ishida M, Trounson JS, Mercer SW, Anindya K, Sum G, Armstrong G, Oldenburg B, McPake B and Lee JT (2022) 'Epidemiology of physical-mental multimorbidity and its impact among Aboriginal and Torres Strait Islander in Australia: a cross-sectional analysis of a nationally representative sample', *BMJ Open*, 12:e054999, doi:10.1136/bmjopen-2021-054999.
- CBPATSSIP (Centre for Best Practice in Aboriginal and Torres Strait Islander Suicide Prevention) (2024) *Best Practice Programs and Services*, accessed 14 August 2024. <https://cbpatsisp.com.au/clearing-house/best-practice-programs-and-services/>

- Chadban S, McDonald S, Excell L, Livingstone B and Shtangey V (2005) *Twenty Eighth Report: Australia and New Zealand Dialysis and Transplant Registry*, Department of Health and Ageing with Kidney Health Australia and New Zealand Ministry of Health, ANZDATA Registry.
- Chaddha A, Robinson EA, Kline-Rogers E, Alexandris-Souphis T and Rubenfire M (2016) 'Mental health and cardiovascular disease', *American Journal of Medicine*, 129(11):1145–1148, doi:10.1016/j.amjmed.2016.05.018.
- Chen CM, Lee IC, Su YY, Mullan J and Chiu HC (2017) 'The longitudinal relationship between mental health disorders and chronic disease for older adults: a population-based study', *International Journal of Geriatric Psychiatry*, 32(9):1017–1026, doi:10.1002/gps.4561.
- Conway J, Lawn S, Crail S and McDonald S4 (2018) 'Indigenous patient experiences of returning to country: a qualitative evaluation on the Country Health SA Dialysis bus', *BMC Health Services Research*, 18:1010, doi:10.1186/s12913-018-3849-4.
- Curtis S, Pegg D and Curtis O (2004) *Aunty Jean's Good Health Team: listening to the voices of the elders to create an Aboriginal chronic and complex care program*, Illawarra Health.
- Devitt J, Cass A, Cunningham J, Preece C, Anderson K and Snelling P (2008) 'Study protocol – improving access to kidney transplants (IMPAKT): a detailed account of a qualitative study investigating barriers to transplant for Australian Indigenous people with end-stage kidney disease', *BMC Health Services Research*, 8:31, doi:10.1186/1472-6963-8-31.
- Dingwall KM, Sweet M, Cass A, Hughes JT, Kavanagh D, Howard K, Barzi F, Brown S, Sajiv C, Majoni SW and Nagel T (2021) 'Effectiveness of wellbeing intervention for chronic kidney disease (WICKD): results of a randomised controlled trial', *BMC Nephrology*, 22;1:136, doi:10.1186/s12882-021-02344-8.
- Dudgeon P, Bray A, D'Costa B and Walker R (2017) 'Decolonising psychology: validating social and emotional wellbeing', *Australian Psychologist*, 52;4:316–325. <https://doi.org/10.1111/ap.12294>.
- Dudgeon P, Bray A, Smallwood G, Walker R and Dalton T (2020) *Wellbeing and healing through connection and culture*, accessed 24 April 2024. <https://apo.org.au/node/308730>
- Einsiedel LJ, Van Iersel E, Macnamara R, Spelman T, Heffernan M, Bray L, Morris H, Porter B and Davis A (2013) 'Self-discharge by adult Aboriginal patients at Alice Springs Hospital, Central Australia: insights from a prospective cohort study', *Australian Health Review*, 37;2:239–245, DOI:10.1071/AH11087
- Entwistle P, Entwistle D and Stothers K (2011) Wurli-Wurlinjang Diabetes Day Program: evaluation report. Katherine, NT: Centre for Remote Health, Flinders University and Charles Darwin University.
- Estevez J, Howard NJ, Craig JE and Brown A (2019) 'Working towards eye health equity for Indigenous Australians with diabetes', *International Journal of Environmental Research and Public Health*, 16(24):5060, doi:10.3390/ijerph16245060.
- Firth J, Siddiqi N, Koyanagi AI, Siskind D, Rosenbaum S, Galletly C, Allan S, Caneo C, Carney R, Carvalho AF and Chatterton ML (2019) 'The Lancet Psychiatry Commission: a blueprint for protecting physical health in people with mental illness', *The Lancet Psychiatry*, 6;8:675–712, DOI:10.1016/S2215-0366(19)30132-4.
- Gee G, Dudgeon P, Schultz C, Hart A and Kelly K (2014) 'Chapter 4: Aboriginal and Torres Strait Islander social and emotional wellbeing and mental health', in Dudgeon P, Milroy M and Walker R (eds) *Working together: Aboriginal and Torres Strait Islander mental health and wellbeing principles and practice*, 2nd edn, Department of the Prime Minister and Cabinet, Australian Government.
- Greenhalgh EM, Scollo MM and Winstanley MH (2024) *Tobacco in Australia: facts and issues*, Cancer Council Victoria, accessed 14 August 2024. <https://www.tobaccoinaustralia.org.au/>
- Health Policy Analysis (2022) *Evaluation of outreach programs*, Health Policy Analysis and Department of Health and Aged Care, Australian Government, accessed 13 August 2024. <https://www.health.gov.au/resources/publications/evaluation-of-outreach-programs-report?language=en>

- Khanal N, Lawton PD, Cass A and McDonald SP (2018) 'Disparity of access to kidney transplantation by Indigenous and non-Indigenous Australians', *Medical Journal of Australia*, 209:261–266, doi:10.5694/mja18.00304.
- Lawrence D, Hancock KJ and Kisely S (2013) 'The gap in life expectancy from preventable physical illness in psychiatric patients in Western Australia: retrospective analysis of population-based registers', *British Medical Journal*, 21:346.
- Lin IB, Bunzli S, Mak DB, Green C, Goucke R, Coffin J and O'Sullivan PB (2017) 'Unmet needs of Aboriginal Australians with musculoskeletal pain: a mixed-method systematic review', *Arthritis Care and Research*, 70(9):1335–1347, doi:10.1002/acr.23493.
- Menzies School of Public Health Research (n.d.) *AIMhi NT – Aboriginal and Islander Mental Health Initiative*, Menzies School of Health Research, accessed 5 September 2024. https://www.menzies.edu.au/page/Research/Projects/Mental_Health_and_wellbeing/AIMhi_NT_-_Australian_Integrated_Mental_Health_Initiative/
- Mills K, Gatton ML, Mahoney R and Nelson A (2017) 'Work it out': evaluation of a chronic condition self-management program for urban Aboriginal and Torres Strait Islander people, with or at risk of cardiovascular disease', *BMC Health Serv Res*, 17(1):680. doi: 10.1186/s12913-017-2631-3.
- Milroy H, Dudgeon P and Walker R (2014) 'Community Life and Development Programs – pathways to healing', in Dudgeon P, Milroy M and Walker R (eds) *Working together: Aboriginal and Torres Strait Islander Mental Health and Wellbeing Principles and Practice*, revised edn, Department of the Prime Minister and Cabinet, Australian Government.
- Nagel T, Dingwall KM, Sweet M, Kavanagh D, Majoni SW, Sajiv C and Cass A (2022) 'The stay strong app as a self-management tool for first nations people with chronic kidney disease: a qualitative study', *BMC Nephrology*, 23(1):244, doi:10.1186/s12882-022-02856-x.
- Nama Jalu Consulting (2023) *Evaluation of the Integrated Team Care program*, Nama Jalu Consulting, Hunter New England and Central Coast Primary Health Network, accessed 24 September 2024. <https://hneccphn.imgix.net/assets/src/uploads/images/PHN1117.-ITC-Evaluation-Report-v3.pdf>
- NHMRC (National Health and Medical Research Council) (2020) *Australian Guidelines to Reduce Health Risks from Drinking Alcohol*, (ed. Department of Health), Department of Health: NHMRC.
- NIAA (National Indigenous Australians Agency) (2024) *Measure 3.06 Access to hospital procedures – research and evaluation findings*, AIHW, Australian Government, accessed 13 August 2024. <https://www.indigenoushpf.gov.au/measures/3-06-access-to-hospital-procedures>
- Parmenter J, Basit T, Nelson A, Crawford E and Kitter B (2018) 'Chronic disease self-management programs for Aboriginal and Torres Strait Islander people: factors influencing participation in an urban setting', *Health Promotion Journal Australia*, 104–111, doi:10.1002/hpja.256.
- RACGP (Royal Australian College of General Practitioners) (2019) 'Part A. Pain', in *RACGP Aged Care Clinical Guide* (Silver Book) (5th edn), accessed 3 October 2024. <https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/silver-book/part-a/pain>
- Randall DA, Lujic S, Havard A, Eades SJ and Jorm L (2018) 'Multimorbidity among Aboriginal people in New South Wales contributes significantly to their higher mortality', *Medical Journal Australia*, 209(1):19–23, doi:10.5694/mja17.00878.
- RANZCP (Royal Australian and New Zealand College of Psychiatrists) (2015) *Keeping body and mind together: improving the physical health and life expectancy of people with serious mental illness*, RANZCP, accessed 18 September 2023. <https://www.ranzcp.org/clinical-guidelines-publications/clinical-guidelines-publications-library/keeping-body-and-mind-together>

Rix EF, Barclay L, Stirling J, Tong A and Wilson S (2015) 'The perspectives of Aboriginal patients and their health care providers on improving the quality of haemodialysis services: a qualitative study', *Haemodialysis International: International Symposium on Home Haemodialysis*, 19:80–89, doi: 10.1111/hdi.12201

Rodrigues BT, Vangaveti VN and Malabu UH (2016) 'Prevalence and risk factors for diabetic lower limb amputation: a clinic-based case control study', *Journal of Diabetes Research*, 2016:5941957, doi:10.1155/2016/5941957.

Sara G, Chen W, Large M, Ramanuj P, Curtis J, McMillan F, Mulder CL, Currow D and Burgess P (2021) 'Potentially preventable hospitalisations for physical health conditions in community mental health service users: a population-wide linkage study', *Epidemiology and Psychiatric Sciences*, 30:22, doi:10.1017/S204579602100007X

Scott KM, Lim C, Al-Hamzawi A, Alonso J, Bruffaerts R, Caldas-de-Almeida JM, Florescu S, De Girolamo G, Hu C, De Jonge P and Kawakami N (2016) 'Association of mental disorders with subsequent chronic physical conditions: world mental health surveys from 17 countries', *JAMA Psychiatry*, 73(2):150–158.

Shahunja KM, Ushula TW, Hussain MA, Pati S and Mamun AA (2024) 'Multimorbidity among the Indigenous population: a systematic review and meta-analysis', *Annals of Epidemiology*, 98:8–17, doi:10.1016/j.annepidem.2024.07.047.

Strong J, Nielsen M, Williams M, Huggins J and Sussex R (2015) 'Quiet about pain: experiences of Aboriginal people in two rural communities', *Australian Journal of Rural Health*, 23(3):181–184, doi:10.1111/ajr.12185.

Thomas S, Zhao Y, Guthridge SL and Wakerman J (2014) 'The cost-effectiveness of primary care for Indigenous Australians with diabetes living in remote Northern Territory communities', *Medical Journal of Australia* 200:658–662, doi:10.5694/mja13.11316

Zhao Y, Thomas S, Guthridge SL and Wakerman J (2014) 'Better health outcomes at lower costs: the benefits of primary care utilisation for chronic disease management in remote Indigenous communities in Australia's Northern Territory', *BMC Health Services Research* 14:463.

Zubrick S, Shepherd C, Dudgeon P, Gee G, Paradies Y, Scrine C and Walker R (2014) 'Social determinants of social and emotional wellbeing' in Dudgeon P, Milroy M and Walker R (eds) *Working together: Aboriginal and Torres Strait Islander mental health and wellbeing principles and practice*, revised edn, Department of the Prime Minister and Cabinet, Australian Government.



Cover art
Data & Diversity
 Created by Jay Hobbs
 Meriam-Mir and Kuku Yalanji man