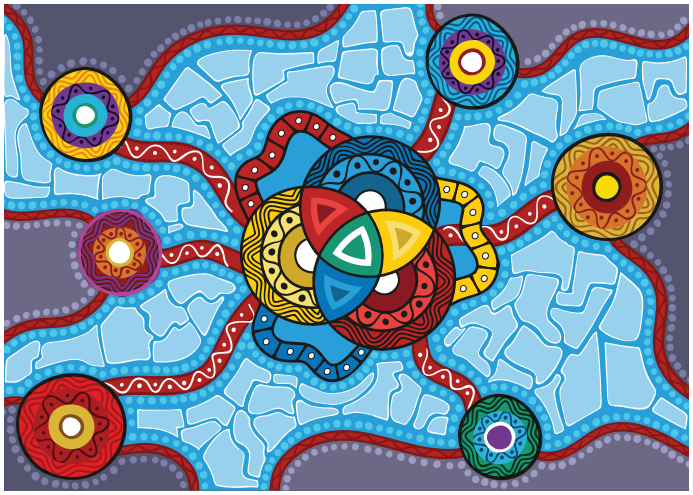
South Australian Aboriginal Diabetes-Related Foot Disease Strategy: 2020 – 2025

SA ABORIGINAL CHRONIC DISEASE CONSORTIUM

SAHMRI South Australian Health & Medical Research Institute

WARDLIPARINGGA Aboriginal Research



JORDAN LOVEGROVE is an Indigenous Artist from Dreamtime Creative. Jordan is a Ngarrindjeri young man who combines intimate knowledge of Aboriginal communities and illustration skills to develop outstanding Indigenous artwork which is applied to a range of print and online communications.

This artwork represents the South Australian Aboriginal Chronic Disease Consortium and the interdependence of prevention, care and after care to achieving the best health outcomes for Aboriginal and Torres Strait Islander people. The three central overlapping meeting places signify the across plan priorities of the three plans. Diabetes is depicted by the blue meeting circle; heart and stroke by the red meeting circle; and cancer by the yellow meeting circle. The red, blue and yellow paths show the three plans collaborating and coming together to achieve the best health outcomes and the red paths show the Consortium reaching out to other organisations and communities, represented by the outer meeting circles, which are working together to maximise the effectiveness of the three plans. The small dots are the people going to the organisations and communities and being assisted by the work of the Consortium, and the pale blue puzzle pieces represent the organisations and communities giving the Consortium important feedback

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Acknowledgements

We acknowledge Aboriginal people as the traditional custodians of country throughout South Australia and we respect their continuing connection to land, sea and community. We also pay our respects to the cultural authority of Aboriginal and Torres Strait Islander people from other areas of Australia who reside in South Australia. Throughout this document, we respectfully use the term 'Aboriginal' to refer to people who identify as Aboriginal, Torres Strait Islander, or both Aboriginal and Torres Strait Islander.

We would like to thank the members of the SA Aboriginal Foot Complications Implementation Group who oversaw and contributed to the development of this strategy.

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Background

Diabetes-related foot disease (DFD)

The prevalence of diabetes continues to increase globally, leading to a rising incidence of foot complications.[1] As the leading cause of lower limb amputation with high rates of associated mortality, diabetes-related foot disease (DFD) complications are a major but poorly recognised health care burden in Australia, estimated to cost in excess of $1.6 billion annually.[2] DFD is defined as infection, ulceration or destruction of tissues of the foot associated with neuropathy and/or peripheral artery disease in the lower extremity of a person with diabetes.[1] Each year in Australia, DFD causes an estimated 27,600 public hospital admissions, 4,400 lower extremity amputations and 1,700 deaths.[3]

Aboriginal and Torres Strait Islander Australians experience comparatively high rates of diabetes[4] and data which informed the *AIHW Diabetes indicators for the Australian National Diabetes Strategy 2016-2020* showed that in 2015 and 2016 Indigenous Australians experienced far higher rates of hospitalisation for lower limb amputation. These rates were eleven times higher among Indigenous females and five times higher among Indigenous males, when compared to their non-Indigenous counterparts.[5] Rates also increased with increasing socioeconomic disadvantage and remoteness, with those living in remote and very remote areas being three times more likely to experience hospitalisation for lower limb amputation, compared to those living in major cities.

A systematic review by West et al. in 2017 concluded that, to prevent a widening of the gap in diabetes related foot complications between Aboriginal and Torres Strait Islander and non-Indigenous Australians, evidence-based, culturally appropriate screening and intervention programs, as well as improved access to effective health care services is required.[6]

The *Australian diabetes-related foot disease strategy 2018-2022* outlines the strategies required to end avoidable amputations within a generation.[5] The report states that up to $2.7 billion can be saved over five years if nationally-recommended, evidence based, interdisciplinary care is implemented across Australia for people with, or at risk of DFD.[5] These cost savings are in addition to the improvement in quality of life for people living with DFD.[5]

South Australian Aboriginal Diabetes-related Foot Disease Strategy

In response to the high prevalence of foot complications and amputations in Aboriginal and Torres Strait Islander people, the Commonwealth Government is funding a project that will implement In response to the high prevalence of foot complications and amputations in Aboriginal and Torres Strait Islander people, the Commonwealth Government is funding a project that will implement evidence-based initiatives across South Australia (SA), Northern Territory (NT), Western Australia (WA) and Far North Queensland (Qld) that seek to improve the quality, accessibility and effectiveness of available care. The Aboriginal and Torres Strait Islander Diabetic Foot Complication Project's key collaborators will represent clinical, primary care, allied health, non-government organisations and research expertise, acting within an Indigenous governance structure. Each state will be responsible for developing and implementing its own foot plan (see Appendix 1).

The South Australian Aboriginal Diabetes-related Foot Disease Strategy (henceforth, the SA DFD Strategy) has been developed by the South Australian Aboriginal Foot Complications Implementation Group – a sub-group of the South Australian Aboriginal Chronic Disease Consortium's Diabetes Leadership Group. The Implementation Group is tasked to provide strategic regional oversight, guidance and expert advice, throughout the implementation of the national Aboriginal and Torres Strait Islander Diabetic Foot Complications Project. It was decided by the Implementation Group that a 5-year strategy was required to address the significant disparity in prevalence and outcomes. The proposed strategies have a focus on Aboriginal diabetes related foot disease, yet many of them have the potential to significantly improve DFD amongst the broader population. Importantly, the Implementation Group have recognised that a key requirement for successfully implementing the strategies will be the ability of health services to work collaboratively and partner across primary, secondary and tertiary sections of the health system.

Key strategies have been identified across the continuum of DFD. The key target areas for South Australia are prevention and management of DFD and amputation (Figure 1), this includes:

- Prevention, screening and assessment;
- Management of the at-risk foot;
- Management of active foot disease; and
- Amputation – consisting of: pre-habilitation; acute care; and rehabilitation.

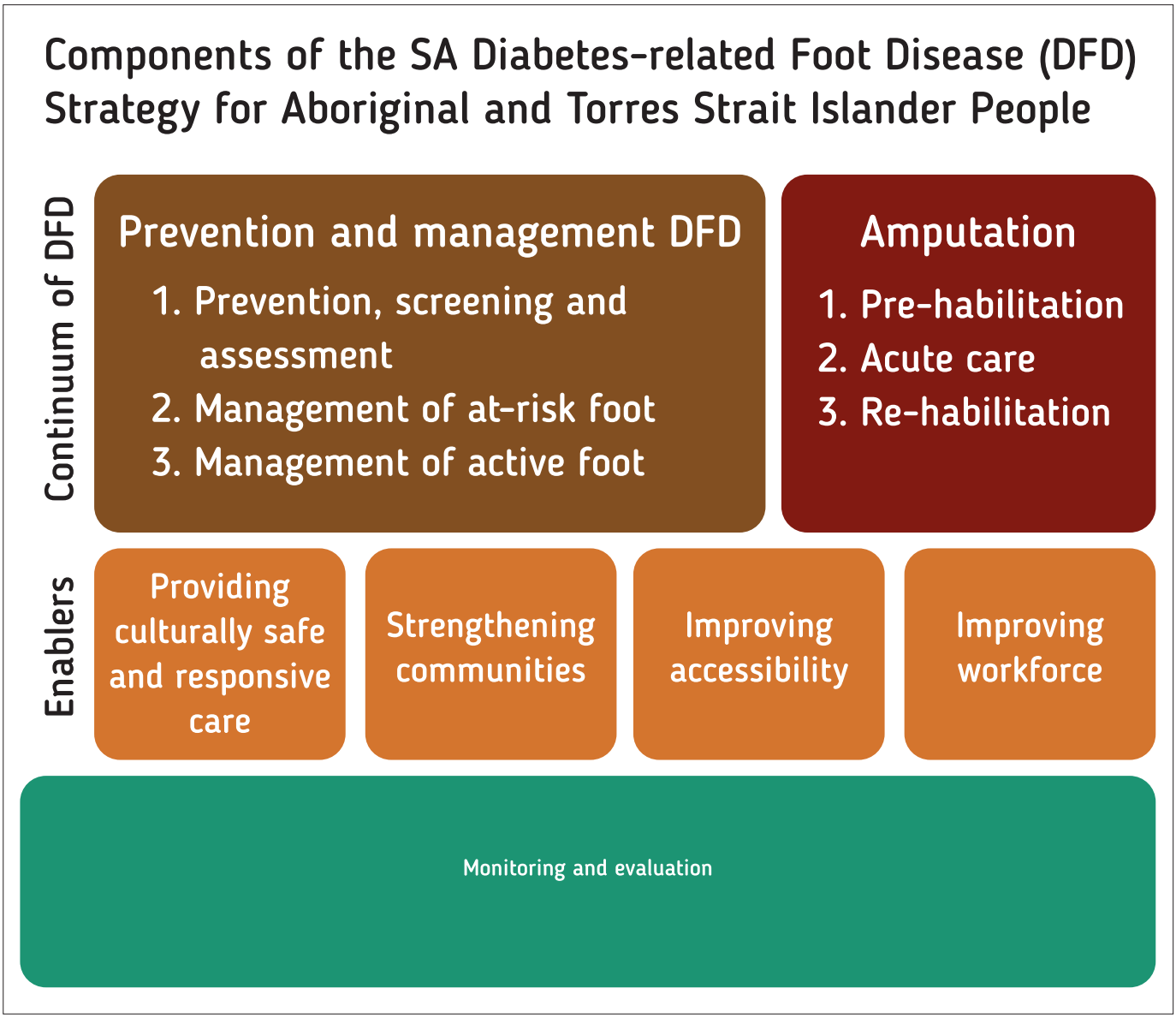
There are four enablers that underpin all aspects of the SA DFD Strategy. Each of the enablers are considered across the continuum of DFD (as depicted in Figure 1). These enablers are:

1. Providing culturally safe and responsive care;
2. Strengthening communities:
3. Improving accessibility; and
4. Improving workforce.

Lastly, monitoring and evaluation is a critical component of the SA DFD Strategy, and will ensure reflection on trends and achievements across the strategies and enablers. Monitoring and evaluation is designed to reveal areas of excellence as well as highlight challenges and barriers, to enable change in the delivery of health services and enable improved outcomes.

The strategies outlined in this document will guide the implementation of evidence-based initiatives across the continuum of DFD by providing a framework which supports and promotes coordination across the health system. A complete list of the key strategies can be found in Appendix 2. The South Australian plan for the implementation of these strategies is available through the SA Aboriginal Chronic Disease Consortium.

Figure 1



1. Prevention and Management of Diabetes-Related Foot Disease

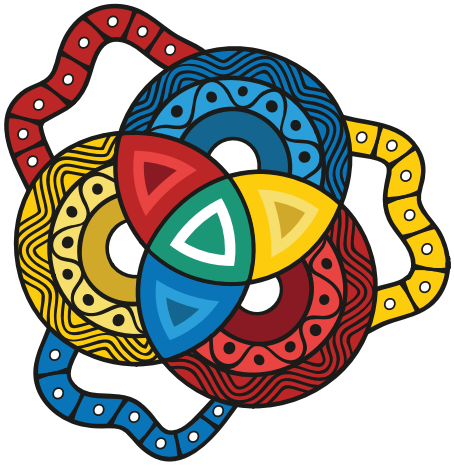
The prevention and management of diabetes-related foot disease (DFD) requires a focus on people's access to high quality care at all stages:[3]

1. All people with diabetes should have access to annual DFD screening and understand their risk of developing diabetes-related foot disease.
2. All people at risk of DFD should have access to preventative evidence-based healthcare from appropriately trained health professionals.
3. All people with DFD should have access to evidence-based healthcare from a specialised interdisciplinary foot disease service.

The 2019 International Working Group on the Diabetic Foot (IWGDF) guidance identifies five key elements for the prevention of foot ulcers:[1]

1. Identifying the at-risk foot
2. Regularly inspecting and examining the at-risk foot
3. Educating the patient, family and healthcare providers
4. Ensuring routine wearing of appropriate footwear
5. Treating risk factors for ulceration

In addition to foot-specific care, it is important that Aboriginal and Torres Strait Islander people have access to high quality interdisciplinary diabetes care, focused on holistic and culturally appropriate care that reduces the risk of diabetes complications. The preventative and management strategies outlined within this document are to be considered in the context of a comprehensive diabetes management and education plan, that addresses risk factors as outlined in the Royal Australian College General Practitioners *General practice management of type 2 diabetes guidelines 2016-2018*.[7] These guidelines are widely used by general practitioners and other primary care health professionals across Australia.



1.1 PREVENTION, SCREENING AND ASSESSMENT

Australian Diabetes-related Foot Disease Strategy 2018-22:

'all people with diabetes should have access to annual diabetes related foot disease screening and understand their risk of developing diabetes-related foot disease'.[3]

Prevention, screening and assessment refers to a systematic and preventative approach to the development of DFD. The health system's capacity to provide timely, high-quality foot checks, based on effective and consistent risk assessments to prevent complications or a deterioration of the lower limb, is critical to achieving improved health outcomes for Aboriginal people with any form of diabetes.

The Australian DFD Strategy 2018-22 outlines the importance of a systematic, evidence-based approach to the identification of risk factors in all people with diabetes. The key risk factors are a loss of protective sensation (LOPS), peripheral arterial disease (PAD) and foot deformity. The aim of the screening and assessment process is to identify if the person is at risk of developing DFD, or if they already have DFD and are unaware. It should include education relevant to the identified level of risk and referrals to appropriate health professionals as indicated by assessed risk. Early identification provides opportunities for prevention of DFD through patient and staff education, interdisciplinary treatment and close monitoring, thus, reducing the burden of disease.[1]

The current proportion of Australians with diabetes who are receiving an annual DFD screening is unknown. The most recent data is 15 years old, and reported 50% of Australians were having an annual DFD screen.[3] This gap has been recognised within the SA Aboriginal Diabetes Strategy 2017-2021, which has increasing the number of people who receive a foot assessment as part of their annual diabetes cycle of care as a priority recommendation.[4] It is important that health professionals understand the epidemiology of diabetes-related foot disease in Aboriginal people and how this influences the management of risk factors. Appropriate and timely escalation of care is crucial, if we are to change the trajectory of diabetes-related foot disease in Aboriginal people.

It is important that the primary healthcare workforce has the capacity and capability to provide a prevention, screening and assessment service which is accessible and culturally responsive and strengthens community capacity. The prevention, screening and assessment of the feet must occur in the context of comprehensive assessment and management of diabetes, i.e. the Diabetes Annual Cycle of Care.

Key Strategies – Prevention, Screening and Assessment	
1.1.1	Implement culturally appropriate early detection foot programs in health care services so that assessing feet becomes 'everybody's business'
1.1.2	Implement a standardised approach to assessment and risk stratification across primary, secondary and tertiary services as per Foot Forward Diabetes Risk Stratification and Triage Pathway[8]
1.1.3	Increase access to culturally appropriate and practical preventative self-care foot education (including footwear) based on risk at the time of diagnosis
1.1.4	Develop and monitor local and state-wide referral and clinical care pathways which are consistent with the Integrated Diabetes Foot Care Pathways[8] and Australian triage guidelines
1.1.5	Embed standardised screening and assessment tools into existing patient information management systems with a flag function for rescreening and follow up
1.1.6	Embed training and support programs that enable the Aboriginal and non-Aboriginal health workforce to further develop competence (appropriate to clinical scope) in the prevention, screening and assessment of diabetes related foot disease
1.1.7	Strengthen local capacity through a network of champions/ambassadors within health services and/or community through a designated role of 'diabetes and feet'

1.2 MANAGING THE AT-RISK FOOT

Australian Diabetes-related Foot Disease Strategy 2018-22:

All people at-risk of diabetes-related foot disease should have access to preventative evidence-based healthcare from appropriately trained health professional.[3]

The IWGDF guidelines define the at-risk patient as one with diabetes who does not have an active foot ulcer but who has a loss of protective sensation (LOPS) or peripheral arterial disease (PAD). Other risk factors include foot deformities, end stage renal disease, history of a foot ulcer and a lower extremity amputation.[1] The Foot Forward Integrated Diabetes Foot Pathway[8] provides a clear schematic of the risk stratification system used in the IWGDF Prevention Guideline.[1]

Appropriate management of the at-risk foot is key to preventing DFD. People who have been found to be 'at risk' should receive more regular clinical examinations, treatment of pre-ulcerative lesions (corns, callus and blisters), footwear and insoles to reduce pressure and self-care education.[3] The recently developed Foot Forward Integrated Diabetes Foot Care pathway provides guidance on the pathway of care for at-risk feet. The risk level determines the frequency of follow up, the action plan and the foot protection plan.

It is important that health services have appropriate structures and processes in place to ensure that individuals with at-risk feet receive preventative care that is accessible, culturally safe and responsive, and based on their level of risk.

Key Strategies – Managing The At-Risk Foot	
1.2.1	Implement the Integrated Diabetes Risk Stratification and Triage Pathway[8] for 'at-risk' feet including re-screening/monitoring, action plan and foot protection plans (across primary, secondary and tertiary healthcare sector)
1.2.2	Utilise innovative workforce models to increase primary care access to culturally safe preventative podiatry / foot care services (appropriate to risk)
1.2.3	Increase accessibility to situationally and risk appropriate protective footwear
1.2.4	Improve access to culturally appropriate, structured foot self-care education and support (targeted to risk)
1.2.5	Implement and monitor clinical escalation pathways that have a time defined response (include early intervention of minor injury i.e. early injury pathway)
1.2.6	Increase accessibility to treatment modalities and off-loading devices that can be implemented immediately whilst awaiting intervention from specialist teams for foot related emergencies
1.2.7	Embed training and support programs that enable the Aboriginal and non-Aboriginal health workforce to further develop competence (appropriate to clinical scope) in managing the at-risk foot (utilising face to face, online and telehealth modes)
1.2.8	Increase regional access to interdisciplinary care for people at risk of DFD through the use of telehealth and by building local capacity through shared care approaches and models
1.2.9	Utilise new technologies for community and clinicians to support the Integrated Diabetes Foot Care Pathways[8] (e.g. apps, phone lines, telehealth)

1.3 MANAGEMENT OF ACTIVE FOOT DISEASE

Australian Diabetes-related Foot Disease Strategy 2018-22:

All people with diabetes related foot disease to have access to evidence-based healthcare from specialised interdisciplinary foot disease services.[3]

The Australian Integrated Diabetes Foot Care Pathway for active foot disease defines active foot disease in the following categories:[8]

- Acute limb ischaemia: Sudden acute foot pain, pallor or coldness present over hours or days and impalpable foot pulses.
- Chronic limb threatening ischaemia: peripheral arterial disease with either - pain on rest, gangrene or lower limb ulceration.
- Foot ulcer: foot ulcer with severe infection; infection present without systemic signs or symptoms OR no infection in a superficial ulcer.
- Charcot foot: Clinical signs of inflammation (redness, heat, swelling) present in the neuropathic foot. Pain may be present despite neuropathy. No evidence of a portal of entry (i.e. ulcer) to suggest infection.

Active foot disease requires intensive management and frequent clinical consultations to prevent amputation. Due to its complexity interdisciplinary care is required. People need access to regular evidence-based care that requires skills in the assessment and management of metabolic, vascular, neurological, orthopaedic, biomechanical, ulcer and infective aspects of DFD i.e. clinicians who work together in a specialised interdisciplinary foot disease service (IFDS). Other important elements for managing active foot disease include access to equipment, sharing of information, workforce development, referral pathways and continuity of care between services.

The IWGDF guidelines outline seven key elements that underpin treatment of diabetic foot ulcers, whereby it is needed for these elements to be delivered by a interdisciplinary foot care team:[1]

1. Relief of pressure and protection of the ulcer
2. Restoration of skin perfusion
3. Treatment of infection
4. Metabolic control and treatment of co-morbidities
5. Local wound care
6. Education for patient and relatives
7. Prevention of recurrence

High quality evidence-based management of active foot disease will lead to significant improvements in patient outcomes and reduce the rates of avoidable amputations. For example, people who develop foot ulcers require rapid access to multidisciplinary high-risk care services, such as, an interdisciplinary foot disease service (IFDS) to heal the ulcer and prevent hospitalisation and amputation. Currently, timely access to IFDS is difficult for Aboriginal Australians residing in rural and remote areas. High risk foot services have not been established in many geographic sites and the provision of these services is variable. The National Association of Diabetes Centres has developed national standards for services to become accredited as an interdisciplinary high risk foot service.[9]

Key Strategies – Management Of Active Foot Disease	
1.3.1	Increase rural and remote rapid access to culturally responsive Interdisciplinary High-Risk Foot Services and multidisciplinary diabetes health care services (models for regional centres/outreach/telehealth)
1.3.2	Develop local and state-wide referral and consultation pathways as well as implement systems to monitor that they are actioned appropriately and, in a time, defined manner, which is consistent with best practice guidelines
1.3.3	Increase access to timely evidence-based interventions as clinically indicated and as endorsed by the IWGDF guidelines
1.3.4	Embed the use of telehealth with the aim of improving timely access to care, communication between health services, and to strengthen the workforce
1.3.5	Promote continuity of care through the implementation of clinical care pathways across the continuum with clearly articulated escalation points, resources to support high quality clinical handover/documentation and measurable data outcomes
1.3.6	Embed training and support programs that upskill clinical staff in the identification and management of active foot disease and the implementation of evidence-based offloading (face to face, online and telehealth)
1.3.7	Explore options for innovative workforce models that utilise cross discipline skill sets in areas where access to specialist care is limited

2. Amputation

Diabetes is the leading cause of non-traumatic related amputation. High blood glucose levels can lead to damage to the nerves (neuropathy) and narrowing of the blood vessels which results in poor circulation (peripheral vascular disease) in the lower limbs, leading to ischemia, gangrene and impaired wound healing. These complications can lead to ulcers and infections and most seriously, amputation.[10] Up to 85% of diabetes related amputations are preceded by ulceration and are preventable if problems are detected early and managed appropriately.[11] [2] Amputation is classified as "major" if it is above the ankle and "minor" if it is limited to the foot. Diabetes-related amputations have a huge personal and financial cost to individuals, families, productivity and employment, and the broader health system.

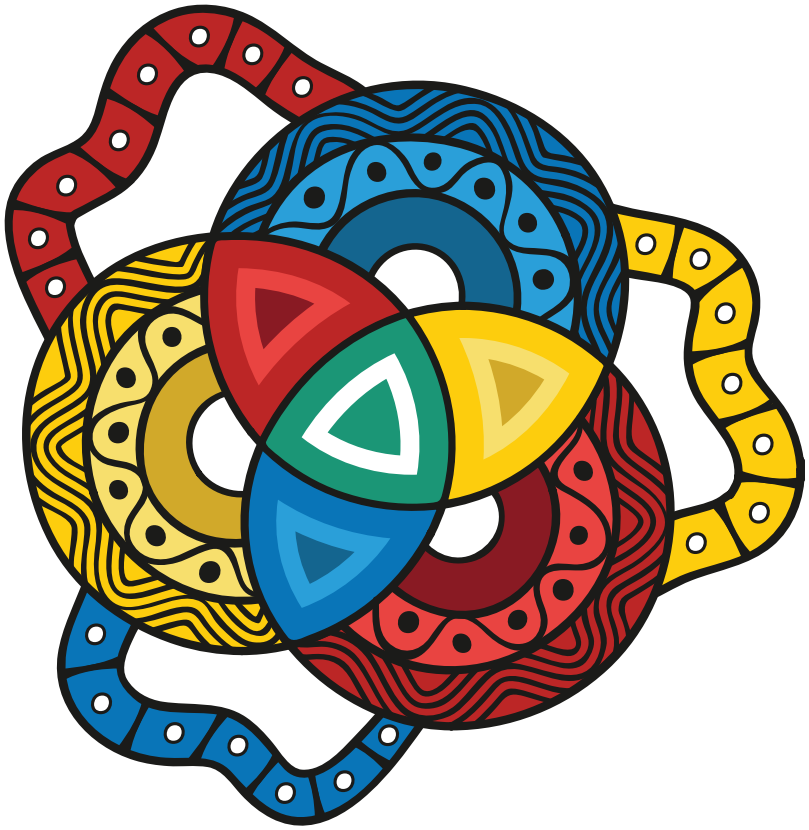
Aboriginal people have higher rates of both diabetes related foot ulcer and lower limb amputation compared to the non-Indigenous population.6 An Australian systematic review found Aboriginal status was associated with a sixfold increased relative risk of a lower limb amputation. Furthermore, the review found that Aboriginal people were experiencing amputation considerably earlier than their non-Indigenous counterparts. There were also higher rates of amputation amongst communities that were in rural and remote areas.[6]

This component of the SA DFD Strategy recognises the burden and impact of amputation on the individual and their family. It focuses on strategies that provide support across the phases of amputation and considers how current services can better meet the cultural needs of Aboriginal people.

There are three phases to consider:

- **Pre-habilitation:** "Prehab" is a preventative risk management strategy to prime the individual and their family to improve their understanding of the care needed pre/post major limb amputation. It helps to reduce the concerns the patient and family may experience while awaiting major limb surgery. Amputee pre-habilitation is a comprehensive multidisciplinary program carried out by a rehabilitation team before major limb amputation. The pre-habilitation phase is an opportunity to improve post-surgical outcomes by focussing on optimising preoperative conditions. This includes, optimising blood glucose levels, exercise programmes, psychological status and identifying potential barriers or issues that may need to be addressed in a culturally sensitive manner. Unfortunately, many amputations occur as emergencies, thus, there is minimal or no preparation time, but opportunities for optimising care should be examined and encouraged at every contact. Preparing patients and families by introducing the rehabilitation staff and explaining key information about what to expect after amputation and during the rehabilitation phase is extremely important.
- **Acute care:** during the acute care phase patients should be supported by a wide range of health professionals, such as, surgeon, amputee nurse, nurses, physiotherapist, occupational therapist, orthotics/prosthetics, podiatrist, acute pain service, dietitian, psychologist, social worker, NDIS, Aboriginal liaison, Limbs4LifeSupport Group and a rehabilitation coordinator. Together these professionals provide inpatient care, education and care coordination during the acute care stay.
- **Rehabilitation:** Post amputation the multidisciplinary rehabilitation team should continue to support the patient with their recovery and promote continuity of care.

Key Strategies – Amputation	
2.1	Increase understanding of community and individual needs in prehab, acute care and rehabilitation phases of amputation and design culturally responsive services to meet these needs
2.2	Improve access to culturally sensitive education/information and psychological support before and after amputation
2.3	Use telehealth to increase uptake of rehabilitation support programs in rural and remote areas e.g. Rehab in the Home
2.4	Implement state-wide procedures for culturally appropriate care of amputated limbs
2.5	Increase access to long term multidisciplinary diabetes care
2.6	Streamline access to clinicians required to optimise independence and mobility post amputation, as well as support access to appropriate footwear to allow early rehab intervention, return to home, and life- long protection of contralateral limb and amputation stump
2.7	Utilise shared care models to increase local access to rehabilitation post amputation



3. Enablers

The following section describes the key enablers which will support the effectiveness of the implementation of the SA DFD Strategy.

3.1 PROVISION OF CULTURALLY SAFE AND RESPONSIVE CARE

Aboriginal people have reported that they experience racism in the health system, and a third of Aboriginal people in South Australia who need to go to a health provider cite a lack of cultural appropriateness of the service as the reason for not attending.[12] The provision of culturally safe and responsive health services is critical in reducing inequalities in health outcomes.

The Commonwealth Government and all the states and territories are committed to the vision of the Australian Health Ministers' Advisory Council's National Aboriginal and Torres Strait Islander Health Standing Committee Cultural Respect Framework 2016-2026, which states:

'The Australian health system is accessible, responsive and safe for Aboriginal and Torres Strait Islander people where cultural differences and strengths are recognised and incorporated into the governance, management and delivery of health services'. [13]

The Cultural Respect Framework is linked to a number of other key national documents including The Australian Commission on Safety and Quality in Health Care *National Safety and Quality Health Service Standards (NSQHS), User Guide for Aboriginal and Torres Strait Islander Health*. There are six actions in the NSQHS Standards that focus specifically on meeting the needs of Aboriginal and Torres Strait Islander people. The User Guide gives suggested strategies as to how health services can improve cultural competency, work in partnership with Aboriginal and Torres Strait Islander people and create culturally safe and welcoming environments.[14]

Similarly, the Centre of Research Excellence in Aboriginal Chronic Disease Knowledge Translation and Exchange (CREATE) Resource has been developed to support Aboriginal Community Controlled Health Organisations (ACCHOs) and other Indigenous primary health care organisations in their provision of culturally safe and responsive services to Aboriginal communities. However, mainstream services are the primary target as the resource provides guidance for a culturally safe and relevant approach to primary health care services, health promotion and workforce as defined by the community controlled sector.[15]

It is through this enabler that we aim to enhance health systems and health service providers awareness of Aboriginal culture and their ability to consider the diversity of cultural needs into their approach to providing diabetes footcare. Culturally safe care needs to be defined by those individuals and communities who are receiving the services and the success of this can be measured through progress towards achieving health equity.[16] Establishing an improved and deeper understanding of existing foot services in terms of their cultural safety and cultural responsiveness will be important particularly as we consider new or revised models of care.

3.2 COMMUNITY CAPACITY STRENGTHENING, EMPOWERMENT AND ENGAGEMENT

Strengthening community capacity, empowerment and engagement are all critical to the effectiveness of the SA DFD Strategy. Diabetes is a condition which requires people to undertake a multitude of self-management tasks and self-care decisions on a daily basis. Through this enabler we recognise the strength of communities in tackling health problems and the importance of raising awareness of foot health through health promotion and other strategies. Improving the diabetes health literacy of community will also need to be considered along the continuum of DFD and will be reflected across all initiatives related to the strategies. Furthermore, the engagement of community in the development and implementation will ensure appropriateness, effectiveness and sustainability of the strategies. The CREATE resource demonstrates how ACCHOs have led the way by providing a space, where communities learn, grow, support, celebrate, heal and take action together. The ACCHO strengths-based approach focuses on empowering clients through role modelling, mentoring and education and encourages community to design health services based on their needs.[15]

Working in partnership with Aboriginal communities is critical and it is one of the six key actions in the NSQHS Standards. The action focuses on building effective and ongoing relationships with Aboriginal communities, organisations and groups. It is through this action that a health service will identify priorities, understand cultural beliefs and practices and involve Aboriginal people in determining their own priorities. Through this enabler the SA DFD Strategy will promote and support initiatives that have been shown to strengthen community capacity, empowerment and engagement.

3.3 IMPROVING WORKFORCE CAPACITY AND CAPABILITY TO WORK ACROSS THE CONTINUUM OF DFD

Improved diabetes-related foot care for Aboriginal people requires an interdisciplinary approach, undertaken by a skilled and accessible workforce across the primary, secondary and tertiary care systems and involving a range of health service providers, ranging from general primary care providers to various medical specialists. Aboriginal people in South Australia might access diabetes care and diabetes-related foot care through their ACCHOs, Aboriginal-specific SA Health primary health services, private general practice, acute and tertiary hospitals, and they may receive services from Aboriginal health workers/practitioners, a variety of nursing specialists (e.g. credentialled diabetes educators, wound care nurses or practice nurses) and various allied health professionals including podiatrists, dietitians, orthotists, prosthetists and physiotherapists.

The Australian Government recognises that increasing the Aboriginal workforce across the health sector will have a positive impact on the care received by Aboriginal and Torres Strait Islander people. It provides funding to a range of professional organisations so they can provide advice and support for their respective health workforce. Partnering with these organisations will be a key enabler when considering the needs of the Aboriginal workforce and the community.

The term workforce capacity refers to the ability of an organisation to ensure sufficient staffing levels to deliver the required health services to prevent and manage diabetes-related foot disease. The SA DFD Strategy requires the appropriate level of staffing as well as the appropriate skill mix of staff. The recently published Diabetic Foot Australia DFD Strategic Plan has calculated the number of health professionals required to change the health outcomes associated with DFD and have found significant gaps across the country.[3]

The term workforce capability refers to skills, knowledge and attitudes required to undertake a work role. The required skill set of the workforce to provide high-quality care includes a level of cultural sensitivity, awareness and cross-cultural engagement skills as well as a range of clinical competencies to enable a collaborative team approach. Greater clarity of clinical roles and responsibilities across the care continuum and a clearly articulated multidisciplinary team approach are key to enhancing Aboriginal people's access to effective care.

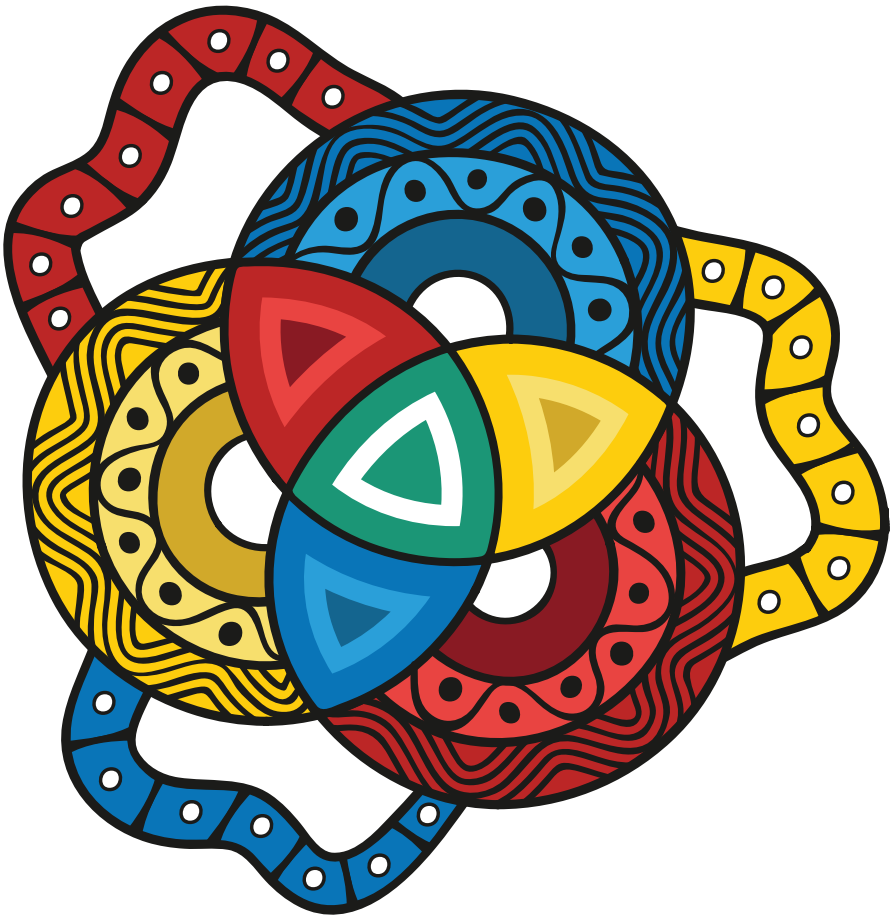
3.4 IMPROVING ACCESSIBILITY TO HIGH QUALITY DIABETES RELATED HEALTH SERVICE

Aboriginal people are experiencing disproportionate disadvantage related to health and wellbeing as well as other social, political and economic factors. Historical and contemporary issues which underpin Aboriginal people's health outcomes need to be taken into consideration when designing a health system approach to improving diabetes and diabetes-related foot care, and the accessibility of service is a critical enabler to prevent and adequately manage DFD and lower limb amputation.

Accessibility in the context of Aboriginal health has cultural and logistical aspects. Importantly, care needs to be provided in a culturally safe, appropriate and responsive way. For those who live in rural and remote areas there are challenges due to physical distance and limited availability of specialists. The use of technology and a range of innovative approaches to providing specialist care to people independent of their physical location is a key enabler for this plan.

Access to medical and allied health specialists is limited across the health system and is particularly problematic in rural and remote areas, which also have a higher proportion of Aboriginal populations. An assessment of availability of health professionals in South Australia with a role in the provision of the annual Diabetes Cycle of Care found that access to diabetes-related services varies greatly.[4 17] Innovative approaches to complement existing visiting specialist service provision, including through the use of technology such as telehealth, is critical to addressing these inequities in health service access.

Telehealth refers to the delivery of healthcare at a distance, using information communication technologies. There are different ways in which telehealth can be delivered, and the method used will depend upon a multitude of factors. The Australian Diabetes-related Foot Disease Strategy states that telehealth should be facilitated and reimbursed between clinicians in rural and remote areas and Interdisciplinary Foot Services in regional hubs.[3] It is therefore essential that strategies designed to improve access to specialised interdisciplinary foot disease services are built into all aspects of the SA DFD Strategy. Some will utilise innovative work models to increase face to face outreach services, and others will expand and strengthen telehealth capabilities across the continuum of care.



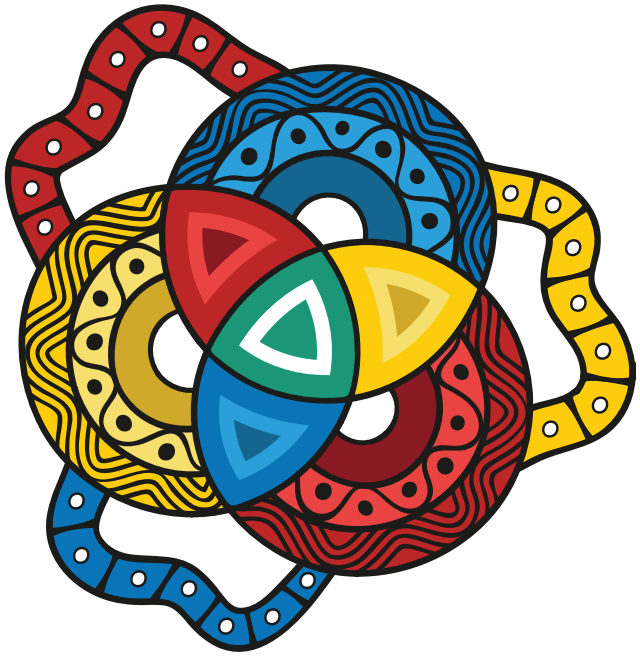
4. Monitoring and Evaluation

Monitoring and evaluation is a critical component of the SA DFD Strategy. Evaluation processes cover a broad range of activities to assess the effectiveness of health programs, projects and services, measure progress and outcomes against defined targets, and to identify gaps and barriers and articulate "lessons learnt".

Programs, projects and services that are delivered as part of this five-year strategy will have their own monitoring and evaluation plan. Both quantitative and qualitative data against a range of pre-determined key performance areas (KPAs) and specific Key Performance Indicators (KPIs) or a narrative of outcomes findings will be collected. Monitoring and evaluation will be considered in the short-, medium- and long-term, and assess processes (i.e. "how well something has been done") and outcomes (i.e. "what has been achieved" or "to what extent").

For the purpose of this five-year plan, we distinguish between **process evaluation**, to assess the progress of projects throughout the implementation, and **performance evaluation** (outputs and outcomes), for an in-depth analysis of achievements against pre-defined targets.

In some instances, it might be appropriate to consider performing an **impact evaluation**; however, impact generally requires a long-term investment and might be difficult to establish in the context of a five-year plan.



APPENDIX 1

The Aboriginal and Torres Strait Islander Diabetic Foot Complications Project

In response to the high prevalence of foot complications and amputations in Aboriginal and Torres Strait Islander people, the Commonwealth Government is funding a two year project that will address risk factors and health outcomes by implementing evidence-based initiatives across South Australia (SA), Northern Territory (NT), Western Australia (WA) and Far North Queensland (Qld) that seek to improve the quality, accessibility and effectiveness of available care. The Aboriginal and Torres Strait Islander Diabetic Foot Complication Project's key collaborators will represent clinical, primary care, allied health, non-government organisations and research expertise, acting within an Indigenous governance structure. Each state will be responsible for developing and implementing its own plan.

The Project will undertake the following activities.

1. Use current data modelling to populate a baseline report of:
   a. the burden, determinants and impact of lower limb amputations and foot complications among Indigenous peoples in SA, NT, WA and Far North Qld; and
   b. the current clinical and health service networks within these jurisdictions providing care across the continuum of the disease.

2. Co-design best-practice models of care and explore novel approaches for treating Indigenous people with, or at risk of, diabetic foot complications in primary, secondary and tertiary services.

3. Increase access to multidisciplinary care for high risk diabetic foot disease patients.

4. Partner with relevant peak bodies to develop a best practice community-based workforce model for multidisciplinary allied health approaches to prevent and treat diabetic foot complications.

5. Develop and deploy training and support mechanisms that enable the Aboriginal and non-Aboriginal health workforce to better respond to the needs of Indigenous patients with foot complications and associated disorders.

6. Develop an evaluation framework to facilitate future monitoring of the effect of health care and system initiatives aimed at reducing diabetic foot disease and related complications among Indigenous peoples.

APPENDIX 2

Key Strategies

Key Strategies - Prevention, Screening and Assessment	
1	Implement culturally appropriate early detection foot programs in health care services so that assessing feet becomes 'everybody's business'
2	Implement a standardised approach to assessment and risk stratification across primary, secondary and tertiary services as per Foot Forward Diabetes Risk Stratification and Triage Pathway[8]
3	Increase access to culturally appropriate and practical preventative self-care foot education (including footwear) based on risk at the time of diagnosis
4	Develop and monitor local and state-wide referral and clinical care pathways which are consistent with the Integrated Diabetes Foot Care Pathways[8] and Australian triage guidelines
5	Embed standardised screening and assessment tools into existing patient information management systems with a flag function for rescreening and follow up
6	Embed training and support programs that enable the Aboriginal and non-Aboriginal health workforce to further develop competence (appropriate to clinical scope) in the prevention, screening and assessment of diabetes related foot disease
7	Strengthen local capacity through a network of champions/ambassadors within health services and/or community through a designated role of 'diabetes and feet'
Key Strategies - Managing The At-Risk Foot	
1	Implement the Integrated Diabetes Risk Stratification and Triage Pathway[8] for 'at-risk' feet including re-screening/monitoring, action plan and foot protection plans (across primary, secondary and tertiary healthcare sector)
2	Utilise innovative workforce models to increase primary care access to culturally safe preventative podiatry / foot care services (appropriate to risk)
3	Increase accessibility to situationally and risk appropriate protective footwear
4	Improve access to culturally appropriate, structured foot self-care education and support (targeted to risk)
5	Implement and monitor clinical escalation pathways that have a time defined response (include early intervention of minor injury i.e. early injury pathway)
6	Increase accessibility to treatment modalities and off-loading devices that can be implemented immediately whilst awaiting intervention from specialist teams for foot related emergencies
7	Embed training and support programs that enable the Aboriginal and non-Aboriginal health workforce to further develop competence (appropriate to clinical scope) in managing the at-risk foot (utilising face to face, online and telehealth modes)
8	Increase regional access to interdisciplinary care for people at risk of DFD through the use of telehealth and by building local capacity through shared care approaches and models
9	Utilise new technologies for community and clinicians to support the Integrated Diabetes Foot Care Pathways[8] (e.g. apps, phone lines, telehealth)

Key Strategies – Management Of Active Foot Disease	
1	Increase rural and remote rapid access to culturally responsive Interdisciplinary High-Risk Foot Services and multidisciplinary diabetes health care services (models for regional centres/outreach/telehealth)
2	Develop local and state-wide referral and consultation pathways as well as implement systems to monitor that they are actioned appropriately and, in a time, defined manner, which is consistent with best practice guidelines
3	Increase access to timely evidence-based interventions as clinically indicated and as endorsed by the IWGDF guidelines
4	Embed the use of telehealth with the aim of improving timely access to care, communication between health services, and to strengthen the workforce
5	Promote continuity of care through the implementation of clinical care pathways across the continuum with clearly articulated escalation points, resources to support high quality clinical handover/documentation and measurable data outcomes
6	Embed training and support programs that upskill clinical staff in the identification and management of active foot disease and the implementation of evidence-based offloading (face to face, online and telehealth)
7	Explore options for innovative workforce models that utilise cross discipline skill sets in areas where access to specialist care is limited
Key Strategies – Amputation	
1	Increase understanding of community and individual needs in prehab, acute care and rehabilitation phases of amputation and design culturally responsive services to meet these needs
2	Improve access to culturally sensitive education/information and psychological support before and after amputation
3	Use telehealth to increase uptake of rehabilitation support programs in rural and remote areas e.g. Rehab in the Home
4	Implement state-wide procedures for culturally appropriate care of amputated limbs
5	Increase access to long term multidisciplinary diabetes care
6	Streamline access to clinicians required to optimise independence and mobility post amputation, as well as support access to appropriate footwear to allow early rehab intervention, return to home, and life- long protection of contralateral limb and amputation stump
7	Utilise shared care models to increase local access to rehabilitation post amputation

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