Diabetes in Australia:
Focus on the future

The Australian National Diabetes Strategy 2016–2020
Implementation Plan, developed in partnership with
the Australian Government and all state and territory governments

Diabetes in Australia: Focus on the future

Contents

Acknowledgements

Abbreviations

ABS
Australian Bureau of Statistics

AHMAC
Australian Health Ministers' Advisory Council

AIHW
Australian Institute of Health and Welfare

AUSDRISK
Australian Type 2 Diabetes Risk Assessment Tool

DKA
Diabetic ketoacidosis

MBS
Medicare Benefits Schedule

NDSAG
National Diabetes Strategy Advisory Group

NDSS
National Diabetes Services Scheme

NHMRC
National Health and Medical Research Council

NSFCC
National Strategic Framework for Chronic Conditions

PIP QI
Practice Incentives Program Quality Improvement Incentive

Strategy
Australian National Diabetes Strategy 2016–2020

Plan
Diabetes in Australia: Focus on the future.
The Implementation Plan for the Strategy
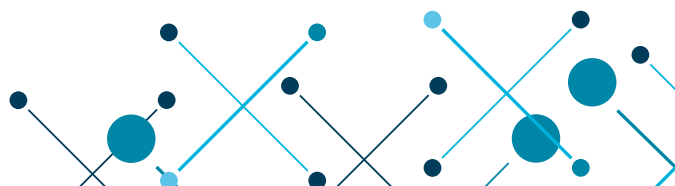
Implementation Plan for the Australian National Diabetes Strategy 2016–2020

The vision of the Australian National Diabetes Strategy 2016–2020 (the Strategy) is to strengthen all sectors in developing, implementing and evaluating an integrated and coordinated approach for reducing the social, human and economic impact of diabetes in Australia.

The Strategy was released by the Australian Government Minister for Health on 13 November 2015. The Strategy aims to outline Australia's national response to diabetes and inform how existing limited health care resources can be better coordinated and targeted across all levels of government.

Diabetes in Australia: Focus on the future is the Implementation Plan for the Strategy (this Plan). This Plan is intended to represent the first tranche of activity identified as a priority by governments.

Overview of this Plan

This Plan should be read in conjunction with the Strategy and the National Strategic Framework for Chronic Conditions (NSFCC). The NSFCC provides high-level guidance to all sectors and better caters for the shared health determinants, risk factors and multi-morbidities across a broad range of chronic conditions, including diabetes.

This Plan identifies diabetes-related priority actions that:

- address gaps in current diabetes direction and investment
- minimise duplication of effort across all sectors
- ensure the current focus of activity across sectors remains strong and relevant into the future.

The development of this Plan has been informed by:

- the Australian National Diabetes Strategy 2016–2020, available at www.health.gov.au
- a national stocktake of diabetes-related activities undertaken by all jurisdictions
- the report from the National Diabetes Strategy Advisory Group (NDSAG) to the Minister for Health. Additional information on the NDSAG is available at www.health.gov.au
- the advice of all jurisdictions through the Implementation Working Group established by the Community Care and Population Health Principal Committee of the Australian Health Ministers' Advisory Council (AHMAC)
- consultation with key stakeholders.

The time frame for this Plan aligns with the Strategy.

Governance

This Plan is primarily for the Australian Government and state and territory governments. The actions outlined in this Plan have been agreed by all jurisdictions as activities that at this time can be developed, expanded or modified to produce targeted, tangible improvements in the prevention, early detection, management and care of all forms of diabetes. The development of this Plan has recognised the current fiscally restrictive environment and so should guide the Australian Government and state and territory governments in planning and directing funding in a cost-effective and sustainable way to improve the health of all Australians—specifically, to prevent people from developing diabetes and/or minimising the risks of complications associated with diabetes. Governments will use the activities in this Plan to inform their prioritisation of effort. Action will vary in each jurisdiction depending on available resources, current programs and local needs.
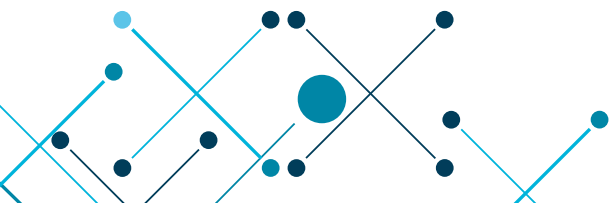
Partnerships

One of the five guiding principles underpinning the Strategy is collaboration and coordination to improve health outcomes. This involves working in partnership across government organisations and other sectors to maximise use of resources and technology and encourage coordination and integration in prevention, detection and management of diabetes. Effective management is strongly influenced by the contributions made by a wide range of partners. The priority actions identified in this Plan complement initiatives already underway across all sectors, including non-government organisations. By using this Plan, non-government organisations will be able to better focus their attention on key areas where they are best placed to provide additional support and ensure their investment is appropriately directed. All partners are encouraged to identify areas of mutual benefit which improve health outcomes; and take action according to their role and capacity. Greater cooperation between partners can lead to more successful individual and system outcomes.

In recognition of the role of the range of governments, sectors and other partners, it will be important to ensure transparency and accountability for this Plan's progress. It is proposed that a diabetes forum may be held on an annual basis which could bring together all stakeholders in the diabetes sector to share information on the implementation of national priority actions and to reflect on new challenges and priorities; emerging evidence and increased opportunities for collaboration. The forum will provide a way for governments to evaluate current efforts and investments and determine whether they align with identified needs and maximise use of existing health care resources.

Links to other policies

The health care system is subject to ongoing national reforms such as the role of Primary Health Networks in commissioning primary health care services and health system integrators, implementation of national opt-out participation arrangements for the My Health Record, stage 1 of Health Care Homes and the review of the Medicare Benefits Schedule (MBS). This Plan acknowledges this ongoing work and the opportunities it provides for diabetes prevention and care. However, it should be noted that some actions that would improve outcomes for people with diabetes will either be considered as part of this ongoing reform or need to wait until some of these activities are further progressed before their benefits can be realised.

The Council of Australian Governments has committed to a national approach to enhance coordinated care for people with chronic and complex conditions. Jurisdictions have agreed to focus activities on a range of actions, including aged care integration, multidisciplinary team based approach, end-of-life care, mental health, and rural and remote service delivery. This national approach will benefit people with diabetes.

In addition, this Plan links with other international, national and state-based and regional health policies and frameworks. These policies include: the Global Action Plan for the Prevention and Control of Non-Communicable Diseases and the Non-Communicable Diseases Global Monitoring Framework developed by the World Health Organization, the NSFCC and the Implementation Plan for the Aboriginal and Torres Strait Islander Health Plan 2013–2023.

The proposed annual diabetes forum will provide an avenue to establish links with other policies or frameworks as they are developed or updated. This can be an important mechanism for considering emerging health issues or activities outside the realm of the health sector which impact on diabetes.
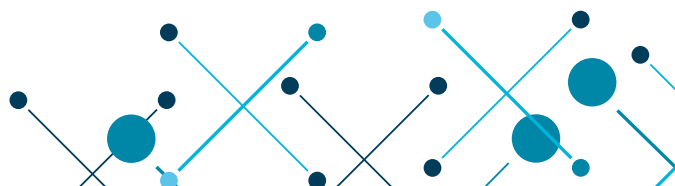
Using this Plan

This Plan operationalises each of the Strategy's goals. Three sections are identified for each goal. These are context, current government activities and direction of future work. The sections on current government activities are informed by the stocktake of diabetes-related government activities within jurisdictions. The actions are deliberately broad to encompass the range of activities currently underway in jurisdictions. Furthermore, they allow jurisdictions to tailor programs to local service needs.

The priority actions identified are not inclusive of all the potential areas for action listed within the Strategy. They have been identified as important gaps within currently delivered programs and services or flagged by the sector as a key area for priority action. The potential areas for action from the Strategy not highlighted in this document are important and warrant continued attention and effort.

It should be noted that, although Goals 5 and 6 have actions specifically about priority groups, all goals outlined in this Plan apply to priority populations. However, given the disproportionate burden of chronic conditions experienced by priority populations, targeted action is essential to ensure that these groups receive access to quality health care and relevant information.

A number of actions that have been raised through various stakeholder consultations have not been included, as they fall outside the boundaries of the Health portfolio. It is important to acknowledge that there is a range of external factors that influence health. As noted above, the benefits of partnerships and coordinated efforts within and outside of the health sector to minimise the impacts of the determinants of health and positively influence the health of all Australians should be promoted wherever possible. It will be critical for governments, specialist diabetes services, health care providers, Primary Health Networks and other experts and sectors to collaborate to maximise use of resources and technology and encourage coordination and integration in prevention, detection and management of all forms of diabetes.

Reporting

Requirements for reporting on progress of the Strategy are outlined in the final section of this Plan (see page 35).

Indicators to measure progress against the goals of the Strategy have been developed by the Australian Institute of Health and Welfare (AIHW) in consultation with the Implementation Working Group and are included in this Plan. The indicators are mapped against the potential measures of progress from the Strategy and are important to measure the progress against each goal of the Strategy. The indicator tables show the framework or report where the indicator may be collected and the agency which has the data source. The indicators are not intended to measure or assess the impact of the specific actions outlined in this Plan. The reporting chapter at page 35 provides further detail.
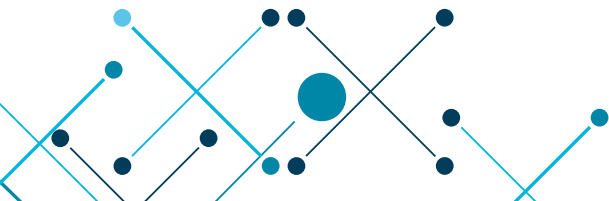
Implementation of Goal 1: Prevent people developing type 2 diabetes

In context

Type 2 diabetes is associated with hereditary and lifestyle risk factors, including poor diet, insufficient physical activity, overweight or obesity and tobacco use. The Strategy identifies a broad range of areas for action to prevent people from developing type 2 diabetes, such as healthy lifestyle initiatives for the general population, interventions for high-risk individuals and regulatory mechanisms. In 2011, the attributable burden (per cent) of diabetes from selected risk factors was high body mass (51.6%), physical inactivity (31%), diet low in whole grains (11.9%), diet high in processed meat (8.7%), tobacco smoking (3.7%) and alcohol use (2.1%) (Figure 1).

Those considered at high risk of developing type 2 diabetes are those with prediabetes as well as certain risk factors. The strongest evidence of effective prevention is associated with people presenting these factors. It is also important to emphasise that healthy living by both parents before and during pregnancy will give a baby the best start to life and reduce the risk of developing type 2 diabetes and other chronic diseases in adult life. The risk can be transmitted to the next generation and becomes intergenerational.[1]

Self-reported diabetes data show the increasing trend in the prevalence of diabetes (Figure 2).

Figure 1: Attributable burden (per cent) of diabetes by selected risk factors, 2011[2]
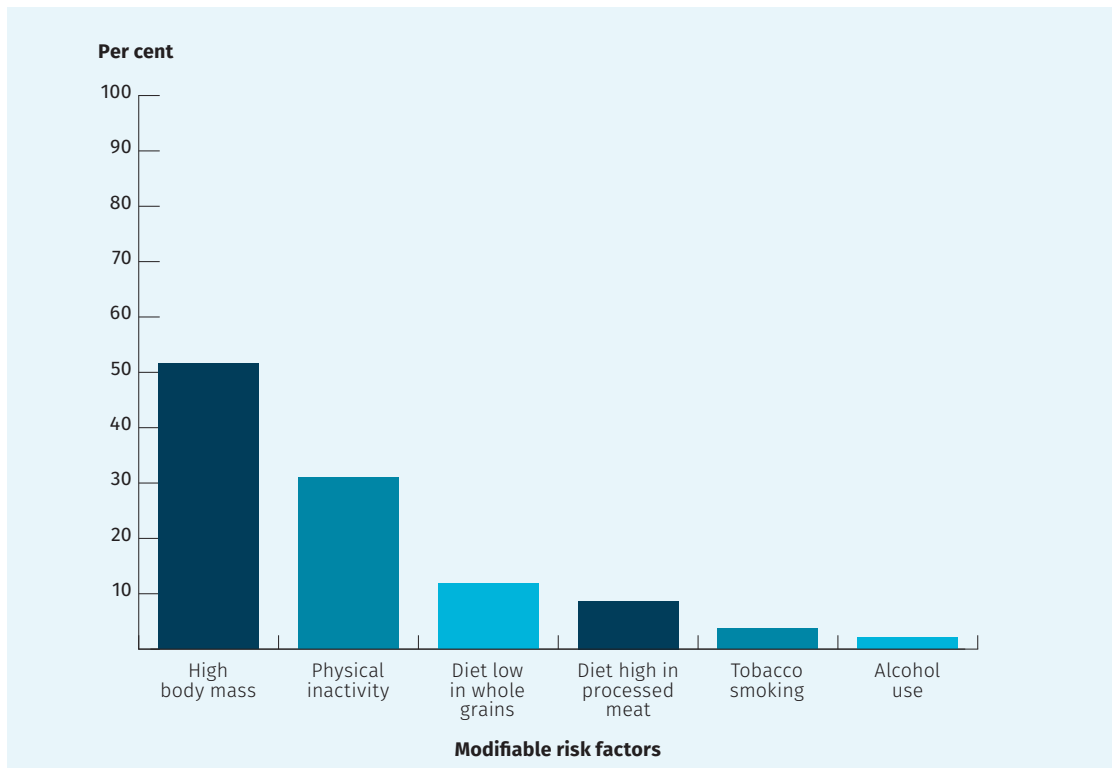
Source: Australian Institute of Health and Welfare (AIHW) 2016. Australian Burden of Disease Study: Impact and causes of illness and death in Australia 2011. Australian Burden of Disease Study series no. 3. Cat. no. BOD 4. Canberra: AIHW.

Figure 2: Trends in self-reported diabetes prevalence, 1989–90 to 2011–12[3]
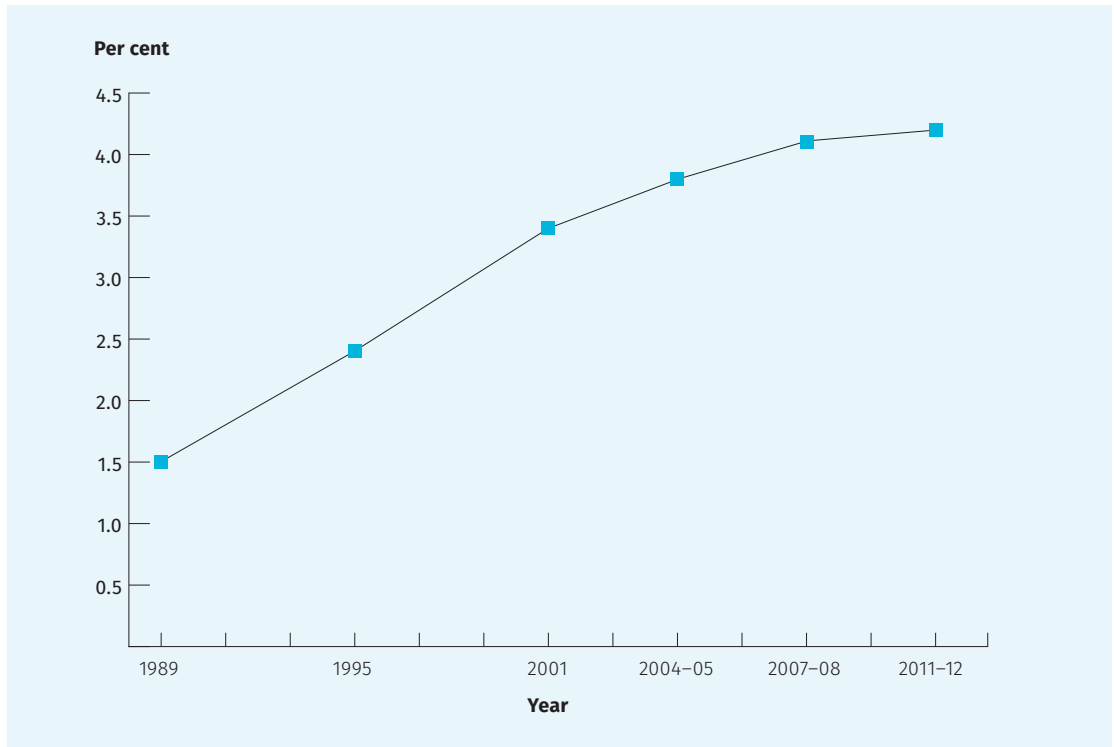
Notes

1.   Self-reported diabetes data may underestimate the prevalence of diabetes, as individuals may not be aware they have diabetes.

2.   Rates have been age standardised to the 2001 Australian population.

Source: AIHW 2014. Cardiovascular disease, diabetes and chronic kidney disease—Australian facts: Prevalence and incidence. Cardiovascular, diabetes and chronic kidney disease series no. 2. Cat. no. CDK 2. Canberra: AIHW.

Current government activities

Many preventive health initiatives are underway nationally that address the risk factors for chronic conditions in Australia, including diabetes. Evidence-based guidelines are available to consumers and health professionals, including the Australian Dietary Guidelines and Eat for Health resources, Physical Activity and Sedentary Behaviour Guidelines and National Healthy School Canteen Guidelines. Work is underway with industry through the Healthy Food Partnership to reformulate processed foods to reduce salt, unhealthy fats and sugar content, and front-of-pack labelling through the Health Star Rating encourages consumers to make healthier food choices. Other actions include the re-evaluation of the role of the allied health sector in the prevention of diabetes under the review of the MBS and the development of the Australian National Breastfeeding Strategy, which is currently underway.

Various policy, program and communications strategies (including social marketing campaigns) operate at all jurisdictional levels to address the risk factors for diabetes. Jurisdictions provide community support and education and encourage healthier behaviours and environments in a range of settings, both community and clinically based, and across the life course.
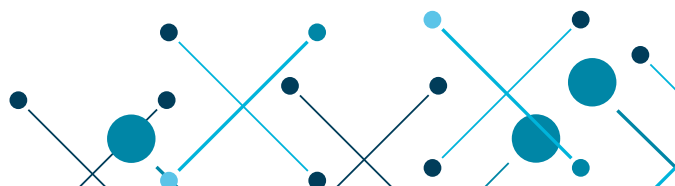
Direction of future work

To halt the trend in the incidence of type 2 diabetes by maintaining and strengthening action that positively influences individual and community behaviours, improves health literacy and changes social norms.

National priority action required	Responsible entity	Time frame* Short/ Medium/ Long
1.1 Develop an Australian Government endorsed set of diabetes guidelines for prevention, early detection, management and care of diabetes and related complications and encourage adoption of their use through dissemination and implementation plans. *Relates to Goal 2.*	Australian Government	Short
1.2 Develop and implement national food, nutrition and physical activity plans.	AHMAC	Medium
1.3 Increase the adoption of healthy lifestyles, particularly for: · Children and adolescents who are at risk of developing type 2 diabetes. · Women of reproductive age who are at risk of gestational diabetes.	States and territories	Medium
1.4 Continue to implement community awareness and health literacy programs to enhance healthy eating, increase physical activity and improve knowledge of diabetes risk factors. *Relates to Goals 4, 5 and 6.*	Australian Government, states and territories	Short
1.5 Support and develop a suite of social marketing campaigns, including social media, to positively change individual behaviour and social norms.	Australian Government, states and territories	Short
1.6 Limit the impact of unhealthy food and drinks on children.	AHMAC	Medium
1.7 Identify opportunities for the food regulation system to support obesity prevention objectives, including by reviewing fast food labelling schemes.	Food Regulation Standing Committee	Medium

(continued)

National priority action required	Responsible entity	Time frame* Short/ Medium/ Long
1.8 Increase access to affordable, healthy food supply e.g. reformulation and continue GST exemption on fresh food and healthy food incentives for remote stores.	Australian Government	Short
1.9 Encourage information sharing and collaboration across and within jurisdictions and with other relevant Australian Government initiatives on preventive health activity.	Australian Government, states and territories	Ongoing
1.10 Provide access to support and counselling for people at risk of developing type 2 diabetes using online, telephone and other appropriate and relevant modalities.	Australian Government, states and territories	Medium
1.11 Increase awareness that the health status of potential parents may have a transgenerational impact on the future risk of chronic disease, including type 2 diabetes, for their offspring, both in childhood and as adults.	Australian Government, states and territories	Medium

*Time frame

Short: To be implemented in the next 12–18 months.
Medium: To be implemented within 18–24 months.
Long: To be implemented within 24–36 months.

Implementation of Goal 2: Promote awareness and earlier detection of type 1 and type 2 diabetes

In context

It is essential that the early symptoms of diabetes are recognised, as failure to do so can lead to serious and potentially life-threatening complications.

Type 1 diabetes

Rates of diabetic ketoacidosis (DKA) hospitalisations in children vary across age groups, with rates for females being higher in each age group (Figure 3). In order to reduce complications and potential deaths from diabetes, it is imperative that type 1 diabetes cases are diagnosed before the development of severe DKA.

Figure 3: DKA hospitalisation rates (number per 1000 population) for children and young people with type 1 diabetes, 2014–15[4]

Number per 1 000 population
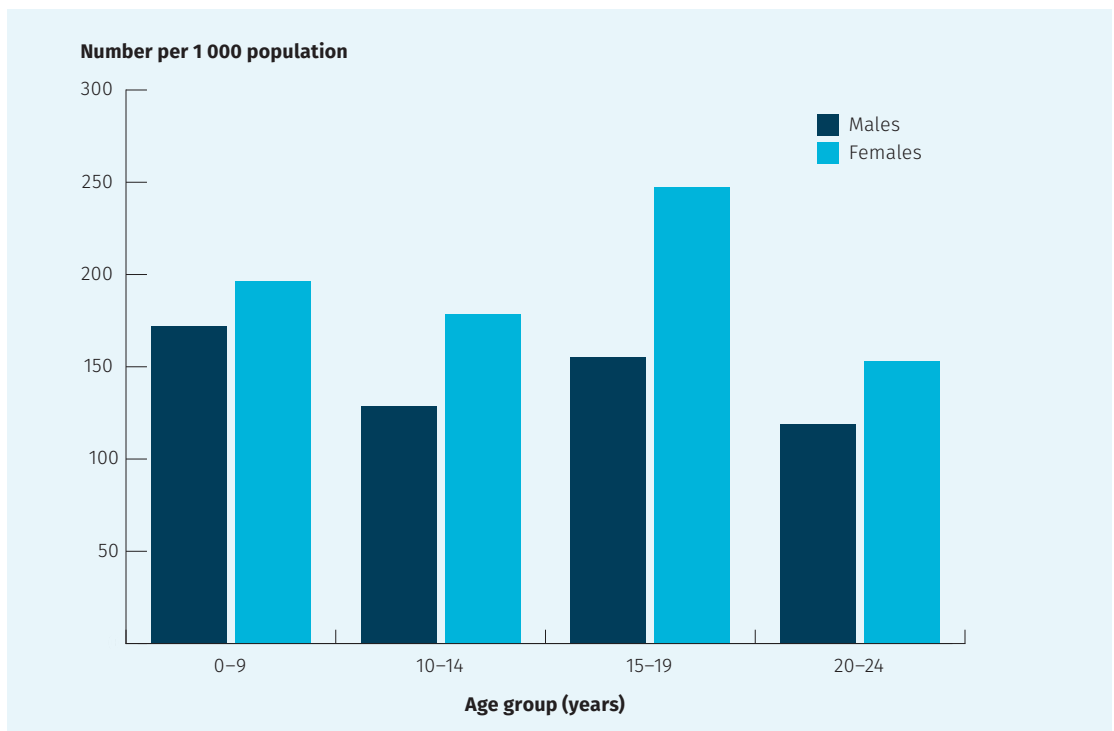
Source: AIHW 2016. Diabetic ketoacidosis (DKA) among children and young people with type 1 diabetes. Diabetes series no. 26. Cat. no. CVD 77. Canberra: AIHW.

Type 2 diabetes
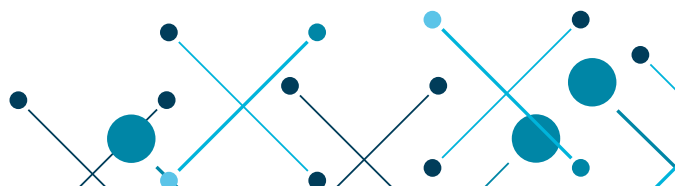
Recent estimates have suggested that, for approximately every 100 people with a diagnosis of type 2 diabetes in Australia, at least twenty-five people may be living with undiagnosed diabetes (Figure 4).[5]

The Strategy recommends increasing awareness and recognition of all forms of diabetes and early detection among health care providers and the community.

Figure 4: People with type 2 diabetes in Australia: Estimated percentage of people diagnosed and undiagnosed, 2011–12[5]
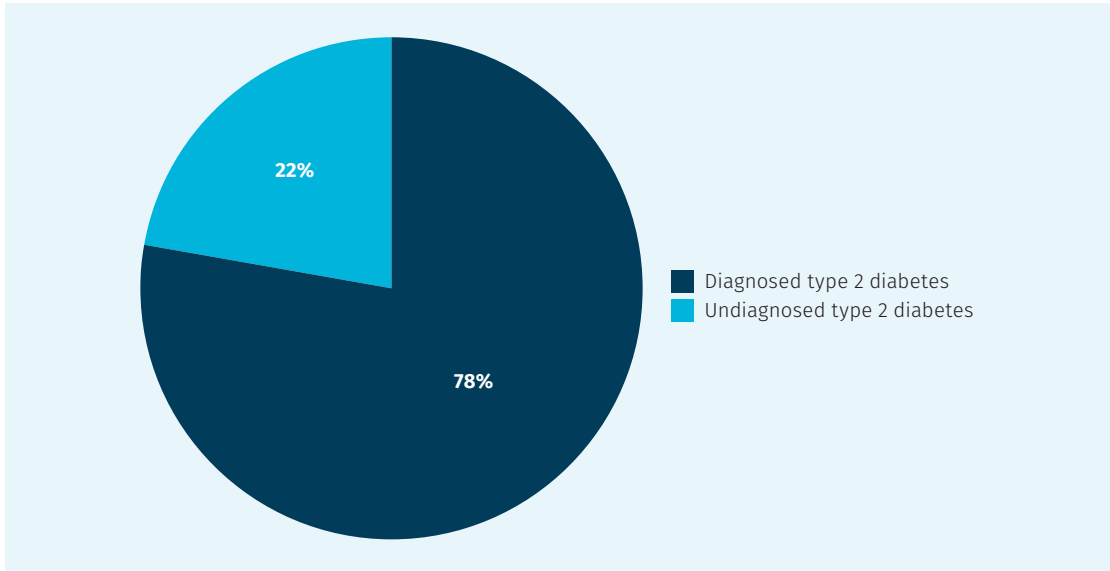
Source: Australian Bureau of Statistics (ABS) 2013. Australian Health Survey: Biomedical results for chronic diseases, 2011–12. Cat no. 4364.0.55.005. Canberra: ABS.

Current government activities

Major contributions to improving symptom awareness and diagnosis of type 1 and type 2 diabetes are made through implementation of health risk assessments as well as targeted programs. The Australian Government has implemented key vehicles for supporting diabetes detection, including:

- diabetes guidelines
- government-funded MBS items for ongoing health assessments
- the Australian Type 2 Diabetes Risk Assessment Tool (AUSDRISK), which provides a user-friendly online diabetes risk assessment for consumers and health practitioners
- the Practice Incentives Program (PIP) Diabetes Incentive, which has encouraged general practitioners to provide earlier diagnosis and effective management of people with diabetes. From 1 May 2018, the PIP Quality Improvement (QI) Incentive will support general practice to better understand and improve the quality of care for a range of chronic conditions, including diabetes.

Diabetes risk assessment is also currently offered to people as part of the Pharmacy Diabetes Screening Trial that commenced in 2017.

All states and territories undertake activities that promote awareness and early detection of diabetes, including health care workforce training and community education programs to raise awareness of diabetes and its symptoms.
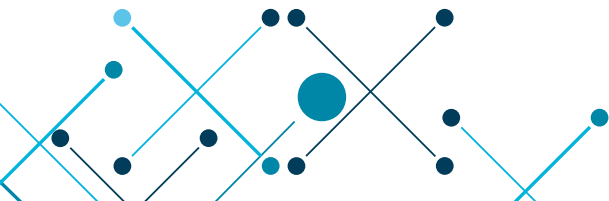
Direction of future work

To strengthen and enhance coordinated health support pathways for people with diabetes and expand and improve early detection programs.

National priority action required	Responsible entity	Time frame* Short/ Medium/ Long
Type 1 diabetes		
2.1 Develop an Australian Government endorsed set of diabetes guidelines, assessed against the clinical practice guidelines criteria for type 1 diabetes, and encourage adoption of their use through dissemination and implementation plans.	Australian Government	Short
2.2 Develop partnerships with relevant agencies to promote awareness of type 1 diabetes symptoms and management in childcare facilities, schools, other educational settings, workplaces and the community more broadly.	Australian Government, states and territories	Medium
Type 2 diabetes		
2.3 Develop an Australian Government endorsed set of diabetes guidelines, assessed against the clinical practice guidelines criteria for type 2 diabetes, and encourage adoption of their use through dissemination and implementation plans.	Australian Government	Medium
2.4 Strengthen the uptake and data capture of AUSDRISK with consideration of an integrated risk assessment approach for chronic conditions. *Relates to Goals 4 and 5.*	Australian Government	Short
2.5 Expand targeted risk assessment and screening opportunities in a range of health care settings, including pharmacies, general practice, state-based community care and hospital settings, including admission processes.	Australian Government, states and territories	Short

*Time frame
Short: To be implemented in the next 12–18 months.
Medium: To be implemented within 18–24 months.
Long: To be implemented within 24–36 months.
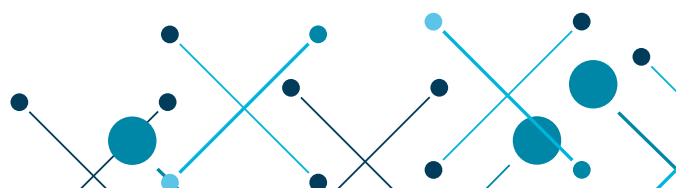
Implementation of Goal 3: Reduce the occurrence of diabetes-related complications and improve quality of life among people with diabetes

In context

Many diabetes-related complications are preventable. The Strategy identifies that reducing the occurrence and severity of complications and achieving best-practice, high-quality diabetes care requires health care professionals to work seamlessly and in partnership across primary health, community and specialist care services with direct consumer, carer and family involvement. Consumer engagement, awareness and self-management are also identified in the Strategy as major factors in the success of this goal.

Box 1: Diabetes complications

- In 2011–12, 61% of people with diabetes had cardiovascular disease.[6]

- In 2014–15, 8% of vision loss was caused by diabetes.[6]

- In 2014, end-stage kidney disease accounted for seven cases per 1000 among people with diabetes.[6]

- In 2014–15, the incidence of non-traumatic amputation was three per 1000 among people with diabetes.[6]

- In 2013, the diabetes-related death rate was fifty-five per 100 000 population.[6]

- In 2013–14, diabetes contributed to around 929 000 hospitalisations (9% of all hospitalisations), with the majority (95%) of the hospitalisations listing diabetes as an additional diagnosis.[7]

- In 2013–14, 32% of hospitalisations for diabetes also had a diagnosis of cardiovascular disease, 19% had a diagnosis of chronic kidney disease, and 14% had both.[7]

Mental health (also applies to Goal 6)

- People with diabetes are around two to three times more likely than the general population to experience symptoms of depression.[8]

Sources:

AIHW 2017. Diabetes indicators, Australia. Accessed online 25 July 2017 at http://www.aihw.gov.au/diabetes/indicators/

AIHW 2016. Australia's Health 2016. Australia's health series no. 15. Cat. no. AUS 199. Canberra: AIHW.

Roy T & Lloyd CE 2012. Epidemiology of depression and diabetes: A systematic review. Journal of Affective Disorders 142(Suppl):S8–S21.
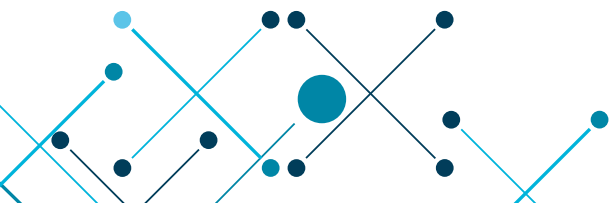
Current government activities

Under programs already in operation, all levels of government provide considerable support to improve the quality of life among people with diabetes and reduce the occurrence of diabetes-related complications. These programs include community health clinics, screening for complications in hospitals and other settings, care coordination, education and support services. Specialist diabetes centres are also provided by state and territories within the hospital environment.

At a national level, all Australians have access to affordable, high-quality medicines, devices and services to support people with diabetes in self-management and treatment. Support for patients with diabetes is provided by the MBS, which includes Chronic Disease Management Items and Diabetes Cycles of Care, and the Pharmaceutical Benefits Scheme which provides a range of subsidised essential medicines for the treatment of diabetes and associated symptoms.

The National Diabetes Services Scheme (NDSS) supports timely, reliable and affordable access to products and services that help people with diabetes to self-manage their condition effectively.

National reforms are underway that will also provide greater coordination and integration to better manage diabetes care and complications of diabetes. For example, from 1 May 2018, the PIP QI Incentive will support general practice to better understand and improve the quality of care of a range of chronic conditions, including diabetes. In addition, important activities are underway through the Primary Health Networks established across Australia, the Health Care Homes initiative, My Health Record, and the review of the MBS. The MBS review in particular will consider services provided for or used by people with diabetes, including the items that are currently funded for services by allied health practitioners. While the timing of the review of the current allied health items is still to be finalised, it is expected that the majority of items will be reviewed by 2018.
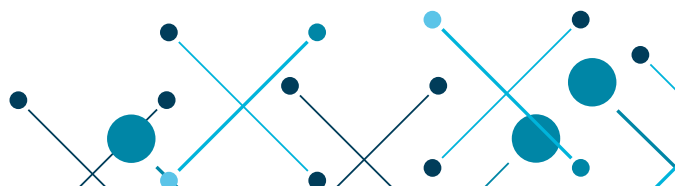
Direction of future work

To provide more effective, consistent and coordinated care, improve assessment and harness technology to better support people with diabetes to prevent, to detect early, and to slow progression of diabetes-related complications.

National priority action required	Responsible entity	Time frame* Short/ Medium/ Long
3.1 Develop an Australian Government endorsed set of diabetes guidelines for prevention, early detection, management and care of diabetes and related complications, assessed against the clinical practice guidelines criteria, and encourage adoption of their use through dissemination and implementation plans.	Australian Government	Short
3.2 Develop clinical care standards for diabetes care consistent with evidence-based guidelines in health care settings, hospitals discharge planning and primary health care, in accordance with the Australian Safety and Quality in Health Care model for the development and implementation of Clinical Care Standards. *Relates to Goals 1, 2 and 4.*	Australian Government, states and territories	Medium
3.3 Continue to develop and implement accessible self-management and peer support programs for people with diabetes and their carers in various settings.	Australian Government, states and territories	Medium
3.4 Continue to implement coordinated, multidisciplinary and streamlined care for people with diabetes, particularly for those with chronic and complex conditions.	Australian Government, states and territories	Short
3.5 Encourage and promote the use of shared care plans to enhance coordinated care within Primary Health Networks.	Australian Government, states and territories	Medium
3.6 Encourage and promote regional planning and patient health care pathways for diabetes management to integrate primary health care, acute care and specialist and allied health services.	Australian Government, states and territories	Medium
3.7 Strengthen and continue to develop partnerships between health professionals and major specialist diabetes centres.	States and territories	Short

(continued)

National priority action required	Responsible entity	Time frame* Short/ Medium/ Long
3.8 Increase general practitioners awareness of and education on the use of relevant MBS items for the management of diabetes and promote their use of those items.	Australian Government	Short
3.9 Support, grow and increase the capacity and capability of the specialist and generalist workforce, including diabetes educators and medical, nursing and allied health professionals.	Australian Government, states and territories	Medium
3.10 Ensure educational resources are aligned to guidelines and are available, particularly for people with diabetes and the generalist diabetes workforce.	Australian Government, states and territories	Long
3.11 Build on current experience to implement agreed best-practice transition services from paediatric/adolescent to adult services to improve quality of life, including mental health.	States and territories	Medium
3.12 Encourage routine mental health assessments of people with diabetes and ensure access to affordable and appropriate care.	Australian Government, states and territories	Medium
3.13 Ensure access to high-risk foot clinics based on need.	States and territories	Long
3.14 Facilitate and encourage the use of the My Health Record among health care providers and consumers to support the care of people with diabetes, including to make better use of risk assessments, discharge summaries, diagnostic imaging and pathology reports.	Australian Government, states and territories	Short
3.15 Facilitate the availability of connected and consistent software programs for consumers and health professionals to assist in the management of diabetes.	Australian Government, states and territories	Medium
3.16 Monitor diabetes product distribution to ensure affordability and accessibility is maintained (National Diabetes Services Scheme specific).	Australian Government	Short

*Time frame

Short: To be implemented in the next 12–18 months.
Medium: To be implemented within 18–24 months.
Long: To be implemented within 24–36 months.

Implementation of Goal 4: Reduce the impact of pre-existing and gestational diabetes in pregnancy

In context

Reducing the impact of pre-existing and gestational diabetes in pregnancy is essential to the health of women and their children. The Strategy recommends the provision of general preventive care and screening for all pregnant women and identifies a specific focus for women with pre-existing and gestational diabetes in previous pregnancies to help prevent the development of type 2 diabetes. Pre-existing type 1 and type 2 diabetes in pregnancy is associated with a several-fold increase in the risk of perinatal death, major congenital malformations and pre-term delivery.[9] Diabetes in pregnancy places women and their children at significant risk during and after the pregnancy. Healthy living before and during pregnancy will give a baby the best start to life and may reduce the risk of the baby developing type 2 diabetes and other chronic diseases in adult life.[1]

The prevalence of gestational diabetes is increasing, especially with the recently adopted more inclusive criteria for its diagnosis (Figure 5). This places greater demand on and added cost to clinical services with variability in health care access across Australia. It should be noted that 29% of the women currently registered under the NDSS require insulin to treat their diabetes.

Figure 5: Women registered with gestational diabetes in the previous 12 months, 2014-17[10]
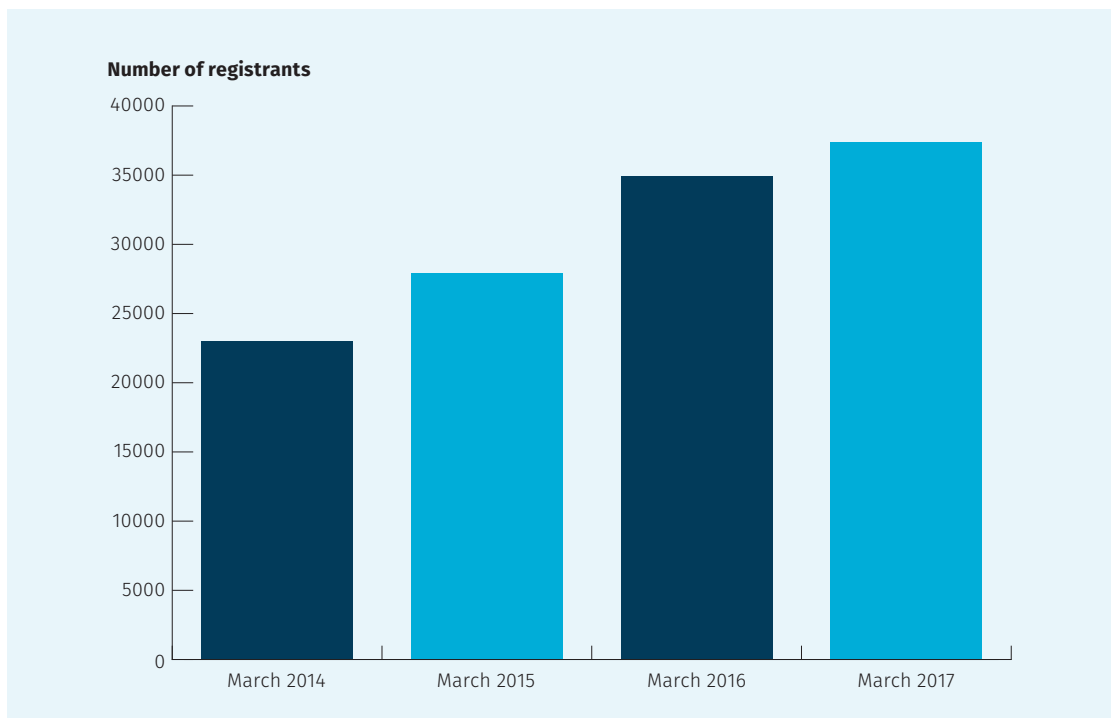
Source: National Diabetes Services Scheme (NDSS) 2017. NDSS snapshot as at 30 March 2017. Accessed online 25 July 2017 at https://www.ndss.com.au/data-snapshots

Figure 6: Risk of stillbirths for mothers with pre-existing diabetes and mothers without diabetes (rate per 1000 births)[11]

Stillbirths per 1 000 births at risk
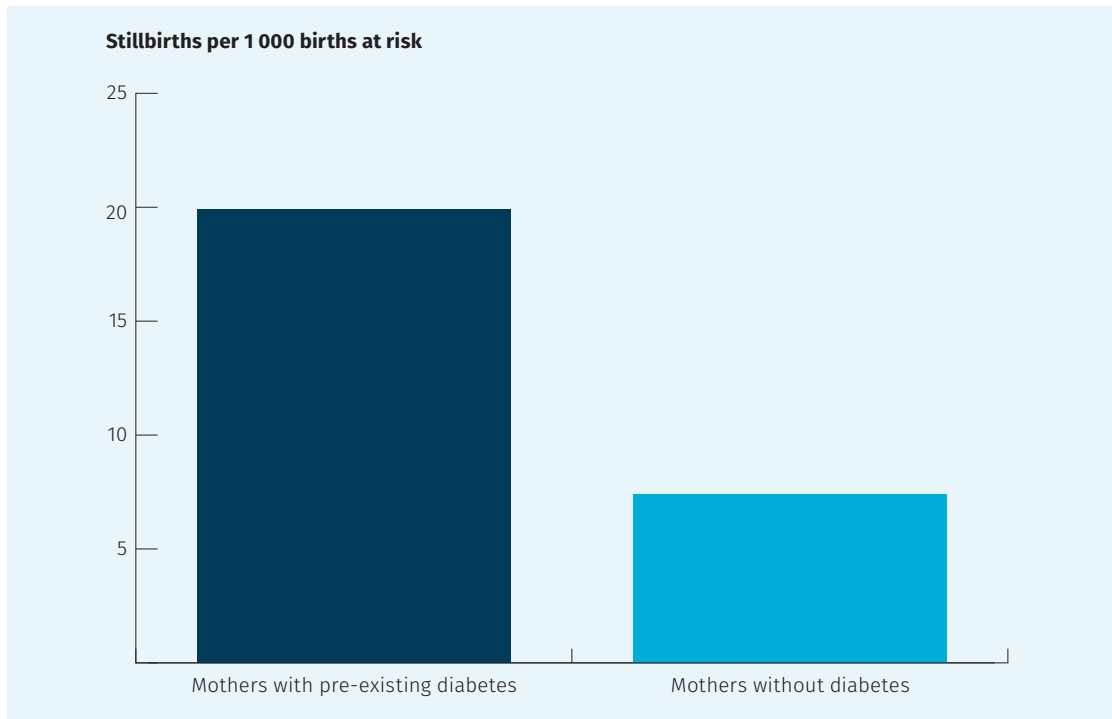
Source: AIHW: Hilder L, Li Z, Zeki R & Sullivan EA 2014. Stillbirths in Australia, 1991–2009. Perinatal statistics series no. 29. Cat. no. PER 63. Canberra: AIHW National Perinatal Epidemiology and Statistics Unit.

Current government activities

An MBS item supports a gestational diabetes check for all pregnant women, and the NDSS provides education and support services to women diagnosed with gestational diabetes.

State and territory health departments provide a range of clinics and programs to support women with pre-existing and gestational diabetes while pregnant.

Direction of future work

Priority actions aim to support the early detection of diabetes in pregnancy and to provide best-practice care throughout and after pregnancy for women. This includes women with pre-existing diabetes or those identified to have gestational diabetes and for children born to mothers with all forms of diabetes.

National priority action required	Responsible entity	Time frame* Short/ Medium/ Long
4.1 Develop an Australian Government endorsed set of guidelines for the care of women with pre-existing type 1 and type 2 diabetes and gestational diabetes in pregnancy and encourage adoption of their use through dissemination and implementation plans.	Australian Government	Medium
4.2 Provide accessible pre-pregnancy programs for women (including adolescent girls) with pre-existing type 1 and type 2 diabetes.	States and territories	Medium
4.3 Increase awareness of pre-existing and gestational diabetes in the community, especially among high-risk populations. *Relates to Goals 1, 5 and 6.*	Australian Government, states and territories	Short
4.4 Increase the education of women (including adolescent girls) with pre-existing type 1 and 2 diabetes and their maternity care providers about the importance of pregnancy planning, mental health and healthy living during pregnancy.	Australian Government, states and territories	Short
4.5 Promote evidence-based post-pregnancy diabetes testing and models of care for women with a history of gestational diabetes and their children. *Goal 7 provides the evidence base.*	States and territories	Medium
4.6 Review and strengthen reminder alerts based on best practice for women who have had gestational diabetes (and their children) to have follow-up screening and the opportunity for lifestyle counselling to monitor and lower their risk of developing type 2 diabetes. *Relates to Goal 7.*	Australian Government, states and territories	Medium

*Time frame
Short: To be implemented in the next 12–18 months.
Medium: To be implemented within 18–24 months.
Long: To be implemented within 24–36 months.
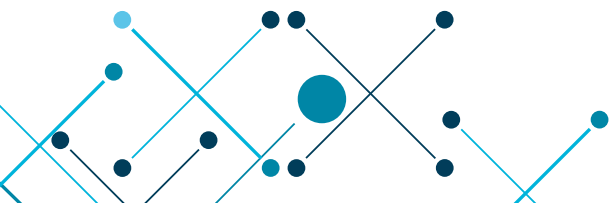
Implementation of Goal 5: Reduce the impact of diabetes among Aboriginal and Torres Strait Islander peoples

In context

Aboriginal and Torres Strait Islander communities in Australia have one of the highest rates of type 2 diabetes and related complications both nationally and globally. Aboriginal and Torres Strait Islander peoples may experience high unemployment, poor educational attainment and cultural and linguistic barriers, as well as geographic and socio-economic barriers that limit their access to diabetes-related services and education. Aboriginal and Torres Strait Islander peoples are disproportionately affected by diabetes (Figure 7) as well as most other chronic conditions.

The Strategy recommends ensuring that Aboriginal and Torres Strait Islander peoples have access to relevant diabetes support, education and services. Furthermore, addressing the social determinants of health that negatively impact on the health outcomes— for example, poverty, food security, education and housing— will reduce the impact of diabetes in this population group.

It is relevant to note that, while Goal 5 sets out targeted priority actions for Aboriginal and Torres Strait Islander peoples, all goals outlined in this Plan apply to priority populations.

Box 2: Aboriginal and Torres Strait Islander people are disproportionately affected by diabetes

- Indigenous Australians are 3.5 times as likely as non-Indigenous Australians to have diabetes.[7]
- Indigenous Australians are four times as likely as other Australians to be hospitalised for diabetes.[7]
- Indigenous Australians are four times as likely as non-Indigenous Australians to die from diabetes.[7]
- Complications such as lower limb amputations are more common among Indigenous Australians than non-Indigenous Australians.[12]
- Indigenous Australians on dialysis had a higher death risk than non-Indigenous Australians where diabetes was also present.[12]

Sources

AIHW 2016. Australia's Health 2016. Australia's health series no. 15. Cat. no. AUS 199. Canberra: AIHW.

Australian Health Ministers' Advisory Council (AHMAC) 2017. Aboriginal and Torres Strait Islander Health Performance Framework–2017 Report. AHMAC: Canberra.
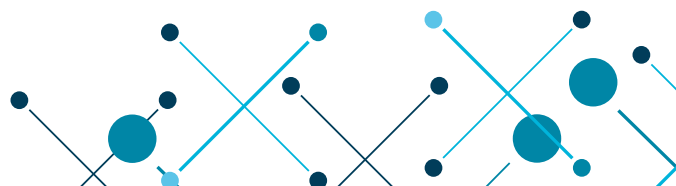
Figure 7: Prevalence of diabetes based on self-reported and measured HbA1c results among persons aged 18 and over, by Indigenous status and age, 2011–13[13]
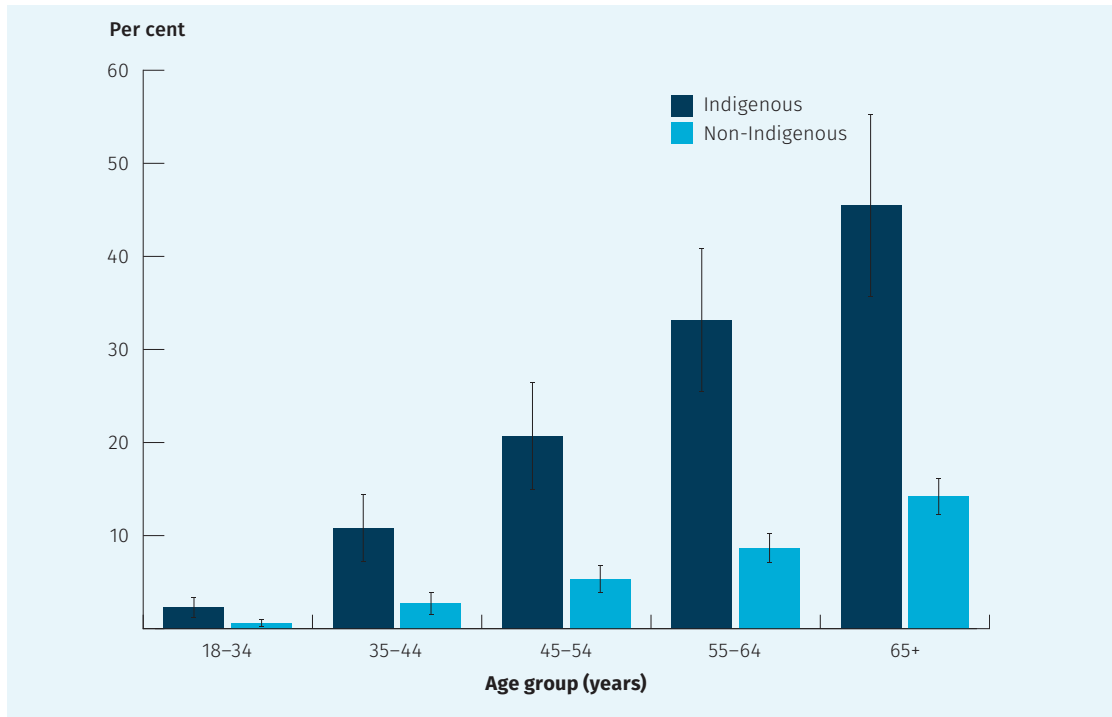
Notes

1. Includes pregnant women.

2. Diabetes prevalence is derived using combination of HbA1c test results and self-reported information about diabetes diagnosis and medication use.

Source: AIHW 2015. Cardiovascular disease, diabetes and chronic kidney disease—Australian facts: Aboriginal and Torres Strait Islander people. Cardiovascular, diabetes and chronic kidney disease series no. 5. Cat no. CDK 5. Canberra: AIHW.
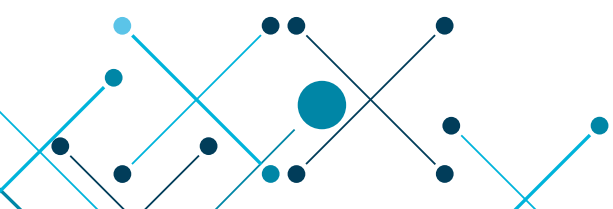
Current government activities

Specific national activities provide a broad range of health outreach services that focus on the prevention, detection and management of chronic disease through the Indigenous Australians' Health Program, including Integrated Team Care (being delivered through Primary Health Networks) and the Medical Outreach Indigenous Chronic Disease Program, as well as through strategic deliverables included in the Implementation Plan for the National Aboriginal and Torres Strait Islander Health Plan 2013–2023. The Quality Assurance for Aboriginal & Torres Strait Islander Medical Services program supports access to diabetes-related pathology testing and health care in rural and remote Indigenous communities. The NDSS also provides programs and services, which specifically focus on Indigenous Australians as well as health professionals working in Aboriginal health services. At a local level, states and territories provide targeted health care services, support programs for local communities and diabetes training for Aboriginal and Torres Strait Islander health workers.

The Rural Health Multidisciplinary Training Program Framework requires participating universities to facilitate improvement of Aboriginal and Torres Strait Islander health. This includes embedding Aboriginal and Torres Strait Islander health issues into the rural training curricula of health professionals, with reference to the Aboriginal and Torres Strait Islander Health Curriculum Framework.

Many of the activities already identified in this Plan also apply to this goal.
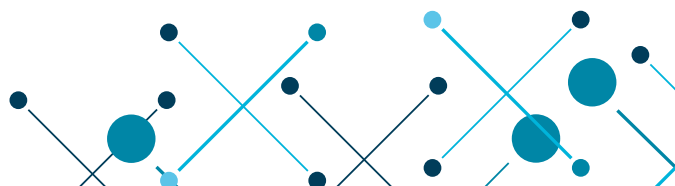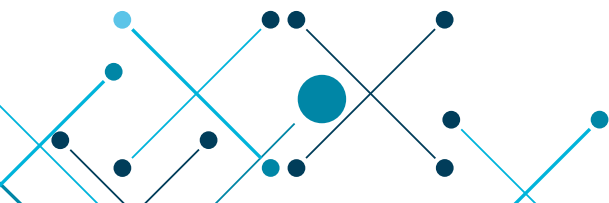
Direction of future work

To better inform Aboriginal and Torres Strait Islander peoples about diabetes and build on the availability of culturally competent health support.

National priority action required	Responsible entity	Time frame* Short/Medium/Long
5.1 Work with Aboriginal and Torres Strait Islander health organisations and communities to strengthen and implement a culturally relevant nutrition and physical activity plan for Aboriginal and Torres Strait Islander peoples, including for use in remote communities.	AHMAC	Short
5.2 Provide culturally relevant diabetes related programs that meet the needs of local Aboriginal and Torres Strait Islander communities. *Relates to Goal 1.*	States and territories	Short
5.3 Implement health assessment tools, such as the Australian Type 2 Diabetes Risk Assessment Tool (AUSDRISK), and guidelines for Aboriginal and Torres Strait Islander peoples. *Relates to Goal 2.*	Australian Government	Long
5.4 Provide culturally safe diabetes prevention and management programs in primary health services (Aboriginal community controlled and mainstream) and hospitals.	Australian Government, states and territories	Short
5.5 Whole of life cycle interventions are accessible and have a strong focus on prevention and early intervention programs to prevent chronic health conditions, including type 2 diabetes. (Implementation Plan for the National Aboriginal and Torres Strait Islander Health Plan 2013–2023, Deliverable 1C1). *Relates to Goal 1 and 4.*	Australian Government	Long

(continued)

National priority action required	Responsible entity	Time frame* Short/Medium/ Long
5.6 Aboriginal and Torres Strait Islander peoples have access to culturally appropriate health promotion programs before and during pregnancy (Implementation Plan for the National Aboriginal and Torres Strait Islander Health Plan 2013–2023, Strategy 2A).	Australian Government	Medium
5.7 Promote identification of Aboriginal and Torres Strait Islander peoples in health care settings to enable sharing of information about diabetes programs and services. *See: AIHW national best practice guidelines for collecting Indigenous status in health data sets.*[14]	Australian Government, states and territories	Short
5.8 Support, grow and increase the capacity and capability of the workforce, including medical and allied health professionals, nurse practitioners and other nursing roles, midwives and Aboriginal health practitioners/workers, to meet the current and future health needs of Aboriginal and Torres Strait Islander people. (Implementation Plan for the National Aboriginal and Torres Strait Islander Health Plan 2013–2023, Deliverable 1E1).	Australian Government, states and territories	Medium
5.9 Support the connection of Aboriginal Medical Services to the My Health Record and ensure that health care professionals have access to resources that support them in the confident and efficient use of digital services.	Australian Government	Medium

*Time frame

Short: To be implemented in the next 12–18 months.
Medium: To be implemented within 18–24 months.
Long: To be implemented within 24–36 months.
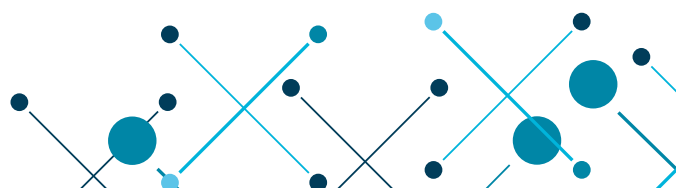
Implementation of Goal 6: Reduce the impact of diabetes among other priority groups

In context

Australia has a socially and culturally diverse population, and particular groups are at higher risk of developing type 2 diabetes —for example, some culturally and linguistically diverse people, older Australians, Australians living in rural and remote areas and people with a mental health illness. The Strategy recommends that each group may require specific attention, including different policy or health system approaches as appropriate to their identified needs.

It is relevant to note that, while Goal 6 sets out targeted priority actions for priority groups, all goals outlined in this Plan apply to priority populations.

Box 3: Diabetes among priority groups

Socio-economic status
- When compared with those living in the highest socio-economic areas, people living in the lowest socio-economic areas are 3.6 times as likely to have diabetes; 1.8 times as likely to be hospitalised for diabetes; and twice as likely to die from diabetes.[7]

Remote and very remote areas
- Diabetes death and hospitalisation rates for people with type 2 diabetes in remote and very remote areas are around twice those of major cities (1.9 and 1.8 times respectively).[7]

Older Australians
- The prevalence of diabetes increases rapidly with age up to age 75.[15]

Sources:

AIHW 2016. Australia's Health 2016. Australia's health series no. 15. Cat. no. AUS 199. Canberra: AIHW.

AIHW 2017. How many Australians have diabetes? Accessed online 25 July 2017 at http://www.aihw.gov.au/how-common-is-diabetes/
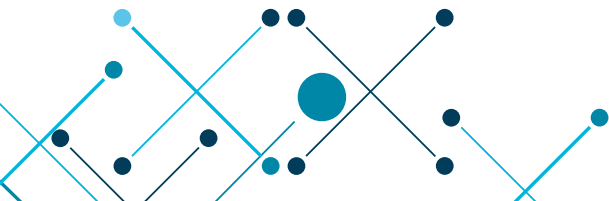
Figure 8: Prevalence of diabetes among priority groups, 2014–15[16]
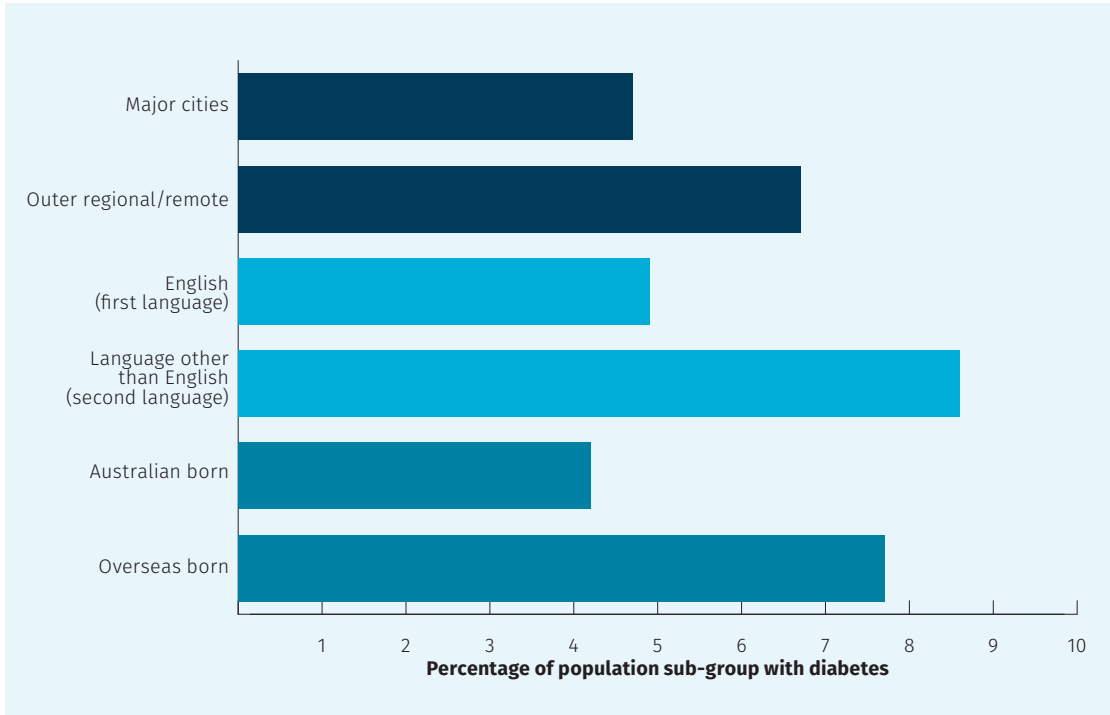
Source: ABS 2017. National Health Survey: First results, 2014–15. Cat no. 4364.0.55.001. Accessed online 25 July 2017 at http://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/4364.0.55.0012014-15?OpenDocument

Current government activities

A wide range of activities are underway to reduce the impact of diabetes among priority population groups across Australia. These include translated resources, access to interpreter services, telehealth services, Royal Flying Doctor Service clinics, Rural Health Multidisciplinary Training Program, access to outreach health services for people living in regional, rural and remote Australia through the Rural Health Outreach Fund, mental health assessments for people with diabetes and hospital-based services.
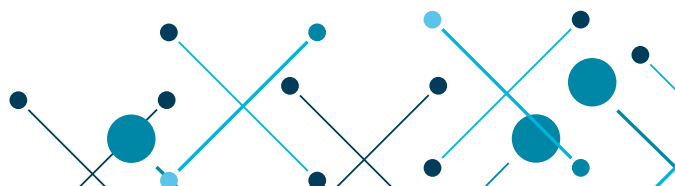
Direction of future work

To identify priority populations' needs and barriers to effective support and improve available support services.

National priority action required	Responsible entity	Time frame* Short/Medium/ Long
6.1 Develop an Australian Government endorsed set of diabetes guidelines for prevention, early detection, management and care of diabetes and related complications and encourage adoption of their use through dissemination and implementation plans.	Australian Government	Short
6.2 Review and promote relevant clinical care guidelines, including end-of-life pathways and strategies such as Advance Care Plans, to ensure priority groups at risk of or with diabetes receive relevant information and support.	Australian Government	Medium
6.3 Ensure appropriate care transitions between services for older people (e.g. Health Care Homes and aged care).	Australian Government, states and territories	Short
6.4 Encourage health professionals to use shared care plans and My Health Records in their care of older people.	Australian Government, states and territories	Medium
6.5 Support older people who are eligible for aged care services to access allied health services.	Australian Government	Medium
6.6 Ensure an adequate skill base in diabetes for health care workers working in aged care and mental health services. *Refer to Goal 3*.	Australian Government, states and territories	Medium
6.7 Examine the barriers to support and care experienced by people with mental health issues and implement programs to address the barriers.	Australian Government	Medium

(continued)
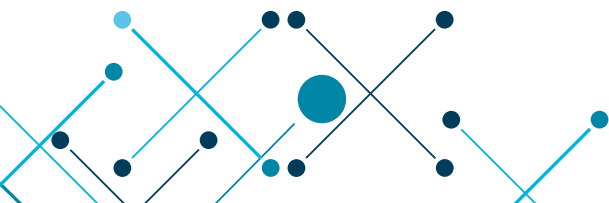
National priority action required	Responsible entity	Time frame* Short/Medium/ Long
6.8 Develop and ensure access to programs of self-management and peer support for people with type 1 and type 2 diabetes living in regional, rural and remote Australia. *Relates to Goal 3.*	Australian Government, states and territories	Medium
6.9 Expand access to medical and specialist care for people living in rural and remote areas, including by increasing the use of telehealth.	Australian Government, states and territories	Long
6.10 Provide culturally appropriate diabetes prevention and management programs to culturally and linguistically diverse communities.	Australian Government, states and territories	Medium

*Time frame

Short: To be implemented in the next 12–18 months.
Medium: To be implemented within 18–24 months.
Long: To be implemented within 24–36 months.
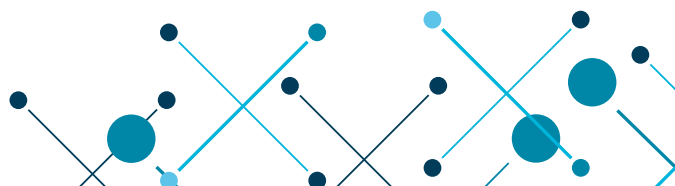
Implementation of Goal 7: Strengthen prevention and care through research, evidence and data

In context

Strengthening prevention and care through research, evidence and data is fundamental to reducing the impact of diabetes on Australia's health and productivity. The Strategy recommends strengthening evidence-based practice for the prevention and management of diabetes and its complications, identifying a cure for diabetes, informing health policy decisions and potentially offering more timely access to newer and improved medications.

Box 4A: Research funding for diabetes[17]

From 2011 to 2016, National Health and Medical Research Council (NHMRC) research funding for diabetes was $424.1 million. This included:

- $42 million for diabetic nephropathy
- $24.7 million for diabetic retinopathy
- $12.2 million for gestational diabetes
- $105.1 million for type 1 diabetes
- $285.1 million for type 2 diabetes
- $18.7 million for diabetes not elsewhere classified.

The diagram on the right depicts these research funding categories as percentage of total diabetes funding.

Note: Research funding categories do not sum to total due to category overlaps.
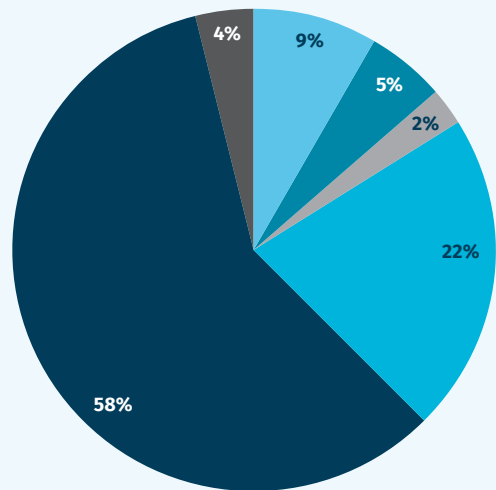
- Diabetes nephropathy
- Diabetic retinopathy
- Gestational diabetes
- Type 1 diabetes
- Type 2 diabetes
- Diabetes not elsewhere classified

Box 4B: Australian Institute of Health and Welfare funding 2014–2015 to 2016–2017

From 2014–15 to 2016–17, the Australian Government is providing approximately $4.94 million to support the national monitoring of diabetes, including through the AIHW National (insulin-treated) Diabetes Register.
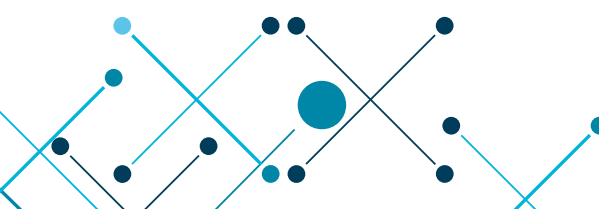
Current government activities

Australia currently has multiple diabetes research projects, the bulk of which are supported by funding through NHMRC grants. Further, the National Centre for Monitoring Chronic Conditions at AIHW contributes to Australia's understanding of diabetes through ongoing monitoring and analysis of data to examine the impact of diabetes as a contributor and risk factor for other chronic diseases; and examining complications as a result of chronic disease. The Australasian Diabetes Data Network is a platform that allows sharing of clinical databases for clinical research on diabetes care. The Australian National Diabetes Audit project collects data from specialist diabetes centres to enable benchmarking of practice processes and patient outcome data. The Australian Government also provides financial support to the Australian Type 1 Diabetes Clinical Research Network, which is dedicated to having a positive impact on the life of people with type 1 diabetes.
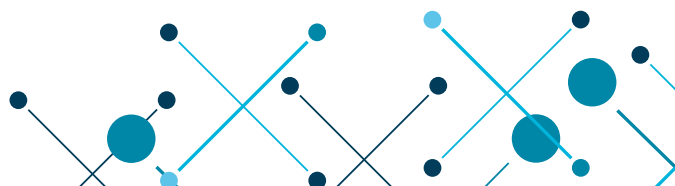
Direction of future work

To continue to strengthen the evidence base for the prevention, early detection, management and care of all forms of diabetes through targeted research and data collection.

National priority action required	Responsible entity	Time frame* Short/Medium/ Long
7.1 Consider commissioning research into the following priority areas: · new models of diabetes prevention, especially among Aboriginal and Torres Strait Islander people and other priority groups · new models to effectively engage women in follow-up who have had gestational diabetes for prevention and/or early intervention for type 2 diabetes · diabetes-related complications and comorbidities, including fatty liver, heart failure, cancer and diabetic foot disease · diabetes and links to mental health · barriers to best practice and the availability of and access to appropriate health services; and strategies to overcome these barriers.	Australian Government, states and territories	Medium
7.2 Design an integrated risk assessment tool for chronic conditions, including diabetes and cardiovascular disease. *Relates to Goal 3*.	Australian Government	Short
7.3 Develop supporting indicators and data collection to better measure progress of the Australian National Diabetes Strategy 2016–2020.	AHMAC	Medium
7.4 Expand the National Eye Health Survey to the broader population to better understand trends in diabetic and other eye health conditions.	Australian Government	Medium/Long

National priority action required	Responsible entity	Time frame* Short/Medium/ Long
7.5 Promote and expand standardised data collection across all settings.	Australian Government, states and territories	
7.6 Link existing data sets, including the NDSS, to provide de-identified aggregate data that can be analysed to inform the knowledge base for diabetes, within the recognised legislative and privacy requirements.	Australian Government	Medium
7.7 Support NDSS enhancement to better collect information on services.	Australian Government	Medium

*Time frame

Short: To be implemented in the next 12–18 months.
Medium: To be implemented within 18–24 months.
Long: To be implemented within 24–36 months.
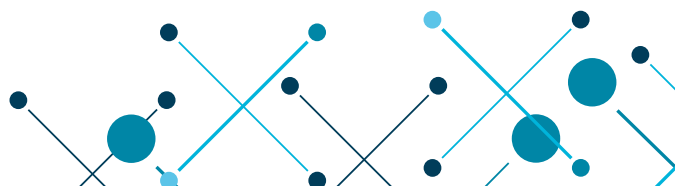
Monitoring and reporting against the Strategy

Diabetes in Australia: Focus on the future is an Implementation Plan for the Strategy. The Strategy contains seven goals with potential areas for action to achieve each goal. This Plan has been developed by a jurisdictional Implementation Working Group and aims to operationalise each of the Strategy's goals.

It should be noted that this Plan does not purport to address all issues and priorities highlighted in the Strategy, but it is a starting point for governments to identify the key actions and priorities that can be tackled as a first tranche of activity.

Progress of this Plan is the responsibility of all jurisdictions.

Why monitor and report?

The key purpose of monitoring and reporting is to allow progress against the goals of the Strategy to be assessed in a consistent and comparable manner.

Reporting on progress will ensure that Australian Government, state and territory governments are consistent in planning, funding and implementing action to prevent people developing diabetes and/or minimising the risk of complications associated with diabetes.

This reporting mechanism will allow for sectors, including non-government organisations, to continue to focus their attention on key areas, ensuring that support and investment of resources is appropriately directed.

How and when?

Two reports will be used to assess the progress of the Strategy. A quantitative (data) report and qualitative (priority actions) report will combine to give a sense of whether the priority actions outlined in this Plan are supporting the vision of the Strategy, which is to *strengthen all sectors in developing, implementing and evaluating an integrated and coordinated approach for reducing the social, human and economic impact of diabetes in Australia.*

1. Quantitative (data) report

A data progress report may be produced annually, and at least biennially, to collate national data against listed indicators to identify progress against the goals of the Strategy.

Reporting will be coordinated by the Australian Government, with all jurisdictions providing input through existing data sources and programs. The Australian Government may commission an independent external agency to collate and compile the annual report.

It is intended that data are obtained from existing sources and national health reporting projects or frameworks to reduce reporting burden. Data and indicator development may be necessary to fulfil reporting requirements. Goal 7 of the Strategy includes a priority action on ongoing development of supporting indicators and data collection to better measure progress of the Strategy.

Reports will follow a format that allows for consistent reporting of data and activities. This will enable clear comparisons to be undertaken across reporting intervals.
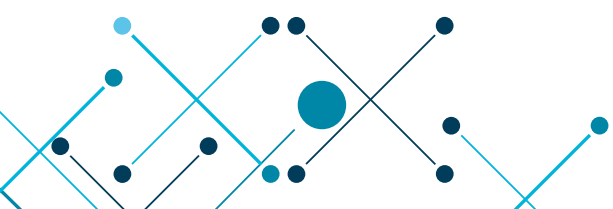
2. Qualitative (priority actions) report

An action progress report will be produced at the end of 2019 that reports on progress made on implementing the activities and priority actions outlined in this Plan.

All jurisdictions will provide information on activities (and any evaluations) listed in this Plan they have undertaken and how far this work has advanced. Reports are not expected to outline every priority action in this Plan but focus on those areas where governments have been able to make progress.

As well as describing progress on the implementation of the Strategy, reports should identify where possible, areas where improvements in diabetes outcomes are needed and any gaps or deficiencies. They may also include recommendations to address these.

As noted on page 3 of this Plan, governments will use the activities in this Plan to inform their prioritisation of effort, and action will vary in each jurisdiction depending on available resources, current programs and local needs.

At the time of this action progress report, it is expected the reporting framework for the NSFCC will be finalised. Alignment between reporting requirements for the Strategy and the NSFCC, and whether it is appropriate for future reporting on the Strategy to occur as part of the reporting framework, will be considered.

Measures of progress and indicators

The Strategy includes a list of potential measures of progress that are intended to show whether each goal of the Strategy is being met or addressed.

Indicators mapped against the potential measures of progress have been compiled by the AIHW in consultation with the jurisdictional Implementation Working Group and are included in this Plan. The set of indicators does not provide an exhaustive measure of progress but will provide a way to assess achievements and progress.

The development of the indicators included a stocktake of key indicator frameworks and policy documents to identify potential indicators related to the Strategy's goals and potential measures of progress. Most of the Australian frameworks identified in the stocktake have been endorsed by AHMAC. Guiding principles for the selection of the indicators included that they must be diabetes specific and that data would be routinely available and would complement existing reporting mechanisms. This approach aims to reduce the reporting requirements and burden on government. The development of the set of indicators did not involve indicator or data development but did identify data refinements and priorities for data development.

Also identified are potential measures of progress where no indicators are identified. It is acknowledged that new indicators and data may need to be collected. The priority actions in Goal 7 focus on the development of new indicators where none have been identified or where there is the opportunity for improvement of the indicators.
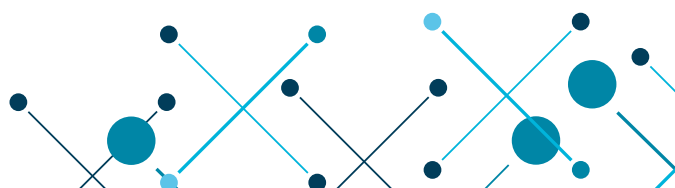
Annual diabetes forum

A diabetes forum may be held annually to provide an opportunity for all stakeholders in the diabetes sector, including governments, to share information on the implementation of national priority actions and to reflect on new challenges and priorities; emerging evidence and opportunities; and increased opportunities for collaboration.

Reporting requirements and indicators may also be considered at the diabetes forum to discuss progress against the Strategy's goals.

Further refinements to this Plan could be considered in this process.

Who will use the reports?

Reporting on progress in implementing the priority actions outlined in this Plan and key outcomes of the forums, including emerging priorities and possible additions/modifications to this Plan, will be provided to AHMAC for consideration.

Additionally, the data and action reports can be used by all participants in the diabetes sector to guide policy directions, to contribute to the evidence base for diabetes management and care, and as a tool to advocate for funding. The reports may need to be tailored for different audiences as appropriate.
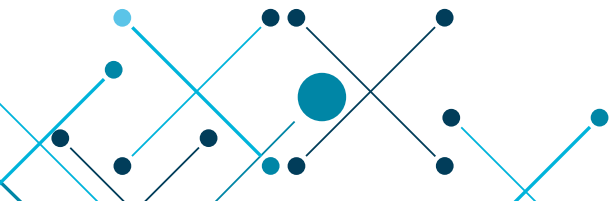
Indicators

As outlined in the previous section, indicators have been collated and mapped to the potential measures of progress for each goal of the Strategy. The following indicator tables show the framework/report where an indicator may be collected and the agency which has the data source.

Goal 1: Prevent people developing type 2 diabetes

Eight potential indicators have been identified to measure the progress of Goal 1. Two indicators relate to type 2 diabetes specifically. The remaining indicators relate to risk factors in the general population.

Potential indicators mapped against potential measures of progress in the Australian National Diabetes Strategy 2016–2020	Framework/ report	Data source agency
People developing or with type 2 diabetes		
Incidence of type 2 diabetes	NIMD	AIHW
Prevalence of type 2 diabetes*	ROGS	ABS
Modifiable risk factors in the general population such as overweight and obesity, and levels of physical activity		
Waist circumference	NCDS	ABS
Overweight and obesity, by age group*	NHPF	ABS
Insufficient physical activity, by age group*	NHPF	ABS
Inadequate fruit and/or vegetable consumption, by age group*	NHPF	ABS
Total energy intake from saturated fatty acids*		ABS
Exclusive breastfeeding*	CYH	ABS/AIHW
Development of local healthy community environment plans		
No indicators identified		

*Indicator is routinely (or proposed to be) reported through existing indicator reporting activities or frameworks.
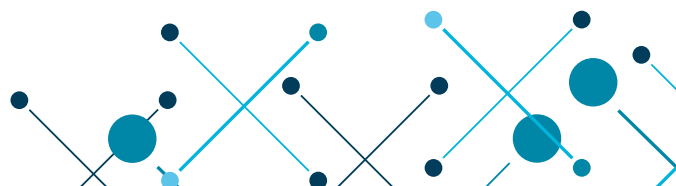
Goal 2: Promote awareness and earlier detection of type 1 and type 2 diabetes

Four potential indicators have been identified to measure the progress of Goal 2. Where no indicators are identified, refer to Goal 7.

Potential indicators mapped against potential measures of progress in the Australian National Diabetes Strategy 2016–2020	Framework/ report	Data source agency
People with type 1 diabetes who present with diabetic ketoacidosis upon diagnosis		
No indicators identified		
People tested for risk of type 2 diabetes		
Raised blood glucose levels (including diabetes)*		ABS
Other indicators not related to potential measures of progress		
Incidence of type 1 diabetes	NIMD	AIHW
Prevalence of type 1 diabetes	NIMD	AIHW/ABS
Uptake of the Practice Incentives Program (PIP) diabetes incentive*	ROGS	AG DoH

* Indicator is routinely (or proposed to be) reported through existing indicator reporting activities or frameworks.

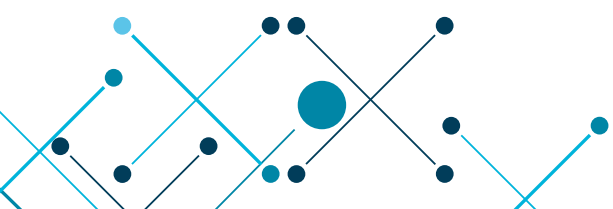# Goal 3: Reduce the occurrence of diabetes-related complications and improve quality of life among people with diabetes

Eighteen potential indicators have been identified to measure the progress of Goal 3. Refer to Goal 7 for further work on indicator data development.

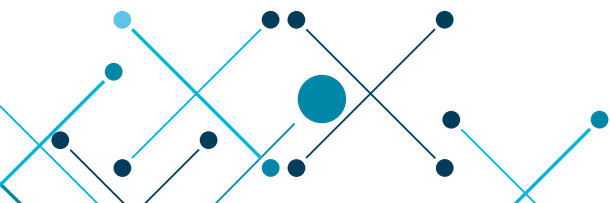| Potential indicators mapped against potential measures of progress in the Australian National Diabetes Strategy 2016–2020	Framework/ report	Data source agency
People with diabetes who achieve target levels of HbA1c, albuminuria, cholesterol or blood pressure		
People with diabetes who achieve the target level for blood pressure	NIMD	ABS
People with diabetes who achieve target levels for cholesterol	NIMD	ABS
People with diabetes who achieve the target level for HbA1c/ Effective management of diabetes*	ROGS	ABS
People with diabetes undertaking regular assessment for complications		
People with diabetes who had an HbA1c test in the last 12 months*	ROGS	ABS
People who have had their medication plan reviewed by a doctor or pharmacist		
No indicators identified		
People with diabetes complications		
Prevalence of end-stage kidney disease among people with diabetes	NIMD	ANZDATA/ ABS
Prevalence of vision loss caused by diabetes	NIMD	ABS
Prevalence of cardiovascular disease among people with diabetes	NIMD	ABS
Diabetes hospitalisations by type of diabetes	Tas HI	AIHW
Hospitalisation for end-stage renal disease as the principal diagnosis with diabetes as an additional diagnosis	NHPA	AIHW
Hospitalisation for coronary heart disease or stroke as the principal diagnosis with diabetes as an additional diagnosis	NHPA	AIHW
Hospitalisation for ophthalmic conditions with type 2 diabetes as a principal diagnosis*	ROGS	AIHW
Hospitalisation for lower limb amputation with type 2 diabetes as a principal or additional diagnosis*	ROGS	AIHW

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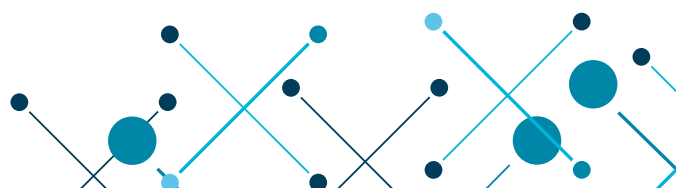
Potential indicators mapped against potential measures of progress in the Australian National Diabetes Strategy 2016–2020	Framework/ report	Data source agency
Hospitalisation for other complications with type 2 diabetes as a principal diagnosis*	ROGS	AIHW
Deaths from diabetes	NIMD	AIHW
Death rates for coronary heart disease and stroke among people with diabetes	NHPA	AIHW
Quality standards for diabetes in hospitals		
No indicators identified		
Other indicators not related to potential measures of progress		
People with diabetes who achieve the target level for weight/ Body Mass Index	NIMD	ABS
People with diabetes who have attended a diabetes educator	NIMD	ABS
Quality of life of people with diabetes	NIMD	ABS/ AusDiab

* Indicator is routinely (or proposed to be) reported through existing indicator reporting activities or frameworks.

Goal 4: Reduce the impact of pre-existing and gestational diabetes in pregnancy

Two potential indicators have been identified to measure the progress of Goal 4. Refer to Goal 7 for further work on indicator data development.

Potential indicators mapped against potential measures of progress in the Australian National Diabetes Strategy 2016–2020	Framework/ report	Data source agency
Pregnant women with diabetes having measurements of HbA1c in the first and third trimesters		
No indicators identified		
Reduction in perinatal and infant deaths of children of mothers with diabetes		
No indicators identified		
Mothers with gestational diabetes having postpartum diabetes testing		
No indicators identified		
Other indicators not related to potential measures of progress		
Proportion of pregnant women being tested for gestational diabetes	NHPA	AG DoH
Incidence of gestational diabetes	NIMD	AIHW
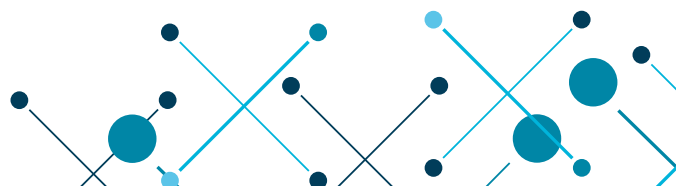
Goal 5: Reduce the impact of diabetes among Aboriginal and Torres Strait Islander peoples

A number of potential indicators have been identified to measure the progress of Goal 5.

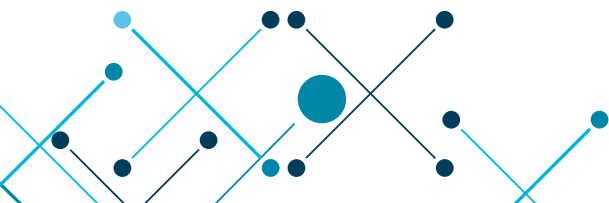| Potential indicators mapped against potential measures of progress in the Australian National Diabetes Strategy 2016–2020	Framework/ report	Data source agency
Aboriginal and Torres Strait Islander people with diabetes		
Incidence of type 1 and type 2 diabetes (Goal 1–2 indicator disaggregated by Indigenous status)	NIMD	AIHW
Prevalence of type 1 and type 2 diabetes* (Goal 1–2 indicator disaggregated by Indigenous status)	NIMD; ROGS	AIHW/ ABS; ABS
Aboriginal and Torres Strait Islander people with diabetes complications		
Hospitalisation for diabetes by type of diabetes*	HPF	AIHW
Ratio of separations for Aboriginal and Torres Strait Islander people to all Australians, diabetes*	ROGS	AIHW
Hospitalisation for principal diagnosis of diabetes by additional diagnosis of hospitalisation*	HPF	AIHW
Age-standardised death rate for diabetes by Indigenous status*	HPF	AIHW
Avoidable and preventable deaths from diabetes*	HPF	AIHW
Prevalence of (Goal 3 indicator disaggregated by Indigenous status):		
· end-stage kidney disease among people with diabetes	NIMD	ANZDATA/ ABS
· vision loss caused by diabetes	NIMD	ABS
· cardiovascular disease among people with diabetes	NIMD	ABS
Hospitalisation for (Goal 3 indicator disaggregated by Indigenous status):		
· type of diabetes	Tas HI	AIHW
· end-stage renal disease as the principal diagnosis with diabetes as an additional diagnosis	NHPA	AIHW
· coronary heart disease or stroke as the principal diagnosis with diabetes as an additional diagnosis	NHPA	AIHW

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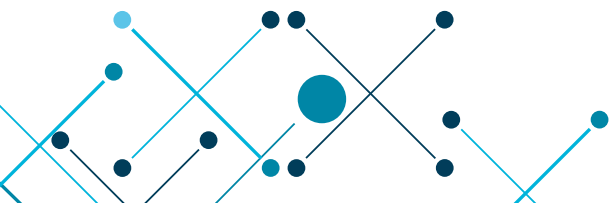| Potential indicators mapped against potential measures of progress in the Australian National Diabetes Strategy 2016–2020	Framework/ report	Data source agency
· ophthalmic conditions with type 2 diabetes as a principal diagnosis*	ROGS	AIHW
· lower limb amputation with type 2 diabetes as a principal or additional diagnosis*	ROGS	AIHW
· other complications with type 2 diabetes as a principal diagnosis*	ROGS	AIHW
Deaths from diabetes; death rates for coronary heart disease and stroke among people with diabetes (Goal 3 indicator disaggregated by Indigenous status)	NIMD; NHPA	AIHW
Aboriginal and Torres Strait Islander women with gestational diabetes		
Incidence of gestational diabetes (Goal 4 indicator disaggregated by Indigenous status)	NIMD	AIHW
Aboriginal and Torres Strait Islander people with above-target HbA1c, albuminuria, cholesterol or blood pressure		
People with diabetes who (Goal 3 indicator disaggregated by Indigenous status):		
· achieve target levels for cholesterol	NIMD	ABS
· achieve the target level for blood pressure	NIMD	ABS
· achieve the target level for HbA1c/effective management of diabetes*	ROGS	ABS
Aboriginal and Torres Strait Islander people who receive regular testing for complications		
Indigenous regular clients with type 2 diabetes who had a blood pressure test*	HPF	AIHW
Indigenous regular clients with type 2 diabetes who had a kidney function test*	nKPI	AIHW
Indigenous regular clients with type 2 diabetes who had a kidney function test with results within specified levels*	nKPI	AIHW

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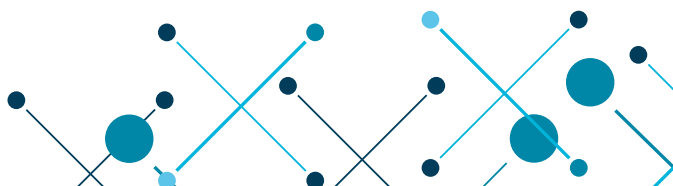| Potential indicators mapped against potential measures of progress in the Australian National Diabetes Strategy 2016–2020	Framework/ report	Data source agency
People with diabetes who had an HbA1c test in the last 12 months* (Goal 3 indicator disaggregated by Indigenous status)	ROGS	ABS
Rates of smoking and alcohol consumption among pregnant Aboriginal and Torres Strait Islander women with diabetes		
Women who smoked during pregnancy*	HPF	AIHW
The cost of a healthy food basket, monitored to assess the availability and affordability of foods required for a healthy diet		
No indicators identified		
Aboriginal and Torres Strait Islander children participating in evidence-based early childhood education programs		
Indigenous children attending preschool*	NIRA	AIHW/ABS
Other indicators not related to potential measures of progress		
Risk factors (Goal 1 indicator disaggregated by Indigenous status):		
· overweight and obesity, by age group*		ABS
· insufficient physical activity, by age group*		ABS
· inadequate fruit and/or vegetable consumption, by age group*		ABS
· waist circumference	NCDS	ABS
Exclusive breastfeeding* (Goal 1 indicator disaggregated by Indigenous status)		ABS/AIHW
Risk factor status of women who attended an antenatal visit before 13 weeks of pregnancy*	HPF	AIHW
Risk factor status of women who attended an antenatal visit in the third trimester of pregnancy*	HPF	AIHW
Indigenous regular clients with type 2 diabetes receiving recommended care from Indigenous primary health care services*	HPF	AIHW
Indigenous regular clients of Indigenous primary health care services who had type 2 diabetes and a general practitioner management plan or team care arrangements*	HPF	AIHW
Indigenous regular clients with type 2 diabetes who are immunised against influenza*	nKPI	AIHW

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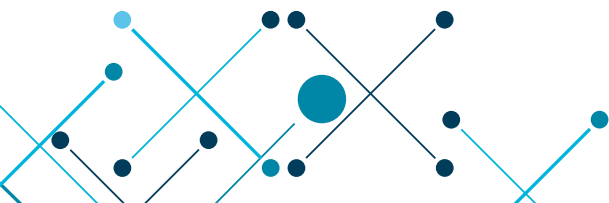| Potential indicators mapped against potential measures of progress in the Australian National Diabetes Strategy 2016–2020	Framework/ report	Data source agency
Types of lifestyle issues discussed with health professional*	HPF	ABS
Health actions taken by people with diabetes*	HPF	ABS
People without diabetes tested for high sugar levels/ risk of diabetes*	HPF	ABS
Selected health issues of Indigenous mothers*	HPF	ABS
Use of antenatal care by selected health issues*	HPF	ABS
Diabetes problems managed by general practitioner*	HPF	AIHW/AG DoH

Goal 6: Reduce the impact of diabetes among other priority groups

Twenty-five potential indicators have been identified to measure the progress of Goal 6.

Potential indicators mapped against potential measures of progress in the Australian National Diabetes Strategy 2016–2020	Framework/ report	Data source agency
People developing or with type 2 diabetes among priority groups		
People with diabetes by mental illness status*	ROGS	ABS
Incidence of type 2 diabetes (Goal 1 indicator disaggregated by age group, remoteness and socio-economic position)	NIMD	AIHW
Prevalence of type 2 diabetes* (Goal 1 indicator disaggregated by age group, remoteness and socio-economic position)	ROGS	ABS
People with diabetes among priority groups with above-target HbA1c, cholesterol, albuminuria and blood pressure		
People with diabetes who (Goal 3 indicator disaggregated by age group, remoteness and socio-economic position):		
· achieve target levels for cholesterol	NIMD	ABS
· achieve the target level for blood pressure	NIMD	ABS
· achieve the target level for HbA1c/effective management of diabetes*	NIMD	ABS
People among priority groups who are overweight, obese or have other modifiable risk factors		
Overweight and obesity by mental illness status*	ROGS	ABS
Risk factors (Goal 1 indicator disaggregated by age group, remoteness and socio-economic position):		
· overweight and obesity, by age group*		ABS
· insufficient physical activity, by age group*		ABS
· inadequate fruit and/or vegetable consumption, by age group*		ABS
· waist circumference	NCDS	ABS
Exclusive breastfeeding* (Goal 1 indicator disaggregated by age group, remoteness and socio-economic position)		ABS/AIHW

(continued)

Potential indicators mapped against potential measures of progress in the Australian National Diabetes Strategy 2016–2020	Framework/ report	Data source agency
People among priority groups who receive testing for complications		
People with diabetes who had an HbA1c test in the last 12 months* (Goal 3 indicator disaggregated by age group, remoteness and socio-economic position)	ROGS	ABS
Complications in people with diabetes among priority groups		
Prevalence of (Goal 3 indicator disaggregated by age group, remoteness and socio-economic position):		
· end-stage kidney disease among people with diabetes	NIMD	ANZDATA/ ABS
· vision loss caused by diabetes	NIMD	ABS
· cardiovascular disease among people with diabetes	NIMD	ABS
Diabetes hospitalisations (Goal 3 indicator disaggregated by age group, remoteness and socio-economic position):		
· by type of diabetes	Tas HI	AIHW
· for end-stage renal disease as the principal diagnosis with diabetes as an additional diagnosis	NHPA	AIHW
· for coronary heart disease or stroke as the principal diagnosis with diabetes as an additional diagnosis	NHPA	AIHW
· for ophthalmic conditions with type 2 diabetes as a principal diagnosis*	ROGS	AIHW
· for lower limb amputation with type 2 diabetes as a principal or additional diagnosis*	ROGS	AIHW
· for other complications with type 2 diabetes as a principal diagnosis*	ROGS	AIHW

(continued)

Potential indicators mapped against potential measures of progress in the Australian National Diabetes Strategy 2016–2020	Framework/ report	Data source agency
Deaths from diabetes; death rates for coronary heart disease and stroke among people with diabetes (Goal 3 indicator disaggregated by age group, remoteness and socio-economic position)	NIMD; NHPA	AIHW
Hospitalisations among older Australians with diabetes		
See hospitalisation indicators under the potential measure of progress 'Complications in people with diabetes among priority groups'		
Other indicators not related to potential measures of progress		
People with diabetes who have attended a diabetes educator (Goal 3 indicator disaggregated by age group, remoteness and socio-economic position)	NIMD	ABS

*Indicator is routinely (or proposed to be) reported through existing indicator reporting activities or frameworks.

Abbreviations:

ABS—Australian Bureau of Statistics

AG DoH—Australian Government Department of Health

AIHW—Australian Institute of Health and Welfare

ANZDATA—Australia and New Zealand Dialysis and Transplant Registry

AusDiab—Australian Diabetes, Obesity and Lifestyle Study

CYH—National Strategic Framework for Child and Youth Health

HPF—Aboriginal and Torres Strait Islander Health Performance Framework

NCDS—National Chronic Disease Strategy

NHPA—National Health Priority Areas
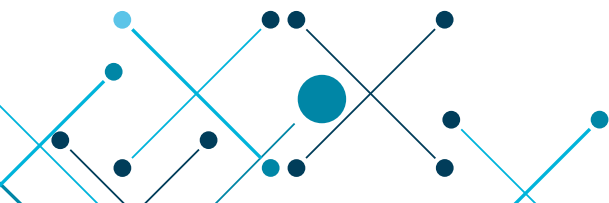
NHPF—National Health Performance Framework

NIMD—National Indicators for Monitoring Diabetes—AIHW

NIRA—National Indigenous Reform Agreement

nKPI—Indigenous Primary Health Care National Key Performance Indicators

ROGS—Report on Government Services

Tas HI—Health Indicators Tasmania

Goal 7: Strengthen prevention and care through research, evidence and data

No potential indicators have been identified for the potential measures of progress outlined in the Strategy for Goal 7. It should be noted that the potential measures of progress may be best served by the use of qualitative reporting rather than quantitative measures. These may be considered as part of the annual diabetes forum.
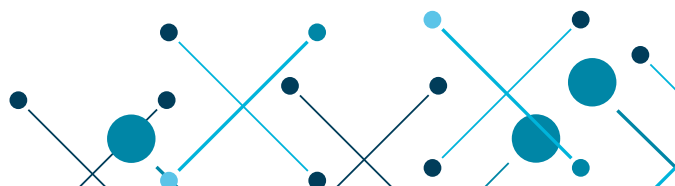
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