Diabetes in Australia:

Focus on the future

The Australian National Diabetes Strategy 2016–2020 Implementation Plan developed in partnership between the Australian Government and all states and territories

March 2017

Contents

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 outlines seven high-level goals with potential areas for action and measures of progress. The goals and potential areas for actions have guided the directions set out in this Implementation Plan (the Plan).

About this Implementation Plan

This Plan should be read in conjunction with the Strategy and the National Strategic Framework for Chronic Conditions (the Framework) (NOT yet released). The Framework 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 priority diabetes related actions that:

- address gaps in current diabetes direction and investment;
- minimise duplication of effort across all sectors; and
- 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 on the Department of Health website;
- the advice of all jurisdictions through the Implementation Working Group (IWG) established by the Community Care and Population Health Principal Committee of the Australian Health Ministers' Advisory Council (AHMAC); and
- consultation with key stakeholders.

The timeframe for this Plan aligns with the Australian National Diabetes Strategy. However, it is recognised that improvements in diabetes outcomes, as determined by changes in indicators, may not be seen within this short timeframe and the impact of the priority actions may extend beyond the life of this Plan.

Using this Implementation Plan

This Plan should guide the Australian, state and territory governments in planning, funding and implementing actions to improve the health of all Australians, specifically to prevent people developing diabetes and/or minimising the risks of complications associated with diabetes.

It will be critical for governments, specialist diabetes services, Primary Health Networks and other 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.

This Plan operationalises each of the Strategy's Goals. Five sections are identified for each Goal, these include context, supporting evidence, current national action, indicators to measure progress (of the Strategy) and direction of future work. Indicators to measure progress against the Goals of the Strategy have been developed by the Australian Institute of Health and Welfare in consultation with the IWG and included in this Plan. The indicators identified in this Plan are mapped against the potential measures of progress from the Australian National Diabetes Strategy 2016–2020 and are important to measure the progress against each goal of the Strategy. The indicator tables in each of the Goals also show the framework/report where the indicator may be collected and the agency which has the data source.

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. The priority actions identified in this Plan are not inclusive of all the potential areas for action listed within the Strategy. They have been chosen because of their importance, or due to the identification of gaps within currently delivered programs and services. The potential areas for action not flagged in this document, nevertheless, are important and warrant continued attention and effort.

Requirements for reporting on progress in implementing the actions outlined in this Plan will be determined by AHMAC and will be annexed to this Plan following their agreement.

Implementation of Goal 1: Prevent people developing type 2 diabetes

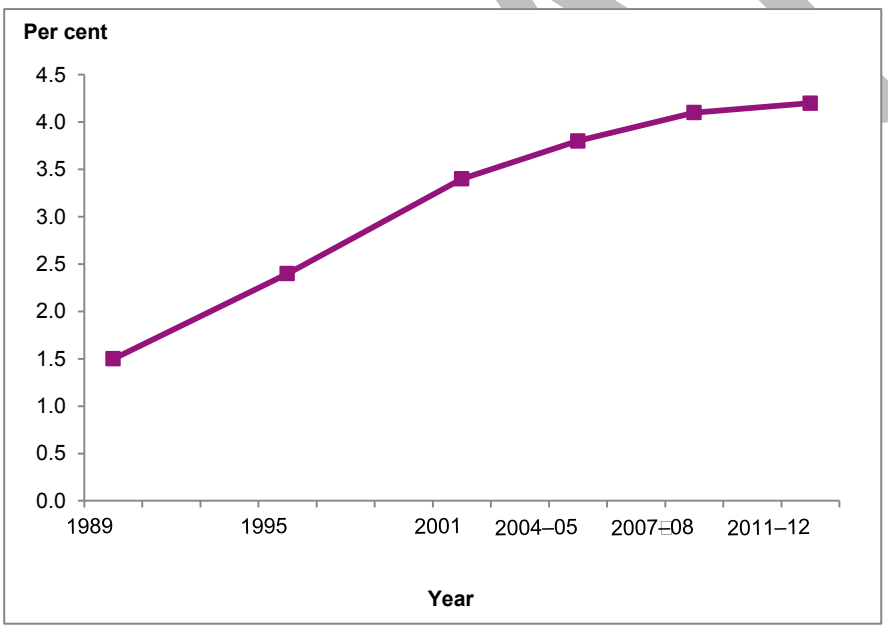
In context

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 developing type 2 diabetes, ranging from 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 2). 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.

Supporting evidence

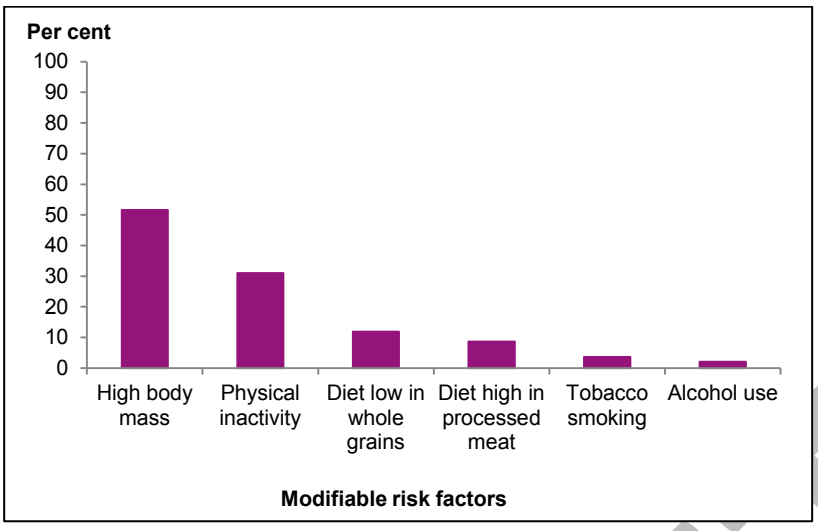
Self-reported diabetes data are supportive of the increasing trend in the prevalence of diabetes (Figure 1). The risk factors contributing the most burden of diabetes are also presented below (Figure 2).

Figure 1: Trends in self-reported diabetes prevalence, 1989–90 to 2011–12



Note: Rates have been age-standardised to the 2001 Australian population.
Source: AIHW 2014. Cardiovascular, 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.

Figure 2: Attributable burden (per cent) of diabetes by selected risk factors, 2011



Source: AIHW 2016. Australian Burden of Disease Study: impact and causes of illness and death in Australia 2011. Canberra: AIHW.

Current government activities

Many preventive 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 to reformulate processed foods to reduce salt, unhealthy fats and sugar content and front of pack labelling encourages consumers to make healthier food choices. 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.

Measures of progress

Eight 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.

Indicators mapped against potential measures of progress in the Australian National Diabetes Strategy	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*	NSFCC/NHPF	ABS
Insufficient physical activity, by age group*	NSFCC/NHPF	ABS
Inadequate fruit and/or vegetable consumption, by age group*	NSFCC/NHPF	ABS
Total energy intake from saturated fatty acids*	NSFCC	ABS
Exclusive breastfeeding*	NSFCC/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.
ABS—Australian Bureau of Statistics
AIHW—Australian Institute of Health and Welfare
CYH—National Strategic Framework for Child and Youth Health
NCDS—National Chronic Disease Strategy
NHPF—National Health Performance Framework
NIMD— National Indicators for Monitoring Diabetes – AIHW
NSFCC—National Strategic Framework for Chronic Conditions
ROGS—Report on Government Services

Direction of future work

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

Implement national priority actions			
National priority action required	**Responsible entity**	**Timeframe* Short/Medium/Long**	**Priority Low/Medium/High**
Develop and promote guidelines for identifying children and adolescents 'at risk' of type 2 diabetes. *Relates to Goal 2*	Commonwealth	Short	High
Limit impact of unhealthy food and drinks on children. *Refer to COAG communique 2016*	AHMAC	Short	High
Establish a mechanism to share initiatives established or under development to progress the actions agreed in the Implementation Plan. *Relates to all Goals*	Commonwealth, states and territories	Medium	Medium
Develop and implement national food, nutrition and physical activity plans	AHMAC	Medium	Medium
Provide access to support and counselling for people 'at risk' of developing type 2 diabetes using online, telephone and other appropriate and relevant modalities	Commonwealth, states and territories	Medium	High
To increase the adoption of healthy lifestyles for women planning pregnancy to reduce the risk of gestational diabetes	States and territories	Medium	Medium

*Timeframe
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

Strengthen current actions			
Current actions underway	**Responsible entity**	**Timeframe* Short/Medium/Long**	**Priority Low/Medium/High**
Continue to implement targeted 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*	Commonwealth, states and territories	Short	High
Support and develop the suite of social marketing campaigns to positively change individual behaviour and social norms	Commonwealth, states and territories	Short	High
Increase access to affordable food supply e.g. reformulation, GST exemption on fresh food and health food incentives for remote stores	Commonwealth	Short	High
Continue to develop and implement evidence based measures, policies and programs to reduce smoking prevalence	Commonwealth, states and territories	Short	High
Encourage information sharing and collaboration across and within jurisdictions on preventive health activity	Commonwealth, states and territories	Ongoing	High

*Timeframe
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 of paramount importance 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 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 from diabetes, it is imperative that type 1 diabetes cases are diagnosed before presentation to hospitals.

Type 2 diabetes

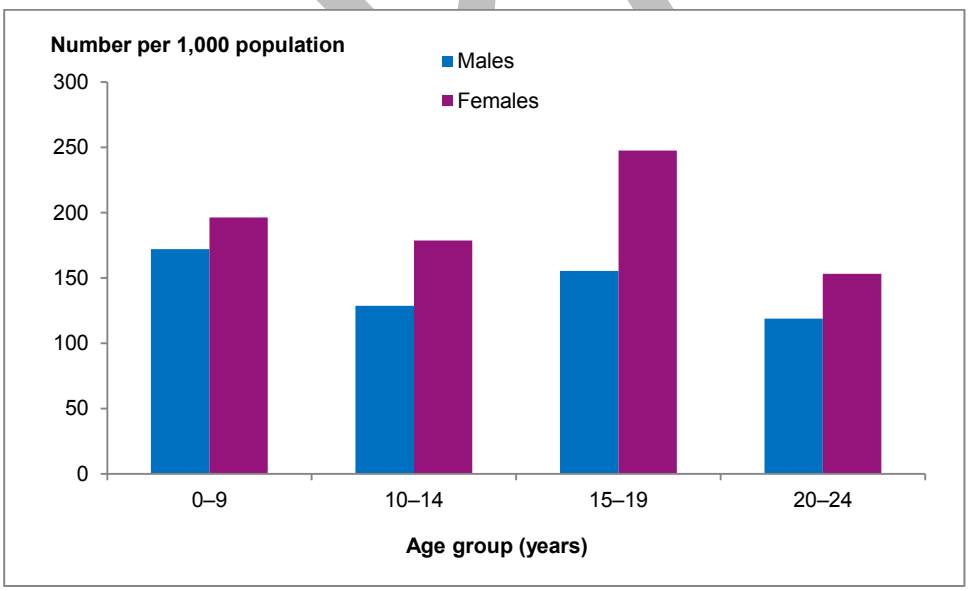
Recent estimates have suggested that for every 100 people with a diagnosis of type 2 diabetes in Australia, at least 25 people may be living with undiagnosed diabetes (Figure 4).

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

Supporting evidence

Type 1 diabetes

Figure 3: Diabetic ketoacidosis (DKA) hospitalisation rates for children and young people with type 1 diabetes, 2014–15

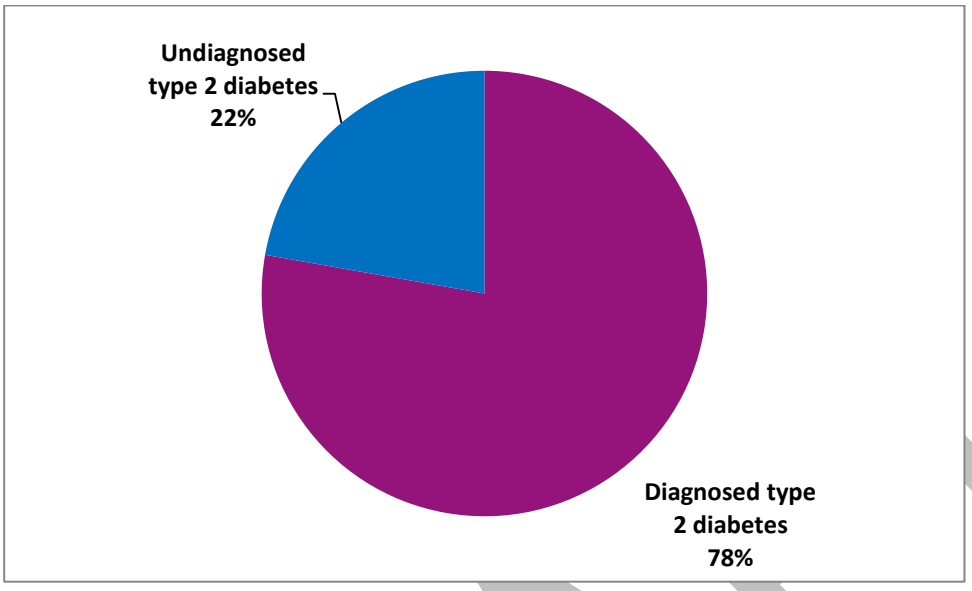


Source: AIHW 2016. Diabetic ketoacidosis (DKA) among children and young people with type 1 diabetes. Canberra: AIHW.

Type 2 diabetes

It is estimated that, for every 100 people with a diagnosis of type 2 diabetes in Australia, at least 25 people may be living with undiagnosed diabetes.

Figure 4: Estimated number of people with diagnosed and undiagnosed type 2 diabetes in Australia, 2011–12



Source: Australian Bureau of Statistics (ABS) 2013. Australian Health Survey: Biomedical results for chronic diseases, 2011–12. Canberra: ABS.

Current government activities

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

- the Practice Incentives Program Diabetes Incentive, which encourages general practitioners to provide earlier diagnosis and effective management of people with established diabetes;
- the AUSDRISK assessment tool, which provides a user friendly online diabetes risk assessment for consumers and health practitioners; and
- Government funded MBS Items for ongoing health assessments.

Diabetes risk assessment is also offered to people who are more likely to be at risk of developing type 2 diabetes as part of the Pharmacy Trial Program that commenced in 2016.

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

Measures of progress

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

Indicators mapped against potential measures of progress in the Australian National Diabetes Strategy	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)*	NSFCC	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.
ABS—Australian Bureau of Statistics
AG DoH—Australian Government Department of Health
AIHW—Australian Institute of Health and Welfare
NIMD—National Indicators for Monitoring Diabetes
NSFCC—National Strategic Framework for Chronic Conditions
ROGS—Report on Government Services

Direction of future work

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

Implement national priority actions			
National priority action required	**Responsible entity**	**Timeframe* Short/Medium/Long**	**Priority Low/Medium/High**
Type 1 diabetes			
Develop partnerships with relevant agencies to promote awareness of type 1 diabetes symptoms and management in childcare, schools and other educational settings	Commonwealth, states and territories	Short	High
Develop and encourage adoption of a nationally endorsed set of diabetes guidelines, assessed against the clinical practice guidelines criteria for type 1 diabetes. *Relates to Goal 3*	Commonwealth	Medium	High
Type 2 diabetes			
Develop a nationally endorsed set of diabetes guidelines, assessed against the clinical practice guidelines criteria for type 2 diabetes	Commonwealth	Medium	High
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*	Commonwealth, states and territories	Short	High

*Timeframe
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

Strengthen current actions			
Current actions underway	**Responsible entity**	**Timeframe* Short/Medium/Long**	**Priority Low/Medium/High**
Expand targeted risk assessment and screening opportunities in hospital admission processes	States and territories	Short	High
Expand targeted risk assessment and screening opportunities in pharmacies and by general practitioners	Commonwealth	Short	High

*Timeframe
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 recommends 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.

Supporting evidence

Box 1A: Diabetes related complications

- In 2011–12, 61% of people with diabetes had cardiovascular disease.
- In 2014–15, 8% of vision loss was caused by diabetes.
- In 2014, end-stage kidney disease accounted for 7 cases per 1,000 among people with diabetes.
- In 2014–15, the incidence of non-traumatic amputation was 3 per 1,000 among people with diabetes.
- In 2013, the diabetes-related death rate was 55 per 100,000 population.

Source: AIHW 2016. Diabetes Indicators in Australia. The information source be accessed at the AIHW website

Box 1B: Diabetes and hospital complications

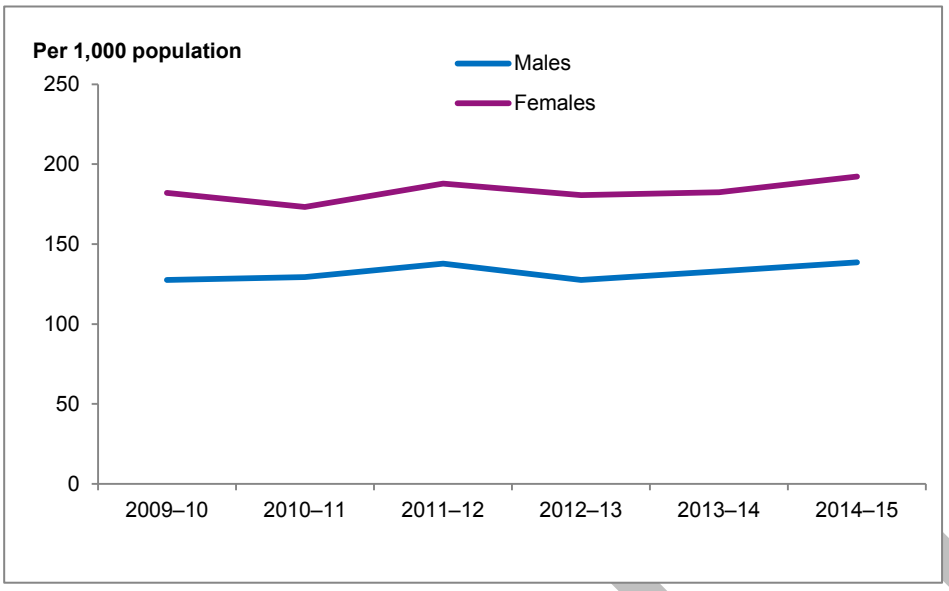
- In 2013-2014, diabetes contributed to around 929,000 hospitalisations (9% of all hospitalisations) with the majority (95%) of the hospitalisations listing diabetes as an additional diagnosis.
- In 2013-2014, 32% of hospitalisations for diabetes also had a diagnosis of cardiovascular disease, 19% had a diagnosis of chronic kidney disease, and 14% had both.

Mental Health (also applies to Goal 6)

- Approximately one in four people will experience depression some time in their adult life. For people who live with diabetes, this figure is even higher.
- Up to 50% of people with diabetes are thought to also have a mental illness such as depression or anxiety. People with depression and diabetes may find it hard to maintain daily diabetes care.

Sources: Australia's Health 2016. AIHW 2016.
Diabetes Australia 2017. Depression and Mental Health.

Figure 5: Diabetic ketoacidosis hospitalisation rates for children and young people with type 1 diabetes, 2009–10 to 2014–15



Source: AIHW 2016. Diabetic ketoacidosis among children and young people with type 1 diabetes. Diabetes series no. 26. Cat no. CVD 77. Canberra: AIHW.

Current government activities

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 under programs already in operation. These programs include community health clinics, screening for complications in hospitals and other settings and 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 Medicare Benefits Schedule, which includes Chronic Disease Management Items and Diabetes Cycles of Care, and the Pharmaceutical Benefits Scheme lists a range of subsidised essential medicines for the treatment of diabetes and associated symptoms.

The National Diabetes Services Scheme supports timely, reliable and affordable access to products and services that help people with diabetes effectively self-manage their condition. General practitioners are encouraged to provide earlier diagnosis and effective management of people with established diabetes through the Practice Incentives Program Diabetes Incentive.

National reforms are underway that will also provide greater access to services to better manage the complications of diabetes. For example, the Primary Health Networks, Health Care Homes initiative and My Health Record are important activities already underway.

Measures of progress

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

Indicators mapped against potential measures of progress in the Australian National Diabetes Strategy	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*	NSFCC/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
Hospitalisation for other complications with type 2 diabetes as a principal diagnosis*	ROGS	AIHW
Deaths from diabetes	NIMD	AIHW
Death rates for CHD 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/BMI	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.
ABS—Australian Bureau of Statistics

AIHW—Australian Institute of Health and Welfare
ANZDATA—Australia & New Zealand Dialysis and Transplant Registry
AusDiab—Australian Diabetes, Obesity and Lifestyle Study
NHPA—National Health Priority Areas
NIMD—National Indicators for Monitoring Diabetes – AIHW
ROGS—Report on Government Services
Tas HI—Health Indicators Tasmania

Direction of future work

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

Implement national priority actions			
National priority action required	**Responsible entity**	**Timeframe* Short/Medium/Long**	**Priority Low/Medium/High**
Develop and encourage adoption of a nationally endorsed set of diabetes guidelines, assessed against the clinical practice guidelines criteria as agreed by the AHMAC criteria	AHMAC	Short	High
Build on current experience to implement agreed best practice transition services from paediatric/adolescent to adult services	AHMAC	Medium	High
Develop clinical care standards for diabetes care consistent with evidence based guidelines in health care settings, hospitals discharge planning and primary healthcare. *Relates to Goals 1, 2 and 4*	States and territories	Medium	High
Undertake a stocktake of existing educational resources and material on diabetes for the generalist health workforce. Evaluate the materials against the nationally endorsed set of diabetes guidelines. Identify gaps and commission new material as needed and align with the national guidelines	Commonwealth, states and territories	Long	Medium
Encourage the routine assessment of the psychological well-being of people with diabetes	Commonwealth, states and territories	Medium	Medium

*Timeframe
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

Strengthen current actions			
Current actions underway	**Responsible entity**	**Timeframe* Short/Medium/Long**	**Priority Low/Medium/High**
Continue to develop and implement accessible self-management programs for people with diabetes in various settings and electronic platforms including general practitioners, hospitals and pharmacies	Commonwealth, states and territories	Medium	Medium
Expand the uptake of continuous glucose monitoring and insulin pump technology by people with type 1 diabetes to encourage self-management including alerts/early reminders and monitoring systems	Commonwealth, states and territories	Medium	Medium
Continue to implement coordinated and streamlined care including end of life care pathways for people with high care needs including on discharge from hospital. (Stage one Health Care Homes currently being implemented)	Commonwealth	Short	High
Monitor diabetes product distribution to ensure affordability and accessibility is maintained (NDSS specific)	Commonwealth	Medium	Medium

*Timeframe
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

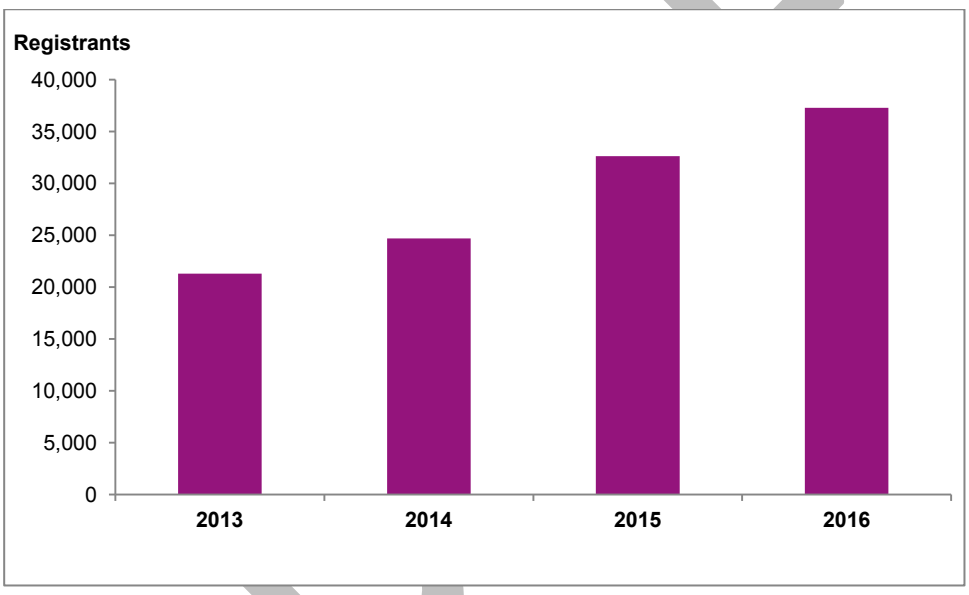
In context

Reducing the impact of diabetes in pregnancy is essential to the health of women and their children. The Strategy recommends the provision of general preventative care and screening for all pregnant women, and identifies a specific focus for women with 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-increased risk of perinatal death, major congenital malformations and pre-term delivery. Diabetes in pregnancy places women and their children at significant risk during and after the pregnancy.

Supporting evidence

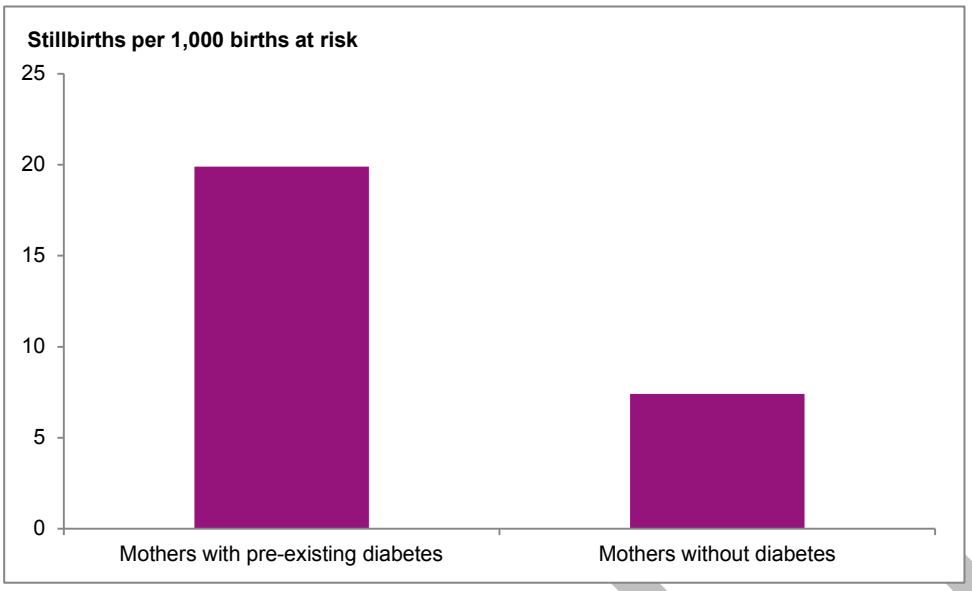
The prevalence or identification of gestational diabetes is increasing, placing greater demand and added cost to clinical services with variability in health care access across Australia.

Figure 6: Women registered in last 12 months with gestational diabetes



Source: NDSS 2017. National Diabetes Service Scheme snapshot as at 30 September 2016.

Figure 7: Risk of stillbirths for mothers with pre-existing diabetes and mothers without diabetes (Rate per 1,000 births)



Source: Hilder, L. Li, Z. Zeki, R, Sullivan EA. Stillbirths in Australia 1991–2009. Australian Institute of Health and Welfare. 12 September 2014. Additional information can be accessed at the AIHW website.

Current government activities

Work has commenced to develop an enduring National Maternity Services Framework, which includes an integrated antenatal health risk factors strategy. A Medicare Benefits Schedule item supports a gestational diabetes check for all pregnant women and the National Diabetes Services Scheme provides education and support services to women with gestational diabetes. State and territory health departments provide a range of clinics and programs to support diabetes in pregnancy.

Measures of progress

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

Indicators mapped against potential measures of progress in the Australian National Diabetes Strategy	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

AG DoH—Australian Government Department of Health
AIHW—Australian Institute of Health and Welfare
NHPA—National Health Priority Areas
NIMD—National Indicators for Monitoring Diabetes—AIHW

Direction of future work

To further support the early detection of gestational diabetes, and provide best practice care pre, early and post pregnancy for mothers with either gestational or pre-existing diabetes, and for children born to mothers with gestational diabetes.

Implement national priority actions			
National priority action required	**Responsible entity**	**Timeframe* Short/Medium/Long**	**Priority Low/Medium/High**
Increase the education of both women (including adolescent girls) with pre-existing Type 1 and 2 diabetes of the importance of pregnancy planning	States and territories	Medium	Medium
Provide accessible pre-pregnancy programs to women (including adolescent girls) with pre-existing type 1 and type 2 diabetes	States and territories	Medium	Medium
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*	AHMAC	Medium	Medium
Increase awareness of gestational diabetes in the community including for high risk populations. *Relates to Goals 1, 5 and 6*	States and territories	Short	Medium

*Timeframe
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

Strengthen current actions			
Current actions underway	**Responsible entity**	**Timeframe* Short/Medium/Long**	**Priority Low/Medium/High**
Develop a single nationally endorsed set of guidelines for the care of women with gestational and pre-existing diabetes in pregnancy	Commonwealth, states and territories	Short	High
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*	Commonwealth, states and territories	Medium	Medium

*Timeframe
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

Australia's Aboriginal and Torres Strait Islander community has one of the highest rates of type 2 diabetes and its complications both nationally and globally. People from this community may experience cultural and linguistic barriers, as well as geographic and socioeconomic barriers that limit their access to diabetes-related services and education. As with most other chronic conditions, Aboriginal and Torres Strait Islander people are disproportionately affected by diabetes.

The Strategy recommends ensuring that these communities have access to relevant diabetes support, education and services. Furthermore, addressing the social determinants of health, e.g. poverty, food security, healthier choices and lifestyle changes, that negatively impact on the health outcomes 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.

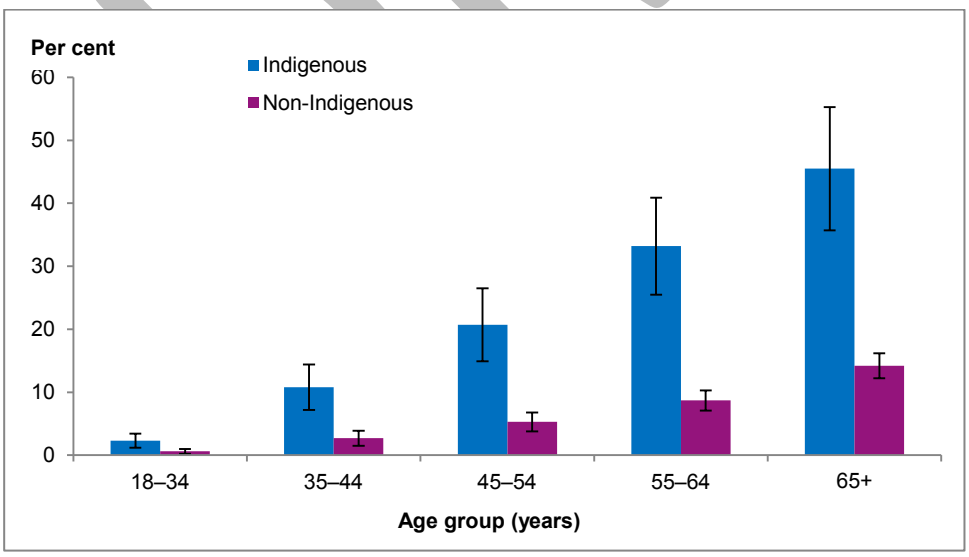
Supporting evidence

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

- 3.5 times as likely as non-Indigenous Australians to have diabetes.
- 4 times as likely as other Australians to be hospitalised for diabetes.
- 4 times as likely as non-indigenous Australians to die from diabetes.

Source: AIHW 2016. Australia's Health 2016. Canberra: AIHW.

Figure 8: Prevalence of diabetes based on self-reported and measured HbA1c results among persons aged 18 and over, by Indigenous status and age, 2011–13



Notes: Includes pregnant women. Diabetes prevalence is derived using combination of HbA1c test results and self-reported information of 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 and the Medical Outreach Indigenous Chronic Disease Program, and through strategic deliverables included in this Plan for the National Aboriginal and Torres Strait Islander Health Plan 2013–2023. The Quality Assurance for Aboriginal and Torres Strait Islander Medical Services 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. Many of the activities already identified in this Plan also apply to Goal 5: reducing the impact of diabetes among Aboriginal and Torres Strait Islander peoples.

Measures of progress

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

Indicators mapped against potential measures of progress in the Australian National Diabetes Strategy	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
—ophthalmic conditions with type 2 diabetes as a principal diagnosis*	ROGS	AIHW

Indicators mapped against potential measures of progress in the Australian National Diabetes Strategy	Framework/ report	Data source agency
—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 CHD 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
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 pre-school*	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*	NSFCC	ABS
—insufficient physical activity, by age group*	NSFCC	ABS
—inadequate fruit and/or vegetable consumption, by age group*	NSFCC	ABS
—waist circumference	NCDS	ABS
Exclusive breastfeeding* (Goal 1 indicator disaggregated by Indigenous status)	NSFCC	ABS/AIHW

Indicators mapped against potential measures of progress in the Australian National Diabetes Strategy	Framework/ report	Data source agency
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 GP management plan or team care arrangements*	HPF	AIHW
Indigenous regular clients with type 2 diabetes who are immunised against influenza*	nKPI	AIHW
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 GP*	HPF	AIHW/AG DoH

*Indicator is routinely (or proposed to be) reported through existing indicator reporting activities or frameworks.
ABS—Australian Bureau of Statistics
AG DoH—Australian Government Department of Health
AIHW—Australian Institute of Health and Welfare
ANZDATA—Australia & New Zealand Dialysis and Transplant Registry
HPF—Aboriginal and Torres Strait Islander Health Performance Framework
NCDS—National Chronic Disease Strategy
NIMD—National Indicators for Monitoring Diabetes—AIHW
NIRA—National Indigenous Reform Agreement
nKPI—Indigenous Primary Health Care National Key performance Indicators
NSFCC—National Strategic Framework for Chronic Conditions
ROGS—Report on Government Services
Tas HI—Health Indicators Tasmania

Direction of future work

To increase targeted messages to Aboriginal and Torres Strait Islander peoples and enhance the availability of local health support in a way that is acceptable to the communities and through the people living in communities.

Implement national priority actions			
National priority action required	**Responsible entity**	**Timeframe* Short/Medium/Long**	**Priority Low/Medium/High**
Develop a targeted nutrition and physical activity plan for Aboriginal and Torres Strait Islander people, including for use in remote communities	AHMAC	Medium	High
Provide targeted awareness programs that meet the needs of local communities through appropriate mechanisms. *Relates to Goal 1*	States and territories	Short	High
Support the connection of Aboriginal Medical Services to the My Health Record where possible	Commonwealth	Medium	Medium
Implement specific Aboriginal and Torres Strait Islander people screening tools and guidelines. Goal 2 relates—AUSDRISK	Commonwealth	Medium	High
Whole of life cycle interventions are accessible and have a strong focus on prevention and early intervention programs to prevent chronic health conditions including diabetes. (Implementation Plan for the National Aboriginal and Torres Strait Islander Health Plan 2013–2023, Deliverable 1C1)	Commonwealth	Medium	High
Provide culturally and responsive diabetes prevention and management programs in both primary health services (Aboriginal Community controlled and mainstream) and hospitals	Commonwealth, states and territories	Short	High
Promote Aboriginal and Torres Strait Islander identification in health professional settings in order to share more information about programs and services available	Commonwealth, states and territories	Short	High

*Timeframe
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

Strengthen current actions			
Current Actions Underway	**Responsible entity**	**Timeframe* Short/Medium/Long**	**Priority Low/Medium/High**
Further work to support Aboriginal Health Practitioners and all Aboriginal Community Controlled Health Organisations	States and territories	Medium	High

*Timeframe
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, including 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 the this Plan apply to priority populations.

Supporting evidence

Box 3: Diabetes among priority groups

Socioeconomic status

- Compared with those living in the highest socioeconomic areas, people living in the lowest socioeconomic 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.

Remote and very remote areas

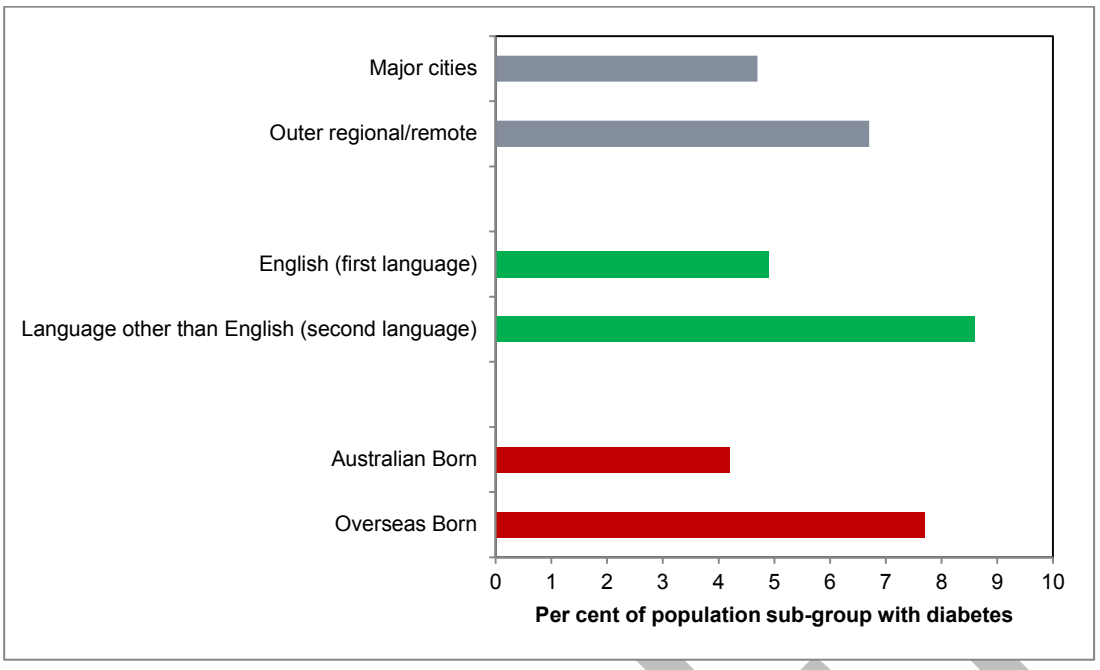
- Diabetes death and hospitalisation rates for type 2 diabetes are around twice that of remote and very remote areas compared with Major Cities (1.9 and 1.8 times respectively).

Older Australians

- The prevalence of diabetes increases rapidly with age up to age 75.

Sources:
AIHW 2016. Diabetes—Dashboard.
AIHW 2016. Australia's Health 2016.
AIHW 2014. Cardiovascular disease, diabetes and chronic kidney disease—Prevalence and incidence.

Figure 9: Prevalence of diabetes among priority groups, 2014–15



Source: ABS 2016. Microdata: Australian Health Survey, Core Content—Risk Factors and Selected Health Conditions, 2014–15.

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 and services, telehealth services, Royal Flying Doctors Clinics, mental health screening for people with diabetes and hospital based services.

Measures of progress

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

Indicators mapped against potential measures of progress in the Australian National Diabetes Strategy	Framework/ report	Data source
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 Socioeconomic position)	NIMD	AIHW
Prevalence of type 2 diabetes* (Goal 1 indicator disaggregated by age group, remoteness and Socioeconomic 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 Socioeconomic 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 Socioeconomic position):		
—overweight and obesity, by age group*	NSFCC	ABS
—insufficient physical activity, by age group*	NSFCC	ABS
—inadequate fruit and/or vegetable consumption, by age group*	NSFCC	ABS
—waist circumference	NCDS	ABS
Exclusive breastfeeding* (Goal 1 indicator disaggregated by age group, remoteness and Socioeconomic position)	NSFCC	ABS/AIHW
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 Socioeconomic position)	ROGS	ABS
Complications in people with diabetes among priority groups		
Prevalence of (Goal 3 indicator disaggregated by age group, remoteness and Socioeconomic 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 Socioeconomic position):		
—by type of diabetes	Tas HI	AIHW
—for end-stage renal disease as the principal diagnosis with diabetes as an additional	NHPA	AIHW

Indicators mapped against potential measures of progress in the Australian National Diabetes Strategy	Framework/ report	Data source
diagnosis		
—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
Deaths from diabetes; Death rates for CHD and stroke among people with diabetes (Goal 3 indicator disaggregated by age group, remoteness and Socioeconomic 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 Socioeconomic position)	NIMD	ABS

*Indicator is routinely (or proposed to be) reported through existing indicator reporting activities or frameworks.
ABS—Australian Bureau of Statistics
AIHW—Australian Institute of Health and Welfare
NCDS—National Chronic Disease Strategy
NHPA—National Health Priority Areas
NIMD—National Indicators for Monitoring Diabetes – AIHW
NSFCC—National Strategic Framework for Chronic Conditions
ROGS—Report on Government Services
Tas HI—Health Indicators Tasmania

Direction of future work

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

Implement national priority actions			
National priority action required	**Responsible entity**	**Timeframe* Short/Medium/Long**	**Priority Low/Medium/High**
Review relevant clinical care guidelines, including advance care planning to ensure people at risk of or with diabetes receive relevant information and support	Commonwealth	Medium	High
Ensure that diabetes services provided for immigrant communities meet identified needs – needs analysis required to inform prevention and service delivery options	AHMAC	Medium	Medium
Examine the barriers to support and care experienced by people with mental health issues and implement programs to address the barriers	AHMAC	Medium	High
Better understand the barriers to access e-health/My Health Record for priority groups to implement future alerts/reminders and online supports	Commonwealth, states and territories	Long	Low
Develop and ensure access to programs of self-management and peer support for youth with type 1 and type 2 diabetes, including in regional, rural and remote Australia	Commonwealth, states and territories	Medium	Medium
Provide culturally responsive diabetes prevention and management programs for all culturally diverse and marginalised communities	Commonwealth, states and territories	Medium	Medium

*Timeframe
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

Strengthen current actions			
Current actions underway	**Responsible entity**	**Timeframe* Short/Medium/Long**	**Priority Low/Medium/High**
Expanding access to medical / specialist care for regional and remote youth	Commonwealth, states and territories	Long	Medium

*Timeframe
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

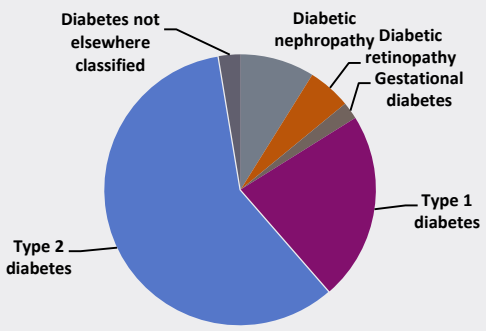
Strengthening prevention and care through research, evidence and data is fundamental to reducing the impact of diabetes on Australia's health and productivity. The Strategy recommends strengthening evidence-based practice for the prevention and management of diabetes and its complications, identifying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

Supporting evidence

Box 4A: Research funding for diabetes

From 2011–2015, National Health and Medical Research Council (NHMRC) research funding for diabetes was $360.2 million. This included:

- $37.1 million for diabetic nephropathy
- $21.6 million for diabetic retinopathy
- $8.6 million for gestational diabetes
- $93.9 million for type 1 diabetes
- $245.6 million for type 2 diabetes
- $10.9 million for diabetes not elsewhere classified.



Note: Research funding categories do not sum to total.
Source: NHMRC 2016.

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

Research funding for diabetes

From 2014–15 to 2016–17, the Australian Government is providing approximately $4.94 million to support the national monitoring of diabetes, including the National (insulin-treated) Diabetes Register by the Australian Institute of Health and Welfare.

Source: Australian Government Department of Health 2017.

Current government activities

Australia currently has multiple diabetes research funding streams, the bulk of which are provided by the NHMRC. Further, the National Centre for Monitoring Chronic Conditions at the Australian Institute of Health and Welfare 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.

Measures of progress

No indicators have been identified for the potential measures of progress outlined in the Strategy. It should be noted that the potential measures of progress may be best served by the use of qualitative reporting rather than quantitative measures such as reporting.

Direction of future work

To continue to strengthen the evidence base through targeted research and data collection.

Implement national priority actions			
National priority action required	**Responsible entity**	**Timeframe* Short/Medium/Long**	**Priority Low/Medium/High**
Explore the feasibility of designing an integrated risk assessment tool for chronic conditions; including diabetes and cardiovascular disease. *Relates to Goal 3*	Commonwealth	Medium	Medium
Commission longitudinal research into the likelihood of children developing diabetes and the relationship to parent's diabetes status	AHMAC	Short	High
Develop supporting indicators and data collection to better measure progress of the Australian National Diabetes Strategy	AHMAC	Medium	Medium
Commission research to trial new models to reach women who have had gestational diabetes	Commonwealth	Medium	Medium

*Timeframe
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

Strengthen current actions			
Current actions underway	**Responsible entity**	**Timeframe* Short/Medium/Long**	**Priority Low/Medium/High**
Expand the National Eye Health Survey to the broader population to better understand trends in diabetic and other eye health conditions	Commonwealth	Medium/Long	Medium
Promote and expand standardised data collection across all settings	Commonwealth	Long	High
Link existing data sets to provide de-identified aggregate data that can be analysed to inform the knowledge base for diabetes, within the recognised legislative and privacy requirements	Commonwealth	Long	Low

*Timeframe
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