

Health, as defined by the World Health Organisation, means complete physical, mental and social well-being, and not just the absence of disease. Health is an important human right and world-wide social goal.

For many people, health is not just about physical health. Health includes the social, emotional and cultural well-being of their community.

Health and well-being for Aboriginal people is linked to kinship, spirituality, language, self-determination and connection to country.

It is well known that health is strongly influenced, positively and negatively, by social determinants. These are the social and environmental conditions in which live. This means a person's

health and well-being is dependent on non-medical factors such as their housing, education level, employment and income.

This is the same for diabetes. A person's risk of diabetes and diabetes outcomes is largely influenced by the social and environment conditions in which they live.

To improve the rates and burden of diabetes and overall health and well-being in the NT, the social determinants of health must be addressed.

Acknowledgement

This booklet was developed by the Northern Territory Diabetes Network.

Thank you to the members of the Network and Working Group for their contribution to this project.

This booklet and presentation was developed by the Northern Territory Diabetes Network.

Thank you to the members of the Network and Working Group for their contribution to this project.

What is diabetes?

Diabetes is a condition where the body cannot maintain healthy levels of blood glucose (sugar) from an inability to make enough of a hormone called insulin.

There are three main types of diabetes:

- Type 1 diabetes: An autoimmune condition, not linked to modifiable lifestyle factors
- Type 2 diabetes: The most common type. Often associated with modifiable lifestyle factors, and genetic and family-related risk factors
- Gestational diabetes: Affecting some women during pregnancy



Let's first explore what diabetes is.

Diabetes is a condition where the body cannot maintain healthy levels of blood glucose, or sugar, due to an inability to make enough of or make good use of a hormone called insulin.

There are three main types of diabetes. This includes type 1 diabetes, type 2 diabetes and gestational diabetes. All types can be complex and can require daily care to prevent complications developing.

Type 2 diabetes is the most common, accounting for 85% of all diabetes. Type 2 diabetes is often associated with lifestyle factors and genetic and family-related risk factors.

Type 2 diabetes can be prevented or delayed.

What increases your risk of developing type 2 diabetes?

Risk factors for type 2 diabetes include ethnicity, family history, obesity, sedentary/inactive lifestyle, discrimination and socio-economic factors.



Risk factors for type 2 diabetes are ethnicity, family history, obesity, an inactive lifestyle, discrimination and socio-economic factors.

Some people have a higher risk of developing type 2 diabetes. This includes Aboriginal and Torres Strait Islander people and people of South-East Asian and Indian descent.

However, it is well known that underlying socio-economic factors increase the risk of a person developing type 2 diabetes. This includes low socio-economic status, over-crowded housing, unemployment, food insecurity and remoteness, as well as the impacts of colonisation.

In Australia, Aboriginal and Torres Strait Islander people are more affected by these socioeconomic factors, and therefore face a

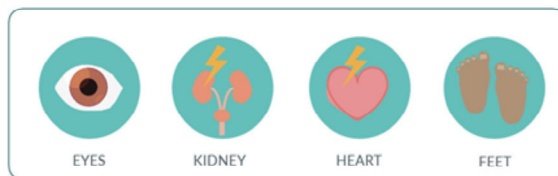
greater risk of diabetes.

What complications can type 2 diabetes cause?

Complications of diabetes include:

- Kidney disease
- Cardiovascular/heart disease
- Foot problems
- Amputation
- Blindness/eye problems.

COMPLICATIONS



Complications caused from type 2 diabetes

Diabetes can affect the whole body. If diabetes is not well managed, blood glucose, or sugar, levels can become too high or too low. These can both cause serious complications and can affect a person's quality of life.

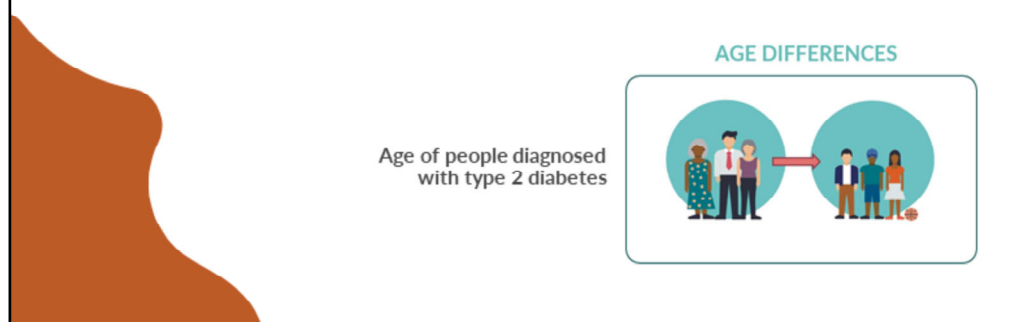
Complications from diabetes include kidney disease, heart disease, foot problems, amputation and blindness.

It is important that people with diabetes understand their condition and how to treat and manage it. This can include healthy food, physical activity and medications. Many different health professionals are involved in the care of people with diabetes, and regular health checks are needed to prevent and monitor for complications.

Type 2 diabetes in young people

Type 2 diabetes only used to be seen in middle aged or older adults.

Now it is being seen in children and young people, especially among young Aboriginal and Torres Strait Islander people.



Type 2 diabetes used to be seen mostly in middle aged or older adults. Now it is found in children and young people, especially among young Aboriginal and Torres Strait Islander people.

The rates of type 2 diabetes among Aboriginal and Torres Strait Islander youth is twenty four times higher than that of non-Indigenous youth.

Children and young people with type 2 diabetes can face serious complications earlier, have a poorer responses to treatment, and have poorer health outcomes and a reduced life-expectancy. They can also need intensive support from health care teams.

To improve prevention, early detection and management of type 2 diabetes in Aboriginal young people in the NT, the NT Diabetes Network developed screening and management pathways for

health professionals involved in the care of Aboriginal young people. The pathways emphasise the need for the identification of risk factors and early intensive support from primary health care teams.

The screening and management pathways are available via NT Health, HealthInfoNet, and NT Primary Health Network Health Pathways.

Inter-generational type 2 diabetes

Children are at increased risk of developing type 2 diabetes if there is a family history of diabetes.

If a woman has diabetes during her pregnancy the risk of her child developing type 2 diabetes increases, often at a younger age, and with more severe complications.



There can be strong links to diabetes between generations. Children are at a higher risk of developing type 2 diabetes if there is a family history of diabetes.

If a woman has diabetes during her pregnancy the risk of her child developing type 2 diabetes increases. This may occur at a younger age and have more serious complications.

Diabetes during pregnancy also increases the risk of babies developing obesity, high blood pressure and/or high blood glucose later in life.

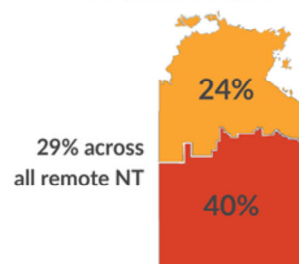
Women with diabetes during pregnancy can have healthy babies. Good planning, education, careful management and closer monitoring are needed to lower the risks for the child.

Rates of type 2 diabetes in the NT

The rates of type 2 diabetes in the NT are higher than other Australian states and territories, and the burden among the remote Aboriginal population is among the highest in the world. Data shows:

- 1 in 3 adults in remote NT are living with type 2 diabetes
- Rates of type 2 diabetes have increased substantially in the last 15 years
- Age of onset is relatively young, with high rates of type 2 diabetes seen among 30-59 year olds
- Between 2013/14 and 2020/21 the prevalence of diabetes among young people aged 15-24 years increased by 97%

ADULTS LIVING WITH TYPE 2 DIABETES IN REMOTE NT



Ref: Hare MJL et al. BMJ Open 2022; Zhao Y et al. Aust NZ J Public Health 2008; NT AHKPIs 2013-2021

The rates of type 2 diabetes in the NT are higher than other Australian states and territories. The burden among the remote Aboriginal population in the NT is among the highest in the world.

Research published in 2022 shows that:

- 1 in 3 Aboriginal adults in remote NT are living with type 2 diabetes
- Rates of type 2 diabetes have increased substantially in the last 15 years and are continuing to increase
- The age of onset in the NT is relatively young, with high rates of type 2 diabetes seen among 30-59 year olds, and
- The rates of diabetes among people aged 15-24 increased by 97% between 2014 and 2021. This includes significant increases in young women being diagnosed with diabetes prior to pregnancy.

As mentioned previously, obesity is a significant risk factor for diabetes. In 2017 to 2018, 65% of adults and 26% of children in the NT were overweight or obese.

References:

1. Hare MJL, Zhao Y, Guthridge S, et al. *Prevalence and incidence of diabetes among Aboriginal people in remote communities of the Northern Territory, Australia: a retrospective, longitudinal data-linkage study. BMJ Open 2022.*
2. Zhao Y, Connors C, Wright J, et al. *Estimating chronic disease prevalence among the remote Aboriginal population of the Northern Territory using multiple data sources. Aust N Z J Public Health 2008;32:307–13.*
3. *Department of Health - NT Government, Diabetes Report - Aboriginal Health Key Performance Indicators 2013-2021.*
4. *Australian Bureau of Statistics, National Health Survey: State and territory findings 2017-18 financial year.*



As mentioned earlier, the social determinants of health are the social and environmental factors that influence a person's health. These can either promote good health or lead to poorer health outcomes.

The determinants that lead to poorer health, including increased diabetes risk and poorer diabetes outcomes, include low income, insecure employment, low levels of education, food insecurity, inter-generational trauma, racism, over-crowded housing, poor living conditions, and reduced access to health care and social supports.

High rates of type 2 diabetes within the Aboriginal population is a legacy of colonisation and deeply rooted disparity in the socio-economic and political determinants of health. Ongoing advocacy to improve social determinants of health and health outcomes is required.

Approximately 25-30% of the health gap between NT Aboriginal and non-Aboriginal people may be explained by socio-economic disadvantage.

Let's explore the Social Determinants of Health in relation to Diabetes.

Housing

Overcrowding of households in Aboriginal communities is a large contributor to poor physical and mental health.

Some contributing factors include limited access to basic facilities for:

- Washing
- Food storage and cooking
- Heating and cooling

Territorians living in overcrowded houses



Over-crowding of households in Aboriginal communities is a large contributor to poor physical and mental health.

Factors include limited access to basic facilities for washing, food storage and cooking, and heating and cooling.

Access to power, refrigeration and cooking facilities allows for food to be stored and cooked at home. This means families can store fresh food, cook healthy meals and reduce the need for take-away food.

Many households in Aboriginal communities are over-crowded. In 2015, 53% of Aboriginal Territorians reported living in an over-crowded household, compared to 8.7% of non-Aboriginal Territorians. 59% of Aboriginal Territorians in remote areas lived this way compared to 31% in

urban and regional areas.

It is important to continue the work being done to improve housing in communities to improve physical and mental health.

Education

Education is a powerful tool in achieving better health and social outcomes.

Attaining a higher year of school education can decrease health related risks and improve health literacy (a persons ability to understand, use and access health information and services).



People aged 20-24 years who reported they had attained Year 12 or equivalent education

Education is a powerful tool to achieve better health and social outcomes.

Attaining a higher year of school education can decrease health related risks and improve health literacy. Health Literacy is a person's ability to understand, use and access health information and services.

Studies from around the world show that the higher a mothers level of education, the better the health outcomes for her children.

It is also important for young people to have good physical, mental, social and emotional wellbeing in order to go to school and learn well. Sickness, stress, food insecurity and unstable housing are some factors that contribute to children missing

school.

In the NT in 2019, 30% of Aboriginal Territorians aged 20-24 years reported that they had attained Year 12 or equivalent, or certificate 2 or above, compared with 89% of non-Aboriginal Territorians.

As the level of education increases, the employment gap between Aboriginal and non-Aboriginal people reduces.



Just like education, employment provides important benefits for the health, social and emotional wellbeing of individuals.

Unemployment has a negative impact on mental health and the rates of stress-related and chronic diseases like diabetes.

Not only does unemployment negatively affect health, but poor health can affect employment. Adults need to be physically and mentally well to work. Adults with poor physical or mental health have a higher chance of poor job performance, more sick days, periods of unemployment and lower likelihood of re-employment.

Research has shown a strong link between socioeconomic status and rates of mortality, meaning death, and morbidity, meaning illness and disease.

In 2018 37% of Aboriginal Territorians of working age were employed compared with 86% for non-Aboriginal Territorians.

In 2016, the average weekly income for Aboriginal Territorians was \$613, less than half that of non-Aboriginal Territorians with an income of \$1450 per week.

Education and employment are linked. Education leads to more employment opportunities and a higher income over time. This empowers individuals with more choices as they are able to better meet the needs of their family.

This leads to an improved socio-economic status and better physical, mental and emotional well-being.

Cultural determinants

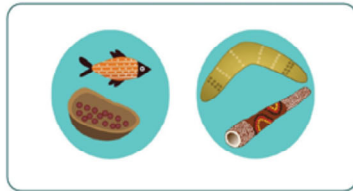
Culture is central to the health and wellbeing of Aboriginal people.

Stronger connections to culture contribute to stronger health outcomes.

Cultural determinants of health include:

- Connection to culture
- Relationships with Country
- Connections to family, kinship and communities
- Spirituality
- Language

CULTURAL CONNECTIONS



Passing down culture from generation to generation

When talking about health, it is important to recognise and acknowledge the impact of the cultural determinants of health for Aboriginal people.

Culture is central to the health and well-being of Aboriginal people. Stronger connections to culture contribute to stronger health outcomes.

The cultural determinants of health include connection to culture, relationships with Country, connections to family, kinship and communities, spirituality and language.

Preventing diabetes



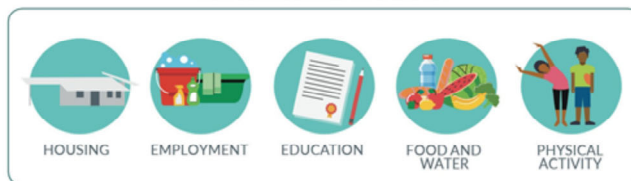
Preventing diabetes is an important goal in improving the health and quality of life of Aboriginal Territorians, now and for future generations.

Prevention

Addressing the social determinants of health can reduce its influence on the development of type 2 diabetes. Influencing social and environmental factors can be addressed through:

- Improved housing and addressing overcrowding
- Increased employment opportunities
- Better education outcomes
- Food security and access to clean water
- Prevention of overweight and obesity
- Opportunities for active living

HEALTH ENVIRONMENTS



Healthier
environments for
all Territorians

Addressing the social determinants of health can reduce the number of people developing type 2 diabetes. It can also improve health outcomes and quality of life for those with type 2 diabetes.

Influencing social and environmental factors can be addressed through:

- Improved housing and addressing overcrowding
- Increased employment opportunities
- Better education outcomes
- Food security and access to clean water
- Prevention of overweight and obesity, and
- Opportunities for active living

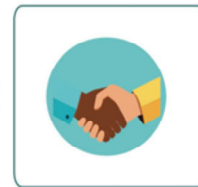
Collaboration

Preventing and addressing obesity and diabetes requires agencies to work together including:

- Sport and recreation
- Planning and infrastructure
- Local councils
- Education
- Health
- Non-government organisations

Better health outcomes
for all Territorians

WORKING
TOGETHER



Preventing and addressing obesity and diabetes requires agencies to work together including:

- Sport and recreation
- Planning and infrastructure
- Local councils
- Education
- Health
- and non-government organisations

A collective approach to addressing the social determinants can best support communities to design health promoting environments and opportunities.

Looking forward

Our focus for the future:

- Addressing social and emotional wellbeing
- Increasing community and health professional awareness regarding inter-generational diabetes
- Promoting community-led design of prevention and health promotion strategies

NEXT STEPS



Continued diabetes prevention strategies

To prevent diabetes and support people living with diabetes in the NT to live well, our focus for the future is:

- Addressing social and emotional wellbeing
- Increasing community and health professional awareness about inter-generational diabetes
- And promoting community-led design of prevention and health promotion strategies.



Making communities healthier needs action from all agencies, organisations, businesses and communities.

Here are some examples of how you can make your community healthier.

- Promote drinking water and provide healthy take-away options in community stores
- Provide opportunities for children and adults to be active every day
- Run community or school gardens and cooking sessions
- Improve housing availability and household facilities for safe food preparation and storage
- Provide and promote parklands and playgrounds for outdoor activities
- Promote cultural practices such as ceremonial dancing as a form of exercise, and access to traditional foods via hunting and

gathering

For more information and guidance on action to address the social determinants of health in relation to diabetes and obesity, please see the

- The Australian National Diabetes Strategy: [Australian National Diabetes Strategy 2021-2030 | Australian Government Department of Health and Aged Care](#)
- The National Obesity Strategy: [National Obesity Strategy 2022–2032 | Australian Government Department of Health and Aged Care](#)
- The National Preventive Health Strategy: [National Preventive Health Strategy 2021–2030 | Australian Government Department of Health and Aged Care](#)

Contact

For more information, please contact:

NT Diabetes Network
via the Chronic Conditions and Prevention Unit, NT
Health

Phone: (08) 8999 2400

Email: NTdiabetes.network@nt.gov.au

For further information, please contact the NT Diabetes Network via the Prevention and Wellbeing Unit at NT Health.



Thank you for listening to our presentation.