NSW DIABETES PREVENTION FRAMEWORK

NSW GOVERNMENT Health

Acknowledgement:
The Ministry of Health wishes to thank the members of the Ministerial Advisory Committee on Preventive Health for their expertise in the development of this Framework. The Ministerial Advisory Committee is chaired by Professor Stephen Leeder.

Note:
In this document where data or statements refer to Aboriginal people and communities in NSW, the term 'Aboriginal' is used. Where data or statements refer to Aboriginal people and communities in jurisdictions across Australia, the term 'Aboriginal and Torres Strait Islander' is used. This usage is in accordance with NSW Health's 'Communicating positively: A guide to appropriate Aboriginal terminology'.

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MINISTER'S FOREWORD

Strong and growing evidence shows that lifestyle interventions leading to modest weight loss can reduce the risk of developing Type 2 diabetes by around 30 percent. In NSW, reducing the adult prevalence of overweight and obesity by 5% could prevent 830 new cases of Type 2 diabetes each year.

Chronic disease, including diabetes, is estimated to be responsible for 80 per cent of the total burden of disease in Australia. In 2008 the annual cost of overweight and obesity to the NSW economy was estimated at $19 billion.

The *NSW Diabetes Prevention Framework* was developed under the auspices of the Ministerial Advisory Committee on Preventive Health. It draws together existing Type 2 diabetes interventions, identifies enhancements to evidence-based practice and sets strategic directions for NSW Health to decrease the risk and delay the onset of Type 2 diabetes and diabetes complications.

The NSW Government has committed $16 million over the next four years to Type 2 diabetes prevention programs. The NSW Office of Preventive Health, established in 2012, has a wide range of preventive programs designed to increase physical activity, support healthier food choices and reduce the risk of developing diabetes and other chronic diseases.

Further, the NSW Government is investing $180 million over six years in an Integrated Care Strategy to focus on individual patient needs and achieve more connected and co-ordinated care across primary, acute and community settings, including for people at risk of Type 2 diabetes or with established Type 2 diabetes.

I was delighted to see that the Premier's recently released priorities included the pledge to reduce the rates of childhood obesity by five per cent over the next 10 years. This focus will drive change across government so that health, community services, education, planning and transport agencies work together to address the social determinants of health and help us keep children healthy and well.

I thank the Chair, Professor Stephen Leeder, and the Ministerial Advisory Committee for their leadership and welcome the addition of this new framework to the raft of co-ordinated NSW Government programs designed to address the growing burden of chronic disease.

Hon Jillian Skinner MP
Minister for Health

CHAIRPERSON'S FOREWORD

The *NSW Diabetes Prevention Framework* provides the impetus and the direction for us all to work together to address the growing burden of type 2 diabetes in order to make NSW a healthier state. Since its inception the NSW Ministerial Advisory Committee for Preventive Health has had diabetes front and centre of its interest and agenda for action.

Type 2 diabetes is affecting a growing number of people across our community. There is a sharp increase in the risk of developing the disease for several population groups. Poorer access to healthy food and transport, lower health literacy and higher rates of other chronic disease combine to increase the risk of developing type 2 diabetes for those communities with the highest levels of social disadvantage.

The good news is that there is much that we are able to do to prevent it. Understanding the association between obesity and type 2 diabetes provides us with strategies we know will work - wise healthful personal choices and attention to the social environments that support healthy living.

These strategies are available to us today. However, type 2 diabetes prevention is not simple, and so our approach needs to match its complexity, by which I mean that we need lots of instruments in the orchestra!

Keeping people healthy will require the community to make healthy lifestyle changes including educating children about healthy eating. These efforts must be supported by access to information such as kilojoule labelling and built environments that encourage healthy eating and active living.

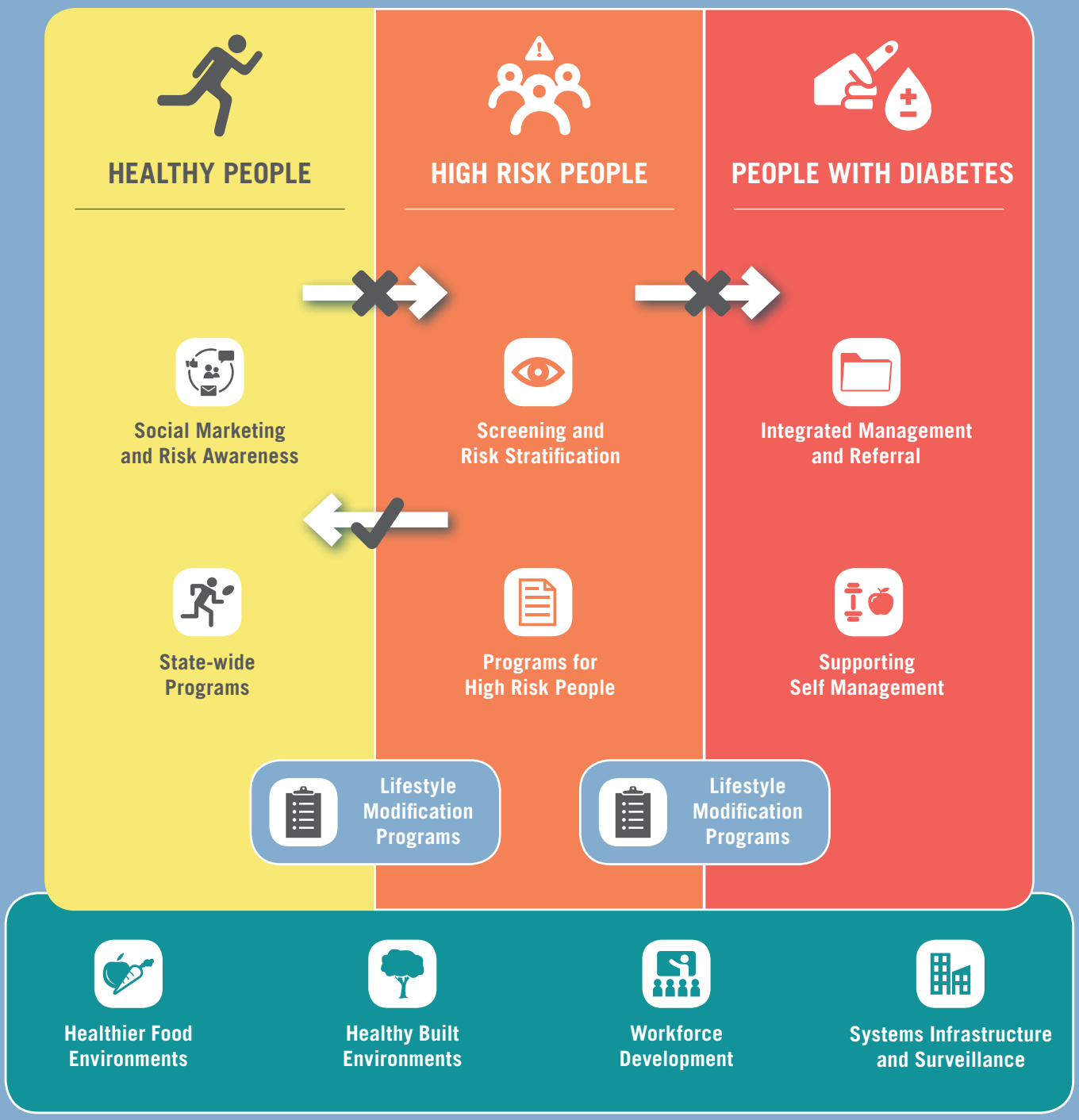
For the health system, early detection of diabetes and the proper treatment of those who develop it are essential to avoiding blindness, loss of limbs and heart disease.

Addressing the high individual and social costs of type 2 diabetes will also rely on the health system fostering successful partnerships with Aboriginal communities and Aboriginal Community Controlled Health Services, Primary Health Networks, non-government organisations and rural and remote communities.

Over the longer term, investment in the infrastructure that helps people adopt and maintain healthy choices in nutrition, physical activity and active transport will drive positive health outcomes. There are opportunities here for everyone to contribute to improving our health!

Professor Stephen Leeder
Chair, NSW Ministerial Advisory Committee
on Preventive Health

FRAMEWORK AT A GLANCE



CONTENTS

FRAMEWORK EXPLAINED

Prevent or Delay Healthy People from Becoming High Risk People

Programs and campaigns implemented by NSW Health to educate the public about the modifiable risk factors for, and the lifestyle modification programs available to reduce the risk of developing or delaying the onset of Type 2 diabetes.

Prevent or Delay High Risk People from Developing Type 2 Diabetes

Early detection of Type 2 diabetes and holistic risk assessment for chronic conditions to prevent or delay onset, and steps to screen and refer high risk people to tailored programs.

Prevent People With Diabetes Experiencing Complications

Optimise treatment and referral. Empower the self management of people with Type 2 diabetes.

Utilise System Enablers

Workforce development opportunities, population level data collection on Type 2 diabetes risk and prevalence, food and built environment initiatives that aim to address the underlying modifiable drivers of Type 2 diabetes within the community.

SCOPE OF THIS FRAMEWORK

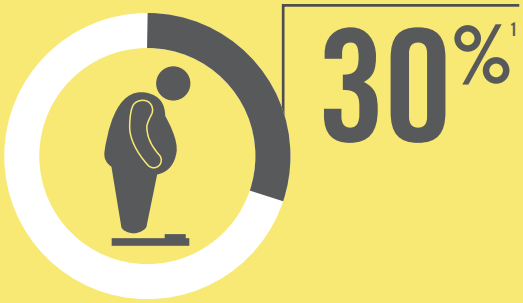
This framework brings together diabetes-related work across the state, identifies enhancements to evidence-based practice, and sets a range of strategic directions for NSW Health for decreasing the risk of developing diabetes or diabetes complications in local populations.

The focus is on Type 2 diabetes because for some people, some of the risk factors for Type 2 diabetes are modifiable, lifestyle-related risk factors e.g. overweight and obesity.[1,2,3] There are a range of world class, evidence-based[4,5,6] lifestyle modification programs offered on a state-wide basis that can reduce these risk factors.

The Framework focus is on population health drivers for prevention of the onset or delay of diabetes in high risk populations (primary prevention) and the prevention of the immediate and longer-term consequences for individuals with diabetes (secondary prevention).

It outlines a suite of population health approaches delivered at both the state level, such as the Get Healthy Information and Coaching Service (Get Healthy Service) and at the Local Health District (LHD) level, including screening and risk stratification, referral to the Get Healthy Service, and clinical management of people with existing Type 2 diabetes.

An average weight loss of 2 kgs reduces the risk of developing Type 2 diabetes by



Reduce Type 2 diabetes by SCREENING for chronic disease risk factors, providing BRIEF INTERVENTIONS and REFERRING to tailored programs

Controlling HbA1c levels in people with diabetes to

≤7%

reduces diabetes-related complications[7,8]

PURPOSE OF THIS FRAMEWORK

The Framework is intended to support Local Health Districts to decrease the incidence of Type 2 diabetes risk factors and Type 2 diabetes in the NSW population, and enhance health outcomes for people with Type 2 diabetes.

NSW Health will work in partnership with communities, people with Type 2 diabetes and their families and carers, health professionals, Primary Healthcare Organisations, the Commonwealth Government and non-government organisations, to:

- increase awareness of Type 2 diabetes risk factors in the NSW population
- increase utilisation of prevention services by people at high risk of developing Type 2 diabetes
- increase utilisation of complication prevention services for those people with Type 2 diabetes
- better integrate referral and management pathways to support self-management for people with Type 2 diabetes.

POLICY CONTEXT

NSW STATE HEALTH PLAN: TOWARDS 2021

The *NSW State Health Plan: Towards 2021* sets out the NSW Government's commitment to keeping people healthier and out of hospital. The State Health Plan recognises that preventive health not only keeps people well now and prevents future illness developing, but can assist those with conditions such as Type 2 diabetes from developing further complications.

The State Health Plan identifies Aboriginal people, socio-economically disadvantaged people, and those living in rural and remote locations as key groups for prevention initiatives given they experience much poorer health than the rest of the NSW population.

State Health Plan initiatives that support prevention of Type 2 diabetes include reducing smoking rates and the adverse impact of tobacco, and tackling overweight and obesity rates.

The State Health Plan also commits to delivering 'truly integrated care': the provision of seamless, effective and efficient care that reflects the whole of a person's health needs, from prevention through to end of life, across physical and mental health, in partnership with the individual, their carers and family and across public/private and Commonwealth/State boundaries.

POLICIES DIRECTLY RELEVANT TO THIS FRAMEWORK

- *NSW Healthy Eating and Active Living Strategy* – which aims to encourage healthy lifestyle choices, supported by the built environment, transport initiatives and improved access to healthier foods
- *NSW Integrated Care Strategy* – which involves the provision of seamless, effective and efficient care that responds to all of a person's health needs, across physical and mental health, in partnership with the individual, their carers and family
- *NSW Aboriginal Health Plan 2013-2023* – which acknowledges the significant health disparities between Aboriginal and non-Aboriginal people in NSW and reflects the NSW Government's commitment to closing this gap by examining the way the health system is organised, funded and delivered and how it affects our Aboriginal communities
- *NSW Tobacco Strategy 2012-2017* – which sets out the actions that NSW Health and partners will take to reduce the harm which tobacco imposes on our community and achieve the population smoking reduction targets in the State Health Plan
- *NSW Endocrine Network Model of Care for People with Diabetes Mellitus* (under development) – which will support enhancements in evidence based care for people with Type 2 diabetes

HEALTHY PEOPLE

STATE-WIDE PROGRAMS

NSW has world class, proven and effective state-wide programs in various settings, including schools and early childhood education and care centres, ensuring the population has access to comprehensive and universal programs for healthy lifestyles. Health Services can leverage these highly effective programs to drive local outcomes.

- The Healthy Children Initiative aims to prevent childhood obesity and decrease future risk of chronic disease. The program delivers healthy eating and physical activity programs in children's settings such as primary schools and centre-based early childhood services. At June 2015 more than 90% of early childhood services across NSW are participating in the Munch and Move program, as well as 2,047 primary schools across NSW participating in the Live Life Well at School program.
- Get Healthy at Work reduces chronic disease risk among workers by building the capacity of businesses to implement workplace health activities and encouraging workers to complete a Brief Health Check using the AUSDRISK[9] tool. The program refers participants to the Get Healthy Service, NSW Quitline and other health services as required.
- The NSW Quitline and the NSW Aboriginal Quitline offer free, confidential and individually tailored telephone services to help smokers quit and stay quit. Call 137 848 (13 QUIT) for the cost of a local call.
- The Go4Fun program (www.go4fun.com.au) offers a free, community-based healthy lifestyle focused treatment service to children who are above a healthy weight, and their families.

The Get Healthy Service (www.gethealthynsw.gov.au) is a free, evidence-based and effective telephone service supporting NSW adults to make sustained improvements in healthy eating, physical activity and achieving or maintaining a healthy weight. Participants who complete the 6 month coaching program lose on average 4kg and 5cm off their waist circumference. The Get Healthy Service includes a tailored program for people at high risk of developing Type 2 diabetes, and a culturally appropriate Aboriginal module, both offered across NSW.

WHAT HEALTH SERVICES CAN DO

Health Services can:

- Refer overweight and obese adults to the Get Healthy Service using the Health Professional Referral Form
- Refer children aged 7-13 years with unhealthy weight, inadequate physical activity or unhealthy eating to the local Go4Fun program through the website (www.go4fun.com.au)
- Refer smokers to the NSW Quitline and the Aboriginal Quitline (www.icanquit.com.au)
- Implement the Munch and Move and Live Life Well @ School healthy eating and physical activity programs to achieve high levels of adoption in children's settings such as primary schools and centre-based early childhood services (www.healthykids.nsw.gov.au)
- Recruit local businesses to the Get Healthy @ Work program (www.gethealthyatwork.com.au).

HEALTHY PEOPLE

SOCIAL MARKETING AND RISK AWARENESS

Awareness of risk factors is important even within a healthy population as this maximises the chance for prevention and early diagnosis.

- Social marketing should be considered as part of a comprehensive approach to reduce risk factors for Type 2 diabetes at the population level. The NSW Government has developed a social marketing strategy to motivate people to make healthier choices for themselves and their families through the Make Healthy Normal campaign (www.makehealthynormal.nsw.gov.au).
- The campaign will also drive people to existing programs to support lifestyle changes such as the Get Healthy Service.
- The Cancer Institute NSW develops ongoing social marketing campaigns addressing tobacco smoking. Mass anti-smoking advertising promotes smoking cessation and cessation services including the NSW Quitline, Aboriginal Quitline and icanquit.com.au.

WHAT HEALTH SERVICES CAN DO

Health Services can:

- Use Make Healthy Normal social marketing resources to promote healthy eating, active living and quit smoking programs in workplaces, public places and children's settings such as primary schools and centre-based early childhood services
- Share posts from the Make Healthy Normal Facebook page to LHD Facebook pages (https://www.facebook.com/makehealthynormal)
- Use signature blocks, web banners and a link from the LHDs intranet site to the Make Healthy Normal website (www.makehealthynormal.nsw.gov.au)
- Work with local councils and local community organisations to amplify campaign messages by placement of campaign signage on council infrastructure e.g. park benches
- Adopt key campaign messages in preventive health activities
- Encourage staff to register for the Make Healthy Normal 10 week Challenge or the Get Healthy Service.

HIGH RISK PEOPLE

SCREENING AND RISK STRATIFICATION

One of the key strategies of the Western Sydney Diabetes Prevention and Management Initiative (a leading LHD level initiative taking a multi-stakeholder approach to diabetes prevention and reduction) is an opportunistic screening protocol for glycated haemoglobin levels (HbA1c) in patients presenting at the Blacktown Hospital Emergency Department. The recent screening trial of 1,267 individuals detected pre-diabetes in 27% and diabetes in 39% of individuals tested. A staggering one in three people detected with diabetes (157 individuals) were unaware of their condition until the results of the screening protocol were brought to their attention.

Early diagnosis of Type 2 diabetes is important because early effective interventions can delay or prevent the complications of diabetes such as eye, kidney and circulatory diseases.[10]

- Individuals at high risk of Type 2 diabetes should be identified through the use of risk assessment tools, such as AUSDRISK, and referred to evidence-based lifestyle modification programs such as the Get Healthy Service.
- People with diabetes and other chronic diseases are at higher risk of cardiovascular disease.[11] Health professionals should ensure that people with diabetes have regular assessment and management of chronic disease risk factors.

WHAT HEALTH SERVICES CAN DO

Health Services can:

- Screen for diabetes in acute care settings
- Assess individuals for Type 2 diabetes risk factors e.g. by using the AUSDRISK tool (www.health.gov.au/preventionoftype2diabetes)
- Provide timely and appropriate chronic condition risk assessment and brief intervention for lifestyle risk factors including overweight/obesity, smoking and alcohol use
- Initiate and evaluate screening and risk stratification measures as part of the Integrated Care Strategy or other local chronic disease initiatives
- Engage with primary care including local Primary Health Networks and Aboriginal Community Controlled Health Services (ACCHSs) to enhance Type 2 diabetes screening in general practice and community based care
- Refer people at high risk of developing Type 2 diabetes to the Get Healthy Service and local Go4Fun programs for lifestyle modification support.

HIGH RISK PEOPLE

PROGRAMS FOR HIGH RISK INDIVIDUALS AND POPULATIONS

Programs for high risk people impact directly on risk factors for Type 2 diabetes such as being overweight or obese, by participating in regular physical activity, healthy eating, quitting tobacco smoking, and reducing high cholesterol, high blood pressure and hypertension.

- The Get Healthy Service has specialised services for:
  - Aboriginal people
  - pregnant women with gestational diabetes
  - people with risky alcohol intake and
  - people at high risk of Type 2 diabetes
- These services provide enhanced coaching and education about risk factors for diabetes as well as setting and achieving risk reduction health goals.
- The NSW Quitline and the NSW Aboriginal Quitline offer free, confidential and individually tailored telephone service to help smokers quit and stay quit. By calling 137 848 (13 QUIT) for the cost of a local call, professional and specialist trained telephone advisors provide the best available information, encouragement, support and strategies to help smokers quit (icanquit.com.au).

WHAT HEALTH SERVICES CAN DO

Health Services can:

- Refer adults who are overweight or obese to existing high quality, proven programs including the Get Healthy Service and local primary care programs
- Refer Aboriginal people with lifestyle risk factors to the Aboriginal program of the Get Healthy Service and the Aboriginal Quitline
- Refer adults over 40 years with an AUSDRISK score of more than 12 to the Get Healthy Service, and the tailored Type 2 diabetes prevention module
- Offer all pregnant women referral to the Get Healthy Service to support healthy gestational weight gain and decrease the likelihood of developing gestational diabetes
- Refer people with high risk alcohol intake to the Get Healthy Service Alcohol Program.

PEOPLE WITH DIABETES

INTEGRATED MANAGEMENT AND REFERRAL

Most people with diabetes can and should be managed adequately in primary care. A coordinated and integrated system will ensure health professionals are aware of, and use, existing avenues for Type 2 diabetes management and secondary prevention services.

- The NSW Government has committed $180 million over six years to implement new, innovative locally-led models of integrated care to achieve a more integrated health system connected across different providers and focused on individual patient needs.
- Evidence indicates that people who are adequately treated to meet the clinical targets for Type 2 diabetes management achieve better health outcomes.[7] Crucial secondary prevention measures include rigorous control of blood glucose levels, blood pressure and cholesterol.[8]

WHAT HEALTH SERVICES CAN DO

Health Services can:

- Ensure people with diabetes who have other chronic disease risk factors receive appropriate intervention and referral e.g. brief intervention for smokers and referral to Quitline
- Ensure any inpatient with diabetes has their medication reviewed and where relevant, receives support from a specialist diabetes team
- Support health professionals to routinely check that people with diabetes are receiving regular assessment and management of secondary complications.
- Use resources developed as part of the Integrated Care Strategy (www.health.nsw.gov.au/integratedcare) to better connect and coordinate care for people with Type 2 diabetes, including identification and risk stratification tools and chronic disease management.

PEOPLE WITH DIABETES

SUPPORTING SELF-MANAGEMENT

Secondary prevention of complications arising from Type 2 diabetes depends on effective and empowered self-management, guided by healthcare providers. This can be supported in acute settings by the holistic assessment of a person's risk factors for chronic conditions and referral to community based services. Primary care plays a key role in supporting effective diabetes management by people with Type 2 diabetes in the community.

- Lifestyle modification programs such as the Get Healthy Service provide support for the reduction of major risk factors and increasing health literacy for self-management of risk factors by people with established Type 2 diabetes. Evidence from integrated care demonstrates that people who are empowered in their own health and who share decision making with healthcare providers have better health outcomes.
- Diabetes Clinics and Diabetes Educators within LHDs play a key role in supporting people to manage their condition and to prevent or delay the onset of complications arising from Type 2 diabetes and linking patients with primary care.
- Primary care provides a key setting for supporting self-management, with GPs and General Practice Nurses all playing a role in raising awareness and compliance with strategies to manage Type 2 diabetes effectively, as well as communicating with patients and specialists through shared care planning. This is part of integrated care and is supported by resources for general practice.
- Patients can be registered for the National Diabetes Services Scheme (NDSS). For NDSS registrants, Diabetes NSW provides a comprehensive range of education and support services (www.diabetesnsw.com.au).

The Far West Local Health District has established the Broken Hill Chronic Disease Prevention Group as a free, monthly drop-in clinic for anyone concerned about their chronic disease risk factors. It is staffed by a Dietitian, Diabetes Educator and Renal Nurse, who provide checks of blood pressure, blood glucose, weight and Body Mass Index.

WHAT HEALTH SERVICES CAN DO

Health Services can:

- Ensure effective communication with primary care to ensure continuity of care and care coordination
- Use Diabetes Educators and Diabetes Clinics to support effective self-management of Type 2 diabetes e.g. case conferencing within General Practice
- Refer people with diabetes to the Get Healthy Service
- Promote and refer patients with Type 2 diabetes to self-management services offered by Diabetes NSW through the National Diabetes Services Scheme (NDSS)
- Promote and support the safe management of used sharps waste

HEALTHIER FOOD ENVIRONMENTS

Equitable access to affordable, healthy food and limited consumption of energy-dense, nutrient-poor foods are prerequisites for healthy eating and the reduction of overweight and obesity.[12,13]

A healthy food environment is characterised by the wide availability and promotion of affordable healthy foods, beverages and meals[14] and is influenced by national, state and local policies. Examples include:

- Kilojoule menu labelling legislation introduced to NSW in 2012 requiring all major fast food, café and coffee chains to have their menu items labelled with the kilojoule content and to have the statement "the average adult daily energy intake is 8700 kJ" on the menu board. The legislation is accompanied by the 8700 website and mobile application and aims to support people to make healthier choices when eating out (www.8700.com.au).
- The voluntary National Health Star Rating front-of-pack labelling system, introduced in 2014, provides a nutritional rating of packaged food products from ½ to 5 Stars with more Stars indicating a healthier choice within the product category. This initiative supports people to make healthier packaged food and beverage choices in the supermarket (www.healthstarrating.gov.au).
- Policies for the provision of healthy food in settings such as schools and health facilities are also key examples of food environment strategies that make it easier for people to choose healthier foods and beverages.

WHAT HEALTH SERVICES CAN DO

Health Services can:

- Establish healthy eating environments in their facilities by providing healthier choices for consumers, staff and visitors
- Promote healthy eating in their communities through the Make Healthy Normal campaign and 8700.com.au mobile apps and the Health Star Rating System.

HEALTHY BUILT ENVIRONMENTS

The built environment can promote human health as part of everyday life.[15]

- Good urban development involves shaping and managing the environment to facilitate physical activity through better access to recreation facilities, mixed land use planning, density, open and green space, street connectivity and close proximity to key destinations such as schools and workplaces.
- Active transport infrastructure which supports healthy choices such as walking, cycling and using public transport can help people achieve the physical activity needed for good health.
- The aim is to create an environment that supports healthier living through better planning, built environments and transport solutions.

WHAT HEALTH SERVICES CAN DO

Health Services can:

- Use the Healthy Urban Development Checklist in consultations with local councils (www.health.nsw.gov.au)
- Develop active travel plans for health facilities to encourage the use of public transport and increase incidental physical activity
- Work with local councils to integrate Healthy Eating, Active Living measures into their Community Strategic Plan using the Integrated Planning and Reporting Framework.

WORKFORCE DEVELOPMENT

The majority of diabetes care takes place in primary practice, but a strong diabetes workforce needs multidisciplinary networks and partnerships between primary, secondary and tertiary care.[16]

- Evidence-based training programs assist healthcare workers in the management and prevention of Type 2 diabetes in the community. Key strategies include clinical workforce training through the Health Education and Training Institute (HETI) (www.heti.nsw.gov.au) and other professional development and training organisations.
- Training for clinical workforces in the identification and management of lifestyle-related risk factors is also important in Type 2 diabetes prevention. Smoking is an independent risk factor for Type 2 diabetes. *Managing Nicotine Dependence: A Guide for NSW Health Staff* outlines an evidence-based approach to smoking cessation brief intervention. Additional practical tools for health professionals can be accessed from the NSW Health website along with consumer resources to support smoking cessation.
- The HETI has also published an online training module entitled *Smoking cessation: a guide for staff* based on the Managing Nicotine Dependence Guide as well as *Yarning with pregnant Aboriginal women about smoking*.
- Culturally appropriate care is essential to the prevention and early detection of diabetes and related complications.[17] HETI's online training module *Respecting the Difference* features a diabetes related case study to support improved outcomes for Aboriginal patients.

WHAT HEALTH SERVICES CAN DO

Health Services can:

- Support healthcare workers including midwives, nurses, dietitians and Aboriginal health workers to undertake clinical training in the identification and management of lifestyle-related risk factors for Type 2 diabetes
- Support staff to undertake relevant online training
- Use the array of tools and resources available on the NSW Health website to support staff to provide smoking cessation brief intervention to clients.

SYSTEMS INFRASTRUCTURE AND SURVEILLANCE

It is important to improve the capacity to measure the burden of Type 2 diabetes and evaluate actions to prevent and control diabetes.

- Surveillance (including collection, analysis and interpretation of data on Type 2 diabetes incidence and complications) facilitates Health Service planning and the allocation of appropriate resources within the healthcare system.
- The NSW Adult Population Health Survey, reported on Health Stats NSW (www.healthstats.nsw.gov.au), monitors rates of Type 2 diabetes risk factors including smoking, overweight and obesity, as well as self-reported Type 2 diabetes in adults.
- Health Stats NSW reports admitted patient data on:
  - Type 2 diabetes hospitalisations by age, Aboriginality, LHD, remoteness and socio-economic status
  - Amputations due to diabetes, by site of amputation and sex
  - Diabetes-related deaths by age, Aboriginality, LHD, remoteness and socio-economic status.

WHAT HEALTH SERVICES CAN DO

Health Services can:

- Use local and state-wide data to monitor the prevalence of Type 2 diabetes risk factors and the incidence of Type 2 diabetes in their communities
- Compare local data to state-wide data and use the LHD level data reported at Health Stats NSW to drive local priorities (www.healthstats.nsw.gov.au)
- Partner with local councils and Primary Health Networks to share data for planning purposes
- Undertake evaluation of local Type 2 diabetes initiatives.

IMPLEMENTATION AND MONITORING

The successful implementation of this Framework will rely on partner organisations within the health system – including state, Commonwealth, Aboriginal health services, and private and non-government organisations – working together towards a common goal to reduce Type 2 diabetes risk factors in the community.

Implementation of the framework will be monitored through routine data used in reporting against State Health Plan and Healthy Eating and Active Living Strategy targets, LHD Service Agreements and funding arrangements with Aboriginal Community Controlled Health Services. This will be augmented by collation of data from other sources and evaluation of specific programs and services such as the Get Healthy Service and Go4Fun.

For more information about local implementation of this framework, please see the accompanying document *NSW Action for Diabetes Prevention* which contains useful case studies and resources for LHDs.

The NSW Government has made a substantial investment of $16 million over four years to target Type 2 diabetes prevention. This investment will fund programs for adults and children at high risk of developing Type 2 diabetes, including the Get Healthy Service and Go4Fun. The implementation of the Type 2 diabetes prevention commitments will be monitored by the Ministry of Health, with regular reporting to government.

The NSW Government has committed $180 million over six years under the Integrated Care Strategy to implement innovative, locally led models of integrated care across the State to transform the NSW healthcare system.

This investment will help to achieve the delivery of more connected and coordinated care across primary, acute and community settings and focus on individual patient needs, including for people at risk of Type 2 diabetes or with established Type 2 diabetes.

Key pieces of state-wide IT infrastructure are being developed to enable better connectivity across all levels of the healthcare system, including an 'eHealth' medical record, HealtheNet, risk stratification tools to identify early intervention opportunities for people likely to need frequent healthcare, and systems that will allow patients to provide direct feedback to drive improvement in services.

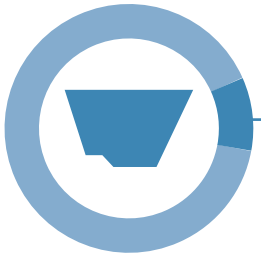
Three 'demonstrator' sites have been established in Western NSW, Central Coast and Western Sydney LHDs. Other innovative approaches to integrating care across the state are being funded through the Planning and Innovation Fund. As these approaches are evaluated, lessons learned will be implemented across the system.

DIABETES FACTS

WHAT IS DIABETES?

Diabetes is a complex chronic condition of the metabolic system, which can progress to serious complications. It is caused when the body is unable to convert glucose, a type of sugar found in food, into energy and the glucose instead remains in the blood stream. This occurs when the pancreas is unable to produce insulin, or is unable to process insulin properly.[18]

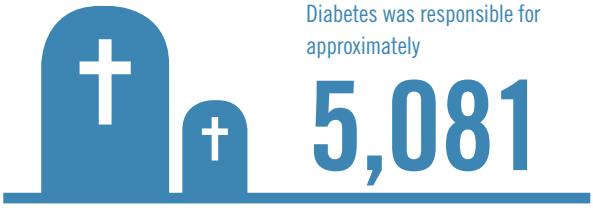
Diabetes is a growing problem for NSW.



In 2014

9.4%

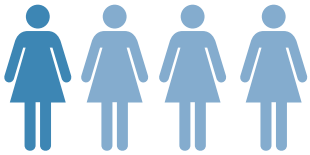
of the NSW population had diabetes or high blood glucose, up from 6.5% in 2002[19]



Diabetes was responsible for approximately

5,081

deaths in NSW in 2013 (where diabetes was the underlying cause of death or an associated cause of death) (54.8 deaths per 100,000 population)[19]



1 in 4 Australian women with a past history of gestational diabetes will develop Type 2 diabetes within 15 years[20]

There are three main types of diabetes

Type 1 diabetes (not covered in this Framework)

Is unable to be prevented and occurs when the pancreas is unable to produce insulin. It is strongly associated with a family history of Type 1 diabetes.

Type 2 diabetes

Occurs when the pancreas is unable to produce or process enough insulin. In some people Type 2 diabetes can be prevented or delayed and is strongly associated with lifestyle-related behaviours.

Gestational diabetes

Occurs during pregnancy and is due to some pregnancy hormones blocking the action of insulin in the mother's body. It usually disappears after the pregnancy, however women with a history of Gestational diabetes are at increased risk of developing Type 2 diabetes.

Pre-diabetes

Pre-diabetes describes impaired fasting glucose (IFG) and/or impaired glucose tolerance (IGT). Both IFG and IGT occur when blood glucose levels are higher than normal, but not high enough to be diagnosed with Type 2 diabetes*.

*IFG is when fasting blood glucose is equal or above 6.1 mmol/L but less than 7 mmol/L, and blood glucose is less than 7.8 mmol/L two hours after a 75 gram glucose drink. IGT is when blood glucose is above 7.8 mmol/L but less than 11.1 mmol/L two hours after a 75 gram glucose drink. (From Diabetes Australia (2012) Talking Diabetes No 29. prediabetes (IFG and IFT).

444,000

people in NSW currently have diabetes[19]

185

new cases per day in NSW[19]

451,000

people in NSW have pre-diabetes[19]

Without intervention,

1 IN 3

People with pre-diabetes will develop Type 2 diabetes within 10 years[21]

People with pre-diabetes are at

INCREASED RISK

of developing diabetes, and cardiovascular and other macrovascular disease.[21]

RISK FACTORS FOR DIABETES

Risk factors for diabetes, and diabetes related complications, refer to health behaviours and biomedical conditions that can impact on the health of an individual in a negative way.

Overweight and obesity are key risk factors for the development of Type 2 diabetes, because increased body weight can lead to increased insulin resistance and defects in insulin secretion.[22] In 2014, 52.5% of adults were overweight or obese in NSW, and 21.5% of children were overweight or obese.[23]

People with Type 2 diabetes are **less likely to exercise at moderate to high levels** compared to people with diabetes.[24] In 2014 in NSW, 55.2% of adults had adequate levels of physical activity.[23]

A high fibre diet, with increased **consumption of fruits and vegetables**, is recommended to reduce the risk of developing Type 2 diabetes.[25] In NSW in 2014, 53.9% of adults ate the recommended daily serves of fruit, and 8.9% ate the recommended daily serves of vegetables.[23]

Tobacco smoking increases the risk of developing Type 2 diabetes and diabetes-associated complications.[26,27] In 2014, 15.6% of adults aged 16 years and over were current smokers in NSW.[23] The estimated rate of smoking among Aboriginal people was 37.3%, compared to 14.6% for non-Aboriginal people.[23]

People with diabetes, particularly Type 2 diabetes, often have **high cholesterol** levels.[11] 20.9% of NSW adults reported they had high cholesterol in 2013.[23]

High blood pressure, or hypertension, is a major risk factor for the development of diabetes complications including cardiovascular disease, kidney disease and diabetic eye diseases.[11] 28.4% of NSW adults reported they had high blood pressure in 2013.[23]

Key population health promotion messages to reduce the risk of Type 2 Diabetes

Choose smaller portions. Know your ideal kilojoule intake. The average Australian adult requires about 8700kJ a day.[28]

Eat more fruit and veg. Eat five vegetable and two fruit serves every day.[25]

Make water your drink. The drinks we choose can provide us with important nutrients (such as calcium from milk) or just add kilojoules we don't need (such as sugar in soft drinks). Water hydrates us and contains zero kilojoules.[13]

Be active every day. Small amounts of exercise can make a big difference to your health including increased energy and reduced risk of chronic conditions.[24]

Sit less, move more. Detach from your desk and break up sitting periods as often as possible.[29]

Smoking is harmful to your health. The best thing smokers can do for their health is to quit smoking. Quitting at any age increases life expectancy and improves quality of life.[30]

Less than 2 a day. To reduce the short and long term risk of alcohol related harm, the national alcohol guidelines recommend that people drink no more than 2 standard drinks per day.[31]

DIABETES AFFECTS EVERYONE

In NSW 52.5% of adults and 21.5% of children were overweight or obese[23]

52.5%

21.5%

HEALTHY POPULATION

Within the healthier population, both non-modifiable factors such as family history and gender, and modifiable factors such as diet and lifestyle can contribute to the risk of developing Type 2 diabetes.

Awareness of risk factors is important even within a healthier population as this maximises the chance for prevention and early diagnosis.

Only 8.9% of people eat the recommended daily intake of vegetables.[23]

8.9%

HIGH RISK INDIVIDUALS

Modifiable lifestyle risk factors contribute significantly to the development of chronic conditions across the population.

Individuals at risk[26] of Type 2 diabetes may:

- be overweight or obese
- have a sedentary lifestyle
- smoke tobacco
- have a poor diet.

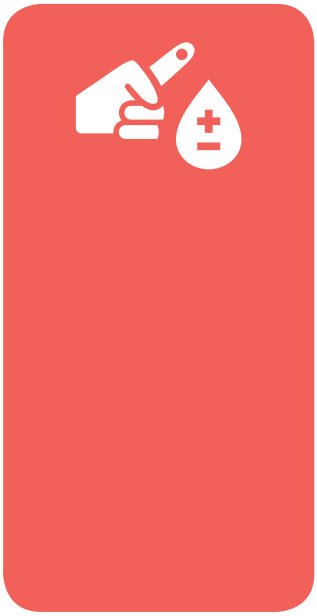
High-risk individuals and populations are priority groups for lifestyle modification programs, such as the Get Healthy Service and Go4Fun.

PRIORITY POPULATIONS

Type 2 diabetes is more common in some population groups such as older people[10] and women during pregnancy.[32] It is more prevalent among Aboriginal people[33,34] and people from culturally and linguistically diverse communities[35] and in rural and remote communities.[10] The incidence of diabetes also increases with socio-economic disadvantage.[10]

In NSW in 2014[23]:

- 12.3% of the most socio-economically disadvantaged communities reported having diabetes, compared to 7.9% of the least disadvantaged communities.
- 20.4% of people aged more than 75 years reported having diabetes compared to 1.2% of people aged 16-24 years.
- 13.7% of Aboriginal people reported having diabetes compared to 9.2% of non-Aboriginal people.



INDIVIDUALS WITH DIABETES

Preventing the development of Type 2 diabetes, and preventing the emergence of the complications of Type 2 diabetes, is important as there are a number of serious health conditions that are much more common in those with Type 2 diabetes, including[11]:

- Heart attacks and strokes
- Blindness
- Kidney failure
- Amputations of the lower limbs
- Depression, anxiety and stress
- Cognitive impairment

Crucial prevention measures include rigorous control of blood glucose levels, blood pressure and cholesterol[8]. There is strong evidence that improving control of these indicators in people with newly diagnosed Type 2 diabetes improves diabetes outcomes[7].

EVIDENCE FOR DIABETES PREVENTION

There is strong and growing evidence about the risk factors for Type 2 diabetes, the level of reduction in risk factors required to prevent Type 2 diabetes, and the components of efficacious programs supporting Type 2 diabetes prevention. Some of this evidence is outlined below.

THE EFFECTS OF TYPE 2 DIABETES PREVENTION ARE SUSTAINED

The Finnish Diabetes Prevention Study[1] was the first randomised clinical trial to show that a relative risk reduction for Type 2 diabetes of almost 60% can be achieved with intensive healthy eating and physical activity counselling.

During follow-up of a median 7 years, there was a 32% relative risk reduction in favour of the people who participated in the Type 2 diabetes prevention intervention.

LIFESTYLE INTERVENTIONS ARE EFFECTIVE FOR PREVENTION OF TYPE 2 DIABETES

In 2015 an international systematic review[36] of lifestyle interventions for the prevention of Type 2 diabetes found diabetes prevention programs can significantly reduce the progression to Type 2 diabetes and lead to reductions in weight and glucose.

THE BENEFITS OF PREVENTION

The Ministry of Health commissioned two independent academic studies[37] to determine the benefits to the individual and community of healthy eating and active living and decreasing lifestyle risk factors for Type 2 diabetes. These showed that:

- By increasing the proportion of the NSW population who are a healthy weight by 2018 (so that one in two adults are a healthy weight), increasing the levels of physical activity by 15%, and increasing fruit and vegetable consumption by 44%, approximately 3,000 deaths and 8,000 new cases of disease would be avoided.
- Evidence shows that a 5% weight loss leads to 40-60% less chance of developing diabetes over three years.

FRAMEWORK INDICATORS AND REPORTING

NSW State Health Plan Target	Monitoring Tool	Source
Reduce overweight and obesity rates of children by 5% over 10 years	NSW Population Health Survey	*Premier's Priorities*
Stabilise overweight and obesity rates in adults by 2015, then reduce by 5% to 2020	NSW Adult Population Health Survey	*NSW State Health Plan: Towards 2021*
Reduce smoking rates by 3% by 2015 for non-Aboriginal people and by 4% for Aboriginal people	NSW Adult Population Health Survey	
Reduce the rate of smoking by non-Aboriginal pregnant women by 0.5% pa and by 2% pa for pregnant Aboriginal women	NSW Perinatal Data Collection	
Continuing the effective Knockout Health Challenge to support Aboriginal communities across NSW to lose weight	The Australian Prevention Partnership Centre	*NSW State Health Plan: Towards 2021*
Increase awareness of the health impact of overweight and obesity and encourage people to make healthy choices	Making Healthy Normal Campaign Evaluation	*Campaign Evaluation Report*
100% of participants in the Get Healthy Service over 40 years and/or Aboriginal people screened for Type 2 diabetes risk	Get Healthy Service Performance Data	*Get Healthy Service Reporting*
100% increase in referrals to Get Healthy Service from LHD Health Professionals compared to 2013/14 baseline*	Get Healthy Service Performance Data	*LHD Service Agreement*
Go4Fun enrolments (number) and completion of program (%)*	Population Health Information Management System	*LHD Service Agreement*
Munch and Move Children's Healthy Eating and Physical Activity Program (centre based children's service sites) cumulative 80% of sites within LHD adopted the program*	Population Health Information Management System	*LHD Service Agreement*
Live Life Well @ School Children's Healthy Eating and Physical Activity Program (primary school sites) cumulative 80% of sites within LHD adopted the program.*	Population Health Information Management System	*LHD Service Agreement*

*Targets differ across LHD service agreements

NSW Health funded Aboriginal Community Controlled Health Service Indicators 2015/16

Indicator	Monitoring Tool	Reporting
Number and proportion of regular Aboriginal clients aged 25 and over who have had their BMI classified as overweight or obese within the previous 24 months.	Aboriginal Community Controlled Health Service Patient Information Management System	Aboriginal Community Controlled Health Service – Ministry of Health Service Agreement
Number and proportion of regular Aboriginal clients who are overweight or obese who attended an organisation this quarter who were referred to an evidence-based healthy lifestyle program.	Aboriginal Community Controlled Health Service Patient Information Management System	
Number and proportion of regular Aboriginal clients for whom a Medicare Benefits Schedule (MBS) Health Assessment for Aboriginal and Torres Strait Islander People was claimed within the previous 12 months.	Aboriginal Community Controlled Health Service Patient Information Management System	
Number and proportion of regular Aboriginal clients who have a chronic disease (Type II diabetes) and for whom a GP Management Plan (MBS Item 721) was claimed within the previous 24 months.	Aboriginal Community Controlled Health Service Patient Information Management System	
Number and proportion of regular Aboriginal clients who have a chronic disease (Type II diabetes) and for whom a Team Care Arrangement (MBS Item 723) was claimed within the previous 24 months.	Aboriginal Community Controlled Health Service Patient Information Management System	

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