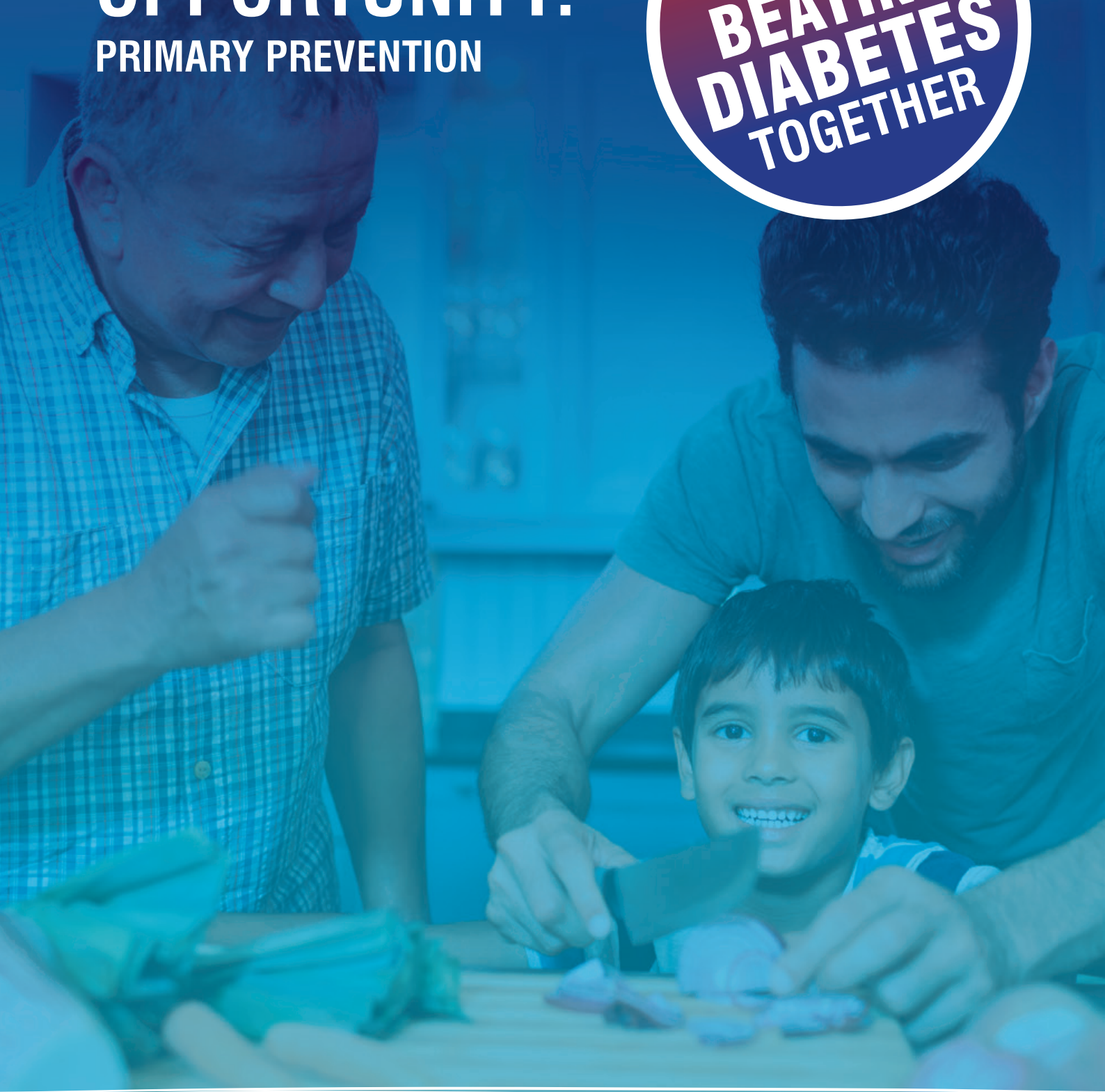


# INVESTMENT OPPORTUNITY: PRIMARY PREVENTION



# PURPOSE OF THIS DOCUMENT

Our Western Sydney Diabetes initiative aims to beat type 2 diabetes in the region. The pillars of this initiative are:

- **Building an Alliance and Testing the Strategy:** We have built an alliance of more than 70 partners across government, business and the community to better understand the problem, and engage with decision makers to develop and implement solutions that will tackle the epidemic of diabetes in our region.
- **Primary Prevention:** Securing investment for primary prevention programs and initiatives to reduce the development of type 2 diabetes in the community and limit the progression of people at 'high risk' or with pre-diabetes to a formal diagnosis of type 2 diabetes.
- **Secondary Prevention and Management:** Securing investment for secondary prevention and management programs and initiatives to slow or stop the development of diabetes complications.
- **Data for Decision Making:** We are building a surveillance and monitoring system that will leverage data and intelligence to continuously evaluate the problems and impacts.
- **Mobilising Public Support:** Our community awareness campaign will inform the community on the risks of diabetes and engage them to do something about it.

This document sets out our 'Primary Prevention' pillar. Details of the other pillars are set out in the respective supplementary documents.

Primary prevention aims to reduce the development of type 2 diabetes in the community and limit the progression of people at 'high risk' or with pre-diabetes to a formal diagnosis of type 2 diabetes.

This document sets out our primary prevention strategy including:

- The benefits and evidence for primary prevention.
- Details of the suite of initiatives that make up our primary prevention program.
- An economic case which demonstrates the significant financial and non-financial benefits of our program.
- The case for expanding and investing in our primary prevention program.



Western Sydney  
**Diabetes**

**TAKING THE HEAT OUT  
OF OUR DIABETES HOTSPOT**

BUILDING AN ALLIANCE AND TESTING THE STRATEGY

➔ **INVESTMENT OPPORTUNITY:**  
PRIMARY PREVENTION

➔ **INVESTMENT OPPORTUNITY:**  
SECONDARY PREVENTION AND MANAGEMENT

➔ **DATA FOR DECISION MAKING:**  
BUILDING A SURVEILLANCE SYSTEM  
TO MONITOR AND EVALUATE

➔ **MOBILISING PUBLIC SUPPORT:**  
BUILDING DIABETES AWARENESS AND  
ENGAGEMENT

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# INVESTMENT OPPORTUNITY: PRIMARY PREVENTION

## The Benefits of Primary Prevention

Diabetes is a problem that we must tackle together. Our Western Sydney Diabetes (WSD) initiative primary prevention program aims to reduce the development of type 2 diabetes in the community and limit the progression of people at 'high risk' or with pre-diabetes to a formal diagnosis of type 2 diabetes.

We aim to achieve this in part by addressing the social determinants of health that promote healthy eating, active living and social inclusion. This will enable us to prevent diabetes and its progression in western Sydney.

The primary prevention program has four core areas of focus.



The evidence shows that type 2 diabetes can be prevented through lifestyle intervention, weight reduction and changes to diet and exercise. The case for investment in primary prevention programs is robust and set out later in this document.

Primary prevention programs are recognised to be either cost-saving or cost-effective across all age groups. The cost of a prevention program is substantially less than the lifetime cost of a person developing diabetes. For example the cost of the Get Healthy six month coaching program is \$640 - \$1,030,<sup>1</sup> compared to the average annual cost of a person in western Sydney with type 2 diabetes of \$16,124. International evidence has shown that the average lifetime

healthcare cost of diabetes, a preventable disease, is AUD \$112,700<sup>2</sup> per person.

Previous prevention campaigns like smoking have had considerable success over time. Smoking rates in men have reduced from around 70% in the 1950s to 18% today, with similar reductions in women. It will take time, but given the right strategy, commitment and resources, we can have similar rates of success in turning the diabetes epidemic around and reducing the rates of diabetes and costs to society.

We know that primary prevention will also deliver multiple social and health benefits for the patient, including quality of life from preventing diabetes and diabetes related complications such as heart disease and stroke, eye conditions, foot problems, and chronic kidney disease.

## Prevention is Good Economics

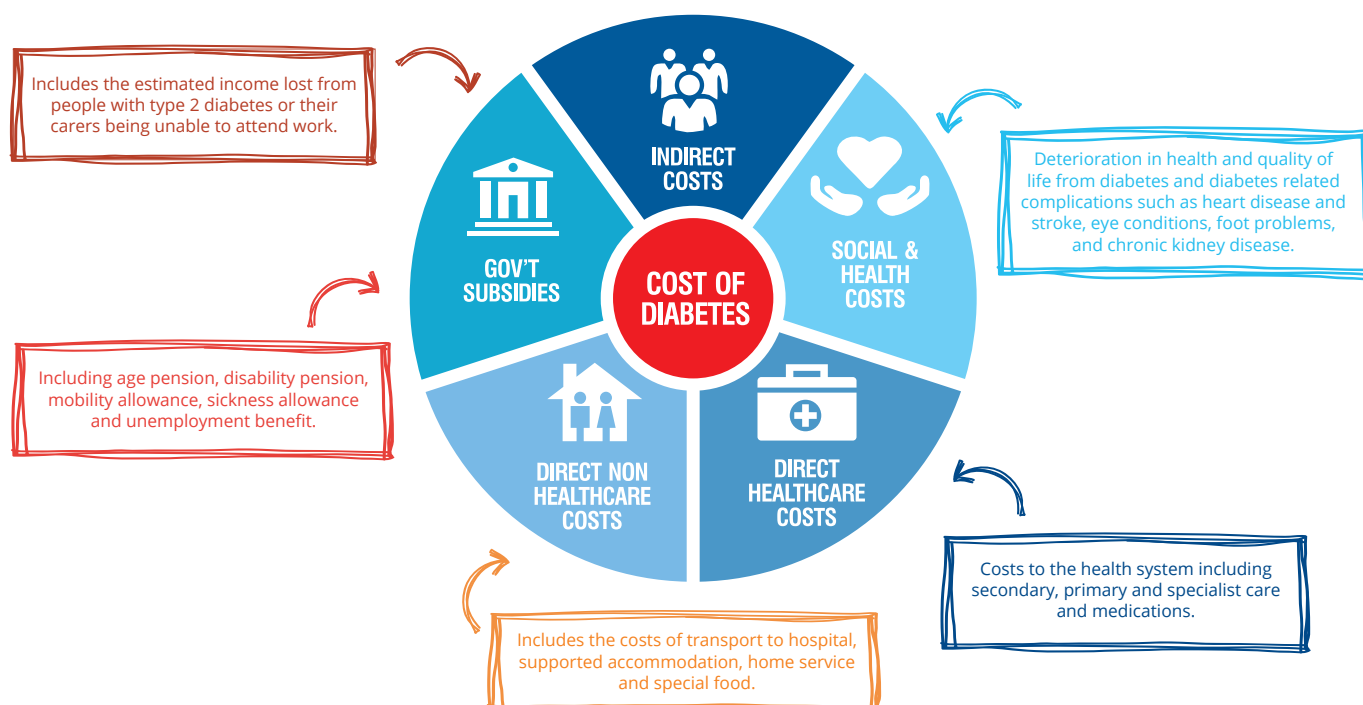
Estimates of the cost of type 2 diabetes to the Australian health system range up to \$6.57 billion a year,<sup>3</sup> but we can reduce these costs and tackle the problem together.

Our proposed primary prevention program is supported by a robust economic case which demonstrates the significant financial and non-financial net benefits that can be achieved from our program. With an investment of **\$124.27 million** over 14 years, we can provide a net financial benefit of **\$577.99 million**.

### The Cost of Diabetes

The burden of type 2 diabetes comes at a cost. There are the personal costs of deterioration in health and quality of life, as well as financial costs to the economy. The financial costs are not limited to the costs of the disease itself, but include the costs of associated health conditions and other non-healthcare costs such as Government subsidies and loss of income from being unable to attend work (see diagram on opposite page).

It is estimated that the average annual financial cost of a patient with type 2 diabetes in western Sydney (healthcare and other costs) is \$16,124, or \$13,766 for those with no complications and \$22,156 for those with macrovascular complications<sup>4</sup> (see table on opposite page).



Annual Average Cost of a Person with Type 2 Diabetes (2016 prices)	Type 2 Diabetes: with No Complications	Type 2 Diabetes: Average	Type 2 Diabetes: with Macro-vascular Complications
Social and health costs	-	-	-
Direct healthcare costs	\$4,448	\$5,849	\$10,000
Direct non-healthcare costs	\$1,112	\$1,462	\$2,500
Government subsidies	\$7,000	\$7,607	\$8,450
Indirect costs	\$1,206	\$1,206	\$1,206
<b>Total annual whole of economy costs</b>	<b>\$13,766</b>	<b>\$16,124</b>	<b>\$22,156</b>

## Modelling the Initiatives

For the purposes of developing an economic model to demonstrate the benefits of the Primary Prevention program, through a series of workshops the Alliance selected 13 initiatives they were comfortable to engage with to be modelled over a 14 year period from 2018 to 2031. These 13 initiatives cover three of the four program areas of improving food consumption, increasing physical activity and Government leading the way. A description of the 13 selected initiatives, along with the costs to run each initiative and the estimated benefits, is provided in the 'Primary Prevention Strategy' section.

Our economic model is based on the 13 selected initiatives, however our intention is to roll out significantly more initiatives and target even more of the western Sydney population with an 'all of population' approach and social marketing campaign. It is expected that the real benefits will therefore be in excess of those outlined.

### Target Cohort

We estimate that these 13 initiatives can target and engage:

- **220,500 children in western Sydney**
- **44,000 adults at 'high risk' of diabetes in western Sydney**

# INVESTMENT OPPORTUNITY: PRIMARY PREVENTION

In addition, there will be a number of adults and children in the 'healthy' population who are engaged in more healthy lifestyles and benefit from an increase in the availability of fresh healthy foods.

Our modelling takes into account the increasing population of western Sydney.

## Investment Costs

For each of the 13 initiatives we calculated the investment costs required to run the program in each year at the desired scale, including staff, equipment, set up and subscription costs.

We also calculated the investment cost required to provide a central hub to coordinate, collaborate and integrate the various organisations and programs to achieve success. We call this the Prevention Hub and its role will include:

- Coordination of program updates
- A system and organisational development role
- Toolkit development and guidance
- Program management
- Creation of a data interchange to enable looking at the whole population to understand what interventions are needed
- Key contact for social media for the program
- A role in looking to create sustainable funding mechanism to support prevention work

We have not included investment costs for financing any external funding.

## Benefits

A strong evidence base supports our case that these initiatives can have a positive impact on preventing the progression of diabetes. This evidence is set out later in this document. We have reviewed evidence from both local and international literature sources on interventions that are similar to our 13 selected initiatives to understand the impact these interventions have on preventing type 2 diabetes. We have then modelled the application of these studies on the 13 western Sydney initiatives to provide us with our estimated financial benefits, using the average (mid-range) cost of \$16,124 to calculate the annual costs avoided by one person preventing diabetes.

A decay rate was applied to recognise that the efficacy of interventions may take up to a year to take full effect and

recognise that the reduction in prevalence continues, but lessens over time. There is evidence that 34% of people avoid progressing to a diagnosis of diabetes at 10 years and 27% at 15 years following completion of the intervention.<sup>5</sup>

## Cost/Benefit Analysis

An investment of **\$124.27 million** over 14 years to fund the 13 initiatives will target and **engage 220,500 children and 44,000 adults at 'high risk'** of diabetes in a full intervention. This will result in **10,000 people** being prevented from developing type 2 diabetes and a net financial benefit of **\$577.99 million**.

Cost/Benefit Summary (2016 prices)	Financial Benefit to 2031
<b>Investment</b>	
Initiative and prevention hub costs	(\$124.27)m
<b>Total costs to run initiatives</b>	<b>(\$124.27)m</b>
<b>Benefits</b>	
Social and health benefits	-
Direct Healthcare benefits	\$254.74m
Direct non healthcare benefits	\$63.67m
Government subsidies	\$331.30m
Indirect benefits	\$52.55m
<b>Total gross benefits (costs avoided)</b>	<b>\$702.26m</b>
<b>Total net benefit</b>	<b>\$577.99m</b>

There are additional benefits which have not been included in our model or within the timescales of our model, including:

- The qualitative social and health benefits of not developing type 2 diabetes, for example Quality Adjusted Life Years
- An increase in tax revenue from people and their carers being able to work
- The impact of the 'network effect' whereby those people involved in the programs encourage and educate their friends and family to share in their learnings and make sustainable positive changes to their lifestyles

- We have included initiatives that target childhood obesity. These initiatives will not demonstrate material benefits until beyond 2031 since the highest rates of diabetes occur later in life. However, it is imperative to educate and encourage children on healthy eating and activity if we are to break the cycle and address the hotspot of diabetes in western Sydney

The prevalence of type 2 diabetes in western Sydney is estimated to be 15%.<sup>6</sup> If we can prevent 15% of the 220,500 children targeted from developing type 2 diabetes, this could avoid a lifetime healthcare cost of diabetes of up to **\$3.7 billion**. This number is in addition to the **\$577.99 million** net benefit modelled above.

It is evident from our analysis that primary prevention strategies to prevent the onset of diabetes are cost-saving.

## The Case for Expansion

Prevention will deliver important patient and community benefits, but it is a long-term investment.

In order to achieve sustainable, long term, public health gains through the prevention of diabetes and obesity, the whole population needs to be targeted regardless of their current health status. Of all the people who develop type 2 diabetes, about 50% come from the high-risk population and the remaining 50% come from the general (low-to-intermediate-risk population). So, if we want to prevent the increase of type 2 diabetes, we need to have a high-risk prevention program operating in conjunction with community wide, all of population initiatives. Even a small shift in the average risk level within the population can result



# INVESTMENT OPPORTUNITY: PRIMARY PREVENTION

in large population effects overall. For example, a weight loss of 2 kilograms in adults will reduce the conversion of people with pre-diabetes to diabetes by 30%.<sup>7</sup>

Preventing childhood obesity is a key objective, aligned to the NSW Premier's priorities. Investments in children and the younger population may not see returns for up to 40 years later, since the highest rates of diabetes occur later in life. Our program recognises that investments that address deeply rooted social factors from a young age are as important to reducing the diabetes epidemic as strategies that focus on shorter-term clinical prevention.

## Funding and Resource Requirement

There are a number of primary prevention initiatives that are already underway in the district and great achievements have been made to date. These programs are set out in our *'Building an alliance and testing the strategy'* document, and include the Students As Lifestyle Activists (SALSA) program and the initiatives funded under the NSW Ministry of Health's HEAL Strategy such as Get Healthy.

The Western Sydney Diabetes initiative is seeking to increase the scale and reach of these existing programs, as well as rolling out new ones, to target a significantly larger portion of the population and increase the health benefits to western Sydney residents and the financial benefits to the economy.

In order to expand our program to target the wider western Sydney population and make the required long term investments, we require additional funding, resources and technology. A number of initiatives have existing resources that we can employ and leverage, however, this capacity is very limited and we will require significantly more resources than is currently available to achieve the expansion required. Monies received will directly fund the initiatives to build the capacity and technology required to deliver the interventions successfully and to a larger population.

## Primary Prevention Strategy

### Our Partners

Diabetes is a problem that we must solve together and as part of our community approach to the Western Sydney Diabetes initiative, an Alliance has been set up to address the social determinants of diabetes in western Sydney.

Western Sydney Local Health District (WSLHD), Western Sydney Primary Health Network (WSPHN) and Department of Premier and Cabinet (DPC) have combined efforts with representatives from Diabetes NSW, urban planning, property development, local universities, population health, local government, WSROC, PwC and other private and non-government organisations to identify current gaps and to develop a strategy and underlying suite of initiatives that will engage the local population to live more healthy, active lifestyles.

### Our Collective Goal

The focus of our primary prevention program is to reduce the development of type 2 diabetes in the community and limit the progression of people at 'high risk' or with pre-diabetes to a formal diagnosis of type 2 diabetes. We aim to achieve this by addressing the social determinants through a series of HEAL lifestyle interventions.

We will identify 'high-risk' participants from our program through a review of current health records and increased HbA1c screening in hospitals and general practice. In addition to this we will run all of population community initiatives and a social media campaign to alert people to the risks of type 2 diabetes and to engage them in our program.

In order to achieve the broader benchmarks of the Western Sydney Diabetes initiative, our goal for the primary prevention program is to:

1. Increase the number or % of people who are screened in hospital or in a general practice for HbA1c blood levels and identified with pre-diabetes.
2. Increase the number of people taking up lifestyle modification programs.
3. Reduce the number or % of people developing pre-diabetes and diabetes.

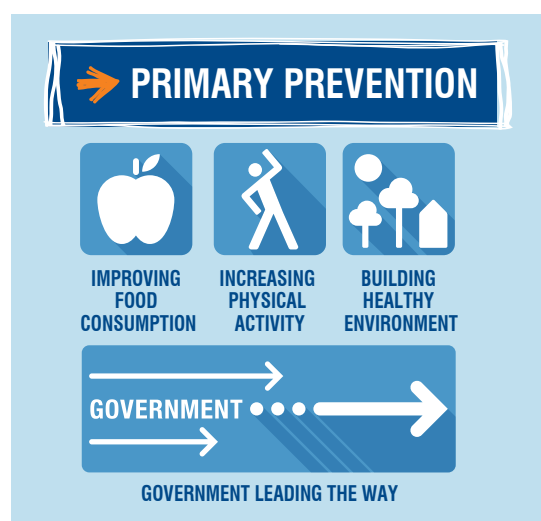
### Primary Prevention Strategy Initiatives

International and local evidence and research shows that type 2 diabetes can be prevented through lifestyle intervention, weight reduction and a combination of



improved diet and physical activity. Also critical to success is having ready access to healthy food and building the enabling infrastructure to support healthy living. Our evidence base is set out later in this section.

In consultation with our Alliance, we therefore developed our primary prevention strategy based on the following four areas.



Our primary prevention strategy sets out a suite of initiatives that are either currently in existence and will be scaled up, or are new initiatives. Initiatives are aimed across the population of 'healthy' individuals and those that are at 'high risk' of developing diabetes. They are also aimed across the spectrum of life-stages beginning during pregnancy, infancy and through to adulthood.

As previously mentioned, initiatives targeted to children will not demonstrate material benefits or achieve financial savings until beyond 2031. It is, however, imperative to educate and encourage children on healthy eating and activity if we are to break the cycle and instil lifestyle habits that will be taken into adulthood. For this reason, it is essential that a full range of initiatives are included.

The 13 case studies listed are those included within our economic model.

## 1. Improving Food Consumption

Shifts of diet over the last 20 years toward a high-fat, energy-dense diet have contributed to more than 63% of adults and at least 25% of children being overweight or obese.<sup>8</sup> Studies show that a weight loss of 5 kilograms, or 5% of body weight, through healthy eating and physical activities can delay or prevent type 2 diabetes and other diet related diseases.<sup>9</sup>

To achieve this, people need to have the skills and knowledge to be able to make suitable choices for themselves and their families. Positive influences from the early years and throughout life are vital to establishing and maintaining lifelong healthy habits. Taking a life-cycle approach to increase healthy food knowledge and improving food access can change eating patterns across western Sydney.

### 1.1 Food Literacy and Skills

Many in our society do not have the necessary knowledge and skills to enable them to make healthy food choices. Health literacy and cooking skills programs can equip people with the skills and ability to choose healthy options and be able to prepare healthy meals.

International evidence attests to the benefits that improving the food literacy of the population has on losing weight and following a healthy diet. Teaching individuals how to prepare healthy foods results in significant improvements in cholesterol, blood pressure and a reduction in diabetes.<sup>10</sup>

#### 1 Food Literacy and Skills

*Being able to cook for yourself and your family is one of the key requirements for a healthy life and some members of the western Sydney community have missed out on learning this essential life skill. This means that the families rely largely on highly processed, packaged or fast food, which tend to be low in nutrients and high in energy. The result is more overweight children and obesity starting from an early age.*

Measure	Key Elements	Indicative Pathway	Implementation Responsibility
Improving knowledge of healthy food options and food preparation skills	Provision of information about healthy food to people in western Sydney	WSLHD and Councils will provide information about healthy food and lifestyle choices suitable for identified target groups	WSLHD, Councils, Jamie's Ministry of Food Australia, TAFE, St Vincent de Paul, Woolworths, OzHarvest
	Community based cooking programs to improve cooking skills in western Sydney	Expanding existing and creating new cooking clubs to teach cooking skills	

# INVESTMENT OPPORTUNITY: PRIMARY PREVENTION

*To bridge this gap, community based cooking classes will be run for targeted groups to train the group members and give them the skills, knowledge and confidence to prepare healthy meals. The members who complete the course will then be given the support to continue learning through joining online cooking clubs or through setting up clubs themselves.*

*Targeted groups include young adults (especially school and home leavers), disadvantaged residents, members of the culturally and linguistically diverse (CALD) community and new mothers who are taking on the role of family food provider.*

*This intervention uses the facilities and skills of our many partners who will continue to practice their own methods and programs to train people to cook. Whatever program is used, whether it is from Jamie's Ministry, Ozharvest or TAFE, the focus will be teaching how to prepare healthy meals from scratch. Members of the Alliance will enable classes to take place in extra venues through the provision of facilities, as well as provide an ongoing supply of ingredients for both the classes and ongoing cooking clubs.*

*This has potential to create long term change. The skills are learnt for life and have the ability to improve the diet of both the learner and their family. By having the opportunity to join cooking clubs, they will also be able to continue to cook within a virtual or local community.*



## **Investment Benefits**

### **Cost to set up:**

- \$1.25 million

### **Benefits:**

- *There is evidence to support the benefits of improving the food literacy of the population and evidence to support a community cooking course assisting in weight loss, however there is no direct evidence that a cooking course is the sole contributor of diabetes prevention. Achievement of any benefits is linked to addressing the issues of food accessibility. We have therefore not included any benefits in the economic model*

## **1.2 Healthy Eating Education for Young Families**

Establishing appropriate nutrition and physical activity practices during pregnancy and in early childhood reduces the risk of diabetes in infancy, adolescence and adulthood. It is reported that there are three per 100,000 of population of 10-14 year old children<sup>11</sup> and eight per 100,000 of population of 15-18 year old children<sup>12</sup> in Australia diagnosed with type 2 diabetes annually.

Starting before birth, global studies show the importance of addressing gestational diabetes in pregnant mothers. A low birth weight (2.54 kilograms or less) is associated with a 26% increase in the prevalence of type 2 diabetes and impaired glucose tolerance in adults later in life, compared to average weight babies.<sup>13</sup> Low birth weight is also linked with other traits associated with the development of diabetes.

Unhealthy eating and physical activity patterns from a young age increases the likelihood of type 2 diabetes<sup>14</sup> and growing evidence also indicates that pre-school children who are overweight or obese experience negative health physical consequences.<sup>15</sup>

Incorporating appropriate nutrition and physical activity are especially effective in reducing excessive weight gain in preschool children. Parents clearly have an important role in influencing children's food and activity choices. Interventions that engage parents are essential to addressing childhood obesity.

Measure	Key Elements	Indicative Pathway	Implementation Responsibility
Educating families about healthy eating	Educating expectant mothers and families with young children, about the providing healthy meals for their families	Utilising and expand existing programs such as Pregnancy Birth & Baby and Munch & Move to educate expected mother and young families	WSLHD, Community Nursing Centres, Birthing Centres, Mothers Groups, Play Groups NSW, Councils
	Education and guide to Healthy Pregnancy for expecting mother at risk of gestational diabetes	Prenatal education program to include general guidelines for managing gestational diabetes	

### 2 An Education Workshop for Playgroups

*New mums and carers at playgroups are a major influence on the diet of their family, both by being role models themselves, as well as often being the person who prepares the family food.*

*These groups provide the ideal friendly and supportive environment to give the mothers and in some cases children the opportunity to learn, prepare and taste healthy food. A dietician will attend these meetings and give talks, demonstrations and tastings to show that healthy eating can be easy, low-cost and fun.*

*This service will be offered to playgroups in western Sydney on an ongoing basis to capture new members as they join the group. By doing this all the target groups such as new mothers, carers, CALD and special focus groups will all benefit from the education.*

#### Investment Benefits

##### Cost to set up:

- \$1.71 million

##### Benefits:

- Gross savings of \$42.72 million in 7 years
- Net benefit of \$41.01 million in 7 years
- Prevent diabetes in 3 per 100,000 of 10-14 year olds and 8 per 100,000 of 15-19 year olds and a 58% reduction in the prevalence of diabetes for high risk mothers
- Continuing benefits to 2031 and beyond



### 3 Health Education for Expectant Mothers

*Evidence shows that the health of parents before conception and during pregnancy can affect the future health of newborn babies and continue well into adulthood. Poor nutrition, smoking and alcohol consumption during pregnancy raise the risk of miscarriage, prematurity and low-birth weight but also the chances of obesity and therefore diabetes later in life. Because pregnancy is one of the few times that western Sydney residents visit hospital, this is an ideal time to begin changing eating and lifestyle habits.*

*About 15% of all pregnant women in western Sydney develop gestational diabetes, with half of these women developing type 2 diabetes within 10 years. These rates are expected to grow, especially with the increasing number of people who have a genetic predisposition and cultural practices that increase their risk of diabetes.*

*Western Sydney Local Health District antenatal clinics, maternity units and community health centres will be at the forefront of delivering pre-natal and post-natal education to pregnant women and new mothers, with a focus on*

# INVESTMENT OPPORTUNITY: PRIMARY PREVENTION

healthy eating and active lifestyles. Under this program, educators will consult with women at high risk of developing gestational diabetes during their regular ante-natal visits to hospital and post-natal visits to hospital or in their own home. Educators will help women understand the dangers of gestational diabetes to their health and their future children and will help in managing weight and eating healthily. Through the follow-up program of eight home visits over 24 months, the focus will be on ensuring that the family continues to eat healthy meals and engage in physical activity in order to reduce childhood obesity.

Currently funding is being provided through Western Sydney Local Health District. However for the program to be able to address the expected rise in gestational diabetes in western Sydney, additional investment is required. This will enable an increase in the number of women engaged and frequency of contact, as well as a greater level of information and support provided to the growing number of high-risk women. Some of the women in this program will also be followed up through other programs, such as the 'Education workshop for playgroups'.

## Investment Benefits

### Cost to set up:

- \$11.29 million

### Benefits:

- Gross savings of \$194.23 million in 7 years
- Net benefit of \$182.94 million in 7 years
- Prevent diabetes in 3 per 100,000 of 10-14 year olds and 8 per 100,000 of 15-19 year olds and a 58% reduction in the prevalence of diabetes for high risk mothers
- Continuing benefits to 2031 and beyond



## 1.3 Healthy Eating in Schools

Schools are an important influence in promoting lifelong healthy eating habits. School-based programs have been proven to help children to adopt healthier eating habits.

Evidence drawn from both local and international sources attests to the benefits and impacts of promoting healthy eating and behaviours with school-aged children, particularly up to the end of year 8. School menus can directly increase daily vegetable and fruit consumption and reduce consumption of low-nutrient energy-dense foods while children are at school.<sup>16</sup> Additionally, nutrition education programs and establishing vegetable gardens in schools have been shown to increase the consumption of fruit and vegetables in school-aged children.<sup>17</sup>

International evidence demonstrates that school based programs that improve dietary intake in combination with physical activity can reduce BMI in school children aged 6 to 12 years<sup>18</sup> (see table on opposite page).

### 4 Kitchen Gardens in Western Sydney Primary Schools

The Stephanie Alexander Kitchen Garden Scheme has been running in 20 primary schools in western Sydney, setting up vegetable gardens and basic kitchen facilities on school grounds. After harvesting their own produce, children then learn how to prepare healthy meals and basic cooking skills, laying the groundwork for understanding the connection between fresh fruit and vegetables and good health.

Initial funding was available for this innovative program to be piloted in western Sydney in 2015/16, but this has now been discontinued. For the program to be rolled out across western Sydney and continue into the future, an initial investment of \$4.07 million is needed to set up the gardens and kitchen facilities in 250 primary schools. After the initial investment, the initiative will be sustainable into the future as the costs of conducting classes will form part of the school curriculum.

## Investment Benefits

### Cost to set up:

- \$4.07 million

### Benefits:

- Gross savings of \$0.06 million over 7 years
- Prevent diabetes in 3 per 100,000 of 10-14 year olds and 8 per 100,000 of 15-19 year olds
- Continuing benefits to 2031 and beyond

Measure	Key Elements	Indicative Pathway	Implementation Responsibility
<b>Creating an understanding of food production and nutrition</b>	Establishing vegetable gardens in western Sydney Schools	Expanding the kitchen garden programs in western Sydney Schools	<b>DET, local schools, P&amp;Cs Stephanie Alexander Kitchen Garden</b>
	Incorporating healthy eating and cooking skills into school activities	Schools where possible include healthy eating and cooking skills in day to day activities	<b>DET, local schools, TAFE</b>
	Developing an understanding amongst students of where food comes from	Explore suitable options to initiate 'farm-to-school' initiatives	<b>DET, local school, Councils, Australian Farmers Markets Association, Harvest Hub, Hawkesbury Harvest</b>
<b>Peer educational program</b>	Establishing peer educational program in high schools to provide students with knowledge and skills to maintain healthy lifestyle	Expanding the Students as Lifestyle Activists (SALSA) Program	<b>DET, SALSA</b>
<b>Healthy food choices in school canteens</b>	Providing healthy nutritious canteen menus and removal of all sugar sweetened drinks	Implementation of the Fresh Tastes NSW Healthy School Canteen Strategy in all NSW government schools.  Working with non-government schools to provide healthy food choices in school canteens	<b>DET, local schools, non-government schools</b>



### **5 Students As Lifestyle Activists (SALSA)**

High schools are the ideal place to encourage teenagers to adopt healthy behaviour. At this stage in their lives many are reducing their physical exercise, are less reliant on food prepared in the home and are more influenced by their peers.

Unfortunately although this is a critical period for future health behaviour, few programs are aimed at this age group. For this reason, the SALSA program should be adopted by all high schools in western Sydney.

SALSA is a peer education program which teaches the students about food choices, healthy lifestyle, individual and community action. This program is unique in that the students teach each other. Trained university students teach year 10 students who then go on to teach year 8 students in a fun environment through videos, games and activities. The students look at barriers to a healthy lifestyle and how to overcome them. They then compile their own and community action plans. The program also provides young people with the opportunity to develop leadership skills and become student advocates in the community. A recent evaluation has shown that the students finish the course with measured increases in fruit, vegetable and breakfast consumption, reduced sugar sweetened beverage consumption and screen time.

Limited budgets have restricted the reach of this program and funding is required to expand the student training capacity and resources to allow the program to increase from 23 to the 77 secondary high schools in western Sydney.

# INVESTMENT OPPORTUNITY: PRIMARY PREVENTION

## Investment Benefits

### Cost to set up:

- \$4.96 million

### Benefits:

- Gross savings of \$0.70 million over 7 years
- Prevent diabetes in 8 per 100,000 of 15-19 year olds
- Continuing benefits to 2031 and beyond



## 1.4 Increasing Accessibility of Healthy Foods

There is a concentration of food deserts in the western suburbs of Sydney. Food deserts are areas where there is limited access to affordable, healthy food options, fresh fruits and vegetables due to absence of grocery stores within convenient travelling distance. Studies around the world have shown that they are predominantly focused in low-socioeconomic areas compared to wealthy areas. People living in food deserts have higher rates of obesity, type 2 diabetes and other diet-related conditions than the general population.<sup>19</sup> This evidence points to the importance of ensuring there is appropriate access to fresh fruit and vegetables to positively impact the diet of the population.

Encouraging existing food retailers to expand their selection of healthier food and lower the prices of fresh food in key communities will improve access to healthy eating options. This coupled with initiatives to place fresh food directly into communities should lead to increased consumption of fruit and vegetables (see table below).

Measure	Key Elements	Indicative Pathway	Implementation Responsibility
Increasing accessibility to fresh and affordable food	Community oriented markets targeted to known food deserts to increase access to fresh affordable food	Councils and NGOs will establish regular farmers market in underserved fresh produce areas	<b>Councils, Sydney Markets, Australian Farmers Markets Association, Hawkesbury Harvest, Harvest Hub</b>
	Encouraging local shops and supermarkets to increase the number of healthy food options	Working with food outlets to broaden the range of fruit and vegetables available	<b>Supermarkets, Sydney Markets, Councils</b>
	Encourage local shops and supermarkets through promotional activities to reduce some prices of fruit and vegetables	Working with food outlets to lower prices of fruit and vegetables particularly in lower socio economic areas	<b>Supermarkets, Sydney Markets, Councils</b>
Increased fresh produce in social housing estates	Establishment of community gardens on social housing estates Teaching of food production skills	FACS and NGO's working with communities on social housing estates to establish community gardens	<b>FACS, NGO's, local communities</b>
Increased opportunities to grow food	Establishment of community gardens and verge gardens in western Sydney	Councils working with communities to establish community gardens Councils encouraging the establishment of verge gardens	<b>Councils, local communities</b>

## 6 The Food Trailer Program

The impact of food deserts becomes especially serious when the resident doesn't have access to transport either through geography, age, finances or incapacity. The most disadvantaged in the community are most likely to suffer this inequity, particularly those living in community housing. People living in food deserts have higher rates of obesity, type 2 diabetes and other conditions relating to a poor diet.

In some cases fresh food outlets have closed down due to low demand or vandalism. In other food deserts, dietary staples are only available through inappropriate outlets such as liquor stores. To address this inequity it is proposed to introduce a fresh food trailer which would ship low-cost food into the food deserts on a regular basis. Food on offer could include locally grown fresh produce. The trailer would complete a regular circuit of the deserts and deliver and sell food from convenient local venues such as churches, community halls and community health centres. This will allow the families living in food desert access to a healthy diet and permit follow up through community education on healthy eating as well as the implementation of cooking classes and clubs.

### Investment Benefits

#### Cost to set up:

- \$0.86 million

#### Benefits:

- Gross savings of \$30.11 million over 7 years
- Net benefits of \$29.25 million in 7 years
- Reduction of diabetes developing in high-risk adults by 20%
- Continuing benefits to 2031 and beyond



## 7 Community Gardens for Social Housing Areas

Having access to fresh and reasonably priced food is the first step to healthy eating.

Too often, people living in social housing are on a limited budget or do not have ready access to local shops that sell fresh fruit and vegetables. This leads to many not eating healthily because of the high cost of fresh fruit and vegetables and not participating in physical activity because of limited open space.

Community gardens can improve their diet and are a way to improve the lifestyle of social housing tenants by building skills and confidence, increase social interaction increased physical exercise and a more pleasant environment. A greater sense of community leads to a feeling of security and a possible reduction in antisocial behaviour.

Currently, there are a limited number of community gardens in several social housing locations in western Sydney which have been funded through the Department of Family and Community Service and participating local councils. To expand the program to a greater number of sites across western Sydney and to encourage participation not only from social housing communities but the wider community and investment of \$1.89 million is required. This will be used to set up gardens which will then be run with the help of local councils, private organisation and residents. Once established, local residents will be asked to volunteer to manage their lots, to share skills and meet regularly to share cooking tips or plan meals from their produce.

### Investment Benefits

#### Cost to set up:

- \$1.89 million

#### Benefits:

- Gross savings of \$2.08 million
- Net benefit of \$0.19 million in 7 years
- Reduction of diabetes developing in high-risk adults by 20%

# INVESTMENT OPPORTUNITY: PRIMARY PREVENTION

## 2. Increasing Physical Activity

Increased physical activity helps control blood glucose levels and is one of the most effective preventive measure and treatment for both obesity and type 2 diabetes.

The Australian Government recommends that, in order to prevent unhealthy weight gain, adults aged 18-65 years should perform 300 minutes of moderate intensity physical activity or 150 minutes of vigorous intensity physical activity per week.<sup>20</sup> Physical activity includes a broader range of activities than sport alone. A recent study estimated that if Australians met these physical activity guidelines that the incidence of diabetes would be reduced by 25%.<sup>21</sup>

Early intervention and lifestyle changes in people with pre-diabetes which involves physical activity for 30 minutes per day contributes to a weight loss of 5 kilograms, which can reduce the risk of developing diabetes by 58% at the end of the program<sup>22</sup>. People who are at high risk of developing diabetes are generally overweight or obese, consequently their weight is significantly higher than the healthy population. Therefore aiming for a 5 kilograms reduction is analogous to a 5% weight reduction. It is acknowledged from our review of the evidence that any weight loss, as a reduction in kilograms or a percentage reduction in body weight, is beneficial. Evidence from the USA indicates that these benefits are long term. The incidence of diabetes in the 10 years following participation in the Diabetes Prevention Program was reduced by 34%.<sup>23</sup> At the 15 year mark the reduction in prevalence was approximately 27%.<sup>24</sup>

Supervised physical activity is particularly effective as it provides encouragement and guidance. One study identified that supervised physical activity sessions produced a 1.17mmol/g greater decrease in two hour glucose measure when compared with physical activity recommendations alone.<sup>25</sup> This demonstrates the important role of ongoing monitoring and coaching programs to keep participants on track to achieve their weight and diet goals.

### 2.1 Walking

Encouraging people to walk for short, local trips, or in combination with public transport trips, is an effective way to integrate incidental physical activity into daily routines as well as to enhance wellbeing and enjoyment from green space and well-designed outdoor areas.

People living in western Sydney are less likely to walk for transport than people living in central and eastern Sydney suburbs. Providing supporting infrastructure as well as promoting health benefits will encourage people to walk (see table on opposite page).

#### 8 GP Walking Groups

*Residents in western Sydney are less likely to walk for transport than people living in Central or Eastern Sydney.*

*Establishing GP walking groups is a way to increase walking amongst at risk people. We know that GP referral has a very positive influence on the engagement of the patient and also know that having to report back to the GP is a great motivator for patients to continue a lifestyle change. Similar programs conducted in collaboration with the Heart Foundation from GP practices have been well attended and have existed for many years. Practice staff can set up the group, with the intention of handing over the day to day running to the participants within a couple of months. After this time the involvement of the practice is merely as a reporting entity and time and financial commitment is minimal.*

*This intervention has an added benefit of bringing the community together. Pharmacies, Local Councils and WSPHN have shown a willingness to assist with the setting up, monitoring and referral of residents to the walking group.*

#### Investment Benefits

##### Cost to set up:

- \$3.94 million

##### Benefits:

- Gross savings of \$90.02 million
- Net benefit of \$86.08 million in 7 years
- Reduction of diabetes developing in high-risk adults by 58%





Measure	Key Elements	Indicative Pathway	Implementation Responsibility
<b>Promote walking as a transport mode</b>	Promote the benefits of walking	Promote walking and highlighting the health, social and economic benefits	<b>Walking Groups, TfNSW, DET, Local Councils, NGOs and Doctors Surgeries, WSPHN</b>
	Create a culture of walking	Increase participation in the 'Walk to School' Program Support workplace walking challenges Develop and support a range of local western Sydney walking groups	<b>TfNSW's Walking and Cycling Programs, Councils, school, Doctor surgeries, WSLHD, NGOs</b>
	Address barriers which discourage walking	Identify initiatives to improve walking safety and security such as slowing traffic in the busy areas, safety audits and good lighting on footpaths. Provide education platforms for Road Safety. Promote safe use of shared paths for both pedestrians and cyclists.	<b>Local Councils, TfNSW</b>
<b>Connect people to places with safe and direct walking infrastructure</b>	Improve local walking infrastructure	Provide local walking infrastructure that connects communities to public transport interchanges and key destinations and improves walking amenity.	<b>TfNSW's Walking and Cycling Programs, Councils</b>
	Provide supporting facilities for convenient and enjoyable walking	Deliver better protection from the weather and more signage on key walking routes.	<b>TfNSW, Councils non-Gov and private sector</b>
	Develop a Walkability Tool to understand how well a location is connected for pedestrians	The Walkability Tool will assess pedestrian walking distances to public transport, key destinations and public open space.	<b>TfNSW, private sector</b>
<b>Make walking accessible for everyone</b>	Provide high quality, accessible footpath infrastructure throughout centres and transport interchanges	Address Disability Discrimination Act non-compliances on footpath network and around transport interchanges including footpath widths, crossing infrastructure and facilities for people with sight, hearing and mobility impairments.	<b>TfNSW, Councils</b>
<b>Integrate walking with public transport trips</b>	Provide information on the walking component of public transport trips	Public transport trip planning guidance to include walking information.	<b>TfNSW</b>
	Provide clear and consistent way finding signs to and from all transport interchanges, stations, stops and wharves	Way-finding signs installed to direct people to key destinations.	<b>TfNSW, Councils</b>
<b>Prioritise walking over other transport modes in centres</b>	Make walking the highest priority and the preferred mode of transport in western Sydney centres	<ul style="list-style-type: none"> <li>- Signalised intersections provide longer crossing times for pedestrians</li> <li>- Provide additional pedestrian crossings including missing legs at all signalised intersections</li> <li>- Reduce traffic speeds in centres</li> <li>- Investigate pedestrian only streets and conversion of lanes to shared zones</li> <li>- Reduce crossing distances and increase footpath space</li> </ul>	<b>TfNSW, RMS, Councils</b>

# INVESTMENT OPPORTUNITY: PRIMARY PREVENTION

## 2.2 Cycling for Transport

Cycling for transport offers health and economic benefits to individuals and can reduce traffic congestion and emissions. To encourage more people to cycle instead of drive, it needs to be considered as a safe and convenient transport choice by a wide range of people. Separated cycleways and end-of-trip facilities like bike sheds and showers will help to address the barriers to cycling.

Western Sydney's existing cycle network can be improved by addressing missing links and providing dedicated space for cycling at intersections. Education and promotion around cycling should focus on addressing the perceived barriers and letting people know about the benefits of riding a bike and the existing cycle ways.

Measure	Key Elements	Indicative Pathway	Implementation Responsibility
<b>Promote cycling as a transport mode</b>	Promote the benefits of bike riding	Provide community information about existing bike networks, trip planning and local roads.	<b>TfNSW, Councils NGO's and Bicycle NSW</b>
	Support the trial of cycling for transport	- Increase bike facilities at schools and participation in 'Ride to School' Programs. - Work with workplaces to promote cycling and to provide end-of-trip facilities.	<b>TfNSW, RMS, Councils, schools, private sector</b>
	Address barriers which discourage cycling	- Deliver cycling confidence courses, including Cycling Proficiency Training. - Provide education platforms for Road Safety. - Run campaigns to educate both drivers and bicycle riders about safely sharing the road. - Promote safe use of shared paths for both pedestrians and cyclists	<b>Local Councils, TfNSW</b>
<b>Provide safe local cycling routes within five kilometres of centres</b>	Expand network of separated cycle ways throughout Parramatta – both on and off road links	Complete the update of the Parramatta Bike Plan and Parramatta Valley Cycleway. Continue to support projects that exist to improve cycling connections to western Sydney centres.	<b>TfNSW, City of Parramatta City, Blacktown Council</b>
	Complete missing links and address problem intersections in local bicycle networks	Completing missing links, fixing pinch points and providing space for bicycles at intersections.	<b>TfNSW, RMS, Councils</b>
<b>Complete Sydney's Principal Bicycle Network</b>	Deliver western Sydney's Principal Bicycle routes	Connect centres and provide high quality transport options to travel within the region.	<b>TfNSW, Councils WSLDH</b>
<b>Integrate cycling with public transport</b>	Provide information on cycling routes to access public transport trips	Public transport trip planning guidance to include cycling information	<b>TfNSW, councils</b>
	Provide clear and consistent way finding signs to all transport interchanges, stations, stops and wharves	Way finding signs installed to direct bicycle riders to transport interchanges and bicycle parking.	<b>TfNSW, councils</b>
	Provide secure bicycle parking and end-of-trip facilities	Provision of secure, visible and high quality bicycle parking and end-of-trip facilities at transport interchanges.	<b>TfNSW</b>



## INVESTMENT OPPORTUNITY: PRIMARY PREVENTION

### 9 Cycling for Transport

*By promoting the benefits of cycling and encouraging western Sydney residents to take up cycling as a mode of transport we will be investing in the health of the people and reducing congestion.*

*However, to be a viable alternative, cycling needs to be viewed as a safe and convenient mode of transport. People need to have the skills and the confidence to cycle and use the roads safely. Children who learn to cycle when young will have the confidence to embrace cycling as a mode of transport through childhood and into adulthood.*

*The Cycling for Transport program will be conducted through public schools as part of the PDHPE syllabus. Eight year olds in western Sydney will be taught bicycle riding skills and road safety in their normal PE and sport classes. Bicycles will be provided in the schools so that children who may not have their own bicycle or whose families cannot afford one can still practise riding.*

*Currently, this initiative is not funded by Department of Education. An initial investment of \$1.23 million will provide instruction and equipment in 100 primary schools. After the initial investment, the bicycles can be reused within the school environment for at least seven years as the program becomes an established part of the school PDHPE syllabus.*

#### **Investment Benefits**

##### **Cost to set up:**

- \$1.23 million

##### **Benefits:**

- Gross savings of \$0.01 million
- Prevent diabetes in 3 per 100,000 of 10-14 year olds and 8 per 100,000 of 15-19 year olds
- Continuing benefits to 2031 and beyond



### 2.3 Exercise

Reducing weight is recommended to regulate appropriate blood glucose level and engaging in 30 minutes of daily

moderate exercise such as brisk walking can help with weight loss. Maintaining weight loss leads to an overall improvement in wellbeing.

Measure	Key Elements	Indicative Pathway	Implementation Responsibility
<b>Expanding planned-activities for weight loss, improved fitness and overall wellbeing</b>	Encourage more people with types 2 diabetes or prediabetes to participate in weight management programs	Increasing participation in the Beat it Program Increase community based group programs for example Live Life Get Active.	<b>Diabetes NSW, WSLHD, WS Parklands Trust Councils</b>
	Programs and activities targeting pre-school and school age children to learn about healthy lifestyle and positive attitude to healthy food and exercise	Expansion of the following Government initiatives in western Sydney: - Go4Fun - Munch & Move - Live Life Well @ School - Finish with the Right Stuff - NSW Premier's Sporting Challenge - Sporting Schools initiative	<b>DET, NSW Office of Sport, WSLHD, NSW Health, Australian Sports Commission</b>



## INVESTMENT OPPORTUNITY: PRIMARY PREVENTION

### 10 Live Life Get Active

The Live Life Get Active program is a community based exercise and healthy eating program which is run free of charge in parks throughout Australia. They provide classes in boxing, circuit training and yoga to any adult over 18 who wishes to enrol. The classes are run by exercise physiologists and are conducted 5 days per week at times that suit various lifestyles. Each class can cater for up to 30 participants at a time. The evaluation of the classes show that the average participant improves their physical fitness, loses weight as well as increases their self-reported 'happiness score' from an average of 4 up to 8 after a single term's attendance.

Whilst the councils are generously offering facilities free of charge, finances are required to conduct the classes. The majority of these contributions are dependent on local sponsors. With over 60% of western Sydney residents being overweight or obese there is a massive potential to increase the number of localities for these classes. Considering many of the most at risk residents have limited access to transport, an increase in classes in particularly disadvantaged neighbourhoods is a major priority. The ability to offer these classes free of charge at convenient localities throughout western Sydney will give all adult residents the ability to get fit and active, to improve their health, happiness and wellbeing. Many current attendees state that their Live Life Get Active class is the only outing that they have all day.

### Investment Benefits

#### Cost to set up:

- \$8.34 million

#### Benefits:

- Gross savings of \$64.11 million
- Net benefit of \$55.77 million in 7 years
- Reduction of diabetes developing in high-risk adults by 58%

### 2.4 Planned Events

Social and environmental factors have direct influence on the health and wellbeing of people in the community. Planned events at a community-wide level can be a platform of raising health awareness and initiating population-level changes in health outcomes.

The intention of planned events such as marathons, fun runs and healthy eating initiatives is to provide people with a target of a healthy lifestyle that can be sustained into the future. It is anticipated that these events would lead to people participating in physical activities and healthy lifestyles on a more formal basis and would increase social inclusion in the community.

While there is limited evidence to indicate a direct impact on the prevalence of type 2 diabetes of planned events, they are considered to be part of the broader marketing approach to promoting healthy lifestyles.



Measure	Key Elements	Indicative Pathway	Implementation Responsibility
Improved community engagement through local events	Establish/ increase events for mass participation	Councils arrange and host community based events; fun day, food festivals, arranged community based recreational activities	Councils, Western Sydney Parklands Trust



**11 Planned Events – Getting the Community Active**

The challenge is to encourage local residents to get onto their feet. To motivate this behaviour change, community fitness events will be conducted throughout the year. The running of local events would lead people to prepare for each event by commencing or increasing their level of activity and having improved their fitness level to continue exercising on a more regular basis. It would also make them aware of the local facilities that are free and accessible. Highly publicised events such as marathons, fun runs, walks and healthy eating initiatives would all be made available to the residents.

We aim to plan one major event for the whole of western Sydney followed by three events to be run annually by each Council. The emphasis would be on health, fun and fitness and teams from local workplaces, schools and sporting teams would be encouraged to display their community spirit and participate.

Additional benefits resulting from the events will be seen in the promotion of social inclusion and a sense of place and community. The events may also provide the ideal venue to launch an initiative proposed by the Blacktown Council where the community is encouraged to ‘Lose A Million’ (kilograms).

**Investment Benefits**

Cost to set up:

- \$8.04 million

Benefits:

- Planned events are able to contribute to building awareness of healthy lifestyles and lead to people participating in physical activities and healthy lifestyles on a more formal basis. We have not included any benefits in the economic model as all evidence is anecdotal at this stage.

**2.5 Coaching Services**

Information and lifestyle coaching services provide new ways of engaging people in making or sustaining improvements in healthy weight and overall well-being and can be targeted to those in the community most at need and at a population level. They aim to improve healthy lifestyle behaviours and can be delivered through various platforms for example in a small group or as telephone based (or in combination of).

The NSW Get Healthy Service offers a six month coaching program to people at high-risk of developing diabetes. This is a telephone-based service and involves ten individually-tailored calls provided by university qualified health coaches based on behaviour change/self-regulation principles designed to assist with goal setting, maintaining motivation, overcoming barriers and making sustainable lifestyle changes. Coaching calls are provided on a tapered schedule to promote maintenance and prevent relapse. An evaluation of the outcomes identified that on average participants lost 3.8 kilograms and achieved a 5.1cm reduction in their waist circumference.<sup>27</sup>

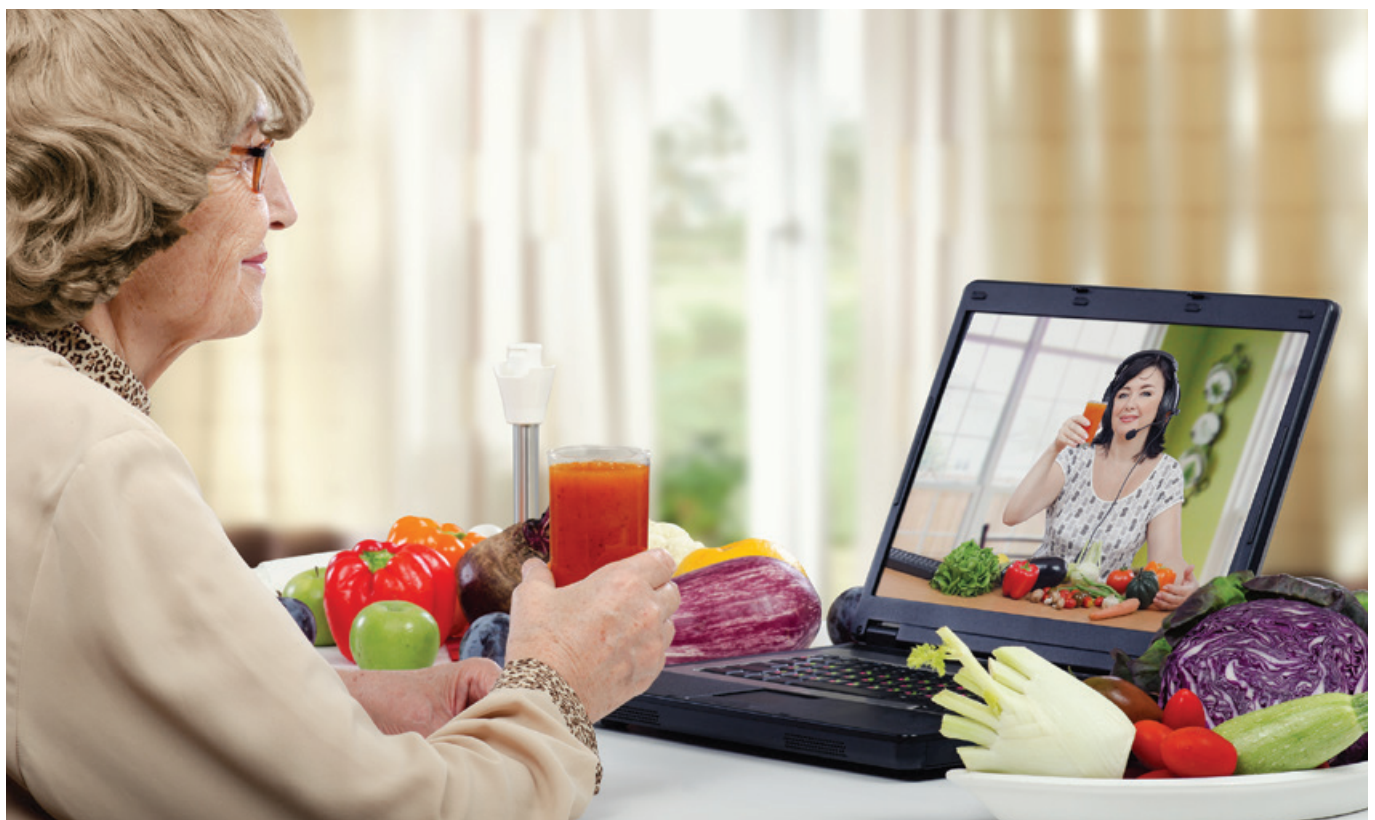
Similar results have also been identified internationally. A US coaching program consisted of 16 weekly coaching sessions followed by 8 monthly visits to increase physical activity to 150 minutes per week and stimulate weight loss of 5% of body weight. The results indicated that 17.48% of the target population completed at least 17 sessions with an average weight loss of 5.31 kilograms.<sup>28</sup>

# INVESTMENT OPPORTUNITY: PRIMARY PREVENTION

Another US study compared self-directed activities to a Weight Watchers program that included supported behavioural modifications in self-monitoring of weight, intake and activity; dietary modification and physical activity.

The Weight Watchers program participants lost 5 kilograms more, equal to approximately 5% of body weight.<sup>29</sup> This demonstrates the benefits of a supervised coaching program for achieving weight loss.

Measure	Key Elements	Indicative Pathway	Implementation Responsibility
Provide intervention to improve healthy lifestyle behaviours	Free Personal telephone-based health coaching	Promote to the broader community the free NSW Health Service 'Get Healthy'	Councils, WSLHD, NSW Health, DET
	Provide free health, fitness and nutritional education in suitable platform	Expansion of the Live Life Get Active Program and other similar programs	Live Life Get Active, Councils, WSLHD



### 12 Coaching Services – Get Healthy

Many of our residents are time poor and though keen to improve their diet and/ or activity levels are unable to attend structured classes on a regular basis. Others find difficulty in remaining motivated, or simply do not know how or what to start in their efforts to improve their healthy habits. Health coaching has been shown to improve healthy behaviours and result in a 58% reduction in the prevalence of diabetes.

The Get Healthy Telephone Coaching Service is a program where trained health coaches provide up to 10 calls over a six month period. They help people to set realistic goals and provide the information and support to keep them motivated to achieve these goals. The patients who complete the course on the average lose 3.8 kilograms.



*The results and completion rates are even better for people who are referred to the Service by health professionals. To increase the rate of health professional referral, it is proposed that the health professionals are offered a course in health coaching. This course would teach the basics of health coaching and how to approach the topic with patients. This would then allow the health professional to commence the process with the patient and take a more active interest in their progress once enrolled in Get Healthy. This message would be particularly powerful if the GP practice also ran regular walking groups that they could refer to the patient as one of their health objectives.*

*The Get Healthy Service have confirmed that there is a very large increase in enrolments when the service is advertised using mass media. For this reason it is also proposed that funds be made available for a bi-annual advertising campaign to be run throughout western Sydney. This specific local focus would allow co-promotion of other opportunities or events being conducted within the community.*

*Anyone 18 years or over can enrol in the Get Healthy program, however the focus will be on those with or at risk of developing diabetes.*

#### **Investment Benefits**

##### **Cost to set up:**

- \$26.27 million

##### **Benefits:**

- Gross savings of \$196.84 million
- Net benefit of \$170.58 million in 7 years
- Reduction of diabetes developing in high-risk adults by 58%



### **3. Building Healthy Environments**

Creating supportive built environments is a well-recognised way of improving health and wellbeing.

Planning for residential and population growth in western Sydney presents the opportunity to create and enhance communities that facilitate and encourage people to choose walking and cycling as transport modes and to access recreational open space for exercise. Higher density developments with a mix of land uses will support short local trips which can be taken by walking or cycling. Creating attractive links from homes to high quality recreational space will invite people to spend time exercising outdoors.

There is now considerable research evidence demonstrating a direct relationship between the built environment and our health. It has profound impact in getting people active, connecting people and providing access to healthy food options.<sup>30</sup>

The evidence shows that creating a healthy environment for western Sydney is a key enabler to ensure the success of our other initiatives. For example, to facilitate people exercising for the required time each day requires appropriate pathways, footpaths and sporting facilities. If these are not available then it is unlikely that the full benefit would be realised from specific programs and interventions (see table next page).

# INVESTMENT OPPORTUNITY: PRIMARY PREVENTION

Measure	Key Elements	Indicative Pathway	Implementation Responsibility
<b>Incorporating Liveability Framework in western Sydney urban developments</b>	Integration of the Liveability Framework of the draft West-Central District Plan into the respective Councils' Community Strategic Plans	Councils working with the Greater Sydney Commission to include a community health component in their Community Strategic Plans	<b>Greater Sydney Commission, Department of Planning and Environment, FACS, Local Councils</b>
	Place based urban developments that incorporate and demonstrate healthy living design principles	NSW government will ensure the Telopea redevelopment masterplan demonstrates healthy living design principles	
	Plan higher density communities with a range of land uses	Ensure new communities include a range of retail employment and recreational land uses within walking distance of homes	
	Plan new communities around existing and new public transport infrastructure	Seek to locate communities close to high quality public transport infrastructure as well as walking and cycling infrastructure to access the services	
<b>Connecting existing parks and public areas with new green space corridors</b>	Building on the Metropolitan Greenspace Program (Sydney's Green Grid) to create and improve green spaces	<ul style="list-style-type: none"> <li>- Councils will work with the Greater Sydney Commission, Department of Planning to further develop green spaces</li> <li>- Parramatta Ways</li> <li>- Duck River Cycleway</li> <li>- Eastern Creek Corridor</li> </ul>	<b>Parramatta City, Blacktown, Cumberland Councils, NSW Government Agencies, Greater Sydney Commission</b>
<b>Increased use of open spaces</b>	Increased use of state and local government owned open spaces to encourage improved fitness and overall wellbeing	An initial trial project in two local government areas.	<b>DET, Parramatta and Blacktown Councils</b>
<b>Provide walking and cycling infrastructure as part of new projects</b>	Prioritise walking and cycling in the planning, design and construction of new transport and urban development projects.	<p>All new transport and urban development projects consider and provide for walking and cycling.</p> <p>For urban developments this could mean:</p> <ul style="list-style-type: none"> <li>- Footpaths provided on both sides of every street</li> <li>- Pedestrian crossing infrastructure to facilitate safe and convenient road crossings on desire lines</li> <li>- Cycling facilities provided throughout developments to connect homes with public transport, centres, Sydney's principal bicycle network and recreational areas</li> <li>- Comfortable facilities provided such as seating and shade along streets and paths.</li> </ul> <p>For new transport projects this could mean:</p> <ul style="list-style-type: none"> <li>- Access to the new transport services</li> <li>- Walking and cycling routes aligned with the routes of the major transport project</li> <li>- Enhancement of walking and cycling connectivity across the transport project corridor</li> </ul>	<b>Transport NSW, DPE, local Councils</b>
	Develop and implement Green Travel Plans to encourage active transport choices by new residents and workers	All new residential and commercial developments in western Sydney are to develop and implement Green Travel Plans ahead of occupation. This could include transport information packs, end-of-trip facilities, trip planning services and communication campaigns.	<b>DPE, Councils, private sector, Transport NSW</b>
<b>Create safe streets for vulnerable road users</b>	Plan and design streets with priority for people, not motor vehicles.	Create a range of guidelines and tools to support councils, planners and developers.	<b>DPE, Councils, private sector, Transport NSW</b>



## 4. Government Leading the Way

The NSW Government is a significant employer in western Sydney with many employees living locally. Improving the overall health of government employees will not only contribute to reducing rates of diabetes but also importantly demonstrate leadership and thus encourage community acceptance of the need to make healthy lifestyle choices. Improving the food environment in Government settings will also demonstrate the Government’s commitment to addressing this problem.

### 4.1 Healthy Lifestyle Changes for Western Sydney Government Employees

Workplace initiatives that incorporate nutrition education and physical activity have been shown to be particularly successful in increasing fruit and vegetable intake and achieving weight loss. A number of work-based strategies and policies have proven effective in improving the fruit and vegetable intake of employees, including point-of-purchasing labelling, increased availability of healthy food items, and/or educational programs and materials.<sup>31</sup> The results of nine studies of workplace programs identified a mean weight loss of 1.19 kilograms (a reduction in BMI of 1.12).<sup>32, 32</sup> Nutrition and internet-based programs also appear to be promising approaches for eliciting desired dietary modifications.<sup>34, 35</sup>

Measure	Key Elements	Indicative Pathway	Implementation Responsibility
Develop a whole of western Sydney approach for healthy weight and lifestyle	Development of a whole wellness program called 'Lighten up Western Sydney' for WSLHD Workers	A whole wellness program is developed for WSLHD Workers Agencies, and NSW government employees are approached to join the 'Lighten up Western Sydney' campaign	WSLHD, NSW Government Agencies operating in WSLHD area
Expand 'Get Healthy at Work'	Get Healthy at Work is a free NSW Government workplace health service that aims to help improve the health of working adults	Expand the Get Healthy at Work program throughout NSW Government workplaces in western Sydney.	WSLHD, NSW Government Agencies operating in WSLHD area

# INVESTMENT OPPORTUNITY: PRIMARY PREVENTION



### 13 Healthy Lifestyle Program for Employees

The development of a whole wellness program called 'Lighten up Western Sydney' for Western Sydney Local Health District and Council Workers is to be developed. Agencies, and NSW government employees will be approached to join the campaign aimed at encouraging healthy eating and lifestyle choices.

This program can then be rolled out across western Sydney through workplace initiatives.

### Investment Benefits

Cost to set up:

- \$6.19 million

Benefits:

- Gross savings of \$81.35 million
- Net benefit of \$75.15 million in 7 years
- Reduction of diabetes developing in high-risk adults by 12%

## 4.2 Improving the Food Environment in Government Settings

Changing the food choices in government owned premises and preventing junk food advertising on Government owned facilities and sites will also demonstrate the Government's commitment to addressing this issue. The Government will make a commitment, at the time of the renewal of catering and retail contracts at Western Sydney Local Health District, to include clauses preventing the sale of junk food. In addition, Government Agencies will review existing food provision contracts to seek to prevent the sale of junk food in facilities owned by NSW Government Agencies, including vending machines (see table below).

Measure	Key Elements	Indicative Pathway	Implementation Responsibility
Improving the food environment in Government settings	Inclusion of clauses in catering and retail contracts preventing the sale of unhealthy food and drink in WSLHD premises	WSLHD at the time of the renewal of catering and retail contracts will include clauses preventing the sale of unhealthy and food and drink.	WSLHD
	Explore opportunities to improve the promotion of healthy eating in Government settings	The NSW Government will explore options to improve the food environment in Government settings. This will include both the provision and promotion of foods in facilities owned by NSW Government agencies.	NSW and Local Governments

## Breakdown of Financial Costs/Benefits by State, Commonwealth and Other

### Breakdown of Average Annual Cost of Diabetes

Annual Average Cost of a Person with Type 2 Diabetes (2016 prices)	Benefit Gain to State	Benefit Gain to Commonwealth	Benefit Gain to Patients/Carer	Type 2 Diabetes: Average
Social and health costs	-	-	-	-
Direct healthcare and non-healthcare costs	\$4,328	\$2,983	-	\$7,311
Government subsidies	-	\$7,607	-	\$7,607
Indirect costs	-	-	\$1,206	\$1,206
<b>Total annual whole of economy costs</b>	<b>\$4,328</b>	<b>\$10,590</b>	<b>\$1,206</b>	<b>\$16,124</b>

### Breakdown of net benefits

Benefit Summary (2016 prices)	Benefit Gain to State	Benefit Gain to Commonwealth	Benefit Gain to Patients/Carer	Total Benefit to 2031
<b>Benefits</b>				
Social and health benefits	-	-	-	-
Direct Healthcare benefits	\$147.75m	\$106.99m	-	\$254.74m
Direct non healthcare benefits	\$40.75m	\$22.92m	-	\$63.67m
Government subsidies	-	\$331.30m	-	\$331.30m
Indirect benefits	-	-	\$52.55m	\$52.55m
<b>Total gross benefits (costs avoided)</b>	<b>\$188.50m</b>	<b>\$461.21m</b>	<b>\$52.55m</b>	<b>\$702.26m</b>

# INVESTMENT OPPORTUNITY: PRIMARY PREVENTION

## References

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