

IMPROVING  
SCOTLAND'S  
HEALTH



# A Healthier Future –

Framework for the Prevention, Early Detection  
and Early Intervention of type 2 diabetes



Scottish Government  
Riaghaltas na h-Alba  
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# A Healthier Future –

Framework for the Prevention, Early Detection  
and Early Intervention of type 2 diabetes

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## Ministerial foreword



It is time to take action to tackle the growing prevalence of type 2 diabetes and the significant impacts this has on the lives of individuals and on the health of Scotland's population as a whole.

With the right support and guidance, individuals can be empowered to mitigate their risk of developing type 2 diabetes and, for those recently diagnosed with type 2 diabetes, to improve management of their condition to delay and avoid complications. This pathway will complement the wider work taking place to deliver effective, person-centred weight management services to support the people of Scotland achieve healthier lives.

Ensuring equitable provision of evidence-based, co-produced practices across Scotland is critical for improving the health of the nation and supports action to help those most vulnerable to health inequalities in our society. The direction set out in the framework supports individuals to take action to secure their desired outcomes and ensures they are supported by well-informed and well-resourced care professionals.

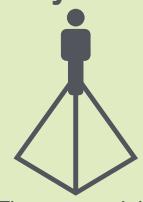
This framework forms part of the aims set out in '*A Healthier Future: Diet and Healthy Weight Delivery Plan*' to give people fair access to suitable and effective weight management services, which enable more people in Scotland to achieve and maintain a healthy weight. The plan focuses on prevention and early intervention to ensure there is quality provision and equity of access right across our communities in Scotland and for those most vulnerable to health inequalities.

In 2017, we announced a £42 million investment to improve the provision of weight management services for those with, or at risk of, type 2 diabetes. This year we will allocate funding to a first tranche of early adopter NHS boards, who will redesign and co-produce services appropriate for those 'at risk' or diagnosed with type 2 diabetes and in keeping with the guidance set out in this framework.

We look forward to learning from this first year of implementation and will share the challenges and successes to support the delivery of locally appropriate services across the whole of Scotland.

**JOE FITZPATRICK MSP**  
**Minister for Public Health, Sport and Wellbeing**

## Framework 'at a glance'

Prevention	Early detection	Early intervention	Early intervention
 Whole population, children and families	 Those at risk	 Those at high risk	 Those with type 2 diabetes
 Core messages	 Self-assessment risk	 Professional risk stratification	 Early diagnosis
 Risk awareness	 Professional risk stratification	 Early diagnosis	 Structured education
 Health campaigns	 Accessible info	 Targeted support	 Specialist intervention
	 Weight management programmes	 Specialist intervention	 Person-centred care plans

## Who is this framework for?

This framework has been developed to provide guidance to delivery partners as to the implementation of a specific weight management pathway for those ‘at risk’ or those diagnosed with type 2 diabetes. This pathway will sit within integrated weight management services and will require multi-disciplinary and multi organisational teams to work together in partnership with the public to deliver a fully supported service. The framework will support our delivery partners in our shared aim of improved weight management services to support better outcomes for people across Scotland.

The guidance in this framework sets out how Integrated Joint Boards (IJBS), NHS Boards and Community Planning Partners and other delivery partners should consider the various elements of providing a comprehensive weight management service with regards to type 2 diabetes.

The actions here should be considered in conjunction with those set in the recently published ‘*A Healthier Future – Scotland’s Diet and Healthy Weight Delivery Plan*’<sup>1</sup>.

<sup>1</sup> Scottish Government (2018) *A Healthier future: Scotland’s Diet and Healthy Weight Delivery Plan* <http://www.gov.scot/Resource/0053/00537708.pdf>

# Why take action to prevent type 2 diabetes?

Diabetes is a growing problem. The incidence and prevalence of all types of diabetes has been steadily growing in the past 10 years in part due to better care and better detection of type 2 diabetes. In 2016, over 257,000 people were living with a diagnosis of type 2 diabetes across Scotland, with 17,000 new cases each year<sup>2</sup>. Not all those living with diabetes have been diagnosed. It is estimated that around 10% of cases of type 2 diabetes remain undiagnosed<sup>3</sup>. Diabetes Scotland also estimates that over 500,000 people in Scotland are at high risk of developing type 2 diabetes<sup>4</sup>.

It is possible to change this trajectory.

Excess weight is the main modifiable risk factor for type 2 diabetes.

Having a body mass index (BMI) in the overweight or obese range (BMI > 25 and > 30 respectively) is the most significant modifiable risk factor for developing type 2 diabetes<sup>5</sup>. At present 87% of those with type 2 diabetes aged 18-54 are above their ideal weight<sup>6</sup> and in the Scottish population 65% of adults have a BMI in the overweight range including 29% are obese<sup>7</sup>.

Furthermore, obesity, physical inactivity and an unhealthy diet are associated with deprivation<sup>8</sup>. People in social class V (unskilled manual) are three and a half times more likely to be ill as a result of the complications of diabetes than those in social class I (professional)<sup>9</sup>. Moreover, short term mortality risk from type 2 diabetes is higher among those living in more deprived areas<sup>10</sup>. All these factors are inextricably linked to the risk of diabetes or the risk of serious complications for those already diagnosed<sup>11</sup>.

2 NHS Scotland (2016) *Scottish Diabetes Survey 2016* <http://www.diabetesinscotland.org.uk/Publications/Scottish%20Diabetes%20Survey%202016.pdf>

3 <http://www.scotpho.org.uk/health-wellbeing-and-disease/diabetes/data/data-introduction/>

4 Diabetes UK Position Statement (2014) <https://www.diabetes.org.uk/professionals/position-statements-reports/type-2-diabetes-prevention-early-identification>

5 Scarborough P et al. *The economic burden of ill health due to diet, physical inactivity, smoking , alcohol and obesity in the UK: an update to 2006-07 costs*. Journal of Public Health. 33 4 527-533 2011

6 FSS Situation Report (2018) [http://www.foodstandards.gov.scot/downloads/Situation\\_report\\_-\\_the\\_Scottish\\_diet\\_-\\_it\\_needs\\_to\\_change\\_-\\_2018\\_update.pdf](http://www.foodstandards.gov.scot/downloads/Situation_report_-_the_Scottish_diet_-_it_needs_to_change_-_2018_update.pdf)

7 Scottish Government (2016) *Scottish Health Survey* <http://www.gov.scot/Topics/Statistics/Browse/Health/scottish-health-survey>

8 Roberts K, Cavill N, Hancock C, et al. (2013) *Social and economic inequalities in diet and physical activity*. Oxford: Public Health England Obesity Knowledge and Intelligence.

9 Department of Health (2002 )*National service framework for diabetes: standards – supplementary information. Health inequalities in diabetes*. London: Department of Health.

10 Health and Social Care Information Centre (2013) *National Diabetes Audit 2011 – 2012. Report 2: Complications and Mortality*

11 Diabetes UK (2006) *All Party Parliamentary Group for Diabetes and Diabetes UK. Diabetes and the disadvantaged: reducing health inequalities in the UK: World Diabetes Day 14 November 2006.*

It is possible to prevent diabetes through targeted weight management interventions, which provide individuals with the support, skills and resources to improve their health and delay the onset of type 2 diabetes. Recent studies have also shown it is also possible to reverse a diagnosis of type 2 diabetes in those ‘recently diagnosed’ through intensive weight management programmes, which would enable an individual to achieve ‘remission’<sup>12</sup>.

Treatment for people with type 2 diabetes has significant cost at around 9% of the NHS budget and is expected to grow as the result of an ageing population<sup>13</sup>. Our initial focus will be on a specific weight management pathway for people ‘at risk’ or diagnosed with type 2 diabetes – a group that can be clearly identified and monitored.

This framework is included in the ‘*A Healthier Future – Scotland’s Diet and Healthy Weight Delivery Plan*’<sup>14</sup>. Outcome 4 states that people have access to effective weight management services including a pathway for those with type 2 diabetes. The actions detailed in the delivery plan highlight the complex interactions at play in maintaining a healthy weight in the communities we live in. Influencing the environments and ways in which we live, work and spend time requires a whole systems approach and will require changes to take place in our homes and communities, in the places where we eat, live and work, and through the lives we lead. In all these places we must – together – make it easier to eat well and be active.

12 Lean MEJ, Leslie WS, Barnes AC, Brosnan N, Thom G, McCombie L, et al. (2017) Primary care-led weight management for remission of type 2 diabetes (*DiRECT*): an open label, cluster randomised trial. Lancet. Dec 4. pii: S0140-6736(17)33102-1. doi: 10.1016/S0140-6736(17)33102-1

13 Estimate based on Hex N, Bartlett D, Wright M, Taylor M, Varley D, (2012) Estimating the current and future costs of Type 1 and Type 2 diabetes in the UK including direct health costs and indirect societal and productivity costs. Diabetic Medicine. Diabetes UK

14 Scottish Government (2018) *A Healthier future: Scotland’s Diet and Healthy Weight Delivery Plan*

**17,000** 

Every year 17,000 people are diagnosed with type 2 diabetes in Scotland.<sup>15</sup>

**87%**



of people with type 2 diabetes are above their ideal weight.<sup>17</sup>



The NHS spends around 9% of its total health expenditure treating type 2 diabetes.<sup>19</sup>

**500,000**

An estimated 500,000 people in Scotland are at high risk of developing type 2 diabetes.<sup>16</sup>



Being overweight and obese is the most significant risk factor for developing type 2 diabetes.<sup>18</sup>

**50%**

Up to 50% of women diagnosed with gestational diabetes develop type 2 diabetes within 5 years of the birth of their baby.<sup>20</sup>

15 (NHS Scotland (2016) Scottish Diabetes Survey 2016 <http://www.diabetesinscotland.org.uk/Publications.aspx>

16 (Diabetes UK Position Statement (2014) <https://www.diabetes.org.uk/professionals/position-statements-reports/type-2-diabetes-prevention-early-identification>

17 (NHS Scotland (2016) Scottish Diabetes Survey 2016 <http://www.diabetesinscotland.org.uk/Publications.aspx>

18 (Hauner H (2010). *Obesity and diabetes.* in Holt RIG, Cockram CS, Flyvbjerg A et al (ed.) *Textbook of diabetes.* 4th edition.)

19 (Estimate based on Hex N, Bartlett D, Wright M, Taylor M, Varley D, 2012. *Estimating the current and future costs of Type 1 and Type 2 diabetes in the UK including direct health costs and indirect societal and productivity costs.* *Diabetic Medicine.* Diabetes UK)

20 (NICE NG3 (2015) *Diabetes in pregnancy: management from preconception to the postnatal period* <https://www.nice.org.uk/guidance/ng3>

## **What action has already been taken?**

Published in 2014, the Diabetes Improvement Plan (DIP)<sup>21</sup> set out eight priority areas to support improved patient care, drive improvements in clinical outcomes and improve experiences for people living with diabetes.

Prevention is Priority 1 within the DIP – to support the prevention and early detection of type 2 diabetes, rapid diagnosis of type 1 and to implement measures to promptly detect and prevent the complications of diabetes.

The DIP focus on prevention has been multi-stranded and includes:

- An emphasis on the prevention of diabetic ketoacidosis (DKA) in new onset type 1 diabetes.
- Prevention of complications by improving glycaemic control through campaigns such as ‘Know Your Numbers’<sup>22</sup>
- Improving equality, access and uptake of structured education such as DESMOND for type 2 diabetes and STEP and DAFNE for type 1 diabetes.
- CPR for feet a campaign which aims make sure all patients with diabetes who are admitted to hospital have their feet checked on admission, if they are at risk of developing a foot ulcer their feet are protected and if they have a current foot ulcer they are referred appropriately.

This framework will progress the work on the prevention agenda to specifically target ‘at risk’ and ‘at high risk’ groups and those

recently diagnosed with type 2 diabetes. It will also support work on the wider prevention agenda by promoting good health and raising awareness on how to reduce risks to the whole population.

## **How will the framework make a difference?**

We know from evidence that risks associated with weight and type 2 diabetes are avoidable. We also understand that there is variation in the provision of weight management services across Scotland. The Scottish Government therefore will support delivery partners in our shared aim of improved weight management services to support better outcomes for people across Scotland.

This framework therefore sets out the pathway which will sit within wider weight management services. NHS Health Scotland is currently leading on work to agree minimum standards of an effective weight management service. This will be based on the principles that an effective weight management service supports the achievement and maintenance of weight loss, is person centred and encourages lifestyle changes.

The pathway for prevention, early intervention and early detection of type 2 diabetes is underpinned by the risk stratification process (see page 17) which will identify those ‘at risk’ of developing type 2 diabetes as well as those who could potentially reverse their condition. This will help in directing individuals to an appropriate weight management intervention and help individuals achieve and maintain a healthy weight, while possibly reducing their

21 Scottish Government (2014) *Diabetes Improvement Plan* <http://www.gov.scot/Publications/2014/11/6742>

22 <https://www.diabetes.co.uk/diabetes-health-numbers.html>

risk of developing type 2 diabetes and for those diagnosed the possibility for reversible or avoidance of complications.

The Scottish Government recognises that historically, specific groups of people have not been engaged in the types of prevention interventions set out below. Therefore, implementation of this framework will require services to be co-produced with people and communities with lived experience particularly to encourage greater participation among those vulnerable to health inequalities.

The framework is also supported by significant investment – £42 million over the next five years (See page 10).

The Scottish Government also recognises that people who are overweight or obese typically experience stigma and discrimination due to their weight and therefore all services, resources and campaigns must be designed to ensure positive promotion of both emotional and physical health.

## How has the framework been developed?

The framework has been produced in collaboration with the prevention sub-committee of the Scottish Diabetes Group (SDG). The sub-committee has been informed by specialists in diabetes, dietetics, maternal health, public health, primary care and obesity.

The subcommittee used responses submitted to the '*A healthier future: Actions and ambitions on diet, activity and Healthy Weight Consultation*' launched in 2017<sup>23</sup> to inform the content and presentation of this framework.

Analysis of these responses focused around the following themes:

- Positive reception to the increased investment in weight management services in the context that there is widespread variation in the availability of programmes across Scotland and agreement that a national approach would help.
- The need for a national approach to identifying those 'at risk' of and 'high risk' of developing type 2 diabetes.
- Concerns raised around the current limited referral route predominately by GPs to the services and a desire to incorporate other health and social care professionals so as to expand opportunities for discussing risk and highlighting the support available as well as facilitating self-referral.
- Differences in the nature and content of what constitutes an effective weight management service and the programmes within these.

<sup>23</sup> Scottish Government (2017) *A healthier future: Actions and ambitions on diet, activity and Healthy Weight Consultation* [https://consult.gov.scot/health-and-social-care/a-healthier-future/user\\_uploads/00526543.pdf](https://consult.gov.scot/health-and-social-care/a-healthier-future/user_uploads/00526543.pdf)

### **How will the framework be funded?**

£42 million will be invested to support the delivery of this framework and to provide increased weight management interventions for people at risk of or diagnosed with type 2 diabetes. This funding will be allocated over the next five years and will complement existing funding the Scottish Government allocates to health boards for weight management services for the provision of generic child and adult healthy weight interventions through the prevention bundle.

An initial £1.5 million will be allocated to early adopter boards in 2018/2019. They will begin the implementation of the framework. From year two of implementation, the intention is that all boards will receive funding that will increase annually for five years. All boards will receive a share of the £42 million.

# Our approach to prevention, early detection and early intervention for type 2 diabetes

We have set out a number of guiding principles, which should be considered by delivery partners to develop comprehensive weight management pathways for those 'at risk', 'at high risk' and those diagnosed with type 2 diabetes.

## Action to reduce health inequalities

Deprivation is closely linked to the risk of both obesity and type 2 diabetes. Prevalence of type 2 diabetes is 40% higher among people in the most deprived areas compared with those in the least deprived areas<sup>24</sup>. The reasons for this are complex and multi-faceted but the health drivers of diabetes are higher amongst the most deprived. Self-reported physical activity, smoking, and self-reported consumption of fresh fruit and vegetables are all lower in adults in the poorest compared to better off households.

The importance of reducing health inequalities was reflected in the Diabetes Improvement Plan (2014) as Priority 4 – Equality of access, which aims to reduce the impact of deprivation, ethnicity and disadvantage on diabetes care and outcomes. Furthermore, in keeping with NHS Health Scotland's health inequalities policy review recommendations, the provision of universal services under this framework should include added support for vulnerable groups. Additionally, it is recognised that there is a complex relationship between mental health problems, diabetes, obesity and those vulnerable to health inequalities. This therefore should be taken into account when planning the delivery of services.

Similarly, the focus of the Scottish Government's Diet and Healthy Weight Delivery Plan, is the implementation of population-wide interventions which will impact everyone in Scotland. Evidence suggests that population-wide interventions are likely to be more effective in reducing inequalities as they do not rely on individual agency to achieve change. Sitting alongside our preventative approach, many of the actions set out in the plan are intended to provide support for children and families most at risk – targeting and tailoring programmes and support to better meet the needs of families on the lowest incomes.

It is crucial too that our stakeholders and delivery partners place a special emphasis on reducing inequalities when planning and delivering their programmes and interventions. This should be in line with the Health and Social Care standards<sup>25</sup>.

## Collective leadership and partnership

Ambitions and actions on this scale must be taken forward at a national, local and individual level. Tackling obesity is a shared responsibility, and central to the success of any initiatives taken forward. Furthermore, to deliver the support, guidance and services to enable individuals to take action to mitigate risk associated with obesity and related to type 2 diabetes, leadership, collaboration and commitment across the public, third and community sectors will be required.

24 Scottish Government (2014) *Diabetes Improvement Plan* <http://www.gov.scot/Publications/2014/11/6742>

25 <http://www.gov.scot/Publications/2017/06/1327>

## **Co-production**

Co-production of services and resources must be carried out to ensure that effective support, guidance and services are provided for the individuals who will use them. Integrating weight management services with diabetes specialist care, working with community partners and co-producing services with those 'at risk' and diagnosed with type 2 diabetes can achieve better outcomes for individuals. Co-production is also at the heart of reducing health inequalities and making progress to wider population health goals. NHS Boards will be expected to work with IJBS, local delivery partners, people with lived experience, families and communities to ensure weight management services are designed with people at the centre.

## **Person-centred approach and value-based care**

The person-centred approach is a core component of all NHS delivery and included as Priority 3 of the Diabetes Improvement Plan. The aim of this priority is to ensure that people with diabetes are partners in their care, and are enabled and empowered to safely and effectively self-manage their condition by accessing consistent high-quality education and by creating mutually agreed individualised care plans. This extends to support offered to prevent the development of type 2 diabetes.

The care pathway an individual follows must be decided upon by the individual with the healthcare professionals providing support and information about the possible options, the relative benefits, intensity and time commitment required so they can make an informed joint decision on their treatment pathway. This is in keeping with the recommendations within Realistic Medicine for value-based medicine<sup>26</sup>.

## **Being sensitive to stigma and discrimination**

It is important that implementation of this framework recognises that individuals affected by obesity or excess weight, frequently confront stigma and discrimination on a regular basis in their workplace, educational institutions, health care settings, socially and in many other areas<sup>27</sup>. These experiences often have a negative impact on emotional wellbeing, and can lead to depression, low mood, anxiety, low self-esteem, and even suicidal behaviours. Unfortunately, weight stigma can adversely affect behaviour and lead to unhealthy lifestyle choices, thus increasing risk factors that exacerbate obesity and risk of diabetes. Awareness raising, promotion and delivery of weight management services must be sensitive to this and aim to ensure avoidance of weight stigma, to ensure positive promotion of both emotional and physical health<sup>28</sup>.

26 Scottish Government (2014) *Realistic Medicine* <http://www.gov.scot/Resource/0049/00492520.pdf>

27 <https://www.verywellmind.com/what-is-weight-stigma-and-why-should-we-care-1138201>

28 [http://www.uconnruddcenter.org/files/Pdfs/MediaGuidelines\\_PortrayalObese%281%29.pdf](http://www.uconnruddcenter.org/files/Pdfs/MediaGuidelines_PortrayalObese%281%29.pdf)



# What action will be taken at a National Level?

Success in making a difference to population health will require action at national, local and individual levels. Alongside actions taken by government at a national level this framework aims to provide guidance on how local health and social care partnerships can redesign and co-produce their services to best suit their local demographics.

## Awareness campaigns

The Scottish Government will produce a public awareness campaign focused on positive messages around the actions and support available to individuals, which could enable them to reduce their risk of developing type 2 diabetes. This campaign will address misconceptions about the condition, promote healthy weight and aim to reduce stigma<sup>29</sup>. The campaign will use digital marketing as well as posters and leaflets in various formats available in a variety of health and social care as well as community settings.

## Targeted core messages

The development of core messages around healthy weight, type 2 diabetes and wider determinants on health can be very useful in ensuring that across a variety of organisations, settings and media, people are provided with consistent and accurate messages.

Experts in obesity and diabetes through the prevention sub-committee of the SDG will coordinate a national approach to resources and guidance aligned with the pathways set out below. These core messages will be developed with those 'at risk' and diagnosed with type 2 diabetes, so as to best design messaging and resources that are helpful to

them and to ensure they are made available in the most suitable formats and locations.

Working effectively with individual people, families and communities is dependent on having a well-informed workforce; including Community Planning Partners such as Education, Health, Social Care, Leisure Services and others. People need access to accurate information, the opportunity to learn about current intervention approaches and knowledge on local pathways and services. More information on training available for health and social care professionals can be found on page 34.

## Resources

The provision of resources alone will be of limited value. It is important that health professionals and others help to deliver the information to people. There should therefore be two kinds of resources:

- Professional-facing information intended to inform and support professionals to deliver health improvement.
- Public-facing information intended directly for members of the public.

Resources will be developed prior to national adoption of this framework and will be informed by on-going work in this area. The involvement of service and resource users will be an important part of this development. This may involve advisory or working groups made up of service users, people at risk and professional stakeholders as well as commissioned pretesting or user testing through a specialist agency.

<sup>29</sup> <https://pathways.nice.org.uk/pathways/preventing-type-2-diabetes#path=view%3A/pathways/preventing-type-2-diabetes-national-strategy-and-policy-to-prevent-type-2-diabetes.xml&content=view-node%3Anodes-conveying-healthier-lifestyle-messages-to-the-whole-population>

Resources should adopt some of the approved ‘Core Messages’ as discussed, to ensure consistency and accuracy. At a local or regional level they should also provide information on access to services such as weight management and lifestyle interventions

Resources should be made available in different languages and should be available in a range of mediums to ensure that information is delivered through the right channel for the audience – this may include print, online, face to face, or hard copy DVD.

The resources will be developed for three themes:

### **I. Awareness of risks associated with the development of type 2 diabetes**

There will be a national public campaign to help increase people’s awareness of the risks associated with the development of type 2 diabetes. There will also be targeted awareness raising campaigns via a range of media will help reach those ‘at risk’ of developing type 2 diabetes.

‘At risk’ groups include those known to have an increased risk of type 2 diabetes due to weight, family history or age.

Keeping pathways and messages consistent and clear will improve communication to individuals and help healthcare professionals sign-post individuals to the resources and services they can access locally. This should include what the weight management and lifestyle interventions are, referral and entry routes, what to expect and how they should indicate their intention to participate.

Resources could be made available in a variety of settings and we will work with people to understand where they would find it helpful to access resources and the format in which those resources would be helpful. This might include:

- All Healthcare premises including hospital clinics, antenatal clinics, secondary care diabetes clinics and other associate medical specialists, GP surgeries, health centres and health hubs
- Pharmacies
- Information packs from health visitors/ community midwives
- Opticians
- Respite centres
- Day-care centres
- Leisure venues
- Support groups
- Community hubs
- Libraries
- Faith centres
- Workplaces
- Homeless services
- Substance misuse services and facilities including recovery communities
- Mental health services and facilities

By working with people to help them become aware of their risk, we can then offer advice on next steps including speaking to a healthcare professional or access online resources and tools, such as the Diabetes UK “Know your risk” leaflet<sup>30</sup>.

30 <https://shop.diabetes.org.uk/products/know-your-risk-leaflet>

Separate resources would be required to raise awareness of complications associated with diabetes and the benefits of testing for those who are undiagnosed.

## **II. Information for those 'at high risk'**

Those 'at high risk' include those who are clinically viewed as having pre-diabetes, Impaired Glucose Tolerance (IGT) or Impaired Fasting Hyperglycaemia (IFHG), those with current or previous gestational diabetes or polycystic ovary syndrome (PCOS).

- For patients diagnosed with pre-diabetes (IGT and IFHG) – a targeted leaflet for use by GPs and available online should set out the care pathway and weight management interventions designed for these individuals.
- For patients with gestational diabetes/ previous gestational diabetes – a targeted leaflet for use in antenatal clinics and for midwives/health visitors to use with postnatal women would be appropriate.

## **III. Advice on healthy lifestyle, behaviour change, weight loss and maintenance and physical activity**

At present these resources are generally locally developed and delivered within the weight management and physical activity programmes. Consolidating consistent messaging and facilitating sharing of resources through platforms such as NHS inform, Nutrition and Diet Resources (NDR UK)<sup>31</sup>, Diabetes UK and NHS Health Scotland including Weight Management Leads group will lead to improved outcomes and reduced variation. These resources should build upon existing resources such as the Physical Activity Pathway<sup>32</sup>.

31 <https://www.ndr-uk.org/browse/c-Diabetes-12/>

32 <http://www.healthscotland.scot/media/1678/physical-activity-pathway.pdf>

# What action will be taken at a local and individual level?

Action and success at a national level will be supported by the provision of services and engagement at local and individual levels.

## Risk stratification and promotion

There are two main purposes of promoting individuals to understand their risk category.

- For the early detection of at risk groups such those known to have an increased risk of type 2 diabetes due to weight, family history or age, those with previous or current gestational diabetes, and those clinically viewed as having pre-diabetes, IGT or IFHG.
- To identify those who are undiagnosed with type 2 diabetes in order to provide appropriate support and care.

All health and social care professionals should promote the process of risk assessment<sup>33</sup>.

Further information on support for professionals to carry out this can be found on page 34.

Opportunities for promoting risk assessment are encouraged and need not take place in a GP surgery. Other possibilities include community pharmacies, dental surgeries, NHS walk-in centres and opticians. Assessments may also be offered in community venue for example workplaces, job centres, local authority leisure facilities, shops, libraries, faith centres, residential and respite care homes and day centres (for older adults and for adults with learning disabilities).

A two stage approach to identify people at high risk of developing diabetes involves:

- Using a validated risk assessment score to identify people at high risk of developing type 2 diabetes.
- A blood test for those identified at high risk to assess more accurately their future risk of type 2 diabetes.

Risk assessment tools use routinely available patient level data and offer a non-invasive way of identifying those at high risk of developing type 2 diabetes. We recommend the use of the Diabetes UK risk assessment tool which can be accessed online by individuals and health care professionals via the Diabetes UK website<sup>34</sup>. Health care professionals may also choose to use another of the tools available to them such as the Leicester practice score or the Cambridge diabetes risk score.

The Diabetes UK calculator requires the input of the following information:

- Gender
- Age
- Ethnicity
- Indication of relatives with diabetes
- Waist measurement
- BMI (height and weight)
- Indication of high blood pressure.

From this information individuals are categorised into low, increased, moderate or high risk. Those at moderate or high risk are encouraged to visit their GP where they will

<sup>33</sup> <https://pathways.nice.org.uk/pathways/preventing-type-2-diabetes#path=view%3A/pathways/preventing-type-2-diabetes/preventing-type-2-diabetes-overview.xml&content=view-index>

<sup>34</sup> <https://riskscore.diabetes.org.uk/start>

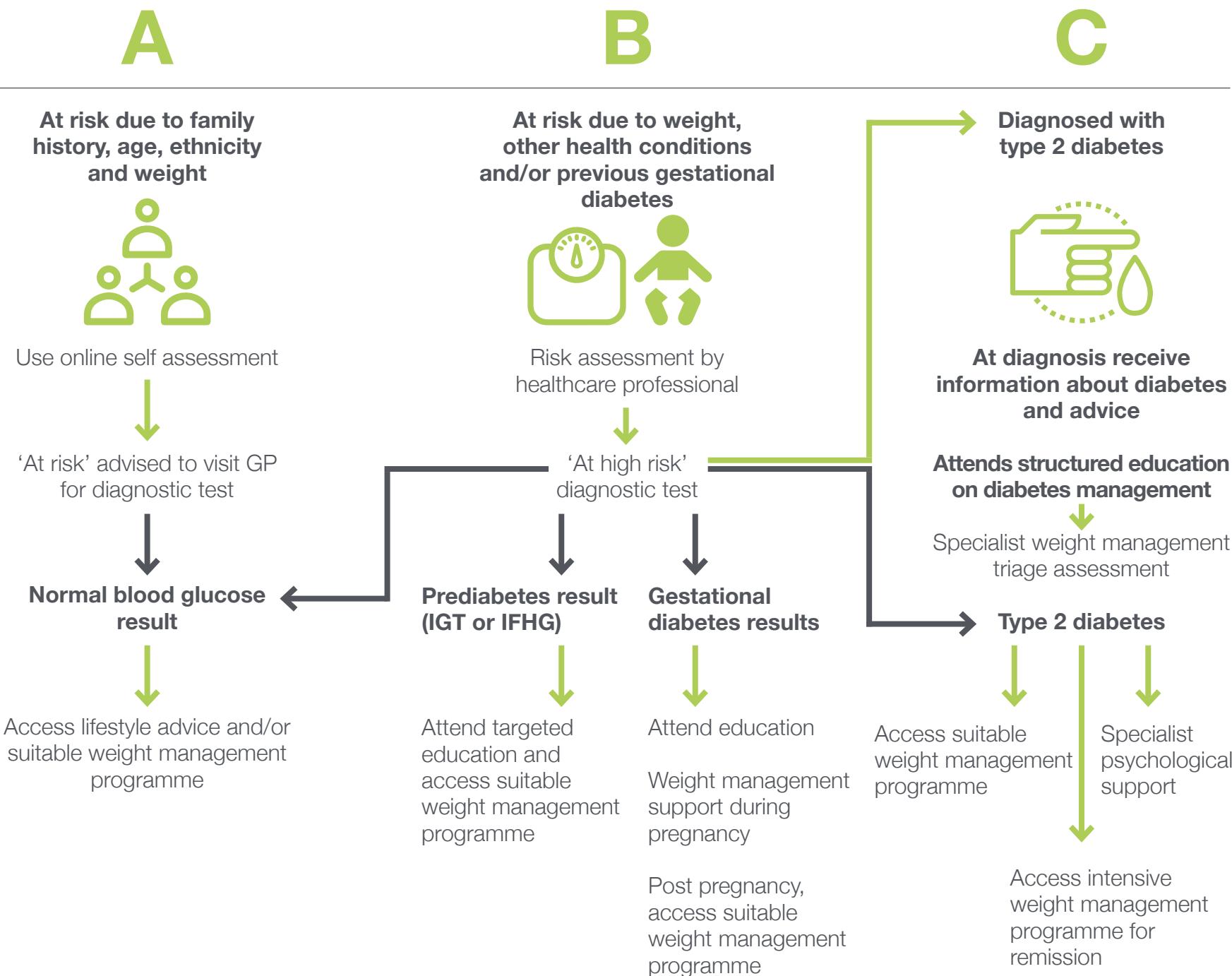
receive a diagnostic test to better understand their risk and/or be diagnosed with type 2 diabetes. GPs are encouraged to keep a record of risk assessment results.

Other opportunities for identifying ‘at risk’ individuals are through ‘case finding’ technologies such as a decision support tools and SPIRE (Scottish Primary care Information Resource). Exploring these options and any potential development will take place in the first year of implementation. During this period we will also consider the position on an individual’s reassessment of risk and the opportunity of technologies to help with this.

### **Pathways of care and single point of entry**

Any individual should have access to a local comprehensive weight management service with a single point of entry. Individuals could chose to self-refer into weight management pathways or be referred to weight management by a healthcare professionals such as GPs, practice nurses, physiotherapists and diabetes specialists.

All referrals would be received by a central triage point, where individuals would then be referred to the weight management programme best suited to their needs. The referral to the appropriate programme would be carried out on a case-by-case basis by a trained clinician. The intervention recommended should be individualised and informed by an assessment of the individual’s physical and psychological comorbidities, and their individual preferences.



## Patient Story

I have had a history of type 2 diabetes in my family, going back for years. And that kept me on edge with everything surrounding the disease.

I was at risk of being diagnosed, as I ticked every risk factor: age, family history, Black/Africa ethnicity, overweight. **I knew there were predisposing factors but I was not well educated on the practicalities of reducing my level of risk and this no doubt impacted me negatively.** I still ate in large portions and did not pay much attention to my activity levels.

After living a life of apprehension without action, I eventually stepped into a pre-diabetic state as confirmed by my doctor. This was a few years before my final diagnosis. I had some guidance on steps to take but still remained largely uneducated on how to manage pre-diabetes condition and keep from becoming fully diabetic.

My diagnosis with diabetes was difficult to take in, due to its ugly prints throughout my family. **I struggled with emotions of fear—both of the unknown and of what I knew could materialize. I was terrified and burdened.**

As time went on, I had an internal battle with changing my mind-set, altering my habits and adapting to a new lifestyle. The good news is that with the help of appropriate education, information and support, you can overcome this initial mountainous situation. As a result the burden becomes much lighter.

After diagnosis, I got diabetic education, registered with the diabetes UK and increased my knowledge on how to live better with diabetes. **I must note at this point that my GP was a great support to me. We agreed that lifestyle changes rather than medication would be my initial approach to managing my diabetes.** She called in the dietitian and we had a plan set up around weight-loss, health eating, more exercise and water intake, meaning no more orange juice (which I loved!). She gave me practical tips to get me there rather than an obligation. She introduced me to sparkling water and a method to ween me off by first diluting my orange juice with this. That has made all the difference and can proudly say I drink water now, and lots of it

I would say that apart from not being able to find a support group in Aberdeen at the time of diagnosis, I got a great deal of support and encouragement from my GP.

Diabetes UK has also been a tremendous support. I have benefited from the organisation through their helpline and lots of researched information on their website. Volunteering and creating awareness alongside them has also been very impactful and helpful for me.

I have also enjoyed great support from the NHS with diabetes education, leaflets and annual retinopathy and podiatry reviews, as well as my six-monthly diabetic review. We also have doctors and dietitians from the NHS come and speak to us in our support group and this is great.

Another avenue of support that has been essential is My Diabetes My way. It has truly been instrumental in how I manage my condition. It is holistic, patient centred and so empowering. With it I can set attainable goals, document progress and achieve my targets.

In conclusion, with the help of my doctor, my dietitian and all the modes of support mentioned above, I have been able to keep a positive outlook concerning my condition. Moreover, **I have managed my diabetes for the past 4+ years without medication, but solely lifestyle changes.** The most important benefit of this is that I am now living a more disciplined life in regards to my health. It has also enabled me to continually seek for knowledge and information as to how best to manage my condition. As they say, knowledge is power!

### **Comprehensive weight management service for the prevention, early detection and early intervention of type 2 diabetes.**

In order to provide comprehensive pathway of weight management support for those at risk and with type 2 diabetes, we recommend adopting a tiered approach to weight management programmes which relates to the level of risk for an individual.

#### **Level 1 – Universal services, health promotion and early detection**

#### **Level 2 – Early detection and early intervention**

#### **Level 3 – Targeted intervention**

#### **Level 4 – Complex case management**

Alongside this tiered approach, the following elements should be included for a comprehensive weight management service for the prevention, early detection and early intervention of type 2 diabetes. These

elements will be further informed by the further work on this area being carried out by NHS Health Scotland.

### **General weight management programmes**

At levels 2 and 3 weight management programmes (for those who are not specifically 'at high risk' of type 2 diabetes but have  $BMI \geq 30 \text{ kg/m}^2$ ) should be provided. These programmes will provide a treatment-based approach which includes behavioural change strategies to support individuals to make changes to eating and physical activity habits. At present these programmes should be informed by NICE and SIGN guidance, be person-centred and flexible in delivery.

### **Psychological support**

Diabetes is a complex health condition which can affect psychological health and wellbeing. People with a diagnosis of diabetes have different levels of need for psychological support. It is common for people with

complex type 2 diabetes to experience both physical and psychological comorbidities, including depression, anxiety and eating disorders. Approximately 25% of people with diabetes have diagnosed depression. Offering timely psychological support and treatment for diabetes self-management around diagnosis (for example peer support, stress management), can also help to improve control of the condition and reduce future psychological morbidity<sup>35</sup>.

Psychological knowledge and skills are key components of tiered weight management interventions.

An understanding of the relationship between cognitions, emotions and behaviours in essential in the promotion of behaviour change and self-management, while the ability to recognise and appropriately respond to psychological disorder – for example stress and anxiety disorders, depression and eating disorders – is necessary in a patient population where the risk of psychological co-morbidity is significantly higher than in the general population<sup>36</sup>.

A number of psychological models have been demonstrated to be effective in supporting weight management, including health behaviour change approaches, Cognitive Behavioural Therapy and Compassion Focused Therapy<sup>37</sup>. Such approaches can be adapted to be offered in a range of modalities/intensities:

- Tier 1: Self-help resources developed for delivery in written or online format, highlighting links to publicly available resources and support organisations.
- Tier 2: Guided self-help (tailored recommendations delivered by an appropriately trained individual in 1:1 contact) and psycho-educational groups.
- Tier 3: Groups with an explicitly therapeutic focus, 1:1 psychological intervention using an explicit and evidence-based therapeutic model.
- Tier 4: Highly specialist 1:1 intervention with complex case management.

Allocating a patient to the appropriate tier is a specialist role, in which data about multiple factors (e.g. patients' physical and psychological co-morbidities, psycho-social circumstances, level of cognitive functioning, motivations for and barriers to change etc.) and from a range of sources must be synthesised. There should be a clear and explicit pathway for triage, screening and assessment for all patients referred to the weight management service. The resulting treatment plan should be based on a formulation: a shared understanding between patient and clinicians of what has initiated and maintains their present difficulties, and of the rationale for the proposed intervention.

<sup>35</sup> Surwit, RS et al. (2002) Stress Management Improves Long-Term Glycaemic Control in Type 2 Diabetes. *Diabetes Care*; 25(1): 30-34. <https://doi.org/10.2337/diacare.25.1.30>

<sup>36</sup> Steindl et al (2017) *Compassion focused therapy for eating disorders: A qualitative review and recommendations for further applications*. *Clinical Psychologist* 21 (2017) 62–73

<sup>37</sup> Shaw et al (2014) *Psychological interventions for overweight or obesity*. Cochrane Database of Systematic Reviews, 6, (5).

### **Pathways for infants and children**

Each NHS board should ensure that they have a variety of child healthy weight interventions. These include a health promotion initiative in schools that is delivered in conjunction with local education services. At a national level, agreement with education on the importance of this delivery in curriculum time is essential to ensure that this can be taken forward locally.

It is important that all child healthy weight services work collaboratively with Health Visiting and School Nursing teams to ensure that early intervention is possible for children and young people. The recent introduction of the Health Visiting Universal Pathway and the School Nursing Pathway provide a unique opportunity to engage with children and families at the early to help inform and establish healthy weaning and a positive relationship with food that enables families to make healthier food choices.

As part of the Universal Pathway the child health review points at 13-15 months, 27-30 months and 4-5 years provide a great opportunity for enhanced engagement around the promotion of child healthy weight.

NHS boards should also have a weight management pathway for all children with a BMI  $\geq$  91st centile. Childhood and family based weight management programmes available for children with a BMI  $\geq$  91st centile should be evidenced-based and delivered by appropriately trained individuals. Current good practice in Scotland should be looked at to inform NHS boards about successful programmes such as 'Get Going' 'SCOTT', 'SCOTTLITE' and 'HENRY'. As mentioned previously there is currently work underway to set minimum standards for Child Healthy Weight interventions to ensure equitable provision of services across Scotland. These will be available in 2019.

## Wider support for individuals

Wider support should be available for all individuals who have been identified as ‘at risk’, clinically viewed as having pre-diabetes, IGT or IFHG, those with current gestational diabetes and recently diagnosed. Health and Social care professionals should signpost individuals to support groups available to them.

On average, people with diabetes spend three hours a year with a healthcare professional<sup>38</sup>. For the remaining 8,757 hours they manage their diabetes themselves. People therefore need to be given the tools and support to help prevent type 2 diabetes and its complications.

The ALISS (A Local Information System for Scotland) Programme is funded by the Scottish Government and delivered by the Health and Social Care Alliance Scotland (the ALLIANCE)<sup>39</sup>. The objectives are to increase the availability of health and wellbeing information for people living with long-term conditions, disabled people and unpaid carers and to support people, communities, professionals and organisations that have information to share. This is a resource that can signpost people to services in their locality.

Diabetes UK supports a collection of local groups across Scotland<sup>40</sup>. These groups help those adjusting to the knowledge that they or a family member has diabetes which is helped by meeting other people who have been through a similar situation. They can offer understanding, help, support and shared experiences at an important time. They are all run by volunteers and typically meet on a monthly basis, often with a speaker on a topic like diet or physical activity.

Community groups and peer support are helpful even if people are managing their health conditions well. Diabetes UK has a peer support network which has members with a range of experiences and share different approaches to managing their diabetes<sup>41</sup>.

38 Diabetes UK (2016) Diabetes education and self-management <https://www.diabetes.org.uk/Professionals/Resources/shared-practice/Diabetes-education>

39 <https://www.aliss.org/>

40 [https://www.diabetes.org.uk/how\\_we\\_help/local\\_support\\_groups](https://www.diabetes.org.uk/how_we_help/local_support_groups)

41 [https://www.diabetes.org.uk/how\\_we\\_help/local\\_support\\_groups/peer-support](https://www.diabetes.org.uk/how_we_help/local_support_groups/peer-support)

# 4

## Level 4

### Complex case management

- Advanced weight management input and specialist interventions

# 3

## Level 3

### Targeted intervention (for those diagnosed with type 2 diabetes, at high risk, with pre-diabetes or gestational diabetes)

- Structured education for those with diabetes
- Intensive weight management for remission
- Weight management programmes
- Psychological support

# 2

## Level 2

### Early intervention (for those at moderate or high risk)

- Pre-diabetes education programme
- Metabolic antenatal clinics
- Maternal and infant nutrition pathways
- Weight management programmes

# 1

## Level 1

### Public health awareness and early detection

- Public Health campaign
- Targeted messaging with core messages
- 'At risk' stratification
- Case finding
- Local level action

## Levels of a tiered approach

### **Level 1 - Universal services, health promotion and early detection of type 2 diabetes**

Alongside the actions outlined in the National Level approach to awareness raising, messaging, risk assessment and case finding (page 17), there will be a need to continue support to local partnership working. This could be achieved through community planning partnerships in order to develop and champion a cross-sector, whole systems approach to improving diet and weight locally.

On a local level, additional messages focusing on prevention of type 2 diabetes and the risk stratification process.

When identifying opportunities for local action, strategies such as the Diet and Healthy Weight Delivery Plan, Physical Activity Delivery plan, and Public Health Priorities should be considered.

Actions looking at these areas could be adjusted and adopted.

- Review legislative and regulatory controls to create a food environment that supports healthier choices.
- Improve access and opportunities to make healthier food choices using community development model to increase engagement, capacity and skills to support local food initiatives including practical cooking.

- Nurseries and Schools – Create health promoting environment and provide education and skills to support making healthier food choices and physical activity as well as healthy choices of food within school canteens.
- Workplaces – Big employers in local areas could lead by example promoting health and wellbeing through initiatives such as the daily step challenge or awareness raising sessions.
- Involving people with lived experience of attending a weight management programme or who have been diagnosed is a powerful way in which to communicate the positive message of modifiable lifestyle choices to reduce risk or improve a long-term condition and increase overall mental and physical health and well-being.
- Physical activity strategy - including a range of local agencies to encourage participation and remove barriers to access. This should involve partners across the Community Planning Partnership such as Active Travel Teams, Park and recreation services and leisure services.

## **Level 2 – Early detection and early intervention**

Alongside the general weight management programmes, programmes at this level should be looking to identify early those who are at moderate and high risk (as identified through risk stratification), and provide specifically designed interventions for those who would be classed ‘at high risk’ of developing type 2 diabetes.

### **1. Specially designed, quality assured lifestyle programmes for individuals presenting with pre-diabetes (impaired fasting glucose or impaired glucose tolerance)**

Up to 50% of individuals diagnosed in the pre-diabetes range (IGT, IFHG - showing evidence of abnormal glycaemic control) will develop type 2 diabetes within 10 years. Targeting interventions at this high risk group are likely to be the most clinically effective in preventing progression to type 2 diabetes. More awareness of susceptibility to developing diabetes may lead to increased motivation to make changes and/or greater anxiety.

#### **Referral Criteria:**

BMI  $\geq$  30  
HbA1c level - 42-47mmol/mol  
Possible evidence of Impaired Glucose Tolerance  
Possible evidence of Impaired Fasting Hyperglycaemia

Specially designed quality assured intensive lifestyle – change programmes such as Let’s Prevent<sup>42</sup> and X-PERT<sup>43</sup> should be available

for patients in this category as stand-alone programmes or a precursor to weight management programmes and comply with NICE PH38 recommendations<sup>44</sup>.

Specific targeted programmes could include onward progression for individuals to other non-specialist, evidence-based weight management interventions for example, Counterweight.

IJBs could work together and co-deliver with consideration of entering into service level agreements through a tendering process, giving free classes at the point of service of qualifying individuals. This allows flexibility for the individual and enables delivery at a more localised level. For example, a joint weight management programme with local leisure partners could allow 12-24 weeks initial programmes of intensive specific education – followed by local weight management intervention - usually 1 year duration with follow up at 6, 9 and 12 months – which would enable adhering to 18 months treatment time as per NICE PH38.

All programmes for this population should include an element of structured education covering behavioural change, physical activity, advice on weight management and intensive education and information on condition specific risks such as those with pre-diabetes (IGT, IFHG) and development of type 2 diabetes. There should also be links made to services that support people around wider determinants on health, such as poverty, housing issues and adult literacy.

42 <http://leicesterdiabetescentre.org.uk/Lets-Prevent-Diabetes-Pathway>

43 <https://www.xperhealth.org.uk/Programmes>

44 NICE (2012) Type 2 diabetes: Prevention in people at high risk <https://www.nice.org.uk/Guidance/PH38>

## 2. Gestational Diabetes

All women with gestational diabetes should be offered dietary advice and weight management during pregnancy as they are at higher risk of developing type 2 diabetes after pregnancy. All women who have gestational diabetes should also be offered dietary and lifestyle advice and on-going participation in weight management programme in the post-partum period to minimise weight gain during pregnancies, avoid future gestational diabetes and on-going progression to type 2 diabetes.

A study of women with maternal obesity prior to their first pregnancy found that a weight loss of at least 4.5 kg before the second pregnancy reduced the risk of developing gestational diabetes by up to 40%<sup>45</sup>. Therefore, women who are overweight and obese should be eligible for weight management services to reduce risk of developing gestational diabetes in a future pregnancy and their lifetime risk of developing type 2 diabetes.

Women with PCOS may also benefit from accessing weight management services in this way and clinical judgement should be used to determine this.

Support in this area should be provided in line with guidance from NICE NG3<sup>46</sup>. This guidance has been updated by the Royal College of Obstetrics and Gynaecology, this section will be updated once this guidance has been published.

## Level 3 – Targeted intervention

Alongside the general weight management programmes, programmes at this level should be targeted at those recently diagnosed with type 2 diabetes or those with type 2 diabetes who have shown interest in losing weight for better control of their condition, who are motivated in losing weight for potential reversal, and/or for avoidance of complications or reduction of oral hypoglycaemic agents.

### 1. Structured Education for those diagnosed with type 2 diabetes

People with diabetes should be enabled and empowered to safely and effectively self-manage their condition by accessing consistent, high quality education and by creating mutually agreed individualised care plans.

Structured education is central to diabetes care and to the self-management of long-term conditions. A structured patient education programme should be tailored to an individual's clinical and psychological needs and be adaptable based on educational and cultural needs.

Patient education aims to support people with diabetes to improve their knowledge, skills and confidence, enabling them to take increasing control of their own condition and integrate effective self-management into their daily lives.

People with diabetes should have access to this support at the time of initial diagnosis and then as required on an on-going basis, based on a formal, regular assessment of need.

<sup>45</sup> Glazer NL, Hendrickson AF, Schellenbaum GD, Mueller BA. (2004) *Weight change and the risk of gestational diabetes in obese women*. Epidemiology;15(6):733-737

<sup>46</sup> NICE NG3 (2015) *Diabetes in pregnancy: management from preconception to the postnatal period* <https://www.nice.org.uk/guidance/ng3>

The criteria that define a structured education programme are:

1. A philosophy
2. An evidence-based curriculum
3. Aims and learning outcomes
4. Delivered by a trained educator
5. Quality Assured
6. Audited

Each Managed Clinical Network (MCN) responsible for diabetes care should - as per the DIP- ensure patients have:

- timely and appropriate access to high quality patient education and self management support (eg. DESMOND, Conversation Maps, X-Pert); and
- have access to appropriate high quality education.

During consultations, healthcare professionals should actively support self-management by listening to what matters to individuals, providing relevant information and signposting to education and third sector and community resources as well as evidence-based weight management programmes.

Each MCN is required to ensure the provision of a range of educational solutions including quality assured structured education for people with diabetes. Each MCN maintains records of educational provision and reports their progress towards meeting this standard to the Scottish Diabetes Group.

## **2. Dietary assessment and targeted intensive weight management support through specialist weight management services**

Patients with type 2 diabetes should have access to specialist teams, with dietetic and psychological assessments and treatment options for intensive weight and diabetes management including behaviour change programmes.

These should integrate dietary advice with a personalised diabetes management plan, including other aspects of lifestyle modification, such as increasing physical activity and losing weight. This should be available as a precursor to, or directly after structured education – with assessment for suitability for intensive weight management for potential remission of diabetes.

For those with type 2 diabetes who are overweight or obese, an initial body weight loss target of 5–10% is recommended with emphasis that lesser degrees of weight loss may still be of benefit to management of condition and well-being. More significant weight loss will have advantageous metabolic impact<sup>47</sup>.

### **3. Targeted intensive weight management for those with type 2 diabetes through total diet replacement.**

Consistent evidence shows that weight loss is associated with extended life expectancy for people with diabetes, and that weight loss of around 15 kg often produces total biochemical remission of type 2 diabetes, restoring beta cell function<sup>48</sup>. Recognition that type 2 diabetes is reversible, has raised awareness that remission is possible<sup>49</sup> and media attention has encouraged increasing numbers of people with type 2 diabetes to lose weight and enter remission.

Lifestyle-based programmes generally achieve a 12 month mean weight loss of 3-5kg and only around 1% of the eligible population can or will access bariatric surgery<sup>50</sup>. An ‘intervention gap’ therefore exists between bariatric surgery and typical weight management programmes. However, intensive weight management programmes which utilise an initial phase of formula Total Diet Replacement are generating promising results for those clinically suitable and where appropriate for the individual<sup>51</sup>.

A recent systematic review showed people with type 2 diabetes do equally well using this type of approach as people who do not have type 2 diabetes.

The recently published DiRECT study showed that use of Counterweight-Plus achieved remission rates of 89% and 73% with weight losses of >15kg and >10kg respectively. An interesting observation in DiRECT was the high percentage of men (56%) recruited into the weight management programme<sup>52</sup>.

#### **Referral Criteria**

BMI ≥ 27

Recently diagnosed – up to 6 years from initial diagnosis.

Age 18 and over

Psychological assessment

#### **Referral Routes**

Those on insulin must be referred to this programme through a diabetes specialist in order to closely monitor progress while attending the programme.

#### **Programme standards and operation:**

For provision of a targeted intensive weight management intervention, the following components should be included:

- Total diet replacement for 12 weeks (for example Counterweight-PRO800 provided through Counterweight-Plus, Cambridge Weight Plan or Optifast 800)

48 Lim EL, Hollingsworth KG, Aribisala BS, Chen MJ, Mathers JC, Taylor R. Reversal of type 2 diabetes: normalisation of beta cell function in association with decreased pancreas and liver triacylglycerol. *Diabetologia* 2011;358:2506-14. doi:10.1007/s00125-011-2204-7 pmid:21656330.

49 Steven S, Hollingsworth KG, Al-Mrabeh A, et al. Very low-calorie diet and 6 months of weight stability in type 2 diabetes: pathophysiological changes in responders and nonresponders. *Diabetes Care* 2016;358:808-15. doi:10.2337/dc15-1942 pmid:27002059

50 Dombrowski, S. U., Avenell, A., & Sniehotta, F. F. (2010). Obesity Facts, 3(6), 377-396

51 Leslie, W et al. Weight losses with low-energy formula diets in obese patients with and without type 2 diabetes: systematic review and meta-analysis. *IJO* (2017) 41, 96–101

52 Lean MEJ, Leslie WS, Barnes AC, Brosnan N, Thom G, McCombie L, et al. Primary care-led weight management for remission of type 2 diabetes (DiRECT): an open label, cluster randomised trial. *Lancet*. 2017 Dec 4. pii: S0140-6736(17)33102-1. doi: 10.1016/S0140-6736(17)33102-1

- Food reintroduction 12-14 weeks
- Weight loss maintenance period up to 26 weeks as minimum (ideally to the 2 year period)

Counterweight-Plus could be used to deliver a targeted intensive weight management programme for those with type 2 diabetes. The Counterweight-Plus programme was originally developed and refined through funding from Scottish Government. The programme includes standard training and competency checks, screening and intervention protocol, medical management, patient resources available and evaluation methodologies. On-going evaluation shows consistent mean weight loss of ~14kg at 12m<sup>53</sup> and would be suitable for use at this level.

#### **Achieving remission:**

To date there is no internationally agreed consensus on the definition of remission for type 2 diabetes. We will consider the following which is in line with the ADA consensus statement on remission<sup>54</sup>.

Initial remission status is achieved at six months where a patient has HbA1c of <48mmol/mol, and is no longer taking oral and injectable hyperglycaemic medications for treatment of diabetes. Remission is achieved in where the above criteria are sustained for a period of one year.

We recognise that there is on-going discussion and will keep the position in review, with use of clinical data from the first year of implementation and in light of any new evidence.

#### **Consider the messaging of ‘Remission’**

Achieving a state of ‘remission’ for individuals with type 2 diabetes can be both motivating for encouraging weight loss and potentially damaging if results are not witnessed.

Healthcare professionals are asked to use the term carefully and understand the impact it can have on individuals.

Additionally, weight regain is common following periods of weight loss. This in turn is linked with the possibility of diabetes relapse.

Individuals must be made aware of this risk and accompanying medical management.

<sup>53</sup>Lean MEJ et al. (2017) Counterweight-Plus, An Intensive, Non-Surgical Option For Severe Obesity. Abstract T-P-LB-3708. The Obesity Society. <https://2017.obesityweek.com/abstract/counterweight-plus-an-intensive-non-surgical-option-for-severe-obesity/>

<sup>54</sup>Buse, JB et al (2009) How do we define cure of diabetes, Diabetes Care 2009 Nov; 32(11): 2133-2135. <https://doi.org/10.2337/dc09-9036>

## **Level 4 – Complex condition management**

### **The use of drugs as part of intensive weight management**

#### **Metformin**

The Diabetes Prevention Outcomes Study (DPPOS) is the best evidence we have for the use of metformin in those at high risk of diabetes<sup>55</sup>. It is recommended<sup>56</sup> for practitioners to use clinical judgement on whether (and when) to offer metformin to support lifestyle change for people whose HbA1c or fasting plasma glucose blood test results have deteriorated if:

- this has happened despite their participation in intensive lifestyle-change programmes, or
- they are unable to participate in an intensive lifestyle-change programme, particularly if they have a BMI greater than 35.

Use of metformin should be discussed with patient and potential benefits and limitations, taking into account their risk and the extent of lifestyle changes required to reduce that risk.

Focus should be promotion of benefits of long-term lifestyle change (healthy diet, weight loss, behaviours change and physical activity) which can be more effective and will be provided as part of weight management programmes.

#### **Orlistat**

The best evidence for the use of orlistat in those at high risk of diabetes comes from the XENDOS study<sup>57</sup>.

Clinical judgement is required on whether to offer orlistat to people with a BMI of 28.0 kg/m<sup>2</sup> or more, as part of an overall weight management programme plan for managing obesity and preventing onset of type 2 diabetes<sup>58</sup>. This should take into account the patients overall health and the level of weight loss and lifestyle change required to reduce this risk.

#### **Bariatric Surgery**

For those who wish to consider bariatric surgery as a treatment option, individuals should be assessed against the priority groups and the conditions as set out in the National Planning Forum best practice guide<sup>59</sup>. This is the current guidance which is due to be reviewed. This section will be updated accordingly.

55 <https://dppos.bsc.gwu.edu/>

56 NICE (2012) *Type 2 diabetes: Prevention in people at high risk* <https://www.nice.org.uk/Guidance/PH38>

57 Lars Sjöström, (2006) *Analysis of the Xendos Study (Xenical in the Prevention of Diabetes in Obese Subjects)*. *Endocrine Practice*: Vol. 12, No. Supplement 1, pp. 31-33

58 NICE (2012) *Type 2 diabetes: Prevention in people at high risk* <https://www.nice.org.uk/Guidance/PH38>

59 <http://www.gov.scot/Topics/Health/Quality-Improvement-Performance/National-Planning-Forum/Reports/Obesity>

# How will the framework be implemented?

## 1. First year of implementation and the role of the early adopters.

For the first year of implementation – five early adopter sites have been approached.

The East Region (working in partnership as NHS Lothian, Fife, Border), Ayrshire and Arran, and Tayside have agreed, with additional support from Scottish Government funding, to begin work to redesign and deliver services in line with this framework. The board areas which have been chosen represent a broad selection of population demographics and geography. Learning from this first year of implementation will be shared with remaining IJBS and NHS boards throughout the year. This is in keeping with Berwick's seven rules for disseminating innovation in health care as outlined in the Scottish Government's approach for Practising Realistic Medicine<sup>60</sup>:

1. Find sound innovations
2. Find and support innovators
3. Invest in early adopters
4. Make early adopter activity observable
5. Trust and enable reinvention
6. Create slack for change
7. Lead by example

Early adopter sites have also agreed to champion a whole-systems approach to diet and healthy weight including supporting actions outlined in the '*A healthier Future: Scotland's Diet and Healthy Weight Delivery Plan*'<sup>61</sup>.

The Scottish Government will appoint a professional advisor will be appointed to work not only with the early adopters but with all IJBS to support them with the planning and preparation for implementation including building the necessary strategic and operational partnerships.

In the East Region Partnership, in an ambition to drive a whole systems approach and as part of a wider interagency partnership the three NHS Boards will work in collaboration with six Integrated Joint Boards and six local authorities. A priority focus will be standardised weight management programmes and prevention pathways, building on the currently recognised effective services and good foundation work in respective areas. Their aim is to fully deliver a whole systems approach to public health working alongside community planning with wider citizen engagement, ensuring collaboration and partnership. They will be adopting this framework as part of the action taken to achieve these wider ambitions.

## 2. Development of an integrated system

For the first phase of implementation, early adopters should set up an oversight group that will oversee the planning and delivery of the framework over the next five years.

These oversight groups should include representation from public health, diabetes specialist teams, weight management service delivery team, health and social care partners in leisure, local authorities, integrated joint boards, primary care, health visiting and education.

60 <http://www.gov.scot/Publications/2017/02/3336>

61 Scottish Government (2018) *A Healthier future: Scotland's Diet and Healthy Weight Delivery Plan* <http://www.gov.scot/Resource/0053/00537708.pdf>

Actions to carry out:

1. Initial scoping of service delivery – understanding current delivery and identifying gaps.
2. Agreeing the local approach to co-production and redesigning of services and integration of weight management teams and diabetes specialists.
3. Decisions on the delivery of programmes under each level.
4. Use data and wider evidence to identify, local health inequalities and action required to reduce them, and how progress will be measured.
5. Funding decisions based on the central funding allocation.
6. Support in redesign, implementation and training to build capacity for health and social care professionals to support the type 2 diabetes weight management services.
7. Monitoring and evaluation of services with use of SCI diabetes and GP clusters.
8. Report on delivery and share best practice.

### **3. GP Clusters and primary care**

GP clusters will support the implementation of the framework by engaging with evaluation and monitoring of referrals and outcomes based in primary care. Working with GP clusters to understand their primary care improvement plans could be valuable in influencing the priority of type 2 diabetes prevention.

By monitoring the referral routes and identification of at risk individuals it should be possible to make small adjustments to local systems to improve operation of referral routes and improve the options available to individuals to achieve healthier outcomes.

Oversight groups in each NHS board area should explore what relationship GP clusters can have in relation to this framework.

With the new GP contract and in time the development on community care treatment centres the potential for these hubs to play significant roles identifying at risk individuals could be highly beneficial.

### **4. Training for professionals.**

The implementation oversight group should use existing networks, such as diabetes MCNs, primary care support teams and child health teams to ensure that information is disseminated to raise awareness of the framework. Local events could also be run for the range of health care professionals involved in the pathways.

It has been recognised that training for health professionals on initiating a sensitive behaviour change conversation related on weight management would be highly beneficial. Health professionals can struggle to talk to patients about their weight in a sensitive manner that motivates the individual. Barriers include concern about upset, time, extent of their role, lack of knowledge of what to say and of knowledge of local services. It is the intention to develop resources for health care professionals to assist with these conversations.

Online training on general health behaviour change related to long term conditions and weight management conversations is currently available to all NHS boards<sup>62</sup>. NHS Education for Scotland currently provides online and face-to-face MAP (motivation, action, prompts) training for health and social care professionals, and others working in prevention, including local government and third sector employees<sup>63</sup>.

**Small Talk Big Difference** is a one hour training course aimed at anyone who is regularly treating patients with type 2 diabetes (primarily GPs and practice nurses). It focuses on the benefits of weight management in type 2 diabetes, how to have a conversation about weight with a patient and how to motivate a patient towards readiness to change, treating diabetes safely during weight loss and links to further training resources. It comes in a package with a patient leaflet, discussion tool, practice checklist and posters. It is currently being evaluated in a randomised controlled trial to see the effect on weight management referral rates with results in Autumn 2018. If successful the resources will be made freely available across the NHS and could be easily adapted to cover the primary prevention of type 2 diabetes.

## 5. Data collection and IT infrastructure

Work is on-going to increase the utility of SCI Diabetes to integrate those ‘at risk’, those ‘at high risk’ into the current databases. This will be achieved by assigning read codes to records held in GP systems for those in these groups.

Those who are recorded onto SCI diabetes will also have access to MyDiabetesMyWay to help them better understand their risk and recognise what is required to manage this.

SCI diabetes will need to be able to pull information from the Acute, Maternity and Community TRAK software used by all healthcare professionals and those delivery weight management interventions. This will help build a picture as to who is being referred to what weight management interventions and the outcomes as a result.

62 <https://elearning.healthscotland.com/course/view.php?id=531>

63 <https://www.nes.scot.nhs.uk/education-and-training/by-discipline/psychology/multiprofessional-psychology/health-psychology/the-map-of-behaviour-change-training-programme.aspx>

## How we will measure success?

We recognise the importance of using evidence to support the national adoption of this framework and the benefits of taking an improvement approach to implementation. We will be carrying out an evaluation of its implementation in the first year, working closely with early adopter health boards and other key stakeholders. This will inform future refinements and developments of the framework, and help us identify opportunities to further the agenda for reducing health inequalities. For this purpose, board areas will be required to record progress against a number of indicators including but not limited to:

- Progress towards identification of those with undiagnosed diabetes
- Identification and recording of those with pre-diabetes, ‘impaired fasting hyperglycaemia’ or ‘impaired glucose tolerance’
- Identification and recording of those with gestational diabetes
- Referral rates to weight management services for specific groups – at risk, with pre – diabetes, with gestational diabetes and with recently diagnosed type 2 diabetes.
- Uptake rates
- Completion rates
- Dropout rates
- Weight loss monitoring
- Weight gain monitoring
- Sustained weight management
- Remission rates for those attending a level 3 targeted weight management intervention

- Progression rates of those with pre-diabetes states to type 2 diabetes
- Monitoring of complications for those with type 2 diabetes

We will also explore avenues to ensure people with lived experience including seldom heard voices inform our learning from the early adopter period.

In the longer term, we will monitor key outcome indicators and assess whether the framework achieves its intended outcome of improving population health by reducing the incidence of type 2 diabetes associated with obesity.

### **Success criteria**

- A comprehensive provision of services across all boards in line with the framework
- Reduction in the estimates of people with undiagnosed type 2 diabetes
- Increased number of people with an up to date BMI record in SCI diabetes
- Increased uptake of weight management interventions from referrals
- Increased completion rates by individuals of interventions
- Reduction in the number of people recorded as obese/overweight in SCI diabetes
- Reduction in the number of people experiencing diabetes related complications at point of diagnosis.
- Reduction in the rate of prescribing type 2 diabetes medications.

## Glossary of terms

**'At risk'** – Those who are identified through the Diabetes UK tool as moderate or high risk are considered as an 'at risk' population of developing type 2 diabetes.

**'At high risk'** – Those with previous or current gestational diabetes, those with polycystic ovary syndrome or those clinically viewed as having pre-diabetes, Impaired Glucose Tolerance or Impaired Fasting Hyperglycaemia.

**DPP** – Diabetes Prevention Programme

**DPPOS** – Diabetes Prevention Programme Outcomes Study

**IFHG** – Impaired Fasting Hyperglycaemia

**IGT** – Impaired Glucose Tolerance

**IJB** – Integrated Joint Boards

**MCN** – Managed Clinical Networks. The diabetes MCNs report back to the Scottish Diabetes Group.

**MyDiabetesMyWay** – <https://mydiabetesmyway.scot.nhs.uk/>

**NES** – NHS Education for Scotland

**PCOS** – Polycystic ovary syndrome

**Pre-diabetes** ('impaired fasting hyperglycaemia' or 'impaired glucose tolerance') – Referred to as at high risk of developing type 2 diabetes. Can be defined as with a HbA1c level of 42–47 mmol/mol.

**Recently diagnosed** are those who have received a diagnosis of type 2 diabetes within the last 6 years.

**Remission** – To date there is no internationally agreed consensus on the definition of remission for type 2 diabetes. We will consider the following which is in line with the ADA consensus statement on remission.

Initial remission status is achieved at six months where a patient has HbA1c of <48mmol/mol, and is no longer taking oral and injectable hyperglycaemic medications for treatment of diabetes. Remission is achieved in where the above criteria are sustained for a period of one year.

**SDG** – Scottish Diabetes Group







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