

Diabetes Improvement Plan

Diabetes Care in Scotland Commitments for 2021 – 2026

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Ministerial Foreword

Our Diabetes Improvement Plan published in 2014 set out eight priority areas to improve outcomes for people living with diabetes.

Since 2014, we have made significant progress against each of these priorities, including increasing access to technologies for adults and children, the roll out of two prevention campaigns including 'think, check, act' in inpatient settings and £42 million investment in the Type 2 Diabetes Prevention Framework.

Scotland has become an international leader in epidemiological research, thanks to the data from the online portal, SCI-diabetes. Our diabetes dashboard enables access to real time data at a national, regional, local and individual level to help drive improvements to care and outcomes.

However, we know that diabetes remains a significant health challenge and a leading cause of ill health in Scotland. We know that Scotland has an ageing population and people are living longer, with more complex conditions.

The COVID-19 pandemic has had a significant impact on the diabetes community. In March 2020, we asked people to Stay at Home, and paused many routine services to allow NHS staff to tackle the immediate threat of the virus. Many services moved to digital platforms to adhere to social distancing. We also now understand that those living with diabetes are at an increased risk of contracting severe illness from the virus. This has re-emphasised the importance of our focus on improving diabetes care for people in Scotland.

It is important that we learn from the experiences of the pandemic and the swift rollout of alternative models of care that took place as a result, in particular the shift towards digital services which may have benefited many people with diabetes. We know, for example, from the roll out of Freestyle Libre how much of a positive impact these treatments can have on the lives of people living with type 1 diabetes. Simultaneously, we must ensure that we are appropriately considering and addressing the potential impact on health inequalities that such models of care may have.

It is therefore timely for us to publish this refreshed Diabetes Improvement Plan. It sets out our desire to see a whole system approach to Diabetes across health and social care and outlines our priorities and actions that will build on the progress that has been made to date. Through the delivery of this plan, we are committed to designing and developing services that meet the needs of everyone, with a focus on those that are experiencing health inequalities.

To deliver the most effective, person-centred care we will continue to work collaboratively with key stakeholders in the implementation of our priorities. We have committed to reducing variation in access to mental health support for people with diabetes. Wider work happening across the system will also ensure that people with long term conditions that have been impacted by the pandemic have access to support and resources for their mental health.

We thank all of those involved in diabetes care, treatment and support for their remarkable efforts. As we continue forward, we will progress the actions laid out in this ambitious Diabetes Plan refresh in order to continuously improve diabetes care in Scotland.

A handwritten signature in black ink, appearing to read 'Mairi Gougeon'.

Mairi Gougeon, MSP
Minister for Public Health, Sport and Wellbeing

Introduction

The 2019 Scottish Diabetes Survey highlights there were over 312,000 people with a diagnosis of diabetes in Scotland at the end of 2019, a crude prevalence of 5.7%.¹ There were over 19,000 new cases of diabetes diagnosed in 2019.

The prevalence of all types of diabetes continues to increase and depends on a number of factors, including demographic changes (including ageing population), better survival rates from the disease and better detection of type 2 diabetes. While this continues to put pressure on diabetes services, considerable progress in care and clinical outcomes has been made in the last decade. This reflects the strength of the healthcare community supporting people with diabetes in Scotland, the active engagement with people living with diabetes, the support of the Scottish Government and the third sector.

In 2020, COVID-19 caused an unprecedented disruption to all NHS services including diabetes services. Many out-patient diabetes services were suspended to allow resources to focus on acute unscheduled care and as services resume, they are no longer being delivered by traditional models of care. Care has evolved to ensure it aligns with COVID-19 secure measures, with a significant proportion of diabetes care now being delivered through virtual and digital means.

Many aspects of care align readily to virtual care models. However, some, such as group education sessions, robust surveillance processes and initiation of technologies require ongoing development to allow successful delivery of the services to be done virtually. Many digital solutions now exist and these are likely to play an increasing role in diabetes management in the future.

Added to this there is an increasing evidence base which highlights the increased risk of severe COVID-19 for those with comorbidities such as diabetes and obesity,

¹ 10.7% of people had type 1 and 87.9% of people had type 2 diabetes

therefore now more than ever it is vital we consider how best to support individuals to optimise their health and wellbeing.

The refresh of the Diabetes Improvement Plan details the significant progress that has been made against the priority areas in the Diabetes Improvement Plan 2014 and sets out new commitments for 2021 – 2026. This report focuses on the commitments that have been made to improve care outcomes and experiences for people living with Diabetes in Scotland and the measures by which we can monitor progress and determine success.

In our commitments from 2021 – 2026, there is an ongoing focus on optimising glycaemic control, preventing and early detection of type 2 diabetes and minimising the risk of complications. Supporting self-management, optimising mental wellbeing and upskilling healthcare professionals remain key to optimising outcomes. The ongoing focus on in-patient care is also important given the adverse outcomes seen in those with diabetes admitted to hospital.

Our commitments from 2021 – 2026 sit alongside a wide range of Scottish Government policy including diet and healthy weight policies, the Mental Health Strategy 2017 -2027, our Technology Enabled Care programme, the Scottish Access Collaboration and the Modernising Patient Pathways Programme. We seek coherence across a range of other policy areas and we will continue to work collaboratively across the Scottish Government to ensure that appropriate links are made and maintained.

Background

Diabetes in Scotland

Diabetes is a chronic disease that occurs when the pancreas cannot make insulin or cannot make sufficient insulin to keep blood glucose within normal limits. This can be associated with resistance to the effect of insulin. Over the long-term, high glucose levels are associated with damage to the body and failure of various organs and

tissues. Diabetes is a major cause of coronary heart disease, stroke, kidney failure, blindness, amputation and premature death.

Type 1 diabetes can develop at any age, but occurs most frequently in children and young people. When you have type 1 diabetes, your body produces very little or no insulin. Type 1 diabetes accounted for 10.7% of all cases of diabetes in Scotland in 2019.

Type 2 diabetes accounted for 87.9% of all cases of diabetes in Scotland in 2019. It starts with resistance to the action of insulin and is associated with older age, being overweight and obesity. The prevalence of type 2 diabetes is increasing in Scotland, as in many other countries, and this is likely to be due to poor diet (specifically excess energy intake), low levels of physical activity and the resulting increase in the levels of obesity.

Gestational diabetes (GDM) is a type of diabetes that results in high blood glucose during pregnancy and is associated with complications to both mother and child. GDM usually disappears after pregnancy but women affected and their children are at increased risk of developing type 2 diabetes later in life. Up to 50% of women diagnosed with gestational diabetes develop type 2 diabetes within 5 years of their baby being born.

The incidence and prevalence of all types of diabetes is increasingly affecting the health and wellbeing of the population, and placing additional pressure on health and community services. The increase in reported prevalence depends on a number of factors, including demographic changes (ageing population), better survival rates and better detection of type 2 diabetes.

The *Framework for the Prevention, Early Detection and Early Intervention of Type 2 Diabetes*² published by the Scottish Government in 2018, aims to tackle this growing issue. It is possible to prevent type 2 diabetes through targeted weight management

² [A Healthier Future: type 2 Diabetes prevention, early detection and intervention: framework - gov.scot \(www.gov.scot\)](http://www.gov.scot)

interventions, which provide individuals with the support, skills and resources to improve their health and delay the onset of type 2 diabetes. 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'.

Not everyone living with diabetes has been diagnosed. It is estimated that around 10% of cases of type 2 diabetes remain undiagnosed and Diabetes Scotland estimates that over 500,000 people in Scotland are at 'high risk' of developing type 2 diabetes. The implementation of the Framework will support identification of people at risk of developing type 2 diabetes including people who have pre-diabetes (above normal blood sugar levels but not high enough to be diagnosed as having diabetes) or previously unrecognised type 2 diabetes. The Framework also aims to ensure timely access to services to support individuals optimise their health and wellbeing.

Diabetes and Covid-19

Recent Scottish and international data has highlighted that individuals with diabetes are at increased risk of severe COVID including hospitalisation and death³. Many individuals with diabetes have additional risk factors which put them more at risk of poor outcome, like being from a Black, Asian or minority ethnic group, increased age, a BMI over 30, a history of high HbA1c, or complications such as heart failure or kidney disease. Diabetes teams have been using this information to identify those most at risk and provide support for people who would benefit from tailored protective measures.

COVID has also caused unprecedented disruption to all NHS services. Many out-patient diabetes services were suspended to allow resources to focus on acute unscheduled care. In the majority of cases, out-patient and other elective activity has resumed but not to traditional models of care. Care has evolved to ensure it aligns with COVID secure measures and as such a significant proportion of diabetes care is now delivered virtually. While many aspects of care align readily to virtual care

³ https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3640560

models, some, such as group education sessions and initiation of technologies, require ongoing development. We also need to ensure that we have robust mechanisms in place to perform all of the necessary processes of care so that individuals with diabetes have an appropriate level of surveillance to detect and prevent complications. The disruption caused by COVID provides an opportunity to restructure care models to ensure that disease surveillance is a key component of services moving forward. This blended approach of a robust surveillance model linked to person centred care planning, which in many instances will be virtual, ensures a dynamic approach to optimising all aspects of care.

Diabetes Policy Landscape

While the increasing prevalence of diabetes continues to put pressure on the health and wellbeing of the population and on clinical services, considerable progress in care and clinical outcomes has been made in the last decade. This reflects the strength of the healthcare community supporting people with diabetes in Scotland, the active engagement with people living with diabetes and the support of the Scottish Government and the third sector.

The Diabetes Action Plan 2010: Quality Care for Diabetes in Scotland was centred on the principles of the Quality Strategy and was intended to drive up care through genuine involvement of people with diabetes, focus on outcomes of care and learning from best practice. The Diabetes Improvement Plan 2014 built on the progress that had taken place, outlined priority areas for improvement and expectations in the context of new approaches to quality improvement.

This Diabetes Improvement Plan refresh spans across a range of policy areas and will be relevant to wider health and social care reforms. The COVID-19 pandemic has caused unprecedented disruption to health and social care services, but has also driven rapid development in many areas. Post-publication of this Plan, we will continue to collaborate with all relevant policy areas, as well as third sector stakeholders and move into an implementation phase.

The Improvement Plan

Diabetes care is continually evolving and the landscape has changed in response to the COVID-19 pandemic identifying some new areas of focus. Significant progress has been made in response to the priorities and actions identified in the Diabetes Improvement Plan 2014 and much of this activity will continue.

Following consultation with the diabetes community and stakeholders a number of commitments linked to the existing priority areas have been agreed which build on the progress to date and support continued improvements in diabetes care. For 2021 – 2026, Priority 4 will change to Equity of Access.

The Scottish Government, through the Scottish Diabetes Group, and NHS Boards will commit themselves to implementing a programme of work to improve the quality of care and outcomes within the identified priority areas. Progress will be evidenced through a number of measurable standards which will be reported at both health board and national level. We will report delivery against each commitment annually and continue to review the Diabetes Improvement Plan on a five year cycle.

There are eight Priority areas and under each of these are a number of specific commitments we are making to work towards improving care outcomes and experiences for people living with Diabetes in Scotland.

- 1. Prevention and Early Detection of Diabetes and its Complications**
- 2. Type 1 Diabetes**
- 3. Person-Centred Care**
- 4. Equity of Access**
- 5. Supporting and Developing Staff**
- 6. Inpatient Diabetes**
- 7. Improving Information**
- 8. Innovation**

Diabetes Improvement 2021 – 2026: Commitments & Priorities

Priority 1 - Prevention and Early Detection of Diabetes and its Complications

To establish and implement approaches 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

Commitment 1.1 We will continue to support the implementation of the Framework for the Prevention, Early Detection and Early Intervention of Type 2 Diabetes

The *Framework for the Prevention, Early Detection and Early Intervention of Type 2 Diabetes* is a 5 year programme supporting Boards to implement strategies to reduce the number of people developing type 2 diabetes and support early identification of people with type 2 diabetes. The implementation of this framework is being monitored by Scottish Government's Diet and Healthy Weight Team and the success of this programme will be monitored through their evaluation framework.

We will continue to develop SCI-Diabetes to ensure that it meets the needs of this work stream and support the implementation of the framework where we can.

To ensure progress against this commitment we will review the:

- % of adults with type 2 diabetes who are newly diagnosed with type 2 diabetes
- % of adults with type 2 who achieve optimal glycaemic (<58mmol/mol) control at 1 year post diagnosis
- % of adults with type 2 who complete structured education within 6 months of diagnosis
- % of adults with type 2 diabetes where this is now in remission

Commitment 1.2 We will work collaboratively with generalist care colleagues to raise further awareness of type 1 diabetes and relaunch an extended DKA prevention campaign

Diabetic ketoacidosis (DKA) on diagnosis of type 1 diabetes continues to be an issue. In addition, the recent evidence that deaths under the age of 50 can be partly related to DKA⁴ highlights the importance of reducing DKA in those with existing type 1 diabetes. To minimise these risks, we will work collaboratively with generalist care colleagues, third sector and people living with diabetes to relaunch the national education campaign, Think, Test, Telephone, to support the early detection and urgent referral for those with new onset type 1 diabetes as well as targeting those with pre-existing type 1 diabetes. The diagnostic information pages on SCI-Diabetes will be promoted to diabetes teams to ensure capture of DKA status at diagnosis and the type 1 summary pages will be further enhanced to capture all DKA events. This will help assess the impact of this activity.

To ensure progress against this commitment we will review the:

- % of people with type 1 diabetes who are recorded as having DKA at diagnosis
- % of people with type 1 diabetes who are recorded as having a DKA episode within the last 12 months

Commitment 1.3 We will ensure care pathways support individuals to have their processes of care completed while considering the principles of realistic medicine

The COVID-19 recovery phase is providing diabetes teams with the opportunity to revise care pathways to further ensure robust approaches to screening and the surveillance of diabetes. Changes to the regularity of some of the processes of care have been agreed (retinal screening and foot screening for lower risk individuals).

⁴ [Time trends in deaths before age 50 years in people with type 1 diabetes: a nationwide analysis from Scotland 2004-2017 - PubMed \(nih.gov\)](#)

Further consideration is required to ensure that their care pathways are tailored around the person and a more personalised approach to care is taken. For example inclusion of a frailty score and the need for screening for cholesterol when the person living with diabetes is using a statin.

Developing care models aligned to the 'House of Care' philosophy and utilising community hubs affords the opportunity for the processes of care to be completed in a pre-care planning appointment and this information can then be used to inform the care planning consultation between the person and their healthcare team.

In recognition that foot screening and screening for microalbuminuria has in recent years been the process of care measures least likely to be completed, performance around this will be closely monitored.

One of the key aspects of the Diabetic Retinopathy Screening programme is to reduce the incidence of vision loss in people living with diabetes. We will work with the Diabetic Retinopathy Screening programme and SCI-Diabetes to monitor progress against this outcome.

Promotion of the value of the processes of care being undertaken will take place with health professionals and people living with diabetes, and examples of good practice shared.

To ensure progress against this commitment we will review the:

- % of people with diabetes who have all nine processes of care recorded
- % of people with diabetes who have had foot screening
- % of people with diabetes who have had screening for microalbuminuria

Priority 2 - Type 1 Diabetes

To improve the care and outcomes of all people living with type 1 diabetes

Commitment 2.1 We will support early optimisation of glycaemic control in new onset type 1 diabetes

We will continue to support optimisation of glycaemic control in new onset type 1 diabetes through early intensification of therapy and timely access to high quality education.

To ensure progress against this commitment we will review the:

- % of people living with diabetes who are recorded as having attended structured education within six months of diagnosis
- % of people who achieve optimal glycaemic control (<58mmol/mol in adults and <48mmol/mol in children) at one year post diagnosis with the aim of 58% of people achieving this.

Commitment 2.2 We will support appropriate and timely access to technologies to improve glycaemic control and quality of life for people living with type 1 diabetes

Diabetes technologies can significantly benefit people with type 1 diabetes through optimising glycaemic control and improving quality of life. We will build upon the progress that has been made to further increase access to existing and emerging diabetes technologies in a timely manner.

This is a rapidly evolving area with the ongoing development of life changing technologies. The development of Closed Loop (linked insulin pump and CGM) is the biggest advance in management of type 1 diabetes since the advent of insulin therapy. In line with best practice and analysis from health economists, we should aim to ensure all people that would benefit from these therapies have access at the earliest opportunity.

We will also continue to monitor and target equity of access to technologies, as we know that currently people from the most deprived groups are less likely to use them⁵. We will work to identify and understand the reasons for this to ensure that services are designed specifically with these issues in mind. We will also review access to diabetes technologies for women who are planning pregnancy and during their pregnancy.

Key to progressing this commitment will be working with relevant stakeholders including the Scottish Health Technologies Group, National Planning Board and SIGN to develop the clinical and health economic case for adopting and implementing the latest diabetes technologies. This will include closed loop systems and single/dual hormone APS as well as other innovative technologies as they become available.

To ensure progress against this commitment we will review the:

- % of people with type 1 diabetes who have access to flash glucose monitoring
- % of people with type 1 diabetes who have access to insulin pump therapy
- % of people with type 1 diabetes starting on insulin pump therapy within six months of referral
- % of people with type 1 diabetes who have access to continuous glucose monitoring
- % of women with type 1 diabetes who have access to continuous glucose monitoring during pregnancy
- % of people with type 1 diabetes who have access to closed loop/Artificial Pancreas Systems (both single and dual hormone)
- % of people with type 1 diabetes in SIMD1 vs SIMD5 with access to diabetes technologies
- Data from international health services to benchmark against the most advanced diabetes services

⁵ <http://easd-cms.virtual-meeting.net/virtualmeeting/home.html#!resources/marked-improvements-in-hba1c-levels-following-insulin-pump-therapy-initiation-in-people-with-type-1-diabetes-a-nationwide-observational-study-in-scotland-85e26734-1b86-4c08-8f0b-dc34608903c4>

Commitment 2.3 We will continue to support improvements in care and outcomes for children with particular emphasis on their needs when attending early year's services, school and out of school services

The *Supporting Children and Young People in Education* guidance will be relaunched and extended to include children living with diabetes who are attending pre-school, school and out of school care. The revised guidance will be developed in collaboration with the education, childcare and diabetes communities with representation from relevant stakeholders, people living with diabetes and their families as well as third sector organisations.

To ensure progress against this commitment we will work with paediatric teams to assess the use of this document and support any activity needed to ensure access and awareness of the guidance.

Commitment 2.4 We will ensure children and young people transitioning to adult services for diabetes are supported in line with the *National Standards for Transition*

We will review and if needed update the *National Standards for Transition* and the suite of supporting tools. This work stream will be led by the type 1 subgroup of the SDG. Paediatric and Adolescent diabetes teams should use the transition standards self-reflection tool to highlight areas that are working well and identify where improvements may be required. Examples of best practice will be shared.

To ensure progress against this commitment we will review the:

- % of 18 - 25 with diabetes with optimal glycaemic control
- % of 18 - 25 with diabetes who are engaged with diabetes services

Commitment 2.5 We will continue to support improvements in care and outcomes for adults living with Type 1 diabetes

"Time trends in deaths before age 50 years in people with type 1 diabetes: a nationwide analysis from Scotland 2004–2017" reports that while mortality has fallen, the relative impact of type 1 diabetes on mortality before the age of 50 has not improved. This highlights the need to improve premature circulatory diseases and DKA and coma and to develop effective strategies to enable people with type 1 diabetes to avoid clinically significant hyper or hypoglycaemia.

We will revise and expand on the previous initiative to reduce DKA at initial presentation of type 1 diabetes to include those with existing type 1 diabetes. This will focus on supporting people living with type 1 diabetes to better understand the risks of DKA and how to avoid it with the aim of reducing the number of people with diabetes developing DKA.

Recording of when DKA happens allows support to be tailored and offered on an individual basis to prevent future occurrences and identifies areas where further targeted activity around DKA would be helpful. Examples of local activity taking place and areas of good practice will be shared with diabetes teams.

To ensure progress against this commitment we will review the:

- % of people with type 1 diabetes who are recorded as having one or more episodes of DKA in one year
- % of people with type 1 diabetes with optimal glycaemic control
- % of people with type 1 diabetes with a BP \leq 130/80mmHg
- % of people with type 1 diabetes with HbA_{1c} $>$ 75mmol/l and a systolic BP $>$ over 130 mmHg

Priority 3 - Person-Centred Care

People living with diabetes 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

Commitment 3.1 We will ensure timely and appropriate access to structured education and support for people living with diabetes

People living with diabetes will have timely access to a variety of person centred educational and support resources, including online learning, remote health pathways to enable and empower them to self-manage their condition. People living with diabetes, care providers and third sector will support the development and review of these resources to ensure they are fit for purpose and help to ascertain any potential gaps. Any resources developed will include a focus on wellbeing, emotional support and mental health and be in a range of formats and languages.

To ensure progress against this commitment we will review the:

- % of people living with diabetes who are recorded as having attended structured education
- % of people living with diabetes who are recorded as having attended structured education within six months of diagnosis
- % of people living with diabetes who are recorded as having attended structured education with HbA_{1c} >75mmol/l

Commitment 3.2 We will work collaboratively with partner agencies to support improvements in out of hours care for people living with diabetes

We will build on the success of the Scottish Ambulance Service and NHS Fife project⁶ to identify and support people living diabetes who have had a hypoglycaemic event which resulted in an ambulance call out. To support roll out of this programme nationally, clinical systems will be developed between the Scottish Ambulance Service and health board to enable glucose results to be reported and shared. This will alert diabetes teams of people who may benefit from follow up support to reduce the number of future hypoglycaemic events.

The diabetes algorithms and triage tools used by NHS24 will also be reviewed to ensure people are directed to appropriate services in a timely manner. Self-directed support will be increased through patient education materials and help guides to support self-management out of hours.

Upskilling of staff who work out of hours to increase their knowledge of diabetes care will also be core to supporting improvements in this area.

To ensure progress against this commitment we will work with the Scottish Ambulance Service and NHS24 to assess the patient pathways out of hours and support any subsequent activity that may be required as a result.

⁶ <https://nhsscotlandevents.com/sites/default/files/EF-06-1555514597.pdf>

Commitment 3.3 We will work with NHS Boards, clinicians and third sector to promote good practice and reduce variation in access to mental health support across the country, so that everyone has the opportunity to live well with diabetes

We will work with a wide range of stakeholders to ensure that people living with diabetes have equitable and timely access to mental health and emotional wellbeing support. A review of the existing support for people living with diabetes across Scotland will take place and areas of good practice and available resources for people living with diabetes will be investigated further. We will ensure that health care professionals are supported to recognise and have conversations about mental health and wellbeing and can signpost people to the right services and support where required.

To ensure progress against this commitment we will work with wider Mental Health policy teams and clinical leaders within the NHS. Alongside Diabetes Scotland, we will engage with people living with diabetes to establish where additional support is required and how best this could be delivered. We will encourage NHS boards to include patient reported outcomes as part of their clinical consultations so that mental health and wellbeing can be discussed and the right support put in place.

We will establish a Short Life Working Group of key stakeholders to progress this commitment. The group will focus on identifying a Patient Reported Outcomes Measure (PROM) for mental health and wellbeing that can be incorporated into routine clinical care. The Group will also work with boards to ensure they have a robust pathway from screening to support for those who need it, dependent on local resources. This will include utilisation of digital solutions and signposting to existing resources to help individuals live well with diabetes.

Commitment 3.4 We will support ongoing work to improve outcomes in pregnancy

We will continue to improve outcomes for women with diabetes planning for pregnancy and during their pregnancy. We will do this by:

- Improving linkages between diabetes and pregnancy clinical systems and developing pregnancy specific quality improvement measures within the diabetes dashboard.
- Collaborate with other stakeholders to ensure structured patient education is available for all women living with diabetes during pregnancy and for those planning pregnancy.
- Ensuring women with gestational diabetes have access to information, support and follow-up to help prevent development of type 2 diabetes.
- Improving rates of pre-pregnancy counselling particularly in women with type 2 diabetes.
- Improving pregnancy outcomes for women with type 1 and type 2 diabetes (rates of caesarean section, still birth, neonatal admission)

Commitment 3.5 We will support ongoing work to improve outcomes for people with foot disease

We will continue to improve outcomes for people with foot disease. We will do this by:

- Ensuring all episodes of foot ulcers are recorded on the electronic diabetes clinical systems will allow us to determine if interventions result in improved outcomes such as ulcer healing and reduced amputations.
- Improving timely input for people with foot ulcers; with a particular focus on people living in areas of deprivation
- Improving healing rates, reducing rates of major amputations

Priority 4 - Equity of Access

To reduce the impact of deprivation, ethnicity and other factors which can disadvantage diabetes care and outcomes for people

Commitment 4.1 We will work collaboratively with NHS Boards and Health and Social Care Partnerships to ensure diabetes is at the forefront of developing, delivering and embedding alternative care models within everyday clinical practice and considered within workforce planning

We will work with diabetes care providers across all settings and services to develop sustainable person centred care models to improve outcomes for everyone living with diabetes. We will work to ensure that evolving care models address existing health inequalities by integrating pathways with existing services and resources such as social work, mental health services, education and third sector.

To ensure progress against this commitment we will work with NHS Boards and Health & Social Care Partnerships, Diabetes Scotland, *My Diabetes, My Way* and people living with diabetes to ensure that services evolve to meet the needs of everyone within the populations we care for. We will also continue to engage with our communities and enhance our data capture to understand the various needs to the populations we care for to ensure no one is disadvantaged from the services that are being delivered. Where required we will implement outreach models to support vulnerable and high risk groups.

Commitment 4.2 We will ensure that the outcomes for people living with diabetes are not disadvantaged as a result of digital exclusion

As diabetes services evolve, and respond to the COVID-19 pandemic, they are increasingly moving to more virtual models of care and so there is a need to consider the impact of this type of healthcare on people who are currently digitally excluded. This will be considered through undertaking an Equality Impact Assessment (EQIA) and Fairer Scotland Assessment.

To ensure progress against this commitment we will work with key partners including Diabetes Scotland, *My Diabetes, My Way* and Digital Health and Care Institute to understand the scope of digital exclusion amongst people living with diabetes and the barriers to inclusion. We will seek input from frontline diabetes services to determine what challenges they face in delivering care virtually. We will consider age, deprivation, ethnicity, and geographical location of people to help inform our approach to improving digital inclusion and mitigate against the risks of further digital exclusion.

We will also consider the Rapid Response Evidence Review on Digital Exclusion/Digital Participation in Scotland published by Healthcare Improvement Scotland. This examines published information on access to and attitudes towards the use of digital technologies to access healthcare for people living with chronic health conditions, and in particular diabetes.

We will continue to create close links with the Technology Enabled Care programme, the Scottish Access Collaborative and the Modernising Patient Pathway Programmes within Scottish Government to ensure evolving care models are appropriately aligned.

Priority 5 - Supporting and Developing Staff

To ensure healthcare professionals have access to consistent, high quality diabetes education to equip them with the knowledge, skills and confidence to deliver safe and effective diabetes care

Commitment 5.1 We will upskill diabetes teams to support the mental health and wellbeing of people living with diabetes, including the use of motivational interviewing and signposting to additional support where required

Scottish Diabetes Education Action Group will conduct a national training needs analysis. This will include consideration of knowledge, practical skills, behaviour change methodology, educational theory, new technologies, IT and emotional

support that are necessary for the health care professionals working in NHS Scotland.

To ensure progress against this commitment we will review the diabetes training opportunities available to health care professionals and the levels of participation. We will undertake a follow up training needs analysis Scotland-wide to determine areas of improvement or where further support is required. We will work with health care professionals to ensure that care and support planning considers the emotional wellbeing of the person living with diabetes and appropriate person reported outcome measures.

Commitment 5.2 We will support training and education on diabetes and ensure it is delivered and available to all healthcare professionals

We will continue to work in partnership with patient groups, third sector, Health Boards, NHS Education for Scotland, Universities and Higher Education authorities to optimise education opportunities for healthcare professionals. As the professional roles and responsibilities continue to evolve within the health and social care system we remain committed to supporting the delivery of high quality diabetes teaching, learning and continued professional development. There will be increased focus on virtual learning and we will work to address information governance challenges to ensure widespread roll out and adoption.

To ensure progress against this commitment we will review the diabetes training opportunities available to all existing and future diabetes health care professionals, monitor uptake of these, and develop additional support as required.

Priority 6 - Inpatient Diabetes

To improve the quality of care for people when admitted to hospital by improving their glucose management and reducing the risk of complications during admission

Commitment 6.1 We will support boards to optimise diabetes inpatient care in hospitals across Scotland and reduce avoidable adverse events

The key to delivering this commitment will be ensuring hospitals have an appropriately resourced specialist service⁷, that is consultant led, with inpatient specific resource for each multidisciplinary team (MDT) group to ensure timely MDT specialist referral and proactive review for all aspects of specialist inpatient care.

To support improvement to inpatient care provided to people living with diabetes we will, in collaboration with Diabetes Scotland, develop a self-assessment in-patient checklist to support hospitals teams to consider the areas of care needed, what is currently provided and what areas of care that require further development.

Use of effective e-health and close collaboration with e-health teams will also be crucial. This will include the ongoing development of:

- SCI Diabetes in-patient domain
- Linked blood glucose (ketone) meter data – improving prioritisation of specialist review and quality through automated data collection
- Linkage of SCI Diabetes, Patient Administration Systems (PAS) and Connected meters
- Development of in-patient dashboard for local, regional and national reporting of inpatient demography, performance and outcomes
- Reporting and collating critical incidents including inpatient DKA, inpatient Hyperosmolar Hyperglycaemic State, technology failures, insulin errors and hypoglycaemia.

⁷ (available 24 hours per day, 7 days per week, 365 days per year)

Optimising diabetes in-patient care will also require effective processes to be in place to avoid unnecessary admissions and delays to discharge due to diabetes related issues. Key areas to consider would be:

- Admission – whether elective or emergency. Preadmission clinics can help optimise diabetes prior to elective surgery as can appropriate referral pathways for those who require urgent input pre admission/on admission
- Effective safe discharge planning

To ensure progress against this commitment we will review the:

- Number of NHS Boards where there is secure data capture between their relevant IT systems and industry providers of blood glucose systems.
- % of in-hospital hypoglycaemia and timely resolution of this
- % of DKA developing while in hospital
- % of hospital acquired foot ulceration

Commitment 6.2 We will work with non-diabetes leads at health board level on patient safety through the further roll out of Diabetes Think, Check, Act focusing on reducing insulin prescription errors and DKA

We will work with non-diabetes specialist inpatient teams to upskill them in supporting people with diabetes and encourage the roll out of ‘diabetes champions’ to support quality improvement in diabetes inpatient care.

We will continue to embed the national in-patient diabetes improvement initiative, Diabetes, Think, Check, Act and work with key stakeholders to ensure all healthcare professionals and undergraduate medical and nursing students complete the online modules. This will support improvements in inpatient care for people with diabetes in acute hospitals in particular around the safe use of insulin.

To ensure progress against this commitment we will review the:

- Uptake of Diabetes, Think, Check, Act modules
- % of in-hospital hypoglycaemia and timely resolution of this
- % of DKA developing while in hospital
- Number of critical incidents

Commitment 6.3 We will work with non-diabetes leads at health board level on patient safety through the further roll out of CPR for Feet leading a reduction in iatrogenic foot harm

We will continue to embed the national in-patient diabetes improvement initiative Check, Protect and Refer (CPR) for feet campaign on admission to hospital; raise awareness of risk and; introduce appropriate pressure relief and education to prevent avoidable foot ulcers.

To ensure progress against this commitment we will review the:

- Uptake of CPR for Feet modules
- % of hospital acquired foot ulceration

Priority 7 - Improving Information

To ensure appropriate and accurate information is available in a suitable format for effective and reliable use by all those involved in diabetes care

Commitment 7.1 We will ensure ongoing support and development of SCI-diabetes to further enhance its capability to enhance clinical care and assist in driving improvement

We will continue to enhance SCI-Diabetes to support clinicians and governance teams to identify areas for improvement at an individual patient, practice, specialist-care clinic, regional and national level, and monitor the impact of any changes that have been implemented.

We will continue to identify metrics and develop visualisations to identify progress against each of the priority areas in the Diabetes Improvement Plan and the commitments.

Work continues to strengthen the extensive data linkages that SCI-Diabetes has, for example with diabetes technologies and pregnancy services to increase the support provided to people with diabetes.

To ensure progress against this commitment we will ensure that health care professionals, SCI-Diabetes and e-health teams work collaboratively to ensure that changes implemented in SCI-Diabetes support clinical care and drive improvements in diabetes care.

Commitment 7.2 We will support national, regional and local health improvement strategies through refinement to the diabetes dashboard and the Scottish Diabetes Survey

We will continue to develop the diabetes dashboard within SCI-Diabetes to allow health care professionals to monitor the outcomes for the populations they care for, support identification of areas where improvement is required and allow for sharing of best practice. Particular areas of focus will be around inpatient care and diabetes in pregnancy.

The diabetes dashboard in tandem with the Scottish Diabetes Survey will continue to provide information on key diabetes related measures and outcomes and will be used to inform progress against the priority areas within the Diabetes Improvement Plan and drive health improvement initiatives.

To ensure progress against this commitment we will continue to promote and review the usage of the diabetes dashboard across Scotland. We will identify and share examples of quality improvement initiatives as a result of information highlighted in the diabetes dashboard.

Priority 8 - Innovation

To accelerate the development and roll-out of innovative solutions to improve treatment, care and quality of life of people living with diabetes

Commitment 8.1 We will support the development and roll-out of innovative solutions to improve treatment, care and quality of life of people living with diabetes

In collaboration with the Chief Scientist Office, the National Planning Board and NHS Scotland's wider innovation work streams we will continue to maximise the opportunities around data, technologies and innovation to improve diabetes care and outcomes in Scotland.

One key area of focus will be the evaluation, adoption and widespread implementation of existing technologies such as hybrid closed loop systems and also emerging technologies such as single and dual hormone Artificial Pancreas Systems. We will work with key stakeholders including the Scottish Health Technologies Group and NHS National Services Scotland Procurement to ensure Scotland is well placed to ensure timely and affordable access to such technologies.

Other key areas we are looking to develop will be innovative solutions to improve in-patient diabetes care and foot ulcer prevention. In addition we will work with key Scottish based groups developing health informatics and artificial intelligence solutions to improve risk stratification, communication and improve person centred care models.

While most diabetes technologies are used for people living with type 1 diabetes, consideration will also be given to the use of appropriate technology for people living with other types of diabetes.

To ensure progress against this commitment we will continue to promote networking opportunities and mechanisms to increase the pace of adoption of proven innovations.

Next Steps

Significant progress has been made against the actions set out in the Diabetes Improvement Plan 2014 and this Refresh sets out and confirms our continued ambition to deliver world leading diabetes health and social care which is person-centred, clinically effective and safe. The commitments for 2021 -2026 respond to the evolving landscape of diabetes care as we strive to make further improvements. While it is noted that not everything can be measured, where possible progress against the commitments will be measured and reported to demonstrate where improvement is taking place.

Everyone with a vested interest in diabetes services, across all levels and roles including, of course, those living with diabetes are encouraged to review the progress made to date and work together to support the delivery of further improvements. Concerted efforts to support the commitments outlined in this Refresh will lead to improved outcomes and experiences for people living with diabetes in Scotland.

Annex A: Summary of Commitments for 2021 - 2026

1. Prevention and Early Detection of Diabetes and its Complications	
Commitment	How will we monitor progress?
1.1 We will continue to support the implementation of the <i>Framework for the Prevention, Early Detection and Early Intervention of Type 2 Diabetes</i> .	<p>We will review the:</p> <ul style="list-style-type: none"> • % of adults with type 2 diabetes who are newly diagnosed with type 2 diabetes • % of adults with type 2 who achieve optimal glycaemic (<58mmol/mol) control at 1 year post diagnosis • % of adults with type 2 who complete structured education within 6 months of diagnosis • % of adults with type 2 diabetes but this is now in remission
1.2 We will work collaboratively with generalist care colleagues to raise further awareness of type 1 diabetes and relaunch a DKA prevention campaign.	<p>We will review the:</p> <ul style="list-style-type: none"> • % of people with type 1 diabetes who are recorded as having DKA at diagnosis • % of people with type 1 diabetes who are recorded as having a DKA episode within the last 12 months
1.3 We will ensure care pathways support individuals to have their processes of care completed whilst considering the principles of realistic medicine.	<p>We will review the:</p> <ul style="list-style-type: none"> • % of people with diabetes who have all nine processed or care recorded diagnosis • % of people with diabetes who have had foot screening • % of people with diabetes who have had screening for microalbuminuria
2. Type 1 Diabetes	
Commitment	How will we monitor progress?
2.1 We will support early optimisation of glycaemic control in new onset type 1 diabetes.	<p>We will review the:</p> <ul style="list-style-type: none"> • % of people living with diabetes who are recorded as having attended structured education within six months of diagnosis • % of people who achieve optimal glycaemic control (<58mmol/mol in adults and <48mmol/mol in children) at one year post diagnosis with the aim of 58% of people achieving this.
2.2 We will support appropriate and timely access to technologies to improve glycaemic control and quality	<p>We will review the:</p> <ul style="list-style-type: none"> • % of people with type 1 diabetes who have access to flash glucose monitoring • % of people with type 1 diabetes who have access to insulin pump therapy

of life for people living with type 1 diabetes.	<ul style="list-style-type: none"> • % of people with type 1 diabetes starting on insulin pump therapy within six months of referral • % of people with type 1 diabetes who have access to continuous glucose monitoring • % of people with type 1 diabetes who have access to closed loop/Artificial Pancreas Systems (both single and dual hormone) • % of people with type 1 diabetes in SIMD1 vs SIMD5 with access to diabetes technologies
2.3 We will continue to support improvements in care and outcomes for children with particular emphasis on their needs when attending early year's services, school and out of school services.	We will work with paediatric teams to assess the use of this document and support any subsequent activity that may be required as a result.
2.4 We will ensure children and young people transitioning to adult services for diabetes are supported in line with the <i>National Standards for Transition</i> .	<p>We will review the:</p> <ul style="list-style-type: none"> • % of 18 - 25 with diabetes with optimal glycaemic control • % of 18 - 25 with diabetes who are engaged with diabetes services
2.5 We will continue to support improvements in care and outcomes for adults living with type 1 diabetes.	<p>We will review the:</p> <ul style="list-style-type: none"> • % of people with type 1 diabetes who are recorded as having one or more episodes of DKA in one year • % of people with type 1 diabetes with optimal glycaemic control • % of people with type 1 diabetes with a BP \leq 130/80mmHg • % of people with type 1 diabetes with HbA_{1c} >75mmol/l and a systolic BP > over 130 mmHg
3. Person-Centred Care	
Commitment	How will we monitor progress?
3.1 We will ensure timely and appropriate access to structured education and support for people living with diabetes.	<p>We will review the:</p> <ul style="list-style-type: none"> • % of people living with diabetes who are recorded as having attended structured education

	<ul style="list-style-type: none"> • % of people living with diabetes who are recorded as having attended structured education within six months of diagnosis • % of people living with diabetes who are recorded as having attended structured with HbA_{1c} >75mmol/l
3.2 We will work collaboratively with partner agencies to support improvements in out of hours care for people living with diabetes.	We will work with the Scottish Ambulance Service and NHS24 to assess the patient flow out of hours and support any subsequent activity that may be required as a result.
3.3 We will work with NHS Boards, clinicians and third sector to promote good practice and reduce variation in the quality of mental health support access across the country so that everyone has the opportunity to live well with diabetes.	<p>We will work with Diabetes Scotland and people living with diabetes to establish where additional support is required and how best this could be delivered.</p> <p>We will encourage NHS boards to include patient reported outcomes as part of their clinical consultations so that emotional health can be discussed and any improvements recorded.</p> <p>We will convene a Short Life Working Group to identify a Patient Reported Outcomes Measure (PROM) for anxiety and depression that can be incorporated into routine clinical care and to work with boards to ensure they have a robust pathway from screening to support for those who need it, dependent on local resources.</p>
3.4 We will support ongoing work to improve outcomes in pregnancy	<p>We will do this by:</p> <ul style="list-style-type: none"> • Improving linkages between diabetes and pregnancy clinical systems and developing pregnancy specific quality improvement measures within the diabetes dashboard. • Ensuring structured patient education is available for all women living with diabetes during pregnancy and for those planning pregnancy. • Ensuring women with gestational diabetes have access to information, support and follow-up to help prevent development of type 2 diabetes. • Improving rates of pre-pregnancy counselling particularly in women with type 2 diabetes. • Improving pregnancy outcomes for women with type 1 and type 2 diabetes (rates of caesarean section, still birth, neonatal admission)
3.5 We will continue to improve outcomes for people with foot disease	<p>We will do this by:</p> <ul style="list-style-type: none"> • ensuring all episodes of foot ulcers are recorded on the electronic diabetes clinical systems

	<ul style="list-style-type: none"> improving timely input for patients with foot ulcers across all levels of social deprivation improving healing rates with reduced rates of major amputations
4. Equity of Access	
Commitment	How will we monitor progress?
4.1 We will work collaboratively with NHS Boards/Heath and Social Care Partnerships to ensure diabetes is at the forefront of developing, delivering and embedding alternative care models within everyday clinical practice and considered within workforce planning.	We will work with Diabetes Scotland, <i>My Diabetes, My Way</i> and people living with diabetes to ensure that services evolve to meet the needs of everyone within the populations we care for. We will continue to engage with our communities and enhance our data capture to ensure people from more deprived areas, people from ethnic minority communities or people living with a disability are not disadvantaged from the services that are being delivered.
4.2 We will ensure that the outcomes for people living with diabetes are not disadvantaged as a result of digital exclusion.	We will work key partners including Diabetes Scotland, <i>My Diabetes, My Way</i> and Digital Health and Care Institute to understand the scope of digital exclusion amongst people living with diabetes and the barriers to inclusion. We will consider age, deprivation status, ethnicity, and geographical location of people who are currently digitally include to help inform strategies to improve digital inclusion and mitigate against the risks of digital exclusion. An Equality Impact Assessment (EQIA) and Fairer Scotland Assessment will also be undertaken. We will consider the Rapid Response Evidence Review on Digital Exclusion/Digital Participation in Scotland published by Healthcare Improvement Scotland and will link with the with the Technology Enabled Care programme, the Scottish Access Collaborative and the Modernising Patient Pathway Programmes within Scottish Government to ensure evolving care models are appropriately aligned.
5. Supporting and Developing Staff	
Commitment	How will we monitor progress?
5.1 We will up skill diabetes teams to support the mental health and wellbeing of individuals with diabetes, including the use of motivational interviewing and signposting to additional support where required.	We will review the diabetes training opportunities available to health care professionals and uptake of these. We will undertake a further training needs analysis for our MDT Scotland-wide to gauge where improvement has taken place and where further support is required. We will encourage health care professionals to ensure that care and support planning considers the emotional wellbeing of the person living with diabetes and to capture person reported outcome measures around how supported that person feels.

5.2 We will support training and education on diabetes and ensure it is delivered/available to all healthcare professionals	We will review the diabetes training opportunities available to all existing and future diabetes health care professionals, monitor uptake of these, and develop additional support as required
6. Inpatient Diabetes	
Commitment	How will we monitor progress?
6.1 We will support boards to optimise diabetes inpatient care in hospitals across Scotland and reduce avoidable adverse events.	We will review the: <ul style="list-style-type: none"> • Number of NHS Boards where there is secure data capture between their relevant IT systems and industry providers of blood glucose systems. • % of in-hospital hypoglycaemia and timely resolution of this • % of DKA developing while in hospital • % of hospital acquired foot ulceration
6.2 We will work with non-diabetes leads at health board level to optimise patient safety through the further roll out of Diabetes Think, Check, Act focusing on reducing insulin prescription errors and DKA.	We will review the: <ul style="list-style-type: none"> • Uptake of Diabetes, Think, Check, Act modules • % of in-hospital hypoglycaemia and timely resolution of this • % of DKA developing while in hospital • Number of critical incidents
6.3 We will work with non-diabetes leads at health board level to optimise in patient safety through the further roll out of CPR for Feet leading a reduction in iatrogenic foot harm.	We will review the: <ul style="list-style-type: none"> • Uptake of CPR for Feet modules • % of hospital acquired foot ulceration
7. Improving Information	
Commitment	How will we monitor progress?
7.1 We will ensure ongoing support and development of SCI-Diabetes to further enhance its capability to enhance clinical care and assist in driving improvement.	We will ensure that the health care professionals, SCI-Diabetes and e-health teams work collaboratively to ensure that changes implement in SCI-Diabetes support clinical care and drive improvement in diabetes care.

7.2 We will support national, regional and local health improvement strategies through refinement to the diabetes dashboard and the Scottish Diabetes Survey.	We will continue to promote and review the usage of the diabetes dashboard across Scotland. We will identify and share examples of quality improvement initiatives as a result of information highlighted in the dashboard.
8. Innovation	
Commitment	How will we monitor progress?
8.1 We will support the development and diffusion of innovative solutions to improve treatment, care and quality of life of people living with diabetes.	We will continue to promote networking opportunities and mechanisms to support innovation which we hope will increase the pace of adoption of proven innovations.



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