STATE OF THE NATION **2015**







NHS SCOTLAND
SPENDS ALMOST
£1BN ANNUALLY,
OR £100,000 EVERY
HOUR, ON DIABETES.
80% GOES ON
MANAGING AVOIDABLE
COMPLICATIONS.

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FOREWORD

We are all familiar with recognising history as periods or 'ages' in an attempt to understand it. We know that each 'age' brings with it positive change as well as new turmoil. The Industrial Age brought us innovation and production but it also introduced overcrowding and slum housing. Often we can't see the 'age' we are in until there is some distance to reflect and analyse.

We are in the 'Age of Diabetes'.

We have the ability to respond because we have the science, data analytics and voices of people affected by diabetes and healthcare professionals telling us and pushing forward with ways to manage it. We don't need to wait to reflect back and say that hindsight is a wonderful thing – we can see it now. The challenge is: what will we do about it?

The number of people living with Type 1 and Type 2 diabetes is increasing. We have not made significant inroads to bring this number down although we are starting to see evidence in Scotland that the rise in numbers is affected by an aging population and people surviving longer with diabetes. There is an estimated 45,500 people living with undiagnosed Type 2 diabetes in Scotland and 500,000 are thought to be at high risk of developing the condition. These numbers, although sometimes disputed, have not been significantly challenged or changed in recent years. There is a commitment to develop a framework to address this and we look forward to working with our NHS Scotland and Scottish Government colleagues on taking this forward.

Scotland has the worst record of HbA1c control in the western world. While action to tackle this has begun in last few years, this is in its early stages and will need commitment, resource and focus to achieve strong outcomes. Evidence is starting to prove the benefits of implementing insulin pumps proactively with improved HbA1c control and quality of life for people with Type 1 diabetes.

We know that people with Type 1, across all of the nine care processes and in every Health Board, are less likely to access their essential health checks. Health inequalities come in many guises and redesigning services to ensure people feel able to access them is key. This is why we continuously push our 15 Healthcare Essentials campaign.

We know that people with all types of diabetes are more likely to live in areas of deprivation, more likely to smoke, more likely to experience depression and other mental health issues.

Our access to information gives us power.

However, information only matters if you use it to inform positive change and better health outcomes. There are some good news stories that show we do have the ability when we collectively put our minds to it. It has inspired us to deliver in insulin pumps, to improve the systems that identify foot disease and to develop the Think Check Act diabetes inpatient programme.

The shoots of change are pushing their way through and this is a good sign. The change needs to be supported, nurtured, invested in and grown. We are in the 'Age of Diabetes' and we can, if we choose to, balance better than at any other time, the good, the challenging and the sometimes difficult issues we face. It is for us, the diabetes community, to collectively determine what the future for people living with diabetes in Scotland will be.

Jane-Claire Judson

National Director
Diabetes Scotland

THE STATE OF THE NATION

DIABETES IS AN URGENT HEALTH ISSUE

Diabetes is the fastest growing health threat of our time and a critical public health matter.¹ The number of people living with diabetes is rising each year and since 2008 there has been a **25% increase** in the number of Scots with the condition.

Over 276,000 people in Scotland now have diabetes:

- 276,430 people or 5.2% of the population have been diagnosed with diabetes. There is a significant difference across Health Boards ranging from 4.2% to 5.8%
- a further 45,500 people are estimated to have Type 2 diabetes, but do not know it
- · every day 48 people learn they have diabetes.

Another 500,000 people in Scotland are at high risk of developing Type 2 diabetes, and that number is rising every year.² 1.1 million people are at increased risk of developing Type 2 diabetes as a result of their waist circumference or being overweight. That's 1 in 5 adults.³

According to current trends by 2035 more than 480,000 people in Scotland will be living with diabetes.⁴

80% of NHS spending on diabetes is invested in treating avoidable complications.⁵ As a result of this, managing diabetes accounts for around 10% of the annual NHS Scotland budget. This is almost £1 billion a year, or £100,000 every hour.⁶

People with diabetes also experience significant personal costs, estimated at £50 million a year for Scotland.⁷ This is due to missing work, the cost of travel for medical treatment and loss of employment or early retirement because of ill health. About 6% of people with Type 2 diabetes are unable to work at all.⁸ Family members may also suffer financially, especially parents of children with diabetes who may be forced to give up work in order to ensure their child receives an education and is safe at school.

One in twenty people with diabetes in Scotland needs assistance from social services at a cost of £23 million per year. More than 75% of these costs are for residential or nursing care with most of the remainder for home help. It has been estimated that having

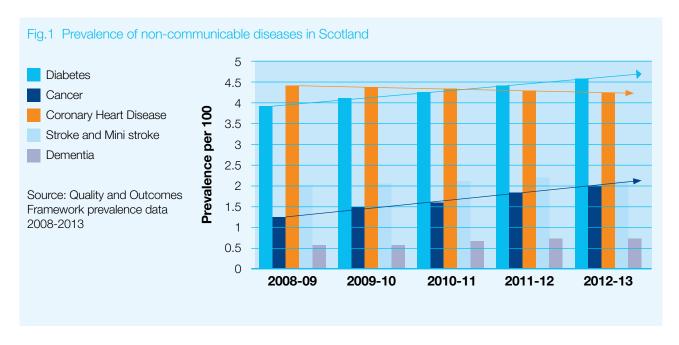


1 in 5 adults are at increased risk of developing Type 2 diabetes as a result of their waist circumference or being overweight

diabetes doubles your chances of entering a care home and one in four care home residents have diabetes.¹¹

The costs to the national economy of lost working time and early death from diabetes are very difficult to quantify but, partly due to inadequate care and support, people living with diabetes were prevented from making a contribution to the economy to the tune of £53 million. This is expected to rise to £78 million by 2026. 12

The total cost (including direct care and indirect costs) associated with diabetes in Scotland is currently estimated at £2.37 billion. These costs are predicted to rise to £3.98 billion by 2035–36.13



Cancer, stroke, heart disease and dementia have been confirmed as clinical priorities for Scotland by the Scotlish Government. Stroke has been a clinical priority for NHS Scotland for over 15 years. Since then there has been significant improvements in treatment and services for stroke in Scotland. Over the last 10 years the number of new cases of cerebrovascular disease in Scotland has decreased by 21% and mortality rates for cerebrovascular disease have fallen steadily.¹⁴

The figures from 2012-13 show that prevalence of diabetes is now greater than coronary heart disease (CHD). After successful and sustained interventions from the Scottish Government and NHS Scotland, there has been a welcome and gradual decline in the overall numbers of people with CHD. However diabetes has continued to rise. As complications of diabetes, it will be difficult to bring down the rate of CHD or stroke while diabetes is still a growing health threat.

DIABETES CAN CAUSE SERIOUS COMPLICATIONS AND EARLY DEATH

Every year, around **2,000 people with diabetes die early**¹⁵. People with diabetes are also at greater risk of developing one or more severe health complications. Diabetes is:

- responsible for more than six people developing foot disease a week
- the leading cause of preventable sight loss in people of working age¹⁶
- · a major contributor to kidney failure, heart attack, and stroke. 17

DIABETES COMPLICATIONS: THE FACTS

- · 20% increase in the amount of people who are recorded as having a myocardial infarction since 2008.
- · 39% increase in the amount of people who have a record of cardiac revascularisation since 2008.
- 19% increase in the amount of people who were recorded as ever having a stroke since 2008.
- 82% increase in the amount of people recorded as having end stage renal failure since 2008.
- 8% increase in the amount of people recorded as blind since 2008.

POOR DIABETES CARE AND OUTCOMES TODAY WILL PREVENT PEOPLE IN SCOTLAND ACHIEVING THEIR POTENTIAL

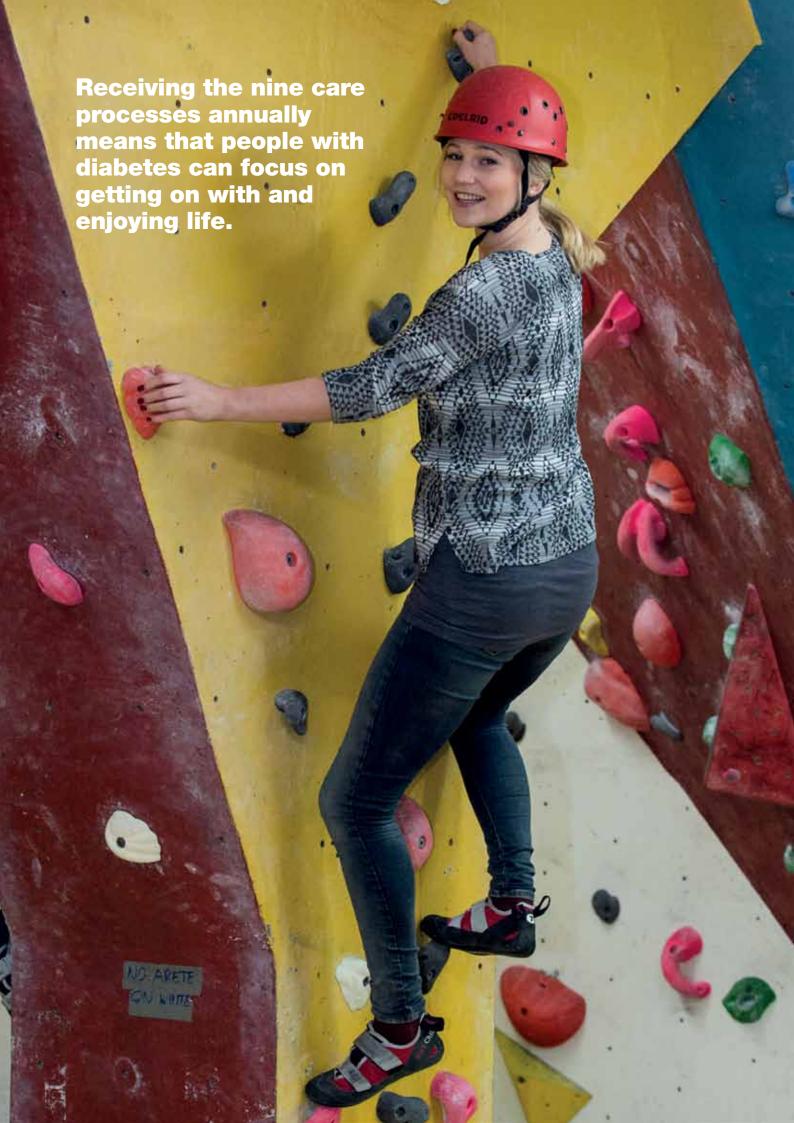
Too many people with diabetes are still not receiving all of the vital annual checks to enable them to live a healthy life. Receiving these checks postpones the onset of complications. Some groups within the diabetes community, particularly those with Type 1 diabetes and working age people, routinely receive poorer care from their NHS and are therefore less likely to meet treatment targets.

There has been little improvement in the percentage of people with diabetes receiving recommended care processes – and some things are getting worse. While some figures are between 90-95% it can still mean that there are thousands of people not receiving their checks. The Scottish Government cannot tell us the number of people who are receiving all nine care processes. This is a concern as, if a person is prevented from receiving even one of their nine care processes there will be negative consequences.

There are significant variations in delivery of diabetes care between Health Boards and clinics. People with diabetes living in some areas receive better care and treatment than people living in other areas.



In Lanarkshire only 82.5% of people with diabetes had their eyes screened whereas the figure was 93.8% in Orkney



This disparity between areas is unacceptable and the Scottish Government must rectify this as a priority.

THE FACTS

- Only 62.3% of people with Type 1 diabetes in the Borders had their smoking status recorded whereas in Forth Valley this was 90.4%.
- In Lanarkshire only 82.5% of people with Type 2 diabetes had their eyes screened whereas in Dumfries & Galloway, 93% received their checks.
- In Greater Glasgow & Clyde 78.7% of people with Type 1 diabetes had their cholesterol checked whereas in Borders 87.5% of people were checked.
- In Lanarkshire 76.5% of people with Type 2 diabetes had their foot risk score assessed, whereas in Tayside nearly 86% had their foot risk score checked.

Effective diabetes care and self-management now can reduce the long-term cost and impact of complications. Everyone with diabetes – no matter their age, where there live, or the type of diabetes they have – needs to receive the best care possible. They also need to be supported to self-manage their condition effectively.



We need to increase access to all of the recommended care processes for all people living with diabetes

- Increase access to all of the recommended NHS
 Scotland nine care processes and the Diabetes
 Scotland 15 Health Care Essentials for everyone with diabetes.
- Ensure all people with diabetes are supported to meet recommended treatment targets.
- Implement integrated pathways of diabetes care across all local health systems.
- Improve access to, and uptake of, a range of appropriate education and learning opportunities.
- · Fully implement collaborative care planning.
- Improve access to a range of specialist diabetes healthcare professionals, in all care settings.

CHALLENGES FOR 2015 AND THE DIABETES IMPROVEMENT PLAN

If action is not taken now, the longer-term costs and consequences associated with diabetes will be severe – for individuals, NHS Scotland, and wider society. We must focus on improving diabetes care, reducing avoidable complications, preventing Type 2 diabetes and supporting people with diabetes to manage their condition effectively.

DIABETES IMPROVEMENT PLAN

The Scottish Government published the Diabetes Improvement Plan in November 2014 acknowledging the need for continual effort to improve outcomes for people living with diabetes and those that care for them. Within the plan was a focus on eight key themes:

- · Prevention and Early Detection of Diabetes and its Complications
- · Type 1 Diabetes
- · Person-Centred Care
- · Equality of Access
- · Supporting and Developing Staff
- · Inpatient Diabetes
- Improving Information
- Innovation

All of these areas are in need of attention and fresh thinking to deliver better results for people living with diabetes. Since the previous Diabetes Action Plan 2010, there have been improvements including provision of insulin pumps, the increase of people with a foot risk stratification score (although there is no data on whether patients understand what this means), and support for children and young people through Making Connections. There has not been enough improvement on issues such patient education which needs to be urgently tackled.

The Diabetes Improvement Plan is a positive step forward, however the plan is incomplete and is dependent on the publication of a comprehensive Diabetes Implementation Plan. Some resourceful Health Boards, such as Ayrshire & Arran and Tayside, have already been proactive in implementing mechanisms to achieve the aims and actions of the Diabetes Improvement Plan. All the Health Boards in Scotland require the framework, policies and funding to be able to improve diabetes care and bring tangible developments for people living with the condition. We understand this will be difficult given the low budget set aside to implement the Diabetes Improvement Plan.



Since the Diabetes Action Plan 2010, improvements have included the provision of insulin pumps An important element of the Diabetes Improvement Plan is the focus on robust monitoring and reporting. This will mean quarterly reporting by NHS Boards on 12 measures with scope to include Diabetes Scotland's 15 Health Care Essentials in the reporting. This will give Managed Clinical Networks and Diabetes Scotland the data to identify areas of care which require improvement and help continue endeavours to deliver the best possible care.

IMPROVING DIABETES CARE

SIGN, which has not been updated since 2010, states that everyone with diabetes receives nine care processes every year to monitor the effectiveness of diabetes treatment, cardiovascular risk factors, and the emergence of complications.

Too many people are not receiving these essential checks and are not achieving the recommended targets. There are significant variations between different population groups and geographical areas. This is particularly true when we take into account economic factors and ethnicity.

URGENT ACTION

The Scottish Government's own figures report there is a large proportion of people not receiving comprehensive care. Health Boards need to develop and implement performance improvement plans for all of the recommended care processes and treatment targets.

REDUCING COMPLICATIONS THROUGH INCREASED ACCESS TO DIABETES SPECIALISTS

Diabetes is a complex condition which requires specialist skills and knowledge. People with diabetes should have better access to a range of specialist healthcare professionals, in hospital and other healthcare settings, so complications can be prevented and treated effectively.

However, for some people, this kind of specialist care is not available. Diabetes specialist nurses – who are integral to providing cost-effective care and preventing complications – are having their positions cut or downgraded. Moreover, many healthcare professionals lack the training needed to identify diabetes or the early signs of complications.

URGENT ACTION

Health Boards need to:

- ensure all healthcare staff have access to continuing professional development in diabetes care
- recognise the role of diabetes specialist nurses, and other specialist teams, in delivering cost-effective diabetes services

- · increase the availability of specialist diabetes inpatient teams and multidisciplinary foot care teams
- ensure all healthcare professionals are competent in diabetes identification and care, within their scope of practice.

IMPLEMENTING INTEGRATED CARE PATHWAYS

Integrated pathways of care across primary, community and specialist services are the ideal way of ensuring people with diabetes get the support and treatment they need at the right time and place. This model of care focuses on the person with the condition and can deliver positive benefits for both the person and the health care team.

URGENT ACTION

Health Boards need to promote integrated approaches to diabetes prevention and care by developing a long-term vision for achieving fully coordinated care, and initiating the changes required to deliver it.

IMPROVING EDUCATION FOR SELF-MANAGEMENT

Diabetes is a serious condition but people can live long healthy lives if it is managed well. Supported self-management is the key to successful day-to-day diabetes management.

Access to diabetes education and information is essential for effective self-management. Very few people with diabetes are offered structured education, and even fewer attend a programme.

URGENT ACTION

Health Boards need to deliver on the national guidelines and increase the availability and uptake of a range of diabetes education and learning opportunities.

ROLLING OUT COLLABORATIVE CARE PLANNING

Collaborative care planning involves people with diabetes and clinicians working together equally to agree goals, develop and implement action plans, and monitor progress. ¹⁹ This approach enables people with diabetes to make positive changes. Despite this, it is still not routinely used.

URGENT ACTION

Health Boards need to implement clear models of collaboration care, such as House of Care, and the training and systems required to support it. Healthcare professionals need to engage with patients with diabetes through collaborative care planning.

PREVENTING TYPE 2 DIABETES

The number of people with **Type 2 diabetes is increasing** – from 190,772 in 2008 to more than 244,050 in 2014. Moreover, 500,000 people in Scotland are at high risk of developing Type 2 diabetes, and that number is rising every year.²⁰

Unlike Type 1 diabetes, which is not preventable, up to **80% of cases of Type 2 diabetes can be delayed or prevented**.²¹ This can be done by:

- Developing and implementing an appropriate framework for assessing risk of Type 2 diabetes and identifying those who are currently undiagnosed.
- · Helping people to maintain a healthy weight through whole population-level interventions.

For the first time Scottish Government policy has recognised prevention as a priority in the Diabetes Improvement Plan. There are already mass population intervention programmes for alcoholism, healthy eating and obesity but SIGN Guidelines do not currently cover prevention of Type 2 diabetes and there is no practical mechanism to identify and support people at risk of the condition. In England, NICE guidelines outline lifestyle interventions which should be offered to people who are identified as being at high risk of developing Type 2 diabetes. We have to adopt a proactive approach for prevention of Type 2 diabetes in Scotland. The Diabetes Improvement Plan includes a commitment to deliver a framework action to address this, which should be implemented as a matter of urgency.

The most effective way of preventing Type 2 diabetes is by maintaining a healthy weight, eating a balanced diet and being more active

HELPING EVERYONE TO MAINTAIN A HEALTHY WEIGHT

Being overweight or obese is the most significant risk factor for Type 2 diabetes, and accounts for 80 to 85% of the risk of developing this condition.²⁴ The most effective way of preventing Type 2 diabetes is by maintaining a healthy weight, eating a balanced diet, being more active and living in an environment where this is supported.

If we are going to reverse these trends, and stop the sharp rise in Type 2 diabetes, more must be done to support all parts of the population to make healthier choices. Individuals are often working hard to achieve a healthy weight. Scottish Government, NHS Scotland, local authorities, employers, and the food and drink industry need to match that determination.

We have to adopt a proactive approach for prevention of Type 2 diabetes.





15 HEALTHCARE ESSENTIALS FOR EVERYBODY WITH DIABETES

Every person with diabetes needs the recommended treatment and services, regardless of their age, ethnicity, where they live or whether they have Type 1 or Type 2 diabetes. This includes the nine care processes outlined by SIGN. Scottish Government data tells us this is not happening for significant numbers of people particularly those with Type 1 diabetes, people in certain geographical areas and people living in areas of deprivation.

Diabetes UK 15 Healthcare Essentials set out the care that all people with diabetes should expect to receive from their healthcare team every year. They include the nine care process checks recommended by SIGN, and provide a starting point for ensuring everyone gets high quality and effective care.



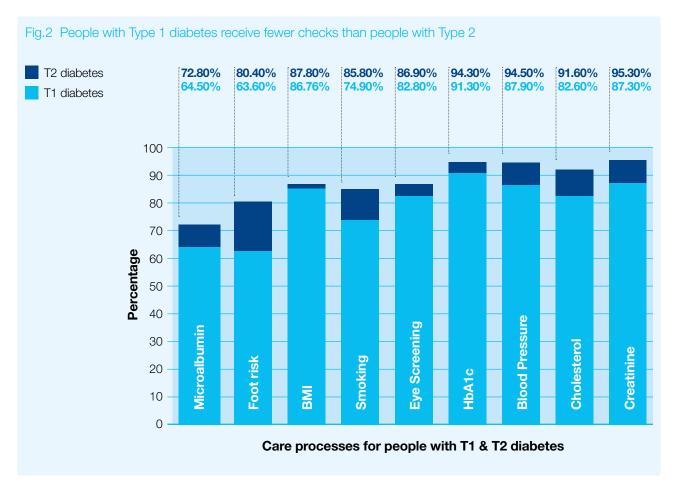
- 1 Get your blood glucose levels (HbA1c) measured at least once every year. This will measure your overall blood glucose control and help you and your healthcare team set a target.
- 2 Have your blood pressure measured and recorded at least once a year, and set a personal target that is right for you.
- 3 Have your blood fats, such as cholesterol, measured every year. You should have a target that is realistic and achievable.
- 4 Have your eyes screened for signs of retinopathy every year.
- 5 Have your feet checked. The skin, circulation and nerve supply of your feet should be examined annually. You should then be told if you have any risk of foot problems and how serious they are.
- 6 Have your kidney function monitored annually. This should involve two tests: a urine test for protein and a blood test to measure kidney function.
- 7 Have your weight checked and your waist measured to see if you need to lose weight.
- 8 Get support if you are a smoker, including advice and support on how to guit.
- 9 Engage in care planning discussions with your healthcare team to talk about your individual needs and set targets.
- 10 Attend an education course in your local area to help you understand and manage your diabetes.
- 11 Receive care from a specialist paediatric team if you are a child or young person.
- 12 Receive high-quality care if admitted to hospital from specialist diabetes healthcare professionals, regardless of whether or not you have been admitted due to your diabetes.
- 13 Get information and specialist care if you are planning to have a baby as your diabetes control has to be a lot tighter and monitored very closely. You should expect care and support from specialists at every stage, from preconception to postnatal care.
- 14 See specialist diabetes healthcare professionals to help you manage your diabetes, such as podiatrists, ophthalmologists and dietitians.
- 15 Get emotional and psychological support. Being diagnosed with diabetes and living with a long-term condition can be difficult. You should be able to talk about issues and concerns with specialist healthcare professionals.

VARIATIONS IN DIABETES CARE AND OUTCOMES

No person with diabetes should be disadvantaged in receiving their care processes due to the type of diabetes they have, the area in which they live or deprivation levels within their community.

PEOPLE WITH TYPE 1 DIABETES RECEIVE POORER CARE THAN PEOPLE WITH TYPE 2 DIABETES

In 2014, fewer people with Type 1 diabetes received each of the nine care processes. People with Type 1 diabetes are nearly twice as likely to have a lower limb amputation as people with Type 2 diabetes. Of people living with Type 1 diabetes, 1.2% are recorded as having a lower limb amputation compared to 0.7% of people with Type 2 diabetes. The percentage of people with Type 1 diabetes receiving the checks for each of the nine care processes lags behind the percentage of people with Type 2 diabetes as shown in the table below.



THERE ARE GEOGRAPHICAL VARIATIONS IN CARE AND OUTCOMES

As highlighted throughout this report, there is considerable disparity between Health Board areas in terms of care process completion rates and the achievement of giving all people with diabetes the treatment they are entitled to. Where a person lives has a significant impact on their ability to receive the care they need and achieve good health.

There are Health Boards which consistently fall far below the mean for Scotland despite an incremental increase in the delivery of care processes in recent years. According to the Scottish Diabetes Survey, NHS Lanarkshire has been consistently at the bottom or near the bottom for delivery of care processes.

POORER OUTCOMES FOR PEOPLE LIVING IN AREAS OF DEPRIVATION

There is no denying the health inequalities that exist across Scotland. The environmental and socio-economic factors affecting people who live in areas of multi-deprivation contribute to poorer health outcomes and lower life expectancy. In addition to rates of Type 2 diabetes increasing with deprivation level, diabetes-related morbidity rates of people in social class V is three and a half times higher than people from social class I.²³

The healthy lifestyle interventions required to reduce the number of people from deprived areas developing Type 2 diabetes, and support people to live well with the condition, have to reflect the realities of the environment in which people live. This includes removing real and perceived barriers, ensuring people living with the condition are enabled to attend healthcare appointments and that they receive all nine care processes. People must be supported in a realistic, practical way to make improvements to their health.

State of the Nation: Diabetes in 2015

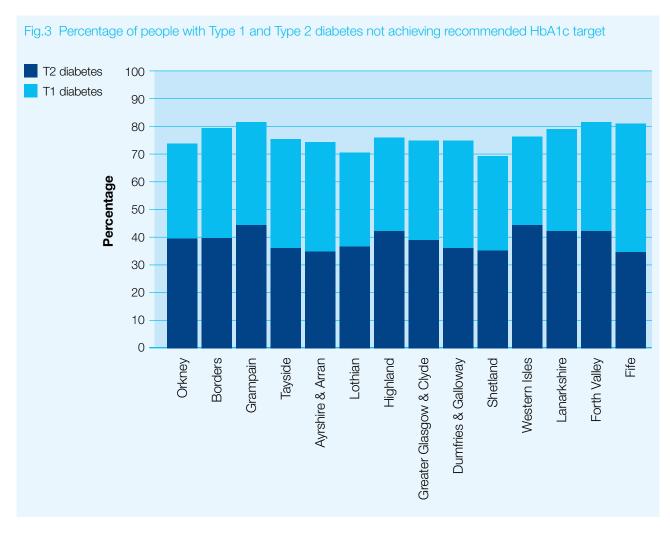
HBA1C

You must have a HbA1c reading every year if you have diabetes. Of all of the nine care processes, the HbA1c check is essential to give the most accurate indication of how well diabetes is being managed and whether there is an increased risk of developing complications.

According to the Scottish Diabetes Survey, 94% of people with diabetes had an HbA1c test carried out in the last 15 months. This is an increase from 2013 and continues the overall trend of improvement for this particular test. However, there are 16,469 people in Scotland who did not receive this essential test.

Understanding how a person's body is being affected by diabetes without a HbA1c reading is like being asked to converse with someone about a complicated research paper in a foreign language which you do not understand. The HbA1c reading is a translation of what is happening in the body.





Rates of people receiving this essential test vary between Health Board areas. For people with Type 1 Glasgow and Clyde is the lowest with 88.9% receiving their checks and the Western Isles is highest with 96.2%. For people with Type 2 Glasgow is lowest with 92.9% receiving their checks and 96.7% in Dumfries and Galloway. This must be addressed to help reduce the risk of potential complications as a result of people not being supported to manage their diabetes well. At just 91.3%, the percentage of people with Type 1 diabetes receiving their HbA1c check is lower than 94.3% people with Type 2 diabetes. Upon further analysis, a more concerning trend is apparent: 38.6% of people with Type 2 diabetes are not achieving the recommended HbA1c levels (<58mmol/mol) and an even greater percentage of people with Type 1 diabetes at 76.6%.

There is a national challenge ahead as Scotland has the worst HbA1c levels in the western world.²⁴

- Health Boards need to ensure that everyone with diabetes is receiving a HbA1c check annually.
- There needs to be a concerted effort to improve HbA1c levels in people with diabetes across Scotland.

2

BLOOD PRESSURE

The risk of developing cardiovascular disease (including heart disease and stroke) in people with diabetes is around double that of a person who does not have the condition. Cardiovascular disease (CVD) is a major cause of death and disability in people with diabetes, accounting for 44% of fatalities in people with Type 1 diabetes and 52% in people with Type 2.²⁵

Poor blood pressure control further increases the risk of developing this complication, and of suffering a stroke in particular. It also increases the risk of kidney disease. SIGN guidelines state people with diabetes should have their blood pressure measured at least once a year and recommends treatment target (≤130mmHg & (DBP) ≤80mmHg).

In 2014, 94.5% of people with Type 2 diabetes had their blood pressure checked – a similar figure to previous years. There was a slight improvement from 86.8% to 87.9% of people with Type 1 diabetes having their checks. However, only 34% of those with Type 2 diabetes met the recommended treatment target which has not changed from 2013. There was a small drop in the number of people with Type 1 diabetes who met the target from 47.6% in 2013 to 46.8% in 2014.

There is considerable variation in blood pressure target achievement rates by Health Board areas and between people with Type 1 and people with Type 2 diabetes. The range between the best and worst Health Boards was greater than 19 percentage points for people with Type 1 and six percentage points for people with Type 2.

Only 34% of those with Type 2 diabetes met the recommended treatment target of ≤130mmHg

THE FACTS

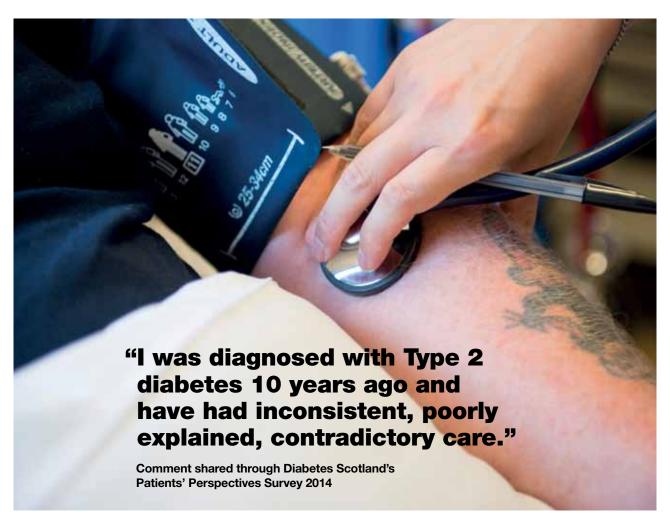
For people to be at a low risk of complications, a target blood pressure of below 140/80mmHg is recommended.

- 19.6% of people with Type 1 diabetes had a blood pressure above 140/80mmHg.
- · 27.8% of people with Type 2 had a blood pressure above 140/80mmHg. (increase from 21.7% in 2013)
- For people who are at risk of kidney, eye or cardiovascular damage a lower target is set at 130/80mmHg.
- · 53.2% of Type 1 diabetes had a blood pressure above 130/80mmHg.
- · 66.2% of Type 2 have blood pressure above 130/80mmHg.

Across Scotland there is a marked variation in blood pressure for people who have Type 1 and who are at risk of complications. In Ayrshire & Arran, 58.8% of those receiving their care have blood pressure recorded at below 130/80mmHg. However, in the Dumfries and Galloway, only 39.7% are recording good blood pressure.

Blood pressure measurements are more consistent across Scotland for Type 2 patients with 34% having blood pressure under 130mmHg and 78% having blood pressure under 140mmHg.

- Health Boards who have a low number of patients with good blood pressure should update care plans to address this issue and set a progressive goal to work towards.
- There needs to be a focus on increasing the number of people having their blood pressure recorded and also increasing the number of people who are meeting the recommended target.
- GPs and healthcare professionals should utilise
 Diabetes UK's Information Prescriptions as a tool to
 support people to achieve positive health outcomes.







In 2014, 92% of people with Type 2 diabetes received a cholesterol check – only 83% of people with Type 1 had this essential check

CHOLESTEROL

Poor cholesterol control also increases the risk of developing cardiovascular disease. Therefore it is important that people with diabetes have their cholesterol checked annually and have realistic and achievable targets.

In 2014, 92% of people with Type 2 diabetes received a cholesterol check. Only 83% of people with Type 1 had this essential check.

Lots of different factors can contribute to high blood cholesterol, including diet, age, family history and ethnic group. Over a fifth of all people with diabetes did not meet the cholesterol treatment target of <5mmol/L.

As with treatment targets for HbA1c and blood pressure, there were large variations in achievement rates across Health Boards. 26.3% did not meet the target in Shetland whilst in Tayside 15.7% were on target. There is considerable scope for improvement in many areas.

- Health Boards who have a low number of patients with good cholesterol levels should update care plans to address this issue and set a progressive goal to work towards.
- There needs to be a focus on increasing the number of people having their cholesterol checked annually and an increase in the number of people meeting the recommended target.
- GPs and healthcare professionals should utilise
 Diabetes UK's Information Prescriptions as a tool to support people to achieve positive health outcomes.

4

RETINAL SCREENING

The RNIB states that diabetic retinopathy is the biggest single cause of sight loss in Scotland.²⁶ People with diabetes also have an increased risk of developing glaucoma and cataracts.

Keeping blood glucose, blood pressure and cholesterol levels under control can help to reduce the risk of developing retinopathy. People aged 12 and over with diabetes should also have specialised retinopathy screening every year to ensure problems are identified and treated as early as possible.

In 2014, uptake of appointments was 85.2% in Scotland. However, there were variations across the country. In the best-performing eye screening programmes, uptake was more than 93% in NHS Orkney; in the worst, NHS Lanarkshire it was 81%. In addition there are over 36,955 people not recorded, an increase of nearly 2000 people over the 2013 figure.

As the early stages of retinopathy are often symptomless, it is vital that people with diabetes understand the risks of developing this complication and the actions they can take. Primary healthcare professionals and screening service providers have important roles to play in ensuring people are encouraged and enabled to attend their eye screening appointment.



Less than half of people realise diabetes can cause blindness

- Everyone with diabetes needs to be informed about the risks to their sight and preventative measures.
 This should be achieved through care planning with their healthcare professionals and participation in learning opportunities.
- GPs should check that patients have attended their annual retinal screening appointment and that they are aware of and understand the results. This should be integrated within overall diabetes care.
- Eye screening service providers must deliver services that are accessible and convenient for all people with diabetes including the working age population, people with particular needs, and hard-to-reach groups.
- Providers with relatively low take-up rates need to review how screening services are configured. Diabetes networks should be involved in the review and design of local services.







FOOT CHECKS

Up to 80% of diabetes-related amputations are potentially preventable. Improved awareness among people with diabetes about their risk status, and the actions to take, and access to good quality structured care can help reduce the number of amputations in Scotland.²⁷

2,111 people with diabetes have leg, foot or toe amputations in Scotland. Amputations and ulcers have a huge negative impact on quality of life.

People with diabetes are more likely to be admitted to hospital with a foot ulcer than with any other complication of diabetes. Foot ulcers and amputations are very expensive for NHS Scotland with estimated costs reaching between £64-66 million each year.²⁹

ANNUAL FOOT CHECKS

SIGN guidelines recommend all people with diabetes have their feet checked every year. This enables an assessment of the level of risk of foot problems and action to be taken accordingly. People with diabetes should be given advice on prevention or, if problems already exist, referred to a specialist foot protection service.

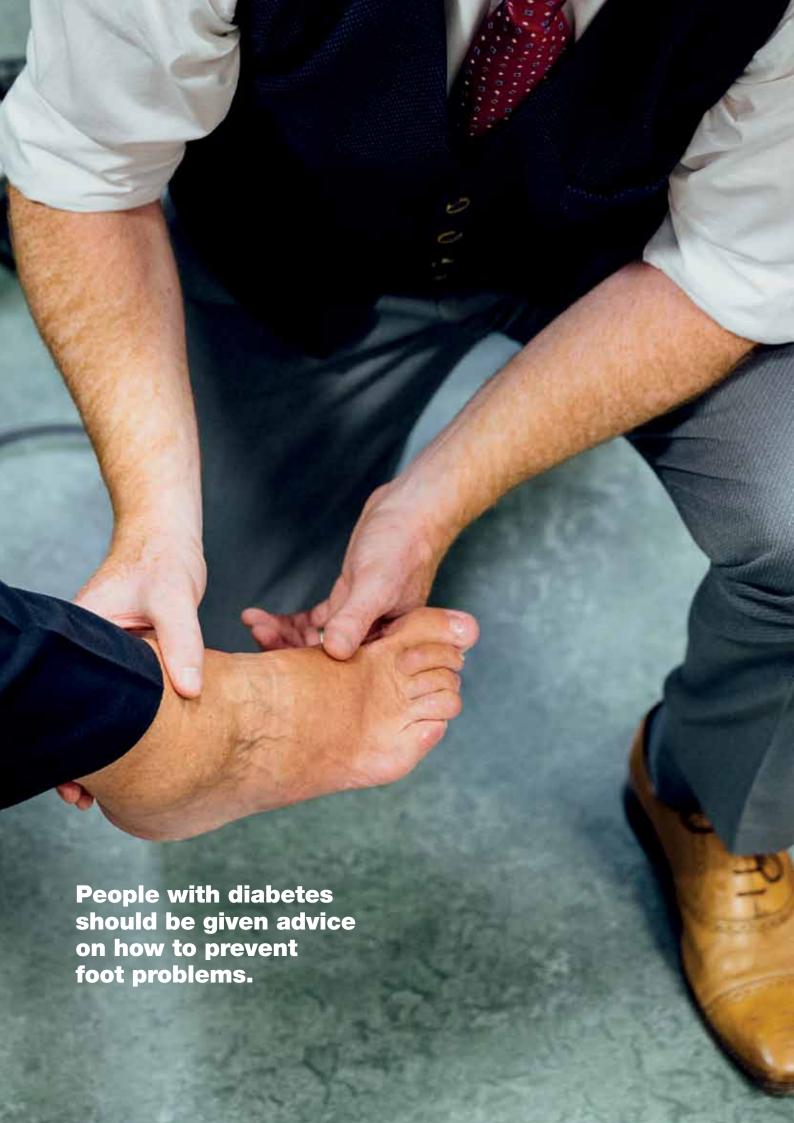
It is unacceptable for anyone to have to experience a preventable lower limb amputation. When people miss out on their essential foot check, they are put at increased risk of developing a complication which may lead to amputation. It is concerning therefore that 36.4% (10,484) of people with Type 1 diabetes and 19.6% (47,834) of people with Type 2 diabetes are not recorded as having a foot risk score.

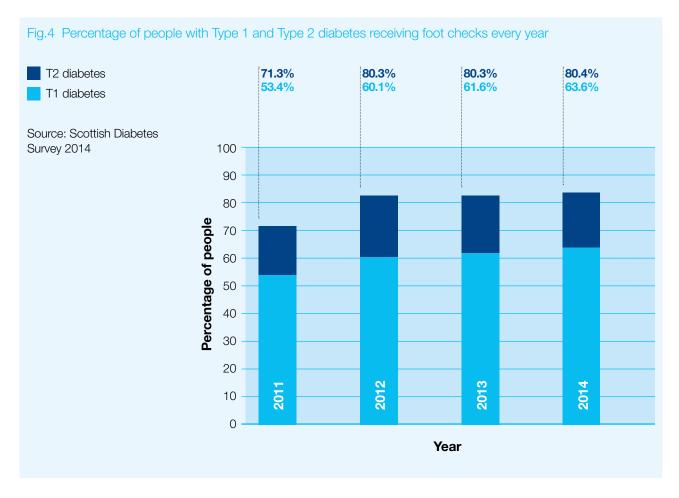
We are also continuing to see significant variations between Health Boards. A comparison of the best performing area, NHS Western Isles, shows that more than 78.3% of people with Type 1 diabetes had their feet checked in 2014 whereas in NHS Grampian, the worst performing area, the figure is only 60%. The gap is less pronounced for people with Type 2 diabetes but there is still a marked difference. In NHS Tayside 85.9% of people with Type 2 diabetes received their foot check while, only 50 miles down the road in NHS Lanarkshire, the figure is only 76.5%.

According to the latest audit by the Scottish Diabetes Foot Action Group, there are 17 multi-disciplinary diabetes foot care teams in Scotland. NHS Borders, NHS Orkney, NHS Shetland and NHS



36.4% people with Type 1 diabetes and 19.6% people with Type 2 diabetes do not have a foot risk score recorded





Western Isles did not take part. Multi-disciplinary diabetes foot care teams are an essential element in ensuring good foot care. They must be maintained and supported throughout Scotland.

Almost 13,500 people with diabetes (2,528 Type 1 and 10,948 Type 2) are recorded as ever having a foot ulcer. People with diabetes who have an amputation or a foot ulcer have a relative increased likelihood of death within five years of up to 80%. This is greater than colon cancer (49%), prostate cancer (20%) or breast cancer (17%).³⁰

Primary care is a key touch point for people to raise issues regarding their foot risk score. Diabetes UK's Putting Feet First campaign and the Scottish Diabetes Foot Action Group's CPR for Feet have been rolled out nationally, raising awareness among people with diabetes and healthcare professionals about the importance of good foot care.

- All people with diabetes must receive a high-quality foot check each year. They should be told their risk of foot problems and understand how to care for their feet.
- Poor performing GP clinics and hospitals need to take action to increase the availability and uptake of foot checks – particularly people with Type 1 diabetes, young people and hard-to-reach groups.
- Health Boards need to ensure integrated foot care pathway is being delivered across primary, community and specialist care services. This includes having a multi-disciplinary foot care team and a foot protection service in every area.
- All hospitals should have processes in place to ensure that people with foot ulcers are referred to a multi-disciplinary foot care team within 24 hours of being admitted.
- All hospitals should implement Scottish Diabetes Foot Action Group's CPR for Feet.
- All primary care settings should be providing people with diabetes with Diabetes UK's Putting Feet First leaflets as a self-management tool.





Only 64% of patients with Type 1 received the urine albumin and 72.8% of people with Type 2 received their test

KIDNEY FUNCTION

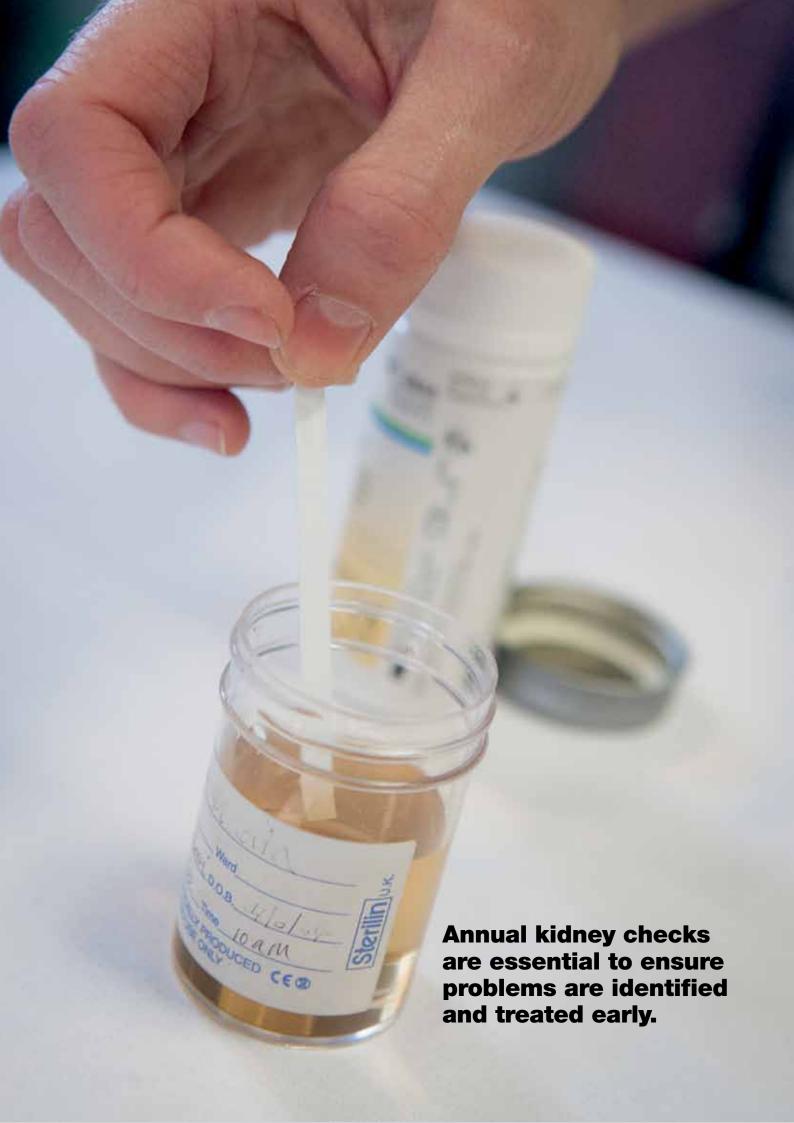
Kidney disease is more common in people with diabetes than the general population, and is an expensive complication to treat. It accounts for 21% of deaths in people with Type 1 diabetes and 11% in people with Type 2.31

Supporting people to achieve good blood glucose levels and blood pressure can greatly reduce the risk of kidney disease developing. Annual checks are also essential to ensure problems are identified early. SIGN guidelines recommend two tests: a urine test for protein – which is a sign of possible kidney problems – and a blood test to measure kidney function.

While the blood test was measured in a high percentage of patients with diabetes in 2014 (94.4% overall), measurement of the urine test was the lowest of all of the SIGN-recommended care processes.³²

In 2014, only 64.5% of patients with Type 1 received the urine albumin and 72.8% of people with Type 2 received their test. Recorded rates for completion of this test were particularly low in people with Type 1 diabetes in some Health Boards, such as NHS Borders which only recorded for 44.3% of people.

- People with diabetes and their healthcare teams need to understand why urine albumin tests are important and ensure they happen.
- Health Boards need to review the Scottish Diabetes
 Survey data on urine albumin screening for their area,
 set targets for improvement, and implement action
 plans to achieve these targets.



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WEIGHT

Type 1 is not caused by being overweight or being obese – but the general trends should be taken into account to ensure people with Type 1 diabetes do get support and guidance on healthy lifestyle choices and education. They are living in an increasingly obesogenic environment that is impacting on them.

People with diabetes have a higher chance of developing cardiovascular disease (CVD) than the general population³³, and being overweight or obese increases that risk. Weight loss can improve blood pressure, cholesterol and blood glucose levels, which are CVD risk factors.

In 2014, 87.8% of people with Type 2 diabetes had their body mass index (BMI) recorded. Of these people, 87% were classed as overweight or obese. 86.8% of people with Type 1 diabetes had their BMI recorded. 62.5% of the people with Type 1 diabetes whose BMI was recorded were overweight or obese.

People with Type 1 and Type 2 diabetes are facing the same barriers to healthy lives as people across Scotland. As people tend to develop Type 2 diabetes later on in life and part of the cause is associated with lifestyle issues, these figures are understandable. In Scotland as a whole, 64.6% of adults (aged 16+) were overweight, including 27.1% who were obese. Adult overweight and obesity levels have not changed significantly since 2008.³⁴

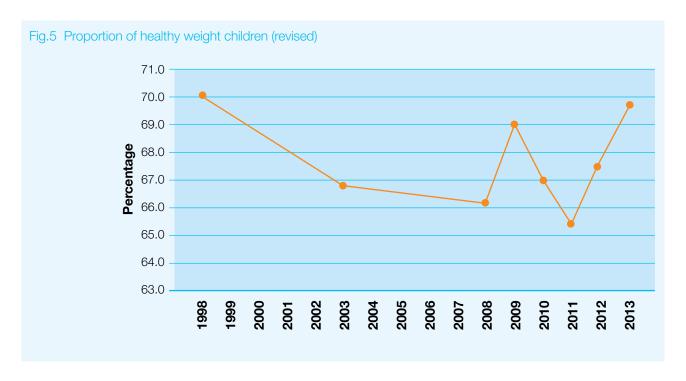
People with either type of diabetes who were obese were least likely to meet all the treatment targets for blood glucose (HbA1c), blood pressure and cholesterol. This puts them at an increased risk of developing complications like CVD.³⁵

There is a higher percentage of overweight and obese individuals within the Type 2 diabetes population. What is interesting to note is that the BMI levels amongst the Type 1 population have mirrored that of the general population.

Having declined between 1998 and 2008, the proportion of children with a healthy weight rose in 2009. It has been increasing since 2011 and is now approaching similar levels to 1998.³⁶ If this trend continues it will have a positive impact in helping to reduce the rate of Type 2 diabetes in Scotland.



Weight loss can improve blood pressure, cholesterol and blood glucose levels, which are CVD risk factors



- GPs and other healthcare professionals should identify people with diabetes who need support to lose weight, refer them to appropriate services, and monitor their progress.
- Health Boards need to commission a range of services and programmes to help people with diabetes to manage their weight (and address the behaviours that influence weight), and evaluate the effectiveness of these programmes.
- We need to adopt a population-wide holistic approach that takes into account everything that makes up a person's life, including the challenges and barriers their environment may present, and make it easier for people to make healthy lifestyle choices.





In 2013, 93.6% of people with Type 1 diabetes had their smoking status recorded, this fell in 2014 to 74.9%

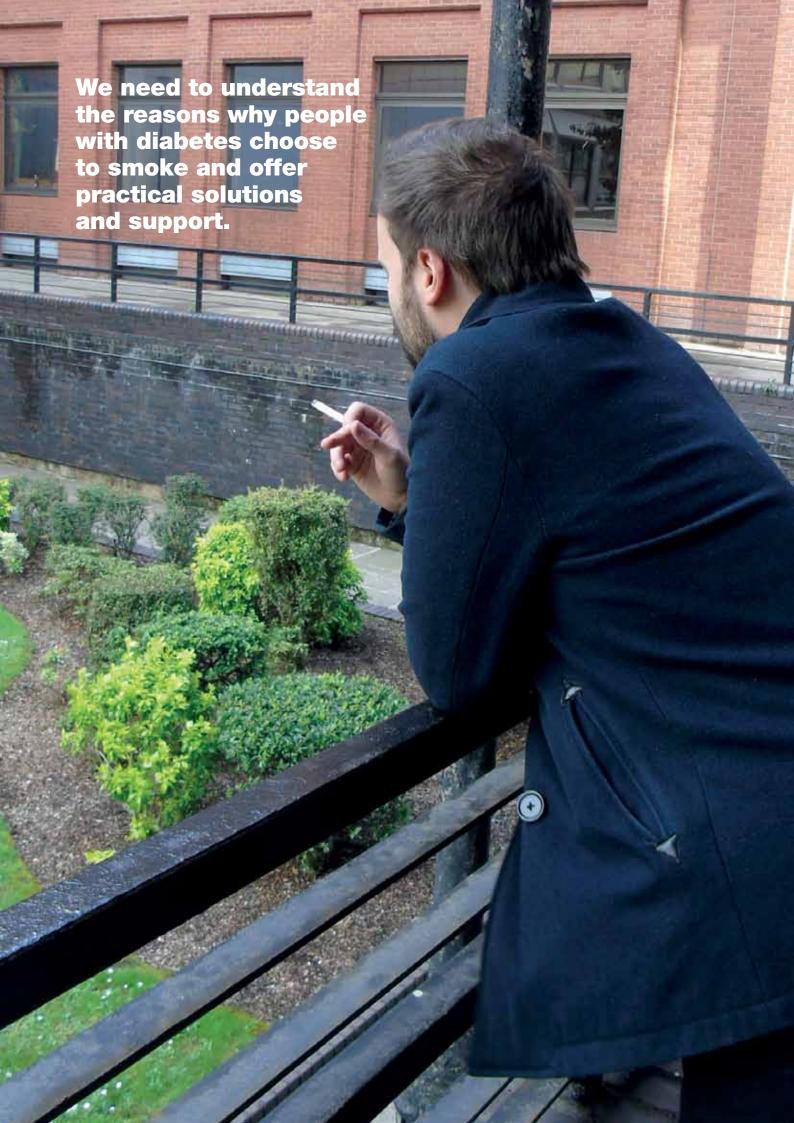
SMOKING

Smoking further increases the risks of suffering the serious complications – like heart attack, stroke, and amputation – that are associated with diabetes. People with diabetes should have their smoking status checked and, if they smoke, be given help to stop.

There has been a dramatic decrease in the amount of people with diabetes having their smoking status recorded. In 2013 high numbers of people who have diabetes in Scotland had a record of their smoking status, 93.6% of people with Type 1 and 99.1% of people with Type 2 diabetes had their smoking status recorded. In 2014 this had fallen to 74.9% for people with Type 1 diabetes and 85.8% for people with Type 2 diabetes. Smoking prevalence was higher in people with Type 1 diabetes. Of the people whose smoking status was recorded, 23.6% of those with Type 1 diabetes, and 18.3% with Type 2, were current smokers. The Scotland wide figure is similar to that of people with Type 1 diabetes at 23%.³⁷

That many people with Type 1 diabetes are continuing to smoke is particularly worrying. Their long exposure to diabetes already heightens their risk of complications. We have to understand why people are choosing to smoke and offer solutions that reflect their journey.

- Health Boards must improve their recording of people's smoking status. Such a marked drop in the collation of figures means that valuable data is not being recorded and can have implications for future care.
- GPs and other healthcare professionals should use care planning sessions to support people with diabetes who need to stop smoking, refer them to appropriate sources of advice and check their progress.
- All healthcare professionals involved in caring for people with diabetes should ensure smokers are getting the support they need to quit.
- We need to understand the motivation for people with Type 1 diabetes, in particular, to smoke as well as the impact of deprivation on smoking rates so we can find solutions.







PERSONALISED CARE PLANNING

Care planning is a continuous process in which patients and clinicians work together to agree goals, identify support needs, develop and implement action plans and monitor progress.³⁸ It has been shown to enable people with diabetes to make positive changes to their behaviour.³⁹

Effective care planning can only happen when an engaged and empowered patient is able to work with healthcare professionals who are committed to partnership working and have skills needed to do this. Personalised care planning is one of the core components of integrated diabetes care and relies on all elements of the 'House of Care' framework being in place.

In Scotland the SCI Diabetes system enables healthcare professionals to record patients' diabetes information, however this rarely happens. There is no formalised method of recording or delivering this process which means that neither patients or healthcare professionals are receiving the best from this system.

Patients can access their record online through the *my diabetes my way* portal. By the end of 2014 there were over 10,000 people registered to access their diabetes data. While this is an improvement over last year it is still a small percentage of the total amount of people with diabetes and only 3,699 are active users. There is also large differences in uptake throughout Scotland leading to the impression that some Health Boards are better at highlighting this resource.

According to a recent Diabetes UK online survey, care planning is still not widely used. Only 40% of respondents said they had developed a care plan with their healthcare professional.⁴⁰



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- Healthcare professionals should be actively supporting people with diabetes to access my diabetes my way.
- The implementation of the House of Care model across all Health Boards in Scotland.
- SCI Diabetes should record whether a person with diabetes has a care plan or not.
- GPs and healthcare professionals should utilise Diabetes UK's Information Prescriptions as a tool with which to support people to achieve positive health outcomes.



EDUCATION AND SUPPORT FOR SELF-MANAGEMENT

Supported self-management is integral to the successful daily control of diabetes. Personalised care planning, psychological and emotional support, and access to information and learning can all contribute to effective self-management.⁴¹

SIGN guidelines recommends that people should have access to structured education programmes. This can help to provide them with the knowledge, skills and motivation to self-manage their diabetes effectively throughout their lives.

Currently there are very little statistics on structured education in Scotland. It's only for the first time this year that healthcare professionals are now recording when an individual is offered a course and subsequent uptake rates. This data will not be available until next year.

The recently published Scottish Diabetes Improvement Plan, for which Health Boards will be providing quarterly reporting against progress, has a specific question on the "timely and appropriate access to high quality education".

While there have been improvements in the development of national policy, uptake is still chronically low. People must be offered information on diagnosis and ensure that they have continued development on the changes in care and how to manage their diabetes.

URGENT ACTION

Getting the basics right and bringing a different approach to education and learning.

- People newly diagnosed with diabetes should be offered an education course to help them to manage their diabetes soon after diagnosis.
- Some people with ongoing diabetes have never received any formal education and should be offered education tailored to the management of diabetes.
- A new method of delivery and funding of appropriate learning initiatives designed to meet the needs of a wide range of people with their diabetes.



People newly diagnosed with diabetes should be offered an education course to help them to manage their diabetes soon after diagnosis

CARE FOR CHILDREN AND YOUNG PEOPLE

Scotland has the third highest incidence of Type 1 diabetes in the world. Nearly 40%⁴² of cases are diagnosed after children develop Diabetic Ketoacidosis (DKA) according to the latest available statistics.^{43 44} DKA is where abnormally high blood glucose levels can lead to organ damage, coma or death. No one needs to experience DKA at diagnosis.

Everyone who spends time with children and young people needs to be aware of the signs and symptoms of Type 1 diabetes: The 4 Ts – Toilet, Thirsty, Tired and Thinner.

MAKING CONNECTIONS:

Every child has the right to an education. No child should miss a day of school because of diabetes. Local Education Authorities and Health Boards have a responsibility to ensure that there is appropriate training for school staff about looking after children with diabetes and guidance about preparing a health care plan.

Diabetes Scotland in partnership with the Scottish Government has created Making Connections: Supporting Children and Young People with Type 1 Diabetes in Education. It is guidance aimed at ensuring that children and young people receive the appropriate care in schools.

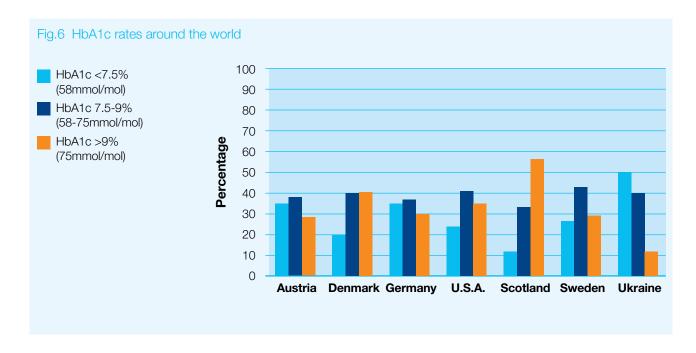
The guidance is an all in one resource for Local Authorities/schools, parents/carers, children and local paediatric diabetes teams. It has been designed so that different advocates can understand what is required to ensure that all children and young people with diabetes are safe at school. There are two statuary bodies with responsibility to children with diabetes – the local authority and the local NHS health board. It has been sent to all schools, paediatric diabetes healthcare professionals, families with children and young people with diabetes in Scotland.

Despite the good work that has been continuing concerning children and young people, the statistics show that challenges persist. Children and young people in Scotland have the worst HbA1c (greater than 9%) in the world according to a study carried out in selected countries where the data was available.⁴⁵



Nearly 40% of cases of Type 1 diabetes are diagnosed after children develop Diabetic Ketoacidosis (DKA)





The Scottish Government's Diabetes Improvement Plan has identified the need to improve care for children and young people along with the improvement in glycaemic control as a priority.

While it has been noted that there has been a plateauing of obesity statistics amongst children and young people there is a concerning rise in the amount of people recorded with Type 2 diabetes at a younger age, specifically the 25-29 year olds.

While this is a relatively small number the trend is concerning.

- · Commitment to the collection of data on DKA's.
- There must be a holistic multi-disciplinary approach to eradicate DKA at diagnosis.
- The Scottish Government has stalled in implementing the Administration of Medicines within schools guidance. This should be a priority by the end of 2015.

INPATIENT CARE

People with diabetes need to receive specialist care and support when they are in hospital, regardless of the reason for their admission. This is essential to ensure their diabetes is well managed, to minimise the risk of complications arising, and to prevent patient harm.

Hospital admissions involving diabetes have increased steadily over the past 10 years, although part of this increase may be due to better recording. In 2013, diabetes was recorded as contributing to over 4,500 deaths in hospital in Scotland.⁴⁶

Inpatients with diabetes have a longer length of stay for almost all conditions that lead to hospital admission, compared to patients without diabetes. One in seven hospital beds is occupied by someone who has diabetes. Extended stays result in about 80,000 bed days per year across the UK.⁴⁷ No one should leave hospital with worse control over their management of diabetes.

A survey in 2014 by Diabetes Scotland with nearly 1000 respondents of people living with diabetes and healthcare professionals, following up a previous survey in 2009, found that only 51% of respondents were satisfied/very satisfied with hospital care when admitted to be treated for diabetes (in 2009, this figure was 65%). This is a substantial reduction over the three year period. More telling is that the number of respondents who were not satisfied/at all satisfied with their diabetes care while in hospital is 36% (over double the figure in 2009). A holistic person-centred approach is needed that reflects the reality of people's lives. People need to feel empowered to manage their own condition.



Specialist diabetes inpatient teams save three times their cost – reducing prescribing errors and improving patient outcomes

- The Diabetes Improvement Plan has identified inpatient care as a "priority for improvement". Rolling out of the "diabetes think, check, act" initiative to all Health Boards in Scotland to improve the care of patients who have diabetes and are admitted to hospital.
- Patients with diabetes should be supported to self-manager their diabetes while in hospital. This will need improved admission procedures, planning on insulin and food management.
- There needs to be a person-centred pathway for people with diabetes to navigate their way easily through the hospital admissions process.

CASE STUDY⁴⁸

Scottish Public Services Ombudsman Lothian NHS Board

On 21 January 2015, the Scottish Public Services Ombudsman produced a damning report into the case of "Mrs A" following a complaint from her daughter (referred to as "Mrs C") after she was admitted to the Edinburgh Royal Infirmary for hip surgery. Mrs A died a week following her discharge from the hospital. The ombudsman found that although Mrs A had suffered a hip fracture and had dementia and diabetes, she was in a good state of physical health before her admission to hospital. Her blood glucose was within normal limits when she was admitted, but deteriorated significantly and to a dangerous level when she was in the ward. The need for referral to the diabetes team was recognised too late and was delayed with no good reason even after it was recognised.

The report says that it should not have needed a specialist team to provide this standard of care. Overall Mrs A's diabetes care was poor, she also developed pressure ulcers as she was not being turned enough. Finally when she was discharged from hospital to a care home, her discharge letter said she had made a good recovery. However, staff from the care home were shocked at the deterioration in her condition and that she did not get out of bed again.

In conclusion there was no evidence in the records of a specific care plan to meet Mrs A's hydration needs and it was not clear whether nursing staff attempted to assist Mrs A to drink. There were also failures by medical staff. The treatment of Mrs A with intravenous fluids was inadequate with insufficient volumes of fluid given. Staff also inappropriately continued to give Mrs A a diuretic, Furosemide, despite evidence that she was dehydrated. The Health Board failed to investigate Mrs C's complaint about this matter adequately. The monitoring of Mrs A's glucose in the days after her operation was also poor and there was a delay in involving the diabetes team. As a result of all of this, she developed high glucose levels and a significant pressure ulcer, which undoubtedly compromised her recovery.

Though this example is an extreme case, it is a tragedy that highlights the problem that a lot of people living with diabetes leave hospital with their diabetes in a worse state than when they entered. All hospital staff need to be able to understand and help people living with diabetes manage their condition appropriately.

PREGNANCY CARE

While women with diabetes can have healthy pregnancies and healthy babies, they face an increased risk of complications and adverse outcomes – including stillbirth, miscarriage, neonatal death and congenital anomalies. **Reducing risks during pregnancy of women with diabetes has been identified as a priority by the Scottish Government.**

We have to work to ensure that women with pre-existing diabetes have pregnancy outcomes comparable with the best population outcomes worldwide. We need to support people to manage their diabetes at all stages of their life, including prior to conception, in order to improve outcomes.

Good glucose control before and during pregnancy can greatly reduce the risk of complications. There are no specific statistics in Scotland on pregnancy and diabetes, however only 22% of people with Type 1 diabetes and 64% of people with Type 2 diabetes achieved the target blood glucose levels.

URGENT ACTION

- Steps should be taken to ensure that risks for women with diabetes should be reduced to that of women who do not have diabetes.
- Uptake and quality of pre-pregnancy and pregnancy care for those with diabetes should be improved.
- Develop and improve the pathway for the diagnosis and care of women for who develop gestational diabetes.

State of the Nation: Diabetes in 2015

SPECIALIST CARE

People with diabetes need access to a range of healthcare professionals and services to help them manage their condition and to treat complications.

Integrated pathways of care across primary, community and specialist care is the ideal way of ensuring people with diabetes get the support and treatment they need in the right place, at the right time in a coordinated manner.

In an integrated model of care, local health services are configured in a way that focuses on the patient's perspective, needs and circumstances. This delivers value for both the individual and the health system.

Diabetes specialist nurses (DSNs) play an important role in preventing expensive and debilitating complications, supporting people with complex needs and helping people to self-manage their diabetes. DSNs expertise can reduce hospital admissions, prescribing errors and length of stay.⁴⁹

Despite evidence suggesting that specialist nurses are a key part of high-quality, cost-effective care, DSN numbers are decreasing⁵⁰, posts are being frozen and skill levels are still under threat.⁵¹

- There needs to be closer relationships between specialist staff and colleagues across NHS Scotland in order to improve outcomes across Scotland. All healthcare professionals should be aware of the signs and symptoms of Type 1 in children and be enabled to address risk factors and diagnosis of Type 2.
- The Scottish Government and NHS Scotland need to encourage medical graduates to pursue diabetes as a specialism given the continued rise in Type 1 and Type 2.
- We need to ensure that everyone living with diabetes receives annual reviews. Staffing must reflect the fact that diabetes is the fastest growing health threat of our time and a critical public health matter.



DSN numbers are decreasing⁵⁰, posts are being frozen, and skill levels are still under threat⁵¹

EMOTIONAL AND PSYCHOLOGICAL SUPPORT

Diabetes is a complex condition, which can be challenging to manage on a daily basis. Effective self-management is critical and requires personal motivation.

People with diabetes have a significantly higher risk of depression, anxiety, and eating disorders than the general population.⁵² This can limit their ability to self-manage their condition and reduce medication adherence – leading to poorer diabetes control and a greater likelihood of complications.

Access to emotional support and specialist treatment can reduce psychological distress and improve outcomes for people with diabetes.⁵³ Information and education programmes can also help to reduce anxiety related to managing diabetes, and equip people with tools to cope with their condition.

Despite this, there continue to be significant gaps in the provision of psychological support and care for people with diabetes. Around three-quarters of adults and children do not have access to psychological services, and have not received emotional support when needed.⁵⁴ As noted earlier, attendance at diabetes education programmes is relatively rare, even among people with recent diagnoses.

- Healthcare Professionals must commit to promoting Diabetes Scotland's Careline service and promote psychological support for people on diagnosis.
- GPs should signpost people to non-NHS support networks such as social care and third sector organisations.



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