Greater Manchester Integrated Care Partnership

Tackling Diabetes Together

Greater Manchester Diabetes Strategy 2022-2027

Foreword

The Greater Manchester (GM) Diabetes Board have reviewed and refreshed the Diabetes Strategy document in light of new evidence, the impact of the Covid-19 pandemic, the establishment of NHS Greater Manchester Integrated Care and updates to NICE guidance, to maintain clinical focus and promote strategic action.

The Greater Manchester Diabetes Clinical Best Practice Strategy was published in 2018 to articulate a vision for clinical best practices in diabetes care in GM. Many clinicians and health system stakeholders contributed to its development and it was approved by the GM Diabetes Strategy Clinical Network, commissioners and the GM Health & Care Board.

Progress has been made in a number of areas and now is an appropriate time to review its content to give a firm basis for developing delivery plans and for decision making by the GM Diabetes Board and NHS GM Integrated Care. It builds on the clinical consensus already developed and retains a focus on working in partnership to improve outcomes using existing resources, available funding and emerging data.

We renew our commitment to the vision, missions and overarching goals in the original strategy and have retained the focus on pursuing diabetes prevention, optimal management and prevention of complications. We have reviewed and updated the actions where required.

All of this has been carried out in context of the Covid-19 pandemic and we recognise the huge commitment and contribution made by all healthcare professionals throughout the unprecedented challenges which it has presented. More than ever, now it is vital that we support people living with diabetes to manage their condition and support their access to the care, support, education, information and data they need to do this.

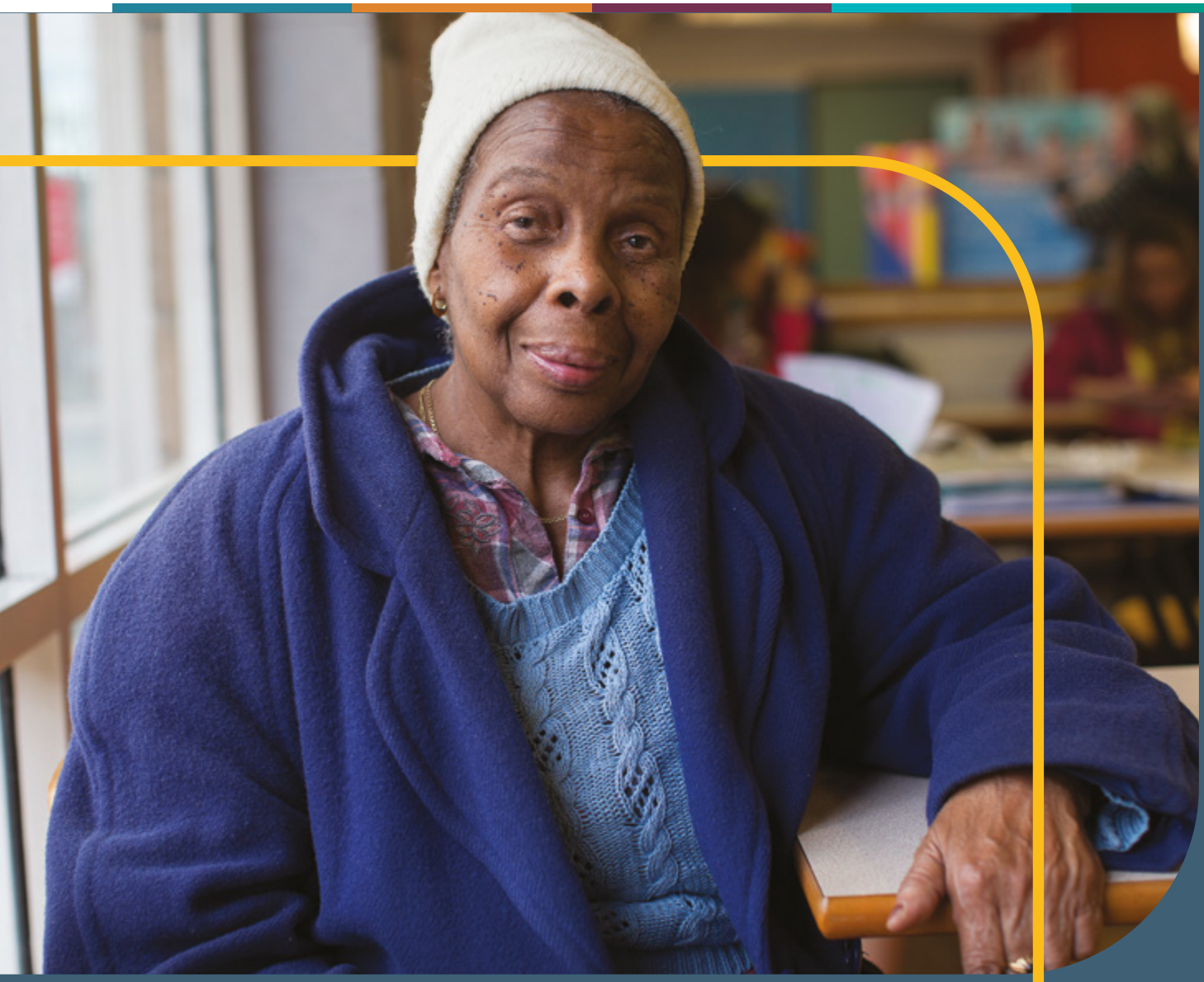
We commend this strategy to you and renew our call for your support in realising a bold vision to deliver outstanding diabetes care to the people of Greater Manchester.

Dr Naresh Kanumilli

- Diabetes Clinical Lead, Greater Manchester and Eastern Cheshire Strategic Clinical Networks
- Co-Chair GM Diabetes Board

Professor Manisha Kumar

- Chief Medical Officer, NHS Greater Manchester
- Senior Responsible Officer Diabetes
- Co-Chair GM Diabetes Board



Section 1

Introduction

1.1 **Introduction**

The number of people diagnosed with diabetes in England is increasing. The prevalence has increased steadily in the decade up to the Covid-19 pandemic. There is a danger that an increasing number of people will have developed diabetes during the pandemic. It is expected that 30% of people living in Greater Manchester will develop the condition in their lifetime.

Diabetes causes high circulating glucose levels (hyperglycaemia) which can cause damage to various organ systems, leading to the development of disabling and life-threatening health complications, most prominent of which are microvascular (retinopathy, nephropathy, and neuropathy) and macrovascular complications leading to a 2-fold to 4-fold increased risk of cardiovascular diseases. There are two main type of diabetes. Type 1 diabetes (T1D) is an autoimmune disease that leads to little or no insulin being available to the body. Type 2 diabetes (T2D) is a chronic metabolic disorder characterised by persistent higher glycose levels. It may be due to impaired insulin secretion, resistance to the peripheral actions of insulin, or both.

The Greater Manchester and Eastern Cheshire Strategic Clinical Network (SCN) is part of the quality improvement architecture in Greater Manchester (GM) and is an integral element of NHS GM Integrated Care (the ICS), which has identified diabetes as a priority. The ICS recognises that significant improvement to health outcomes requires all agencies working together and in partnership with the third sector and the community.

This principle is central to the production of this GM strategy for tackling diabetes which was originally devised within the context of the GM Population Health Plan, with its focus on lifestyle approaches to health and self-management for people living with diabetes.

The overall aim of the diabetes programme and this strategy is to improve the quality and consistency of services in line with both local and national standards and available funding programmes. A GM Diabetes Strategy is required to facilitate a collective approach to achieving this aim. The ICS's vision is to improve the lives of all people across GM affected by diabetes or at risk of developing it. It has established a GM Diabetes Board and appointed a senior responsible officer to work with the existing Diabetes Clinical Network in pursuit of this vision. Much of this strategy will be relevant to children and young people but issues specific to children will be addressed by the Children and Young People's Strategic Clinical Network.

The overall aim of the diabetes programme and this strategy is to improve the quality and consistency of services

1.2 Type 2 Diabetes prevention and care at a population health level

Prevention of type 2 diabetes (both primary and secondary) is key to improving outcomes for the person at risk of diabetes and reducing treatment costs.

The Greater Manchester Integrated Care Partnership, through the SCN, are already responsible for co-ordinating roll-out of Healthier You (the national type 2 diabetes prevention programme) as noted in section 1.5 of this strategy.

The GM Population Health Plan (2017-21) also recognised that "Our population continues to experience higher than national instances of heart disease, diabetes and other lifestyle related illnesses.", and this was a key reason for developing this strategy, which is designed to support localities and the ICS to tackle this issue both locally and jointly at a GM level. The population health plan also highlighted the importance of obesity, smoking and lack of exercise as modifiable risk factors for diabetes and the fact that, in both cases, the GM population figures are poorer than national averages. By developing a vision for best practice and a Diabetes Board and Strategic Clinical Network to help identify and reduce variation, we aim to contribute to the achievement of the Population Health Plan and NHS Long Term Plan objectives.

"Our population continues to experience higher than national instances of heart disease, diabetes and other lifestyle related illnesses."

1.3 **Diabetes care services in GM**

Diabetes care in GM is comprised of:

1. **Services already being delivered in localities.**
2. **New locality-based activity proposed by place-based teams and the ICS.**
3. **GM-wide collective transformation work.**
4. **Delivery of nationally commissioned/ funded programmes at a local level.**
5. **Additional pilot and test bed programmes to test new approaches.**

The above elements need to be combined to generate improvements which can be embedded in the system and address unwarranted variation. Variation occurs on a local basis (e.g., differences in delivery between primary care) and on a GM basis (in different approaches and outcomes across different localities). A GM Diabetes Strategy is required to ensure a collective approach to understanding variation and embedding best practice. It needs to ensure that the organisation of services in GM is focussed on the prevention of type 2 diabetes, the optimal holistic management of diabetes and the prevention/reduction of diabetes related complications.

This strategy also supports the GM Population Health Plan commitments in relation to improved nutrition and physical activity for children and young people. ICS focus on transition from children's to adult services will include diabetes and a strategy for improved transition will be developed.

This strategy will also complement the Population Health Plan by supporting improved NHS Health Checks in GM meaning more people at risk will be identified earlier.

Prevention of type 2 diabetes

Prevention of T2D diabetes can be achieved through behaviour changes to better manage diet, exercise and lifestyle. The nationally commissioned type 2 diabetes prevention programme (Healthier You) is offered to people identified as at risk of type 2 diabetes with emphasis on deprived and ethnically diverse communities who are known to be at higher risk.

Optimal management of diabetes:
More effective and better co-ordinated commissioning of enhanced structured education will be an important element in empowering people with diabetes to achieve optimal diabetes management.

The requirement for high quality information to be embedded into GP standards, HCP education and other clinical specifications will have the potential to reduce the progression of T2D and the development of complications.

In all diabetes care there will be improved quality of information and personal data provided to people with diabetes with the assistance of the novel use of new technology and improving the electronic communication between people with diabetes , primary care and secondary care. Real time and intermittently scanned glucose sensors for persons meeting NICE (National Institute for Health and Care Excellence) criteria will enable enhanced self-managed care and this will be further supported by personalised care planning. More proactive discussion around bariatric surgery, for people with T2D satisfying NICE criteria, will help to ensure that increased numbers of people will be able to access the benefits of this cost saving intervention[1].

A GM-wide strategy for tackling diabetes means that an increased number of people will receive all eight of the designated diabetes care services and the inclusion of processes additional to those already agreed nationally.

Prevention of diabetes related complications

The wider roll out of an inpatient care bundle based on a previous pilot, and a commitment to ensuring one nurse with specialist diabetes knowledge to every 250 inpatient beds, would help to reduce complications and improve inpatient care and experience. Accreditation through schemes such as the Diabetes Care Accreditation Programme[2] (DCAP) would also improve inpatient care and consistency of care.

Across all settings, improved management of cardiovascular disease (CVD) and risk factors, and rapid access to lower limb care, will help to reduce cardiovascular complications, including amputations. The GM Diabetes Board will work with the ICS CVD Prevention Oversight Group to co-ordination effective action to tackle CVD risk factors.

Older people with diabetes will be screened for atrial fibrillation and, because they have diabetes, their CH2DS2-VASc[3] score will be at least 2 which means they should be prescribed anticoagulation.

[1] The real-world cost-effectiveness of bariatric surgery for the treatment of severe obesity: a cost-utility analysis - PubMed (nih.gov)
[2] Diabetes Care Accreditation Programme (dcap.org.uk)
[3] CHA2DS2-VASc Score for Atrial Fibrillation Stroke Risk | Doctor | Patient

1.4 **Key work areas**

Within the context of the above framework, there is significant potential to improve services in both traditional and innovative ways and contribute to national targets in areas such as:

- **Type 2 diabetes prevention**
- **Diabetes structured education**
- **Lower limb care**
- **Care processes delivery**
- **Treatment targets attainment**
- **Diabetes inpatient nursing levels & training**
- **Diabetes self-management**

Primary care will be supported to identify and refer people at risk of type 2 diabetes to 'Healthier You' the evidence based national type 2 prevention programme.

Localities will be supported through the provision of enhanced and up-to-date diabetes education data to build on the existing baseline measures on the quality and uptake of structured education and agree targets for improving both.

A co-ordinated approach is required to facilitate an integrated lower limb pathway (including with non-diabetes care services to build rapid access coverage across GM. This will be supported through the ongoing improvement and reconfiguration of vascular services and the Manchester Amputation Reduction Strategy (MARS).

Information sharing and mutual support will help all GM localities support people with diabetes to increase the number of care processes completed and the numbers of people achieving individualised treatment targets. A GM-wide initiative is required to improve diabetes person centred care.

Improved inpatient care will be supported by the wider roll out of initiatives such as the previous successful GM pilot of a new bundle of diabetes inpatient care and the nationally commissioned consultant and nurse training for monogenic diabetes.

This Diabetes Strategy provides a framework for the development of a comprehensive service specification supported by agreed pathways and processes which will help people with diabetes across GM to all experience the same high level of care.

1.5 **Healthier You: The national type 2 diabetes prevention programme**

Healthier You is the NHS type 2 diabetes prevention programme. It is a joint commitment from NHS England, Public Health England and Diabetes UK, to deliver evidence based behavioural interventions at scale for individuals identified as being at high risk of developing type 2 diabetes in England.

The aim of the programme is to reduce people's risk of developing type 2 diabetes. This will consequently improve the health of the nation whilst at the same time reducing a major financial burden on the system. This burden goes beyond managing the condition itself, to the treatment of associated conditions such as sight loss, kidney failure, CVD and stroke.

The GM Integrated Care Partnership, through the SCN, is tasked with coordinating the roll out of Healthier You in GM.

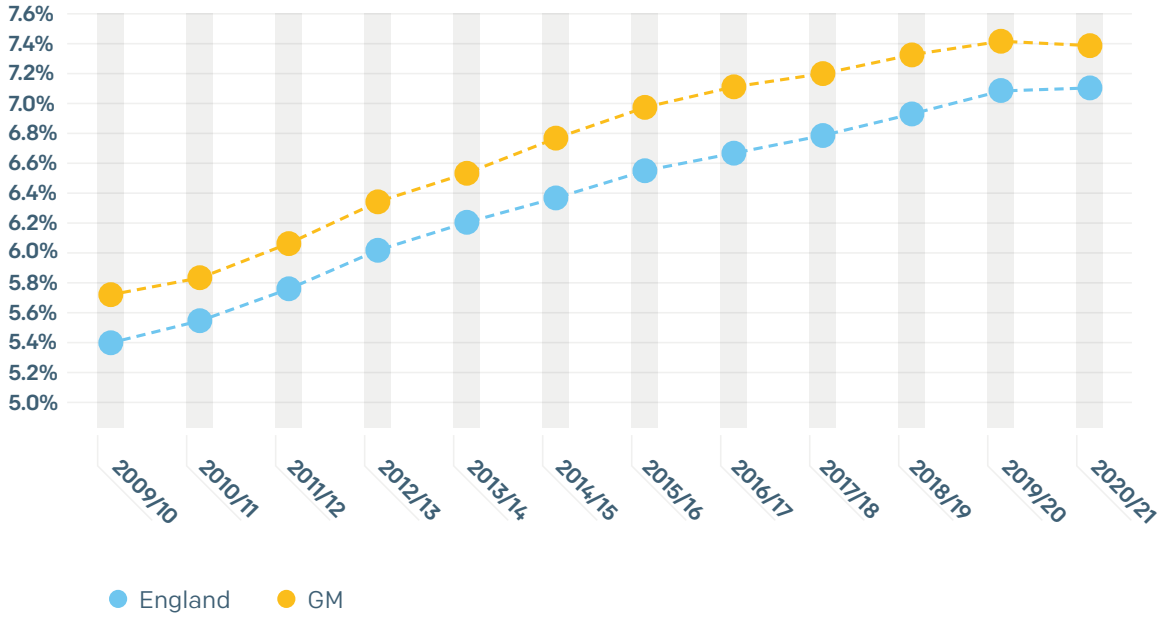
Section 2

Background

2.1 **Background**

In recent years, the number of people diagnosed with diabetes in England has risen (see Fig 1) with the lack of increase in recent years possibly due to underdiagnosis during the Covid-19 pandemic:

Figure 1: GM Diabetes prevalence (18 yrs and over)



2.2 **The GM context**

Over a quarter of people living in GM will develop diabetes in their lifetime.

In GM, there are almost 190,000 people presently living with diabetes (see prevalence rates in Fig 2) with an equivalent number also thought to be at risk of developing type 2 diabetes. Most people with diabetes in GM have type 2 diabetes (about 177,000) but about 12,000 have type 1 diabetes. There is some variation in the prevalence of diagnosed diabetes across GM.

Diabetes causes over 1,000 premature deaths in GM each year. Complications will vary by type of diabetes, its severity and the age of the person with diabetes. Compared to the general population, at any given age, people with diabetes have an average 55% higher chance of having a myocardial infarction; a 34% increased risk of having a stroke; a 164% increased risk of having renal replacement therapy; a 221% increased risk of having major amputation above the ankle and a 337% increased risk of having a minor amputation.

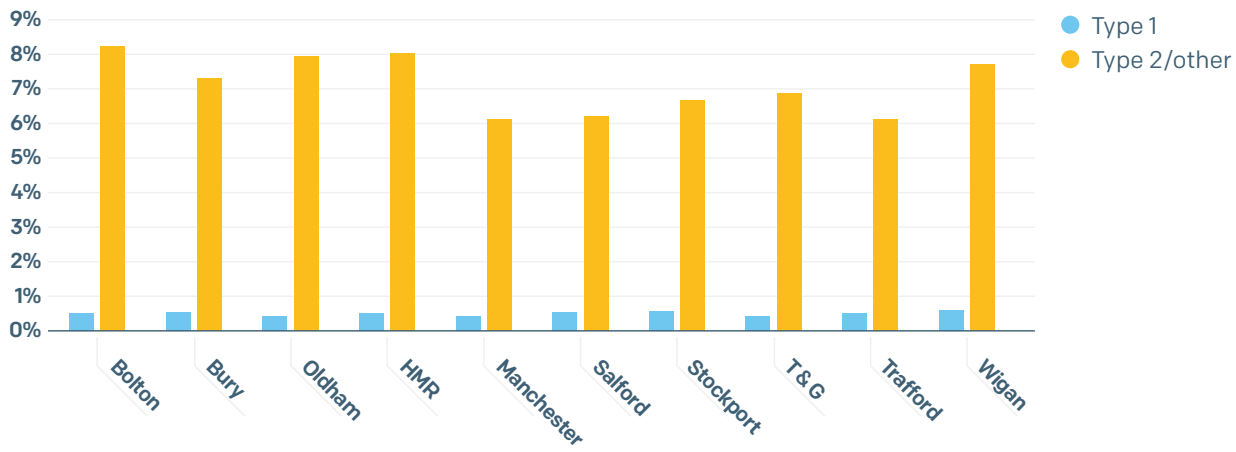
Sight loss is common with diabetic retinopathy affecting a third of people living with diabetes.

Depression and anxiety are at least twice as common in people with diabetes than in the general population. Babies born to women with diabetes have a high risk of congenital abnormalities, prematurity and experience a high rate of complications during childbirth with the risk of needing admission to a neonatal intensive care unit.

Direct medical costs for treating diabetes and its complications are very high and include both the costs of treating diabetes, such as medication, testing supplies, GP visits and the costs of treating its complications (which accounts for 80% of total spend). One study estimated the approximate cost of treating a person diagnosed with type 2 diabetes aged between 25 and 44 to be over £80,000 over their lifetime.

Standards of diabetes care have shown a steady improvement but there is still much to do to improve our overall response and to reduce variations in outcomes and quality of services. This GM diabetes strategy describes how we can reduce the incidence of type 2 diabetes and the complications of diabetes. It sets out standards and actions to improve our services.

Figure 2: GM Diabetes prevalence rates (18 yrs and over) 2023
Source: National Diabetes Audit (Jan-22 to Mar-23) & Patient Registered at a GP Practice (Nov 23)



2.3 **The impact of Covid-19**

The Covid-19 pandemic led to fewer tests being undertaken that might diagnose diabetes, and lower provision and uptake of NHS and annual diabetes health checks. As the direct threat of Covid-19 to health reduces, it is vital to restore services to previous levels and then improve them.

The NHS Health Check programme was paused through most of the pandemic as primary and community services have needed to reprioritise services meaning reduced delivery of CVD risk assessments in 40-74 year old. This has had an impact on early identification and referrals in to the Healthier You programme and the diagnosis of type 2 diabetes. The NHS Health Check includes a screen for diabetes for people aged 40-74 with a QDiabetes score ≥5.6.

Section 3

Vision, mission and goals

3.1 **Our Vision**

To improve the lives of all people across Greater Manchester living with or at risk of developing diabetes.

3.2 **Our Mission**

To empower people to effectively manage their diabetes or their type 2 diabetes risk, by making them aware, educated, and able to access high quality and equitable care.

3.3 **Overarching Goals**

To achieve our vision, we should aim to prevent the onset of type 2 diabetes; improve the management of diabetes and prevent its complications. To achieve our mission, we should support health care professionals with improved data, resources, education and information to:

1. **Avoid any deterioration of blood glucose levels in people with non-diabetic hyperglycaemia (NDH) ;**
2. **Improve blood glucose, cholesterol and blood pressure to appropriate target levels in people living with diabetes;**
3. **Reduce cardiovascular risk factors and cardiovascular complications;**
4. **Reduce other diabetes related complications;**
5. **Improve safety;**
6. **Increase completion of care processes**
7. **Increase achievement of treatment targets**
8. **Improve experience of diabetes services for those living with the condition.**

3.4 How do we achieve it?

The ICS, place-based teams, providers and other key stakeholders will need to work together to realise the vision.

This strategy outlines key actions to enable the overarching goals to be achieved. We recognise the diverse nature of the population in GM and will proactively seek to engage in different ways, through different formats and with different sectors.

3.5 Supporting diabetes improvement in Greater Manchester

Diabetes services have historically been commissioned at a locality level by CCGs in GM. There is an opportunity to review the degree of activity and commissioning carried out at a GM level given structural and service offer developments in recent years, which include:

Diabetes services have historically been commissioned at a locality level by CCGs in GM. There is an opportunity to review the degree of activity and commissioning carried out at a GM level given structural and service offer developments in recent years, which include:

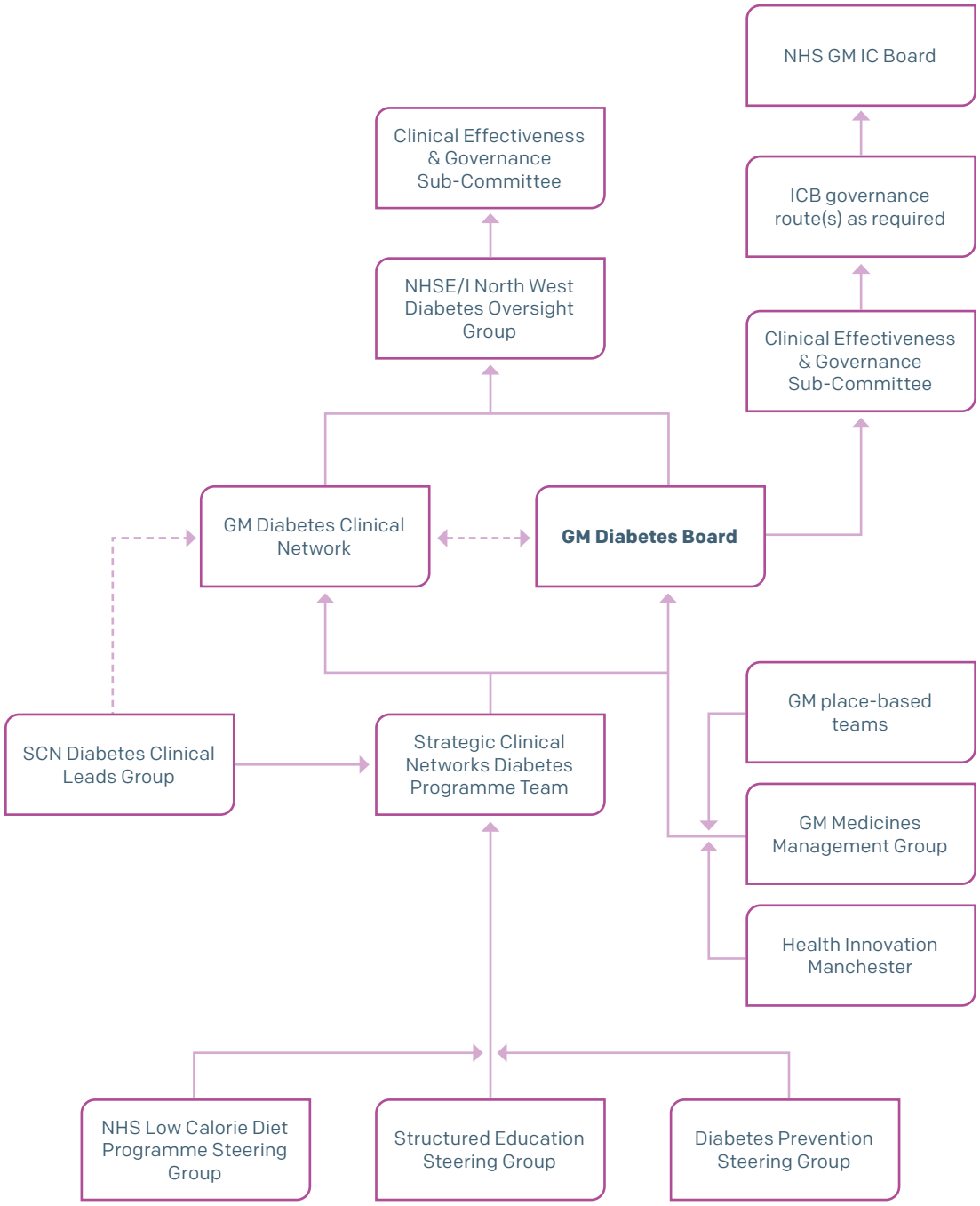
1. **The establishment of NHS GM Integrated Care.**
2. **The establishment of the GM Diabetes Board and underlying steering groups;**
3. **The establishment of GM-wide test bed and improvement projects, such as Diabetes My Way which offers:**
    a. Access for the person with diabetes to their own diabetes data
    b. Accredited digital diabetes structured education
    c. National, GM and locality specific person-centred diabetes advice and resources
    d. Clinician and commissioner access to a diabetes population health management platform
    e. A bank of resources for health care professionals

The Diabetes Board and the GM Diabetes Clinical Network are an embedded element of the ICBS in GM and link with the NHSE North West Regional Team and the National Diabetes Programme Board/Team in order to review diabetes data and support funding deployment.

The communication & governance structures are set out in Fig 3 below.

The Diabetes Board, Clinical Network and steering groups have been developed in alignment with this strategy and are key in linking to people living with diabetes and with providers across the system. They also provide an important link with NHS GM Integrated Care to support the implementation of GM-wide action where required.

Figure 3: GM Diabetes governance & assurance (August 2023)



Section 4

Prevention of Type 2 Diabetes

4.1 **Prevention of type 2 diabetes**

There has been a significant rise in the prevalence of people living with diabetes. Part of this is due to increasing life expectancy as the overall prevalence of type 2 diabetes increases with age. However, there are also preventable causes for the rise such as changes in lifestyle. Reversing this trend will potentially have the greatest impact in tackling type 2 diabetes and reducing mortality.

Even small shifts in lifestyle behaviours, in particular a reduction in refined carbohydrates, an increase in dietary fibre and an increase in physical activity, will have an effect on reducing the incidence of type 2 diabetes diabetes. The reasons for the rise in type 1 diabetes are less clear.

This diabetes strategy complements the GM Population Health Plan 2017-21 and the GM Healthy Weight Strategy 2020-25. The Population Health Plan contains commitments to the production of a comprehensive physical activity plan and a comprehensive plan for better nutrition and healthy weight.

These plans will include the role of schools and colleges in encouraging children to develop healthy lifestyles; the move to a more leptogenic environment, that is an environment that is more conducive to people maintaining a healthy weight. The successful implementation of GM plans for population health, healthy weight and tackling CVD risk are vital in reducing the burden of diabetes.

4.2 **Identification of those at risk of type 2 diabetes**

There is increasing identification of people at the early stages of declining glycaemic control in the possible progression to type 2 diabetes both systematically (e.g. through the NHS Health Check Programme) and opportunistically (e.g. when people present with obesity, hypertension or periodontal disease).

There will continue to be active support for developing cross-disciplinary work which includes the identification not only those at risk of type 2 diabetes but also those with undiagnosed type 2 diabetes. Some signs occur even at the earliest stages of hyperglycaemia (e.g. periodontal disease), whereas other signs are indicative of more advanced disease which may not yet have been identified (e.g. pathological changes in the eye). People with elevated glucose levels who are identified as having non-diabetic hyperglycaemia are not only at an increased risk of developing type 2 diabetes but also have an increased risk of cardiovascular disease even if they do not develop type 2 diabetes.

The NHS Health Check Programme in GM will be implementing new recommendations of the recent NHS Health Check review to empower people, reduce inequalities in health outcomes and provide a portal to a range of wellness initiatives.

The 6 recommendations are to:

1. **Build sustained engagement**
2. **Launch a digital service**
3. **Start younger**
4. **Improve participation**
5. **Address more conditions**
6. **Create a learning system**

We will run QDiabetes for adults and, where all values can be entered, if it is 5.6 mmol/mol or over, an HBA1C will be measured if one has not been measured in the past year. Where there are missing values and the QDiabetes (with dummy values) is 5.0 or over, the person will be given priority for an NHS Health Check so that the missing values can be entered.''

Improvements in GM will include using existing data within the primary care electronic records to identify people, not previously diagnosed with type 2 diabetes, who have risk factors which are likely to satisfy the diabetic filter so that they can be invited for screening for type 2 diabetes. Presently whether a person is invited to an NHS Health Check is dependent on the practice where the person is registered. All people who have a Qdiabetes score (a measure of the risk of developing diabetes) ≥5.6%[4], who have not previously been diagnosed with diabetes, should have an HbA1c check undertaken. During the Covid-19 pandemic, self-referral to Healthier You, the national type 2 diabetes prevention programme, was also introduced through the Know Your[5] risk portal.

About half of all new cases of type 1 diabetes are in adults. Some adults with type 1 diabetes are initially misdiagnosed as type 2 diabetes and clinicians need to have a lower index of suspicion for type 1 diabetes, even in persons who are overweight, and be readier to test ketones. If they are still uncertain about the diagnosis, they should seek urgent specialist advice.

If a person has an HbA1c, indicating non-diabetic hyperglycaemia (HbA1c 42-47 mmol/mol), it is important that there is an annual review to identify early when a person crosses the threshold into type 2 diabetes, as this is associated with increased CVD event rate and higher mortality in the individuals identified.

[4] Page 24: NHS Health Check best practice guidance
[5] Diabetes UK – Know Your Risk of Type 2 diabetes

4.3 **Behavioural interventions**

To achieve healthcare system sustainability many countries, including England, are now focusing on disease prevention. To complement population-level interventions that address the obesogenic environment, lifestyle interventions that empower individuals at high risk of T2D to modify this risk beneficially are now being implemented at scale.

Healthier You aims to reduce the incidence of type 2 diabetes by targeting dietary and physical activity behaviours. Large randomised controlled trials have demonstrated that lifestyle interventions can reduce the risk of developing type 2 diabetes by up to 58%, through a relatively modest weight loss of 5-7%. This illustrates the importance of weight loss, as the risk of type 2 diabetes was found to reduce by 16% for each kilogram of weight lost[6].

Healthier You has now been fully rolled out in GM. Data for GM shows an average weight reduction of 5.6kg after 6 months of being on the programme in those people having a valid weight at programme start. Since August 2022 over 18,000 people have been referred to the programme with a 50% uptake starting the first session. In 2022 a new Healthier You 3-year contract was introduced with a capacity of 14,000 places available in GM each year. People can be referred by their GP if they are over 18 with an HbA1c between 42 and 47, not pregnant or on the palliative care register.

Women with a previous diagnosis of gestational diabetes but now in normative range are also eligible.

The evidence indicates that the effect of programmes like Healthier You wears off over time with little effect at three years if there is no longer-term follow-up. So, the initial programme will be complemented with shorter annual refresher sessions to sustain improvements.

Large randomised controlled trials have demonstrated that lifestyle interventions can reduce the risk of developing T2D by up to 58%

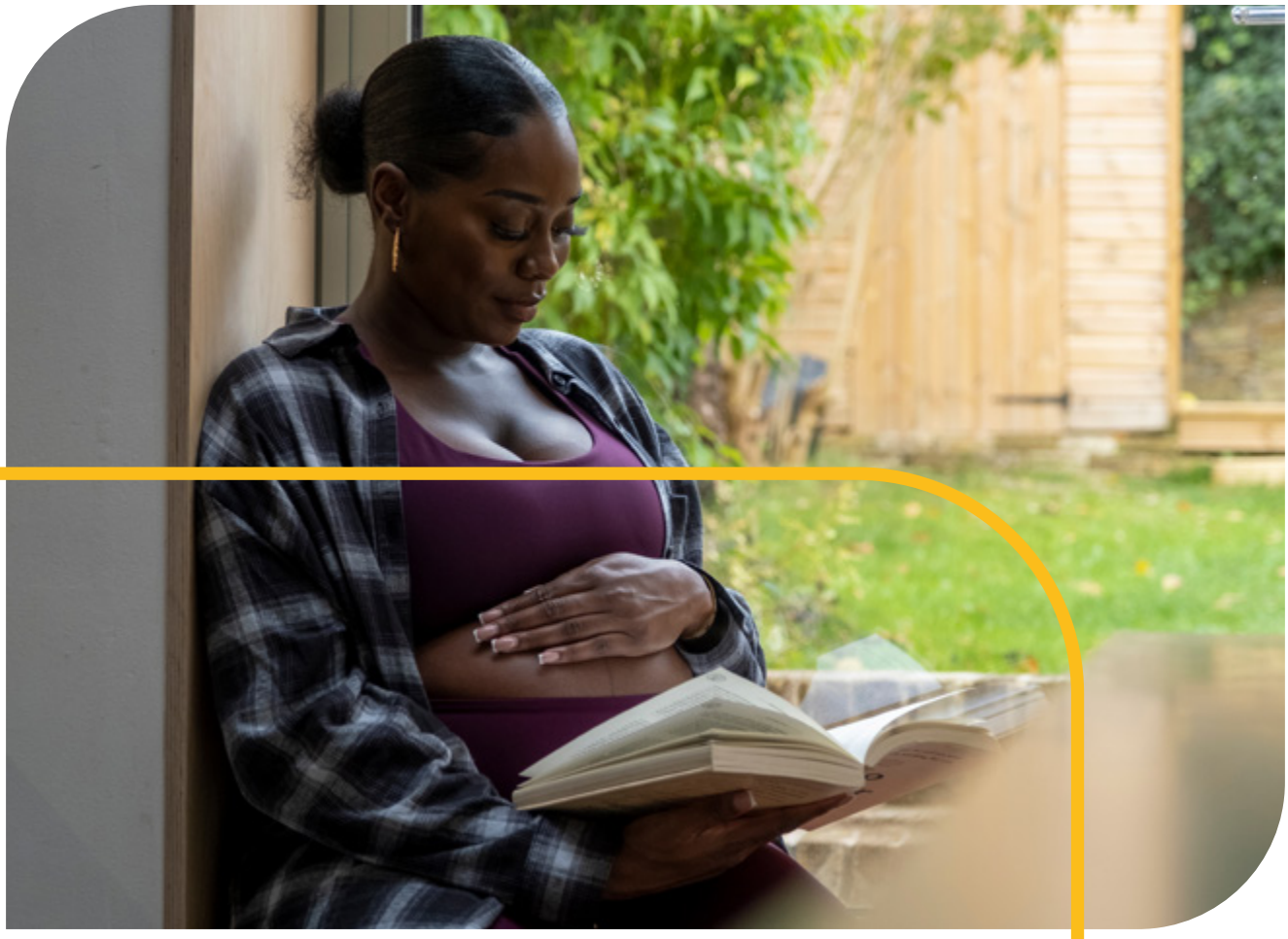
[6] Evaluating the NHS Diabetes Prevention Programme.

4.4 **Maternity & planning for pregnancy**

Measures need to be taken to reduce the incidence of gestational diabetes, which is associated with an increased risk of adverse maternal and neonatal outcomes.

Some services have provided interventions for women at high risk pre-conceptually whilst others have done so for women in early pregnancy. We will develop a clinical consensus to decide which women are at high-risk (e.g. those with a history of gestational diabetes) and warrant such support.

Additional work will be undertaken to improve preconceptual care for women with established type 1 diabetes, type 2 diabetes or nondiabetic hyperglycaemia (see below). This will include the provision of folate to all women of child-bearing age living with diabetes.



4.5 **Health incentives**

Incentives can work to improve health behaviours such as losing weight and quitting smoking, but the challenge is maintaining those behaviours when the incentives stop. Incentives have already been used in GM (e.g. reduced cost of membership to weight loss classes, taster sessions for dance classes, and exercise on prescription to encourage positive changes in lifestyle).

GM should test innovative incentives-based interventions to support lifestyle behaviour change. There are challenges for people losing weight for which incentives may help. Some of these incentives could be provided by health services such as the promise to perform abdominoplasty for excessive loose skin if a person maintains weight loss for an agreed period, whilst other incentives would require co-operation with the private sector such as reduced cost of clothing as a person's size declines.

Actions to prevent the onset of type 2 diabetes:

- **Support implementation of the Greater Manchester Population Health Plan and align with its wider strategic aim to embed a more proactive approach to person centred prevention and early intervention practice**
- **Complement programmes like 'Healthier You' with refresher sessions to embed behavioural change.**
- **Test incentivisation interventions to support lifestyle changes for people living with nondiabetic hyperglycaemia or diabetes.**

Section 5

Optimal management of diabetes

5.1 **Measuring quality of care**

Optimal glycaemic control (glucose levels) and blood pressure levels substantially reduce macrovascular and microvascular complications and optimal lipids levels management reduce macrovascular complications.

The National Diabetes Audit (NDA) uses the proportion of people achieving levels set out in Figure 4 (treatment targets) to measure quality of care.

Figure 4: Treatment target levels used to measure quality of care

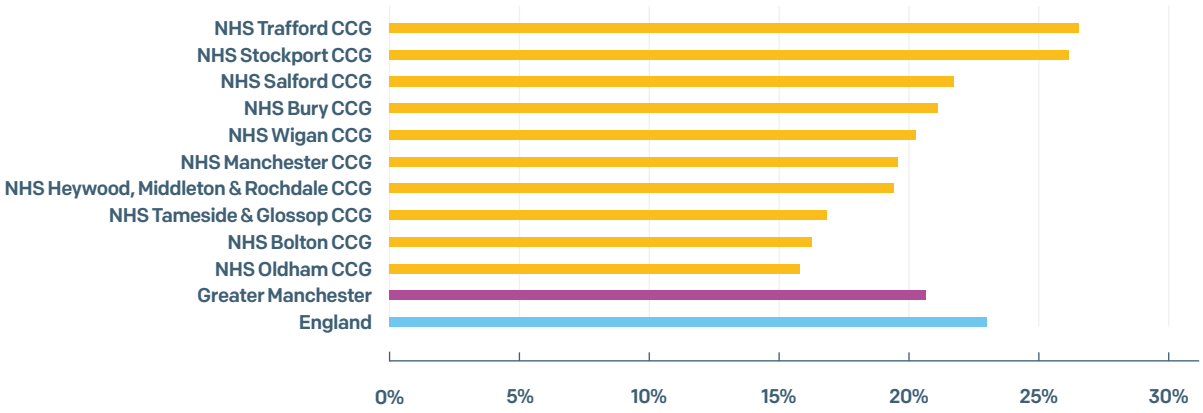
HbA1c	<=58 mmol/mol
Blood Pressure	<=140/80 mmHG
Cholesterol	<5 mmol/L

However, NICE recognises that many people with diabetes should try to achieve lower levels than those used by the NDA, for those with type 2 diabetes, that can sometimes be achieved by changes in lifestyle and use of metformin (drug) therapy. At present for other people with type 2 diabetes, unless there is a contraindication to metformin, intensification of medication should be recommended for those with HbA1c >58mmol/mol (unless a person has reduced renal function) or as per guidance[7] for appropriate cardio-renal protection[8]. For people with type 1 diabetes, some achieve very good control much below 58mmol/mol which is desirable if hypoglycaemic attacks can be avoided. This led to NICE recommending that "Diabetes services should document the proportion of adults with type 1 diabetes in a service who achieve an HbA1c level of 53 mmol/mol (7%) or lower." Overall the proportion of adults living with type 1 diabetes in GM is slightly lower than the England average (Fig 5).

The Greater Manchester Medicines Management Group (GMMMG) is responsible for developing local guidelines for the intensification of medication for the management of hyperglycaemia/diabetes. They will also monitor and report against these guidelines with the aim of reducing unwarranted variation.

Figure 5: Proportion of T1D adults meeting HbA1c <=53mmol/mol

% of T1D adults with HbA1c <=53mmol/mol 2021/22(Jan21-Sept21). Data source: National Diabetes Audit



[7] Overview | Type 2 diabetes in adults: management | Guidance | NICE
[8] Overview | Chronic kidney disease: assessment and management | Guidance | NICE

5.2 **Information and structured education**

There should be a personalised approach for each person with diabetes. Lifestyle advice and other education relevant to diabetes should be part of the therapeutic plan from the time of diagnosis and at every stage thereafter and should have equivalence with drug therapy.

There is an expectation that people with diabetes will comply with their prescribed medications and technology and there should be the same expectation of diabetes structured education too.

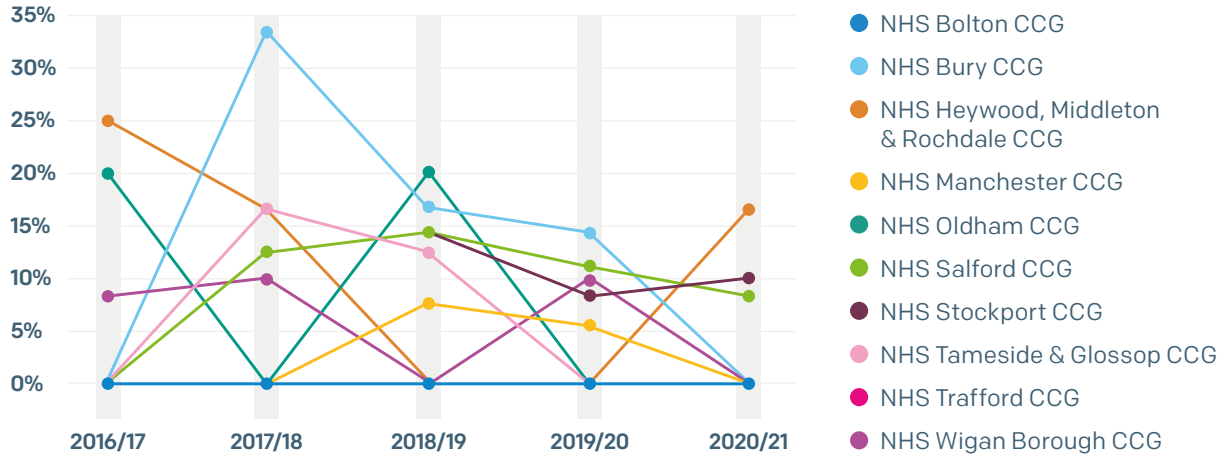
There will be consistent, high-quality information provided to all people living with diabetes at diagnosis and other appropriate times - verbally by clinicians, through written information and via digital channels such as www.diabetesmyway.nhs.uk. It will be available in a variety of formats and languages to meet the needs of people with sensory impairment, with learning disability or whose first language is not English. This giving of information and discussion is enhanced by attendance at structured education.

Figure 6: T1D structured attendance in GM (source NDA)

Percentage of type 1 patients, who attended structured education in Greater Manchester Health and Social Care Partnership STP

2016/17	2017/18	2018/19	2019/20	2020/21
1.3%	2.7%	3.9%	2.2%	2.2%

Percentage of type 1 patients, who attended structured education by CCG in Greater Manchester Health and Social Care Partnership



Structured education improves diabetes management and is likely to reduce diabetes related complications. It leads to lifestyle changes conducive to good health, such as better nutrition, increased physical activity and reduced smoking as well as improved compliance with medication and care processes. Structured education should be available to those newly diagnosed and to people already living with diabetes who have not previously attended.

Only about one in eight of people diagnosed with type 1 diabetes are reported presently to have attended structured education in England and fewer than one in ten with type 2 diabetes have attended. Attendance in GM varies (Figs 6 and 7).

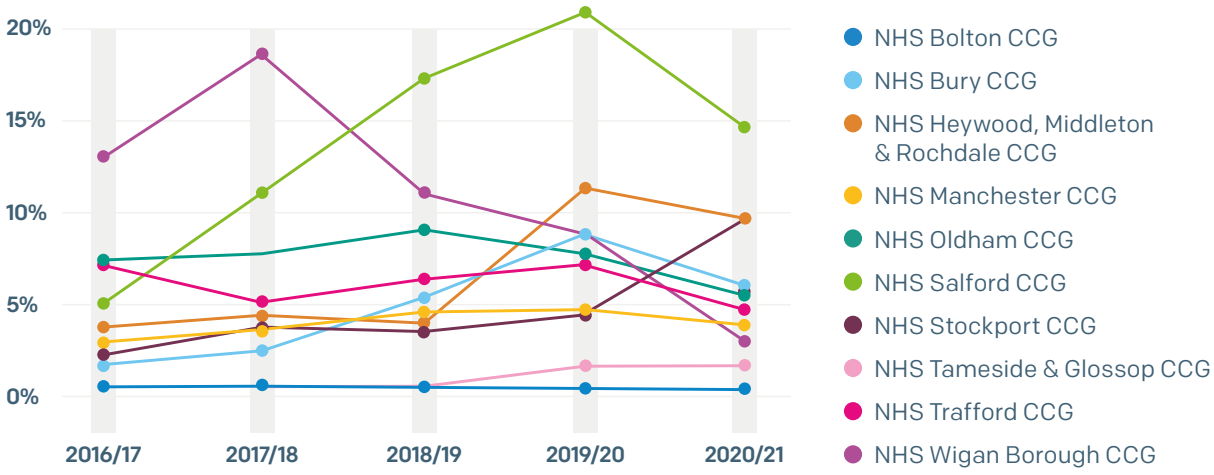
To improve attendance, we will move towards an 'opt-out' approach to discussions with people with diabetes, with structured education being seen as an integral part of management.

At time of diagnosis, education should be clearly recommended to the person with diabetes and its equivalence with drug therapy emphasised. All relevant people will be invited to attend and, whilst the person with diabetes will always retain the choice as to whether or not they do attend, clinicians will articulate their expectation that education will form part of the treatment pathway; in the same way, for instance, that midwives expect pregnant women not to smoke. This should be embedded this as part of the GP standards and an agreed education cycle will be shared through GP networks via tools currently available or being developed.

Figure 7: T2D structured attendance in GM (source NDA)

Percentage of type 2/other patients, who attended structured education in Greater Manchester Health and Social Care Partnership STP

Percentage of type 2/other patients, who attended structured education by CCG in Greater Manchester Health and Social Care Partnership



The time before starting structured education should be reduced so that those who feel able to do so can start structured education as soon as possible after diagnosis, or after any education undertaken to manage insulin treatment. This could be achieved through a revised pathway for referral linked to a central GM structured education referral hub. Carers and people living with those with diabetes will be encouraged to attend the structured education so that they are in a better position to offer support.

The evidence indicates that lifestyle changes are not sustainable and compliance with treatment is sub-optimal without refresher courses. So, as with the non-diabetic hyperglycaemia lifestyle intervention programmes shorter annual refresher courses to follow up structured education will be an integral part of the management of diabetes.

The management of NDH and type 2 diabetes not requiring insulin is similar, so the same programme could be offered to both groups. For people with type 2 diabetes requiring insulin, there should be a structured programme for managing insulin, but other aspects of education required will be similar to that required by other people with type 2 diabetes. In the longer-term, we will aim to have a combined programme for people with NDH and type 2 diabetes. This will increase the ability to give people a choice of time and place when selecting which course to attend. Some areas have previously expanded structured education to include the care processes to encourage increased attendance. Such programmes may need to be organised so that there are one or two sessions aimed at people with type 2 diabetes. People with nondiabetic hyperglycaemia may decide not to attend these sessions. For people with type 1 diabetes, there should be an education programme for initiating insulin immediately on diagnosis and managing insulin or insulin pump therapy.

Structured education can be delivered in a number of formats:

- **Digital (individual): Where individuals work through electronic e-learning on their own using a computer, laptop, tablet or smart-phone.**
- **Virtual (group): Where a multiple people come together with an educator in virtual on-line forum.**
- **In-person (group): Where a multiple people come together with an educator in a classroom.**

Digital structured education is now available on www.diabetesmyway.nhs.uk to all adults living with diabetes in GM. In-person group education commissioned locally has been the traditional delivery model but this was seriously curtailed during Covid-19. Some areas tested virtual group sessions. As we move into the new ICS structure in GM, we will develop plans for GM-wide delivery model offering a consistent menu of options (digital/virtual/in-person) to all in people with diabetes. Choices should include a mixed in-person/virtual offer. Commissioned once for all people with diabetes in GM, deployed through a GM structured education referral hub and developed to include different language and 'culturally competent' options for all communities, such a model could significantly improve attendance figures.

Good results for achieving HbA1c targets in people newly diagnosed with type 1 diabetes have been reported in Cheshire, where they feel this is due to the intensity of the intervention and aiming for a slow steady reduction in blood glucose. We will consider whether the adoption of such a model will improve attendance and results and, if adopted, we will audit results to ascertain whether the Cheshire results are replicated.

5.3 **Drug therapy**

Initial drug treatment of type 2 diabetes should be metformin in line with NICE guidance NG28[9]. A range of drugs are available for first intensification; for people with significantly raised cardiovascular risk, established cardio-vascular disease or chronic kidney disease, an SGLT-2 should be considered.

Further intensification should be undertaken according to NICE guidance; for people for whom adherence is a problem, combined medication should be considered.

For people living with obesity and diabetes or nondiabetic hyperglycaemia, SGLT-2 or GLPL-1 should be considered at an early stage, as they have both been shown to be effective in reducing weight (for people with and without diabetes).

[9] Overview | Type 2 diabetes in adults: management | Guidance | NICE

5.4 **Continued care planning and person-centred care**

Increasingly (and utilising the GM Care Record), people with diabetes and clinicians in both primary and secondary care will work together in partnership towards agreed plans and optimise outcomes through a process of shared decision making (SDM).

This requires sufficient time for:

- Fully explaining treatment options and possible effects;
- Offering choice;
- Providing people with the opportunity to be involved in making decisions about their care.

There will be an initial assessment and personalised care planning with a member of the care team which will include arranging follow-up appointments.

Although, for most people, their care should be largely based within general practice, community diabetes nurses, working in partnership with general practice, will enhance the care of people with diabetes.

The care plan will be renewed at least annually, and updates made in one care setting (e.g. primary care) will be visible in others (e.g. secondary care) through the GM Care Record. Assessments of people's needs should be holistic, and person centred. Approaches that are person and community centred include a very broad range of practice, ranging from 'more than medicine' support that complements and enhances clinical care for people with long-term conditions (such as peer support) to everyday community activities that enable people to improve their health and wellbeing (such as a local football teams or gardening clubs).

5.5 **Self-management and glucose monitoring**

People on insulin benefit from self-monitoring. For certain cohorts identified by NICE, this can now be done less invasively using either intermittently scanned glucose monitoring (isCGM) or real time glucose monitoring (rtCGM) systems.

This offer will be integrated with the insulin education programme. People living with diabetes will be offered rtCGM and isCGM and other diabetes technology (such as inulin pumps and hybrid closed loops) in line with NICE guidelines and technology appraisals.

Information technology (IT) can facilitate people's involvement in the management of their own care. Personalised care planning will enable people to use patient access facilities, including the NHS App and Diabetes My Way to have easy access to their own records. This will be complemented by supporting people with access to interactive web based services that give up-to-date clinic results and provide other material and education which support people to manage their own diabetes. This is delivered through www.diabetesmyway.nhs.uk in GM.

Real time continuous glucose monitoring (rtCGM) or intermittently scanned continuous glucose monitoring (isCGM) is routinely offered to pregnant women living with T1D .

The Professional Records Standards Body (PRSB) has published:

- **The Diabetes Record Information Standard:** This defines the information needed to support a person's diabetes management. It includes information that could be recorded by health and care professionals or the person themselves that is relevant to the diabetes care of the person and should be shared between different care providers.
- **The Diabetes Self-Management Information Standard:** This defines information that could be recorded by the person (or their carer) at home (either using digital apps or medical devices) and shared with health and care professionals.

In line with the requirements of the Information Standards Notice[10] issued in relation to the above standards, GM will implement the standards in its systems.

Peer support programmes assist people with diabetes in daily management to enhance social and emotional support. Diabetes UK's have run groups led by trained volunteer facilitators and which have the potential for members to buddy up. Considering participation in peer support will be part of the care planning process.

[10] digital.nhs.uk/binaries/content/assets/website-assets/isce/4085/4085592022isn.pdf

5.6 **Reversing type 2 diabetes**

A major clinical trial reported in Dec 2017[11] showed that almost half of people who agree to a nutrient-complete, liquid low-calorie diet for 3 to 5 months followed by foods being reintroduced along with long-term support to maintain weight loss, have a reversal of their type 2 diabetes at 12 months, although we are awaiting results of longer term follow up.

This intervention was delivered through GP practices, with nurses and dieticians. GM participated in a further low-calorie 'total diet replacement' pilot programme and is now part of the resulting nationally commissioned 'NHS Type 2 Diabetes Path to Remission' (T2DR) programme offering this service in all GM localities.

Bariatric surgery leads to improvement in glycaemic control within hours of surgery. In trials of surgery, over half of people stopped medication prescribed for their type 2 diabetes as they no longer met the criteria for a diagnosis of type 2 diabetes. Bariatric surgery is cost saving in the long term (especially when undertaken early in the course of type 2 diabetes) partly as a result of reduction in medication costs.

This evidence led to NICE producing new guidance in 2014 (CG189[12]) that increased the number of people with type 2 diabetes who are eligible for bariatric surgery as long as they are also receiving or will receive assessment in a local weight management multi-disciplinary service (or equivalent).

All people living with type 2 diabetes should be offered dietary intervention that has the potential to reverse their diabetes[13]. It is important that people who are overweight or obese lose weight, it may be that people with normal weight need to change the balance of their diet rather than lose weight. The design of such dietary intervention may need to be modified as it is a rapidly moving area of research. People who fulfil NICE criteria should also be offered the option of bariatric surgery promptly.

GM clinical commissioning groups previously did not feel able to implement CG189, because of the affordability of bariatric surgery and insufficient capacity in weight management multi-disciplinary services, and have based their policy on the previous NICE guidance (43). This potentially raises conflicts for people with diabetes as the NHS Health Choices website informs them that the NHS offers surgery in accordance with CG189.

[11] Direct Trial (directclinicaltrial.org.uk)
[12] Overview | Obesity: identification, assessment and management | Guidance | NICE
[13] https://pubmed.ncbi.nlm.nih.gov/25515001/

GM will comply with NICE guidance when it is considered possible to do so. This will allow clinicians to offer all people with a BMI of 35 or over who have recent-onset type 2 diabetes an expedited assessment for bariatric surgery and consider an assessment for bariatric surgery for people with a BMI of 30–34.9, or lower if of South Asian family origin, who have recent-onset type 2 diabetes. Presently, even those who would be eligible for bariatric surgery in accordance with CG43 have to raise the possibility of the surgery themselves. Part of the implementation of CG189 will involve clinicians proactively discussing the offer of bariatric surgery enabling people to make an informed choice. As different types of bariatric surgery have different levels of effectiveness, especially in the long term, this choice will entail making an informed decision regarding the type of bariatric surgery to be undertaken. We will proactively seek to develop local guidelines for bariatric surgery to facilitate access to surgery in line with national guidance.

There is good guidance about advice on diet immediately prior to bariatric surgery and after the operation although the evidence on the effect of this advice is not robust. However, it will be sensible to build such advice into any service for bariatric surgery.

5.7 Care processes

People with diabetes will continue to be offered a number of healthcare tests as part of their ongoing care in accordance with NICE guidance.

Historically these have been referred to as the 'diabetes care processes.' Adults should receive HbA1c, lipids and blood pressure measurements, in addition to having blood and urine estimation of kidney function, their eyes screened, their waist to height ratio (body mass index is also acceptable) calculated[14] and their feet checked. Smokers will also be offered support to quit.

All these processes will happen at least annually, although it is recommended glycaemic control is checked a minimum of twice a year.

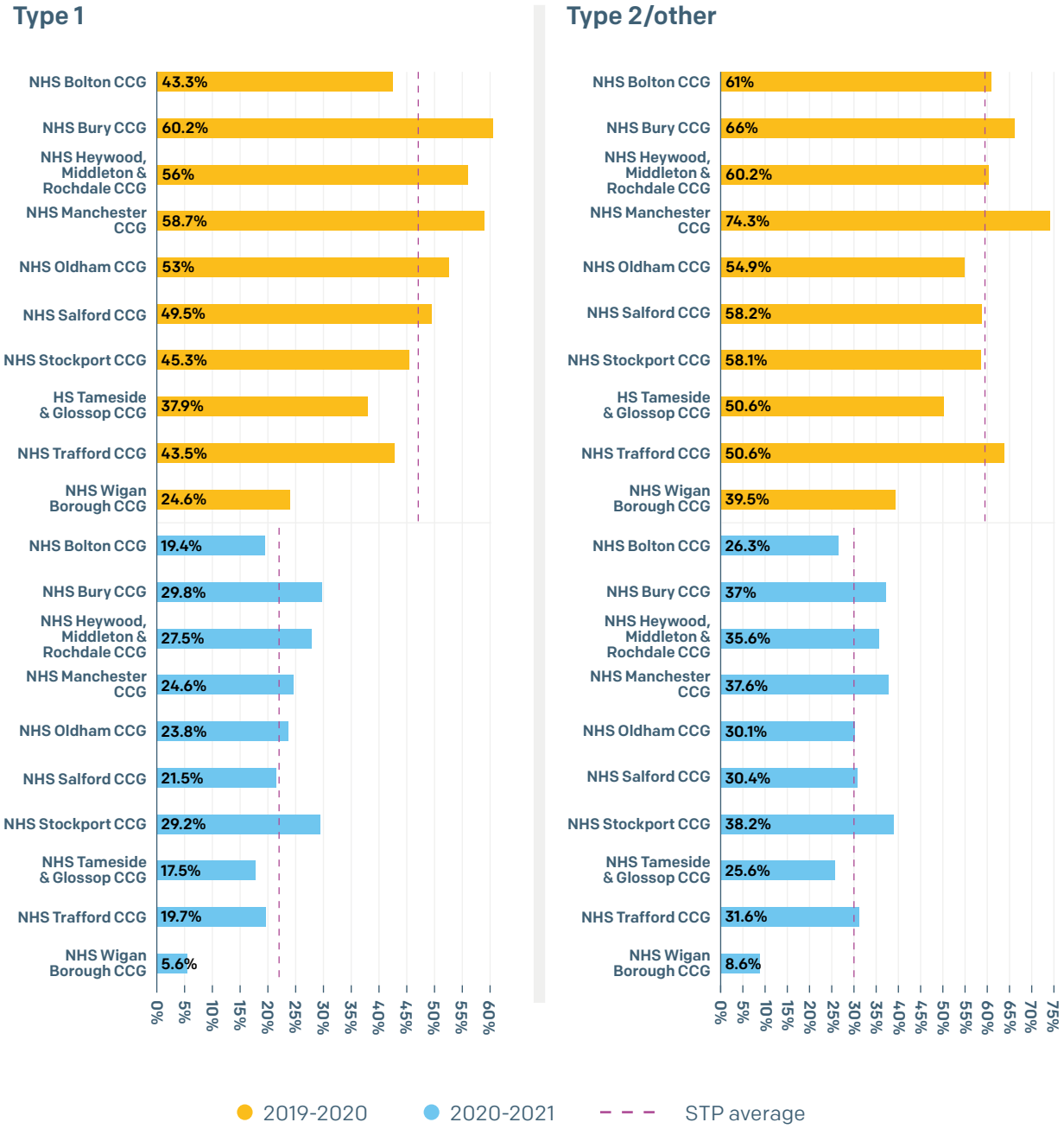
Completion of care processes was significantly adversely impacted by Covid-19 (see Fig 8).

Children should expect HbA1c testing a minimum of four times a year. They should also expect screening for coeliac and thyroid disease, their body mass index (waist to height ratio) calculated and an offer of psychological support. In those over twelve years, there should be tests of kidney function, eye screening, measurement of blood pressure and a check on their feet. GM has rolled out the DigiBete[15] app-based support service for all children's diabetes clinicians in GM.

[14] Use of the waist-to-height ratio to predict cardiovascular risk in patients with diabetes: Results from the ADVANCE-ON study - PubMed (nih.gov)
[15] Home - DigiBete

Fig 8: Impact of Covid-19 on completion of T1D and T2D care processes in GM

Percentage of patients, **who received all eight care processes** by CCG in **Greater Manchester Health & Social Care Partnership,** Jan 2019 to Mar 2020 & Jan 2020 to Mar 2021



Relatively very few people with diabetes have all the care processes carried out annually (Figs 9 and 10). In most cases fewer than half of adults with diabetes have the eight care processes (ie excluding eye screening) carried out and there appears to be a particular challenge with kidney function tests in both types of diabetes and foot surveillance in type 1 diabetes.

Figure 9: Proportion of people living in GM with T1D who have care processes carried out

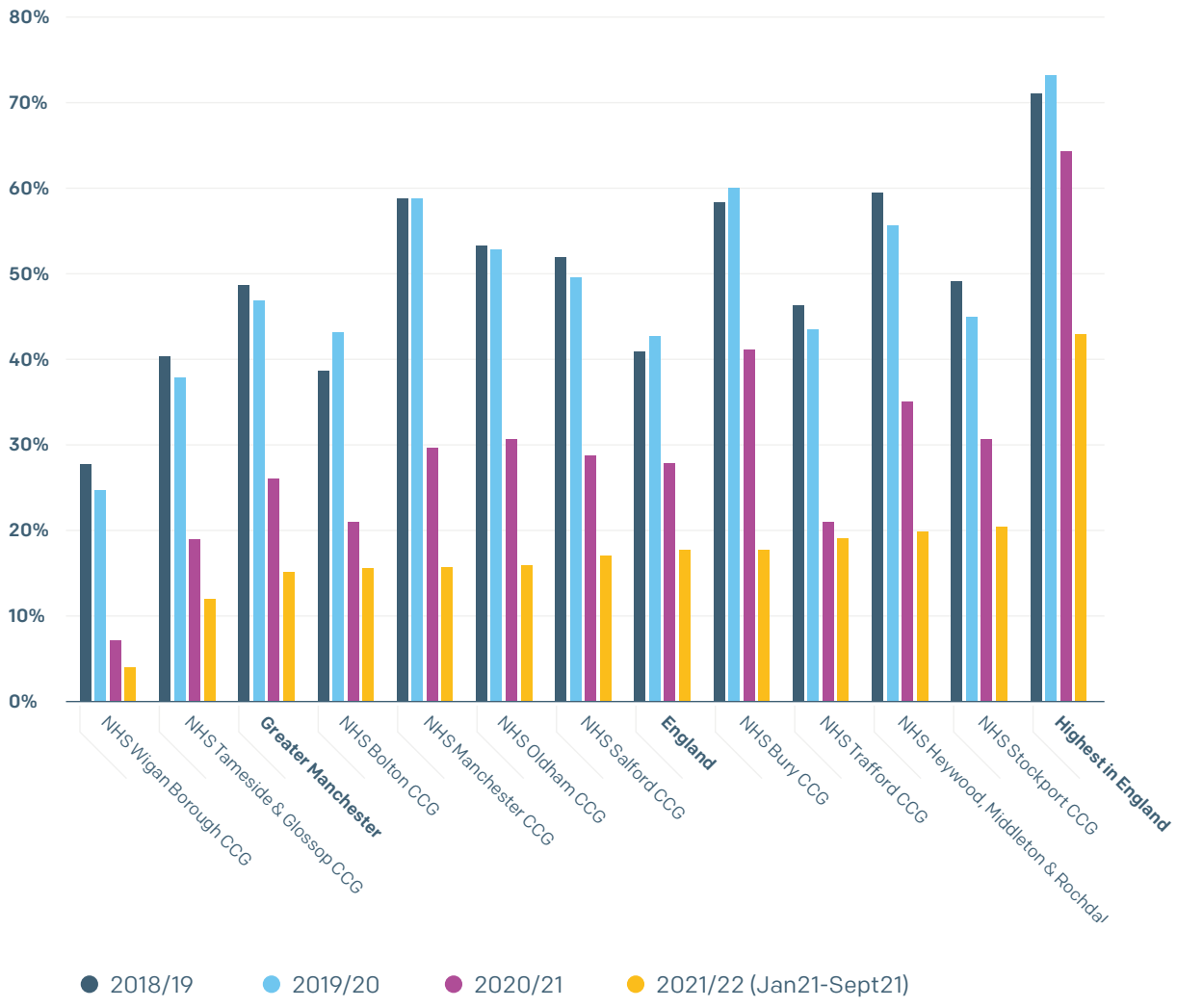
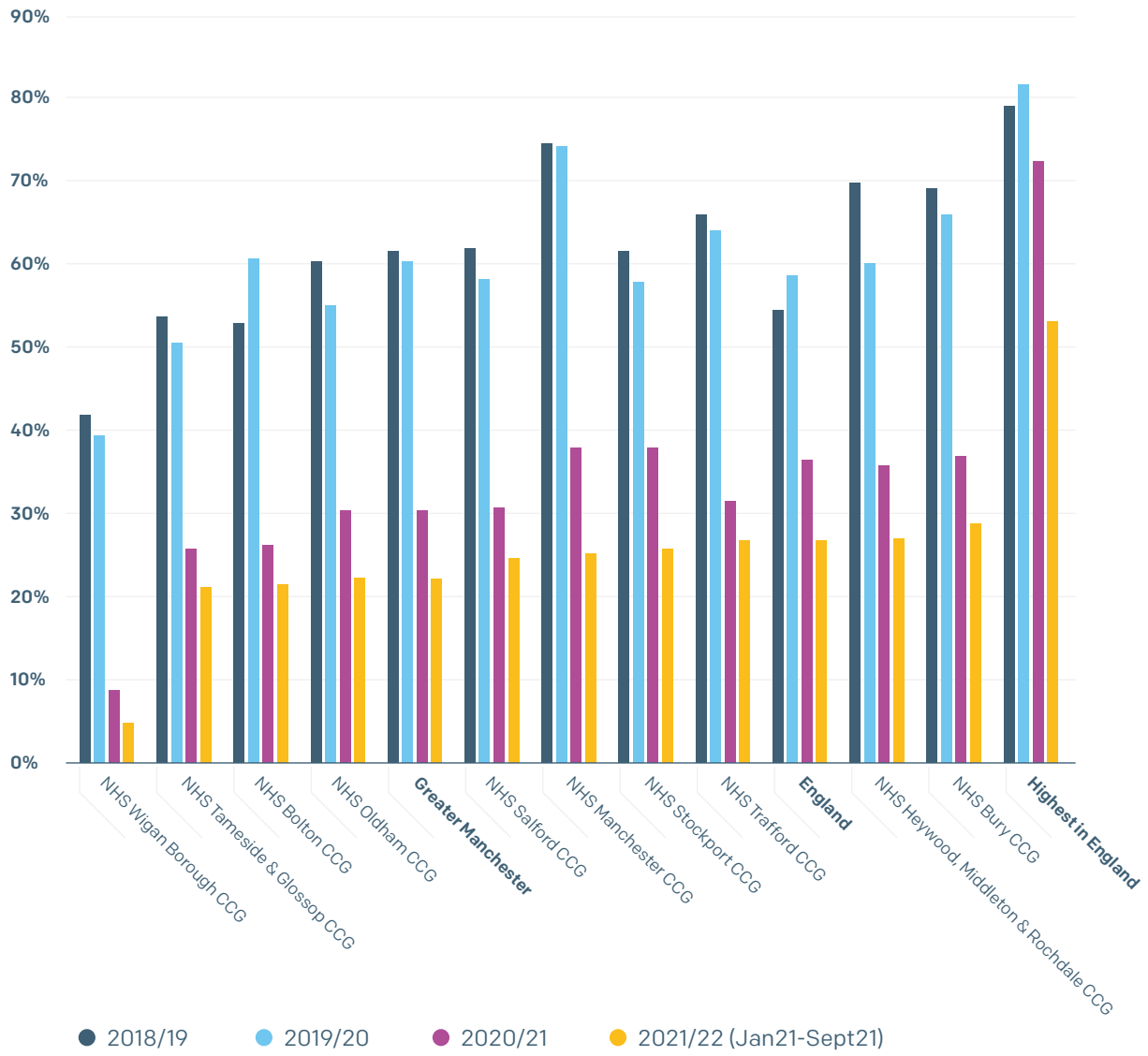


Figure 10: Proportion of people living in GM with T2D who have care processes carried out



In GM, work will be done to improve the proportion of people receiving all care processes annually but with eye screening every two years for those at low risk of sight loss[16]. We will build on the integrated approach, used for many people with diabetes in GM, of joint working across health sectors and disciplines which clearly allocates responsibilities for carrying out each of the care processes. This will improve uptake and appropriate follow-up. We will enable people with diabetes to provide the data (e.g. home blood pressure measurements and urinalysis) to the clinician, for instance through Diabetes My Way, to give greater empowerment to the person with diabetes and reduce clinician time. Other measures could include improving the correspondence to people inviting them to attend; minimising the number of visits people must make, sometimes to different venues; increasing choice of times to attend; and virtual clinics using telephone or video-calls.

It is important that action is taken following the identification of issues as a result of undertaking the care processes. For example, smokers will be encouraged to access specialist services to quit which will be available throughout GM as laid out in the GM Tobacco Strategy. This strategy also states that e-cigarettes can provide a route out of smoking. Therefore we will explore the potential of providing starter kits for e-cigarettes for those who prefer to quit smoking by switching to vaping as well as the stop smoking aids already available.

We will build on the integrated approach, used for many people with diabetes in GM

[14] Diabetic eye screening extended intervals: what will people need to know? - PHE Screening (blog.gov.uk)

5.8 **Additions to nationally agreed care processes**

Diabetes-specific emotional distress, depression and anxiety are all common in people with diabetes. Brief screening for these conditions should be an additional process undertaken annually.

Diabetic retinopathy is a leading cause of blindness in the UK and we will continue to take measures to improve attendance at National Diabetic Eye Screening Programme. People with diabetes have an increased risk of glaucoma. For the routine eye examination at an optometrist, guidance from the College of Optometrists state that risk factors for glaucoma include being "over the age of 40". The risk increases with every decade of life thereafter. The guidance continues that "When examining a patient who is in the at-risk groups for glaucoma you must carry out relevant tests" and these include measuring intraocular pressure and assessing visual fields. It is inappropriate that people with diabetes over the age of 40 are considered in need of screening for glaucoma only if they visit an optometrist. Raised intraocular pressure (IOP) is a modifiable risk factor for glaucoma and will be part of the diabetic eye screening. However, it has poor sensitivity and specificity for the diagnosis of glaucoma. So relevant pathways will be put in place to ensure people identified through optometrist screening with raised IOP at diabetic eye screening have additional assessment to investigate potential glaucoma (including assessment of optic nerve, visual field and contact tonometry) and should be assessed for treatment to reduce IOP even in the absence of glaucomatous pathology.

In addition to the children's programme for flu and pneumococcus, adults will benefit from having flu immunisation each year and the pneumococcal vaccine according to national guidance. Diabetes has also been shown to be a risk factor for Covid-19. However coverage could be improved, with only about two-thirds of people under 65 with diabetes having the flu immunisation each year. As well as inviting people for their immunisation, advising about flu and Covid-19 vaccination/booster should be part of the discussion that takes place when undertaking other care processes. For people who have not had any doses of the Covid-19 vaccine, it is important to discuss this at the time of diagnosis of diabetes or onset of new complications as this can prompt a change in attitude towards accepting the vaccine.

Erectile dysfunction has an increased prevalence in men with diabetes. Even when men are affected by erectile dysfunction, they are often reluctant to mention it to the clinician. As part of undertaking the care processes, clinicians will proactively ask about erectile dysfunction. Sexual dysfunction for women with diabetes is more common than for women without diabetes[17], who also may be reluctant to discuss it. Clinicians will ask about it as part of undertaking care processes.

There is a clear association between periodontal health and glycaemic control although the direction of that association is not clear. However, consultations for the care processes are an opportunity to encourage people to visit the dentist for an oral examination and dentists can encourage people with periodontal disease to be checked for type 2 diabetes.

[17] Sexual health and function in women with diabetes - Winkley - 2021 - Diabetic Medicine - Wiley Online Library

5.9 **Transition**

Most people transition into adult care services between the ages of sixteen and nineteen years. However, blood glucose control often deteriorates considerably in the years that follow transition with HbA1c treatment target being less likely to be reached during this period.

While the path to adulthood is a continuous one, the path through clinical services may not be so smooth. It is appropriate that children and adolescents take increasing responsibility for their condition as they grow up. It is important that this assumption of greater responsibility starts early. For example, the Digibete app and service[18] is now being made available through children's clinics in GM. There also needs to be a good handover of care from paediatric to adult physicians. We will develop a GM Transition Strategy to improve handovers and the transition for young people and to identify and address unwarranted variation. This will include the need for dedicated young adult services run by adult diabetologists in separate sessions. All services for children with diabetes in GM will adopt a systematic approach to transition in line withthis strategy and the GM Childrens and Young Adults Strategy.

[18] Home - DigiBete

Actions for optimal management of diabetes:

Structured education:

- Ensure consistent high-quality information is provided to all at appropriate times in a variety of formats.
- Adopt an 'opt out' rather than an 'opt in' approach to structured education and embed this is GP standards.
- Invite carers, and people living with those with diabetes, to attend structured education.
- Ensure refresher courses are available.
- Implement new structured education opportunities through a person centred diabetes app for use remotely on mobile devices.
- Offer an education programme for initiating insulin to those with type 2 diabetes requiring insulin.
- Investigate the potential for the electronic delivery of structured education through mobile devices.

Person-centred care:

- Review person-centred care plans, incorporating the 'more than medicine' approach, at least annually.
- Offer appropriate persons on insulin (meting NICE criteria) the opportunity to use either rtCGM or isCGM.
- Contribute to and participate in the development and delivery of online patient access to personal data and personalised information.

Bariatric surgery:

- Ensure clinicians proactively offer people who have diabetes who meet NICE criteria with recent onset type 2 diabetes the option to discuss bariatric surgery.

Care Processes:

- Improve joint working and increase integrated care.
- Improve opportunities for people with diabetes to provide data to clinicians, including electronically.
- Provide additional support to stop smoking, including e-cigarette starter kits.

Additional care processes:

- Include screening for diabetes-specific emotional distress, depression, and anxiety.
- Include measurement of intra-ocular pressure during as part of eye-screening.
- Ensure that both children and adults are advised to take up pneumococcal and annual flu immunisation and have their Covid-19 vaccination status reviewed.
- Ensure clinicians proactively ask men about erectile dysfunction.
- Ensure people undergoing the diabetes care processes will also be encouraged to have regular dental check-ups.

Section 6

Prevention of diabetes related complications

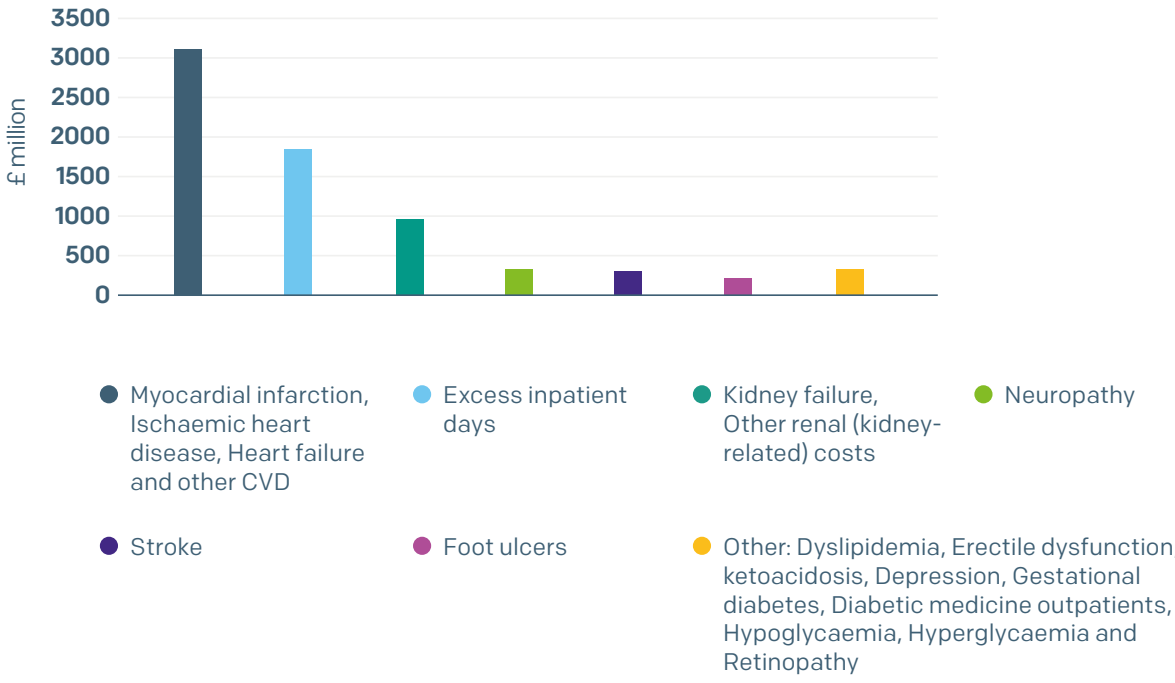
6.1 **Impact**

Complications as a result of diabetes have a profound impact on those living with them, as well as their families and their careers.

Complications such as cardiovascular events, renal failure, visual impairment, erectile dysfunction, gum disease or a wound resulting in amputation can be life changing and people may require considerable support from all involved in their care. In some cases, it will be appropriate that people are offered assessment for a personalised health budget and we will proactively seek to ensure that these discussions take place.

Based on an analysis of diabetes costs in 2010/11, around £400 million is spent each year on treating complications in GM (Fig 11).

Figure 11: Costs of diabetes complications [source: Cost of Diabetes v2 2014]



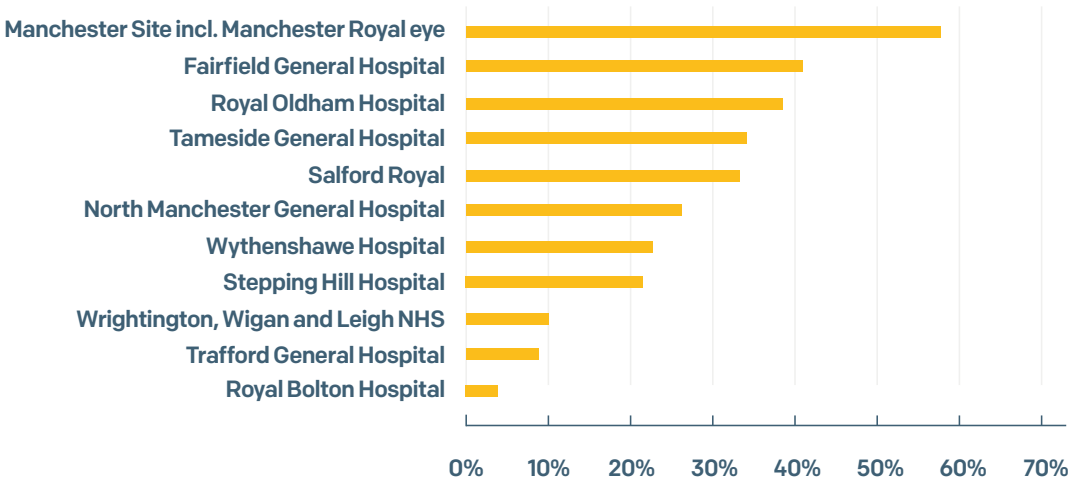
Up to 8.5% of inpatients with diabetes stay longer in hospital than stipulated by the NHS tariff paid to hospitals leading to excess bed days being paid by the commissioners. Re-admission rates are high (59% higher than in age matched populations without diabetes and there are thousands of emergency call outs for ambulance staff and presentations in accident and emergency departments). Presently a high proportion of inpatients with diabetes have medication errors during their stay in hospital (Fig 12).

We have conducted a pilot of the introduction of an inpatient bundle of care to reduce harm, prevent inpatient medication errors and reduce inpatient length of stay. We will promote roll-out to all hospitals. Many people treated with insulin have greater knowledge and experience of insulin adjustment than the medical and nursing staff responsible for their care. They routinely monitor their capillary glucose and adjust the insulin dose depending on the result, increasingly through the use of technology such as hybrid closed loop systems.

Self-management of diabetes by people who are willing and able improves the safety of insulin use in hospital. Hospitals will have a policy for diabetes self-management. Self-management will be the default position for all inpatients who are willing and able to manage their condition. We will explore the option of introducing clinical decision support systems and information prescriptions to enable clinicians to respond appropriately to abnormal test results.

Diabetes specialist nurses provide management plans, treatment advice, and support for adults with diabetes and their carers. They are also a clinical and educational resource for other health professionals. They improve patient care, including reducing medication errors, and reduce length of stay. We will aim to ensure that these nurses are employed in line with the national recommendation of one specialist nurse per 250 inpatient beds during the lifetime of the strategy.

Figure 12: Reported medication errors in GM hospitals (2019)



6.2 **Cardiovascular complications**

Cardiovascular disease accounts for over half of all deaths in people with diabetes. People with diabetes are about twice as likely to die prematurely from cardiovascular disease than those without diabetes.

The death rate can be halved by managing cardiovascular risk factors more effectively. This will be done through the personalised care plan which will include measures such as healthy lifestyle advice, optimisation of blood pressure and the use of statins and SGLT-2 therapy where appropriate. Measures will be taken to improve the proportion of people offered the appropriate intervention and increase compliance with those interventions.

The inclusion of diabetes in the CHA2DS2-VASc score (used to decide which people with atrial fibrillation should be anti-coagulated) is a reflection of the increased risk of stroke in people with diabetes when they have atrial fibrillation.

The most recent Health Technology Assessment, commissioned by National Institute for Health Research (NIHR), concludes that opportunistic screening, for the general population, is the most cost-effective approach using pulse palpation or modified blood pressure monitors. The undertaking of care processes is a suitable opportunistic encounter with people with diabetes to screen for atrial fibrillation. All people with diabetes over the age of 65 will be screened for atrial fibrillation when the care processes are being undertaken. As all people over 65 with diabetes will have a CH2DS2-VASc score of at least 2, they will be prescribed anticoagulation. They should be given an informed choice of a direct oral anticoagulant (DOAC), which compared to warfarin managed by the clinic reduces thromboembolic events by about 20%[19] or self-managed warfarin which approximately halves[20] thromboembolic events compared to warfarin managed by the clinic.

[19] NG196 Evidence review G1 (nice.org.uk), Table 7
[20] Self-monitoring and self-management of oral anticoagulation therapy | Cochrane

6.3 **Renal complications**

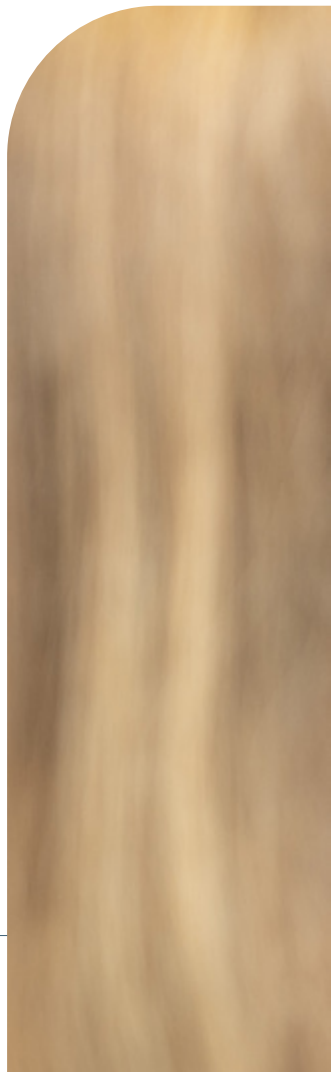
About 40% of people with diabetes will develop diabetic nephropathy.

This can be reduced by good glycaemic control, blood pressure control and, for those with a diagnosis of nephropathy or microalbuminuria, treatment with angiotensin converting enzyme inhibitor (ACE-I) or angiotensin receptor blocker (ARB) drugs and an SGLT2-I (if appropriate) in people with CKD. These are measured by QOF but exceptions and a top threshold well below 100% gives insufficient incentive for optimal clinical practice. There will be discussions with primary care about removing exceptions and increasing the top thresholds in exchange for increased financial incentives. People in this cohort will be treated in line with appropriate NICE guidance (NG203[21]).

About one in eight adults have masked hypertension. This is a risk factor that is often missed. People with diabetes who are normotensive when their blood pressure is measured by a clinician will have 24-hour ambulatory blood pressure monitoring or home self-monitoring every five years.

Diabetic and renal services should work together to manage people 'at risk' early with the aim of preventing progression to end stage renal disease. People with diabetes and declining renal function, who may be suitable for transplantation, will be referred sufficiently early so that they can be considered for pre-emptive renal transplantation.

Diabetic and renal services should work together to manage people 'at risk' early with the aim of preventing progression to end stage renal disease



[21] Overview | Chronic kidney disease: assessment and management | Guidance | NICE

6.4 **Microvascular complications**

Eye disease, sexual dysfunction (in both women and men) and periodontal disease may be identified as part of the care processes. When they are detected, they will lead to appropriate management or referral.

6.5 **Mental health**

There are interventions to tackle complications that will improve the mental health of people with diabetes with GM, such as the integrated IAPT (Improved Access to Psychological Therapies) service.

People with diabetes can also experience eating disorders with diabulimia being especially dangerous. People with eating disorders will often require referral to specialist mental health services.

6.6 **Pre-conception care and pregnancy**

NICE have produced clear guidance on good preconceptual care for women with diabetes[22]. Some of this guidance needs to be read in conjunction with other NICE guidance.

For example, the guidance on preconceptual care that advocates the "use of contraception until good blood glucose control" has to be read in conjunction with NICE generic advice on contraception that states that "women ... (should be) ... offered a choice of, all methods including long-acting reversible contraception (LARC)" and that long-acting contraception is suitable for women with diabetes.

General Practices should identify all women with diabetes of childbearing potential as a part of the annual care planning and support them to develop a plan for either safe, effective contraception or for pregnancy preparation as part of routine care. They should also be offering folate as women with diabetes have up to an 8 fold risk of having a child with a neural tube defect. Once a woman with diabetes has her pregnancy confirmed there should be early referral to a dedicated multi-disciplinary team (MDT) ante-natal clinic.

[22] Overview | Diabetes in pregnancy: management from preconception to the postnatal period | Guidance | NICE

Actions to prevent complications arising from diabetes:

Impact:

- Introduce the inpatient care bundle.
- Hospitals have a policy of diabetes patient self-management.
- Ensure the numbers of nurses employed with specific diabetes knowledge or experience are in line with national guidelines.
- Ensure inpatients are able to access assessment for personalised health budgets where appropriate.

Cardiovascular & microvascular complications:

- Send people with suspected acute limb ischaemia directly to A&E departments with rapid access to vascular opinion.
- Offer people with wounds or ulcers a community podiatrist appointment within 24 hours.
- Offer people with suspected peripheral arterial disease a specialist podiatrist assessment within 24 hours (if wound present) or 28 days (if no wound present).
- Support the recruitment of people with calluses for suitable trials to assess whether assertive treatment will reduce ulcers.
- Screen people with diabetes, who are not diagnosed with hypertension, for masked hypertension every five years.
- Include measures such as healthy lifestyle, optimisation of blood pressure and the use of statins in personalised care plans and medications with known cardio-renal protection as per NICE 2022
- Screen people with diabetes over 65 for atrial fibrillation during the care processes.

Renal complications:

- Hold discussions with primary care about removing exceptions and raising upper thresholds.
- Offer normotensive people 24 hr blood ambulatory pressure monitoring or home self-monitoring every 5 years.
- Refer suitable people with diabetes with declining renal function for pre-emptive transplantation and medications with known cardio-renal protect as per NICE 2021 guidance[23].

Pregnancy:

- Ensure preconception care is integral to care planning.
- Offer women a choice of all contraceptive methods, including long-acting reversible contraception, until optimal blood glucose levels are achieved.

[23] Overview | Chronic kidney disease: assessment and management | Guidance | NICE

Section 7

High risk groups

7.1 High risk groups

Certain cohorts of people run a higher risk of diabetes progression and subsequent complications because they are not engaged as effectively as others.

They can include those with mental health problems, ethnic minority groups, the lesbian, gay, bisexual or transgender community, people with sensory or physical impairments, people with learning difficulties and homeless people. Reasons for suboptimal engagement can vary within these groups from not understanding the seriousness of their condition to not having provision appropriate to their needs[24]. The third sector will be especially important in the engagement of hardly reached groups.

Particular attention should be paid to the communities with South Asian and Afro-Caribbean origin and other high-risk groups as they have especially high prevalence of diabetes. Engaging with these communities and recruiting peer supporters from within these communities will be a priority.

The present QOF enables primary care to make exceptions and exclude people from the denominator when measuring the quality of care. One of the reasons for making exceptions is to account for people not responding to repeated invitations. However, these people can be some of the most vulnerable. Measurements of the quality of care provided made by and reported in the National Diabetic Audit (NDA) includes people who are excepted from QOF. This data is available by practice and is a more useful measure of quality than QOF.

Over the lifetime of this strategy, we will work to make services more equitable and accessible. We will expand the information and education provided in multiple languages and formats in discussion with these communities. We will engage those at high risk of progression and complications using care calls, messaging, and other methods such as health apps to check how they are managing their diabetes and to offer advice and support to reduce diabetes progression.

People with mental ill-health are at high-risk of type 2 diabetes especially people with psychosis. Efforts have begun to achieve parity of esteem so that people with poor mental health with diabetes are detected early and treated appropriately. The choice of anti-psychotic medication can increase the risk of type 2 diabetes. Further work will be done to consider type 2 diabetes when the choice of anti-psychotic is made and, if an anti-psychotic that increases the risk of type 2 diabetes is used, to minimise the dose if that is possible.

Diabetes is common in residential and nursing homes. We will work with these homes to help ensure good care of their residents, for instance through clear policies on self-medication and on dealing with hypoglycaemic events.

Some people find it very difficult to manage their diabetes. People with type 1 diabetes diabetes that meet the guidelines will have access to insulin pumps as approved by NICE.

[24] DUK_Diabetes is Serious Report 2023_Digital.pdf (amazonaws.com)

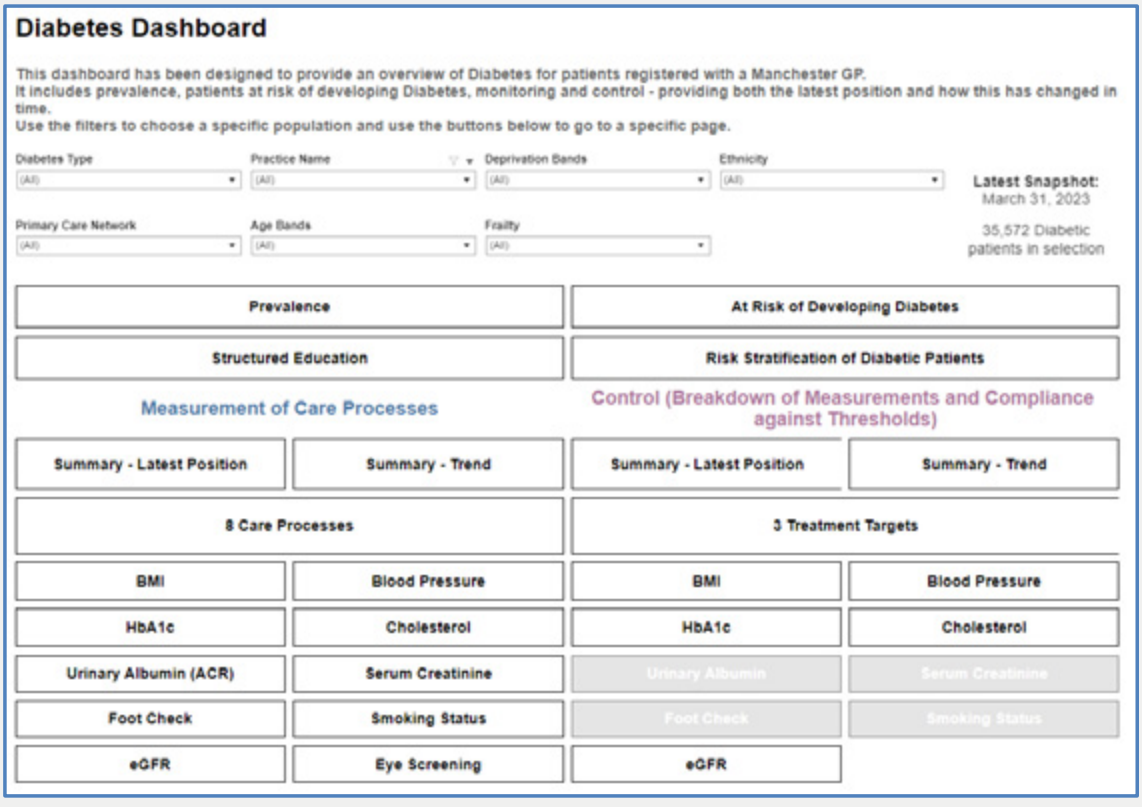
7.2 **Unwarranted variations**

Some variation in healthcare is unavoidable because of its complexity and the difficulties in controlling all the variables that contribute to it.

Variation can sometimes be explained by the characteristics of the local population or individuals or by differences in the capability of healthcare professionals. Often, differences occur when innovations are made but innovation is essential to drive up standards. The important thing for us to understand is whether the variation is warranted.

The term 'unwarranted clinical variation' has been described as "care that is not consistent with a patient's preference or related to [their] underlying illness." This can relate to substandard care around access to services and outcomes. To limit unwarranted variation in diabetes care, we must outline a set of minimum standards people should expect from our services. Data on key diabetes metrics relating to care processes, treatment targets and structured education are available on the national NDA Core Quarterly Dashboard[25] to users who are registered to access the FutureNHS Platform[26]. However, more detailed, up-to-date and useful data for GM is now available in the GM Diabetes Data Dashboard[27] hosted on the GM Tableau web platform (see Fig 13).

Figure 13: GM Diabetes Dashboard



[25] Microsoft Power BI
[26] FutureNHS Collaboration Platform - FutureNHS Collaboration Platform
[27] Diabetes Dashboard V2: HomePage - Tableau Server (gmtableau.nhs.uk)

In GM we will set minimum standards by:

- Implementing the PRSB a standardised Diabetes Record Information Standard and the Diabetes Self-Management Information Standard;
- Making peoples' data accessible to them online;
- Developing a GM diabetes services specification covering all elements of care;
- Supporting the service specification with agreed pathways and processes.

Diabetes service specifications should incorporate the NHS RightCare Diabetes pathway to facilitate a reduction in unwarranted variation. The RightCare programme can then be used to improve standards as has been done for optimising blood pressure and the management of atrial fibrillation.

The service specification will define the minimum components of high quality diabetes care and will not limit local innovation. The pathways and processes aim to incorporate all necessary components of care and recommendations in this strategy, but not limit the local service models to deliver them. Combined, these deliverables will support place-based teams and local care organisations to review service provision and support the delivery of high quality diabetes care that is sustainable.

The service specification will include the agreed standards which can be audited. Clear presentation of data which shows how well services are meeting the standards and giving comparison between providers will act as an enabler to improvements and help to reduce variations.

At the same time, we should improve the way we evaluate diabetes health outcomes so that we have a greater understanding of what is optimum, the reasons behind local variation, and what markers truly indicate a move in the right direction. Data recorded and collected should be consistent, up-to-date, accessible to people in our care and enable commissioners to assist local services in need of support.

These deliverables will support place-based teams and local care organisations to review service provision and support the delivery of high quality diabetes care that is sustainable.

7.3 **Continued learning for clinicians that support those with or at risk of diabetes**

As well as educating people with or at risk of diabetes, we will ensure clinicians have the necessary competencies and skills to be able to offer effective support.

There is often an assumption that health care professionals already have these skills. However, in 2016 as part of stakeholder engagement, clinicians in GM highlighted the need to have more accessible and targeted healthcare professional training. One of the main reasons being clinical inertia; a concern highlighted in several diabetes studies. Clinical inertia often results in delays to treatment intensification where there are sub-optimal glucose levels and lack of cardio-renal protective management. This can accelerate the progression of diabetes and cause avoidable complications. Some clinicians do not feel confident or supported with complex cases and others believe the training they receive is often pitched at the wrong level and more appropriate training and mentorship would not only enhance education them but also help them achieve better clinical outcomes.

We will define the responsibilities of clinicians involved in diabetes care using agreed care pathways and a service specification. Those that lead the care will relay important health messages in a sensitive manner; have skills to tease out what is important to the individual; agree with the person the positive changes to be made; and signpost them to supportive tools that may help. To reduce clinical inertia, health care professionals will be offered training suitable to their needs and be supported by an infrastructure that features mentoring and partnership working with other specialists.

We will explore the potential for complementing traditional training with web-based and mobile educational programme. Such a programme for cancer (Gateway-C) has proved popular amongst primary care with over 70% of GP practices now having registered users. When appropriate, support will include involvement of community diabetes nurses working between primary and secondary care.

7.4 **Improving research and innovation**

Continued research and innovation are crucial to improve diabetes care especially when focussed on strengthening evidence based practice for the prevention of type 2 diabetes and its potential complications. Whether it is findings from clinical trials or identifying best practice locally, the information needs to be shared with peers to support continued improvement.

In GM we will continue to work with our clinical research network to improve information management when it comes to disseminating research and innovation locally. Audit data relating to clinically relevant diabetes outcomes such as CVD risk factors will be provided in a timely fashion in ways that will help improve clinical performance across the diabetes care pathway.

We will explore new ways of promoting and disseminating research and innovation not just to local academics and clinicians but commissioners, managers and people with or at risk of diabetes. Such an approach will also aid further collaborative working and avoid repetition when it comes to service improvement.

7.5 **Future planning**

As new evidence emerges there will be a need to revise this strategy. Within the strategy it will be important that service redesign and implementation is a continuing process. It is vital that any future strategy development and implementation has the full involvement of service users.

Actions to minimise the impact of additional diabetes risk factors:

High risk groups:

- Maximise engagement with the third sector to ensure that every effort is made to access and support hardly reached groups or individuals.
- Expand the extent to which information and education is available in multiple languages and formats.
- Explore the options for engaging with those with diabetes in new ways (including electronically) and use these to provide new opportunities for self-managed care.
- Ensure diabetes is considered during the choice of anti-psychotic medication.

Unwarranted variation:

- Introduce a GM diabetes service specification and comply with minimum standards and agreed pathways contained in it.

Continued learning:

- Ensure clinicians have the necessary competencies to offer effective support on an ongoing basis.
- Define the responsibilities of clinicians in diabetes care.
- Offer new web-based learning opportunities for clinicians.

Research & innovation:

- Provide diabetes audit data in a timely fashion and an accessible manner.
- Explore innovative approaches that have been delivered in other areas and replicate locally where applicable. This may be especially important in areas of high need.
- Explore new ways of disseminating research information throughout the GM diabetes care system.

Greater Manchester Integrated Care Partnership

Tackling Diabetes Together

Greater Manchester Diabetes Strategy 2022-2027

gmintegratedcare.org.uk