NATIONAL INSTITUTE FOR HEALTH AND   
CARE EXCELLENCE

Quality standards

Briefing paper: Type 1 diabetes in adults

**Quality Standards Advisory Committee meeting**: 20 July 2022

# Contents

[1 Introduction 2](#_Toc71542841)

[2 Overview 2](#_Toc71542843)

[3 Summary of suggestions 5](#_Toc71542849)

[4 Suggested improvement areas 7](#_Toc71542852)

[4.1 Diagnosis, support and education 7](#_Toc71542853)

[4.2 Management of type 1 diabetes 14](#_Toc71542854)

[4.3 Managing complications 18](#_Toc71542854)

[4.4 Annual checks 27](#_Toc71542854)

[4.5 Additional areas 31](#_Toc71542855)

[Appendix 1: Response log for key stakeholders 33](#_Toc71542857)

[Appendix 2: Suggestions from registered stakeholders 34](#_Toc71542858)

1. Introduction

This briefing paper presents a structured overview of potential quality improvement areas for type 1 diabetes in adults. It provides the committee with a basis for discussing and prioritising quality improvement areas for development into draft quality statements and measures for public consultation.

This briefing paper includes a brief description of the topic, a summary of each of the suggested quality improvement areas and supporting information.

Recommendations selected from the key development source are included to help the committee in considering potential statements and measures.

* 1. Development source

The key development sources referenced in this briefing paper are:

* [Type 1 diabetes in adults: diagnosis and management. NICE guideline NG17](https://www.nice.org.uk/guidance/ng17) (2015, updated 2022). Currently being updated with changes to recommendations 1.13.8, 1.13.13, and 1.15.10 on managing blood pressure to align them with the NICE guideline on chronic kidney disease. Publication of this update is expected in July 2022.
* [Diabetic foot problems: prevention and management. NICE guideline NG19](https://www.nice.org.uk/guidance/ng19) (2015, updated 2019). Currently being updated to focus on risk stratification tools used to assess likelihood of diabetic foot problems, and the timing of foot assessments for individuals at risk of diabetic foot problems. Publication of this update is expected in January 2023.

1. Overview
   1. Focus of quality standard

This quality standard will cover care and treatment for adults with type 1 diabetes. It includes managing type 1 diabetes, diabetes-related foot care and diabetes education programmes.

It will update and replace the existing [NICE quality standard for diabetes in adults](https://www.nice.org.uk/Guidance/QS6) (QS6). A quality standard on type 2 diabetes in adults is currently in development.

There are existing quality standards covering [Diabetes in children and young people](https://www.nice.org.uk/guidance/qs125) (QS125) and [Diabetes in pregnancy](https://www.nice.org.uk/guidance/qs109) (QS109) (currently being [updated](https://www.nice.org.uk/guidance/indevelopment/gid-qs10157)) therefore this quality standard will not cover these areas.

* 1. Definition and prevalence

Type 1 diabetes affects over 370,000 adults in the UK. It results from destruction of the cells that normally make insulin. Loss of insulin secretion results in high blood glucose and other metabolic and haematological abnormalities, which have both short‑term and long‑term adverse effects on health.

Over years, type 1 diabetes causes tissue damage which, if not detected and managed early, can result in disability: blindness, kidney failure and foot ulceration leading to amputation, as well as premature heart disease, stroke and death. The risk of all of these complications is greatly reduced by treatment that keeps circulating glucose levels to as near normal as possible, reducing tissue damage. Disability from complications that are not avoided can often be prevented by early detection and active management.

* 1. Current service delivery and management

Type 1 diabetes is treated by insulin replacement and supported by active management of other cardiovascular risk factors, such as hypertension and high circulating lipids. Modern insulin replacement therapy aims to recreate normal fluctuations in circulating insulin concentrations. This supports a flexible lifestyle with minimal restrictions and, properly done, can improve blood glucose levels, reducing the risk of both structural complications and episodes of hypoglycaemia.

Flexible insulin therapy usually involves self‑injecting multiple daily doses of insulin, with doses adjusted based on taken or planned exercise, intended food intake and other factors, including current blood glucose, which the insulin user needs to test on a regular basis. This self‑management needs the insulin user to have the skills and confidence to manage the regimen.

[The NHS website](https://www.nhs.uk/conditions/type-1-diabetes/managing-blood-glucose-levels/continuous-glucose-monitoring-cgm-and-flash/) explains that continuous glucose monitoring (CGM) and intermittently-scanned glucose monitoring (isCGM commonly known as flash) should be available on the NHS to all adults with type 1 diabetes. A CGM or flash monitor is made up of:

* a sensor – a small device attached to the body, usually the arm, that senses how much glucose is in the fluid under the skin
* a reader or receiver, which shows the results. The results can also be shown on a smartphone of the user has one.

Adults with type 1 diabetes can check their glucose levels at any time with a CGM or flash monitor. It helps people to see patterns in their glucose levels and check if they are too high or low. It can also help people control their blood glucose levels, as they have more information and can take action quickly.

One of the most important roles of healthcare professionals providing diabetes care to adults with type 1 diabetes is to ensure that systems are in place to provide informed expert support, education and training for insulin users, as well as a range of other more conventional biomedical services and interventions.

1. Summary of suggestions
   1. Responses

In total 8 registered stakeholders responded to the 2-week engagement exercise.

* 6 stakeholders suggested areas
* 2 stakeholders had no comments

5 specialist committee members suggested areas

The responses have been summarised in table 1 for further consideration by the committee.

Table 1 Summary of suggested quality improvement areas

| Area for improvement | Stakeholders |
| --- | --- |
| Diagnosis, support and education   * Accurate diagnosis * Access to a multidisciplinary team, care in hospital and other institutions * Structured education programmes * Access to individualised dietary education | ABCD, BDA, DUK, NHSE, OCDEM, SCM1, SCM2, SCM3, SCM4, SCM5 |
| Management of type 1 diabetes   * Blood glucose management * Insulin pump therapy * Referral for islet or pancreas transplantation | ABCD, BDA, DUK, NHSE, OCDEM, SCM2, SCM3 |
| Managing complications   * Cardiovascular risk * Diabetic foot problems * Mental health, eating disorders and disordered eating | ABCD, BDA, DUK, NHSE, OCDEM, SCM2, SCM3, SCM4, SCM5 |
| Annual checks | ABC, DUK, Hio, NHSE, SCM2, SCM4 |
| **Additional areas**   * Improving preconception care * Digital health technologies * Health inequalities * Clarity on specific medications * Content of guideline * NICE accreditation programme | OCDEM, SCM1, SCM2 |

Abbreviations:

* ABCD, Association of British Clinical Diabetologists
* BDA, British Dietetic Association, Diabetes Specialist Group
* DUK, Diabetes UK
* Hio, Healthy.io
* NHSE, NHS England National Diabetes Programme
* OCDEM, Oxford Centre for Diabetes, Endocrinology and Metabolism
* SCM, Specialist Committee Member

Full details of all the suggestions provided are given in appendix 1 for information.

1. Suggested improvement areas

Section 4 presents a summary of the suggested improvement areas, with provisional recommendations that may support statement development and information on current UK practice.

* 1. Diagnosis, support and education

### Accurate diagnosis

A stakeholder commented that the type of diabetes may sometimes be misclassified which leads to inappropriate decisions about glucose-lowering treatments. They noted that the diagnosis should be re-evaluated if there is diagnostic uncertainty.

#### Selected recommendations

NICE’s guideline on type 1 diabetes (NG17):

1.1.3 Take into consideration the possibility of other diabetes subtypes and revisit the diagnosis at subsequent clinical reviews. Carry out further investigations if there is uncertainty (see recommendations 1.1.7 and 1.1.8)

1.1.7 At subsequent clinical reviews, consider using serum C‑peptide to revisit the diabetes classification if there is doubt that type 1 diabetes is the correct diagnosis. [2022]

#### Current UK practice

No published studies on current practice were highlighted for this suggested area for quality improvement; this area is based on stakeholder’s knowledge and experience.

### Access to a multidisciplinary team, care in hospital and other institutions

Stakeholders commented that adults with type 1 diabetes should have access to a multidisciplinary team with expertise in diabetes. They also highlighted the importance of integrated care across primary, community and secondary care.

A stakeholder also highlighted the importance of holding type 1 diabetes clinics in the community for those people who do not want to be referred to hospital or to engage with some services. Another noted that some appointments may take place virtually.

A stakeholder noted that some NHS trusts do not have an effective system to identify patients admitted who have diabetes.

Stakeholders commented that adults living with type 1 diabetes who are admitted to hospital should be supported to manage their own diabetes care wherever possible. They noted that consistent messages regarding nutritional management of type 1 diabetes in inpatient and care settings should be agreed with the person with type 1 diabetes and that they should be able to make their own dietary choices.

Stakeholders felt that adults with type 1 diabetes in hospital should receive advice from a multidisciplinary team with expertise in diabetes to reduce the risk of medication errors and diabetic ketoacidosis.

#### Selected recommendations

NICE’s guideline on type 1 diabetes (NG17):

1.2.2 Advice to adults with type 1 diabetes should be provided by a range of professionals with skills in diabetes care, working together in a coordinated approach.

1.2.3 Provide adults with type 1 diabetes with:

* access to services by different methods (including phone and email) during working hours
* information about out-of-hours services staffed by people with diabetes expertise.

1.14.7 From admission, provide ongoing advice to adults with type 1 diabetes and the team caring for them from a trained multidisciplinary team with expertise in diabetes.

1.14.8 Throughout inpatient admission, respect the personal expertise of adults with type 1 diabetes in managing their own diabetes and incorporate this into routine ward‑based blood glucose monitoring and insulin delivery.

1.14.9 Throughout inpatient admission, support adults with type 1 diabetes to make their own food choices based on their personal knowledge of their dietary needs, except when illness or medical or surgical intervention significantly disturbs those requirements.

1.14.10 Provide optimal insulin therapy, which can be achieved using intravenous insulin and glucose, to all adults with type 1 diabetes with threatened or actual stroke. Critical care and emergency departments should have a protocol for such management.

#### Existing quality statement

[NICE’s quality standard on diabetes in adults](https://www.nice.org.uk/Guidance/QS6) (QS6):

Statement 7: Adults with type 1 diabetes in hospital receive advice from a multidisciplinary team with expertise in diabetes.

#### Current UK practice

The [2019 National Diabetes Inpatient Audit](https://digital.nhs.uk/data-and-information/publications/statistical/national-diabetes-inpatient-audit/2019) (NaDIA) received responses from 188 of the 193 eligible hospital sites (97%). Bedside data on 15,479 inpatients in England was submitted and 56% of inpatients returned a patient experience questionnaire. The audit found that, for inpatients with type 1 diabetes:

* 86.2% were seen by the diabetes team where appropriate
* 27% experienced a severe hypoglycaemic episode during the last 7 days of their hospital stay
* 3.6% had developed in-hospital diabetic ketoacidosis during their hospital stay
* 37.2% of their inpatient drug charts had at least one medication error.

The audit found that, for people with diabetes (type 1 and type 2):

* 1.1% developed foot ulcers during their hospital stay
* 91% were satisfied with the extent to which ward staff respected their wishes around diabetes care
* 87% were satisfied with their ability to self-administer insulin whilst in hospital
* 51% were satisfied with the meal choices, with 61.2% satisfied with meal timing.

Please note that unless otherwise stated, this audit information relates to people with type 1 and type 2 diabetes.

No published studies on current practice were highlighted for access to the MDT other than for inpatient care; this area is based on stakeholder’s knowledge and experience.

### Structured education programmes

Stakeholders commented that adults with type 1 diabetes should be offered a quality assured, evidence-based, structured education programme from diagnosis, and this offer should be reinforced and reviewed annually. This programme can take different formats, for example group based or national digital programmes. A stakeholder suggested the programme should include insulin therapy and carbohydrate counting.

Stakeholders noted that people with type 1 diabetes managed by their GP who do not want to be referred to hospital should have access to diabetes education programmes. They noted that the education should suit the needs of the person, for example being delivered in person or remotely.

#### Selected recommendations

NICE’s guideline on type 1 diabetes (NG17):

1.3.1 Offer all adults with type 1 diabetes a structured education programme of proven benefit, for example, the DAFNE (dose adjustment for normal eating) programme.

1.3.2 Offer the structured education programme 6 to 12 months after diagnosis. For adults who have not had a structured education programme by 12 months, offer it at any time that is clinically appropriate and suitable for the person, regardless of how long they have had type 1 diabetes.

1.3.3 For adults with type 1 diabetes who are unable or prefer not to take part in group education, provide an alternative of equal standard.

1.3.4 Ensure that any structured education programme for adults with type 1 diabetes:

* is evidence-based, and suits the needs of the person
* has specific aims and learning objectives, and supports the person and their family members and carers in developing attitudes, beliefs, knowledge and skills to self‑manage diabetes
* has a structured curriculum that is theory driven, evidence-based and resource effective and has supporting materials, and is written down
* is delivered by trained educators who:
* have an understanding of educational theory appropriate to the age and needs of the person and
* are trained and competent to deliver the principles and content of the programme
* is quality assured, and reviewed by trained, competent, independent assessors who measure it against criteria that ensure consistency
* has outcomes that are audited regularly. [2015]

1.3.6 Provide information about type 1 diabetes and its management to adults with type 1 diabetes at all opportunities from diagnosis onwards. Follow the principles in [NICE's guideline on patient experience in adult NHS services](https://www.nice.org.uk/guidance/cg138).

#### Existing quality statements and indicators

[NICE’s quality standard on diabetes in adults](https://www.nice.org.uk/Guidance/QS6) (QS6):

Statement 3: Adults with type 1 diabetes are offered a structured education programme 6 to 12 months after diagnosis.

[NHS Digital’s Quality and Outcomes Framework](https://digital.nhs.uk/data-and-information/publications/statistical/quality-and-outcomes-framework-achievement-prevalence-and-exceptions-data/2019-20)

DM014: The percentage of patients newly diagnosed with diabetes, on the register, in the preceding 1 April to 31 March who have a record of being referred to a structured education programme within 9 months after entry on to the diabetes register.

#### Current UK practice

The [National Diabetes Audit (Quarterly report 2021/22)](https://digital.nhs.uk/data-and-information/publications/statistical/national-diabetes-audit/core-q3-21-22) showed that in 2020 30.4% of people diagnosed with type 1 diabetes were offered structured education within 12 months of diagnosis. 4.2% of people with type 1 diabetes attended structured education within 12 months of diagnosis.

The audit notes that caution should be taken when using structured education programme attendance figures as it is believed that there is poor recording within primary care systems.

A [2015 Diabetes Care Survey](https://www.diabetes.org.uk/about_us/news/care-survey-2016) by Diabetes UK stated that 65% of people with type 1 diabetes had been offered a course, with 73% of these attending.

[NHS Digital’s quality and outcomes framework](https://digital.nhs.uk/data-and-information/publications/statistical/quality-and-outcomes-framework-achievement-prevalence-and-exceptions-data/2019-20) 2019 to 2020 reported that 92.4% of people newly diagnosed with diabetes (type 1 and type 2) were referred to a structured education programme within 9 months of entry onto the diabetes register. (DM014).

### Access to individualised dietary education

A stakeholder commented that adults with type 1 diabetes need access to individualised dietary education from a registered dietitian. They noted that the type and quality of dietary advice during the first year following diagnosis, while awaiting structured education, is variable.

#### Selected recommendations

NICE’s guideline on type 1 diabetes (NG17):

1.1.12 Include the following in an individualised and culturally appropriate diabetes plan:

* when and where they will have their diabetes education, including their dietary advice (see the sections on education and information and dietary management)

1.4.2 Consider carbohydrate‑counting courses for adults with type 1 diabetes who are waiting for a more detailed structured education programme or who are unable to take part in a standalone structured education programme.

1.4.6 Provide nutritional information individually and as part of a structured education programme (see the section on education and information). Include advice from professionals who are trained and accredited to provide dietary advice to people with health conditions.

1.4.7 Offer opportunities to receive dietary advice at intervals agreed between adults with type 1 diabetes and their healthcare professionals.

1.15.44 From diagnosis, the diabetes professional team should provide regular high-quality support and counselling about lifestyle and diet for all adults with type 1 diabetes (see the sections on education and information and dietary management).

#### Current UK practice

No published studies on current practice were highlighted for this suggested area for quality improvement; this area is based on stakeholder’s knowledge and experience.

### Resource impact

Recommendation 1.3.1 (NG17) on offering all adults with type 1 diabetes a structured education programme of proven benefit, for example, the DAFNE (dose adjustment for normal eating) programme were included in the costing statement from the type 1 diabetes in adults: diagnosis and management update (2015). The assumptions were that the average cost to the provider to run a DAFNE service was approximately £340 per person. Assuming programme uptake increased by 0.5% of adults with type 1 diabetes each year, raising uptake to 7,000 adults in 3 years. This would result in a cost impact of £1.4 million from year 3 onwards (see table below).

|  |  |  |
| --- | --- | --- |
| **Year** | **Number of participants in England** | **Potential cost impact (£000)** |
| 2015–2016 | 4,221 | 475 |
| 2016–2017 | 5,628 | 950 |
| 2017–2018 | 7,035 | 1,400 |

An economic report by the York Health Economics Consortium estimated mean cost savings as a result of a reduction in complications of diabetes to be £3,238 per patient over 10 years. The cost savings would be offset by the mean cost per patient over 10 years of delivering the DAFNE programme and NHS costs associated with standard care. Therefore, it is estimated that the DAFNE programme would save commissioners £2,237 per patient over 10 years.

|  |  |  |  |
| --- | --- | --- | --- |
| **Mean cost saving per person as a result of a reduction in complications of diabetes** | **Mean cost per person of delivering the DAFNE programme** | **Mean cost per person of NHS costs** | **Estimated saving per person as a result of delivering the DAFNE programme** |
| £3,238 | £545 | £456 | £2,237 |

The remaining recommendations were not included in the resource impact report for (NG17). They were not identified as areas of the guidelines that would be likely to have a significant resource impact (>£1m in England each year).

### Issues for consideration

**For discussion:**

* What is the priority for improvement?
* What is the key action that will lead to improvement?
  + Ensuring accurate diagnosis? Note there are no definitive recommendations in this area and no current practice was identified.
  + Access to MDT or care of adults with type 1 diabetes in hospital? Current practice suggests that some inpatient care is done well but other aspects are not.
  + Structured education attendance? Current practice from the 2015 diabetes care survey suggests around 35% of people with type 1 diabetes are not offered structured education.
  + Individualised dietary advice? Recommendation suggests this should be done as part of a structured education programme.
* Can we develop a specific, measurable statement?

**For decision:**

* Should one or more of these areas be prioritised for inclusion in the quality standard?
  1. Management of type 1 diabetes

### Blood glucose management

Stakeholders felt that adults with type 1 diabetes should have access to a choice of rtCGM (real-time continuous glucose monitoring) and isCGM (intermittently scanned continuous glucose monitoring, commonly referred to as ‘flash’), based on their individual preference, needs, characteristics and functionality of devices.

Another stakeholder felt that adults with type 1 diabetes should be offered access to technologies for glucose monitoring and insulin delivery that include, but are not limited to, isCGM, rtCGM and hybrid closed loop systems.

A stakeholder noted the importance of individually agreed HbA1c targets which consider the priorities of the person living with type 1 diabetes.

A stakeholder commented on the emerging use of ‘time in range’ as a clinical indicator.

#### Selected recommendations

NICE’s guideline on type 1 diabetes (NG17):

1.6.7 Agree an individualised HbA1c target with each adult with type 1 diabetes. Take into account factors such as their daily activities, aspirations, likelihood of complications, comorbidities, occupation and history of hypoglycaemia.

1.6.10 Offer adults with type 1 diabetes a choice of real-time continuous glucose monitoring (rtCGM) or intermittently scanned continuous glucose monitoring (isCGM, commonly referred to as 'flash'), based on their individual preferences, needs, characteristics, and the functionality of the devices available. See box 1 for examples of factors to consider as part of this discussion.

1.6.11 When choosing a continuous glucose monitoring device:

* use shared decision making to identify the person's needs and preferences, and offer them an appropriate device
* if multiple devices meet their needs and preferences, offer the device with the lowest cost.

1.6.18 Commissioners, providers and healthcare professionals should address inequalities in CGM access and uptake by:

* monitoring who is using CGM
* identifying groups who are eligible but who have a lower uptake
* making plans to engage with these groups to encourage them to consider CGM.

#### Current UK practice

No published studies on current practice were highlighted for this suggested area for quality improvement; this area is based on stakeholder’s knowledge and experience.

### Insulin pump therapy

A stakeholder commented that there is a long time period between confirming a person’s eligibility for an insulin pump and initiating pump treatment. They felt that to ensure effective access to the highest standards of care for patients who meet current NHS criteria, quicker access to insulin pump therapy is needed.

#### Selected recommendations

No guideline recommendations have been identified on the time period between confirming eligibility and initiating treatment.

#### Current UK practice

No published studies on current practice were highlighted that specifically address this suggested area for quality improvement. [The Future of Diabetes](https://www.diabetes.org.uk/get_involved/campaigning/the-future-of-diabetes) report published by Diabetes UK in 2017 noted that 28% of the 9000 people with diabetes (type 1 and type 2) who took part in the study had problems getting the medication or equipment they need to manage their diabetes. In particular, this included test strips, pumps and continuous glucose monitoring.

### Referral for islet or pancreas transplantation

A stakeholder commented that adults living with type 1 diabetes should be monitored for hypoglycaemia awareness. They felt that islet cell transplant and whole pancreas transplant should be offered for adults with type 1 diabetes who have recurrent severe hypoglycaemia that has not responded to other treatments or technologies offered.

#### Selected recommendations

NICE’s guideline on type 1 diabetes (NG17):

1.9.1 For adults with type 1 diabetes who have recurrent severe hypoglycaemia that has not responded to other treatments (see the section on hypoglycaemia awareness and management), consider referral to a centre that assesses people for islet and/or pancreas transplantation.

1.9.2 Consider islet or pancreas transplantation for adults with type 1 diabetes with suboptimal diabetes control, if they have had a renal transplant and are currently on immunosuppressive therapy.

#### Current UK practice

The [Diabetes UK](https://www.diabetes.org.uk/guide-to-diabetes/managing-your-diabetes/treating-your-diabetes/islet-cell-transplants) website states that in 2008, the UK launched the first government-funded islet transplant programme in the world. As of March 2015, 152 islet transplants were performed in the UK since the launch.

### Resource impact

Recommendation 1.6.10 (NG17) on offering adults with type 1 diabetes a choice of real-time continuous glucose monitoring (rtCGM) or intermittently scanned continuous glucose monitoring based on their individual preferences was included in the [resource impact report](https://www.nice.org.uk/guidance/ng17/resources/resource-impact-report-type-1-and-type-2-diabetes-and-continuous-glucose-monitoring-pdf-11020390813) in the Type 1 diabetes in adults: diagnosis and management update (2022). Clinical experts estimated there will be approximately 252,000 people eligible for CGM in the type 1 diabetes population in 2026/27. People with type 1 diabetes can be offered intermittently scanned glucose monitoring based on the NHSE national arrangements for funding of relevant diabetes patients. Clinical experts estimated this to currently be 53% of the type 1 diabetes population in England. Of the eligible adults with type 1 diabetes from year 5, clinical experts estimate 55% will receive intermittently scanned continuous glucose monitoring whilst 20% will receive real-time continuous glucose monitoring and 25% will be self-monitoring blood glucose levels.

Any potential discounts to the price of continuous glucose monitoring devices may have a significant impact on the costs of implementing these recommendations.

The remaining recommendations were not included in the resource impact report for (NG17). They were not identified as areas of the guidelines that would be likely to have a significant resource impact (>£1m in England each year).

### Issues for consideration

**For discussion:**

* What is the priority for improvement?
* What is the key action that will lead to improvement?
  + Access to rtCGM / isCGM?
  + Insulin pump therapy? Note that no recommendations were identified in this area.
  + Referral for transplantation? Note that the recommendations on transplantation are ‘consider’.
* Can we develop a specific, measurable statement?

**For decision:**

* Should one or more of these areas be prioritised for inclusion in the quality standard?
  1. Managing complications

### Cardiovascular risk

A stakeholder suggested the use of statins for combined prevention, noting that the achievement rate has remained static for the past few years.

#### Selected recommendations

NICE’s guideline on type 1 diabetes (NG17):

1.13.3 For guidance on tools for assessing risk of cardiovascular disease in adults with type 1 diabetes, see the recommendations on full formal risk assessment in [NICE's guideline on lipid modification](https://www.nice.org.uk/guidance/cg181/chapter/1-recommendations#full-formal-risk-assessment).

NICE’s guideline on lipid modification (CG181):

1.3.23 Consider statin treatment for the primary prevention of CVD in all adults with type 1 diabetes.

1.3.24 Offer statin treatment for the primary prevention of CVD to adults with type 1 diabetes who:

* are older than 40 years or
* have had diabetes for more than 10 years or
* have established nephropathy or
* have other CVD risk factors.

1.3.25 Start treatment for adults with type 1 diabetes with atorvastatin 20 mg.

#### Existing indicator

[NHS Digital’s Quality and Outcomes Framework](https://digital.nhs.uk/data-and-information/publications/statistical/quality-and-outcomes-framework-achievement-prevalence-and-exceptions-data/2019-20)

DM022: The percentage of patients with diabetes aged 40 years and over, with no history of CVD and without moderate or severe frailty, who are currently treated with a statin (excluding patients with type 2 diabetes and a CVD risk score of less than 10% recorded in the preceding 3 years).

#### Current UK practice

The [National Diabetes Audit (Quarterly report 2021/22)](https://digital.nhs.uk/data-and-information/publications/statistical/national-diabetes-audit/core-q3-21-22) showed that in 2021/22 68.6% of eligible people with type 1 diabetes were on statins for combined (primary and secondary) prevention. Eligibility is defined as either aged 40 – 80 years with no history of heart disease or any age with a history of heart disease.

[NHS Digital’s quality and outcomes framework](https://digital.nhs.uk/data-and-information/publications/statistical/quality-and-outcomes-framework-achievement-prevalence-and-exceptions-data/2019-20) 2019 to 2020 reported that 85.25% of patients with diabetes (type 1 and type 2) aged 40 years and over, with no history of CVD and without moderate or severe frailty, were currently treated with a statin (excluding patients with type 2 diabetes and a CVD risk score of less than 10% recorded in the preceding 3 years). (DM022)

### Diabetic foot problems

Stakeholders commented that adults at moderate or high risk of developing a diabetic foot problem should be referred to the foot protection service and those with a limb-threatening or life-threatening diabetic foot problem should be referred immediately for specialist assessment and treatment. They stated that faster referral to a specialist foot care service is associated with fewer severe ulcers.

A stakeholder noted that prompt appropriate treatment of diabetic peripheral artery disease and diabetic foot ulcers by a multi-disciplinary team of specialists can prevent exacerbation and potential need for amputation.

A stakeholder commented that there should be access to vascular services in spoke hospitals. They noted a hub and spoke model is in place across the UK however adults with type 1 diabetes can experience delays in transfer to hub site vascular services.

A stakeholder noted the high risk adults with type 1 diabetes attending dialysis units have for developing foot ulceration. They felt that the hospital based multi-disciplinary foot care service should carry out regular checks for these people and work closely with staff on dialysis units to monitor them and ensure they receive preventative care.

A stakeholder commented that the diabetic foot problems guidance is very clear on choice of antibiotics. With emerging concerns about antimicrobial resistance, particularly in people with diabetes, they felt it would be helpful to emphasise adherence to the guideline.

#### Selected recommendations

NICE’s guideline on diabetic foot problems (NG19):

1.2.1 Commissioners and service providers should ensure that the following are in place:

* A foot protection service for preventing diabetic foot problems, and for treating and managing diabetic foot problems in the community.
* A multidisciplinary foot care service for managing diabetic foot problems in hospital and in the community that cannot be managed by the foot protection service. This may also be known as an interdisciplinary foot care service.
* Robust protocols and clear local pathways for the continued and integrated care of people across all settings including emergency care and general practice. The protocols should set out the relationship between the foot protection service and the multidisciplinary foot care service.
* Regular reviews of treatment and patient outcomes, in line with the National Diabetes Foot Care Audit.

1.2.3 The multidisciplinary foot care service should be led by a named healthcare professional, and consist of specialists with skills in the following areas:

* Diabetology.
* Podiatry.
* Diabetes specialist nursing.
* Vascular surgery.
* Microbiology.
* Orthopaedic surgery.
* Biomechanics and orthoses.
* Interventional radiology.
* Casting.
* Wound care. [2015]

1.3.3 For adults with diabetes, assess their risk of developing a diabetic foot problem at the following times:

* When diabetes is diagnosed, and at least annually thereafter (see the recommendation on carrying out reassessments at intervals, depending on the person's risk of developing a diabetic foot problem).
* If any foot problems arise.
* On any admission to hospital, and if there is any change in their status while they are in hospital.

1.3.6 Assess the person's current risk of developing a diabetic foot problem or needing an amputation using the following risk stratification:

* High risk:
  + on renal replacement therapy

1.3.8 Refer people who are at moderate or high risk of developing a diabetic foot problem to the foot protection service.

1.3.9 The foot protection service should assess newly referred people as follows:

* Within 2 to 4 weeks for people who are at high risk of developing a diabetic foot problem.
* Within 6 to 8 weeks for people who are at moderate risk of developing a diabetic foot problem.

1.3.10 For people at moderate or high risk of developing a diabetic foot problem, the foot protection service should:

* Assess the feet.
* Give advice about, and provide, skin and nail care of the feet.
* Assess the biomechanical status of the feet, including the need to provide specialist footwear and orthoses.
* Assess the vascular status of the lower limbs.
* Liaise with other healthcare professionals, for example, the person's GP, about the person's diabetes management and risk of cardiovascular disease.

1.4.1 If a person has a limb-threatening or life-threatening diabetic foot problem, refer them immediately to acute services and inform the multidisciplinary foot care service (according to local protocols and pathways; also see the recommendation on services and protocols commissioners and service providers should ensure are in place), so they can be assessed and an individualised treatment plan put in place. Examples of limb-threatening and life-threatening diabetic foot problems include the following:

* Ulceration with fever or any signs of sepsis.
* Ulceration with limb ischaemia (see the NICE guideline on peripheral arterial disease).
* Clinical concern that there is a deep‑seated soft tissue or bone infection (with or without ulceration).
* Gangrene (with or without ulceration).

1.4.2 For all other active diabetic foot problems, refer the person within 1 working day to the multidisciplinary foot care service or foot protection service (according to local protocols and pathways; also see the recommendation on services and protocols commissioners and service providers should ensure are in place) for triage within 1 further working day.

1.6.8 When prescribing antibiotics for a suspected diabetic foot infection in adults aged 18 years and over, follow table 1 for a mild infection or table 2 for a moderate or severe infection.

1.6.10 Give oral antibiotics first line if the person can take oral medicines, and the severity of their condition does not require intravenous antibiotics.

1.6.11 If intravenous antibiotics are given, review by 48 hours and consider switching to oral antibiotics if possible.

1.6.12 Base antibiotic course length on the severity of the infection and a clinical assessment of response to treatment. Review the need for continued antibiotics regularly.

1.16.14 When microbiological results are available

* review the choice of antibiotic and
* change the antibiotic according to results, using a narrow-spectrum antibiotic, if appropriate.

#### Existing quality statements and indicators

[NICE’s quality standard on diabetes in adults](https://www.nice.org.uk/Guidance/QS6) (QS6):

Statement 5: Adults at moderate or high risk of developing a diabetic foot problem are referred to the foot protection service.

Statement 6: Adults with a limb-threatening or life-threatening diabetic foot problem are referred immediately for specialist assessment and treatment.

[NHS Digital’s Quality and Outcomes Framework](https://digital.nhs.uk/data-and-information/publications/statistical/quality-and-outcomes-framework-achievement-prevalence-and-exceptions-data/2019-20)

DM012: The percentage of patients with diabetes, on the register, with a record of a foot examination and risk classification: 1) low risk (normal sensation, palpable pulses), 2) increased risk (neuropathy or absent pulses), 3) high risk (neuropathy or absent pulses plus deformity or skin changes in previous ulcer) or 4) ulcerated foot within the preceding 12 months.

#### Current UK practice

The [National Diabetes Foot Care Audit](https://digital.nhs.uk/data-and-information/publications/statistical/national-diabetes-footcare-audit/2014-2021) (July 2014 – March 2021) was published in May 2022. It found that the proportion of referrals seen by a specialist foot care team within 13 days increased from 43% in 2014-15 to 46% in 2020-21. The audit noted a linked reduction in the proportion of ulcers that were severe at first expert assessment (from 48% to 43%) and the subsequent decrease in the proportion of unhealed ulcers at 12 weeks (from 49% to 40%).

The audit report notes that 33% of healthcare providers confirmed that the multi-disciplinary foot care service (MDFS) was integrated with renal services and dialysis units.

The audit notes that 75% of healthcare providers (out of a total of 96 respondents) stated it was possible for a person with a foot care emergency and evidence of vascular impairment to be assessed by a specialist vascular surgeon on the same day.

Note that this data relates to people with type 1 and people with type 2 diabetes.

[NHS Digital’s quality and outcomes framework](https://gpcontract.co.uk/timeline/ENG/DM012) 2021 reported that 53.6% of people with diabetes (type 1 and type 2) had a record of a foot examination and risk classification within the preceding 12 months (DM012).

### Mental health, eating disorders and disordered eating

Stakeholders commented that adults with type 1 diabetes are assessed for and offered access to psychological support, including for disordered eating and insulin omission. They stated that diabetes is a predisposing factor to eating disorder behaviours including insulin omission. It was noted that there are a limited number of services providing high quality support and counselling for adults with type 1 diabetes with an eating disorder across the country

Stakeholders commented that adults with type 1 diabetes should be supported to maintain general good mental health and those with more severe issues should be promptly referred to a specialist. They stated that adults with diabetes are twice as likely to suffer from depression and more likely to have depression for longer and more frequently. They also noted that some adults with type 1 diabetes may experience diabetes distress, depression and anxiety. In addition, people presenting with foot ulceration and post amputation may develop post traumatic stress disorder.

#### Selected recommendations

NICE’s guideline on type 1 diabetes (NG17):

1.1.11 Use the results of the initial diabetes assessment to agree a future care plan. This assessment should include:

* psychological wellbeing

1.4.13 Modify nutritional recommendations to adults with type 1 diabetes to take account of associated features of diabetes, including:

* disordered eating

1.4.14 Healthcare professionals giving dietary advice to adults with type 1 diabetes should be able to advise about common topics of concern and interest, and should seek advice from specialists when needed. Suggested common topics include:

* comorbidities, including nephropathy and renal failure, coeliac disease, cystic fibrosis or eating disorders

1.15.40 Members of diabetes professional teams providing care or advice to adults with type 1 diabetes should be alert to possible clinical or subclinical depression and/or anxiety, particularly if someone reports or appears to be having difficulties with self‑management.

1.15.41 Diabetes professionals should:

* ensure they have appropriate skills to identify and provide basic management of non‑severe mental health problems in people from different cultural backgrounds
* be familiar with appropriate counselling techniques and drug therapy, while arranging prompt referral to specialists for people whose mental health problems continue to interfere significantly with their wellbeing or diabetes self‑management.

See also the:

* [NICE guideline on common mental health problems](https://www.nice.org.uk/guidance/cg123)
* [NICE guideline on generalised anxiety disorder and panic disorder in adults](https://www.nice.org.uk/guidance/cg113)
* [NICE guideline on depression in adults with a chronic physical health problem](https://www.nice.org.uk/guidance/cg91).

1.15.42 Members of diabetes professional teams should be alert to the possibility of bulimia nervosa, anorexia nervosa and disordered eating in adults with type 1 diabetes with:

* over-concern with body shape and weight
* low BMI
* hypoglycaemia
* suboptimal overall blood glucose control.

See also [NICE's guideline on eating disorders](https://www.nice.org.uk/guidance/ng69).

1.15.43 Think about making an early (or if needed, urgent) referral to local eating disorder services for adults with type 1 diabetes with an eating disorder.

1.15.44 From diagnosis, the diabetes professional team should provide regular high-quality support and counselling about lifestyle and diet for all adults with type 1 diabetes (see the sections on education and information and dietary management).

NICE’s guideline on diabetic foot problems (NG19):

1.2.4 The multidisciplinary foot care service should have access to rehabilitation services, plastic surgery, psychological services and nutritional services.

#### Current UK practice

A [2015 Diabetes Care Survey](https://www.diabetes.org.uk/about_us/news/care-survey-2016) by Diabetes UK stated that 32% of people with type 1 diabetes who needed emotional support were offered it.

No published studies on current practice for specific needs, such as eating disorders, were highlighted for this suggested area for quality improvement.

### Resource impact

Recommendation 1.3.10 (NG19) on the care that should be provided by the foot protection service, including the provision of specialist footwear and orthoses, was included in the resource impact report for diabetic foot problems: prevention and management (2015). The provision of orthotic footwear on the NHS includes a requirement to fit, repair or provide a new pair of bespoke orthotic inserts and shoes on an annual basis for the rest of a person’s life and therefore has long-term recurrent costs. A study identified that out of the prevalent population 64% are at low risk of developing a diabetic foot problem, 22% (619,000) are at moderate risk and 14% (394,000) are at high risk (Khanolkar et al. 2008). The cost of providing people at moderate or high risk of developing a diabetic foot problem with bespoke orthotic footwear was estimated to be £5.4 million based on the national population.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Description** | **Current practice** | | **Future practice** | | **Change** | |
| **Patient numbers** | **Cost (£000)** | **Patient numbers** | **Cost (£000)** | **Patient numbers** | **Cost/ (saving)  (£000)** |
| **Costs from increased Orthoses** |  |  |  |  |  |  |
| Providing bespoke orthoses | 82,732 | 43,434 | 149,142 | 78,300 | 66,410 | 34,866 |
| **Savings from reduced foot ulcers** |  |  |  |  |  |  |
| Treating foot ulcers in hospital | 25,627 | 160,142 | 23,714 | 148,190 | -1,913 | (11,952) |
| Treating foot ulcers in the community | 36,514 | 117,611 | 35,571 | 114,575 | -943 | (3,036) |
| **Savings from reduced amputations** |  |  |  |  |  |  |
| Major amputations | 6,860 | 92,608 | 6,545 | 88,353 | -315 | (4,255) |
| Minor amputations | 21,724 | 183,571 | 20,726 | 175,137 | -998 | (8,434) |
| Physiotherapy | 28,585 | 15,230 | 27,271 | 14,530 | -1,313 | (700) |
| Transport | 14,292 | 6,769 | 13,636 | 6,458 | -657 | (311) |
| Wheelchairs | 3,430 | 628 | 3,273 | 599 | -158 | (29) |
| Prosthetics | 5,900 | 16,986 | 5,629 | 16,205 | -271 | (780) |
| **Net cost/(saving)** |  |  |  |  |  | **5,368** |

Implementing the guideline may result in savings from a reduction the number of diabetic foot ulcers, a reduction in the number of people having amputations and follow up care and an increase in the quality of life for the patient.

The other recommendations were not included in the resource impact report or statements for (NG17/NG19/CG181). They were not identified as areas of the guidelines that would be likely to have a significant resource impact (>£1m in England each year).

### Issues for consideration

**For discussion:**

* What is the priority for improvement?
* What is the key action that will lead to improvement?
  + Cardiovascular risk? Note that the recommendation on statin treatment for all adults with type 1 diabetes is consider.
  + Diabetic foot problems? What is the key area for improvement? Referral to foot protection service for people at moderate / high risk or for people with a limb or life threatening diabetic foot problem? Assessment by the foot protection service?
  + Mental health, eating disorders and disordered eating? Note that there are no strong, specific recommendations in this area.
* Can we develop a specific, measurable statement?

**For decision:**

* Should one or more of these areas be prioritised for inclusion in the quality standard?
  1. Annual checks

Stakeholders commented that adults with type 1 diabetes should undergo checks for complications of type 1 diabetes at least annually. Adults with type 1 diabetes are receiving all core annual checks and those at higher risk of poor outcomes are prioritised for appointments

Stakeholders commented that adults with type 1 diabetes should be offered an annual urinary albumin test due to the higher risk of chronic kidney disease for people with diabetes. They noted this has the lowest uptake of the annual care processes.

A stakeholder commented that it is unclear whether thyroid function tests are carried out annually.

#### Selected recommendations

NICE’s guideline on type 1 diabetes (NG17):

1.2.7 Use population, practice‑based and clinic diabetes registers (as specified by the [Department of Health and Social Care's national service framework for diabetes](https://www.gov.uk/government/publications/national-service-framework-diabetes)) to assist programmed recall for annual reviews and assessments of complications and cardiovascular risk.

1.6.1 Measure HbA1c levels every 3 to 6 months in adults with type 1 diabetes.

1.13.2 Assess cardiovascular risk factors annually, including:

* estimated glomerular filtration rate (eGFR) and urine albumin:creatinine ratio (ACR)
* smoking
* blood glucose control
* blood pressure
* full lipid profile (including high-density lipoprotein [HDL] and low-density lipoprotein [LDL] cholesterol, and triglycerides)
* age
* family history of cardiovascular disease
* abdominal adiposity.

1.13.5 Give adults with type 1 diabetes who smoke advice on stopping smoking and stop smoking services, including NICE guidance‑recommended therapies (see the NICE webpage on smoking and tobacco). Reinforce these messages annually for people who currently do not plan to stop smoking, and at all clinical contacts if there is a prospect of the person stopping.

1.15.6 Encourage adults to attend eye screening, and explain that it will help them to keep their eyes healthy and help to prevent problems with their vision. Explain that the screening service is effective at identifying problems so that they can be treated early.

1.15.10 Ask all adults with type 1 diabetes, with or without detected nephropathy, to bring in the first urine sample of the day ('early morning urine') once a year. Send this for estimation of albumin:creatinine ratio (estimating urine albumin concentration alone is a poor alternative) and measure eGFR at the same time. See [NICE's guideline on chronic kidney disease](https://www.nice.org.uk/guidance/ng203).

1.15.39 Measure blood thyroid‑stimulating hormone (TSH) levels in adults with type 1 diabetes at their annual review.

NICE guideline on diabetic foot problems (NG19):

1.3.3 For adults with diabetes, assess their risk of developing a diabetic foot problem at the following times:

* When diabetes is diagnosed, and at least annually thereafter (see the recommendation on carrying out reassessments at intervals, depending on the person's risk of developing a diabetic foot problem).

1.3.7 For people who are at low risk of developing a diabetic foot problem, continue to carry out annual foot assessments, emphasise the importance of foot care, and advise them that they could progress to moderate or high risk.

1.3.11 Depending on the person's risk of developing a diabetic foot problem, carry out reassessments at the following intervals:

* Annually for people who are at low risk.
* Frequently (for example, every 3 to 6 months) for people who are at moderate risk.
* More frequently (for example, every 1 to 2 months) for people who are at high risk, if there is no immediate concern.
* Very frequently (for example, every 1 to 2 weeks) for people who are at high risk, if there is immediate concern.

Consider more frequent reassessments for people who are at moderate or high risk, and for people who are unable to check their own feet.

#### Existing indicators

[Indicators no longer in the Quality and Outcomes Framework](https://digital.nhs.uk/services/general-practice-gp-collections/service-information/indicators-no-longer-in-qof-inliq)

DM005: The percentage of patients with diabetes, on the register, who have a record of an albumin:creatinine ratio test in the preceding 12 months.

DM011: The percentage of patients with diabetes, on the register, who have a record of retinal screening in the preceding 12 months.

#### Current UK practice

The [National Diabetes Audit (Quarterly report 2021/22)](https://digital.nhs.uk/data-and-information/publications/statistical/national-diabetes-audit/core-q3-21-22) shows that in 2021/22, the uptake of the 8 care processes for people (children and adults) with type 1 diabetes was:

* HbA1c testing– 69.6%
* Blood pressure check – 69.4%
* Cholesterol testing – 61.3%
* Serum creatinine testing– 68.3%
* Urine albumin testing– 39.4%
* Foot surveillance – 47.5%
* BMI check – 63.6%
* Smoking check – 79.2%
* All 8 care processes - 25.5%

[NHS Digital’s quality and outcomes framework](https://gpcontract.co.uk/timeline/ENG/DM005) 2020 reported that 65% of people with diabetes (type 1 and type 2) had a record of an albumin:creatinine ratio test in the preceding 12 months (DM005).

[NHS Digital’s quality and outcomes framework](https://gpcontract.co.uk/timeline/ENG/DM011) 2020 reported that 73.7% of people with diabetes (type 1 and type 2) had a record of retinal screening in the preceding 12 months (DM011).

No published studies on current practice for thyroid function testing were highlighted; this area is based on stakeholder’s knowledge and experience.

### Resource impact

These recommendations were not included in the resource impact report or statement for (NG17/NG19). They were not identified as areas of the guidelines that would be likely to have a significant resource impact (>£1m in England each year).

### Issues for consideration

**For discussion:**

* What is the priority for improvement?
  + Urinary albumin testing?
  + Thyroid function testing?
  + All checks taking place? If so, should this be the 8 processes identified in the National Diabetes Audit to ease the data collection burden?
* Note that there are no recommendations for annual eye screening.
* Can we develop a specific, measurable statement?

**For decision:**

* Should one or more of these areas be prioritised for inclusion in the quality standard?

* 1. Additional areas

### Summary of suggestions

The improvement areas below were suggested as part of the stakeholder engagement exercise. However, they were felt to be either unsuitable for development as quality statements, outside the remit of this particular quality standard referral or need further discussion by the committee to establish potential for statement development.

There will be an opportunity for the committee to discuss these areas at the end of the Advisory Committee meeting.

Table 2 Summary of information available for additional areas

| Suggested area for improvement | Within remit of NICE QS | In scope | Guideline recs | Relevant  existing QS |
| --- | --- | --- | --- | --- |
| Improving preconception care | Yes | No | Yes | Yes |
| Digital health technologies | No | No | No | No |
| Health inequalities | Yes | No | Yes | No |
| Clarity on specific medications | No | No | No | No |
| Content of guideline | No | No | No | No |
| Suspension of NICE accreditation programme | No | No | No | No |

### Improving preconception care

It was felt that access to preconception care should be improved to allow patients with diabetes to discuss all important aspects of diabetes care prior to conception. [NICE’s quality standard on diabetes in pregnancy](https://www.nice.org.uk/guidance/qs109) is currently being updated and includes a quality statement in this area.

### Digital health technologies

A stakeholder noted that diabetes is an increasingly technological field reliant on digital health. They queried how the NHS should judge the quality of digital health technologies with relation to diabetes.

This area has not been progressed because quality standards focus on areas for quality improvement that can be addressed by local commissioners.

### Health inequalities

A stakeholder highlighted the importance of addressing health inequalities in the provision of care, particularly for people who are homeless and people who cannot read or write.

This area has not been progressed however equality and diversity considerations will be included, where appropriate, in the quality standard.

### Clarity on specific medications

A stakeholder noted that although the licence to use dapagliflozin for type 1 diabetes has been withdrawn, this is being addressed by the MHRA. They also felt there is a need for clarity on the use of SGLT-2 for other indications which typically exclude type 1 diabetes.

This has not been progressed as marketing authorisation and clarity on the use of medication is outside the scope of quality standards.

### Content of guideline

A stakeholder felt that the guideline should include long-acting subcutaneous insulin and queried some of the content of the guideline, feeling some is contradictory. They also felt clarity is needed in the guideline around not offering continuous glucose monitoring for people who achieve good glycaemic control in the absence of hypoglycaemia on self-monitoring of blood glucose.

This area has not been progressed because the content of the guideline is outside of the remit of quality standards. Suggestions for additional guidance will be passed on to the NICE centre for guidelines

### NICE accreditation programme

A stakeholder noted that some areas, such as cystic-fibrosis related diabetes, could not be included in the quality standard as they are not in the NICE guidance. Other organisations have produced guidance in these areas but cannot be used as the NICE accreditation programme has been discontinued.

This area has not been progressed because it is outside the remit of quality standards.

© NICE 2022. All rights reserved. Subject to [Notice of rights](https://www.nice.org.uk/terms-and-conditions#notice-of-rights).

# Appendix 1: Suggestions from registered stakeholders

| ID | Stakeholder | Suggested key area for quality improvement | Why is this a key area for quality improvement? | **Supporting information** |
| --- | --- | --- | --- | --- |
| **Diagnosis, support and education** | | | | |
| 1 | ABCD (Association of British Clinical Diabetologists) | Key area for quality improvement 2 - Type 1 diabetes only  Adults living with type 1 diabetes are offered a programme of diabetes structured education from diagnosis that is updated at least annually, to include intentive insulin therapy and carbohydrate counting. These programmes should be quality assured (e.g. using QISMET) and should be delivered in a variety of formats to encourage maximum uptake. | As per NICE NG17  [Recommendations | Type 1 diabetes in adults: diagnosis and management | Guidance | NICE](https://www.nice.org.uk/guidance/ng17/chapter/Recommendations#education-and-information) | [Home - DAFNE](https://dafne.nhs.uk/)  [Welcome - BERTIE Online](https://www.bertieonline.org.uk/) |
| 2 | ABCD (Association of British Clinical Diabetologists) | Key area for quality improvement 6 - Type 1 diabetes only  Adults living with type 1 diabetes who are admitted to hospital should be kept safe from harm and be supported to manage their own diabetes care wherever possible | As per [Joint British Diabetes Societies (JBDS) for Inpatient Care Group | ABCD (Diabetes Care) Ltd](https://gbr01.safelinks.protection.outlook.com/?url=https%3A%2F%2Fabcd.care%2Fjoint-british-diabetes-societies-jbds-inpatient-care-group&data=05%7C01%7CHermione.Price%40southernhealth.nhs.uk%7Cb803341c4b244b043b8f08da53772bd9%7C4e6404cac8c142369c2c22845a98a473%7C0%7C0%7C637914068543929525%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=HLenhd7jv%2Fcd%2FvAOjiqCqdYG0rnPcSp%2F8RR8O84P9dI%3D&reserved=0) | NaDIA ([National Diabetes Inpatient Audit (NaDIA) - 2019 - NHS Digital](https://gbr01.safelinks.protection.outlook.com/?url=https%3A%2F%2Fdigital.nhs.uk%2Fdata-and-information%2Fpublications%2Fstatistical%2Fnational-diabetes-inpatient-audit%2F2019&data=05%7C01%7CHermione.Price%40southernhealth.nhs.uk%7Cb803341c4b244b043b8f08da53772bd9%7C4e6404cac8c142369c2c22845a98a473%7C0%7C0%7C637914068543929525%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=PyVkJ1DPsOdWOI9hWF3O7V%2FTBNMaqzsz9Rfb5R%2FOIKM%3D&reserved=0)) and NDISA ([National Diabetes Inpatient Safety Audit (NDISA) information for hospitals - NHS Digital](https://gbr01.safelinks.protection.outlook.com/?url=https%3A%2F%2Fdigital.nhs.uk%2Fdata-and-information%2Fclinical-audits-and-registries%2Fnational-diabetes-inpatient-safety-audit%2Finformation-for-hospitals&data=05%7C01%7CHermione.Price%40southernhealth.nhs.uk%7Cb803341c4b244b043b8f08da53772bd9%7C4e6404cac8c142369c2c22845a98a473%7C0%7C0%7C637914068543929525%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=F3cqNigcoptqlA9CIsqmRL%2B4mwxyj5WnlxIOMPiOtwg%3D&reserved=0)) |
| 3 | The British Dietetic Association  (Diabetes Specialist Group) | Key area for quality improvement 5 - Type 1 diabetes only  Consistent messages regarding nutritional management of type 1 diabetes in inpatient and care settings which is agreed with the person living with type 1 diabetes. Patients should be able to make their own dietary choices. | People with type 1 diabetes do not like being overruled with respect to their food choices and insulin dose and where possible this should always be supported.  People ageing with type 1 diabetes report concerns with respect to entering residential and nursing care and need to be supported in their autonomy and be able to make decisions about diabetes management when appropriate. | Diabetes UK Working Group |
| 4 | The British Dietetic Association  (Diabetes Specialist Group) | Key area for quality improvement 3 - Type 1 diabetes only  Access to individualised dietary education from a Registered Dietitian to include carbohydrate counting and healthy eating advice:   * At diagnosis and at appropriate intervals. * Where there are other conditions also requiring specialist dietary advice (e.g. Coeliac disease) * When there is a significant change in treatment, lifestyle of social situation   For those experiencing a delay or who are unable to attend structured education programme | Type and quality of dietary advice during the first year following diagnosis (while awaiting structured education) is variable. Structured education should be available within 6-12 months, yet waiting lists are often much longer, particularly as a result of the pandemic. Quality assured dietary advice should be available at diagnosis and at appropriate intervals, to include carbohydrate counting and healthy eating for CVD risk, with modification for   * excess weight and obesity * underweight * disordered eating * hypertension * renal failure. | NG17  Consider carbohydrate‑counting courses for adults with type 1 diabetes who are waiting for a more detailed structured education programme or who are unable to take part in a standalone structured education programme.  1.15.40  From diagnosis, the diabetes professional team should provide regular high-quality support and counselling about lifestyle and diet for all adults with type 1 diabetes (see the [sections on education and information](https://www.nice.org.uk/guidance/ng17/chapter/recommendations#education-and-information) and [dietary management](https://www.nice.org.uk/guidance/ng17/chapter/recommendations#dietary-management)). [2004]  From diagnosis, provide nutritional information that is sensitive to the personal needs and culture of each adult with type 1 diabetes. [2004] |
| 5 | Diabetes UK | Adults with type 1 diabetes in hospital should receive advice from a multidisciplinary team with expertise in diabetes | The National Diabetes Inpatient Audit (NaDIA) continues to make the long-standing recommendation that every unit should have a dedicated multidisciplinary team of specialist diabetes practitioners, in line with the NHS Long Term Plan.  These teams are essential to reduce the high rates of medication errors and DKA seen in people with diabetes when they are patients in hospital, and maintain the progress made in reducing the rates of severe hypoglycemic episodes and improving delivery of personalised care reported in the most recent 2019 audit. | NaDIA reports on the quality of care received by people with diabetes in hospital including staffing levels and team information:  <https://digital.nhs.uk/data-and-information/publications/statistical/national-diabetes-inpatient-audit> |
| 6 | NHS England National Diabetes Programme | Adults with type 1 diabetes are offered a structured education programme (including equal standard alternatives to group based learning such as nationally available digital programmes) from diagnosis, and this offer should be reinforced and reviewed annually. | Diabetes is a challenging and complex condition and people need the skills to manage the daily demands of self-management and avoid complications.  Structured education has been shown to improve glycaemic control leading to a reduction in HbA1c, reduce risk of hypoglycaemia (thereby reducing emergency treatment costs), help restore hypoglycaemia awareness, improve quality of life and reduce anxiety and depression. An offer of structured education forms part of the NICE guidance for T1 diabetes management.  The National Diabetes Audit found that in 2020/21 only 40% of people diagnosed with type 1 diabetes that year were offered structured education, and only 7.2% attended. | [Diabetes%20UK\_Diabetes%20education%20-%20the%20big%20missed%20opportunity\_updated%20June%202016.pdf (diabetes-resources-production.s3-eu-west-1.amazonaws.com)](https://diabetes-resources-production.s3-eu-west-1.amazonaws.com/diabetes-storage/migration/pdf/Diabetes%2520UK_Diabetes%2520education%2520-%2520the%2520big%2520missed%2520opportunity_updated%2520June%25202016.pdf)  [Microsoft Power BI](https://app.powerbi.com/view?r=eyJrIjoiOGY3YWRiYTYtYjAzMi00YjM4LTkwYmItZTJkN2Y3ODZiMGE5IiwidCI6IjUwZjYwNzFmLWJiZmUtNDAxYS04ODAzLTY3Mzc0OGU2MjllMiIsImMiOjh9)  NICE NG17 |
| 7 | NHS England National Diabetes Programme | Adults with type 1 diabetes should have access to a multidisciplinary team with expertise in diabetes, including during hospital admissions for both diabetes and non-diabetes related events | Treatment by a multi-disciplinary team of specialists can support those with type 1 diabetes to better manage their condition. Support by such a team during hospital stays can reduce length of stay, improve quality of care and reduce readmission rates and is recommended by NICE guidance. | NICE NG17 |
| 8 | NHS England National Diabetes Programme | Adults with type 1 diabetes should have access to a multidisciplinary team with expertise in diabetes, including during hospital admissions for both diabetes and non-diabetes related events | Treatment by a multi-disciplinary team of specialists can support those with type 1 diabetes to better manage their condition. Support by such a team during hospital stays can reduce length of stay, improve quality of care and reduce readmission rates and is recommended by NICE guidance. | NICE NG17 |
| 9 | Oxford Centre for Diabetes, Endocrinology and Metabolism | Key area for quality improvement 2 - Type 1 diabetes only  Integration of primary and secondary care | Currently, primary, community and secondary diabetes care are fragmented. This is due to challenges in the communication between the services, poor sharing of patient level data between primary and secondary care and poor integration of financial and outcome targets across the different providers. Although ICS may provide some overarching governance, it is important to define what good quality integrated care is.  Quality standard around the best way of integrating care across the community and integration of data and data sharing between primary and secondary care is required. | NICE guidance for type 1 diabetes (NG 17, published 2015, updated 2022): “1.2 Support and individualised care 1.2.2 Advice to adults with type 1 diabetes should be provided by a range of professionals with skills in diabetes care, working together in a coordinated approach. **[2004, amended 2021]”**  “1.2.7 Use population, practice‑based and clinic diabetes registers (as specified by the [Department of Health and Social Care's national service framework for diabetes](https://www.gov.uk/government/publications/national-service-framework-diabetes)) to assist programmed recall for annual reviews and assessments of complications and cardiovascular risk. **[2004]”** |
| 10 | Oxford Centre for Diabetes, Endocrinology and Metabolism | Key area for quality improvement 3 - Type 1 diabetes only  Ensuring accurate diagnosis of the type of diabetes | Type of diabetes may sometimes be misclassified which leads to inappropriate decisions about glucose-lowering treatments.  It is important to ensure correct diagnosis among young adults assessed in a robust manner.  The diagnosis has to be re-evaluated if there is diagnostic uncertainty. | NICE guidance for type 1 diabetes (NG 17, published 2015, updated 2022):  “Take into consideration the possibility of other diabetes subtypes and revisit the diagnosis at subsequent clinical reviews. Carry out further investigations if there is uncertainty”  “In people with a negative diabetes-specific autoantibody result, and if diabetes classification remains uncertain, consider measuring non-fasting serum C‑peptide (with a paired blood glucose).”  No QS per se. |
| 11 | SCM1 | Key area for quality improvement 2 - Type 1 diabetes only | Type 1 Diabetes Clinics for these patients in the community who do not want to be referred to hospital or do not engage with services | Currently being trialled in our borough with the Endocrinologist coming into General Practice |
| 12 | SCM1 | Key area for quality improvement 1 - Type 1 diabetes only | Type 1 Diabetes patients currently managed by their GP and do not want to be referred to hospital can have access to Diabetes Education programmes like DAFNE Bertie | Unless referred into the hospital service these patients cannot get the diabetes education they need |
| 13 | SCM2 | Key area for quality improvement 10  Remote consultation – both type 1 and type 2 diabetes | Clarity on frequency and appropriateness of remote consultation, made necessary by COVID, but likely appropriate on an ongoing basis for some individuals. Recognition that physical exams cannot be done… | <https://www.diabetes.org.uk/professionals/resources/shared-practice/remote-consultations>  <https://www.who.int/news/item/14-04-2022-the-global-diabetes-compact-a-promising-first-year> |
| 14 | SCM2 | Key area for quality improvement 11  Structured education – remote and face-to-face | Evaluation and availability of remote (virtual) structured education. | https://dafne.nhs.uk/wp-content/uploads/2022/05/Differences-between-face-to-face-and-remote-DAFNE-courses-April-2022.pdf |
| 15 | SCM2 | Key area for quality improvement 1 - Type 2 diabetes only  Lack of inpatient diabetes specialist advice in some in-patient facilities – applies equally to type 1 diabetes | Care of diabetes for inpatients in institutions which have traditionally not be covered by the diabetes audit, but who are very likely to care for people with diabetes – notably, psychiatric hospitals heart and lung hospital (e.g. Papworth) and care homes.  Applies also to type 1 diabetes |  |
| 16 | SCM3 | Key area for quality improvement 3 - Type 1 diabetes only  Access to tailored dietary education to include carbohydrate counting and healthy eating advice:   * from diagnosis and at appropriate intervals   for those experiencing a delay / can’t attend structured education programme | Type and quality of dietary advice during the first year following diagnosis (while awaiting structured education) is variable. Structured education should be available within 6-12 months, yet waiting lists are often much longer, particularly as a result of the pandemic. Quality assured dietary advice should be available at diagnosis and at appropriate intervals, to include carbohydrate counting and healthy eating for CVD risk, with modification for   * excess weight and obesity * underweight * disordered eating * hypertension * renal failure. | NG17  Consider carbohydrate‑counting courses for adults with type 1 diabetes who are waiting for a more detailed structured education programme or who are unable to take part in a standalone structured education programme.  1.15.40  From diagnosis, the diabetes professional team should provide regular high-quality support and counselling about lifestyle and diet for all adults with type 1 diabetes (see the [sections on education and information](https://www.nice.org.uk/guidance/ng17/chapter/recommendations#education-and-information) and [dietary management](https://www.nice.org.uk/guidance/ng17/chapter/recommendations#dietary-management)). [2004]  From diagnosis, provide nutritional information that is sensitive to the personal needs and culture of each adult with type 1 diabetes. [2004] |
| 17 | SCM4 | Key area for quality improvement 1 - Type 1 diabetes only  Structured education programmes for adults with Type 1 Diabetes | The National Diabetes Audit, 2019-20 (T1D) found that the recorded rates of being offered structured education within one and two years of diagnosis have steadily increased over time (reaching ~50% within 1yr of diagnosis).  Poor recording means that recorded rates of attendance remain implausibly low and should be addressed.  We need to ensure education is evidence-based and suits the needs of the person. | NDA  NICE guideline NG17 |
| 18 | SCM5 | Key area for quality improvement 3 - Type 1 diabetes only | The GIRFT report for Diabetes identified that there are areas there is no training for staff performing foot screening examinations, and patients were not made aware of their foot risk level for ulceration.  Opportunities to identify and address problems early are lost. The NDFA report 2014-2021 highlights the advantages of early access to multidisciplinary diabetes foot services (MDFS) | The South West Partnership – project was successful in reducing ulceration and amputations within the Southwest by developing and implementing a set of 10 good practice actions for foot services. GIRFT endorse the South West good practice actions and advise all trusts and ICBs (ICSs) to adopt them:  South west: 10 steps to effective diabetic footcare services 1 Patient education at annual review 2 Regular community healthcare professional education 3 Adequate podiatry community staffing with rotation in to MDFT 4 Job planned MDFT weekly 5 Administrative support 6 Pathways and communication of plan of care to patient 7 Identification of diabetic inpatients and their foot checks 8 Orthotist an integral part of MDFT 9 Urgent vascular opinion available to foot clinic staff 10 Ulcer database and root cause analysis of all amputations.  Reference: Paisey RB, Abbott A, Levenson R et al. Diabetes-related major lower limb amputation incidence is strongly related to diabetic foot service provision and improves with enhancement of services: peer review of the South-West of England. Diabet Med. 2018 Jan;35(1):53-62 |
| 19 | SCM5 | Key area for quality improvement 2 - Type 1 diabetes only | The Getting Right First Time (GIRFT) – Diabetes report from November 2020 highlighted the variations withinin in-patient services for people with type 1 diabetes with some trusts not having an effective system to identify patients admitted whom have diabetes.  The NHS Long Term Plan: “For those who periodically need secondary care support we will ensure that all hospitals in future provide access to multidisciplinary footcare teams and diabetes inpatient specialist nursing teams to improve recovery and to reduce lengths of stay and future readmission rates.” | The findings from GIRFT re-inforce the Diabetes UK report “Making Hospitals safe for people with diabetes.” (2018)  The GIRFT reports predicts better outcomes for patients (insulin errors and avoidable harms, eliminating readmissions and reducing length of stay) and savings in the management of their diabetes as inpatients. [Layout 1 (gettingitrightfirsttime.co.uk)](https://www.gettingitrightfirsttime.co.uk/wp-content/uploads/2020/11/GIRFT-diabetes-report.pdf) |
| **Management of type 1 diabetes** | | | | |
| 20 | ABCD (Association of British Clinical Diabetologists) | Key area for quality improvement 1 - Type 1 diabetes only  Adults living with type 1 diabetes are offered access to technologies for glucose monitoring and insulin delivery (including but not limited to flash glucose monitoring, rtCGM and hybrid closed loop systems) | The ABCD nationwide audit and others have shown the benefits of using these technologies for people living with type 1 diabetes including reduction in hypoglycaemia, improved glycaemic control and improved quality of life. | Please see: [ABCD - Nationwide FreeStyle Libre Audit (diabetologists-abcd.org.uk)](http://www.diabetologists-abcd.org.uk/n3/Freestyle_Libre_Audit.htm)  And  [DTN-UK Best Practice Guides | ABCD (Diabetes Care) Ltd](https://abcd.care/dtn/best-practice-guides) |
| 21 | ABCD (Association of British Clinical Diabetologists) | Key area for quality improvement 3 - Type 1 diabetes only  Adults living with type 1 diabetes are monitored for hypoglycaemia awareness. Islet cell transplant and whole pancreas transplant should be offered for adults with type 1 diabetes who have recurrent severe hypoglycaemia that has not responded to other treatments or technologies offered. | As per NICE NG17  [Recommendations | Type 1 diabetes in adults: diagnosis and management | Guidance | NICE](https://www.nice.org.uk/guidance/ng17/chapter/Recommendations#education-and-information) |  |
| 22 | The British Dietetic Association  (Diabetes Specialist Group) | Key area for quality improvement 1 - Type 1 diabetes only  Offer adults with T1 equality of access to a choice of rtCGM and isCGM | The new guidance on access to CGM is seeing an increase in offer of rtCGM and isCGM.  There is concern that there are barriers to access for diabetes technologies for those experiencing health inequalities (this stems from the NPDA\*). | NICE NG28: Adults with type 1 diabetes should be offered a choice of real-time continuous glucose monitoring (rtCGM) or intermittently scanned continuous glucose monitoring (isCGM, commonly referred to as 'flash'), based on their individual preferences, needs, characteristics, and the functionality of the devices available  NPDA 2019/2020  The use of diabetes technologies in CYP living in the most deprived areas and of non-white ethnicity is lower than in other groups. The report shows that the gaps in diabetes device usage among CYP of different ethnic groups and between those CYP living in the most and least deprived areas has widened from 2014 to 2020.  The audit report shows that children of black ethnicity with T1D had highest HbA1c compared to any other ethnic group year on year (Figure 1), and there is a consistent trend of higher HbA1cassociated with those CYP with T1D living in more deprived areas. |
| 23 | The British Dietetic Association  (Diabetes Specialist Group) | Key area for quality improvement 4 - Type 1 diabetes only   * Individually negotiated HbA1c targets which consider the priorities of the person living with type 1 diabetes | * Use of other clinical and biochemical data when interpreting HbA1c * Use person experience of hypoglycaemia and understanding of risk when interpreting HbA1c   Use Time In Range and other data from CGM or flash monitoring as a companion of HbA1c when making recommendations | NICE NG 17 |
| 24 | Diabetes UK | Adults with type 1 diabetes are offered CGM (isCGM/Flash or rtCGM) based on their individual preference | Blood glucose monitoring technologies like isCGM/Flash and rtCGM are proven to improve clinical outcomes and provide a better quality of life for people who use them. They are also cost-effective for the NHS.  The benefits of technology for self-management at a time when services are recovering are evident in our recent survey of 10,000 people living with diabetes, which reported 79% of those using diabetes technology agreed that it had helped them to manage their condition during the pandemic.  However, not everyone who is eligible for CGM is prescribed it and there are marked inequalities in access and uptake of the technology. | NICE’s guideline ‘Type 1 Diabetes in Adults’ recommend that adults with type 1 diabetes are offered a choice of isCGM (Flash) or rtCGM based on their individual preference (recommendation 1.6.10)  The guidelines also state (recommendation 1.6.18) that commissioners and healthcare professionals (HCPs) should monitor who is using CGM and use local data to address inequalities in uptake by identifying those who are eligible but not prescribed it. |
| 25 | NHS England National Diabetes Programme | Adults with type 1 diabetes should be able to access appropriate technology to monitor and manage their blood glucose levels based on their individual preference, needs, characteristics and functionality of devices | Technologies such as continuous subcutaneous insulin  infusion using insulin pumps and continuous glucose monitoring can help improve diabetes control, reduce hypoglycaemia and improve quality of life. | NG17 1.6.10  NICE TA151 (soon to be updated by NICE) <https://www.nice.org.uk/guidance/ta151>  <https://www.diabetes.org.uk/resources-s3/2019-03/Nikki%20diabetic%20medicine%20article.pdf?#:~:text=The%20pathway%20emphasizes%20the%20importance,to%20use%20the%20technology%20appropriately> |
| 26 | Oxford Centre for Diabetes, Endocrinology and Metabolism | Key area for quality improvement 4 - Type 1 diabetes only  Quicker access to insulin pump therapy | It has been noted that there is a long time period between confirming patient’s eligibility for an insulin pump and initiating pump treatment. To ensure effective access to the highest standards of care for patients who meet current NHS criteria, quicker access to insulin pump therapy is needed.  It was felt that identifying agendas / distress before appointment by using a pre-consultation tool may be a helpful approach. | NICE guidance for type 1 diabetes (NG 17, published 2015, updated 2022):  State HbA1c criterion for starting insulin pump but not the time frame.  -attempts to reach target haemoglobin A1c (HbA1c) levels with multiple daily injections result in the person having ‘disabling hypoglycaemia’, or  -HbA1c levels have remained high (70mmol (8.5%) or above) with multiple daily injections (including using long-acting insulin analogues if appropriate) despite the person and/or their carer carefully trying to manage their diabetes  [TA151](https://www.nice.org.uk/guidance/TA151/chapter/1-Guidance) 1.1 relates to when to use a pump. No recs on initiating treatment. |
| 27 | SCM2 | Key area for quality improvement 6  Use of CGM in some people with type 2 diabetes and emerging use of ‘time in range’ as a clinical indicator (applies also to type 1 diabetes) | Emerging use of ‘time in range’ as a clinical indicator |  |
| 28 | SCM3 | Key area for quality improvement 1 - Type 1 diabetes only  Offer adults with T1 equality of access to a choice of rtCGM and isCGM | The new guidance on access to CGM is seeing an increase in offer of rtCGM and isCGM.  There is concern that there are barriers to access for diabetes technologies for those experiencing health inequalities (this stems from the NPDA\*). | NICE NG28: Adults with type 1 diabetes should be offered a choice of real-time continuous glucose monitoring (rtCGM) or intermittently scanned continuous glucose monitoring (isCGM, commonly referred to as 'flash'), based on their individual preferences, needs, characteristics, and the functionality of the devices available  NPDA 2019/2020  The use of diabetes technologies in CYP living in the most deprived areas and of non-white ethnicity is lower than in other groups. The report shows that the gaps in diabetes device usage among CYP of different ethnic groups and between those CYP living in the most and least deprived areas has widened from 2014 to 2020.  The audit report shows that children of black ethnicity with T1D had highest HbA1c compared to any other ethnic group year on year (Figure 1), and there is a consistent trend of higher HbA1cassociated with those CYP with T1D living in more deprived areas. |
| **Managing complications** | | | | |
| 29 | ABCD (Association of British Clinical Diabetologists) | Key area for quality improvement 4 - Type 1 diabetes only  Adults living with type 1 diabetes are assessed for and offered access to psychological support (including for disordered eating and insulin omission) | As per NICE NG17  [Recommendations | Type 1 diabetes in adults: diagnosis and management | Guidance | NICE](https://www.nice.org.uk/guidance/ng17/chapter/Recommendations#education-and-information) | [Diabetes and psychological care | Diabetes UK](https://www.diabetes.org.uk/professionals/resources/shared-practice/psychological-care) |
| 30 | The British Dietetic Association  (Diabetes Specialist Group) | Key area for quality improvement 2 - Type 1 diabetes only  Identification and management of Type 1 diabetes and disordered eating (T1DE) | Diabetes is a predisposing factor to eating disorder behaviours including insulin omission.  The recent pandemic has resulted in a large increase in eating disorder risk in the UK.  New eating disorder guidelines for diabetes have been published by Royal college of Psychiatrists in collaboration with the NHSE T1DE pilots in London and Wessex. | Please see NICE guideline [NG17], recommendations: 1.4.13, which highlight the importance of modifying nutritional recommendations to adults with type 1 diabetes to take into account associated features of diabetes, including disordered eating.  And see 1.4.14 which suggests that healthcare professionals giving dietary advice to adults with type 1 diabetes should be able to advise about comorbidities including eating disorders and to seek advice from specialists.  Please see Royal College of Psychiatrists national guidance: ‘Recognising and Managing Medical Emergencies in Eating Disorders (Replacing MARSIPAN and Junior MARSIPAN) Annexe 3: Type 1 diabetes and eating disorders (T1DE)’.  NG17 1.15.38  Members of diabetes professional teams should be alert to the possibility of bulimia nervosa, anorexia nervosa and [disordered eating](https://www.nice.org.uk/guidance/ng17/chapter/recommendations#disordered-eating) in adults with type 1 diabetes with:   * over-concern with body shape and weight * low BMI * hypoglycaemia * suboptimal overall blood glucose control.   See also [NICE's guideline on eating disorders](https://www.nice.org.uk/guidance/ng69). [2004, amended 2021]  1.15.39 Think about making an early (or if needed, urgent) referral to local eating disorder services for adults with type 1 diabetes with an eating disorder. [2004, amended 2021] |
| 31 | Diabetes UK | Adults at moderate or high risk of developing a diabetic foot problem are referred to the foot protection service and those with a limb-threatening or life-threatening diabetic foot problem are referred immediately for specialist assessment and treatment | The National Diabetes Foot Audit (NDFA) has consistently found that faster referral to a specialist foot care service is associated with fewer severe ulcers and recommends that dedicated multidisciplinary foot teams should be accessible everywhere.  Despite improvements in the proportion of severe and active ulcers being treated which is linked to an increase in prompt referrals to specialist footcare teams, the NDFA Interval Review 2014-2021 also worryingly found that 18% of people presenting with a severe ulcer either underwent a major amputation or died within one year. | The NDFA regular collects data on the incidence and outcomes of diabetic foot problems: <https://digital.nhs.uk/data-and-information/clinical-audits-and-registries/national-diabetes-foot-care-audit> |
| 32 | Diabetes UK | Adults with type 1 diabetes should be supported to maintain general good mental health and those with more severe issues should be promptly referred to a specialist | Research shows people with diabetes are twice as likely to suffer from depression and more likely to have depression for longer and more frequently, which demands good emotional and psychological support.  There is also a strong evidence that the pandemic has led to a deterioration of mental health for many that needs to be addressed. For example, almost a quarter of the 10,000 people living with or affected by diabetes who responded to our 2022 survey said that not having sufficient access to emotional and psychological support during the pandemic was a reason for having difficulties with managing their diabetes. | NICE’s guideline ‘Type 1 Diabetes in Adults’ recommends that members of diabetes professional teams should be alert to possible anxiety and depression in people with diabetes and have skills to identify and support basic management of non-severe mental illness. They should also be familiar with appropriate counselling techniques and drug therapy to treat for people with more severe mental illness whilst arranging specialist referral. (Recommendations 1.15.36 and 1.15.37)  Insight on the emotional and psychological impact of diabetes, particularly during the pandemic, can be found in our Diabetes is Serious report:  <https://diabetes-resources-production.s3.eu-west-1.amazonaws.com/resources-s3/public/2022-04/Diabetes%20is%20Serious%20Report%20Digital_0.pdf?VersionId=lLpcXWRXhAli4Y3D_y7BABGqrGOq9lcB> |
| 33 | NHS England National Diabetes Programme | “Adults at moderate or high risk of developing a diabetic foot problem are referred to the foot protection service; those with active foot disease (such as active foot ulceration or suspected Charcot) are referred within one working day to the multidisciplinary foot care service or foot protection service for triage within one further working day; and those with a limb-threatening or life-threatening diabetic foot problem are referred immediately to acute services.” | Prompt appropriate treatment of diabetic peripheral artery disease and diabetic foot ulcers by a multi- disciplinary team of specialists can prevent exacerbation and potential need for amputation.  Access to a multi-disciplinary team forms part of NICE guidance for the management of diabetic foot problems | NICE NG19 |
| 34 | Oxford Centre for Diabetes, Endocrinology and Metabolism | Key area for quality improvement 1 - Type 1 diabetes only:  Better access to psychological support. | It is important to ensure access to expert psychological support when needed. To facilitate this, routine assessment of diabetes distress and other stress-related variables are required (depression, anxiety, etc.) to guide triaging process. | NICE guidance for type 1 diabetes (NG 17, published 2015, updated 2022) highlighted that an assessment of psychological needs is part of diabetes review.  Quality standard [QS125], Diabetes in children and young people (2022):  Statement 6: Children and young people with type 1 or type 2 diabetes are offered access to mental health professionals with an understanding of diabetes.  No QS for adults but guidance suggests psychological assessment in all age groups. |
| 35 | SCM2 | Key area for quality improvement 9  Diabetes and mental health | Diabetes and mental health  This applies to managing diabetes in people with pre-existing mental health issues, but also offering limited support (possible via AI or other means) for people who diabetes leads them to have mental health concerns. | https://www.diabetes.org.uk/resources-s3/2018-08/Diabetes%20and%20Mental%20Health%20%28PDF%2C%205.7MB%29.pdf |
| 36 | SCM2 | Key area for quality improvement 8  Emerging problem of antimicrobial resistance Applies to all types of diabetes | The diabetes foot problems guidance is very clear on choice of antibiotics. With emerging concerns about antimicrobial resistance (and NICE work on this) particularly in people with diabetes– it would be good to emphasise adherence to these guidelines. I am not aware of specific problems, but work in a centre of excellence. | https://www.nice.org.uk/media/default/about/what-we-do/into-practice/measuring-uptake/niceimpact-antimicrobial-resistance.pdf  https://www.nice.org.uk/guidance/ng19 |
| 37 | SCM3 | Key area for quality improvement 2 - Type 1 diabetes only  Identification and management of Type 1 diabetes and disordered eating (T1DE) | Diabetes is a predisposing factor to eating disorder behaviours including insulin omission.  The recent pandemic has resulted in a large increase in eating disorder risk in the UK.  New eating disorder guidelines for diabetes have been published by Royal college of Psychiatrists in collaboration with the NHSE T1DE pilots in London and Wessex. | Please see NICE guideline [NG17], recommendations: 1.4.13, which highlight the importance of modifying nutritional recommendations to adults with type 1 diabetes to take into account associated features of diabetes, including disordered eating.  And see 1.4.14 which suggests that healthcare professionals giving dietary advice to adults with type 1 diabetes should be able to advise about comorbidities including eating disorders and to seek advice from specialists.  Please see Royal College of Psychiatrists national guidance: ‘Recognising and Managing Medical Emergencies in Eating Disorders (Replacing MARSIPAN and Junior MARSIPAN) Annexe 3: Type 1 diabetes and eating disorders (T1DE)’.  NG17 1.15.38  Members of diabetes professional teams should be alert to the possibility of bulimia nervosa, anorexia nervosa and [disordered eating](https://www.nice.org.uk/guidance/ng17/chapter/recommendations#disordered-eating) in adults with type 1 diabetes with:   * over-concern with body shape and weight * low BMI * hypoglycaemia * suboptimal overall blood glucose control.   See also [NICE's guideline on eating disorders](https://www.nice.org.uk/guidance/ng69). [2004, amended 2021]  1.15.39  Think about making an early (or if needed, urgent) referral to local eating disorder services for adults with type 1 diabetes with an eating disorder. [2004, amended 2021] |
| 38 | SCM4 | Key area for quality improvement 4 - Type 1 diabetes only  Statins for combined prevention | NDA (2019-20) – The median achievement rates of statins for primary, secondary and combined prevention has remained fairly static for the past few years . Achievement figures of 70% for statins for combine prevention (The figures only include people eligible for statins in calculation) | NDA 2019-20  Nice Guideline NG17 🡪 highlights that we should identify cardiovascular risk and provide interventions to reduce risk and manage cardiovascular disease  CVD Prevent |
| 39 | SCM4 | Key area for quality improvement 3 - Type 1 diabetes only  Eating disorders and disordered eating | Adults with T1D and eating disorders or disordered eating are referred for specialist assessment, support and treatment.  There are a limited number of areas /services providing high quality support and counselling for adults with T1D with an eating disorder across the country | Nice guideline NG17 |
| 40 | SCM5 | Key area for quality improvement 4 - Type 1 diabetes only | Ensuring access to vascular services in spoke hospitals  In 2012, national vascular service redesign occurred following poor aneurysm outcome data. A hub and spoke model is now in place across the UK. Patients admitted to spoke hospital can experience delay in transfer to hub site vascular services highlighting an inequality.  GIRFT recommended solutions:   * Holding multi-disciplinary diabetes footcare clinics ideally twice a week. * Ensuring a vascular surgeon is on site whenever there is a multi-disciplinary footcare clinic. * Developing closer relationships between diabetes and vascular services, with a key role for nurses to act as a liaison between teams. * A member of the vascular team reviewing every patient admitted with an acute footcare problem within 24 hours of admission. * A service level agreement or standard governing how hubs will provide cover to support spokes when needed. * Governance over every hub and spoke link to ensure that the service is being delivered as specified, with auditing and national benchmarking of outcomes for people with diabetes managed in the vascular service.   Closer working and outreach with primary care and community-based teams (including podiatrists), ensuring links to MDFTs. | GIRFT recommendation 12:  Everyone with a diabetic footcare emergency requiring admission should be assessed the same day by the MDFS. If the MDFS identifies vascular impairment, they should have same day access to a vascular opinion, according to NICE NG19, whether the hospital is a vascular service hub or a spoke. If the MDFS is not present, the patient must still be assessed same day, which may require transfer to the vascular service.  Action: a GIRFT diabetes and vascular surgery workstreams will work together to monitor and identify an evidence base for vascular access. |
| 41 | SCM5 | Key area for quality improvement 1 - Type 1 diabetes only | The National Diabetes Footcare Audit report 2014-2021; Integrated Specialist Services Structures Survey (ISS) found that the number of areas offering integrated Footcare and renal services was just 33% in England and Wales.  This suggests a regional variation. People with renal disease in diabetes have a high incidence of foot disease. | The Getting it Right First Time (GIRFT) - Diabetes report 2020 identifies the high risk those attending dialysis units have for developing foot ulceration. They recommend the hospital based MDFS carry out regular checks on the patients and work closely with staff on dialysis units to monitor their status and ensure they receive preventative care.   * A paper written by Valabhji, J. 2012 : Foot problems in patients with diabetes and chronic kidney disease. [FOOT PROBLEMS IN PATIENTS WITH DIABETES AND CHRONIC KIDNEY DISEASE - Valabhji - 2012 - Journal of Renal Care - Wiley Online Library](https://onlinelibrary.wiley.com/doi/full/10.1111/j.1755-6686.2012.00284.x) sites several papers which lend evidence for the association of renal disease and diabetes foot ulceration: Ndip A., Lavery L.A. & Boulton A.J. (2010a). Diabetic foot disease in people with advanced nephropathy and those on renal dialysis. *Current Diabetes Reports* **10**, 283– 290. [Crossref](https://onlinelibrary.wiley.com/servlet/linkout?suffix=null&dbid=16&doi=10.1111%2Fj.1755-6686.2012.00284.x&key=10.1007%2Fs11892-010-0128-0)[PubMed](https://onlinelibrary.wiley.com/servlet/linkout?suffix=null&dbid=8&doi=10.1111%2Fj.1755-6686.2012.00284.x&key=20532700)[Web of Science®](https://onlinelibrary.wiley.com/servlet/linkout?suffix=null&dbid=128&doi=10.1111%2Fj.1755-6686.2012.00284.x&key=000279128900005)[Google Scholar](http://scholar.google.com/scholar_lookup?hl=en&volume=10&publication_year=2010a&pages=283-290&journal=Current+Diabetes+Reports&author=A.+Ndip&author=L.A.+Lavery&author=A.J.+Boulton&title=Diabetic+foot+disease+in+people+with+advanced+nephropathy+and+those+on+renal+dialysis) * Ndip A., Rutter M.K., Vileikyte L. *et al*. (2010b). Dialysis treatment is an independent risk factor for foot ulceration in patients with diabetes and stage 4 or 5 chronic kidney disease. *Diabetes Care* **33**, 1811– 1816. [Crossref](https://onlinelibrary.wiley.com/servlet/linkout?suffix=null&dbid=16&doi=10.1111%2Fj.1755-6686.2012.00284.x&key=10.2337%2Fdc10-0255)[CAS](https://onlinelibrary.wiley.com/servlet/linkout?suffix=null&dbid=32&doi=10.1111%2Fj.1755-6686.2012.00284.x&key=1%3ACAS%3A528%3ADC%252BC3cXhtFahs7jF)[PubMed](https://onlinelibrary.wiley.com/servlet/linkout?suffix=null&dbid=8&doi=10.1111%2Fj.1755-6686.2012.00284.x&key=20484126)[Web of Science®](https://onlinelibrary.wiley.com/servlet/linkout?suffix=null&dbid=128&doi=10.1111%2Fj.1755-6686.2012.00284.x&key=000281422600023)[Google Scholar](http://scholar.google.com/scholar_lookup?hl=en&volume=33&publication_year=2010b&pages=1811-1816&journal=Diabetes+Care&author=A.+Ndip&author=M.K.+Rutter&author=L.+Vileikyte&title=Dialysis+treatment+is+an+independent+risk+factor+for+foot+ulceration+in+patients+with+diabetes+and+stage+4+or+5+chronic+kidney+disease) * Other references of support: * Ndip A, Vardhan A, Breislin K, Boulton AJ (2012) High mortality rates from foot complications in diabetic patients on dialysis. Diabetes **61**(Suppl 1): A32 (abstract 120-OR)   Pollard H, Rajbhandari S, Solomon L (2015) A renal specialist podiatrist accessing patients with diabetes in a tertiary care haemodialysis unit can improve concordance and reduce the risk of amputation. Diabet Med **32**(Suppl 1): 152–3 (abstract P401) |
| 42 | SCM5 | Key area for quality improvement 5 - Type 1 diabetes only | The GIRFT report highlights the Impact of psychological for people with type 1 diabetes and in addition people presenting with foot ulceration and post amputation who may develop Post traumatic stress disorder. issues such as diabetes distress, depression, anxiety. The importance of psychological support across the diabetes healthcare economy is realised however there are variations in access and type of psychological support across England. | Data from the NADIA report 2019 shows people with diabetes find hospital a stressful place associating it with a loss of control and lack of understanding about their condition. This is especially prevalent if they are suffering from depression. Inpatient pilot study, NaDIA 2009  Diabetes UK report highlighted the higher emotional stress associated with being in hospital highlighting the need for psychological support for inpatients. 0Diabetes UK (2017) Future of Diabetes report <https://www.diabetes.org.uk/resources-s3/2017-11/1111B%20The%20future%20of%20diabetes%20report_FINAL_.pdf> |
| Annual checks | | | | |
| 43 | ABCD (Association of British Clinical Diabetologists) | Key area for quality improvement 5 - Type 1 diabetes only  Adults living with type 1 diabetes are screened for complications of type 1 diabetes at least annually | As per NICE NG17  [Recommendations | Type 1 diabetes in adults: diagnosis and management | Guidance | NICE](https://www.nice.org.uk/guidance/ng17/chapter/Recommendations#education-and-information) |  |
| 44 | Diabetes UK | Adults with type 1 diabetes are receiving all core annual checks and those at higher risk of poor outcomes are prioritised for appointments | National audit data has shown a sharp decline in the number of adults with type 1 diabetes who received the eight core NICE-recommended care processes (HbA1c, creatinine, cholesterol, blood pressure, BMI, smoking habit, urinary albumin, eye and foot checks) with just 27% of people in England receiving all their recommended checks in 2020-21, compared with 42% in 2019-2020.  These annual checks are essential for identifying potential risks early and informing the care and treatment required to prevent complications. It is vital that this standard is encouraged as services recover from the impact of the COVID-19 pandemic.  The Royal College of General Practitioners (RCGP) have also developed guidance with input from the NHS to support the recovery of primary care services for people with long term conditions. For diabetes, they recommend focusing on people who have not had a routine check in over 12 months and further prioritising those with other factors such a recent HbA1c above 58mmol/mol, high blood pressure, a history of complications and co-morbidities which increase their risk of poor outcomes. | The completion of the core care processes are reported through the National Diabetes Audit (NDA).  This recent paper shows the link between non-completion of care processes and non-Covid related mortality in people with diabetes over the pandemic: https://www.thelancet.com/journals/landia/article/PIIS2213-8587(22)00131-0/fulltext  A cohort study of data from the NDA over seven years also found people with diabetes who have fewer routine care processes have higher mortality: <https://pubmed.ncbi.nlm.nih.gov/34405512/>  The RCGP’s guidance on COVID-19 recovery is here: https://www.rcgp.org.uk/covid-19/latest-covid-19-guidance-in-your-area.aspx |
| 45 | Healthy.io | Adults with type 1 diabetes are offered an annual urinary albumin test | NICE guidance NG17 recommends that all adults with type 1 diabetes should receive an annual test for albumin: creatinine ratio (ACR) due to the higher risk of chronic kidney disease for people with diabetes.  The National Diabetes Audit found that the proportion of people of people with type 1 diabetes receiving an annual albumin test is the worst performing of all 8 care processes for diabetes management, with only half of people with type 1 diabetes receiving this test. This compares with over 80% for other care processes, and performance is worse for people with type 1 diabetes than people with type 2 diabetes.  Ensuring that all people living with type 1 diabetes receiving an ACR test annually is essential to ensure:   * Diagnosis of chronic kidney disease. Classification of CKD and appropriate identification of highest risk patients requires both GFR and ACR, as set out in NG203: Chronic kidney disease: assessment and management (2021). * Albuminuria is a strong independent risk factor for end stage renal disease, cardiovascular disease and death.   There is significant variation across England in terms of care process delivery and standardised approaches are required to ensure equity for patients. | The National Diabetes Audit measures the completion of recommended care processes for people with diabetes and progress over time: <https://digital.nhs.uk/data-and-information/publications/statistical/national-diabetes-audit>  NICE impact: diabetes (2018) indicates that the reason for poor delivery of this care process includes ‘people not bringing a urine sample and its use in a smaller number of conditions, meaning it is less routinely used by GPs’, indicating the need for greater awareness of this care process amongst clinicians: <https://www.nice.org.uk/media/default/about/what-we-do/into-practice/measuring-uptake/impact-diabetes.pdf>  Studies indicate that albuminuria is a strong risk predictor for Eng-Stage Renal Disease, CVD and death: Coresh J, et al. The definition, classification, and prognosis of chronic kidney disease: a KDIGO Controversies Conference report. Kidney Int 2010; 80:17  The RENAAL trial demonstrated that cardiovascular events are more common with albuminuria and less likely to occur if albuminuria is reduced: Post hoc analysis of ‘RENAAL’ trial (1513 patients with diabetic nephropathy – Losartan v placebo) de Zeeuw et al Circulation 2004 DOI: 10.1161/01.CIR.0000139860.33974.28  Healthy.io’s home-based ACR testing service for people with diabetes, Minuteful Kidney, has been made available for 640,000 patients via the Accelerated Access Collaborative AI in Health and Care award. This approach is outlined in NICE MIB221: <https://www.nice.org.uk/advice/mib221> |
| 46 | NHS England National Diabetes Programme | Adults with type 1 diabetes should receive all nine care processes, including urinary ACR testing, at a frequency recommended by NICE | Regular delivery of the diabetes care processes falls in line with NICE guidance NG17, in the prevention and management of complications and risk (such as cardiovascular disease, kidney disease, diabetic foot problems, eye disease etc) | NICE NG17 NICE NG19 |
| 47 | SCM2 | Key area for quality improvement 5 - Type 1 diabetes only  Other autoimmune (and cardiovascular) illness | Confusion on how often to screen for other autoimmune disease - coeliac guidelines (if I read them correctly) state screen at diagnosis of type 1 diabetes. This is not clear in NICE Type 1 diabetes guidelines (and requires reading another document)  Not clear whether TFTs done annually  Not clear whether annual lipids for people already on statin really required. | Coeliac disease: recognition, assessment and management NICE guideline [NG20] Published: 02 September 2015 |
| 48 | SCM4 | Key area for quality improvement 2 - Type 1 diabetes only  Urine ACR uptake | NDA (2019-20) – the lowest median care process rate and the greatest range is seen for urine albumin checks. | NDA |
| **Additional areas** | | | | |
| 49 | Oxford Centre for Diabetes, Endocrinology and Metabolism | Key area for quality improvement 5 - Type 1 diabetes only  Pregnancy and preconception in people with diabetes – improving preconception care | It was felt that access to preconception care should be improved to allow patients with diabetes to discuss all important aspects of diabetes care prior to conception. | NICE guidance on diabetes in pregnancy (NG3) published 2015, updated 2020 highlights the key areas to be discussed with women living with diabetes and their families prior to conception.  Quality standard [QS109], Diabetes in pregnancy (2016),  Statement 1: Women with diabetes planning a pregnancy are prescribed 5 mg/day folic acid from at least 3 months before conception.  Other 6 out of 7 quality standards relate to managing diabetes during pregnancy. There are not standards for pre-conception period. |
| 50 | Oxford Centre for Diabetes, Endocrinology and Metabolism | Key area for quality improvement 6 – applying digital health technologies to the care of people with diabetes | Diabetes is an increasingly technological field reliant on digital health. How should the NHS judge the quality of digital health technologies with relation to diabetes? | https://www.nice.org.uk/corporate/ecd7  <https://www.thelancet.com/journals/landig/article/PIIS2589-7500(22)00030-9/fulltext> |
| 51 | SCM1 | Key area for quality improvement 3 - Type 1 diabetes only | Addressing health inequalities in provision of care Reducing health inequalities including homeless, people that cannot read or write | Have equal access to services |
| 52 | SCM2 | Key area for quality improvement 1 - Type 1 diabetes only  INSULIN – appropriate use – multiple issues  Appropriate use of insulin including ‘Ultra long-acting insulin analougues NICE NG17 1.7.4. and use of biosimilars - likely applies to type 2 diabetes as well | Am aware that degludec insulin used more widely than guidance recommends despite repeatedly being shown not to reflect value for money.  Encourage use of biosimilars for insulin - but this is inconsistent with “1.7.9 When prescribing, ensure that insulins are prescribed by brand name. [2021]”  ‘Acquisition cost’ is mentioned only for long-acting insulins, but not for short-acting insulins. This is inconsistent. | https://openprescribing.net/chemical/0601012Z0/  <https://gmmmg.nhs.uk/wp-content/uploads/2021/08/NTS-Recommendation-Insulin-degludec-for-DM-Type-1-and-2.pdf> |
| 53 | SCM2 | Key area for quality improvement 2 - Type 1 diabetes only  Update on use of dapagliflozin | Although licence (marketing authorisation for type 1 diabetes indication) withdrawn, MHRA is addressing this issue having heard from clinicians and patients.  Also, need clarity on use of SGLT-2 for OTHER indications which typically exclude type 1 diabetes because of safety concerns. | <https://www.bmj.com/content/376/bmj.o373> |
| 54 | SCM2 | Key area for quality improvement 3 - Type 1 diabetes only  CGM – when to STOP for non-compliance, and definition of compliance | Greater clarity on when to stop for non-compliance, but also greater clarity on not offering CGM for people who achieve good glycaemic control in absence of hypoglycaemia on SBGM in addition to 1.6.14 | 1.6.14 identifies people who ‘do not want’ CGM, but not people who might be doing excellently on SBGM. |
| 55 | SCM2 | Key area for quality improvement 4 - Type 1 diabetes only  Managing DKA – ‘Management of DKA in adults should be in line with local clinical governance. [2004]’ | 1.11.4 Why would DKA be managed ‘with local governance’ when NICE guidelines are national?  No mention of use of long acting subcutaneous insulin |  |
| 56 | SCM2 | Key area for quality improvement 7  Explicit acknowledgement that this quality standard focuses on type 1 and type 2 diabetes (and foot complications per se) but does not reference other types of diabetes e.g. cystic fibrosis related diabetes, ‘MODY’, glucose-corticorticoid (‘steroid’)-induced diabetes and new onset diabetes and transplant, to name a few. | While guidance exists for some of these, it’s not clear whether the guidance was developed in line with NICE standards and yet NICE has suspended this programme. | <https://www.diabetes.org.uk/resources-s3/2017-09/JBDS%20management%20of%20hyperglycaemia%20and%20steriod%20therapy_0.pdf>  <https://www.cysticfibrosis.org.uk/sites/default/files/2020-12/Diabetes%20mellitus%20management%20Jun%2004.pdf>  <https://www.nice.org.uk/about/what-we-do/accreditation> |
| **No comments** | | | | |
| 57 | RCGP | We did not have any comments to offer for the quality standard at this stage, however we will be re-engaging again when the document goes out for consultation. |  |  |
| 58 | RCN | We do not have any comments on this Topic Engagement. Thank you for the opportunity to contribute. |  |  |