NATIONAL INSTITUTE FOR HEALTH AND CARE EXCELLENCE

Type 2 diabetes in adults

NICE quality standard

Draft for consultation

20 September 2022

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| **This quality standard covers** prevention, diagnosis and management of type 2 diabetes in adults. It describes high-quality care in priority areas for improvement. It does not cover diabetes in children and young people, diabetes in pregnancy and other types of diabetes.  This quality standard will update and replace the existing [quality standard on diabetes in adults](https://www.nice.org.uk/Guidance/QS6) (published March 2011, updated 2016). The topic was identified for update following a review of quality standards. The review identified:   * changes in the priority areas for improvement * new and updated guidance on type 2 diabetes in adults * that the quality standard on diabetes in adults should be split into separate quality standards on type 1 diabetes in adults and type 2 diabetes in adults.   For more information see [update information](http://www.nice.org.uk/guidance/qsXXX/chapter/Update-information).  This is the draft quality standard for consultation (from 20 September to 19 October 2022). The final quality standard is expected to publish by February 2023. |

# Quality statements

[Statement 1](#_Quality_statement_1:) Adults at high risk of type 2 diabetes are offered a referral to an NHS Diabetes Prevention Programme. **[2016, updated 2022]**

[Statement 2](#_Quality_statement_2:) Adults with type 2 diabetes are offered a structured education programme at diagnosis. **[2011, updated 2022]**

[Statement 3](#_Quality_statement_X) Adults with type 2 diabetes and a learning disability or cognitive impairment who have multiple daily insulin injections, and adults with insulin-treated type 2 diabetes who need help from a care worker or healthcare professional to monitor their blood glucose, are offered intermittently scanned continuous glucose monitoring. **[new 2022]**

[Statement 4](#_Quality_statement_[X]) Adults with type 2 diabetes and chronic heart failure or established atherosclerotic cardiovascular disease, or chronic kidney disease (CKD) with an albumin to creatinine ratio (ACR) over 30 mg/mmol on optimised standard care, are offered an appropriate SGLT2 inhibitor. **[new 2022]**

[Statement 5](#_Quality_statement_5:) Adults with type 2 diabetes have key care processes completed every 12 months. **[new 2022]**

[Statement 6](#_Quality_statement_6:) Adults with type 2 diabetes who are admitted to hospital are assessed for their risk of developing a diabetic foot problem. **[new 2022]**

In 2022 this quality standard was updated, and statements prioritised in 2016 were updated (2011, updated 2022) or replaced (new 2022). For more information, see [update information](#_Update_information_2).

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| Questions for consultationQuestions about the quality standard **Question 1** Does this draft quality standard accurately reflect the key areas for quality improvement?  **Question 2** Are local systems and structures in place to collect data for the proposed quality measures? If not, how feasible would it be for these to be put in place?  **Question 3** Do you think each of the statements in this draft quality standard would be achievable by local services given the net resources needed to deliver them? Please describe any resource requirements that you think would be necessary for any statement. Please describe any potential cost savings or opportunities for disinvestment. Local practice case studies **Question 4** Do you have an example from practice of implementing the NICE guideline that underpins this quality standard? If so, please provide details on the comments form. |

# Quality statement 1: Preventing type 2 diabetes

## Quality statement

Adults at high risk of type 2 diabetes are offered a referral to an NHS Diabetes Prevention Programme. **[2016, updated 2022]**

## Rationale

Many cases of type 2 diabetes can be delayed or prevented through changes to a person’s diet and physical activity. Evidence-based intensive lifestyle-change programmes, such as the NHS Diabetes Prevention Programme, can significantly reduce the risk of developing the condition for those at high risk.

## Quality measures

The following measures can be used to assess the quality of care or service provision specified in the statement. They are examples of how the statement can be measured and can be adapted and used flexibly. Services may want to use these measures to focus on dimensions of health inequality, for example by reporting data grouped by ethnicity or indices of deprivation.

### Process

a) Proportion of adults at high risk of type 2 diabetes who are offered a referral to an NHS Diabetes Prevention Programme.

Numerator – the number in the denominator who are offered a referral to an NHS Diabetes Prevention Programme.

Denominator – the number of adults at high risk of type 2 diabetes.

**Data source:** National data are collected in the [National Diabetes Audit’s Diabetes Prevention Programme non-diabetic hyperglycaemia report](https://digital.nhs.uk/data-and-information/clinical-audits-and-registries/national-diabetes-audit/core).

b) Proportion of adults at high risk of type 2 diabetes who attend an NHS Diabetes Prevention Programme.

Numerator – the number in the denominator who attend an NHS Diabetes Prevention Programme.

Denominator – the number of adults at high risk of type 2 diabetes offered a referral to an NHS Diabetes Prevention Programme.

**Data source:** The [National Diabetes Audit diabetes prevention programme non-diabetic hyperglycaemia report](https://digital.nhs.uk/data-and-information/clinical-audits-and-registries/national-diabetes-audit/core) collects and reports data on the number of people who have non-diabetic hyperglycaemia registered in GP practices in England who did not decline an offer to an NHS Diabetes Prevention Programme behavioural change course. Data includes breakdown by sex, ethnicity, age, deprivation and body mass index.

c) Proportion of adults at high risk of type 2 diabetes who complete an NHS Diabetes Prevention Programme.

Numerator – the number in the denominator who complete an NHS Diabetes Prevention Programme.

Denominator – the number of adults at high risk of type 2 diabetes referred to an NHS Diabetes Prevention Programme.

**Data source:** The [National Diabetes Audit](https://digital.nhs.uk/data-and-information/clinical-audits-and-registries/national-diabetes-audit/core) collects data on completion of an NHS Diabetes Prevention Programme as part of the Diabetes Prevention Programme dataset.

### Outcome

a) Weight loss of participants in an NHS Diabetes Prevention Programme.

**Data source:** No routinely collected national data for this measure has been identified. Data can be collected from information recorded locally by healthcare professionals and provider organisations, for example from patient records. The [National Diabetes Audit](https://digital.nhs.uk/data-and-information/clinical-audits-and-registries/national-diabetes-audit/core) collects data on body mass indexes (BMI) as part of the Diabetes Prevention Programme dataset.

b) Incidence of type 2 diabetes in adults.

**Data source:** No routinely collected national data for this measure has been identified. Data can be collected from information recorded locally by healthcare professionals and provider organisations, for example from patient records.

## What the quality statement means for different audiences

**Service providers** (such as local authorities who provide the NHS Health Check programme) ensure that systems are in place for adults at high risk of type 2 diabetes to be offered a referral to an NHS Diabetes Prevention Programme.

**Health and public health professionals** (such as GPs, pharmacists and people carrying out diabetes risk assessments and other health checks) ensure that they offer a referral to an NHS Diabetes Prevention Programme to adults at high risk of type 2 diabetes. Health and public health professionals should recognise when offering a behaviour change intervention may not be appropriate due to personal circumstances.

**Commissioners** (such as local authorities and NHS England) ensure that they commission services in which adults at high risk of type 2 diabetes are offered a referral to an NHS Diabetes Prevention Programme.

**Adults who have been told they are at high risk of getting type 2 diabetes** are offered a programme that will help them change their lifestyle to reduce their risk. This includes support to become more physically active and improve their diet.

## Source guidance

[Type 2 diabetes: prevention in people at high risk. NICE guideline PH38](https://www.nice.org.uk/guidance/ph38) (2012, updated 2017), recommendation 1.5.4

## Definitions of terms used in this quality statement

### High risk of type 2 diabetes

Fasting plasma glucose or HbA1c tests should be offered to adults with high risk scores from a validated computer-based risk-assessment tool or a validated self-assessment questionnaire. A blood test should also be considered for those aged 25 and over of South Asian or Chinese family background whose BMI is greater than 23 kg/m2. A fasting plasma glucose level of 5.5 mmol/litre to 6.9 mmol/litre or an HbA1c level of 42 mmol/mol to 47 mmol/mol (6.0% to 6.4%) indicates that a person is at high risk of type 2 diabetes. [Adapted from [NICE's guideline on type 2 diabetes: prevention in people at high risk](https://www.nice.org.uk/guidance/ph38), recommendations 1.3.1 and 1.4.1]

### Intensive lifestyle-change programme

A structured and coordinated range of interventions provided in different venues for adults identified as being at high risk of developing type 2 diabetes. It should be local, evidence-based and quality assured and involve the target community in planning the design and delivery of the programme to ensure it is sensitive and flexible to their needs, and should adopt a person-centred, empathy building approach. The aim is to help adults to become more physically active and improve their diet. If the adult is overweight or obese, the programme should result in weight loss. Programmes may be delivered to individuals or groups (or involve a mix of both) depending on the resources available. They can be provided by primary care teams and public, private or community organisations with expertise in dietary advice, weight management and physical activity. An example is the NHS Diabetes Prevention Programme. [Adapted from [NICE's guideline on type 2 diabetes: prevention in people at high risk](https://www.nice.org.uk/guidance/ph38), recommendations 1.5.4, 1.8.2, 1.8.4 and glossary, and expert opinion]

## Equality and diversity considerations

Adults at high risk of type 2 diabetes should be given information that they can easily read and understand themselves, or with support, so they can communicate effectively with health and care services. Information should be in a format that suits their needs and preferences. It should be accessible to adults who do not speak or read English, and it should be culturally appropriate and age appropriate. Adults should have access to an interpreter or advocate if needed.

For adults with additional needs related to a disability, impairment or sensory loss, information should be provided as set out in [NHS England's Accessible Information Standard](https://www.england.nhs.uk/ourwork/accessibleinfo/) or the equivalent standards for the devolved nations.

Programmes should be offered at times, and in locations, that meet the needs of adults with type 2 diabetes and particularly groups such as older people, adults from minority ethnic backgrounds, vulnerable or socially disadvantaged adults and disabled adults. Provision should also be made for adults who may have difficulty accessing services in conventional healthcare venues. [Adapted from [NICE's guideline on type 2 diabetes: prevention in people at high risk](https://www.nice.org.uk/guidance/ph38), recommendations 1.8.2, 1.8.9, 1.15.2 and 1.15.5]

# Quality statement 2: Structured education programme

## Quality statement

Adults with type 2 diabetes are offered a structured education programme at diagnosis. **[2011, updated 2022]**

## Rationale

Type 2 diabetes is a progressive long-term medical condition that the person predominantly self-manages. Managing type 2 diabetes involves lifestyle changes, and treatment can be complex. Structured education programmes can help adults with type 2 diabetes to improve their knowledge and skills and motivate them to self-manage effectively. These should be offered at diagnosis and with reinforcement and review each year.

## Quality measures

The following measures can be used to assess the quality of care or service provision specified in the statement. They are examples of how the statement can be measured, and can be adapted and used flexibly. Services may want to use these measures to focus on dimensions of health inequality, for example by reporting data grouped by ethnicity or indices of deprivation.

### Process

a) Proportion of adults with type 2 diabetes who are offered a structured education programme at diagnosis.

Numerator – the number in the denominator who are offered a structured education programme at diagnosis.

Denominator – the number of adults with a new diagnosis of type 2 diabetes.

**Data source:** The [National Diabetes Audit’s care processes and treatment targets report](https://digital.nhs.uk/data-and-information/publications/statistical/national-diabetes-audit) collects and reports data on the number of adults with type 2 and other types of diabetes (excluding type 1 diabetes) who have been offered structured education within 1 and 2 years of diagnosis and with no time limit from 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) reports data on the percentage of patients newly diagnosed with diabetes who have a record of being referred to a structured education programme within 9 months of entry on to the diabetes register.

b) Proportion of adults with a new diagnosis of type 2 diabetes who attend a structured education programme.

Numerator – the number in the denominator who attend a structured education programme.

Denominator – the number of adults with a new diagnosis of type 2 diabetes.

**Data source:** The [National Diabetes Audit care processes and treatment targets report](https://digital.nhs.uk/data-and-information/publications/statistical/national-diabetes-audit) collects and reports data on the number of adults with type 2 and other types of diabetes (excluding type 1 diabetes) who have attended structured education within 1 and 2 years of diagnosis.

c) Proportion of adults with a new diagnosis of type 2 diabetes who complete a structured education programme.

Numerator – the number in the denominator who complete a structured education programme.

Denominator – the number of adults with type 2 diabetes who attend a structured education programme.

**Data source:** No routinely collected national data for this measure has been identified. Data can be collected from information recorded locally by healthcare professionals and provider organisations, for example, from patient records.

### Outcome

Patient satisfaction with ability to self-manage their type 2 diabetes after attending a structured education programme.

**Data source:** No routinely collected national data for this measure has been identified. Data can be collected locally by healthcare professionals and provider organisations, for example, from patient surveys.

## What the quality statement means for different audiences

**Service providers** (such as GPs and community healthcare providers) ensure that systems are in place for adults with type 2 diabetes to be offered a structured education programme at diagnosis, with annual reinforcement and review.

**Healthcare professionals** (such as GPs, practice nurses and community healthcare providers) ensure that they offer a structured education programme to adults with type 2 diabetes at diagnosis, with annual reinforcement and review.

**Commissioners** (such as integrated care systems and NHS England) ensure that they commission structured education programmes for adults with type 2 diabetes.

**Adults with type 2 diabetes** are offered a referral to a course to help them improve their understanding of type 2 diabetes and how to manage it in their everyday life. The course should be offered at the time of the diagnosis of type 2 diabetes and reviewed each year.

## Source guidance

[Type 2 diabetes in adults: management. NICE guideline NG28](https://www.nice.org.uk/guidance/ng28) (2015, updated 2022), recommendation 1.2.1

## Definitions of terms used in this quality statement

### Structured education programme

Adults with type 2 diabetes should be offered group education programmes as the preferred option. Any structured education programme for adults with type 2 diabetes should:

* be evidence-based and suit the needs of the person
* have specific aims and learning objectives, and should support the person and their family members and carers to develop attitudes, beliefs, knowledge and skills to self-manage diabetes
* have a structured curriculum that is theory-driven, evidence-based and resource-effective, has supporting materials and is written down
* be quality assured and reviewed by trained, competent, independent assessors who measure it against criteria to ensure consistency
* have outcomes that are audited regularly
* meet the cultural, linguistic, cognitive and literacy needs of people in the local area
* be delivered by trained educators who:
  + understand educational theory appropriate to the age and needs of the person

are trained and competent to deliver the principles and content of the programme.

[Adapted from [NICE’s guideline on type 2 diabetes in adults](https://www.nice.org.uk/guidance/ng28), recommendations 1.2.2, 1.2.4 and 1.2.5]

## Equality and diversity considerations

Structured education programmes should meet the cultural, linguistic, cognitive and literacy needs in the local area. Group education programmes are the preferred option, but an alternative of equal standard should be provided for adults who are unable or prefer not to take part in group education.

[[NICE’s guideline on type 2 diabetes in adults](https://www.nice.org.uk/guidance/ng28), recommendations 1.2.4 and 1.2.5]

Adults with type 2 diabetes should be provided with information that they can easily read and understand themselves, or with support, so they can communicate effectively with educators. Information should be in a format that suits their needs and preferences. It should be accessible to adults who do not speak or read English, and it should be culturally appropriate and age appropriate. Adults should have access to an interpreter or advocate if needed.

For adults with additional needs related to a disability, impairment or sensory loss, information should be provided as set out in [NHS England's Accessible Information Standard](https://www.england.nhs.uk/ourwork/accessibleinfo/) or the equivalent standards for the devolved nations.

# Quality statement 3: Continuous glucose monitoring

## Quality statement

Adults with type 2 diabetes and a learning disability or cognitive impairment who have multiple daily insulin injections, and adults with insulin-treated type 2 diabetes who need help from a care worker or healthcare professional to monitor their blood glucose, are offered intermittently scanned continuous glucose monitoring. **[new 2022]**

## Rationale

Intermittently scanned continuous glucose monitoring (isCGM) can help to improve glycaemic control in adults with type 2 diabetes who use insulin. It helps to improve glycaemic control by providing sufficient, reliable recordings of glucose against which insulin dose and schedules can be adjusted. The use of isCGM by adults with type 2 diabetes who have a learning disability, cognitive impairment or who would need help to monitor their blood glucose, will potentially increase their independence when compared with monitoring by finger-prick capillary methods.

## Quality measures

The following measures can be used to assess the quality of care or service provision specified in the statement. They are examples of how the statement can be measured, and can be adapted and used flexibly. Services may want to use these measures to focus on dimensions of health inequality, for example by reporting data grouped by ethnicity or indices of deprivation.

### Process

a) Proportion of adults with type 2 diabetes and a learning disability or cognitive impairment who have multiple daily insulin injections who use isCGM.

Numerator – the number in the denominator who use isCGM.

Denominator – the number of adults with type 2 diabetes and a learning disability or cognitive impairment who have multiple daily insulin injections.

**Data source:** No routinely collected national data for this measure has been identified. Data can be collected from information recorded locally by healthcare professionals and provider organisations, for example from patient records. Adults with a learning disability could be identified by using the learning disability register in general practice.

b) Proportion of adults with insulin-treated type 2 diabetes who need help from a care worker or healthcare professional to monitor their blood glucose who use isCGM.

Numerator – the number in the denominator who use isCGM.

Denominator – the number of adults with insulin-treated type 2 diabetes who need help from a care worker or healthcare professional to monitor their blood glucose.

**Data source:** No routinely collected national data for this measure has been identified. Data can be collected from information recorded locally by healthcare professionals and provider organisations, for example from patient records.

### Outcome

a) Time spent in target glucose range for adults with type 2 diabetes and a learning disability or cognitive impairment who have multiple daily insulin injections, and adults with insulin-treated type 2 diabetes who need help from a care worker or healthcare professional to monitor their blood glucose.

**Data source:** No routinely collected national data for this measure has been identified. Data can be collected from information recorded locally by healthcare professionals, for example from isCGM readers.

b) Health-related quality of life for adults with type 2 diabetes and a learning disability or cognitive impairment who have multiple daily insulin injections, and adults with insulin-treated type 2 diabetes who need help from a care worker or healthcare professional to monitor their blood glucose.

**Data source:** No routinely collected national data for this measure has been identified. Data can be collected from information recorded locally by healthcare professionals and provider organisations, for example from patient surveys.

## What the quality statement means for different audiences

**Service providers** (such as secondary care services, primary care networks and community providers) ensure that isCGM is offered to adults with type 2 diabetes and a learning disability or cognitive impairment who have multiple daily insulin injections, and adults with insulin-treated type 2 diabetes who need help from a care worker or healthcare professional to monitor their blood glucose. They make plans to ensure that these groups are encouraged to consider isCGM and monitor who is using it. They ensure that the team who provide the isCGM has expertise in its use and they provide education to all adults with type 2 diabetes who are using it.

**Healthcare professionals** (such as consultant diabetologists, GPs with a specialist interest in diabetes and diabetes specialist nurses) are aware of isCGM availability and offer it to adults with type 2 diabetes and a learning disability or cognitive impairment who have multiple daily insulin injections, and adults with insulin-treated type 2 diabetes who need help from a care worker or healthcare professional to monitor their blood glucose. They provide education to people using isCGM and monitor and review the use of isCGM as part of a diabetes care plan.

**Commissioners** (such as integrated care systems and NHS England) ensure that they commission services in which adults with type 2 diabetes and a learning disability or cognitive impairment, who have multiple daily insulin injections and adults with insulin-treated type 2 diabetes who would need help from a care worker or healthcare professional to monitor their blood glucose, are offered isCGM. They monitor who is offered and use isCGM to help to address inequalities in uptake.

**Adults with type 2 diabetes and a learning disability or cognitive impairment on multiple daily insulin injections, and adults with insulin-treated type 2 diabetes who would need help to monitor their blood glucose** can get a flash monitoring system to help them manage their diabetes.

## Source guidance

[Type 2 diabetes in adults: management. NICE guideline NG28](https://www.nice.org.uk/guidance/ng28) (2015, updated 2022), recommendations 1.6.17 and 1.6.18

## Definitions of terms used in this quality statement

### Multiple daily insulin injections

Two or more daily insulin injections, which could either be a basal-bolus regimen or more than one daily insulin injection. [[NICE’s guideline on type 2 diabetes in adults](https://www.nice.org.uk/guidance/ng28), terms used in this guideline]

### Learning disability or cognitive impairment

Offer isCGM to adults with type 2 diabetes on multiple daily insulin injections if they have a learning disability or cognitive impairment that means they cannot self-monitor their blood glucose by capillary blood glucose monitoring but could use an isCGM device (or have it scanned for them).

Cognitive impairment includes problems with a person’s ability to think, learn, remember, use judgement and make decisions. [[NICE’s guideline on type 2 diabetes in adults](https://www.nice.org.uk/guidance/ng28), recommendation 1.6.17 and expert opinion]

### Intermittently scanned continuous glucose monitoring

A continuous glucose monitor is a device that measures blood glucose levels and sends the readings to a display device or smartphone. isCGM, commonly referred to as ‘flash’, automatically measures glucose levels through a sensor applied under the skin and allows patterns of glucose levels to be seen, which can be used to plan insulin treatment. Real-time continuous glucose monitoring can be considered as an alternative to isCGM if it is available for the same or lower cost.

[Adapted from [NICE’s guideline on type 2 diabetes in adults](https://www.nice.org.uk/guidance/ng28), recommendation 1.6.19, terms used in this guideline and expert opinion]

## Equality and diversity considerations

Adults with type 2 diabetes from lower socioeconomic groups may experience difficulties in accessing healthcare. They may also have difficulties using isCGM if their device needs access to particular higher cost technologies. Commissioners, providers and healthcare professionals should address inequalities in continuous glucose monitoring access and uptake by monitoring who is using it, identifying groups who are eligible but have lower uptake and making plans to engage with these groups and encourage them to consider continuous glucose monitoring.

[[NICE’s guideline on type 2 diabetes in adults](https://www.nice.org.uk/guidance/ng28), recommendation 1.6.26]

Adults with type 2 diabetes who are offered isCGM should be given information about using the technology that they can easily read and understand themselves, or with support, so they can communicate effectively with health and social care services. Information should be in a format that suits their needs and preferences. It should be accessible to adults who do not speak or read English, and it should be culturally appropriate and age appropriate. Adults should have access to an interpreter or advocate if needed.

For adults with additional needs related to a disability, impairment or sensory loss, information should be provided as set out in [NHS England's Accessible Information Standard](https://www.england.nhs.uk/ourwork/accessibleinfo/) or the equivalent standards for the devolved nations.

# Quality statement 4: Treatment with an SGLT2 inhibitor

## Quality statement

Adults with type 2 diabetes and chronic heart failure or established atherosclerotic cardiovascular disease, or chronic kidney disease (CKD) with an albumin to creatinine ratio (ACR) over 30 mg/mmol on optimised standard care, are offered an appropriate SGLT2 inhibitor. **[new 2022]**

## Rationale

SGLT2 inhibitors improve cardiovascular outcomes in adults with type 2 diabetes and chronic heart failure or established atherosclerotic cardiovascular disease. They also reduce the risk of CKD progression and mortality, as well as the risk of cardiovascular events in adults with type 2 diabetes and CKD.

## Quality measures

The following measures can be used to assess the quality of care or service provision specified in the statement. They are examples of how the statement can be measured, and can be adapted and used flexibly.

### Process

a) Proportion of adults with type 2 diabetes and chronic heart failure or established atherosclerotic cardiovascular disease prescribed an appropriate SGLT2 inhibitor.

Numerator – the number in the denominator who are prescribed an appropriate SGLT2 inhibitor.

Denominator – the number of adults with type 2 diabetes and chronic heart failure with reduced ejection fraction or established atherosclerotic cardiovascular disease.

**Data source:** No routinely collected national data for this measure has been identified. Data can be collected from information recorded locally by healthcare professionals and provider organisations, for example from patient records.

b) Proportion of adults with type 2 diabetes and CKD with an ACR over 30 mg/mmol on optimised standard care, prescribed an appropriate SGLT2 inhibitor.

Numerator – the number in the denominator who are prescribed an appropriate SGLT2 inhibitor.

Denominator – the number of adults with type 2 diabetes and CKD with an ACR over 30 mg/mmol on optimised standard care.

**Data source:** No routinely collected national data for this measure has been identified. Data can be collected from information recorded locally by healthcare professionals and provider organisations, for example from patient records.

### Outcome

a) Prevalence of adverse cardiovascular events in adults with type 2 diabetes.

**Data source:** The [National Diabetes Audit’s report on complications and mortality](https://digital.nhs.uk/data-and-information/clinical-audits-and-registries/national-diabetes-audit/core) includes data on the number of people with type 2 diabetes who are admitted to hospital with cardiovascular complications (angina, myocardial infarction, heart failure and stroke).

b) Progression of CKD in adults with type 2 diabetes and CKD.

**Data source:** The [National Diabetes Audit’s report on complications and mortality](https://digital.nhs.uk/data-and-information/clinical-audits-and-registries/national-diabetes-audit/core) includes data on the number of people with type 2 diabetes who have renal replacement therapy (end-stage kidney disease).

## What the quality statement means for different audiences

**Service providers** (such as primary care services and secondary care services) ensure that appropriate SLGT2 inhibitors are included in formularies for prescribing to adults with type 2 diabetes and chronic heart failure or established atherosclerotic cardiovascular disease as a first-line treatment in addition to metformin. They ensure that appropriate SGLT2 inhibitors are available for prescribing to adults with type 2 diabetes and CKD with an ACR over 30 mg/mmol on optimised standard care.

**Healthcare professionals** (such as GPs and doctors in secondary care) offer an appropriate SGLT2 inhibitor as a first-line treatment to adults with type 2 diabetes and chronic heart failure or established atherosclerotic cardiovascular disease, in addition to metformin. They offer an appropriate SGLT2 inhibitor to adults with type 2 diabetes and CKD with an ACR over 30 mg/mmol on optimised standard care. They should address modifiable risk factors for diabetic ketoacidosis (DKA) before starting an SGLT2 inhibitor. They should also advise adults with type 2 diabetes who are taking an SGLT2 inhibitor about minimising the risk of DKA when there is intercurrent illness and not to start a very low carbohydrate or ketogenic diet.

**Commissioners** (such as integrated care systems and NHS England) ensure that they commission services in which adults with type 2 diabetes and chronic heart failure or established atherosclerotic cardiovascular disease or CKD can have SGLT2 inhibitors.

**Adults with type 2 diabetes and heart failure, cardiovascular disease or CKD with severely increased protein in their urine** are offered an SGLT2 inhibitor along with their other medication, to help to reduce the risk of developing complications from their diabetes.

## Source guidance

[Type 2 diabetes in adults: management. NICE guideline NG28](https://www.nice.org.uk/guidance/ng28) (2015, updated 2022), recommendations 1.7.5 and 1.8.17

## Definitions of terms used in this quality statement

### Established atherosclerotic cardiovascular disease

This includes:

* coronary heart disease
* acute coronary syndrome
* previous myocardial infarction
* stable angina
* previous coronary or other revascularisation
* cerebrovascular disease (ischaemic stroke and transient ischaemic attack)
* peripheral arterial disease.

[[NICE’s guideline on type 2 diabetes in adults](https://www.nice.org.uk/guidance/ng28), terms used in this guideline]

### Optimised standard care

Treatment for CKD including the highest tolerated licensed dose of ACE inhibitors or ARBs. [Adapted from [NICE’s guideline on type 2 diabetes in adults](https://www.nice.org.uk/guidance/ng28), recommendation 1.8.17]

### Appropriate SGLT2 inhibitor

Adults with type 2 diabetes and chronic heart failure or established atherosclerotic cardiovascular disease should be offered an SGLT2 inhibitor with proven cardiovascular benefit. It should be offered in addition to metformin as a first-line treatment.

Adults with type 2 diabetes and CKD should be offered an SGLT2 inhibitor licensed for use in CKD, if:

* they have an ACR over 30 mg/mmol
* they are taking the highest tolerated licensed dose of an ARB or ACE inhibitor
* they meet the criteria in the marketing authorisation for the SGLT2 inhibitor.

In November 2021, not all SGLT2 inhibitors were licensed for this indication. See [NICE’s information on prescribing medicines](https://www.nice.org.uk/about/what-we-do/our-programmes/nice-guidance/nice-guidelines/making-decisions-using-nice-guidelines#prescribing-medicines). [Adapted from [NICE’s guideline on type 2 diabetes in adults](https://www.nice.org.uk/guidance/ng28), recommendations 1.7.5 and 1.8.17]

# Quality statement 5: Key care processes

## Quality statement

Adults with type 2 diabetes have key care processes completed every 12 months. **[new 2022]**

## Rationale

Regular testing and completion of key care processes to monitor and manage type 2 diabetes can help to reduce the risk of complications and identify any complications earlier.

## Quality measures

The following measures can be used to assess the quality of care or service provision specified in the statement. They are examples of how the statement can be measured, and can be adapted and used flexibly.

### Process

a) Proportion of adults with type 2 diabetes who had a urine albumin to creatinine ratio (ACR) test in the preceding 12 months.

Numerator – the number in the denominator who had a urine ACR test in the preceding 12 months.

Denominator – the number of adults with type 2 diabetes.

**Data source:** The [National Diabetes Audit’s care processes and treatment targets report](https://digital.nhs.uk/data-and-information/clinical-audits-and-registries/national-diabetes-audit/core) collects and reports data on the number of adults with type 2 and other types of diabetes (excluding type 1 diabetes) who had a urine albumin test in the audit year.

b) Proportion of adults with type 2 diabetes who had an HbA1c test in the preceding 12 months.

Numerator – the number in the denominator who had an HbA1c test in the preceding 12 months.

Denominator – the number of adults with type 2 diabetes.

**Data source:** The [National Diabetes Audit’s care processes and treatment targets report](https://digital.nhs.uk/data-and-information/clinical-audits-and-registries/national-diabetes-audit/core) collects and reports data on the number of adults with type 2 and other types of diabetes (excluding type 1 diabetes) who had an HbA1c in the audit year.

c) Proportion of adults with type 2 diabetes who had their blood pressure measured in the preceding 12 months.

Numerator – the number in the denominator who had their blood pressure measured in the preceding 12 months.

Denominator – the number of adults with type 2 diabetes.

**Data source:** The [National Diabetes Audit’s care processes and treatment targets report](https://digital.nhs.uk/data-and-information/clinical-audits-and-registries/national-diabetes-audit/core) collects and reports data on the number of adults with type 2 and other types of diabetes (excluding type 1 diabetes) who had their blood pressure measured in the audit year.

d) Proportion of adults with type 2 diabetes who had foot surveillance and risk classification recorded in the preceding 12 months.

Numerator – the number in the denominator who had foot surveillance and risk classification recorded in the preceding 12 months.

Denominator – the number of adults with type 2 diabetes.

**Data source:** The [National Diabetes Audit care processes and treatment targets report](https://digital.nhs.uk/data-and-information/publications/statistical/national-diabetes-audit) collects and reports data on the number of adults with type 2 and other types of diabetes (excluding type 1 diabetes) who had foot surveillance in the audit year. [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) reports data on the percentage of patients with diabetes who have a record of a foot examination and risk classification in the preceding 12 months.

e) Proportion of adults with type 2 diabetes who had a serum creatinine test in the preceding 12 months.

Numerator – the number in the denominator who had a serum creatinine test in the preceding 12 months.

Denominator – the number of adults with type 2 diabetes.

**Data source:** The [National Diabetes Audit care processes and treatment targets report](https://digital.nhs.uk/data-and-information/clinical-audits-and-registries/national-diabetes-audit/core) collects and reports data on the number of adults with type 2 and other types of diabetes (excluding type 1 diabetes) who had a serum creatinine test in the audit year.

f) Proportion of adults with type 2 diabetes who had a serum cholesterol test in the preceding 12 months.

Numerator – the number in the denominator who had a serum cholesterol test in the preceding 12 months.

Denominator – the number of adults with type 2 diabetes.

**Data source:** The [National Diabetes Audit care processes and treatment targets report](https://digital.nhs.uk/data-and-information/clinical-audits-and-registries/national-diabetes-audit/core) collects and reports data on the number of adults with type 2 and other types of diabetes (excluding type 1 diabetes) who had a serum cholesterol test in the audit year.

g) Proportion of adults with type 2 diabetes who had a record of their body mass index (BMI) in the preceding 12 months.

Numerator – the number in the denominator who had a record of their BMI in the preceding 12 months.

Denominator – the number of adults with type 2 diabetes.

**Data source:** The [National Diabetes Audit care processes and treatment targets report](https://digital.nhs.uk/data-and-information/clinical-audits-and-registries/national-diabetes-audit/core) collects and reports data on the number of adults with type 2 and other types of diabetes (excluding type 1 diabetes) who had a record of their body mass index (BMI), in the audit year.

h) Proportion of adults with type 2 diabetes who had their smoking status recorded in the preceding 12 months.

Numerator – the number in the denominator who had their smoking status recorded in the preceding 12 months.

Denominator – the number of adults with type 2 diabetes.

**Data source:** The [National Diabetes Audit care processes and treatment targets report](https://digital.nhs.uk/data-and-information/clinical-audits-and-registries/national-diabetes-audit/core) collects and reports data on the number of adults with type 2 and other types of diabetes (excluding type 1 diabetes) who had a record of their smoking status in the audit year.

i) Proportion of adults with type 2 diabetes who had retinal screening in the preceding 12 months.

Numerator – the number in the denominator who had retinal screening in the preceding 12 months.

Denominator – the number of adults with type 2 diabetes.

**Data source:** The [National Diabetes Audit care processes and treatment targets report](https://digital.nhs.uk/data-and-information/clinical-audits-and-registries/national-diabetes-audit/core) collects and reports data on the number of adults with type 2 and other types of diabetes (excluding type 1 diabetes) who had a record of retinal screening in the audit year. [Public Health England’s diabetic eye screening programme](https://www.gov.uk/government/collections/diabetic-eye-screening-commission-and-provide#data-and-research) reports data on percentage of eligible people offered an appointment for routine digital screening and percentage of those offered routine digital screening who attend a routine digital screening event where images are captured.

### Outcome

Prevalence of cardiovascular complications, renal replacement therapy (end-stage kidney disease) or minor or major amputations in adults with type 2 diabetes.

**Data source:** The [National Diabetes Audit report on complications and mortality](https://digital.nhs.uk/data-and-information/clinical-audits-and-registries/national-diabetes-audit/core) includes data on the number of people with type 2 diabetes admitted to hospital with cardiovascular complications, renal replacement therapy (end-stage kidney disease) and minor or major amputations.

## What the quality statement means for different audiences

**Service providers** (such as laboratory services, primary care services, secondary care services, community health services, and foot protection services) ensure that systems are in place for adults with type 2 diabetes to have key care processes to identify and monitor complications of type 2 diabetes completed every 12 months.

**Healthcare professionals** (such as GPs, practice nurses and members of the foot protection service) are aware of local protocols for key care processes associated with type 2 diabetes and ensure that adults with type 2 diabetes have key care processes completed every 12 months, including measurement of urine ACR, HbA1c, blood pressure measurement, foot surveillance, serum creatinine, serum cholesterol, BMI and smoking status. They refer adults with type 2 diabetes to the local eye screening service when they are diagnosed.

**Commissioners** (such as integrated care systems and NHS England) ensure that ensure that they commission services in which adults with type 2 diabetes have key care processes to identify and monitor complications of type 2 diabetes completed every 12 months. This includes laboratory provision for testing blood and urine tests, and access to a foot protection service and eye screening service.

**Adults with type 2 diabetes** have regular tests to check if they are at risk of developing, or have, complications of type 2 diabetes.

## Source guidance

* [Type 2 diabetes in adults: management. NICE guideline NG28](https://www.nice.org.uk/guidance/ng28) (2015, updated 2022), recommendations 1.6.1 and 1.8.25
* [Hypertension in adults: diagnosis and management. NICE guideline NG136](https://www.nice.org.uk/guidance/ng136) (2019, updated 2022), recommendation 1.2.11
* [Chronic kidney disease: assessment and management. NICE guideline NG203](https://www.nice.org.uk/guidance/ng203) (2021), recommendations 1.1.21 and 1.3.1
* [Diabetic foot problems: prevention and management. NICE guideline NG19](https://www.nice.org.uk/guidance/ng19) (2015, updated 2019), recommendation 1.3.3
* [Cardiovascular disease: risk assessment and reduction, including lipid modification. NICE guideline CG181](https://www.nice.org.uk/guidance/cg181) (2014, updated 2016), recommendation 1.1.10
* The 12-month timeframe for recording of ACR, serum creatinine, serum cholesterol, BMI and smoking status is based on expert opinion and not derived from NICE guidance. It is considered a practical timeframe to enable stakeholders to measure performance. The timeframe is used in the [National Diabetes Audit](https://digital.nhs.uk/data-and-information/clinical-audits-and-registries/national-diabetes-audit/core) and the [NHS diabetic eye screening programme](https://www.gov.uk/guidance/diabetic-eye-screening-programme-overview).

## Definitions of terms used in this quality statement

### Key care processes

The care processes are:

* urine ACR measurement
* HbA1c measurement
* blood pressure measurement
* foot surveillance
* serum creatinine measurement
* serum cholesterol measurement
* BMI measurement
* smoking status
* retinal screening.

[[National Diabetes Audit](https://digital.nhs.uk/data-and-information/clinical-audits-and-registries/national-diabetes-audit/core)]

## Equality and diversity considerations

Appointments for completion of key care processes should be offered at times, and in locations, that meet the needs of adults with type 2 diabetes. Appointments should be accessible to adults who do not speak or read English, and should be culturally appropriate and age appropriate. Adults should have access to an interpreter or advocate if needed.

For adults with additional needs related to a disability, impairment or sensory loss, information should be provided as set out in [NHS England's Accessible Information Standard](https://www.england.nhs.uk/ourwork/accessibleinfo/) or the equivalent standards for the devolved nations.

# Quality statement 6: Assessing for diabetic foot problems on admission to hospital

## Quality statement

Adults with type 2 diabetes who are admitted to hospital are assessed for their risk of developing a diabetic foot problem. **[new 2022]**

## Rationale

Assessing for the risk of developing a diabetic foot problem and timely care during a hospital admission by skilled healthcare professionals decreases the probability of ensuing diabetic foot problems.

## Quality measures

The following measures can be used to assess the quality of care or service provision specified in the statement. They are examples of how the statement can be measured, and can be adapted and used flexibly.

### Structure

a) Evidence of local systems to identify all adults with type 2 diabetes when they are admitted to hospital.

**Data source:** The [National Diabetes Audit’s inpatient safety audit](https://www.hqip.org.uk/a-z-of-nca/adult-diabetes-audit-nda/#.YuK5Tz3MLct) includes data on the number of providers that have a robust system to identify all people with diabetes on admission to hospital.

b) Evidence of local arrangements to provide training on providing foot assessments for adults with type 2 diabetes, including risk assessment, identification of an active diabetic foot problem and how to refer to the foot protection service, for healthcare professionals in secondary care services.

**Data source:** No routinely collected national data for this measure has been identified. Data can be collected from information recorded locally by healthcare professionals and provider organisations, for example from training records, competency assessment and records of continuous professional development.

### Process

Proportion of adults with type 2 diabetes admitted to hospital who had a foot assessment.

Numerator – the number in the denominator who had a foot assessment.

Denominator – the number of adults with type 2 diabetes admitted to hospital.

**Data source:** No routinely collected national data for this measure has been identified. Data can be collected from information recorded locally by healthcare professionals and provider organisations, for example from patient records.

### Outcome

a) Incidence of diabetic foot ulcer identified on hospital admission in adults with type 2 diabetes.

**Data source:** No routinely collected national data for this measure has been identified. Data can be collected from information recorded locally by healthcare professionals and provider organisations, for example from patient records.

b) Rate of diabetic foot ulcer in adults with type 2 diabetes during a hospital admission.

**Data source:** The [National Diabetes Audit’s inpatient safety audit](https://www.hqip.org.uk/a-z-of-nca/adult-diabetes-audit-nda/#.YuK5Tz3MLct) includes data on the number, frequency and rate per 100,000 bed days of inpatient harms, including diabetic foot ulcer.

## What the quality statement means for different audiences

**Service providers** (secondary care services) ensure that a foot care service is available within hospitals to provide foot assessments to adults with type 2 diabetes when they are admitted to hospital. They ensure that a multidisciplinary foot care team is available for management of any high risk and active foot problems that are identified.

**Healthcare professionals** (members of the foot care service, nurses, doctors and podiatrists) provide foot assessments to adults with type 2 diabetes when they are admitted to hospital. They can refer to and work with the multidisciplinary foot protection service if any foot problems are identified on assessment.

**Commissioners** (such as integrated care systems and NHS England) ensure that they commission multidisciplinary foot care services and foot protection services to provide management of foot problems including high risk and active foot problems identified from foot assessments for adults with type 2 diabetes when they are admitted to hospital.

**Adults with type 2 diabetes who are admitted to hospital** have a check of their feet for any problems that may be related to their diabetes.

## Source guidance

[Diabetic foot problems: prevention and management. NICE guideline NG19](https://www.nice.org.uk/guidance/ng19) (2015, updated 2019), recommendation 1.3.3

## Definitions of terms used in this quality statement

### Assessed for their risk of developing a diabetic foot problem

Adults with type 2 diabetes should remove their shoes, socks, bandages and dressings for the assessment. Their feet should be examined for the following risk factors:

* neuropathy (using a 10 g monofilament as part of a foot sensory examination)
* limb ischaemia (palpation of foot pulses as part of a vascular assessment)
* ulceration
* callus
* infection or inflammation
* deformity
* gangrene
* Charcot arthropathy or an unexplained red, hot, swollen foot with or without pain
* ankle brachial pressure index.

The risk of developing a diabetic foot problem can be assessed using the following risk stratification:

* Low risk:
  + no risk factors present except callus alone.
* Moderate risk:
  + deformity or
  + neuropathy or
  + non-critical limb ischaemia.
* High risk
  + previous ulceration or
  + previous amputation or
  + on renal replacement therapy or
  + neuropathy and non-critical limb ischaemia together or
  + neuropathy in combination with callus or deformity or
  + non-critical limb ischaemia in combination with callus or deformity.
* Active diabetic foot problem:
  + ulceration or
  + spreading infection or
  + critical limb ischaemia or
  + gangrene or

suspicion of an acute Charcot arthropathy, or an unexplained hot, red, swollen foot with or without pain.

[Adapted from [NICE’s guideline on diabetic foot problems](https://www.nice.org.uk/guidance/ng19), recommendations 1.3.4 to 1.3.6 and expert opinion]

# Update information

**September 2022:** This quality standard was updated and statements prioritised in 2011 and 2016 were replaced. The topic was identified for update following a review of quality standards. The review identified:

* changes in the priority areas for improvement
* new and updated guidance on type 2 diabetes in adults
* that the quality standard on diabetes in adults should be split into separate quality standards

Statements are marked as:

* **[new 2022]** if the statement covers a new area for quality improvement
* **[2011, updated 2022]** or **[2016, updated 2022]** if the statement covers an area for quality improvement included in the 2011 or 2016 quality standard and has been updated.

# About this quality standard

NICE quality standards describe high-priority areas for quality improvement in a defined care or service area. Each standard consists of a prioritised set of specific, concise and measurable statements. NICE quality standards draw on existing NICE or NICE-accredited guidance that provides an underpinning, comprehensive set of recommendations, and are designed to support the measurement of improvement.

Expected levels of achievement for quality measures are not specified. Quality standards are intended to drive up the quality of care, and so achievement levels of 100% should be aspired to (or 0% if the quality statement states that something should not be done). However, this may not always be appropriate in practice. Taking account of safety, shared decision making, choice and professional judgement, desired levels of achievement should be defined locally.

Information about [how NICE quality standards are developed](https://www.nice.org.uk/standards-and-indicators/timeline-developing-quality-standards) is available from the NICE website.

See our [webpage on quality standards advisory committees](http://www.nice.org.uk/Get-Involved/Meetings-in-public/Quality-Standards-Advisory-Committee) for details about our standing committees. Information about the topic experts invited to join the standing members is available from the [webpage for this quality standard](https://www.nice.org.uk/guidance/indevelopment/gid-qs10163).

NICE has produced a [quality standard service improvement template](https://www.nice.org.uk/about/what-we-do/into-practice/measuring-the-uptake-of-nice-guidance) to help providers make an initial assessment of their service compared with a selection of quality statements. This tool is updated monthly to include new quality standards.

NICE guidance and quality standards apply in England and Wales. Decisions on how they apply in Scotland and Northern Ireland are made by the Scottish government and Northern Ireland Executive. NICE quality standards may include references to organisations or people responsible for commissioning or providing care that may be relevant only to England.

## Resource impact

NICE quality standards should be achievable by local services. The potential resource impact is considered by the quality standards advisory committee, drawing on resource impact work for the source guidance. Organisations are encouraged to use the [resource impact reports](https://www.nice.org.uk/guidance/ng28/resources) for NICE’s guideline on type 2 diabetes in adults to help estimate local costs.

## Diversity, equality and language

Equality issues were considered during development and [equality assessments for this quality standard](https://www.nice.org.uk/guidance/indevelopment/gid-qs10163) are available. Any specific issues identified during development of the quality statements are highlighted in each statement.

Commissioners and providers should aim to achieve the quality standard in their local context, in light of their duties to have due regard to the need to eliminate unlawful discrimination, advance equality of opportunity and foster good relations. Nothing in this quality standard should be interpreted in a way that would be inconsistent with compliance with those duties.

ISBN:

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