

# Diabetes Foot Care: Are services in England and Wales putting your feet first?



A summary report about the  
quality of foot care for people  
with diabetes

Based on findings from National  
Diabetes Footcare Audit (NDFA)  
2014–16 in England and Wales



# Contents

<b>BACKGROUND</b>	<b>2</b>
What is the National Diabetes Foot Care Audit (NDFA)?	3
Why do we audit foot care for people with diabetes?	3
About this summary report	3
<b>THE NDFA FINDINGS</b>	<b>5</b>
Foot ulcer characteristics	6
What are the outcomes of foot ulcers?	8
Foot ulcers 12 weeks after first assessment	8
Foot ulcers 24 weeks after first assessment	8
Was the length of time to first assessment linked to healing?	10
Differences in outcome between areas of England and Wales	10
Key findings	12
<b>IMPROVING DIABETES FOOT CARE FOR PEOPLE WITH DIABETES</b>	<b>13</b>
• Recommendations for people with diabetes	13
• Recommendations for clinicians in General Practice and primary care	15
• Recommendations for clinicians involved in the provision of specialist foot care services	15
<b>FURTHER INFORMATION</b>	<b>17</b>
How the NDFA collects information	17
Where to go for more information	18
Explanation of words used in this report	19
Contact	20

# Background

**The National Diabetes Foot Care Audit (NDFA) 2014–16 report was published in March 2017. The NDFA provides a picture of the care provided to people with diabetes who are treated for foot ulcers.**

The report's findings come from information collected from foot care clinics in England and Wales, for the period 14 July 2014 to 8 April 2016. 173 specialist foot care clinics provided data for the NDFA.

The NDFA is commissioned by Healthcare Quality and Improvement Partnership (HQIP).

[NHS Digital](#) (formerly the Health and Social Care Information Centre (HSCIC)) manages the NDFA, working closely with [Diabetes UK](#). Clinical teams across England and Wales also provide support.

This report summarises some of the key findings from the NDFA 2014–16.

## What is the NDFA?

**The NDFA is a national clinical audit (or survey) about the care of people with diabetes who develop a foot ulcer.**

Specifically, the NDFA looks at:

- how severe ulcers are when people are first seen by the specialist foot care team
- what factors have the biggest effects on healing and recovery

Foot care services collect information for the audit all year-round. A report is produced each year, which looks at the data from the previous years.

Information is only collected from people who give their permission for the use of their personal data in this way.

[You can read more about the audit methods and data collection](#) on page 17.

## Why do we audit foot care for people with diabetes?

**The National Institute for Health and Care Excellence (NICE) produces the guidelines for the treatment of diabetic foot problems. All diabetes foot care services should consider these guidelines when making a decision on the treatment of people with diabetes who develop foot ulcers. Box 1 overleaf provides a summary of the NICE guidelines.**

The NDFA checks whether people with diabetes, who develop foot ulcers, get care and treatment as recommended in the NICE guidelines.

The findings from the NDFA shows foot care services how they compare to other foot care services. This information can help healthcare managers and staff to see where the care they provide can be improved and they are encouraged to develop plans to improve these services.

## About this summary report

**This report summarises some of the key findings of the NDFA report for 2014–16. It is a document for everyone – people with diabetes, healthcare professionals and the general public.**

Before writing this summary report, Diabetes UK talked to people with diabetes to find out what NDFA information they wanted to see, and how to present the findings.

In this report we explain:

- the relevant national guidelines about good quality foot care for people with diabetes
- some of the key findings from the NDFA 2014–16
- recommendations for improvements to diabetes foot care

This report does not cover all the findings from the NDFA report. If you would like to read the full report, you can download it from the [NHS Digital website](#).

At the back of the report we have listed contact details for organisations. There is also a list explaining some of the words and terms used in this report.

## Box 1: Looking after your feet – what care to expect

It is very important to take good care of your feet, because having diabetes puts you at risk of foot problems. Although foot ulcers can be very serious, they usually respond well to treatment. Poor circulation and severe infection may delay or prevent healing. The NICE guidelines, which should be followed by all healthcare professionals, are summarised below.



### Annual foot check

Everyone with diabetes should have their feet checked by a qualified healthcare professional once a year. During the foot check appointment, your healthcare professional should explain how to look after your feet and talk with you about your risk of developing foot problems in the future. If you are found to be at increased risk, you should be referred to a Foot Protection Service to be assessed by a specialist.

Diabetes UK provides a useful [leaflet](#) about what to expect at your annual foot check.



### Treatment for diabetic foot problems

#### Diabetic foot ulcers

If you have a diabetic foot ulcer, it is important to be seen by a foot care specialist as soon as possible. The healthcare professional should check the size and depth of the ulcer, and look for signs of infection or other problems. The treatment will depend on how severe the ulcer is, where it is and what you would prefer. The treatment will almost always include dressings and pressure relief, to reduce the pressure put through the foot.

#### Diabetic foot infection

If your healthcare professional thinks you have a foot infection and you have a wound on your foot, a small sample may be sent for testing. You should be offered antibiotics.

#### Charcot arthropathy

Charcot arthropathy occurs in some people who lose feeling in their feet. The bones in the foot can become weak and lead to dislocations, fractures and changes in the shape of the foot or ankle. The treatment for Charcot foot usually involves having a plaster cast fitted, to reduce the pressure put through the foot.



### Referral

If any doctor or nurse thinks you may have an active diabetic foot problem, they should refer you to a specialist foot care service within one working day. The specialist foot care service should then triage<sup>1</sup> the referral within another working day.

**Early referral and treatment is really important, as it can prevent diabetic foot problems becoming worse.**

1. Triage is the process of deciding on the urgency and type of treatment that a patient needs, based on their symptoms and the severity of their condition.

# The NDFA findings

Information was collected from 11,073 people, who had treatment for a foot ulcer between 14 July 2014 and 8 April 2016. However, the number of foot ulcers included in the audit was 13,034, because some people had two or more new foot ulcers during the period.

## What is a foot ulcer?

A foot ulcer often starts as a small break in the skin, which does not heal as quickly as expected.

It can start from something as small as a blister that forms because you didn't feel your shoe rubbing, a small cut or wound from standing on a sharp object. You may not have felt the pain because you have lost sensation in your feet.



## Characteristics of people with a diabetic foot ulcer

The NDFA found that the average age of people with diabetes who develop foot ulcers was 67 years and they had had diabetes for an average of 15 years.

Those people with foot ulcers were more likely to have Type 2 diabetes, be male and of white ethnicity. They were also more likely to have an HbA1c of more than 58mmol/mol before getting an ulcer.



# Foot ulcer characteristics

## How severe were the ulcers?

When ulcers are assessed by a healthcare professional, a scoring system is used to assess how severe the ulcer is. This scoring system used for the NDFA is called **SINBAD**. See the box below for more detail.

### Box 2: Explanation of SINBAD score

**Site** – where is the ulcer: front or rear of the foot?

**I**schaemia – problems with blood circulation, due to damaged blood vessels. This can make the skin more fragile

**N**europathy – damage to the nerves that results in a loss of sensation

**B**acterial infection – whether or not there is an infection in the ulcer

**A**rea – the size and shape of the ulcer

**D**epth – how deep the wound is

## Definition of ulcer severity

In the SINBAD system an ulcer can be scored between 0 (least severe) to 6 (most severe).

- Less severe ulcer = SINBAD score of less than 3
- Severe ulcer = SINBAD score of 3 or more

**Almost half (46%) of the ulcer cases in the audit were graded as severe.**

The audit found that the majority of ulcers (82%) were associated with loss of sensation (neuropathy).

3% of ulcers had signs of Charcot foot disease. Charcot disease may delay ulcer healing.

## How long did it take to get an assessment by a member of the multi-disciplinary foot team?

The NICE guidelines recommend that people with diabetes who have an active foot problem should be referred to a specialist team within one working day and be triaged within two working days.

People with diabetes were asked how long it took from first seeing any healthcare professional to their first assessment by a member of the specialist foot care team.

### Box 3: Self-referral

People cannot refer themselves directly to a clinic, unless they are already under the care of that service. They must be referred by a GP, or another doctor. Those people who self-refer are likely to be people who have already had a foot ulcer and have been encouraged to contact the clinic if they had further problems. People who have previous experience of the service are likely to contact the clinic relatively quickly.

The table below shows that almost a third (30%) of ulcers were self-referred.

### Time from first appointment with healthcare professional to being assessed by specialist foot care team

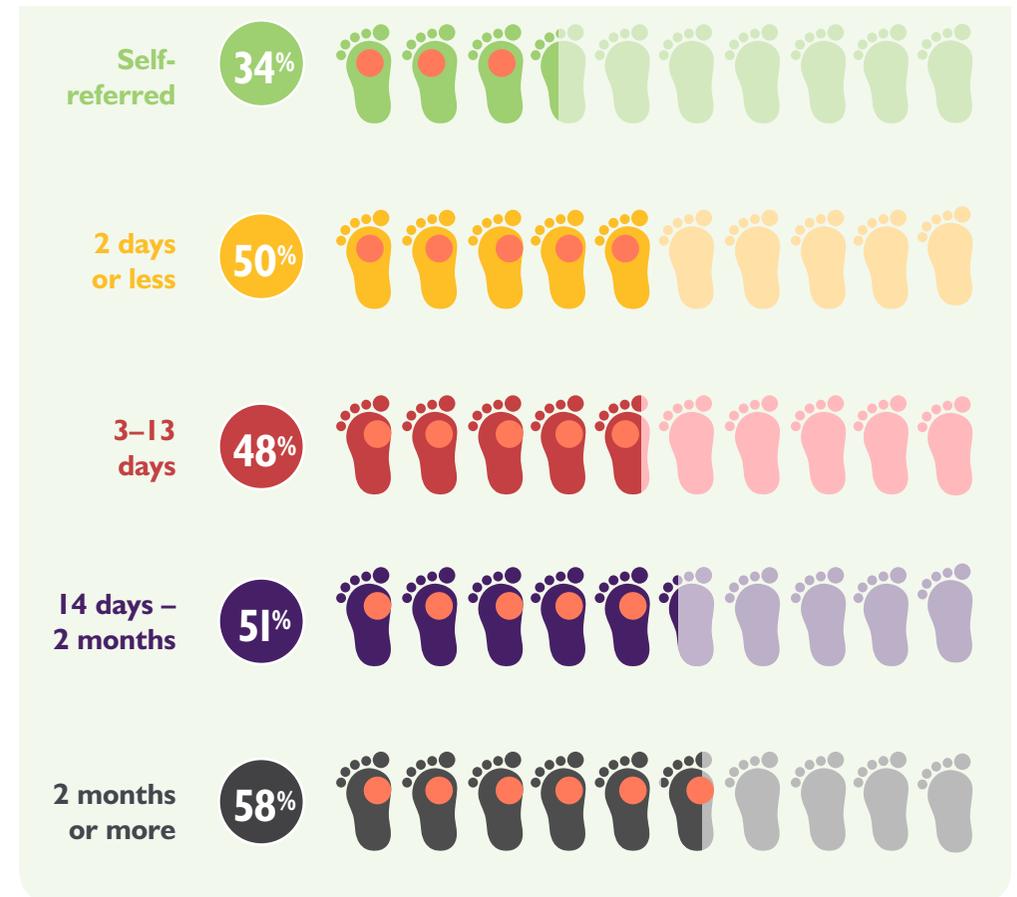


If self-referring patients are excluded, two in five (40%) ulcer cases are not assessed by a specialist footcare team until two or more weeks after the first appointment.

### Time to first assessment and foot ulcer severity

The audit found that two-thirds of people with diabetes who self-referred had less severe ulcers. If the time taken to be seen by the specialist team was longer, they were more likely to have a severe ulcer.

### Time to first assessment and severe ulcers



# What are the outcomes of foot ulcers?

## Foot ulcers 12 weeks after first assessment

The audit collected information about foot ulcers 12 weeks after the first assessment by the specialist foot care team. In particular, the audit looked at whether:

- people were free of all ulcers after 12 weeks
- there was a link between the severity of the ulcer and being ulcer free at 12 weeks

Data wasn't available for 1,048 of the 13,034 ulcer cases included in the audit. And 304 people had died before the 12 week follow-up took place. The infographic below summarises the status of the ulcer for the remaining 11,682 ulcer cases at the 12 week follow-up.

### Alive and no foot ulcer



### Foot ulcer still present



The NDFA found that people with diabetes who had less severe ulcers were almost twice as likely to be alive and ulcer free at the 12 week follow-up than people with severe ulcers.

### Less severe ulcers



### Severe ulcers



# Foot ulcers 24 weeks after first assessment

The audit also collected information about foot ulcers 24 weeks after the first assessment by the specialist foot care team.

Data wasn't available for 1,469 of the 12,226 ulcer cases at the 24 week follow-up. Almost 1 in 20 people (4.4%) had died before the 24 week follow-up took place. The infographic below summarises the status of the ulcer for the remaining 10,279 ulcer cases at the 24 week follow-up.

Alive and no foot ulcer



Foot ulcer still present



Alive and no foot ulcer at 12 weeks, but further ulcer at 24 weeks



People with diabetes who had severe ulcers were less likely to be alive and ulcer free at the 24 week follow-up.

Less severe ulcers



Severe ulcers



## Was the length of time to first assessment linked to healing?

People with diabetes who self-referred were more likely to be alive and have healed ulcers at the 12 week follow-up.

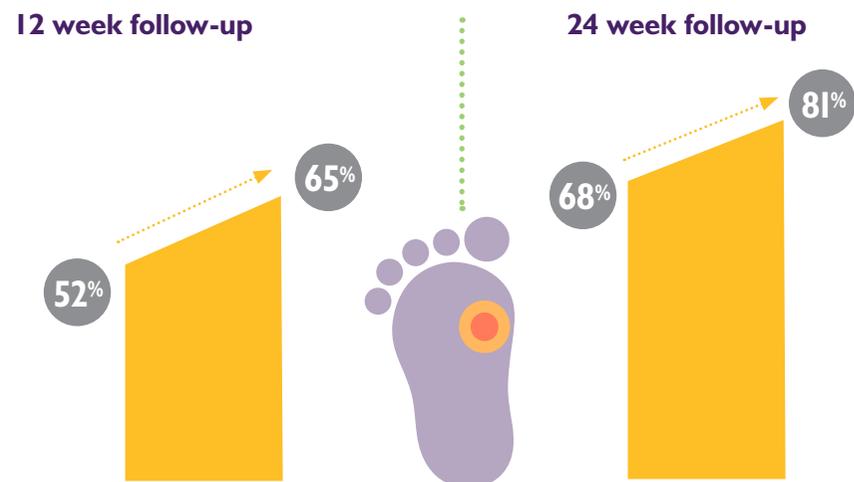
### Alive and ulcer-free at 12 week follow-up



## Differences in outcome between areas of the country

The NDFA showed that there were differences between areas of the country in the numbers of people who were alive and ulcer-free after 12 and 24 weeks. The figures<sup>2</sup> for less severe ulcers at 12 weeks varied from 52% to 65%. The figure at 24 weeks varied from 68% to 81%.

### Percentage of people with less severe ulcers who are alive and ulcer-free

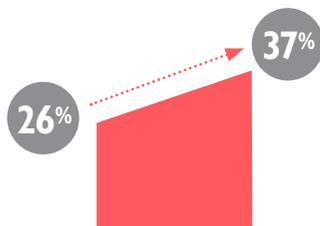


2. These figures are based on data from the middle 50% of trusts

The differences between areas of the country was similar when the audit looked at the healing rate for **severe ulcers**.

## Percentage of people with **severe ulcers** who are alive and ulcer-free

12 week follow-up

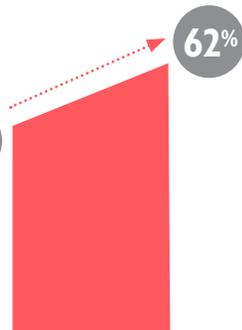


37%



24 week follow-up

48%



62%

It is important to be careful when making comparisons between different services. There are a number of reasons for this:

- The NDFA does not yet cover all areas of England and Wales.
- There were big differences in the number of ulcer cases submitted by each service, comparisons are less meaningful when the numbers are small.
- The differences will be a result of steps taken at every stage of the footcare pathway and not just the care provided at the services who participated in the audit. For example, the care provided at a GP practice may affect ulcer healing.

Nevertheless, the findings suggest quite marked differences in outcome in different areas.

## Key findings



DELAY

The longer the delay between first visit to a health care professional and first assessment by a foot care specialist, the more likely that foot ulcers were severe

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12 WEEKS

Half of all people with diabetes were ulcer free 12 weeks after their first assessment with a foot care specialist

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SEVERE



12 WEEKS

Patients who had more severe ulcers at the first assessment were almost twice as likely **not** to be ulcer free after 12 weeks

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# Improving foot care for people with diabetes

The NDFA findings highlight areas of healthcare that can give people with diabetes the best chance of recovery from a foot ulcer.

## Recommendations for people with diabetes



## Recommendations for people with diabetes



**Seek professional advice as soon as you notice any problems with your feet**



**If you get poor circulation or loss of feeling in your feet, seek professional advice about how to prevent a foot ulcer**



**If you have had a foot problem, or your annual foot check shows you are at increased risk of foot problems, your local team will offer you regular check-ups.** It is really important to attend these check-ups to improve the chance of healing and to prevent any further problems



**Keep blood glucose levels on target.** You have less chance of getting nerve damage in your feet if your blood glucose levels stay on target



**Don't smoke and keep blood pressure and cholesterol on target.** You have less chance of getting poor circulation in the feet



**Make sure you get all the annual checks you need** – it's your right to have them. These include:

- foot checks
- eye screening
- kidney tests

People with diabetes can find out more about the guidelines for diabetic foot care on the [NICE website](#).

More information about looking after your feet can be found on [Diabetes UK website](#), including information on how to get involved in improving foot care services – Diabetes UK's [Putting Feet First Campaign](#).

## Recommendations for clinicians in General Practice and primary care



## Recommendations for clinicians involved in the provision of specialist foot care services



## Recommendations for clinicians in General Practice and primary care

 Be aware of the roles of Foot Protection and Multidisciplinary Foot Care services

 Refer any person with diabetes with an increased risk of ulceration to the Foot Protection Service

 Refer promptly any person with diabetes with a new or deteriorating ulcer to a specialist multidisciplinary foot care service

## Recommendations for clinicians involved in the provision of specialist foot care services

 Create simple and rapid referral pathways



### Take part in the NDFA

Foot care services can help make future years of the audit more comprehensive if every specialist service participates. The more foot care services that contribute to the audit, the greater influence the NDFA will have on foot care programmes for people with diabetes.

### Review the NDFA findings

All foot care services should look at the full national and regional findings on [NHS Digital's website](#).

This will help pinpoint where treatment and care for people with diabetes who develop foot ulcers is producing good results, and where there is a need for improvement or new approaches. Putting these new approaches into practice will lead to improved outcomes for people with diabetes.

# Further information

## How the NDFA collects information

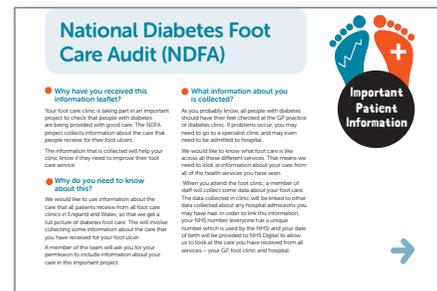
The National Diabetes Footcare Audit (NDFA) collects data all year-round from services that treat foot ulcers in England and Wales.

**1** Doctors, nurses or podiatrists running diabetes foot clinics collect information on people with diabetes who develop foot ulcers. This only includes information that is normally collected and recorded as part of foot care notes. For example, information about the severity of the ulcer and whether the ulcer is healed at the 12 week follow-up appointment.

A full list of the information collected for the audit is available on the [NDFA website](#).



**2** People with diabetes attending a clinic get a leaflet explaining what the audit is about. They have the choice of agreeing or refusing to have their information included in the NDFA. Only if they agree is their information used.



**3** Foot care services collect information for the NDFA on a continuous basis. Each year there is a deadline for foot care services to send the information they have collected for the NDFA. All the information from England and Wales goes to NHS Digital using a secure website. NHS Digital analyse all the data and include it in a national report. They also publish reports on the [NDFA website](#).



# Where to go for more information

## The National Diabetes Footcare Audit (NDFCA)

Information about the NDFCA and copies of the full reports are available on the [NHS Digital website](#).

## Diabetes UK

For more information about diabetes, including living with diabetes, go to [www.diabetes.org.uk/Guide-to-diabetes](http://www.diabetes.org.uk/Guide-to-diabetes) or call Diabetes UK's Helpline on **0345 123 2399** for advice and support.

For information about getting involved in making a difference to diabetes treatment and care: [www.diabetes.org.uk/Get\\_involved/Diabetes-Voices](http://www.diabetes.org.uk/Get_involved/Diabetes-Voices)

To find out more about Diabetes UK's work in your area: [www.diabetes.org.uk/In\\_Your\\_Area](http://www.diabetes.org.uk/In_Your_Area)

## National Institute for Health and Care Excellence (NICE) guidelines

For information about how NICE develops guidelines: [www.nice.org.uk](http://www.nice.org.uk)

For guidelines about diabetic foot problems: [NICE Guidelines NG19](#)

## Healthcare Quality Improvement Partnership (HQIP)

To learn more about clinical audits – and [patient involvement](#) in national clinical audits.

## Patient Advice and Liaison Service (PALS)

For questions about local health services or an enquiry about health matters, contact PALS at [www.nhs.uk](http://www.nhs.uk)

## Community Health Councils (CHC) in Wales

For help and advice about NHS Services in Wales: [www.wales.nhs.uk/siteplus/899/home](http://www.wales.nhs.uk/siteplus/899/home)

## NHS Choices (England)

[NHS Choices](#) provides information about your health, including finding and using NHS Services in England

## NHS Wales

[NHS Wales](#) provides information about your health, including finding and using NHS Services in Wales

# Explanation of words used in this booklet

## Audit

A way of gathering information and measuring local NHS organisations' performance and quality of care against national guidelines, from which come recommendations for improvements.

## Blood glucose

Blood glucose is the main sugar the body makes from the food we eat. Glucose travels in the bloodstream, providing energy to all the body's living cells. However, the cells cannot use glucose without the help of insulin.

## Diabetes

Diabetes is the shortened name for the health condition called diabetes mellitus. Diabetes happens when the body cannot use blood glucose as energy because of having too little insulin or being unable to use insulin. See also Type 1 diabetes and Type 2 diabetes.

## HbA1c test

The HbA1c (pronounced H B A one C) test uses a blood sample to measure a person's average blood glucose level over the previous two to three months. The result is given in mmol/mol or as a percentage.

## National Institute for Health and Care Excellence (NICE)

NICE is the independent regulatory body providing national guidance to the NHS on new and existing medicines, treatment and care.

## Self-referral

Those people who self-refer are likely to be people who have already had a foot ulcer and have been encouraged to contact the clinic if they had further problems. People who have previous experience of the service are likely to contact the clinic relatively quickly.

## SINBAD

SINBAD is the name given to a system for measuring how severe an ulcer is. SINBAD stands for Site, Ischaemia, Neuropathy, Bacterial infection, Area and Depth. See p6 for further information.

## Triage

Triage is the process of deciding on the urgency and type of treatment that a patient needs, based on their symptoms and the severity of their condition.

## Type 1 diabetes

Type 1 diabetes develops when the body permanently destroys its own insulin-producing cells. When this happens a person needs regular insulin, given either by injection or an insulin pump.

## Type 2 diabetes

A condition in which the body either makes too little insulin, or cannot use the insulin it produces to turn blood glucose into energy. Diet and exercise are often enough to control a Type 2 diabetes condition, but some people also need diabetes medication or insulin.

## Ulcer

An ulcer is the term used for a break in the skin, which does not heal as rapidly as expected.

## Ulcer-free

All ulcers present at the start of the ulcer episode have fully healed and no other ulcers remain unhealed. Being ulcer free includes those patients who have had surgery (including major and minor amputation).

## CONTACT

**We welcome your views on how we can improve this report.**

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