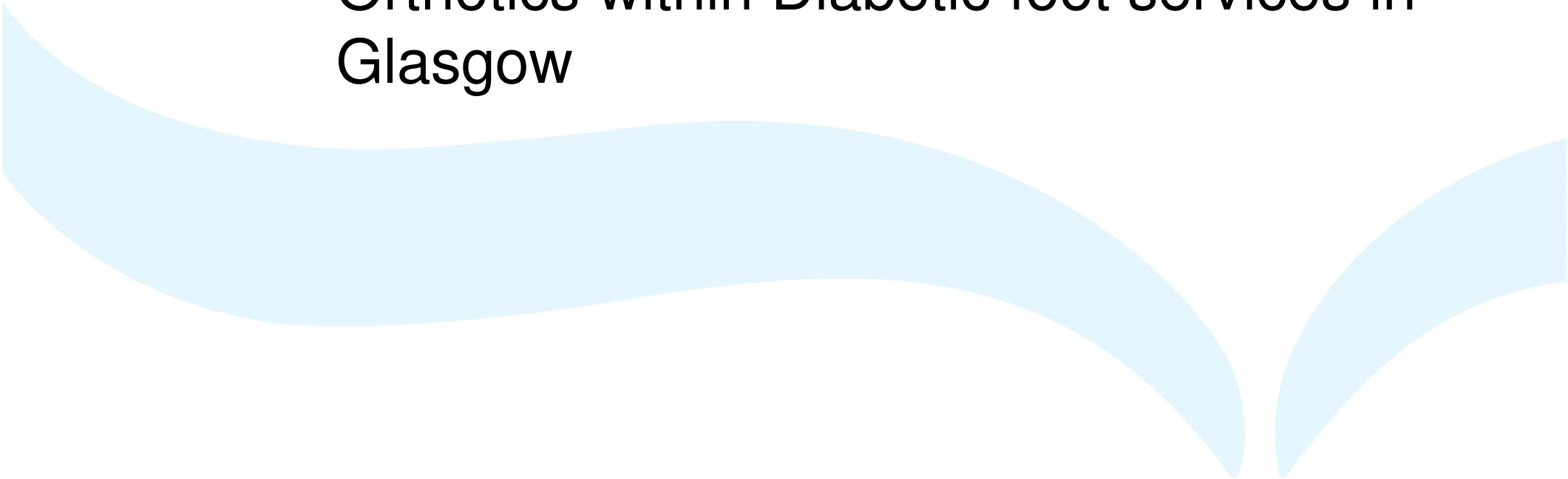


# The Management of the Foot in Diabetes in Scotland

**Nikki Munro**  
Advanced Specialist Orthotist

- Diabetic Foot Care In Scotland
  - Orthotic Diabetic Competency Framework
  - Orthotics within Diabetic foot services in Glasgow
- 



# Scotland



- Population 5.2m
- Scottish Government
- NHS Scotland
- 14 boards

# Scotland Health Boards

1. NHS Ayrshire & Arran

2. NHS Borders

3. NHS Dumfries & Galloway

4. NHS Fife

5. NHS Forth Valley

6. NHS Grampian

7. NHS Greater Glasgow & Clyde

8. NHS Highland

9. NHS Lanarkshire

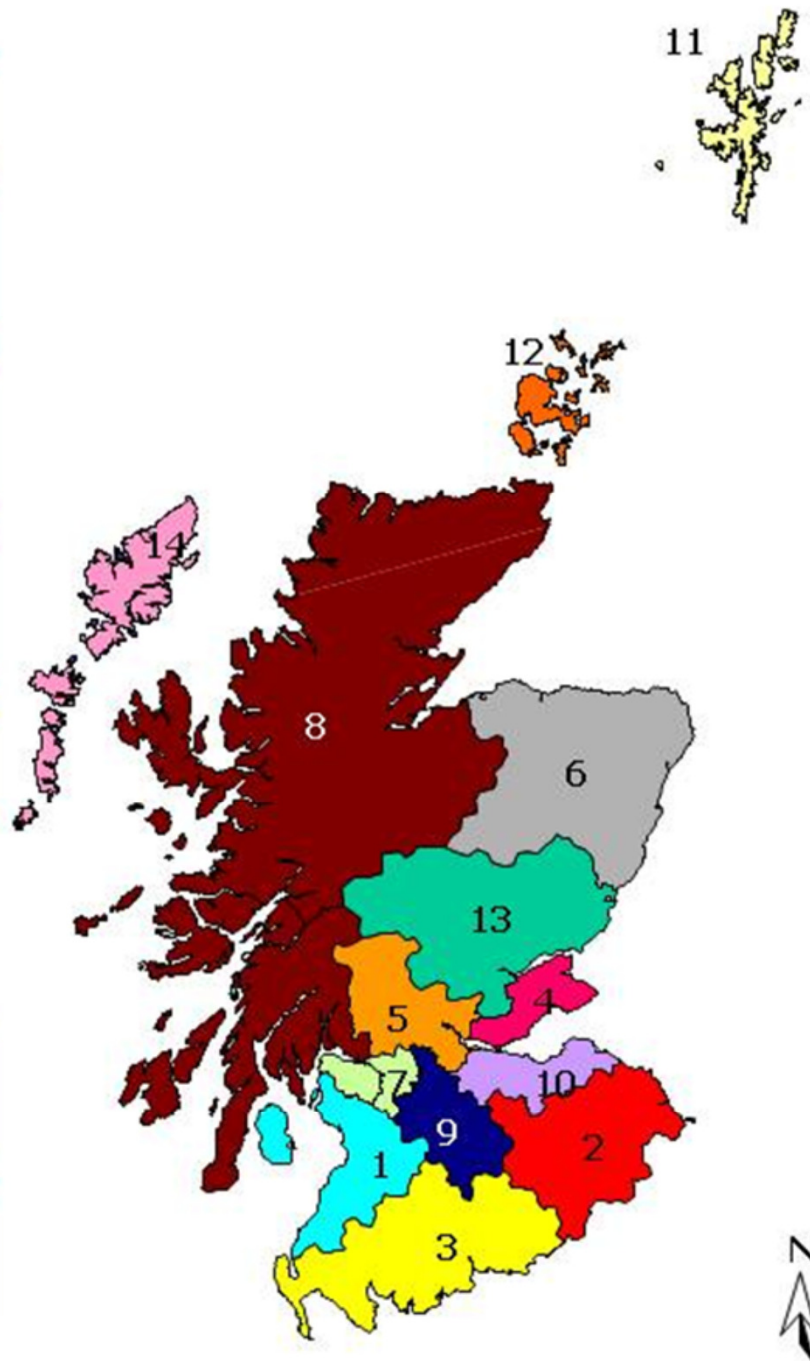
10. NHS Lothian

11. NHS Shetland

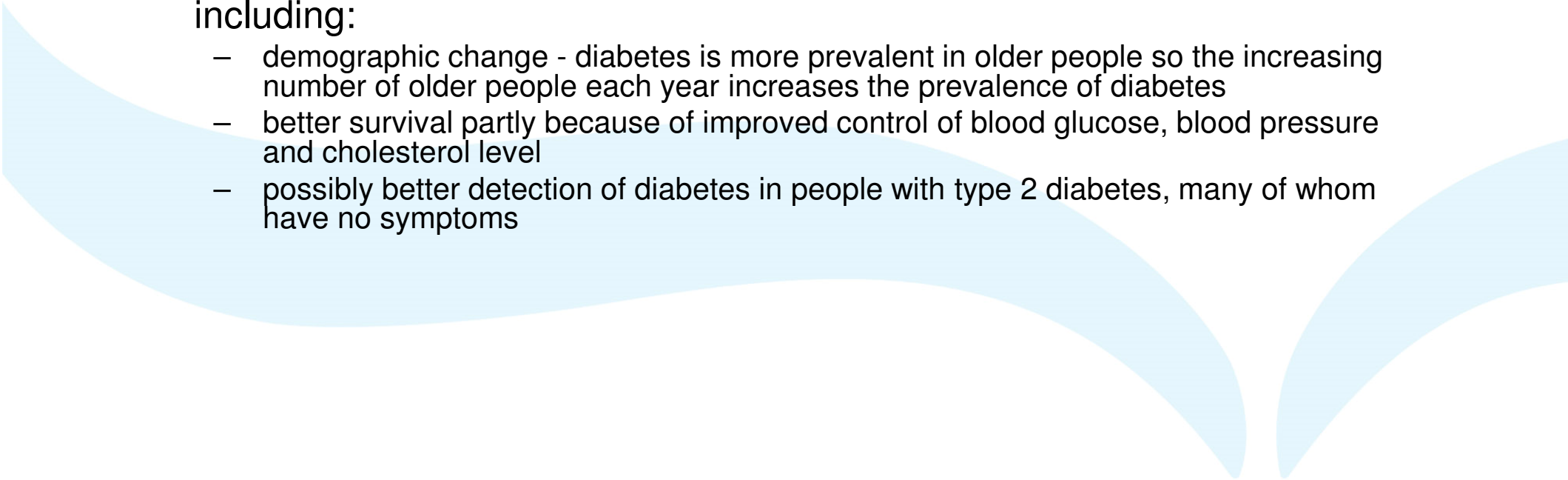
12. NHS Orkney

13. NHS Tayside

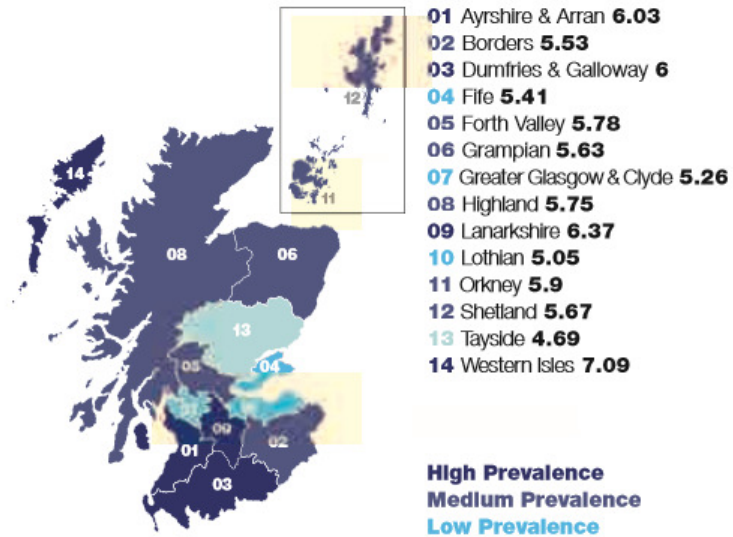
14. NHS western isles



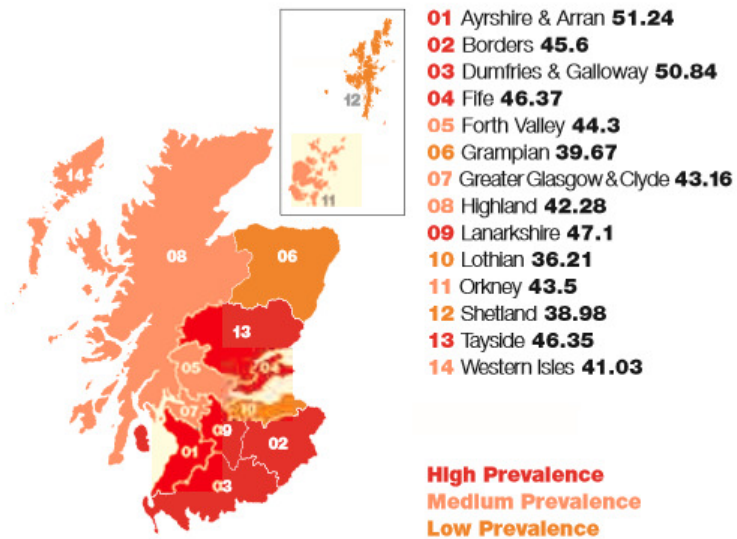
# Diabetes in Scotland

- At the end of 2012 there were 258,570 people with known diabetes in Scotland recorded on local diabetes registers, which represents a crude prevalence of 4.92% of the population.
  - In the 2011 Scottish Diabetes Survey, 247,278 people (4.74%) were known to have diabetes.
  - The increase in reported prevalence depends on a number of factors, including:
    - demographic change - diabetes is more prevalent in older people so the increasing number of older people each year increases the prevalence of diabetes
    - better survival partly because of improved control of blood glucose, blood pressure and cholesterol level
    - possibly better detection of diabetes in people with type 2 diabetes, many of whom have no symptoms
- 

## Prevalence Type 1 (per 1000)



## Prevalence Type 2 (per 1000)



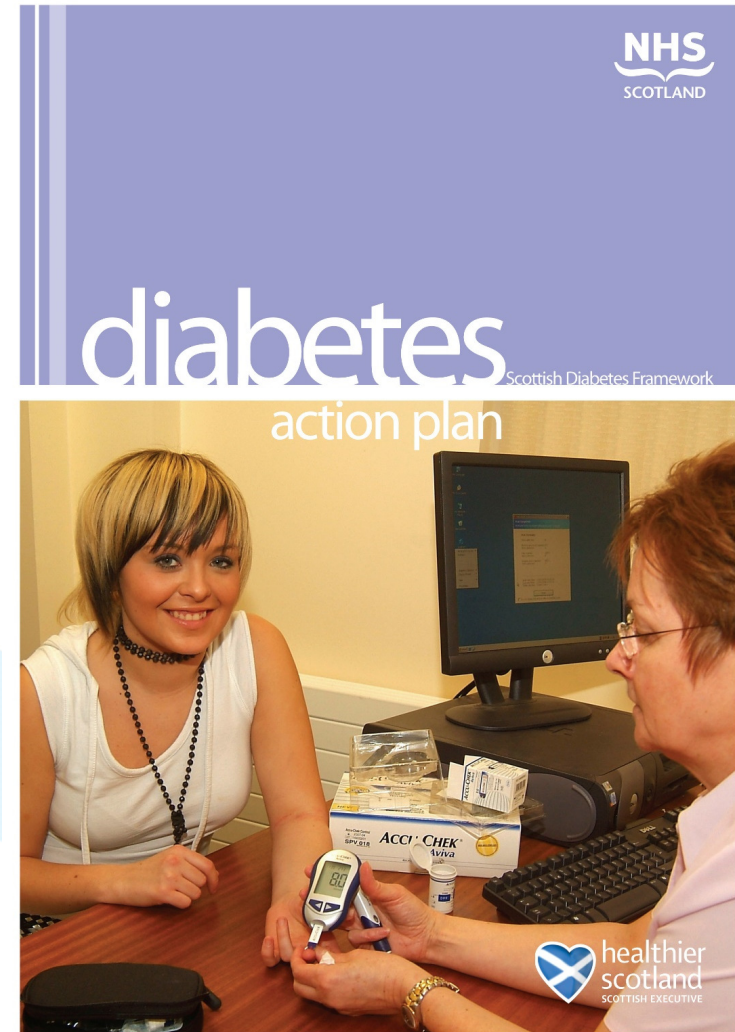
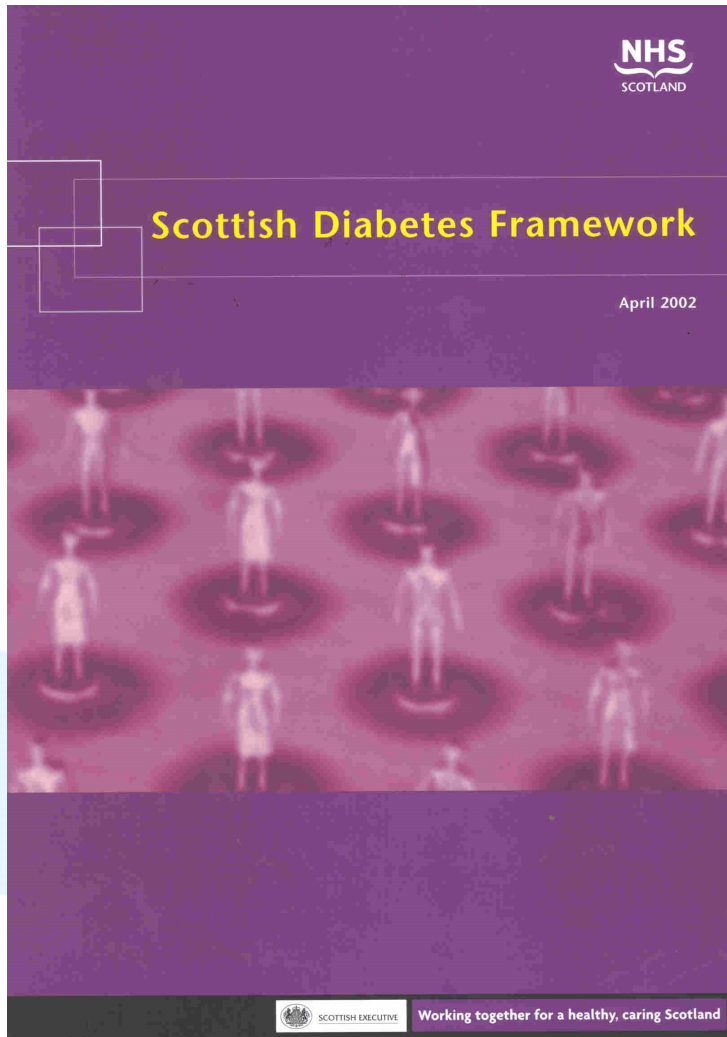
# Prevalence by Health Board in over 65s

Scottish Diabetes Survey 2012

**Table 2. Crude prevalence of diabetes for patients aged 65 and over (all types), 2012, Scotland, by NHS Board, ranked by prevalence.**

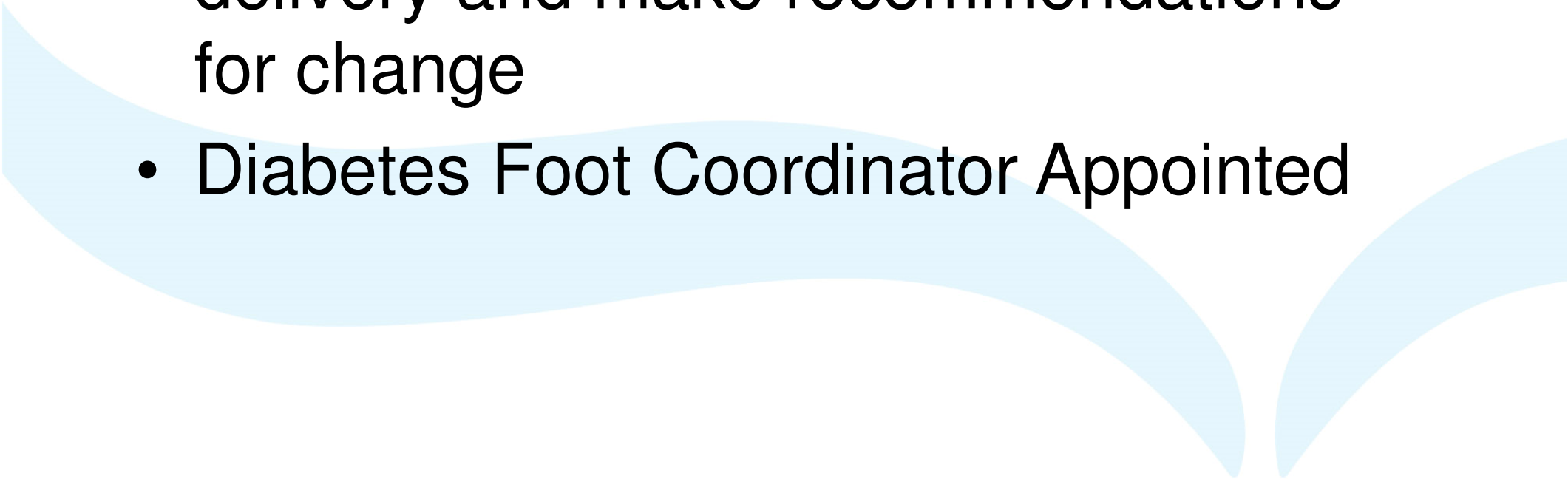
NHS Board	Aged ≥65 (n)	Aged ≥65 with Diabetes	Prevalence in those aged ≥65
Western Isles	5,731	696	12.1%
Shetland	3,855	509	13.2%
Highland	62,246	8,325	13.4%
Orkney	4,053	567	14.0%
Lothian	126,006	17,719	14.1%
Dumfries & Galloway	33,450	4,825	14.4%
Grampian	90,309	13,134	14.5%
Borders	23,277	3,392	14.6%
Tayside	78,157	11,579	14.8%
Fife	65,580	10,128	15.4%
Greater Glasgow & Clyde	187,350	28,920	15.4%
Ayrshire & Arran	71,351	11,039	15.5%
Forth Valley	49,469	7,663	15.5%
Lanarkshire	91,553	14,953	16.3%
<b>Scotland</b>	<b>892,387</b>	<b>133,449</b>	<b>15.0%</b>

# Scottish Diabetes Group

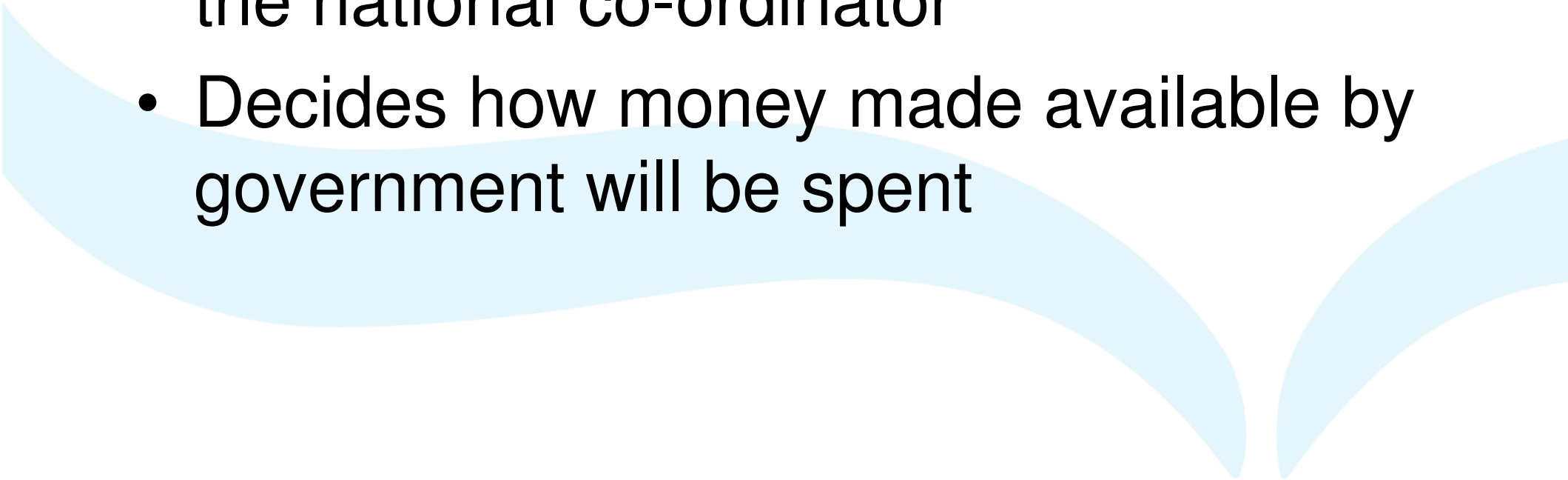




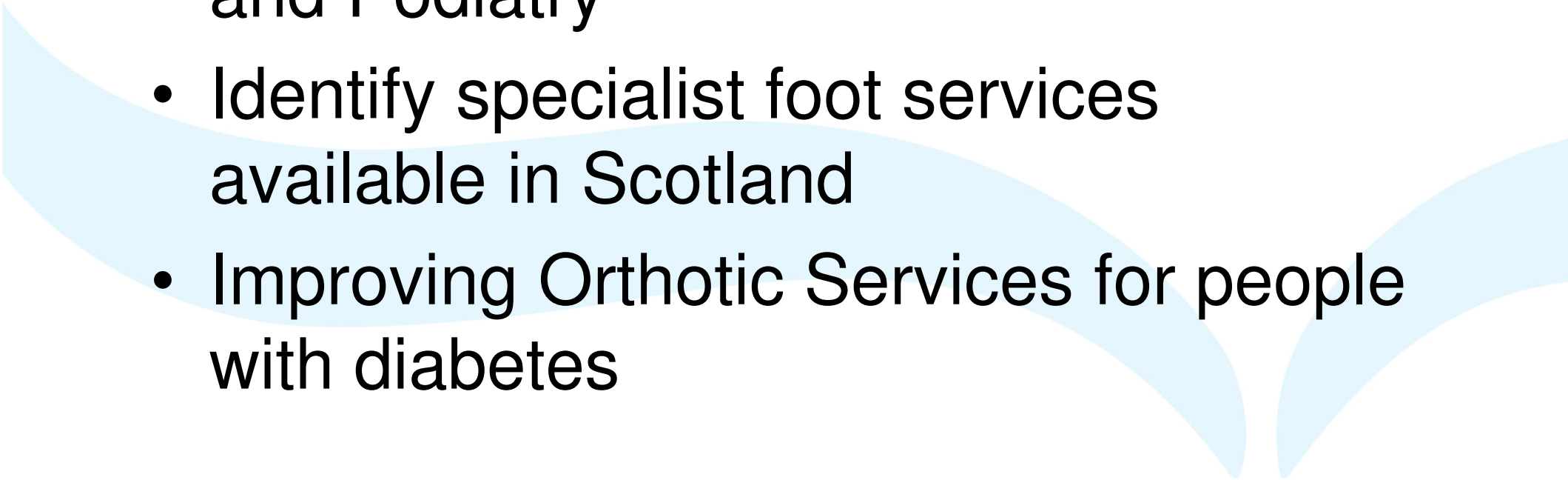
# Scottish Diabetes Foot Action Group

- Diabetic Foot Identified as an important area
  - Group Formed to scope current service delivery and make recommendations for change
  - Diabetes Foot Coordinator Appointed
- 

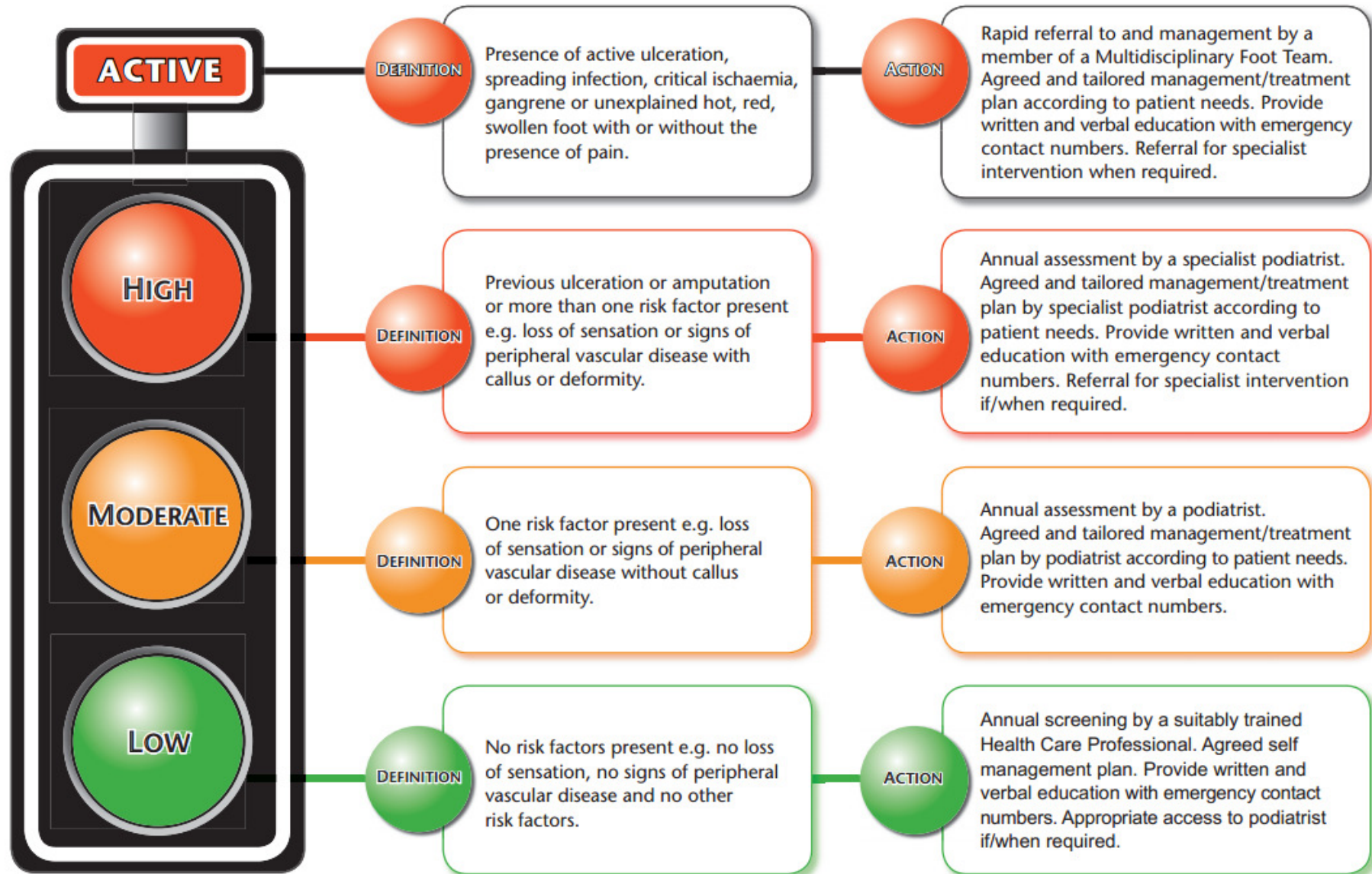
# Scottish Diabetes Foot Action Group

- Multidisciplinary
  - Meets 4 times a year
  - Informs the future direction and work of the national co-ordinator
  - Decides how money made available by government will be spent
- 

# SDFAG Workstreams

- Develop consistent patient information
  - Record foot screening: 75% of all patients by 2009
  - Competency Frameworks for Orthotics and Podiatry
  - Identify specialist foot services available in Scotland
  - Improving Orthotic Services for people with diabetes
- 

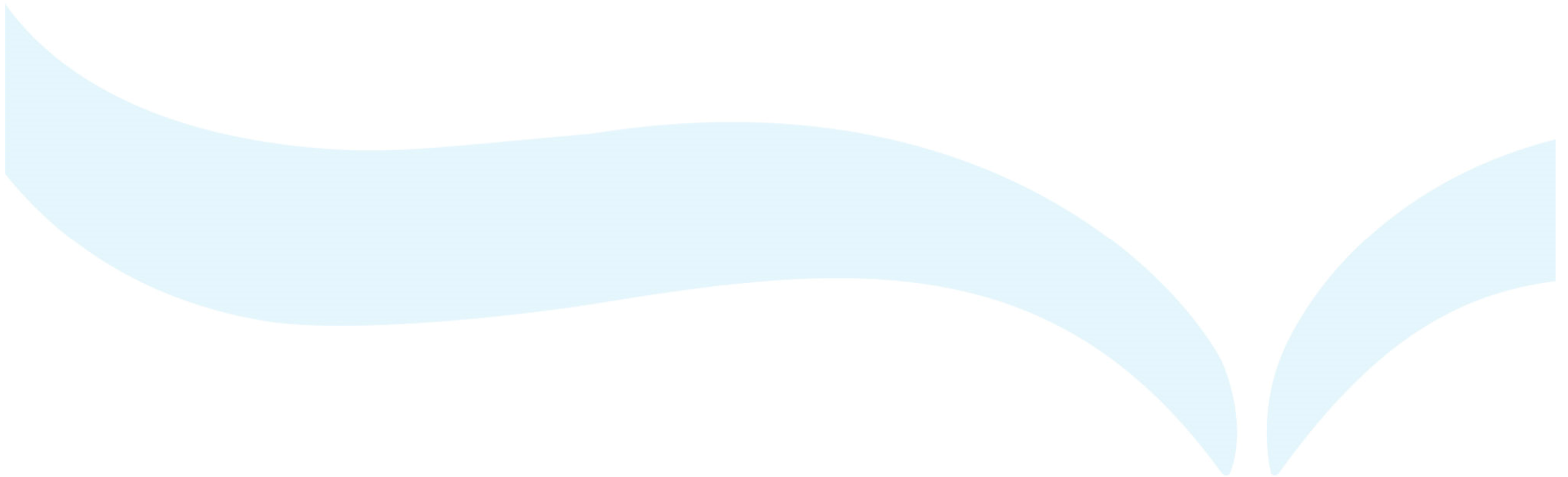
# DIABETIC FOOT RISK STRATIFICATION AND TRIAGE

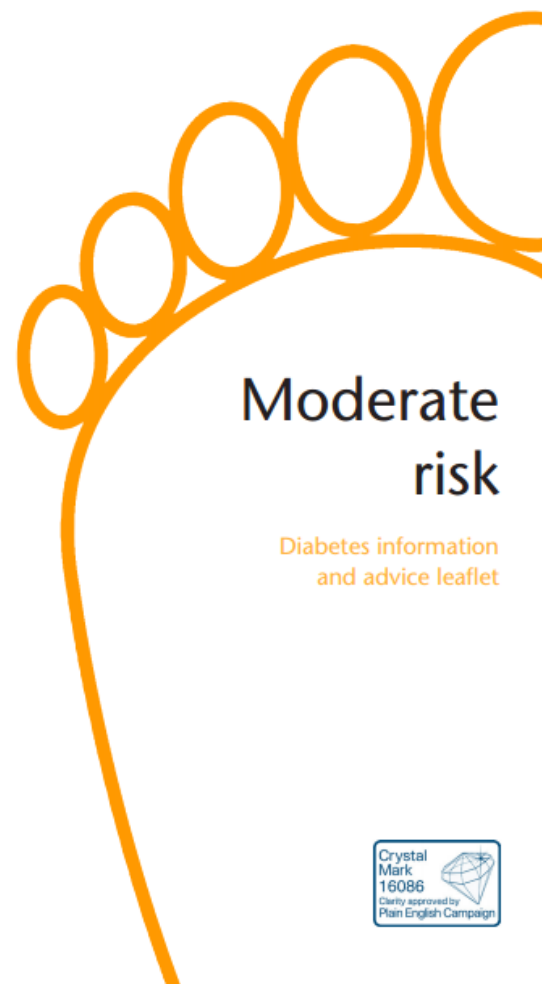
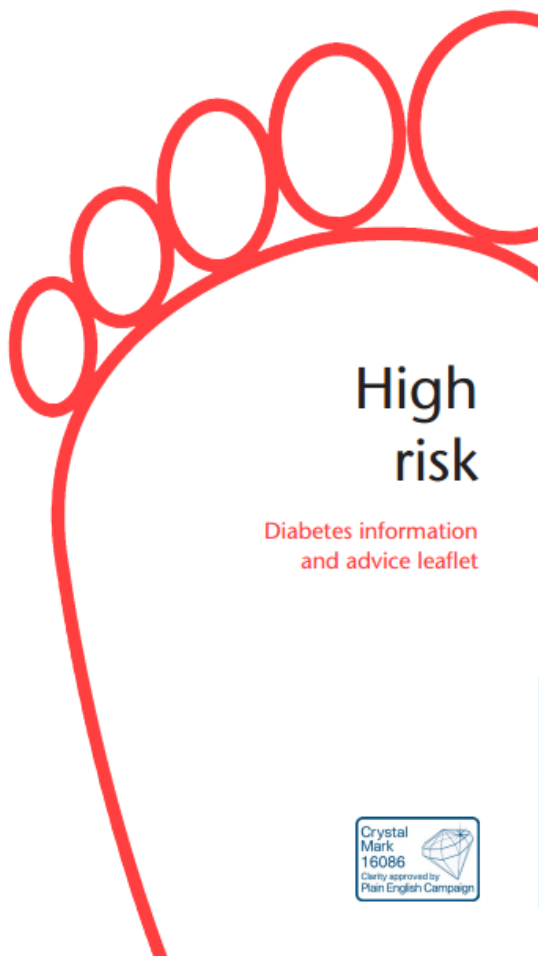


Produced by the Scottish Diabetes Group - Foot Action Group

These risk categories relate to the use of the SCI-DC foot risk stratification tool

# Develop Patient Information





### Minor cuts and blisters

If you check your feet and discover any breaks in the skin, minor cuts or blisters, cover the area with a sterile dressing. Do **not** burst blisters. Contact your podiatry department or GP immediately (contact numbers are over the page). If these people are not available and there is no sign of healing after one day, go to your local accident and emergency department.

### Hard skin and corns

Do not attempt to remove hard skin or corns yourself. Your podiatrist will provide treatment and advice where necessary.

### Over-the-counter corn remedies

Do not use over-the-counter corn remedies. They are not recommended for anyone with diabetes as they can damage the skin and create ulcers.

### Avoid high or low temperatures

If your feet are cold, wear socks. Never sit with your feet in front of the fire to warm them up. Always remove hot water bottles or heating pads from your bed before getting in.

### A history of ulcers

If you have had an ulcer before, or an amputation, you are at **high risk** of developing more ulcers. If you look after your feet carefully, with the help of a podiatrist, you will reduce the risk of more problems.

If you discover any problems with your feet, contact your podiatry department or GP immediately. If they are not available, go to your nearest accident and emergency department. Remember, any delay in getting advice or treatment when you have a problem can lead to serious problems.

### Individual advice

.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....

Your next screening/assessment is due:

Month:..... 20 .....

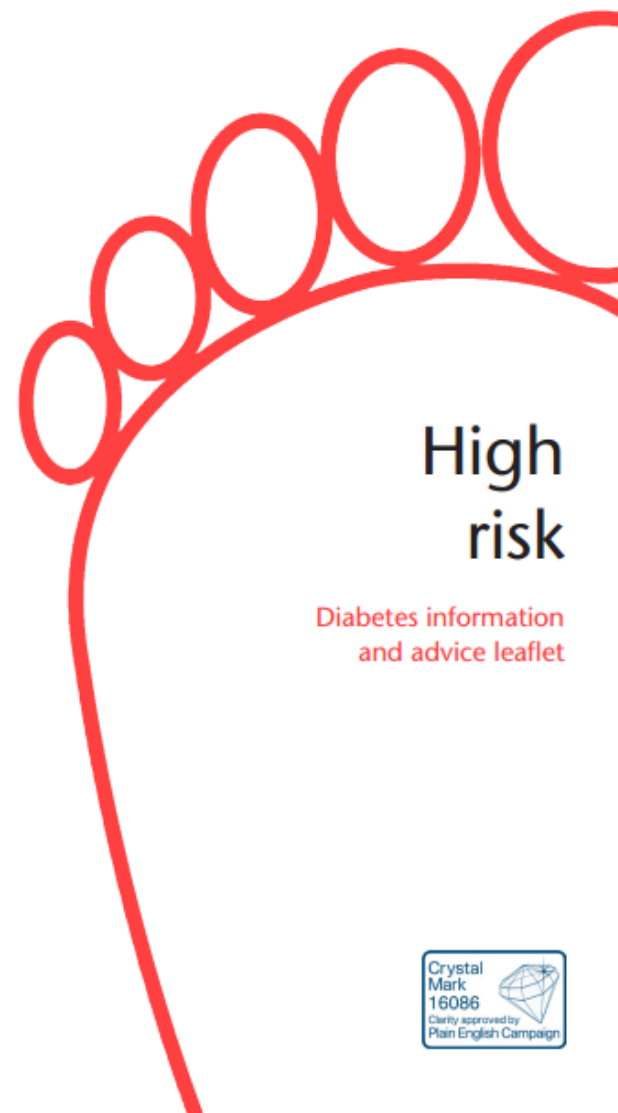
### Local contact numbers

Podiatry department:

.....

GP clinic:

.....



High  
risk

Diabetes information  
and advice leaflet

Diabetes is a lifelong condition which can cause foot problems. Some of these problems can occur because the nerves and blood vessels supplying your feet are damaged. This can affect:

- ❖ the feeling in your feet (peripheral neuropathy); and
- ❖ the circulation in your feet (ischaemia).

These changes can be very gradual and you may not notice them. This is why it is essential that every year you have your feet screened and assessed by a podiatrist. You can then agree a treatment plan to suit your needs.

Your screening and assessment have shown that there is a **high risk** that you will develop foot ulcers. Your podiatrist will tick which of the following risk factors you have.

- You have lost some feeling in your feet.
- The circulation in your feet is reduced.
- You have hard skin on your feet.
- The shape of your feet has changed.
- Your vision is impaired.
- You cannot look after your feet yourself.
- You have had ulcers before.
- You have had an amputation.

Keeping good control of your diabetes, cholesterol and blood pressure will help to control these problems.

**If you smoke, you are strongly advised to stop. Smoking affects your circulation and can lead to amputation.**

As your feet are at **high risk**, you will need to take extra care of them. You will need regular treatment by a podiatrist.

If you follow the advice and information in this leaflet it will help you to take care of your feet between visits to your podiatrist. Hopefully this will help to reduce problems in the future.

## **Advice on keeping your feet healthy**

### **Check your feet every day**

You should check your feet every day for any blisters, breaks in the skin, pain or any signs of infection such as swelling, heat or redness. If you cannot do this yourself, ask your partner or carer to help you.

### **Wash your feet every day**

You should wash your feet every day in warm water and with a mild soap. Rinse your feet thoroughly and dry them carefully, especially between the toes. Do not soak your feet as this may damage your skin. Because of your diabetes, you may not be able to feel hot or cold very well. You should test the temperature of the water with your elbow, or ask someone else to test the temperature for you.

### **Moisturise your feet every day**

If your skin is dry, apply a moisturising cream every day, avoiding the areas between your toes.

### **Toenails**

Do not cut your toenails unless your podiatrist advises you to.

### **Socks, stocking and tights**

You should change your socks, stockings or tights every day. They should not have bulky seams and the tops should not be elasticated.

### **Avoid walking barefoot**

If you walk barefoot you risk injuring your feet by stubbing your toes and standing on sharp objects which can damage the skin.

### **Check your shoes**

Check the bottom of your shoes before you put them on to make sure that nothing sharp such as a pin, nail or glass has pierced the outer sole. Also run your hand inside each shoe to check that no small objects such as small stones have fallen in.

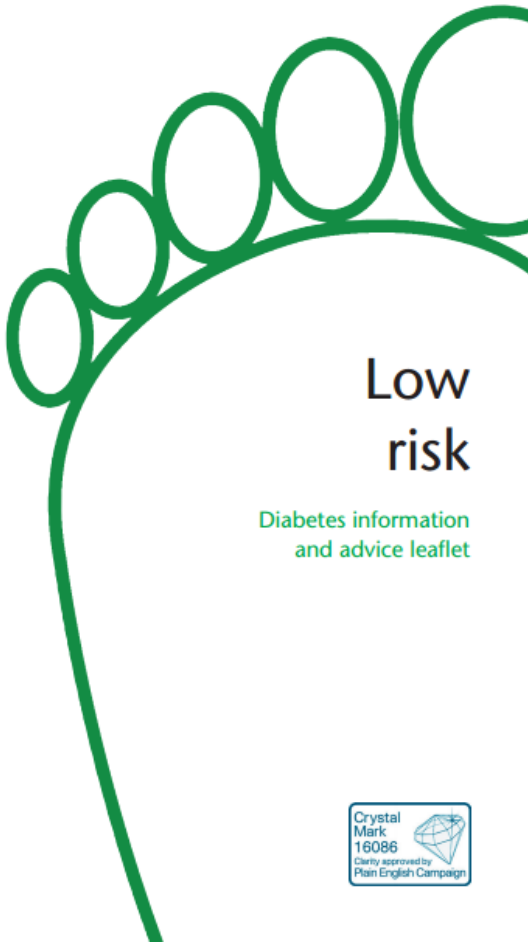
### **Badly-fitting shoes**

Badly-fitting shoes are a common cause of irritation or damage to feet. The podiatrist who assessed your feet may give you advice about the shoes you already own and on buying new shoes. They may suggest that you are measured for special shoes to get on prescription.

### **Prescription shoes**

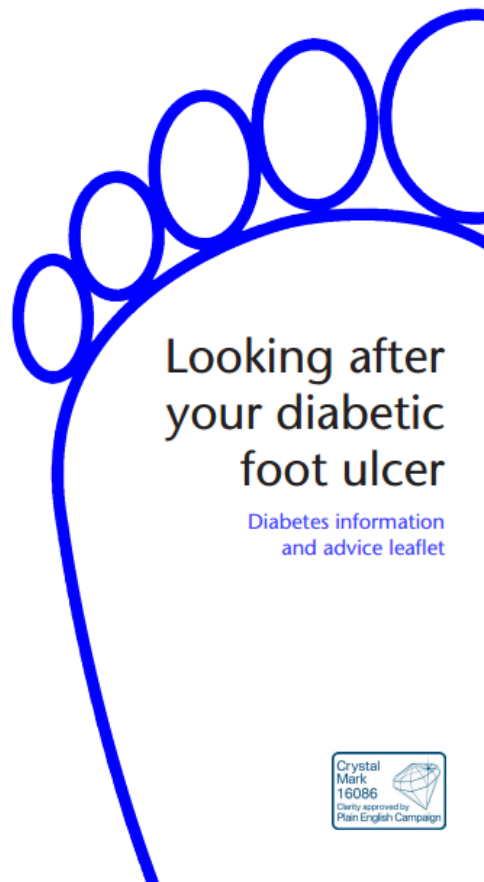
If you have been supplied with shoes, they will have been made to a prescription. You should follow the instructions your podiatrist or orthotist (the person who makes the shoes) gives you. These should be the only shoes you wear. Shoes will normally be prescribed with insoles. These are an important part of your shoes and you should only remove them if your orthotist or podiatrist advises you to. Whoever provided your shoes will carry out all repairs or alterations to make sure that they will match your prescription.





## Low risk

Diabetes information and advice leaflet



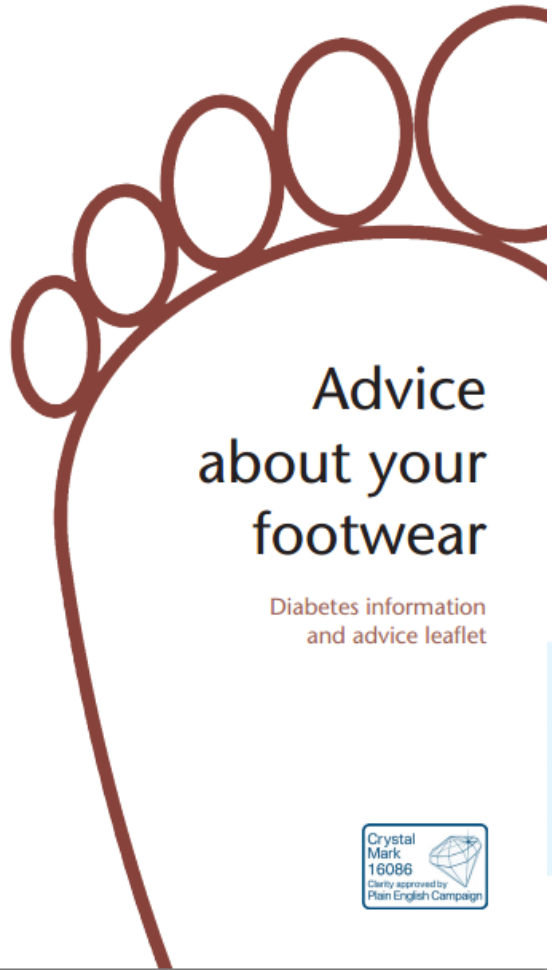
## Looking after your diabetic foot ulcer

Diabetes information and advice leaflet



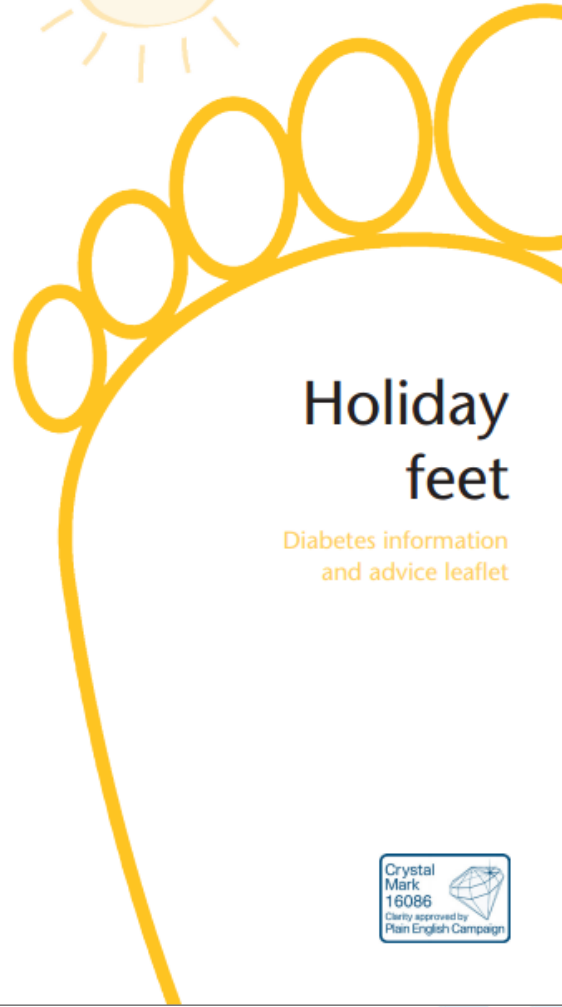
*Delivering better health*

[www.nhsggc.org.uk](http://www.nhsggc.org.uk)



## Advice about your footwear

Diabetes information  
and advice leaflet



## Holiday feet

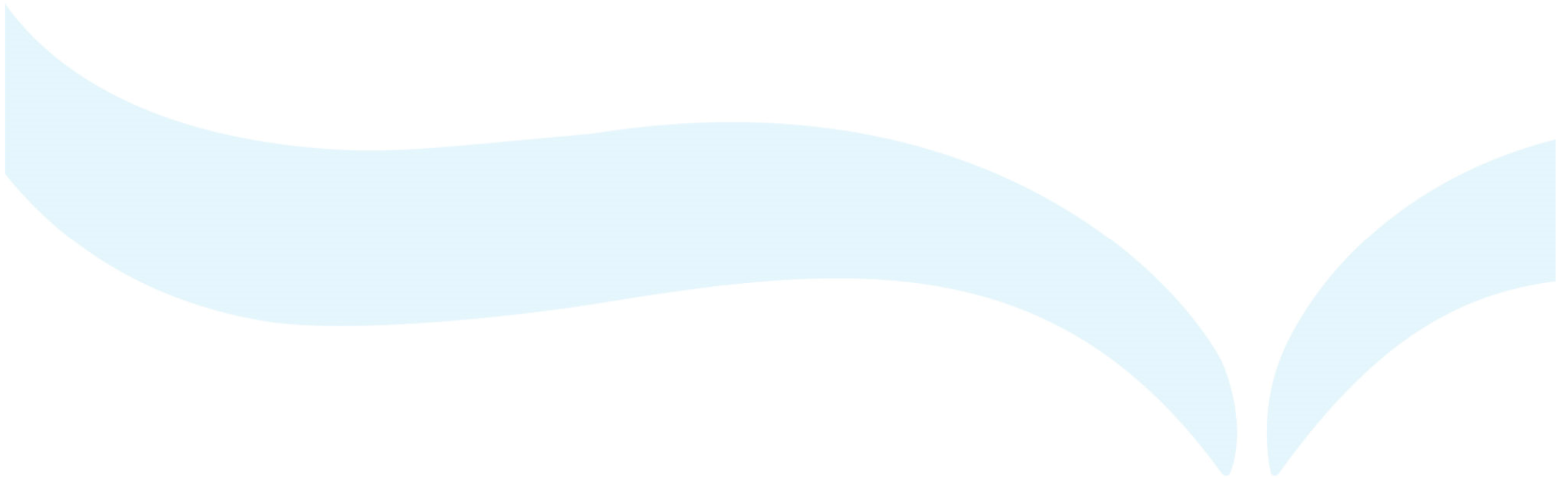
Diabetes information  
and advice leaflet



**Delivering better health**

[www.nhsggc.org.uk](http://www.nhsggc.org.uk)

# Record Foot Screening



### ALL PEOPLE WITH DIABETES SHOULD:

- Take the Diabetes UK Touch the Toes test to help self manage foot health.
- Have accessible and high quality annual foot checks.
- Be informed of and understand the foot risk score and follow the advice given on assessment.

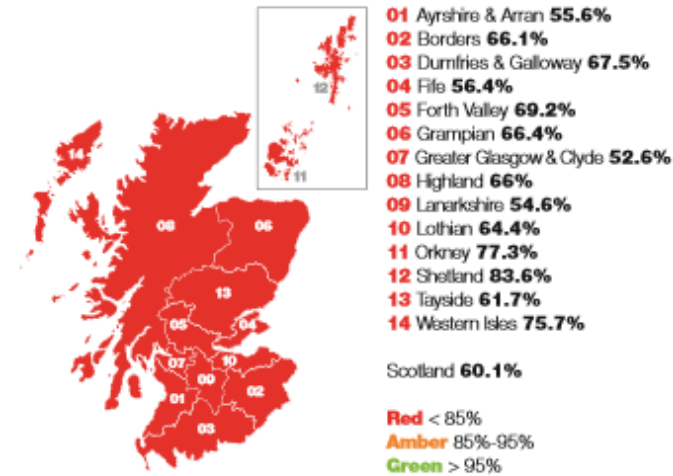
### HEALTHCARE PROFESSIONALS SHOULD ENSURE USE OF THE FOOT CARE PATHWAY

- Use the foot risk score to assess the risk of foot disease in all patients with diabetes.
- Referral within 24 hours to a multi-disciplinary foot care team for assessment when someone has an ulcer.
- Appropriate referral to foot protection team for those at increased risk.
- People with diabetes who go into hospital, for whatever reason, should have their feet checked on admission and throughout their stay.
- People with diabetes should be made aware of the checks that are made when feet are examined.
- Develop a greater understanding of the importance of diabetes footcare.

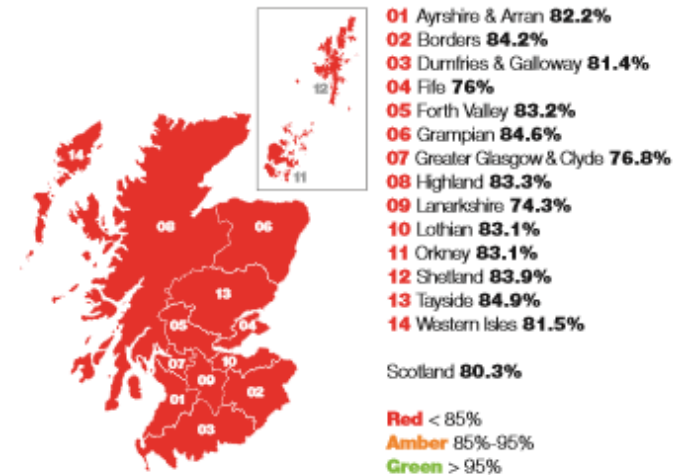
### HEALTH BOARDS SHOULD:

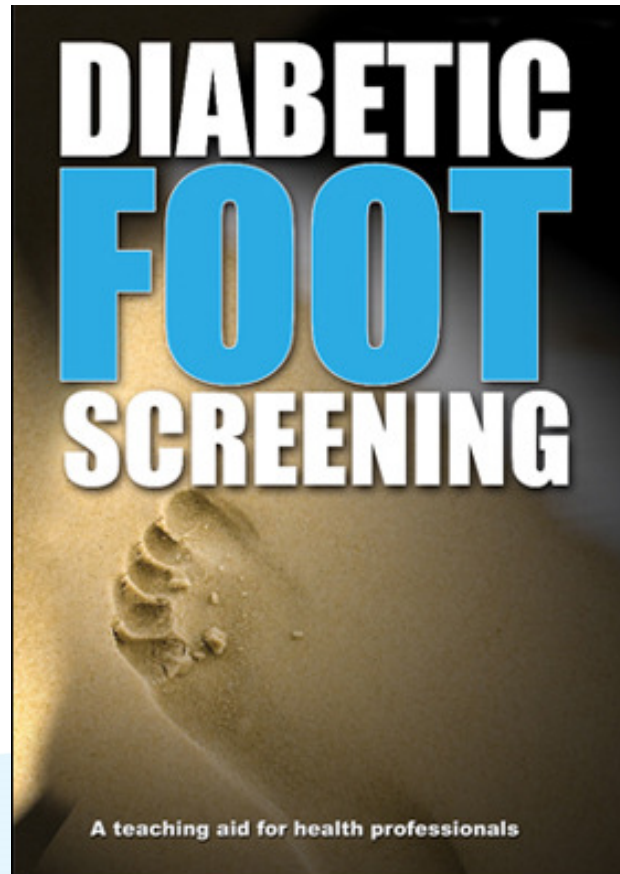
- Ensure multidisciplinary footcare referral teams are engaged when patients admitted with foot ulcers.

## TYPE 1 Foot Checks



## TYPE 2 Foot Checks





# Diabetes Foot Screening

Foot Risk Awareness and Management Education (FRAME)



June 18, 2014

Home

Training Modules

About FRAME

Links and Resources

Evaluation

FAQ

Contact Us

Legal

Admin Login



## Introduction

The Foot Risk Awareness and Management Education (FRAME) project was commissioned by the [Scottish Government](#) to produce an e-learning resource which would help standardise diabetes foot screenings performed by Health Care Professionals.

The website aims to provide an interactive way of learning and uses animations and case scenarios. There is an assessment involving case scenarios at the end of this module which the learner may opt to undertake and which, if passed, gives a certificate of completion.

The project was officially launched at The Scottish Diabetes Foot conference in Dynamic Earth, Edinburgh on 6th June 2011.

The project is being led by the [Scottish Diabetes Group](#) and the [University of Edinburgh](#).

## Target Audience

Diabetic foot screening may be carried out by any health care professional/worker involved in the care of a patient with diabetes. These may include some of the examples listed below:

- Podiatrist
- Practice nurse
- District nurse
- General practitioner
- Orthotist
- Podiatry technician
- Health care assistant
- Health care worker
- Support worker

 [Start Training Modules](#)

**NHS**  
SCOTLAND



*Delivering better health*

[www.nhsggc.org.uk](http://www.nhsggc.org.uk)

<http://www.diabetesframe.org/>

# Diabetes Foot Screening

## 4) The Procedure

### Vascular Screening (11/17)



*Can you locate the posterior tibial pulse?*

Q. Can you identify the posterior tibial pulse on the foot below? Drag and drop hand to the area on the foot where you think you would find this pulse.

Pulse

Reset Reveal

Audio on

The image shows a digital interactive interface for a medical quiz. At the top, a blue header contains the question 'Can you locate the posterior tibial pulse?' in a cursive font. Below this, a question text asks the user to identify the posterior tibial pulse on a foot diagram. The diagram shows a right foot with a hand positioned to palpate the posterior tibial pulse. To the right of the foot is a 'Pulse' box with a red circle indicating the current selection. At the bottom of the interface, there are 'Reset' and 'Reveal' buttons, an 'Audio on' indicator with a speaker icon, and a small footprint icon in the top right corner.

 Next step: Neurological Screening: Introduction (12/17)

## Patient B



William

William is 62 years old. He was diagnosed with type 2 diabetes 2 years ago.

He retired last year and enjoys working in his garden.

**Instructions:** you will be asked to fill out the SCI-DC form based on the patient details provided on the paper. Each form section will be populated as if the patient does not have any problems, you must read the patient information and amend accordingly. When you have filled out the form you will then be asked to make your own risk assessment of this patient.

Start screening process »



# Patient B - William

Patient Details

Amputation

Risk Factors

Vascular  
Screening

Neurological  
Screening

Risk Status

Referral Status  
/Education

Patient details: William's details have already been filled in so you can proceed to next section.

**Name:** MARTINSON, William  
**CHI:** 1812453HNG  
**Age:** 62  
**Type of Diabetes:** 2

**Screening Date:** 15 / 9 / 2014

**Attendance:** Attended and seen

**GP Practice Name:** Grange Medical Centre

**Postal Address:** 54 Rose Gardens

Inverness

**Postcode:** IV9 6BH

Proceed to next section »

SCI-DC Diabetic Foot Screening NHS

Form fields include: Name, CHI, Age, Type of Diabetes, Screening Date, Attendance, GP Practice Name, Postal Address, Postcode.

Foot examination section includes diagrams of feet and checkboxes for: Ulcers, Infections, Deformities, etc.



# Patient B - William

Patient Details

Amputation

Risk Factors

Vascular Screening

Neurological Screening

Risk Status

Referral Status /Education

Amputation: William has no amputations.

Right

None



Amputation

None



/ /

Date of Amputation

/ /

Yes  No

Diabetes-Related Amputation

Yes  No

Left

None



/ /

Date of Amputation

/ /

Yes  No

Diabetes-Related Amputation

Yes  No

Proceed to next section »

SCI-DC Diabetic Foot Screening NHS

Diabetic Foot Screening

Foot Diagrams: Right and Left foot diagrams with assessment points for ulcers, calluses, and deformities.



## Patient B - William

Patient Details

Amputation

Risk Factors

Vascular  
Screening

Neurological  
Screening

Risk Status

Referral Status  
/Education

Risk Factors: William presents with a significant structural deformity of both feet and finds great difficulty in buying shoes from 'high street' shops that don't cause him discomfort. He does not attend a podiatrist. He shows no signs of active ulceration and has not had previous ulceration. He is able to self care and has no other risk factors. You will need to update the fields accordingly.

Significant Structural Abnormality of Foot:

Present  Absent

Significant Foot Callus:

Present  Absent

Active Ulceration:

Yes  No

Previous Ulceration:

Yes  No

Able to or has help to Self Care:

Yes  No

Other Risk (Specify):

Other

Proceed to next section »

SCI-DC Diabetic Foot Screening NHS

Significant Structural Abnormality of Foot: Present



# Patient B - William

Patient Details

Amputation

Risk Factors

Vascular Screening

Neurological Screening

Risk Status

Referral Status /Education

Vascular Screening: William has both peripheral pulses present in each foot. No intermittent claudication or previous vascular intervention is present. You will need to select 'either present' for the Right and Left.

Right

Either Present  Both Absent

**Peripheral Pulses**  
(Posterior Tibial or Dorsalis Pedis)

Yes  No

**Intermittent Claudication**

Yes  No

**Previous Vascular Intervention**

Left

Either Present  Both Absent

Yes  No

Yes  No

Proceed to next section »



# Patient B - William

Patient Details

Amputation

Risk Factors

Vascular Screening

Neurological Screening

Risk Status

Referral Status /Education

Neurological Screening: William has sensation in all 10 sites. He does not have painful neuropathy.

10 Gram Monofilament Sites

Present = ●  
Absent = ○

Loss of Protective Sensation = No  
Feeling in less than 8 sites?



Neurothesiometer Assessment:

mV

mV

Painful Neuropathy:

Present

Absent

Proceed to next section »



# Patient B - William

Patient Details

Amputation

Risk Factors

Vascular Screening

Neurological Screening

Risk Status

Referral Status /Education

Risk Status: Baring in mind the information you have been given during Williams foot screening, what is his risk status?

Q. What is William's risk status?

Make your choice by selecting one of the risk categories opposite →

ACTIVE

High

Mod

Low

Proceed to next section »

SCI-DC Diabetic Foot Screening NHS

Section	Yes	No
Diabetic Foot Screening		
Ulcers		
Infections		
Deformities		
Other		



# Patient B - William

Patient Details

Amputation

Risk Factors

Vascular Screening

Neurological Screening

Risk Status

Referral Status /Education

Risk Status: Baring in mind the information you have been given during Williams foot screening, what is his risk status?

## Q. What is William's risk status?

Well done, William is **Moderate** risk because he presents with a significant structural abnormality of both feet and finds great difficulty in buying shoes from 'high street' shops that do not cause him discomfort. ✓

## MODERATE

### The recommended action for moderate risk patients

- Annual screening/assessment by a podiatrist.
- Agreed and tailored management/treatment plan by podiatrist according to patient needs.
- Provide written and verbal education with emergency contact numbers.



Proceed to next section »

SCI-DC Diabetic Foot Screening NHS	
Screening Date	20/01/2018
Screening Location	Podiatry Clinic
Screening Type	Initial
Screening Status	Completed
Screening Result	Moderate Risk
Screening Notes	Structural abnormality of both feet. Difficulty buying shoes.



# Patient B - William

Patient Details

Amputation

Risk Factors

Vascular Screening

Neurological Screening

Risk Status

Referral Status /Education

Referral Status/Education: William requires referral to podiatry to see if he requires prescription footwear. Verbal and written foot education will be given and he is referred for education regarding self management.

## Refer To:

- |  |  |  |                                      |
|--|--|--|--------------------------------------|
| <input type="checkbox"/> Dietetic            | <input type="checkbox"/> District Nurse      | <input type="checkbox"/> Ophthalmologist | <input type="checkbox"/> Orthopaedic |
| <input checked="" type="checkbox"/> Orthotic | <input checked="" type="checkbox"/> Podiatry | <input type="checkbox"/> Practice nurse  | <input type="checkbox"/> Vascular    |
| <input type="checkbox"/> Other               | <b>Specify:</b>                              | <input type="text"/>                     |                                      |

## Education

- Written Foot Health Education Given:  Yes  No
- Verbal Foot Health Education Given:  Yes  No

Proceed to next section »

SCI-DC Diabetic Foot Screening NHS

Referral Status





# Patient B - William

Patient Details

Amputation

Risk Factors

Vascular Screening

Neurological Screening

Risk Status

Referral Status /Education

Form Submission: Thank you for completing this foot screening form, you can now select the 'Submit foot screening form' button at the bottom of the screen.

Thank you for completing this patient form. You have scored:

2/2

When you submit the foot screening form, this will load the next patient in the test.

Submit Foot Screening Form

SCI-DC Diabetic Foot Screening NHS

Form Submission: Thank you for completing this foot screening form, you can now select the 'Submit foot screening form' button at the bottom of the screen.



# DIABETES FOOT SCREENING CERTIFICATE OF COMPETENCY



This is to certify that

**Mrs Nicola Munro**

has been awarded the certificate of competence for

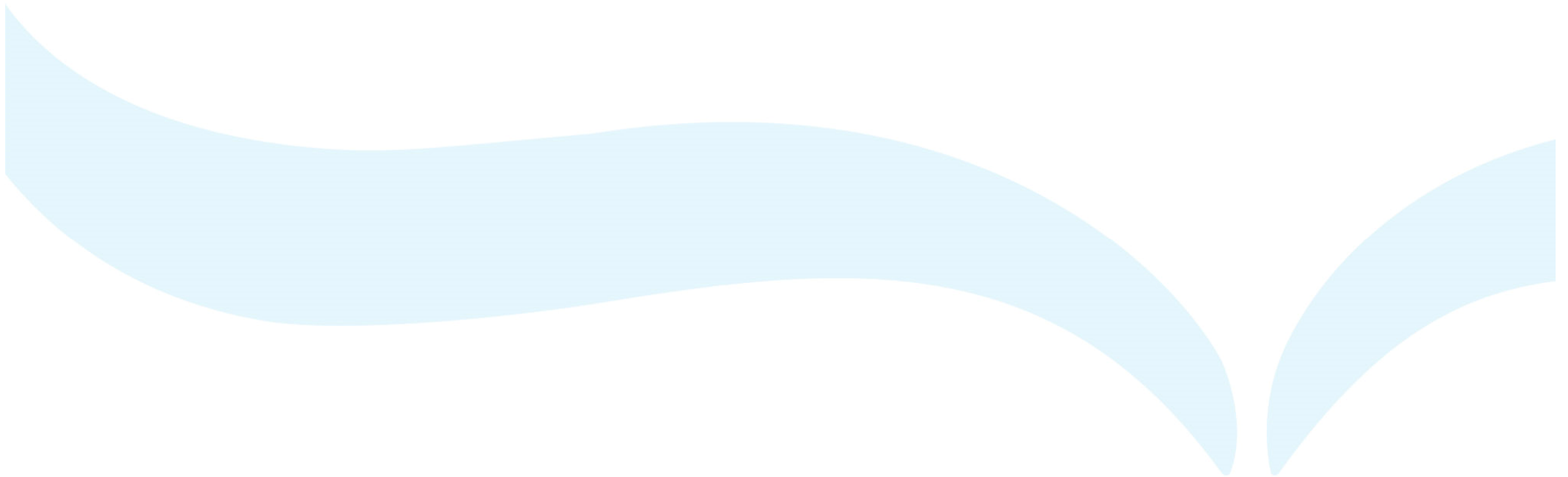
**Diabetes foot screening**

on

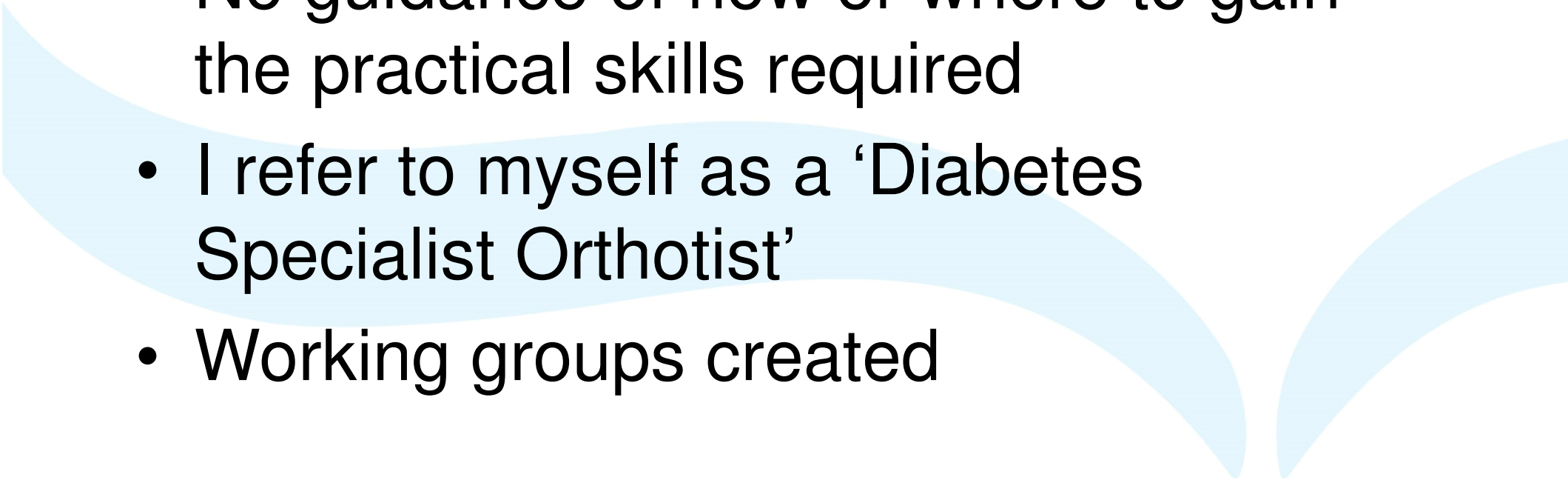
**8 September, 2014**



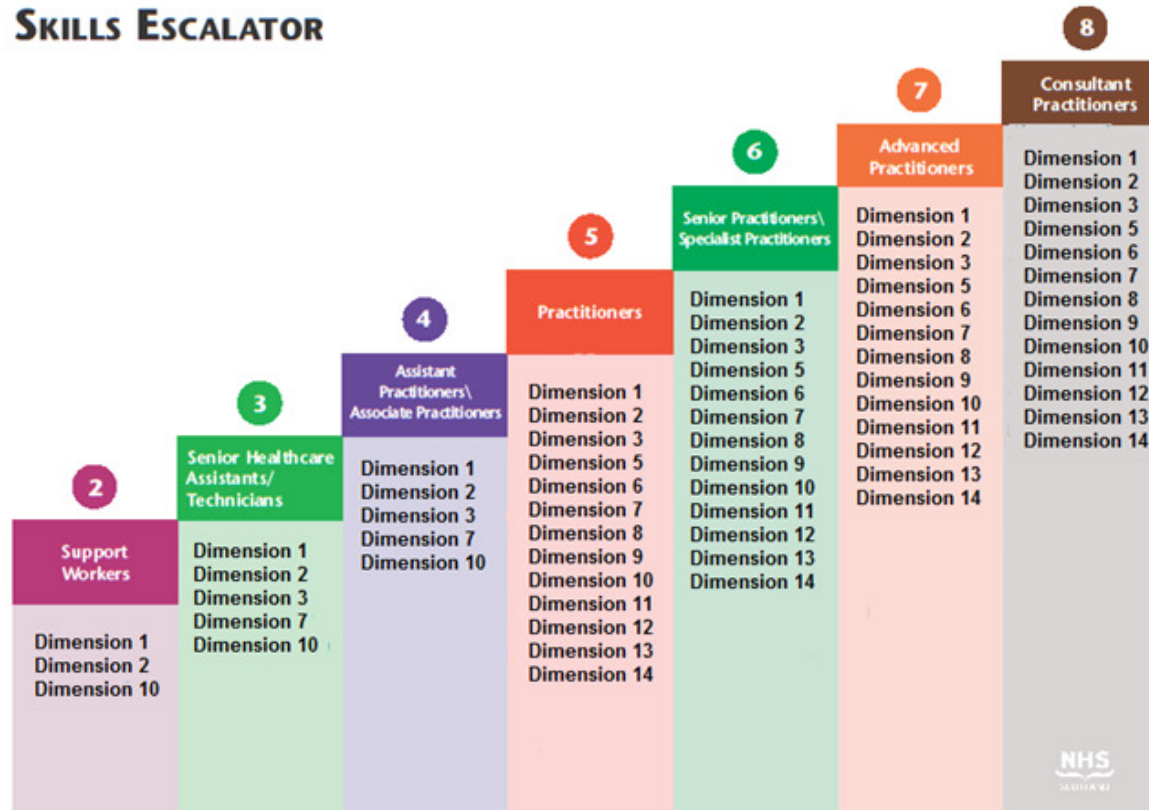
# Competency Frameworks



# What or Who is a Specialist?

- What do specialists working with the diabetic foot do or what should they be able to do
  - No guidance of how or where to gain the practical skills required
  - I refer to myself as a 'Diabetes Specialist Orthotist'
  - Working groups created
- 

## SKILLS ESCALATOR



The 14 Dimensions of the Framework are:

- 1 Diabetes Practitioner Knowledge, Skills and Behaviours
- 2 Screening
- 3 Dermatology in Diabetes Mellitus
- 4 *Clinical and Pharmaceutical Knowledge (used within podiatry framework)*
- 5 Clinical and Radiological Knowledge
- 6 Painful Diabetic Peripheral Neuropathy (PPN)
- 7 Preventative Ulcerative Care
- 8 Wound Management
- 9 Post Ulcerative Management
- 10 Health Improvement
- 11 The Charcot Foot in Diabetes Mellitus
- 12 Research and Audit
- 13 Leadership and Service Development
- 14 Orthotic Intervention

# Diabetic Competency Framework

**Support Workers**

**Level 2**

## **DIMENSION 1: Diabetes Practitioner Generic Knowledge, Skills and Behaviours**

<b>Generic Knowledge</b>			
<b>Competency</b>	<b>NOS Indicator</b>	<b>KSF Dimension</b>	<b>KSF Level</b>
General knowledge of diabetes	Diab GA1	Core 2	1
General knowledge of the signs and symptoms of diabetes	Diab TT01	Core 2	1
Aware that national guidelines exist for treatment and management of diabetes e.g. SIGN 55, NICE, NSF'S, Clinical Governance	Diab TT01 Diab GA1 Diab GA2	Core 2	1
<b>Generic Skills</b>			
<b>Competency</b>	<b>NOS Indicator</b>	<b>KSF Dimension</b>	<b>KSF Level</b>
Assess through discussion the individuals understanding and reinforce the benefits of self care and monitoring to prevent complications	Diab HA13 PE8 GEN14	HWB6	1
<b>Generic Behaviours</b>			
<b>Competency</b>	<b>NOS Indicator</b>	<b>KSF Dimension</b>	<b>KSF Level</b>
Communicate with the individual in an appropriate manner, recognizing the stressful nature of the potential impact of diabetes	GEN22 CHS48	Core 1	1

# Glossary

## National Occupational Standards (NOS) – Skills for Health

Key: LLUK – Lifelong Learning UK sector skills council  
M&L – Management and Leadership standards developed by Management Standards Centre  
CfA – Council for Administration standards setting body  
CJ – Community Justice suite, Skills for Justice sector skills council  
HSC – Health and Social Care, jointly owned by Skills for Health and Skills for Care  
All other NOS have been developed by Skills for Health

### **Diab**

DA4 – Assist individuals with diabetes to help and support each other

DF01 - Undertake advanced examination and risk assessment of the feet of an individual with diabetes

DF02- Implement specialist foot treatment for an individual with diabetes

DF03 - Provide wound care to treat an ulcerated foot of an individual with diabetes

GA1 - Assess and advise individuals with suspected diabetes

GA2 - Assess and investigate individuals with suspected diabetes

HA1 – Assess the healthcare needs of individuals with diabetes and agree care plans

HA2 - Work in partnership with individuals to sustain care plans to manage their diabetes

HA3 – Examine the feet of an individual with diabetes and advice on care.

HA4 – Assess the feet of individuals with diabetes and provide advice on maintaining healthy feet and managing foot problems

HA13 – Provide information and advice to enable an individual with diabetes to minimise the risks of hypoglycaemia



## KSF Dimension & Levels

### **Core 1**

Level 1 – Communicate with a limited range of people on day to day matters

Level 2 - Communicate with a range of people on a range of matters

Level 3 – Develop and maintain communication with people about difficult matters and/or in difficult situations

Level 4 – Develop and maintain communication with people on complex matters, issues and ideas and/or in complex situations

### **Core 2**

Level 1 – Contribute to own development

Level 2 – Develop own knowledge and skills and provide information to others to help their development

Level 3 – Develop oneself and contribute to the development of others

Level 4 – Develop oneself and others in areas of practice

### **Core 3**

Level 1 – Assist in maintaining own and others' health, safety and security

Level 2 – Monitor and maintain health, safety and security of self and others

Level 3 – promote, monitor and maintain best practice in health, safety and security

Level 4 – Maintain and develop an environment and culture that improves health, safety and security



## DIMENSION 1: Diabetes Practitioner Knowledge, Skills and Behaviours

Generic Knowledge			
Competency	NOS Indicator	KSF Dimension	KSF Level
In-depth knowledge of the theories of causes of diabetes	Diab GA1	Core 2	3
In-depth understanding of the impact of disease progression in diabetes	Diab GA1	Core 2	3
Understanding of different non-pharmacological and pharmacological approaches to diabetes management	Diab HA1	HWB7	3
Knowledge of the signs and symptoms of diabetes, including WHO criteria for diagnosis	Diab TT01	Core 2	3
In-depth knowledge of normal and abnormal blood glucose and HbA1c values and how to monitor them	HSC224 Diab GA2	Core 2	3
Provides leadership in the formation and delivery of National Guidelines and NHS frameworks (e.g. SIGN, NICE, NSFs, Clinical Governance, IT strategy)	Diab GA1 Diab GA2 B1 B6	Core 2	4
Generic Skills			
Competency	NOS Indicator	KSF Dimension	KSF Level
Assess through discussion the individual's understanding and reinforce the benefits of self care and monitoring to prevent complications	Diab HA13 PE8 GEN14	HWB6	4
Generic Behaviours			
Competency	NOS Indicator	KSF Dimension	KSF Level
Communicate with the individual in an appropriate manner, recognising the stressful nature of the potential impact of diabetes	GEN22 CHS48	Core 1	4

## DIMENSION 14: Orthotic Intervention

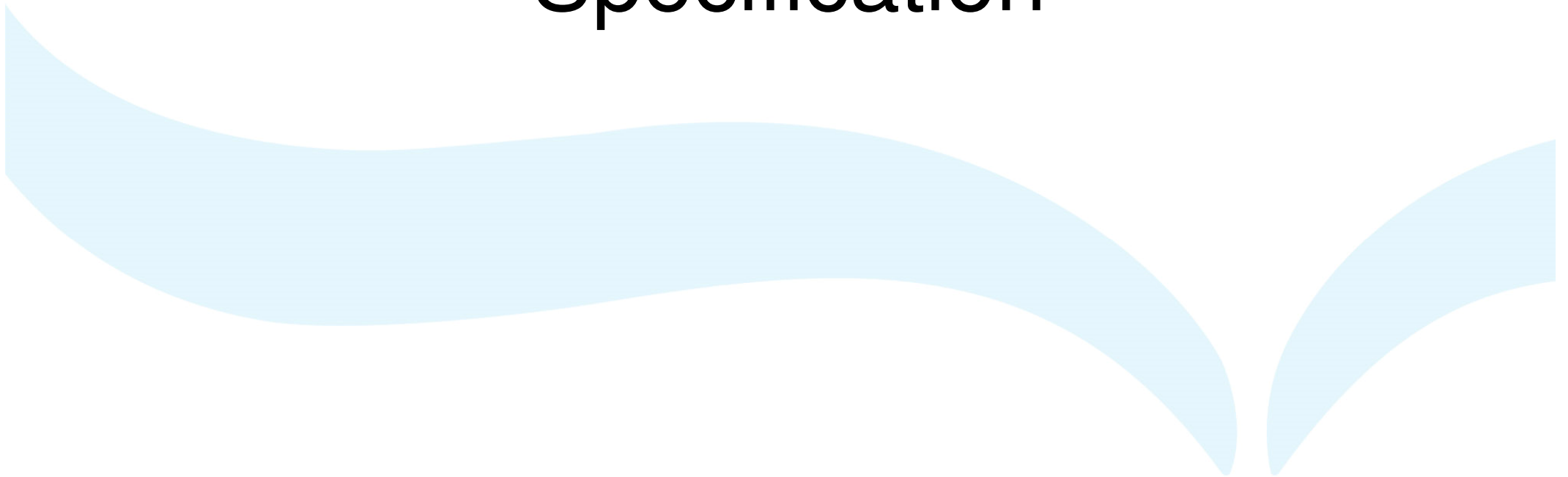
LEVEL

8



<b>General</b>			
<b>Generic Knowledge</b>			
<b>Competency</b>	<b>NOS Indicator</b>	<b>KSF Dimension</b>	<b>KSF Level</b>
Knowledge of tissue mechanics and the effect of shear forces.	HSC23	HWB 6 HWB7 HWB9	2
Knowledge of footwear adaptations and how they influence biomechanics in gait	HSC23	HWB 6 HWB7 HWB9	2
<b>Generic Skills</b>			
Interpret the diabetic risk classification system in order to formulate an appropriate orthotic prescription.	CHS222	HWB 6 HWB9	4
Construct a care plan which will include regular review to identify patient's level of use and concordance, wear of materials and the need for replacement.	GEN39 CHS44 CHS53 HA1	HWB 6 HWB7 HWB9	4
In development of a care plan consider <u>cosmesis</u> of orthoses, without compromising function, and understanding its importance in achieving the best possible concordance.	GEN39 CHS44 CHS53 CHS222 HA1	HWB 6 HWB7 HWB9	4
Provide relevant and accurate verbal and written patient information with any orthosis supplied.	GEN14 CHS55	Core 1 HWB7 HWB9	2
Identify biomechanical risk factors relating to friction, shear and pressure risk and alter care plan as appropriate.	CHS120 CHS222	HWB 6 HWB9	3

# Diabetes MD Service Specification



# SIGN guideline

116

Management of diabetes  
A national clinical guideline

## 11.3.1 MULTIDISCIPLINARY FOOT CLINIC

In the absence of a multidisciplinary foot care team, foot lesions are more likely to lead to amputation. Multidisciplinary foot care teams allow intensive treatment and rapid access to orthopaedic and vascular surgery. This allows control of infection and revascularisation when needed. Wound healing and foot-saving amputations can then be successfully achieved, reducing the rate of major amputations.<sup>716-718, 719</sup> Adherence to locally established protocols may reduce length of hospital stay and major complication rates.<sup>720, 721</sup>

2+

A cohort study demonstrated that aggressive cardiovascular intervention in the multidisciplinary diabetic foot care clinic reduced mortality at five years by 38% in patients with neuroischaemia and 47% in patients with neuropathy ( $p < 0.001$ ).<sup>722</sup>

2++

**C** Patients with active diabetic foot disease should be referred to a multidisciplinary diabetic foot care service.

A multidisciplinary foot team should include:

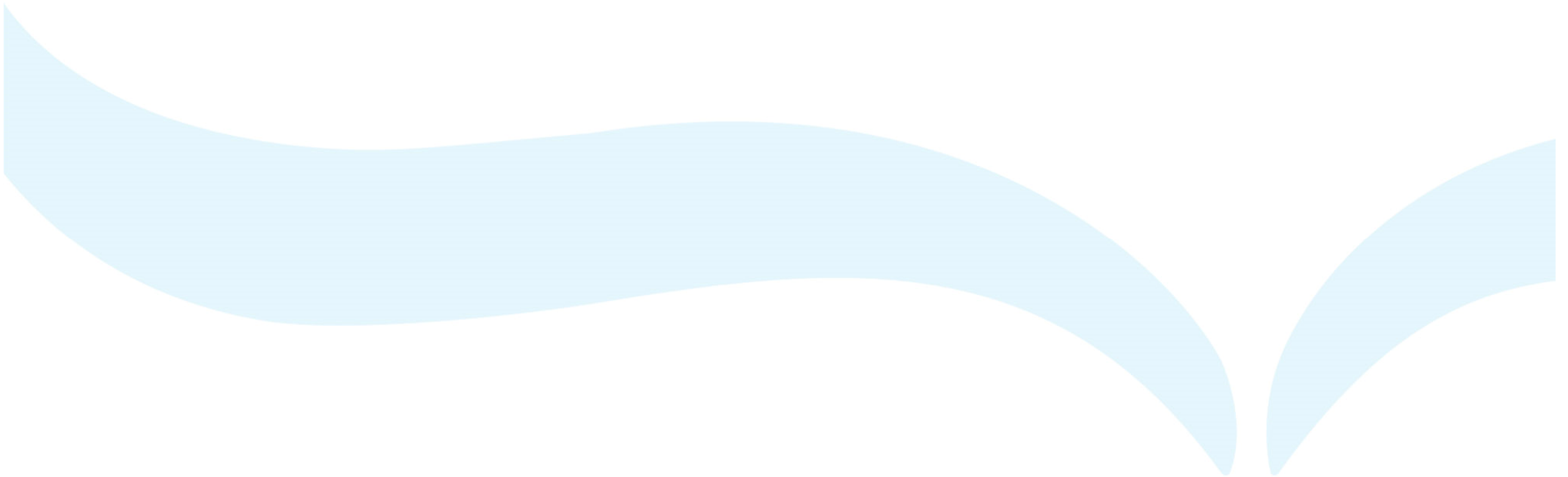
- podiatrist
- diabetes physician
- orthotist
- diabetes nurse specialist
- vascular surgeon
- orthopaedic surgeon
- radiologist.

A multidisciplinary foot service should address cardiovascular risk management.

# Diabetic Foot Service Specification

- Evidence based specification agreed for MD Foot Services
- Audit of All boards in Scotland
- To find out where Diabetic Foot Services met the minimum specification for a gold standard MDT.

# New Workstreams



# CPR for feet



## INPATIENT AUDIT OF THE FEET OF PATIENTS WITH DIABETES

Hospital : .....

Date: ...../...../.....

Please populate boxes below with **Y** for yes, **N** for no or **N/A** for not applicable

	1	2	3	4	5	6
Feet checked on admission (patient asked)						
Current Ulcer (checked by assessor)						
If ulcer present has referral been made to podiatrist or member of diabetes team (checked by assessor)						
If Ulcer present, was ulcer acquired during hospital stay (patient asked)						
Neuropathy present? (checked by assessor)						
If neuropathy present or at risk due to previous ulceration/ amputation have feet been protected (checked by assessor)						



## Have your patients with diabetes had: CPR for their Feet?

C

**Check both feet:**

- ❖ Is there an ulcer or gangrene?
- ❖ Is neuropathy present?
- ❖ Is action required?

P

**Protect feet if at risk due to:**

- ❖ Neuropathy
- ❖ Previous ulcer or amputation
- ❖ Bed bound or fragile skin

R

**Refer** all patients with a foot ulcer, gangrene or other major concern to the podiatry department or diabetes team.

**Ext** .....

### Diabetes Referral Guidance

**RED: always refer**

- Diabetic Ketoacidosis
- Hyperglycaemic Hyperosmolar state
- Severe Hypoglycaemia
- Intravenous insulin for >48hrs
- Intravenous insulin with glucose outwith range
- Newly diagnosed diabetes
- Foot ulceration
- Parenteral or enteral feeding
- Persistent hyperglycaemia
- Sepsis
- Vomiting
- Unable to self manage
- Significant educational need
- Patient request
- Acute coronary syndrome

**GREEN: rarely need seen**

- Well controlled diabetes
- Simple educational advice
- Good self management skills
- Minor, self treated hypoglycaemia
- Transient hyperglycaemia
- Routine diabetes care
- Routine dietetic advice

**Foot Care Guidance**

**CHECK:** Is there an active ulcer, neuropathy or vascular compromise?

**PROTECT:** All persons with diabetes who are bed bound or have neuropathy and/or vascular compromise or a previous ulcer.

**REFER:** All persons with ulcers or if there are any concerns about the foot

Please tick all boxes that apply:

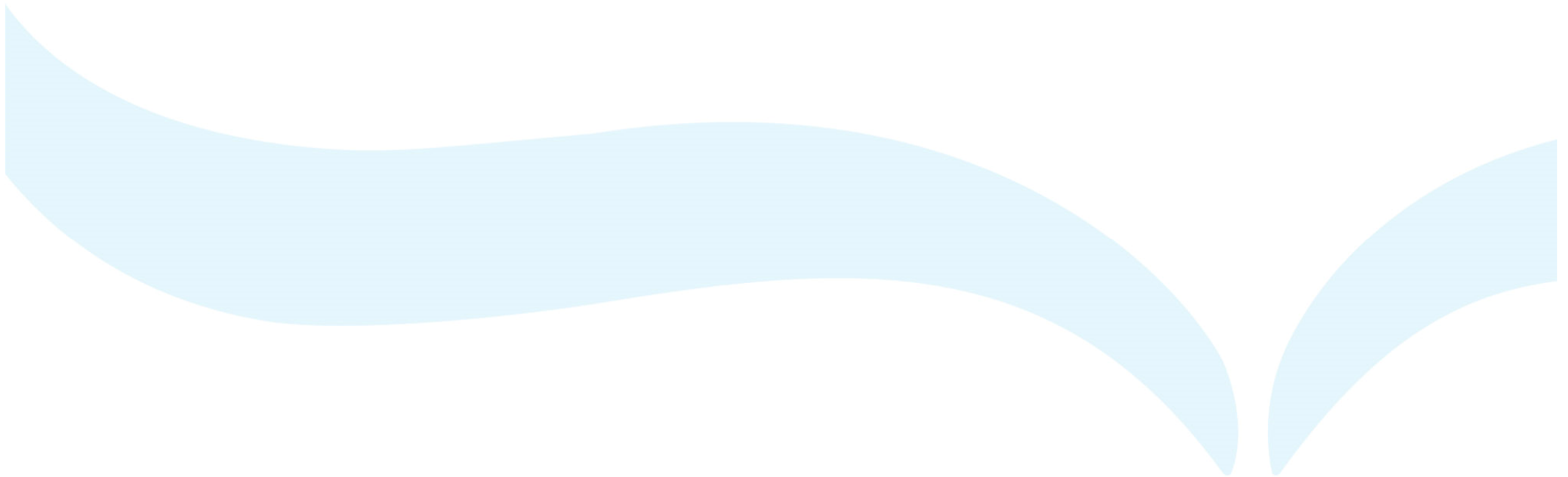
Assessment completed by: ..... Date: ...../...../.....

Risk assessed as: RED  GREEN

Foot Care: Check  Protect  Refer

To contact the Diabetes Team: Nursing page xxxx ext xxxxx  
Medical page xxxx

**What Effect has all this had?**





# *Reduced incidence of lower-extremity amputations in people with diabetes in Scotland: a nationwide study*

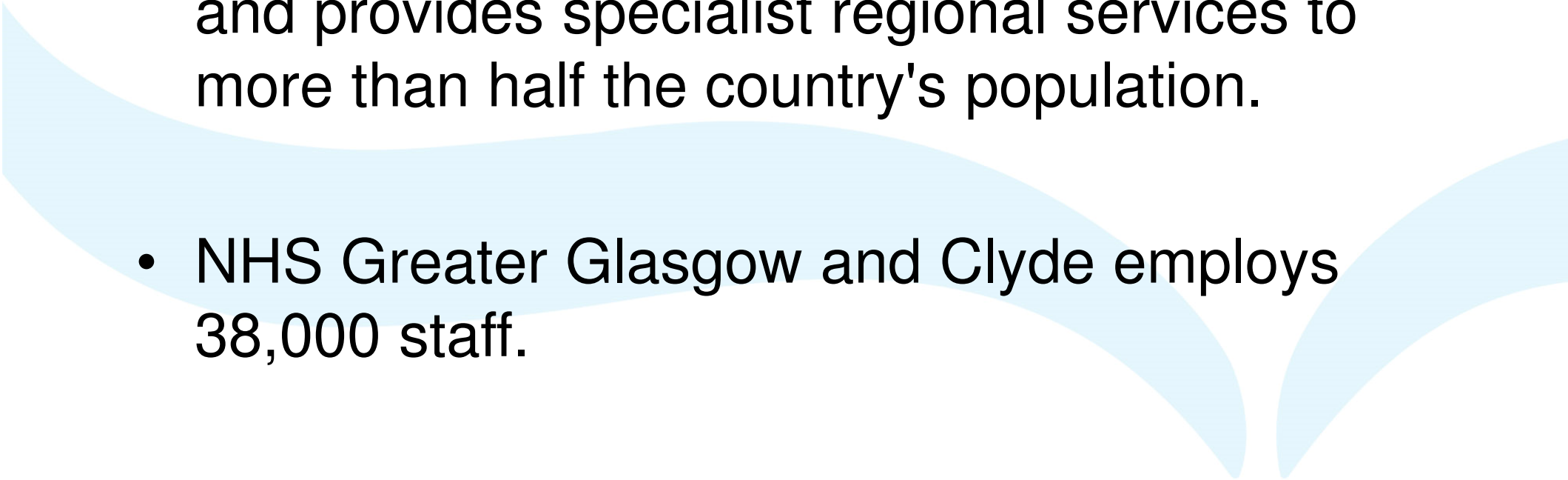
## CONCLUSIONS

- The incidence of Lower Extremity Amputation in persons with diabetes in Scotland has decreased by 30% over 5 years.
- The greatest reduction was in major amputation, which fell by 41%

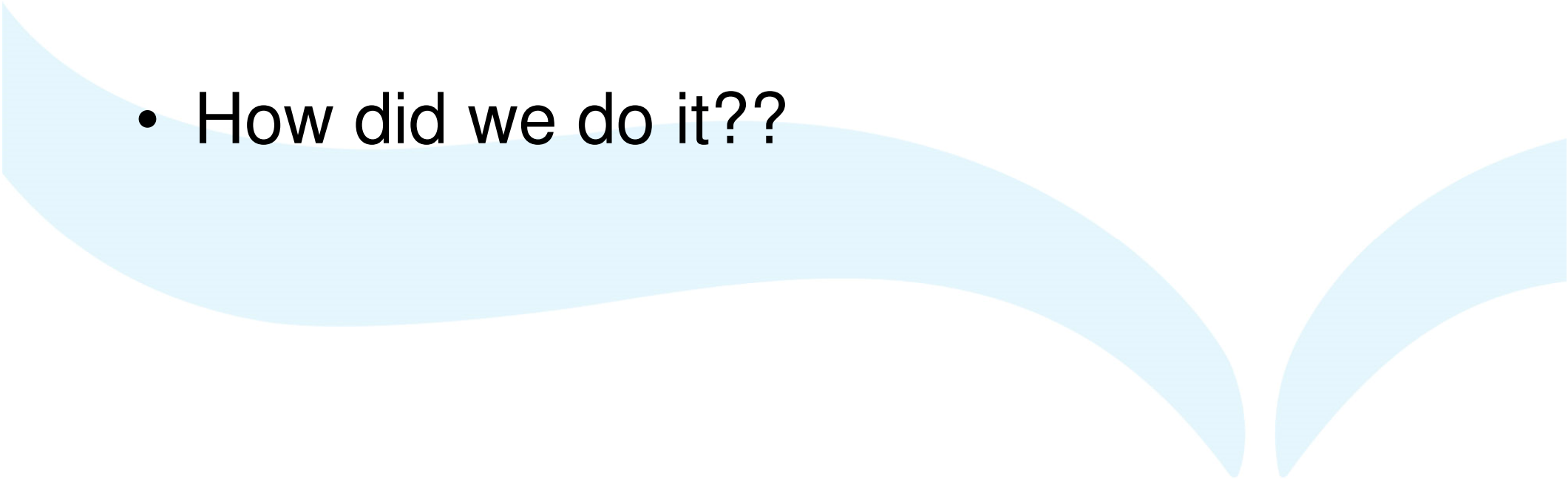
**NHS Greater Glasgow and  
Clyde Diabetes  
Multidisciplinary Foot Clinics**



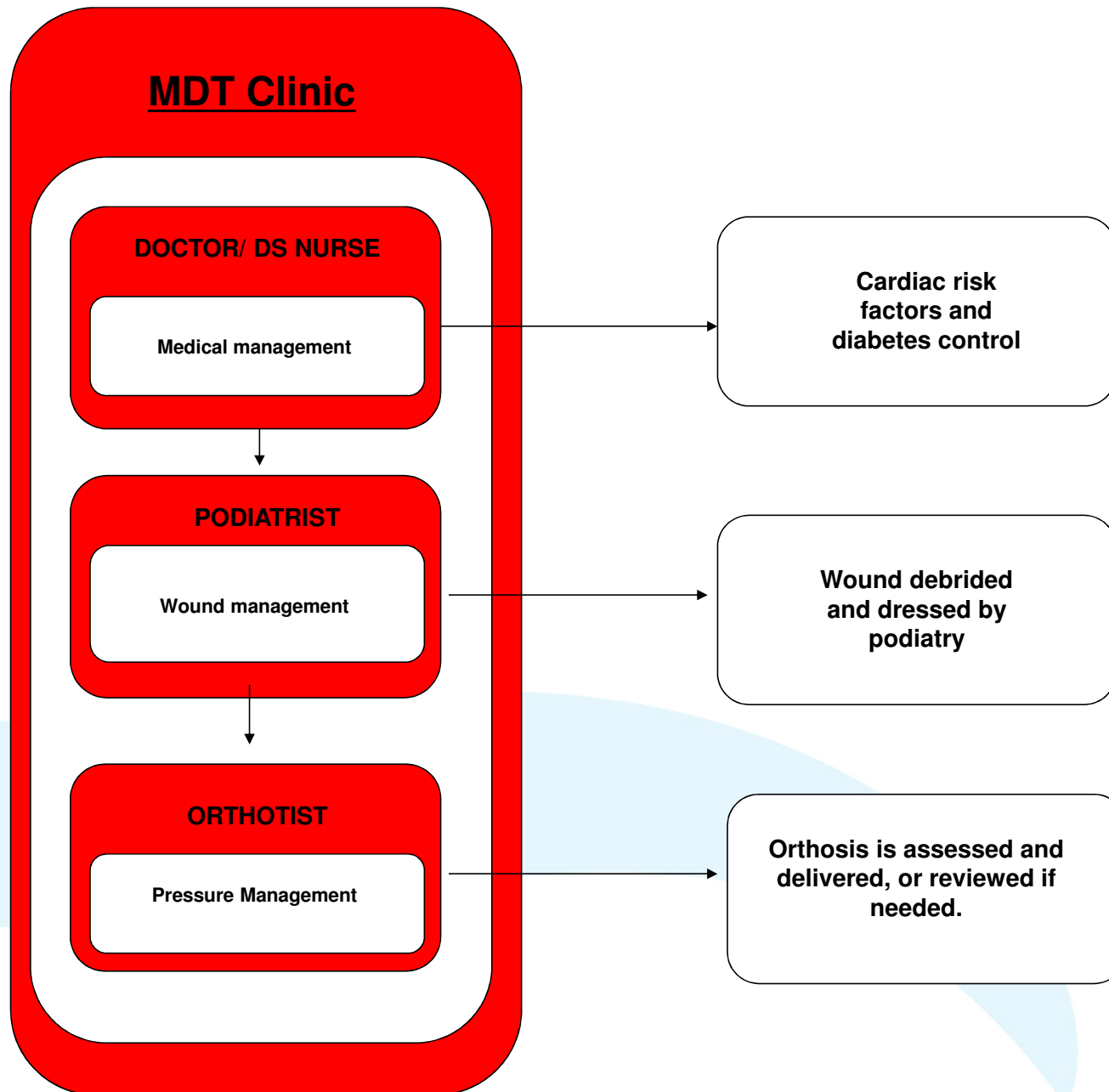
# NHS GGC

- NHS Greater Glasgow and Clyde is the largest Health Board in the UK
  - NHS Greater Glasgow and Clyde provides services to a core population of 1.2million and provides specialist regional services to more than half the country's population.
  - NHS Greater Glasgow and Clyde employs 38,000 staff.
- 

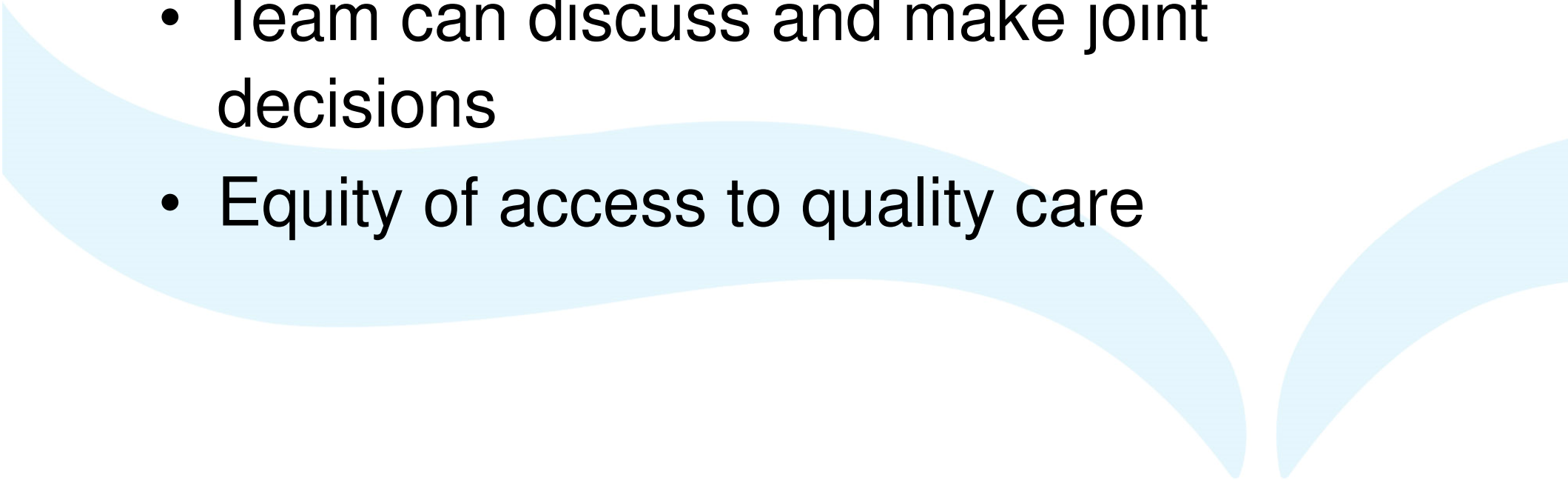
# Orthotics in Glasgow

- 8 major acute hospitals
  - 7 diabetic foot clinics
  - Plans for another in time
  - How did we do it??
- 

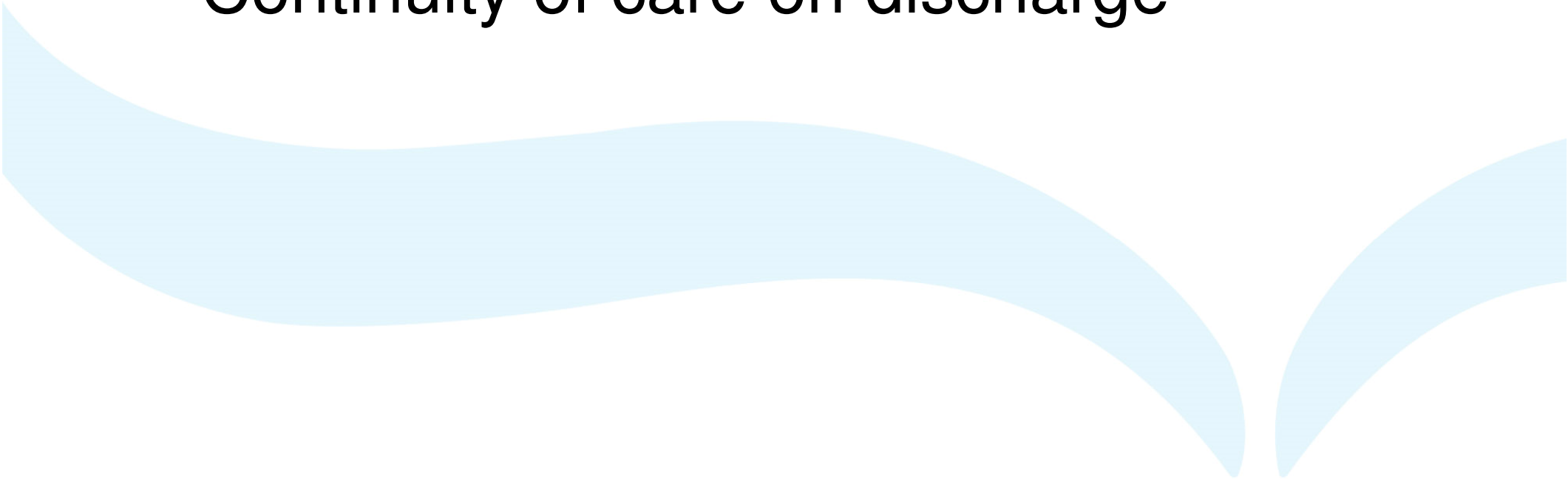
# Diabetic Foot Clinic Pathway



# Diabetes MDT Clinic Benefits

- Care centred around the patient
  - Patient gets multiple inputs in one visit
  - Team can discuss and make joint decisions
  - Equity of access to quality care
- 

# Orthotics within Diabetes MDT's

- Scanners available for custom insoles
  - Constant review of pressure relief
  - Continuity of care on discharge
- 

# Types of pressure relief available at MD clinics

JOURNAL OF VASCULAR SURGERY  
Volume 52, Number 12S

*Cavanagh and Bus*

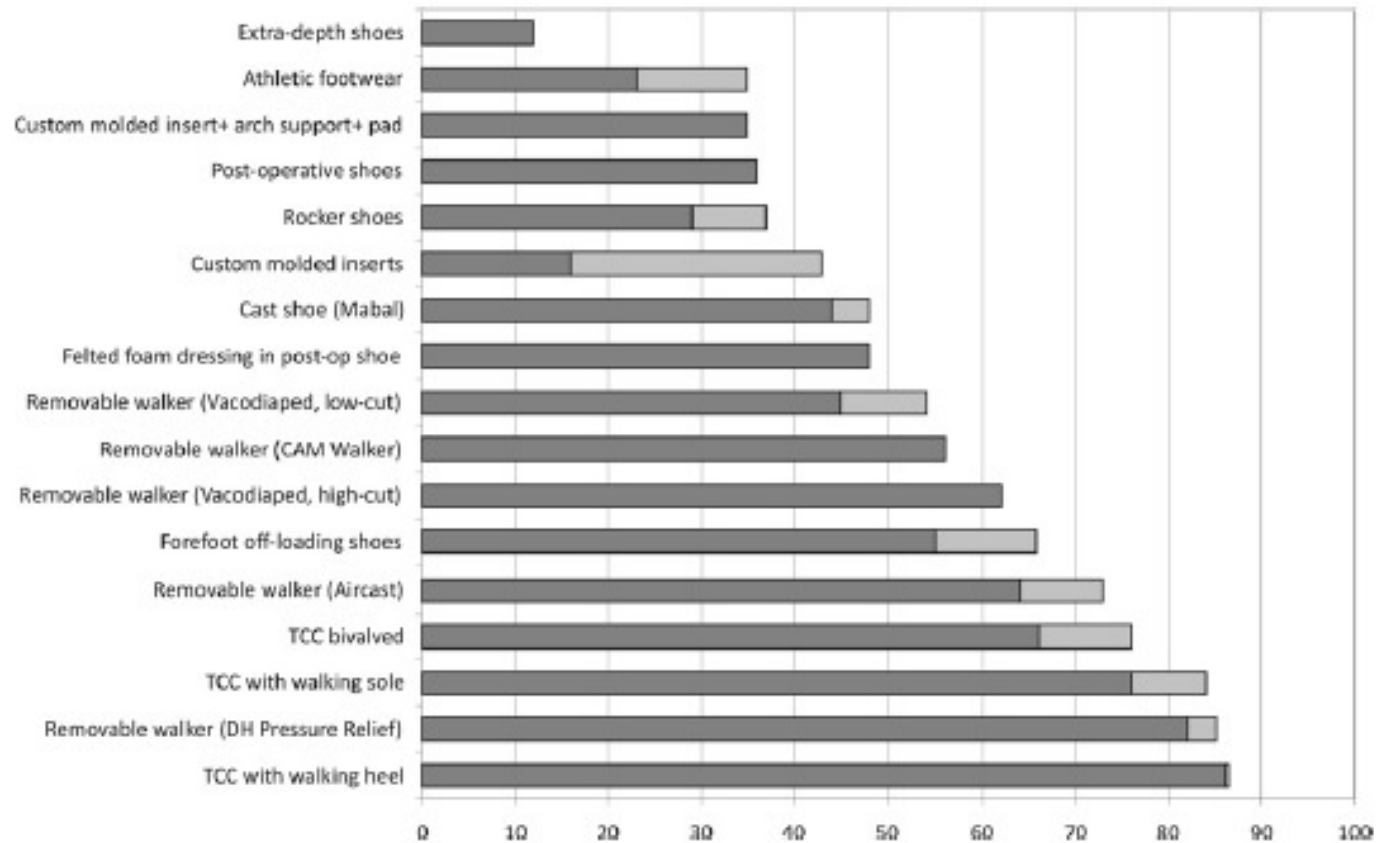


Fig 2. The off-loading capacity of different modalities used for the prevention and treatment of diabetic plantar foot ulcers is expressed as percentage of peak pressure reduction at the first metatarsal head region compared with a control condition. The *lighter bars* show the range in measured peak pressure reduction over different studies.

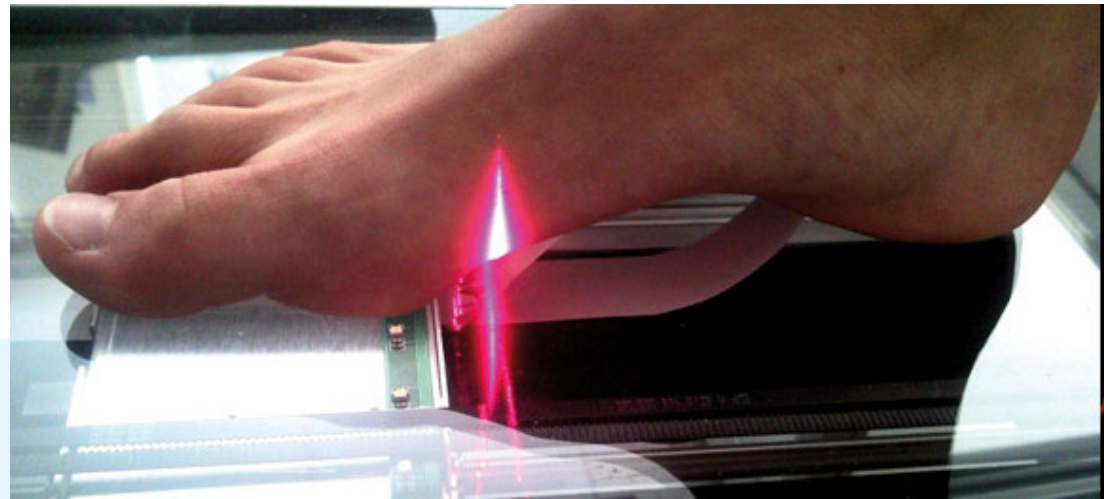


# Technology

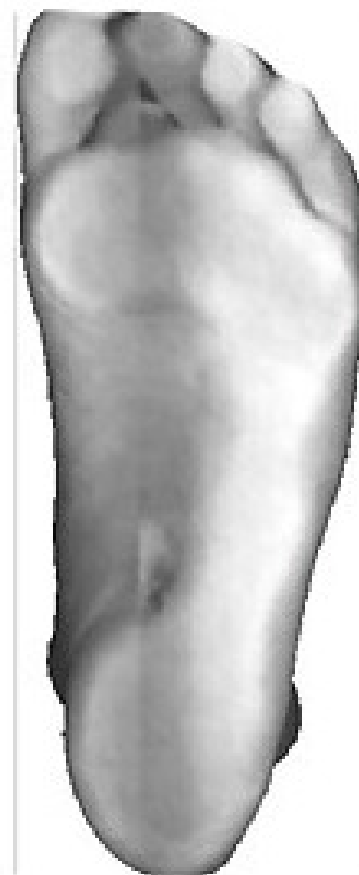
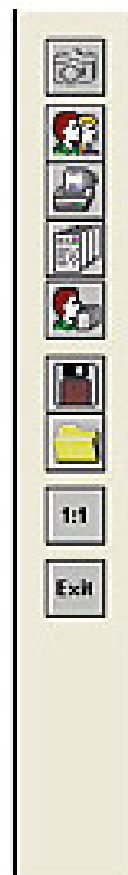
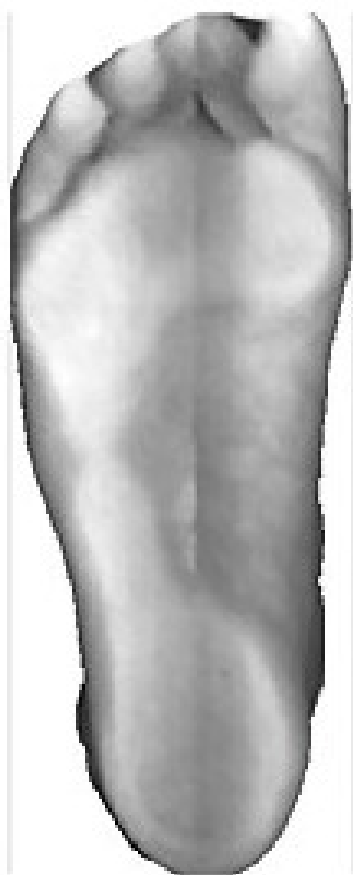


# Insoles – Why use Scanners?

- High percentage of Orthotic workload
- Patient perception of value
- Speed
- Accuracy
- Repeatability
- Incremental correction

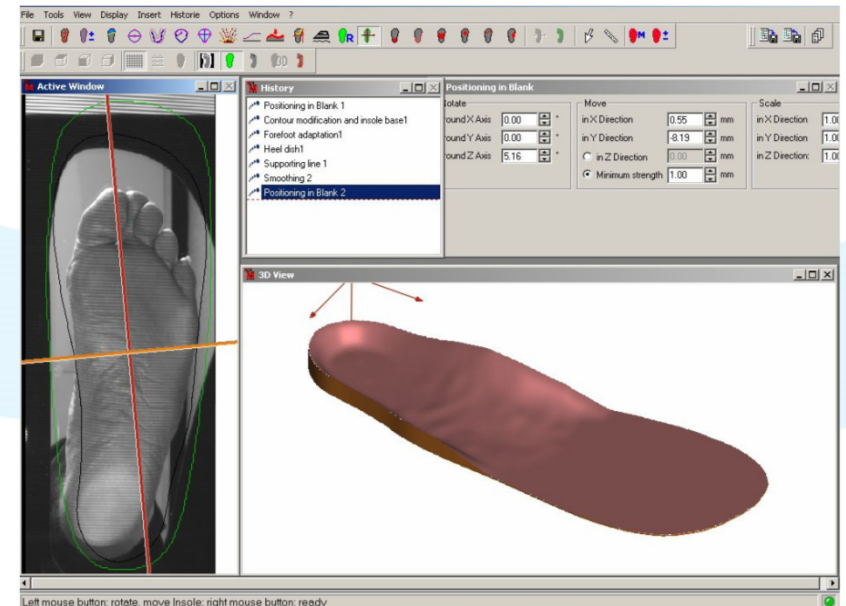


# Image Capture

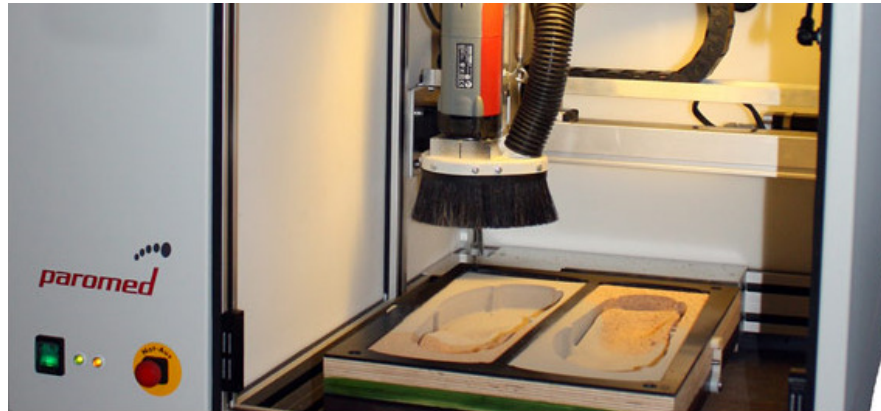


# Modification

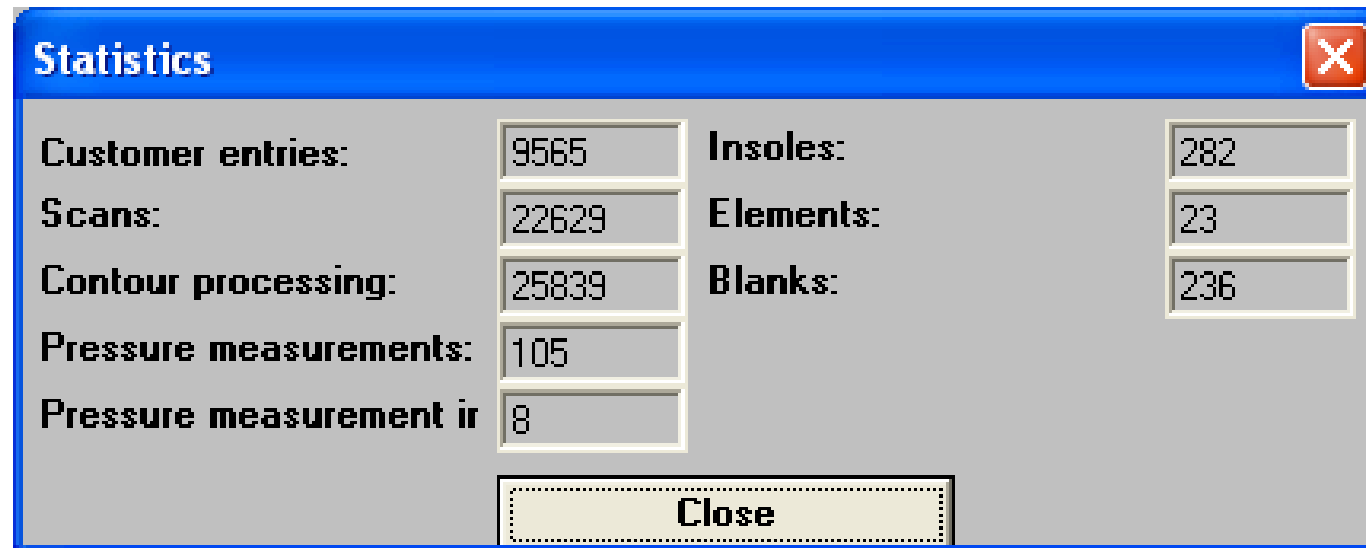
- Total control of the model is with the Orthotist
- Very small changes can be made accurately
- Met pads etc can be increased over time
- Sinks can be deepened
- Posting can be changed
- Insoles can be milled to fit shoe templates



# From Image to Insole



# NHS GGC Insoles Database

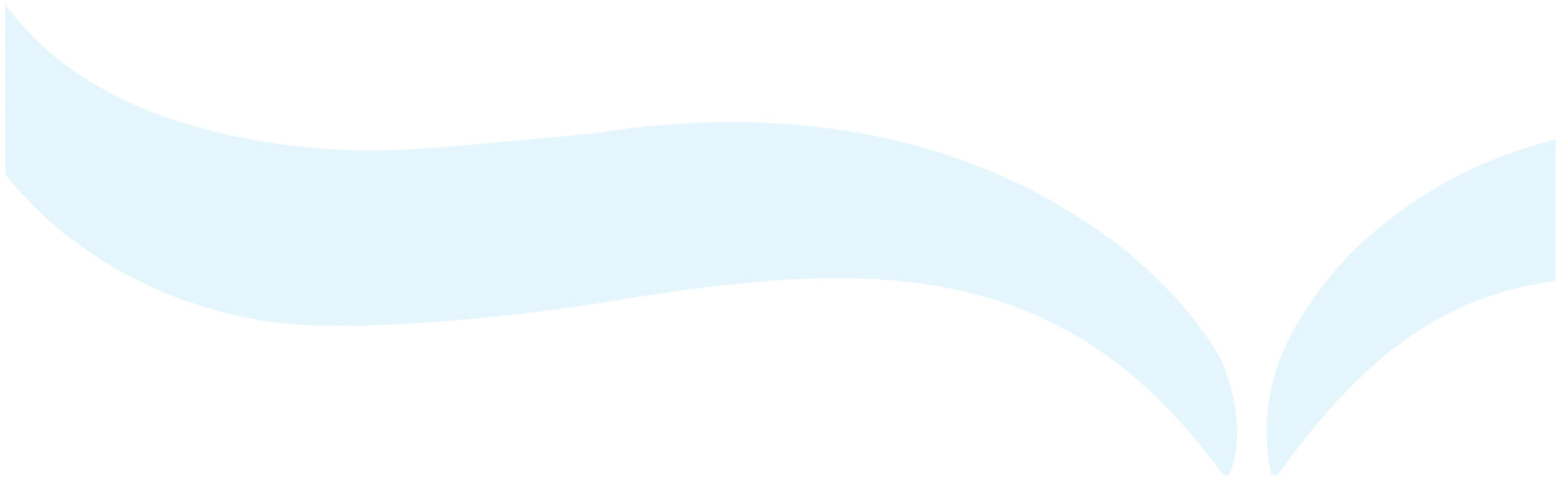


A screenshot of a software window titled "Statistics" with a blue header and a red close button. The window displays a list of statistics with corresponding numerical values in input fields. The statistics are arranged in two columns. At the bottom center of the window is a "Close" button.

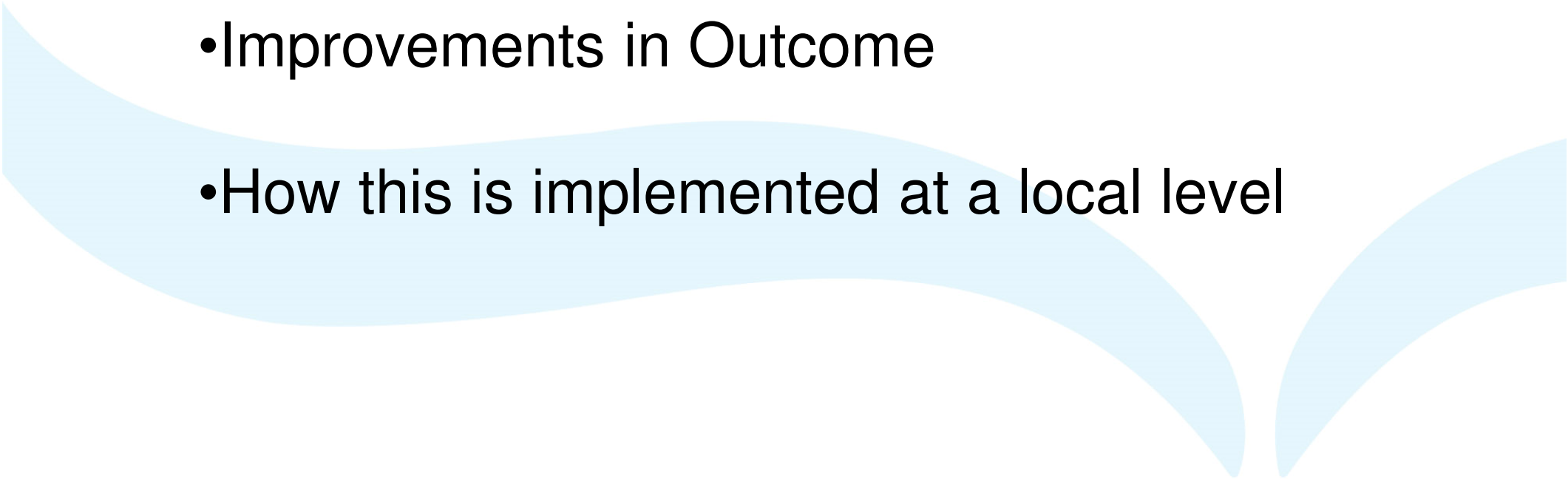
Category	Value	Category	Value
Customer entries:	9565	Insoles:	282
Scans:	22629	Elements:	23
Contour processing:	25839	Blanks:	236
Pressure measurements:	105		
Pressure measurement ir	8		

Close

# Long Term Care



# Conclusions

- Scottish Diabetes Foot Action Group
  - Work ongoing within Scotland
  - Improvements in Outcome
  - How this is implemented at a local level
- 



# Questions?

