

An aerial photograph of a Scottish landscape. In the foreground, a large, ornate stone castle tower with multiple spires and turrets rises from a dense forest. The tower is made of light-colored stone and has a complex, gothic-style architecture. Behind the tower, the landscape opens up into a wide, flat area with green fields, a winding river, and scattered buildings. In the far distance, a city skyline is visible under a hazy sky. The overall scene is a mix of natural beauty and historical architecture.

# IMPROVING DIABETES CARE IN SCOTLAND 2018

UNDERSTANDING THE PRESENT AND SHAPING THE FUTURE

# **“Underpinning Research in Scotland” NHS Research Scotland (NRS) Diabetes Network**

**Professor Rory McCrimmon**  
Lead Clinician

# Networks & Specialty Groups

## Networks

Cancer

Dementia &  
Neuroprogressive  
Disease

Diabetes

Mental Health

Paediatrics

Primary Care

Stroke

## Specialty Groups

Cardiovascular

Reproductive Health

Musculoskeletal Health

Age and Ageing

Critical care

Dermatology

Gastroenterology

Genetics

Haematology

Hepatology

Infectious Diseases

Metabolic & Endocrine

Ophthalmology

Oral and Dental

Renal

Respiratory



# Mission of the Diabetes Network

**Increase the quantity and quality of  
clinical research activity and  
Diabetes Care in Scotland**

| Position              | Name                    | WTE |
|-----------------------|-------------------------|-----|
| Lead clinician        | Rory McCrimmon          | 0.1 |
| Network Manager       | Anna Barnett            |     |
| Register Manager      | John Kerr               | 1   |
| Administrator         | Alison Abubaker         | 1   |
| Computer Programmer 1 | Michael Bluett          | 1   |
| Computer Programmer 2 | University of Edinburgh | 1   |

| Position                                   | Name  | WTE |
|--|---|-----|
| Research Nurse ( Tayside )                 | Jackie Lindsay                                  | 0.8 |
| Research Nurse ( Tayside )                 | Lisa Stewart                                    | 0.2 |
| Research Nurse ( Fife )                    | Karen Gray                                      | 0.2 |
| Research Nurse ( Forth Valley )            | Margaret Duncan                                 | 0.2 |
| Research Nurse ( Highland )                | Wendy McKinnon                                  | 0.2 |
| Research Nurse ( Ayrshire and Arran )      | Karen Allan                                     | 0.2 |
| Research Nurse ( Lanarkshire )             | Bernie Welsh                                    | 0.4 |
| Research Nurse ( Primary Care Initiative ) | Gill Reekie 0.2fte 04-11 '16, 100%fte 12-03 '17 | 0.2 |
| Edinburgh                                  | John McKnight/ Lesley Stevens                   | 1.1 |
| Grampian                                   | Sam Philip/ Lynn Murray/ Julie Toye             | 1.1 |
| Glasgow                                    | Robbie Lindsay/ Hilary Peddie                   | 1.1 |
| New research nurse post ( Lothian )        | Band 6 nurse Kirsty Kennedy                     | 0.4 |
| New research nurse post ( Glasgow )        | Band 6 nurse                                    | 0.4 |

## Recruitment to commercial (target increase of 10% per annum)

### 4.1 Total commercial recruitment number

| Commercial recruitment |           |          |           |          |           |          |
|------------------------|-----------|----------|-----------|----------|-----------|----------|
| 2012/2013              | 2013/2014 | % change | 2014/2015 | % change | 2015/2016 | % change |
| 564                    | 2381      | 322%     | 3071      | 29%      | 255       | -92%     |

**2016/17: 542 patients in total recruited to commercial studies (taken from number of new patients recruited each month)**

### 4.2 Commercial recruitment by NRS Node current financial year, and two preceding financial years.

| Nodes      | 2012/2013 | 2013/2014 | 2014/2015 | 2015/2016 |
|------------|-----------|-----------|-----------|-----------|
| North      | 32        | 103       | 27        | 18        |
| East       | 28        | 435       | 868       | 50        |
| South East | 467       | 1401      | 2030      | 22        |
| West       | 37        | 442       | 146       | 165       |
| Totals     | 564       | 2381      | 3071      | 255       |

# Some of the new trials that will be starting soon...

## DIABETES

| TRIAL/FUNDER         | Number patients required | Sponsor                 | Subject  | CI                    |
|----------------------|--------------------------|-------------------------|--|-----------------------|
| OPTION<br>NIHR       | 392                      | University of Sheffield | Optimal pathway for treating neuropathic pain      | Prof Solomon Tesfaye  |
| PONTIAC2<br>ROCHE    | 2400                     | University of Vienna    | Prevention of cardiac events in diabetes patients  | Prof Martin Huelsmann |
| MEDI013<br>MEDIMMUNE | 40                       | MedImmune               | Phase II trial of new GLP-1/glucagon co-antagonist | Prof Rory McCrimmon   |
| LENS<br>NIHR         | 1060                     | University of Oxford    | Fenofibrate in diabetic retinopathy                | Prof David Preiss     |

**Scotland is joining NIHR trials but we would like to see more trials organized from Scotland**



## Recruitment to non-commercial (target increase of 10% per annum)

### 3.1 Total non-commercial recruitment number

| Non-commercial recruitment |           |          |           |          |           |          |
|----------------------------|-----------|----------|-----------|----------|-----------|----------|
| 2012/2013                  | 2013/2014 | % change | 2014/2015 | % change | 2015/2016 | % change |
| 983                        | 786       | -20%     | 906       | 15%      | 477       | -47%     |

**2016/17: 109** patients in total recruited to non-commercial studies (taken from records of number of new patients recruited each month)

### 3.2 Non-commercial recruitment by NRS Node for current financial year, and two preceding financial years.

| Nodes      | 2012/2013 | 2013/2014 | 2014/2015 | 2015/2016 |
|------------|-----------|-----------|-----------|-----------|
| North      | 91        | 151       | 38        | 28        |
| East       | 730       | 332       | 356       | 168       |
| South East | 87        | 152       | 2         | 54        |
| West       | 75        | 151       | 510       | 227       |
| Totals     | 983       | 786       | 906       | 477       |



# Academic studies

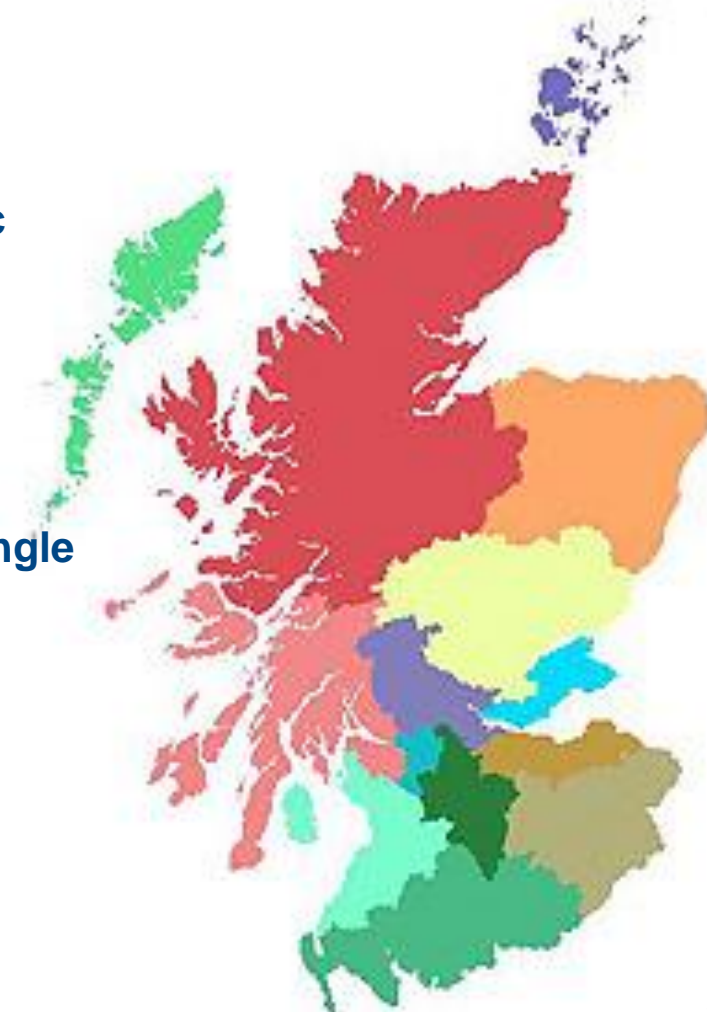
- **Wellcome Trust Genetic Consortium Case Control study** – (over 15,000 patients T2D recruited to this study)
- **REMOVAL** –Metformin in T1D
- **SUMMIT** – IMI funded (biomarkers T2D) EURO 48M
- **DIRECT** –IMI funded patient stratification in T2D EURO 27M
- **UNITED** – Using pharmacogeNtics to Improve Treatment in Early onset Diabetes
- **MASTERMIND** – Understanding individual variation in treatment response in T2D
- **Retro Master** – Retrospective cohort of extreme responders to second and third line Type 2 diabetes therapy
- **SDRN Type 1** bioresource –12 sites, >6000 patients

# Epidemiology papers for 2018

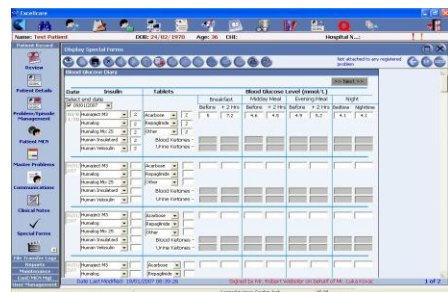
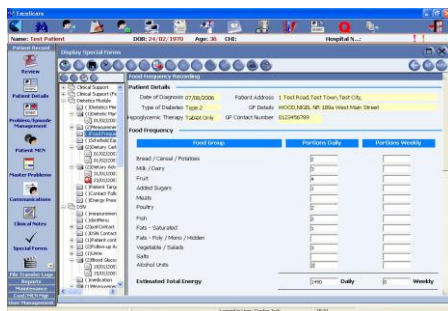
|   |                     |            |   |
|---|---------------------|------------|---|
| 2018  |                     |            |   |
| <a href="#">Type 2 diabetes, socioeconomic status and life expectancy in Scotland (2012-2014): a population-based observational study.</a>    | Diabetologia        | Wild SH    | Walker J, Colhoun H, Livingstone S, McCrimmon R, Petrie J, Sattar N, Wild S; Scottish Diabetes Research Network Epidemiology Group. Diabetologia. 2018 Jan;61(1):108-116. doi: 10.1007/s00125-017-4478-x. Epub 2017 Oct 26. PMID:29075822<br><a href="https://link.springer.com/article/10.1007%2Fs00125-017-4478-x">https://link.springer.com/article/10.1007%2Fs00125-017-4478-x</a>  |
| <a href="#">Incident ischaemic stroke and Type 2 diabetes: trends in incidence and case fatality in Scotland 2004-2013.</a>                   | Diabetic Medicine   | Read SH    | Read SH, McAllister DA, Colhoun HM, Farran B, Fischbacher C, Kerssens JJ, Leese GP, Lindsay RS, McCrimmon RJ, McGurnaghan S, Philip S, Sattar N, Wild SH; Scottish Diabetes Research Network Epidemiology Group. Diabet Med. 2018 Jan;35(1):99-106. doi: 10.1111/dme.13528. Epub 2017 Nov 6. PMID:29044687<br><a href="http://onlinelibrary.wiley.com/doi/10.1111/dme.13528/abstract;jsessionid=BD1B099FA20AAD99C0FCF6D612F0CE29.f01t02">http://onlinelibrary.wiley.com/doi/10.1111/dme.13528/abstract;jsessionid=BD1B099FA20AAD99C0FCF6D612F0CE29.f01t02</a> |
| <a href="#">Diabetes and pregnancy: national trends over a 15 year period.</a>  | Diabetologia        | Lindsay RS | Mackin ST, Nelson SM, Kerssens JJ, Wood R, Wild S, Colhoun HM, Leese GP, Philip S, Lindsay RS; SDRN Epidemiology Group. Diabetologia. 2018 Jan 11. doi: 10.1007/s00125-017-4529-3. [Epub ahead of print] PMID: 29322220<br><a href="https://link.springer.com/article/10.1007%2Fs00125-017-4529-3">https://link.springer.com/article/10.1007%2Fs00125-017-4529-3</a>  |
| <a href="#">Interaction between variants in the CYP2C9 and POR genes and the risk of sulfonylurea-induced hypoglycaemia: A GoDARTS Study.</a> | Diabetes Obes Metab | Pearson ER | Dujic T, Zhou K, Donnelly LA, Leese G, Palmer CNA, Pearson ER. Diabetes Obes Metab. 2018 Jan;20(1):211-214. doi: 10.1111/dom.13046. Epub 2017 Aug 25. PMID:28656666<br><a href="https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5724509/">https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5724509/</a>  |

# Scotland – a unique place for diabetes research

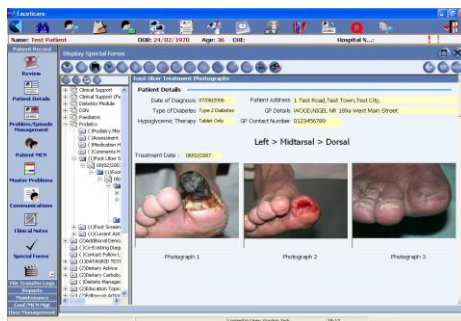
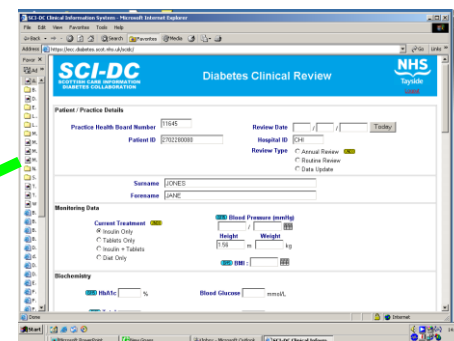
- **Total Scottish Population 5,373,000**
- **People living with diabetes: 291,981 (as of Dec 2016). 5.4% of the population**
- **88,018 people with diabetes were diagnosed within the previous 4 years.**
- **All patients nationally are registered onto a single clinical system; the SCI-Diabetes electronic health record.**







# SCI-DC NETWORK



**Scottish Health Statistics**  
The website of ISD Scotland  
*Better Information, Better Decisions, Better Health*



# Clinical Research Facilities

## *Scottish Network*



**Aberdeen**



**Edinburgh**



**Dundee**



## Welcome to My Diabetes My Way

The NHS Scotland interactive diabetes website to help support people who have diabetes and their family and friends.

You'll find leaflets, videos, educational tools and games containing information about diabetes. You can now also use this website to view your own up-to-date diabetes clinic results, to help you manage your condition more effectively.



Emergency  
Contact

Read



### My Diabetes

Sign up to gain access to your own test results, clinic letters and your treatment plan

Login

Register



### Information

Find information to help you understand and take control of your diabetes.

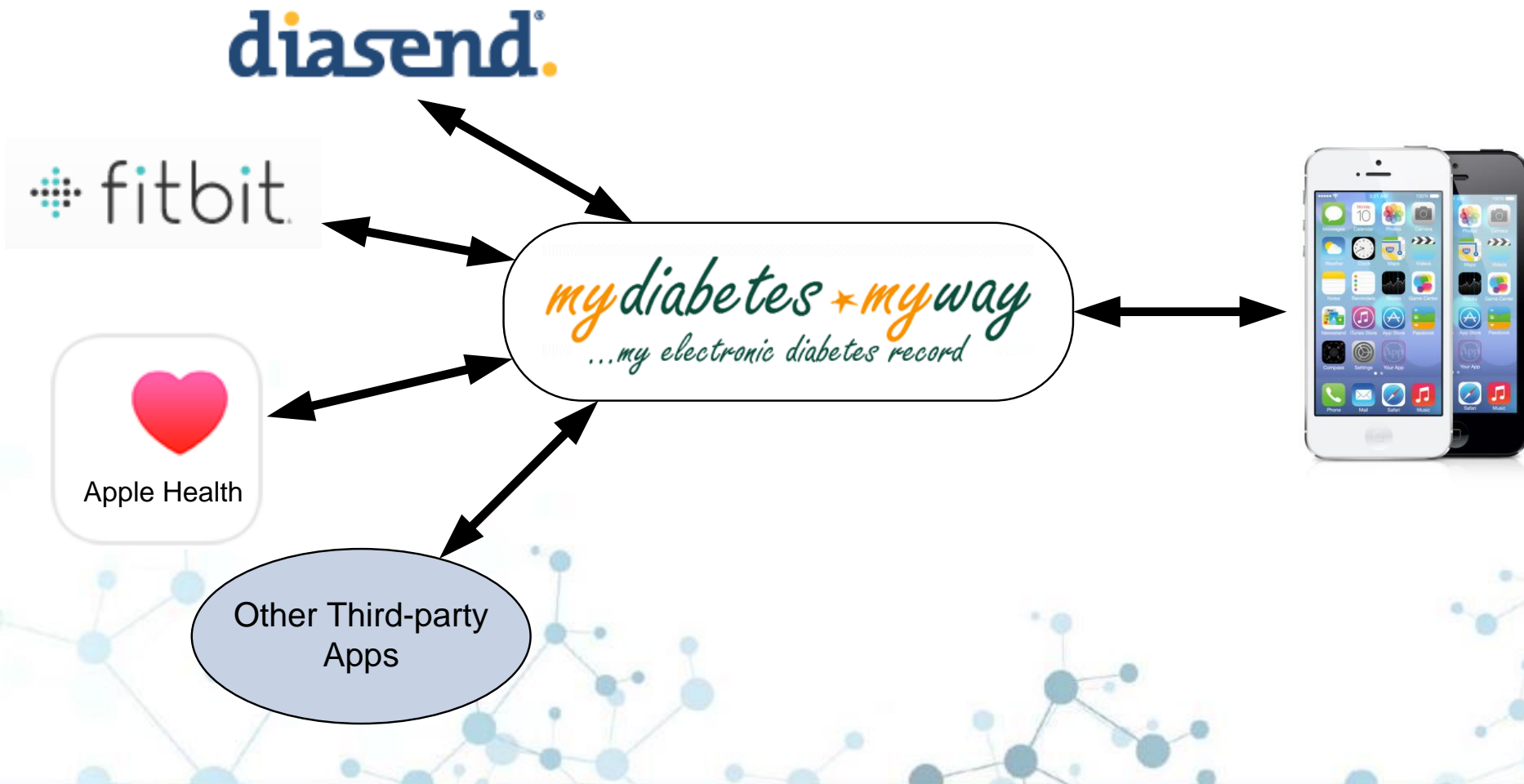
Explore



# My Diabetes My Way

- Currently ~30,000 unique email addresses
  - With consent to contact
- 1/3 of all type 1 patients registered
- Collection of home data
  - Blood glucose
  - Continuous glucose monitoring
  - Insulin pumps
  - Activity monitors (steps count, heart rate, calories)
  - Mobile app (due March 2018) / device data link

# Device Linkage



# Why is Research Important?

- **‘If we want to improve the lives of people living with diabetes we are dependent on top quality research’** (Dr Brian Kennon Lead Clinician Diabetes MCN for GGC)
- **UK policy framework for health and social care research 2017:**
  - 1.1. ‘...the UK Health Departments are committed to an environment where patients, service users and the public **are given and take, the opportunity** to participate in health and social care research...’
  - Research is a **core function** of health and social care
  - **It is essential** for our well-being and for the care we receive
  - **Research should improve the evidence base, reduce uncertainties and lead to improvements in care.**



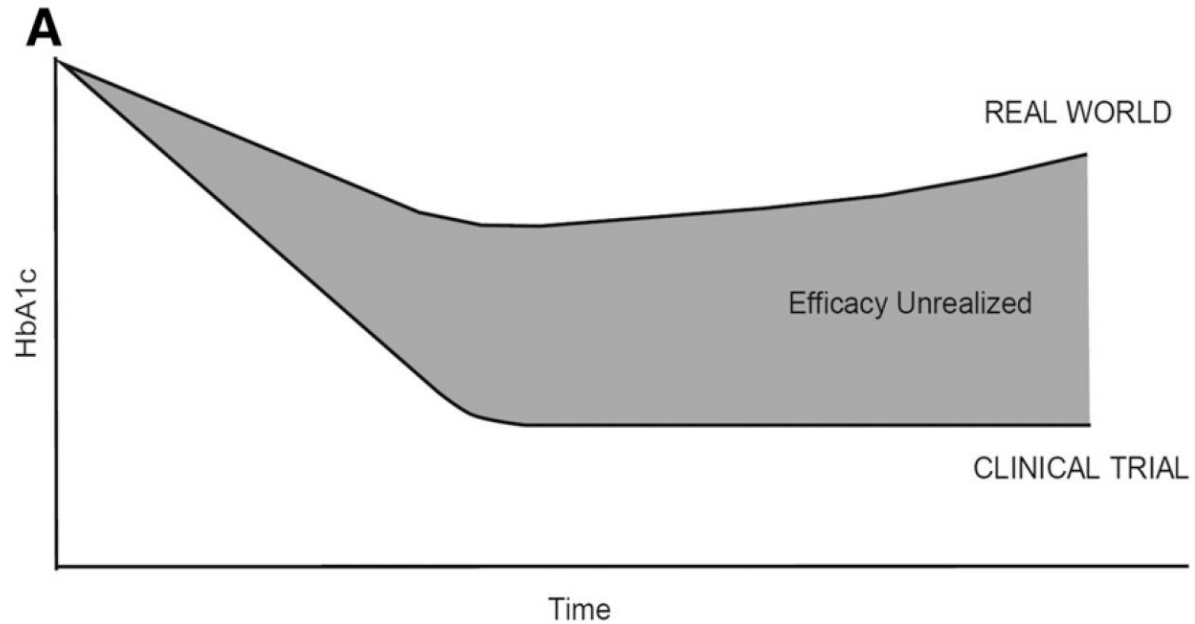
## Good for us/Good for patients too

- We all “know” the public support research
  - 97% said they want the NHS to support research <sup>(1)</sup>
- How “involved” do people want to be?
  - 72% would like to be offered opportunities <sup>(1)</sup>
  - 9 out of 10 people would be willing to take part in research if they were diagnosed with a medical condition <sup>(2)</sup>
  - 80% would consider allowing a researcher confidential access to their medical records <sup>(1)</sup>
  - 88% would be happy to be asked to talk to researchers about their family history or give a sample of their blood <sup>(1)</sup>

<sup>1</sup> 2011 psos MORI research for the Association of Medical Research Charities (AMRC)

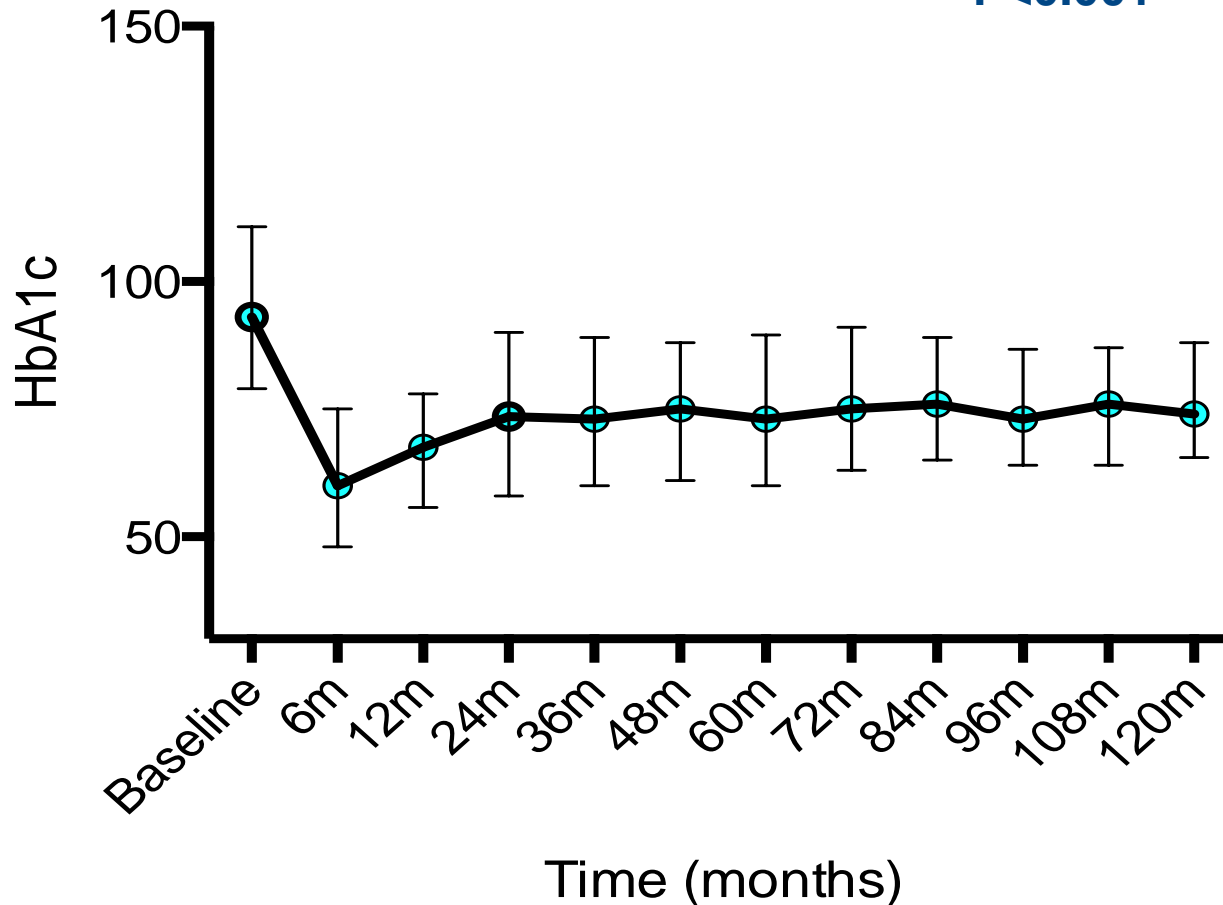
<sup>2</sup> 2014 survey commissioned by the NIHR CRN

# Real world outcomes



# HbA1c over 10 years for Type 1 diabetes diagnosed between 2000-2005 (N=103)

Correlation between  
HbA1c 24 vs. 120 months  
 $P < 0.001^{**}$





# Where we want to go next

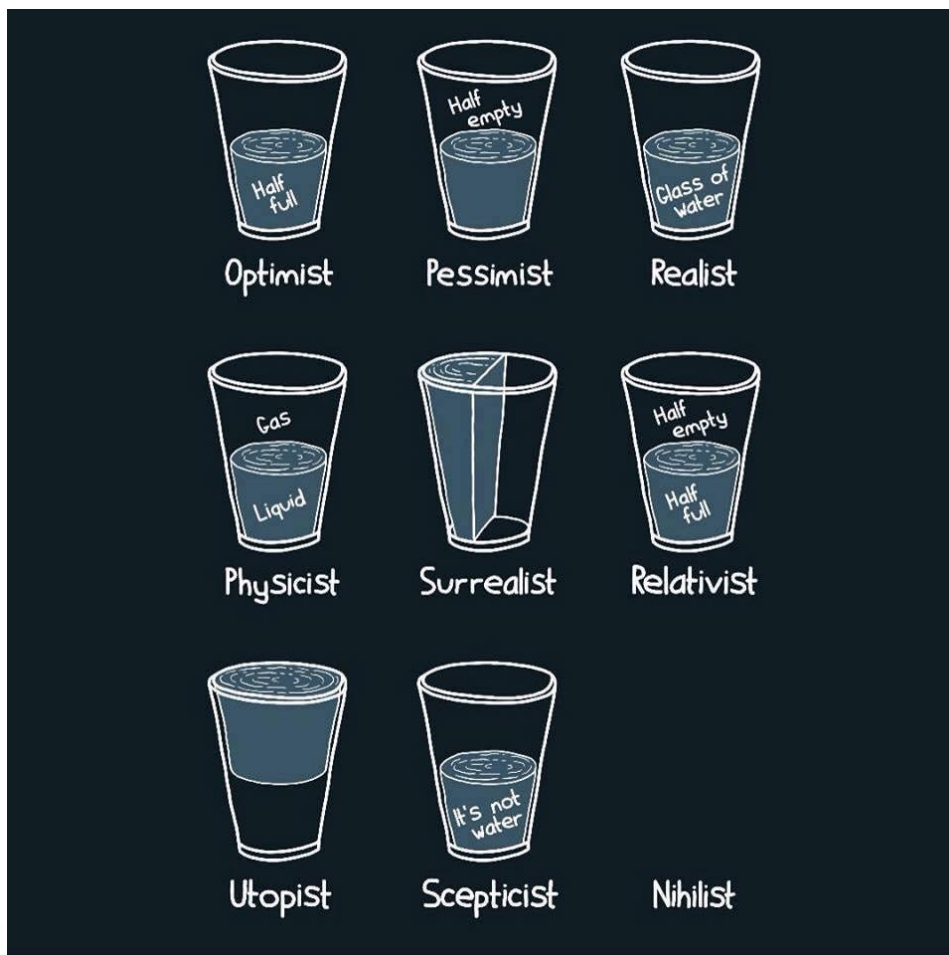
- Increase the % of diabetes patients who are participating in research > 1%.
- Bring more commercial research opportunities to Scotland – provides great opportunities for patients to access the latest medicines and devices.
- Support non-commercial trials to reach their objectives.
- Engage with the SDG to put together research proposals for the questions that matter most to Scotland's diabetes community.

# Grant writing teams

- Link to the SDG and Diabetes UK Study Groups
- Create forums for exchange of ideas, proposal development and grant writing
- Encourage cross border opportunities and collaborations
- Use the Network and SDG to drive NIHR funded trials to answer clinically relevant questions

**How do we prioritise Scotland's diabetes research priorities?**  
*Discuss*

# Any questions?



An aerial photograph of a Scottish landscape. In the foreground, a large, ornate stone castle tower with multiple spires and turrets rises from a dense forest. The tower is made of light-colored stone and has a complex, gothic-like design. Behind the tower, the landscape opens up into a wide, flat area with green fields, a winding river, and some small buildings. In the far distance, a city or town is visible on the horizon under a clear sky.

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