

An aerial photograph of a Scottish landscape. In the foreground, a large, ornate stone castle tower with multiple spires and turrets rises above a dense forest. The background shows a wide expanse of green fields, a winding river, and a small town or village in the distance under a clear sky.

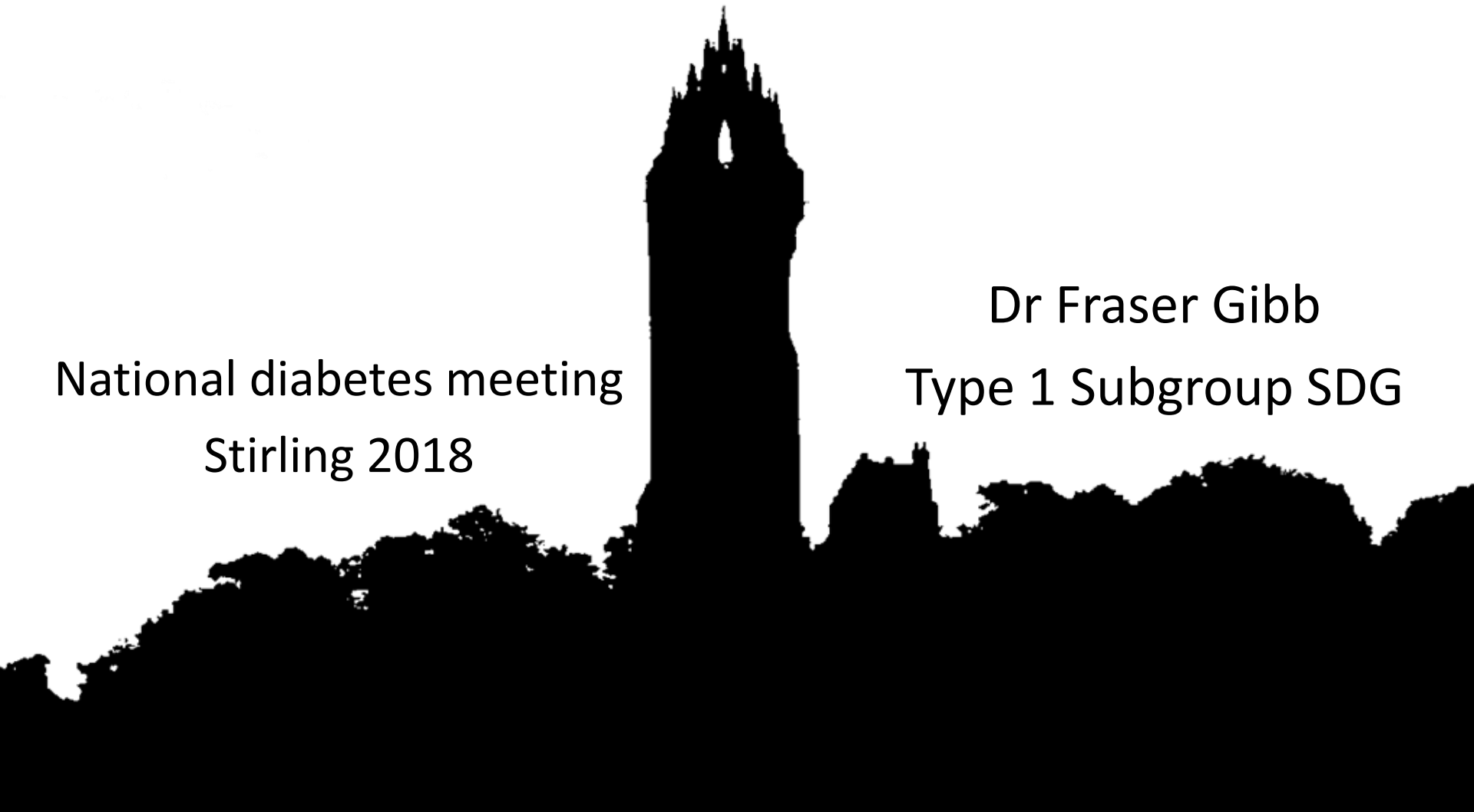
IMPROVING DIABETES CARE IN SCOTLAND 2018

UNDERSTANDING THE PRESENT AND SHAPING THE FUTURE

Type 1 Diabetes subgroup Background and update

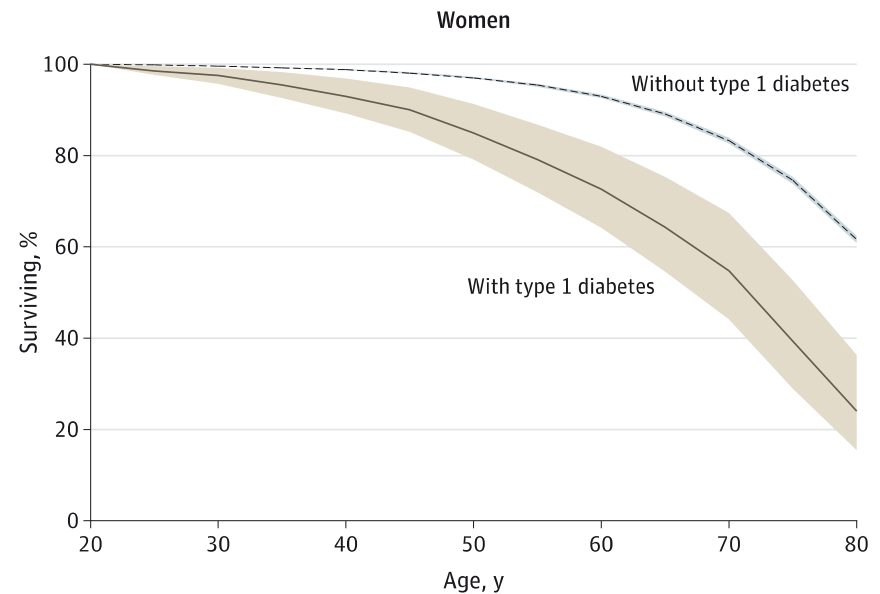
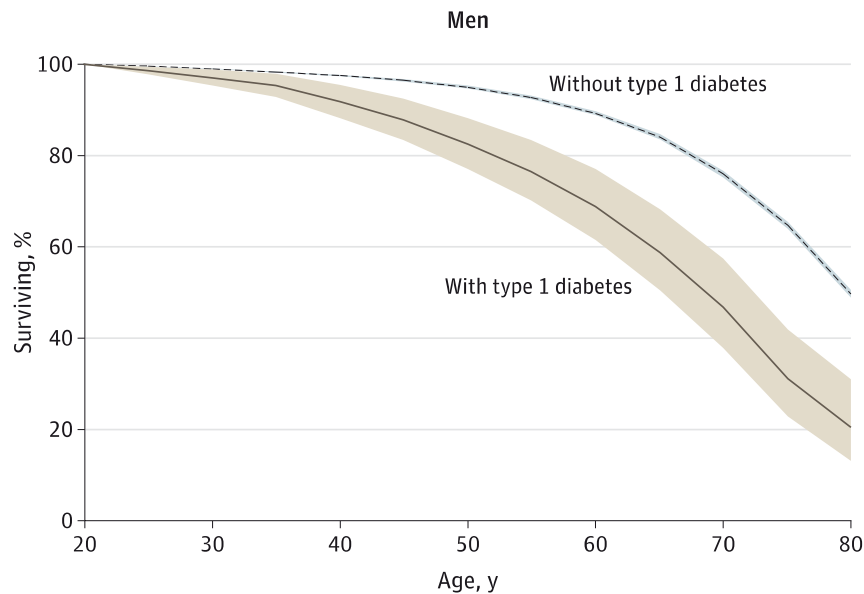
National diabetes meeting
Stirling 2018

Dr Fraser Gibb
Type 1 Subgroup SDG



Scottish T1 diabetes mortality

Significant loss of life years



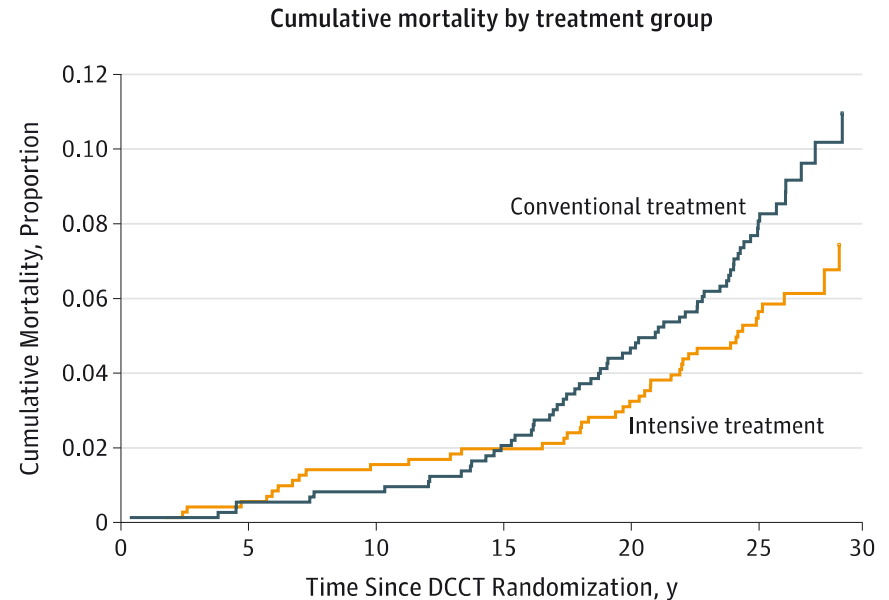
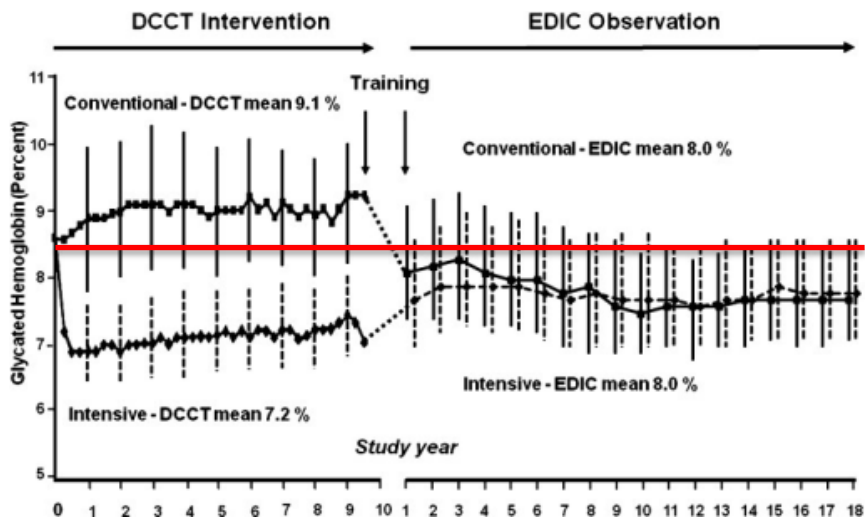
Estimated Life Expectancy in a Scottish Cohort With Type 1 Diabetes, 2008-2010

JAMA. 2015;313(1):37-44. doi:10.1001/jama.2014.16425

Shona J. Livingstone, MSc; Daniel Levin, MSc; Helen C. Looker, MBBS; Robert S. Lindsay, FRCP; Sarah H. Wild, FRCP; Nicola Joss, MD; Graham Leese, MD; Peter Leslie, MD; Rory J. McCrimmon, FRCP; Wendy Metcalfe, MD; John A. McKnight, FRCP; Andrew D. Morris, FRCP; Donald W. M. Pearson, FRCP; John R. Petrie, MD; Sam Philip, MD; Naveed A. Sattar, FRCP; Jamie P. Traynor, MD; Helen M. Colhoun, MD; for the Scottish Diabetes Research Network epidemiology group and the Scottish Renal Registry

DCCT and how we compare

Answer: not well

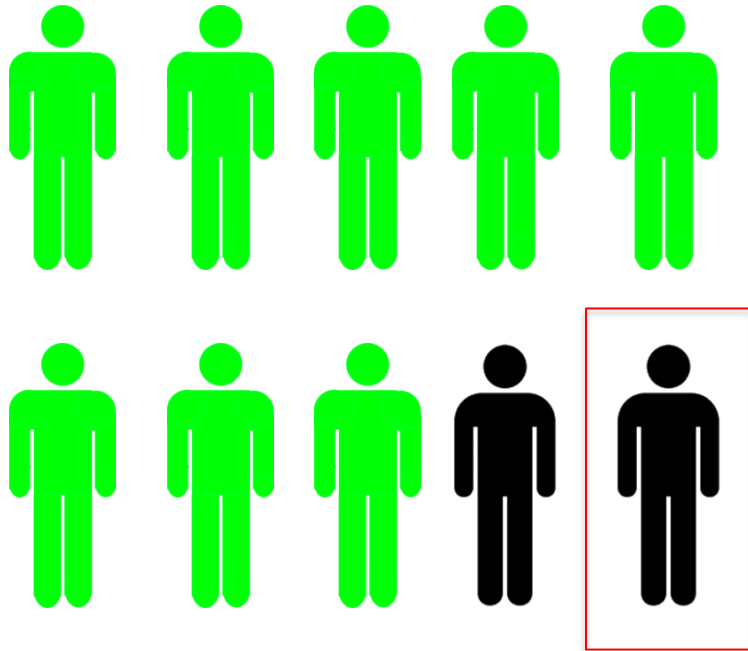


| No. at risk | | | | | | |
|--------------|-----|-----|-----|-----|-----|-----|
| Conventional | 730 | 726 | 721 | 712 | 693 | 476 |
| Intensive | 711 | 706 | 697 | 694 | 685 | 501 |

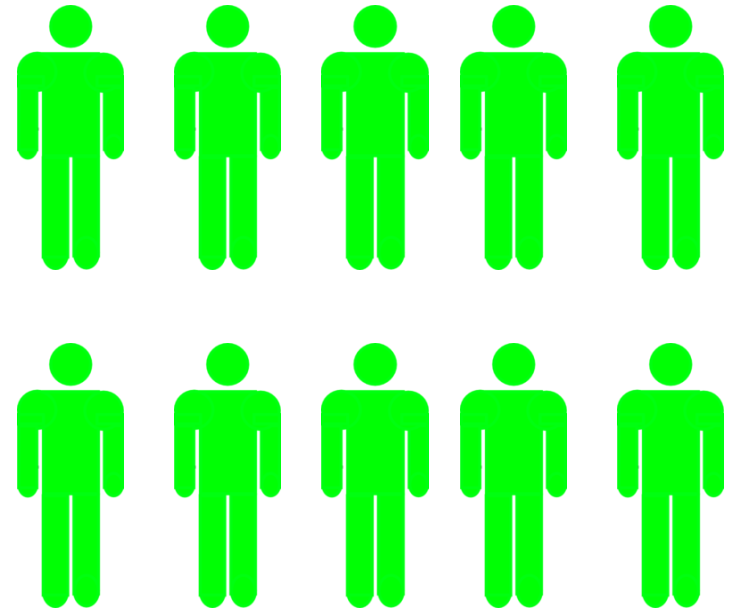
Age 50

Loss of life

TYPE 1 DIABETES



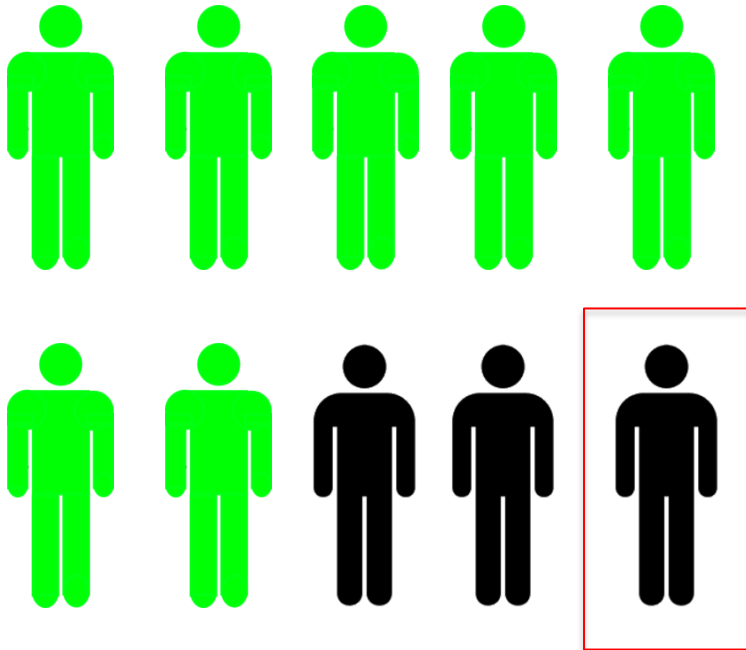
NO DIABETES



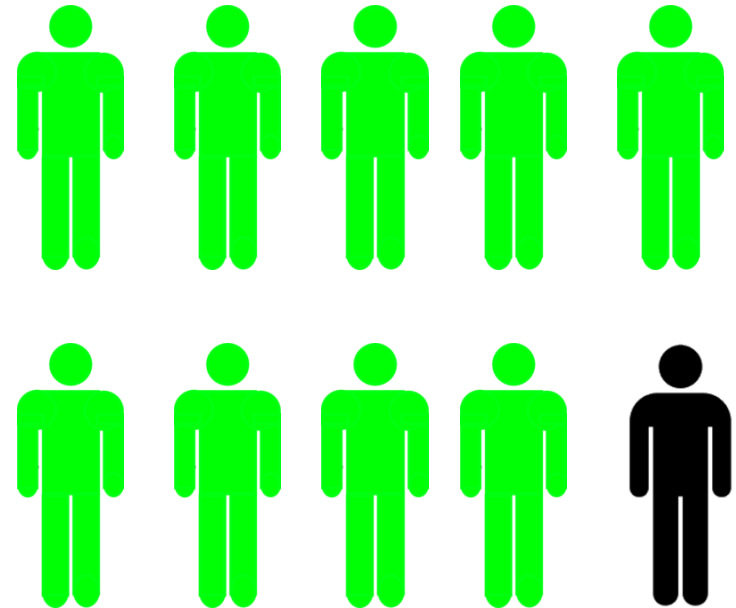
Age 60

Loss of life

TYPE 1 DIABETES



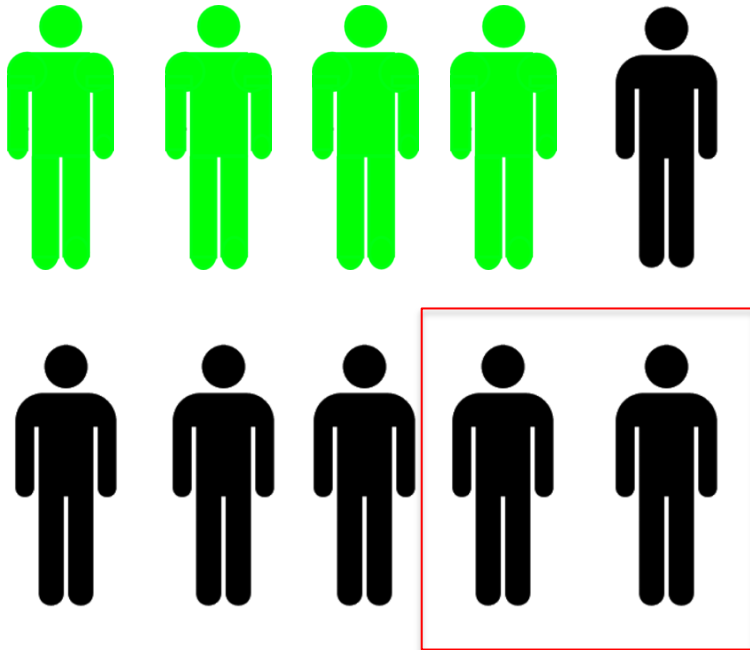
NO DIABETES



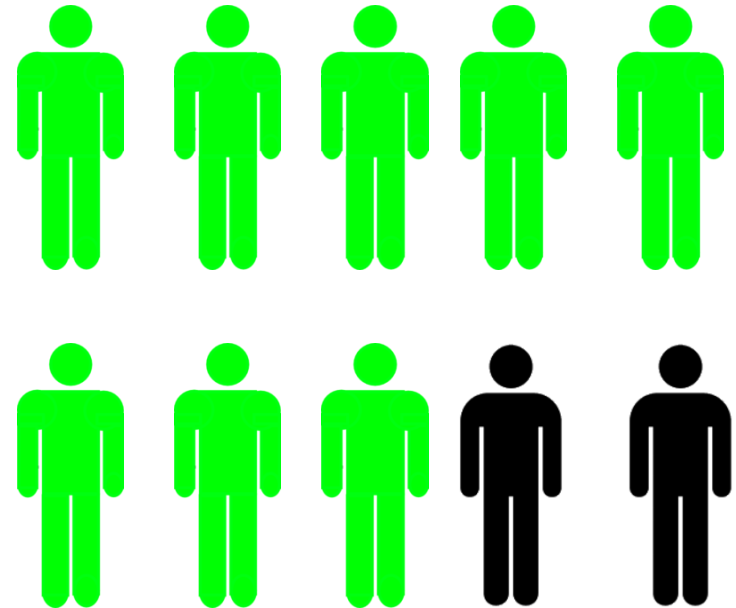
Age 70

Loss of life

TYPE 1 DIABETES

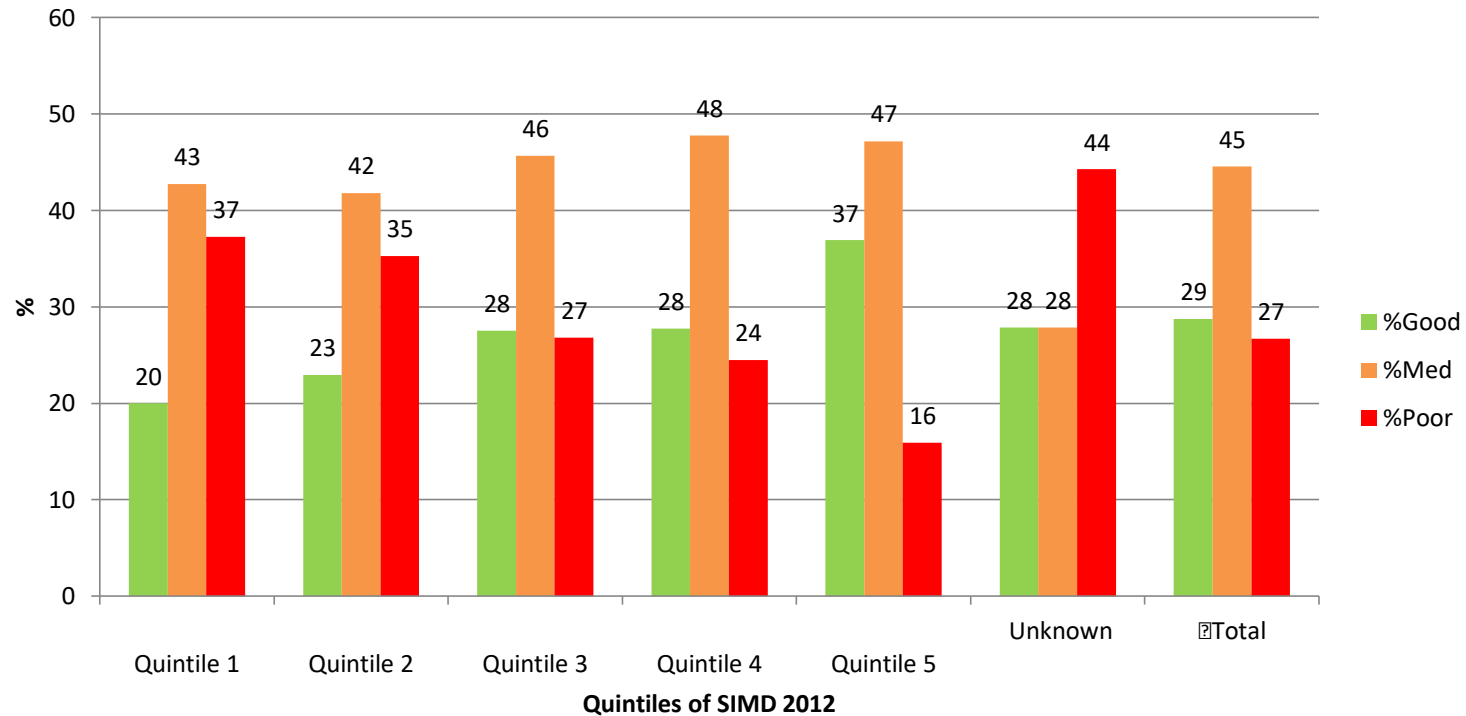


NO DIABETES



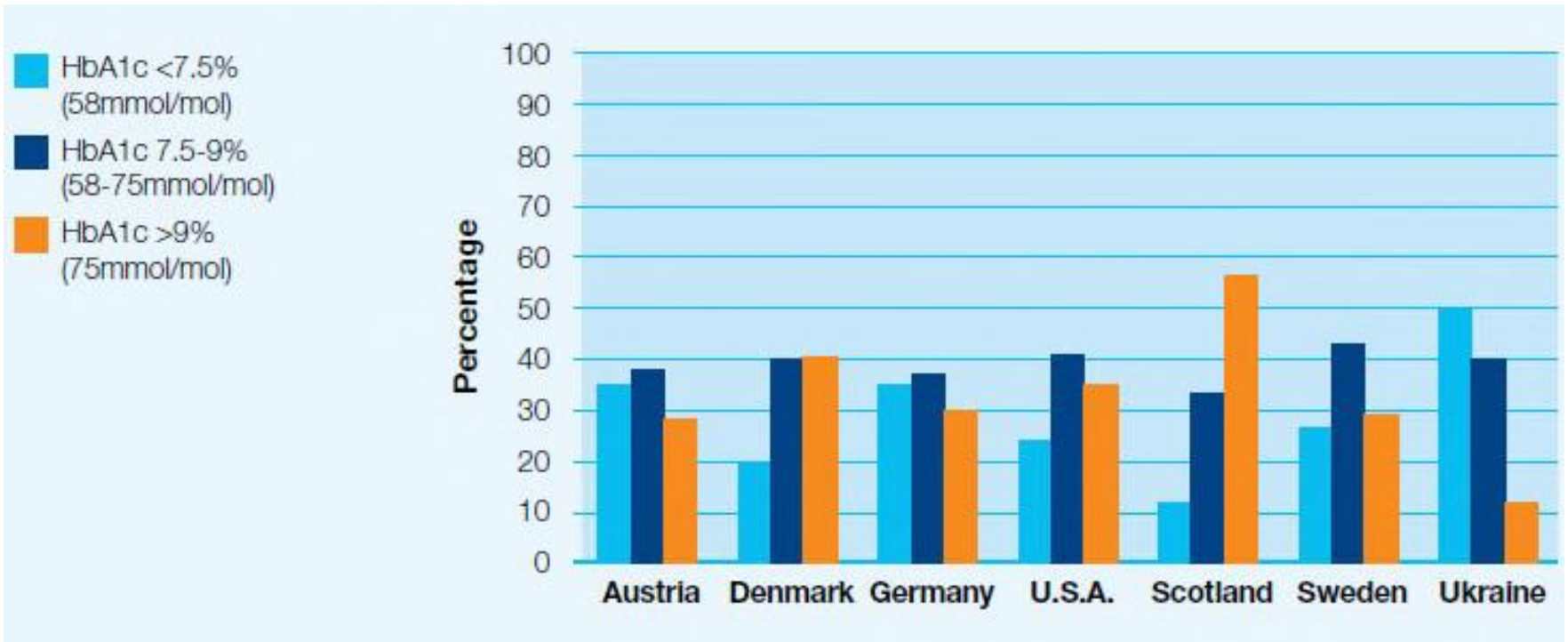
Effect of deprivation

SIMD quintiles in our T1 population (RIE)



Scottish outcomes

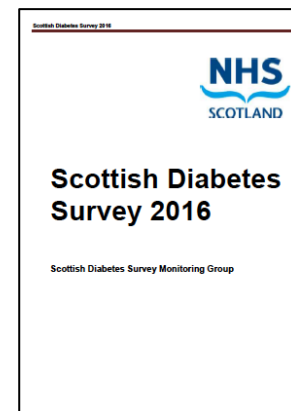
T1DM control across the world



Mean HbA1c

By Health board and age in Scotland

| NHS Board | Type 1 diabetes: Age in years | | | | | | | | | | |
|---------------------------|-------------------------------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-----|
| | 0-4 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30-39 | 40-49 | 50-59 | 60-79 | >79 |
| Shetland | 0 | 68 | 60 | 62 | 89 | 77 | 64 | 65 | 65 | 60 | 0 |
| Ayrshire and Arran | 60 | 61 | 64 | 77 | 77 | 77 | 70 | 71 | 70 | 65 | 70 |
| Borders | 61 | 59 | 61 | 71 | 74 | 76 | 68 | 72 | 68 | 65 | 67 |
| Dumfries and Galloway | 67 | 60 | 61 | 75 | 79 | 77 | 70 | 68 | 66 | 64 | 66 |
| Fife | 63 | 62 | 70 | 75 | 76 | 70 | 69 | 70 | 70 | 65 | 67 |
| Greater Glasgow and Clyde | 56 | 58 | 63 | 71 | 76 | 71 | 69 | 71 | 71 | 67 | 71 |
| Lothian | 58 | 61 | 64 | 76 | 71 | 71 | 67 | 68 | 68 | 65 | 66 |
| Grampian | 56 | 62 | 65 | 80 | 76 | 73 | 70 | 72 | 71 | 69 | 80 |
| Orkney | 0 | 65 | 57 | 75 | 73 | 74 | 67 | 64 | 68 | 61 | 73 |
| Tayside | 60 | 62 | 72 | 78 | 79 | 79 | 74 | 72 | 72 | 69 | 71 |
| Forth Valley | 64 | 63 | 68 | 79 | 79 | 79 | 71 | 72 | 71 | 67 | 69 |
| Highland | 59 | 61 | 61 | 72 | 77 | 74 | 68 | 71 | 69 | 66 | 70 |
| Lanarkshire | 64 | 61 | 65 | 76 | 78 | 77 | 71 | 73 | 71 | 70 | 67 |
| Western Isles | 72 | 65 | 65 | 75 | 79 | 74 | 67 | 74 | 64 | 70 | 70 |



Diabetes improvement Plan

Priority areas

Prevention and Early Detection of Diabetes and its Complications

To establish and implement approaches to support the prevention and early detection of type 2 diabetes, the rapid diagnosis of type 1 and the implementation of measures to promptly detect and prevent the complications of diabetes.

Type 1 Diabetes

To improve the care and outcomes of all people living with type 1 diabetes.

Person-Centred Care

To ensure people with diabetes are enabled and empowered to safely and effectively self-manage their condition by accessing consistent, high quality education and by creating mutually agreed individualised care plans.

Equality of Access

To reduce the impact of deprivation, ethnicity and disadvantage on diabetes care and outcomes.

Diabetes improvement Plan

Priority areas

Supporting & Developing Staff

To ensure healthcare professionals caring for people living with diabetes have access to consistent, high quality diabetes education to equip them with the knowledge, skills and confidence to deliver safe and effective diabetes care.

Inpatient Diabetes

To improve the quality of care for people living with diabetes admitted to hospital by improving glucose management and reducing the risk of complications during admission.

Improving Information

To ensure appropriate and accurate information is available in a suitable format and effectively and reliably used by all those involved in diabetes care.

Innovation

To accelerate the development and diffusion of innovative solutions to improve treatment, care and quality of life of people living with diabetes.


Diabetes improvement Plan

Aims

| Triple Aim: | Quality of Care | | | | | | Health of the Population | | | Value and Sustainability | | |
|---|---------------------|-----------|--------------|------------------------------|-----------------|---------------------------------------|--------------------------|---------------------|------------|--------------------------|------------|---------------------------|
| | Person Centred Care | Safe Care | Primary Care | Unscheduled & Emergency Care | Integrated Care | Care for Multiple & Chronic Illnesses | Early Years | Health Inequalities | Prevention | Workforce | Innovation | Efficiency & Productivity |
| REFRESHING THE DIABETES ACTION PLAN | | | | | | | | | | | | |
| Prevention and Early Detection of Diabetes and its Complications | | | | | | | | | | | | |
| Enhance strategies to support people at risk of developing diabetes and early identification of those with diabetes | | | | | | | | | | | | |
| Earlier identification of the diagnosis of diabetes | | | | | | | | | | | | |
| Type 1 Diabetes | | | | | | | | | | | | |
| Improve the care of children and young people | | | | | | | | | | | | |
| Improve glycaemic control | | | | | | | | | | | | |
| Person-Centred Care | | | | | | | | | | | | |
| Timely and appropriate access to high quality patient education and self management support | | | | | | | | | | | | |
| Improve care planning | | | | | | | | | | | | |
| Empower and engage people living with diabetes | | | | | | | | | | | | |
| Improve the outcomes in pregnancy | | | | | | | | | | | | |
| Equality of Access | | | | | | | | | | | | |
| Minimise the impact of deprivation, ethnicity and geography | | | | | | | | | | | | |
| Improve outcomes for individuals requiring additional support | | | | | | | | | | | | |

Diabetes Improvement Plan

November 2014



Diabetes improvement Plan

Aims

| Triple Aim: | Quality of Care | | | | | | Health of the Population | | | Value and Sustainability | | |
|---|---------------------|-----------|--------------|------------------------------|-----------------|---------------------------------------|--------------------------|---------------------|------------|--------------------------|------------|---------------------------|
| | Person Centred Care | Safe Care | Primary Care | Unscheduled & Emergency Care | Integrated Care | Care for Multiple & Chronic Illnesses | Early Years | Health Inequalities | Prevention | Workforce | Innovation | Efficiency & Productivity |
| REFRESHING THE DIABETES ACTION PLAN | | | | | | | | | | | | |
| Supporting and Developing Staff | | | | | | | | | | | | |
| Increase the level of consultation and patient engagement skills | ■ | | ■ | | | ■ | | | | ■ | | ■ |
| Increase the level of educator skills and confidence in delivering diabetes education | | | | | | | | | | | | |
| Increase the level of psychological assessment skills | ■ | | | | | ■ | | | | | | |
| Inpatient Diabetes | | | | | | | | | | | | |
| Improve glycaemic control of people admitted to hospital | ■ | ■ | | ■ | | ■ | | | ■ | ■ | | |
| Improve foot care outcomes | ■ | | | | | ■ | | | ■ | | | |
| Improve the experience of people with diabetes admitted to hospital | ■ | | | | | | | | | | | |
| Improving Information | | | | | | | | | | | | |
| Improve access to appropriate and accurate information | ■ | | | | | | ■ | ■ | | | | |
| Better reporting and use of data at both national and local levels | | ■ | | ■ | | | | | | ■ | | ■ |
| Improve patient access to their data to support self management | ■ | ■ | ■ | ■ | | | | | | | | ■ |
| Innovation | | | | | | | | | | | | |
| Promote networking and mechanisms to support innovation | | | | | | | | | | | ■ | ■ |
| Increase pace of adoption of proven innovations | ■ | ■ | | | | | | | | | | ■ |

Quarterly reporting

T1DM

Quarterly Diabetes Reporting – Initial measures

1. % people with diabetes who receive all 9 key indicator measurements for diabetes
2. % persons with an HbA1c <58mmol/mol at 1 year post diagnosis
3. % persons with an HbA1c <58 mmol/mol and >75 mmol/mol
4. % current smokers
5. % of people aged 50 to 80 with a total cholesterol <5mmol/l AND a systolic BP <140 mm Hg
6. % of new foot ulcers
7. % of people eligible for diabetic retinopathy screening actually screened within last 15 months
8. % of people with diabetes reaching end stage renal disease or requiring renal replacement therapy
9. % of people on CSII therapy
10. % of persons with a BMI ≥ 30 who have lost $\geq 5\%$ body weight in the last year
11. % persons who have attended structured education
12. % disengaged from diabetes care i.e. no HbA1c and retinal screening in the preceding 15 months

In most cases, measures will be reported for T1DM <18yrs | T1DM >18 years | T2DM.

T1 Subgroup

Achievements and work in progress

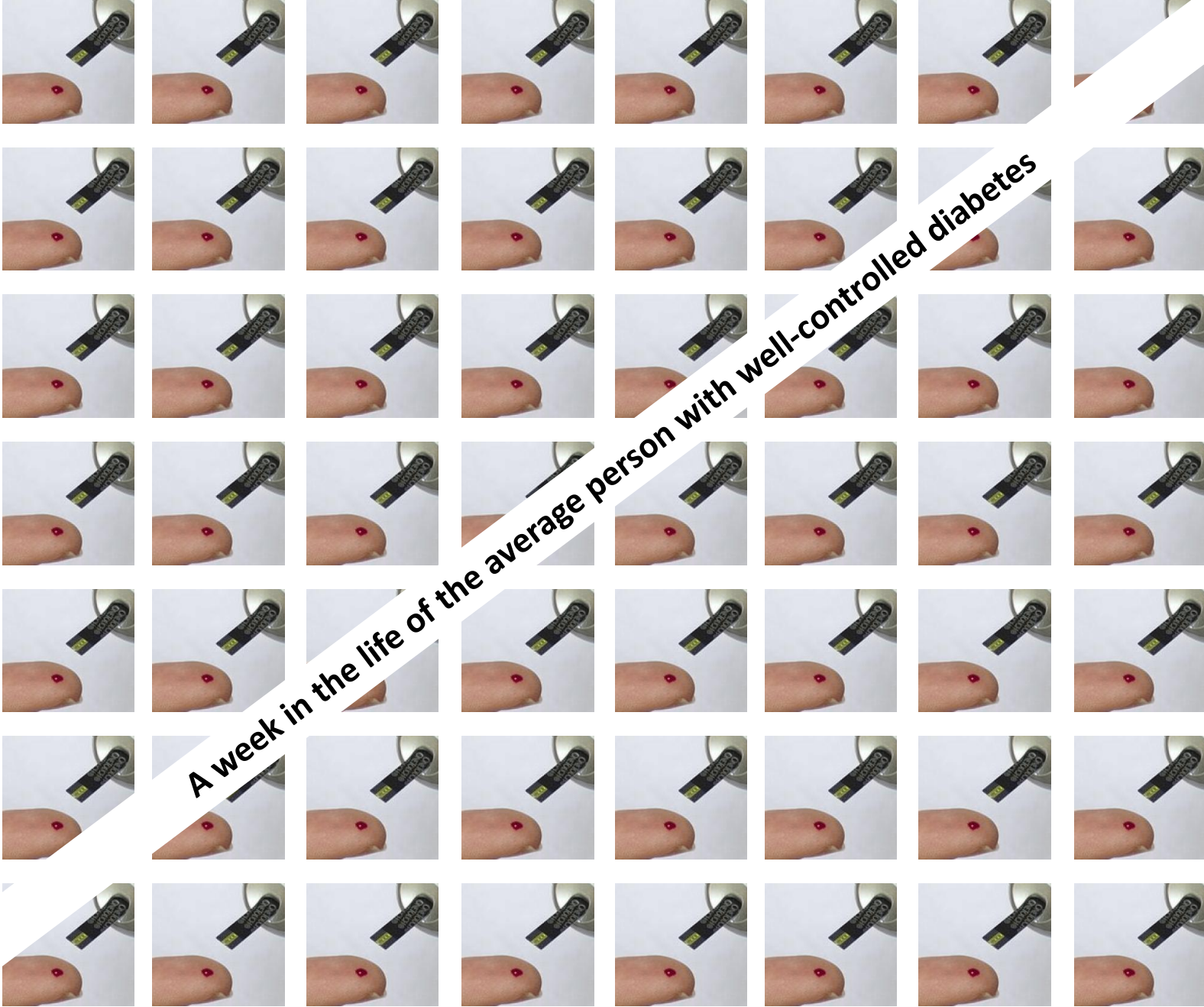
- **SCI Diabetes**
 - Improving recording of key data (DKA / hypo)
 - Improving usability
 - Paediatric specific measures in SDS
- **Survey of diabetes resources across Scotland**
- **Know the numbers**
- **Transition policy / Making connections**
- **DKA prevention**

T1 Subgroup

CSII and CGM

| Year | Aged under 18 | | | Aged 18 or over | | | All ages | | |
|------|---------------|---------|------|-----------------|---------|-----|--------------|---------|------|
| | Patients (n) | On Pump | | Patients (n) | On Pump | | Patients (n) | On Pump | |
| | | n | % | | n | % | | n | % |
| 2016 | 3013 | 1035 | 34.4 | 27859 | 2306 | 8.3 | 30872 | 3341 | 10.8 |
| 2015 | 2950 | 919 | 31.2 | 27379 | 1948 | 7.1 | 30329 | 2867 | 9.5 |
| 2014 | 2953 | 849 | 28.8 | 26748 | 1632 | 6.1 | 29701 | 2481 | 8.4 |
| 2013 | 2917 | 659 | 22.6 | 26394 | 1188 | 4.5 | 29311 | 1847 | 6.3 |

- **Big gains in CSII provision**
- **CGM (and SAP) is the next challenge**
 - Training HCPs and patients



A week in the life of the average person with well-controlled diabetes

Freestyle Libre

Role of SDG



T1 Subgroup

Supporting innovation

- Big changes in our models of delivering care required
- Piloting the 'Clyde Cloud' model...

The game changers

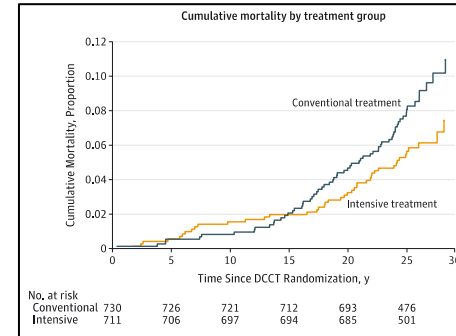
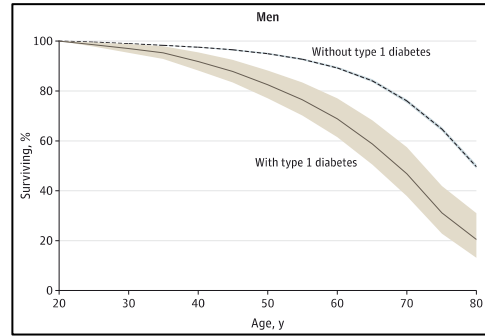
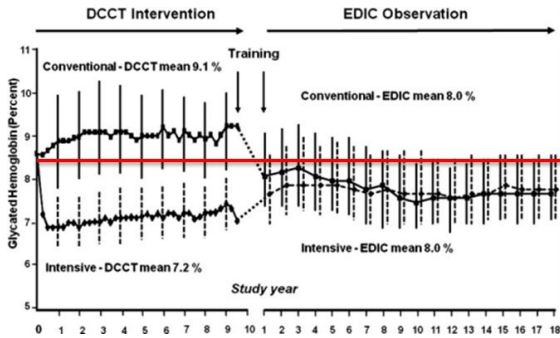
How do we respond?



Glycaemic control is poor in Scotland

Life expectancy is lower in T1

Improving control saves lives



Pumps improve control (save lives)

Education improves control

CGM improves control

