



Technology in Type 1 Diabetes in Scotland

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The Past....



“If you do not know where you come from, then you don't know where you are, and if you don't know where you are, then you don't know where you're going. And if you don't know where you're going, you're probably going wrong.”

[Terry Pratchett](#)

Glasgow in 2004....



Greater Glasgow & Clyde
Health Board

Population: 1.1 million

Adult type 1 population:
approx 5500

Adult pump provision was
5 pumps/year

Scottish Diabetes Survey 2011

NHS Board	Number of people <18 on an insulin pump and percentage of <18 T1DM Population		Number of people >18 on an insulin pump and percentage of >18 T1DM Population	
	Count	Percentage	Count	Percentage
Ayrshire and Arran	18	7.8%	17	0.9%
<p>Under 18s Variation across boards ranged 0.0% - 29.4% Infinity fold variation</p>				
Greater Glasgow & Clyde	50	8.4%	45	0.8%
<p>Over 18s Variation across boards ranged 0.8% - 6.4% 8 fold variation</p>				
Tayside	58	29.4%	72	4.3%
Western Isles	0	0.0%	1	0.6%
Scotland	241	8.4%	643	2.5%

Director-General Health & Social Care and
Chief Executive NHS Scotland

Derek Feeley



CEL 4 (2012)

February 2012

Dear Colleague

Insulin Pump Therapy for People with Type 1 Diabetes

On 21 October 2011, the Cabinet Secretary for Health, Wellbeing & Cities Strategy announced the decision to commit NHSScotland to substantially increasing the availability of insulin pump therapy across Scotland to ensure equity of access.

Consequently, a quarter of young Scots with type 1 diabetes must have access to insulin pumps by March 2013, and by March 2015, the number of insulin pumps available to people of all ages with type 1 diabetes in Scotland will almost triple to more than 2,000.

Diabetes Improvement Plan

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.
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.

Priority 2. Type 1 Diabetes

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

2. Improve glycaemic control

- Develop and implement strategies that promote good glycaemic control in the early stages post diagnosis including: an early glycaemic intensification strategy; and national structured education resource for use within 6 months of diagnosis.
- Timely access to structured education at 12 month post diagnosis.
- Implement a national improvement programme to increase the proportion of people with type 1 diabetes with optimal glycaemic control, including timely and appropriate access to insulin pumps.

NEWS

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Scotland Scotland Politics

Scottish diabetes increase

11 December 2016



Many diabetics manage their con

People with diabetes are to
Scottish government annou

The Scottish Government
Healthcare Quality & Improvement Directorate
DG Health & Social Care



Scottish Government
Riaghaltas na h-Alba
gov.scot

Dear Colleague

Additional Funding for CGMs and Adult Insulin Pumps 2017-18

Summary

On 7 December 2016, the First Minister announced £10m of additional funding over the course of this Parliament, to support increased provision of technology for people living with type 1 diabetes. This funding is being made available to further increase the number of adults accessing insulin pump therapy and to substantially increase availability of Continuous Glucose Monitor devices (CGMs) for people in all age groups and ensure equity of access across Scotland. Under the commitment made in Programme for Government (2016) the first instalment of £2m is to be allocated to NHS Boards in financial year 2017/18, with the intention that funded adult insulin pumps and CGMs be in place within the financial year.

DL (2017) 13
12 June 2017

Addresses

For action
Chief Executives, NHS Boards

For information
Medical Directors, NHS Boards
Directors of Finance, NHS Boards
Lead Clinicians of Diabetes
Managed Clinical Networks

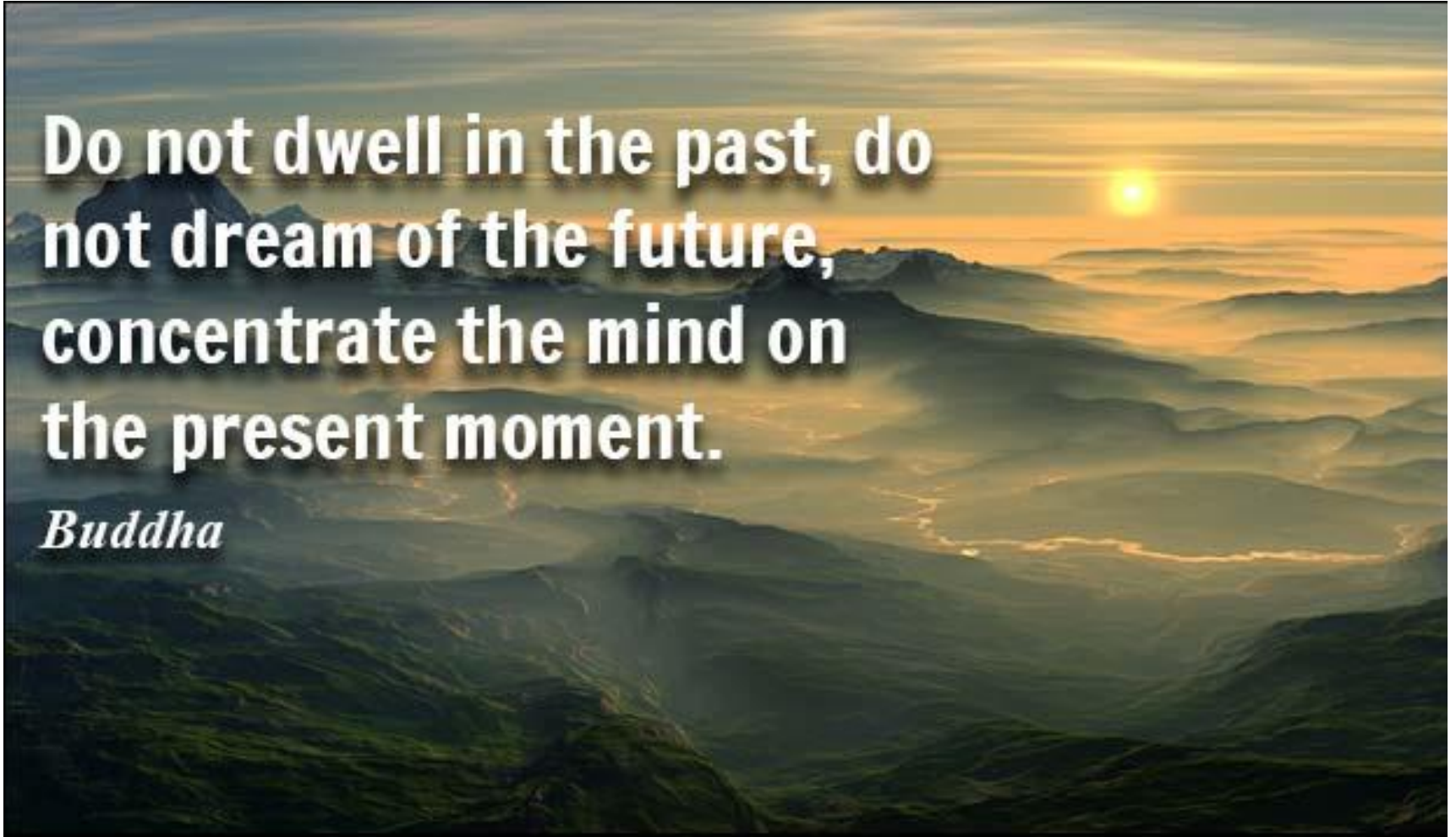
Enquiries to:
Gillian Gunn
Strategy Planning & Clinical
Priorities Team

The present.....



**Do not dwell in the past, do
not dream of the future,
concentrate the mind on
the present moment.**

Buddha



Technology as part of the T1DM pathway



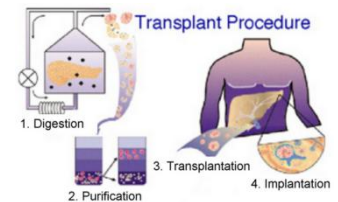
Early insulin/CHO intensification strategy

Structured education programme

Continuous subcutaneous Insulin infusion therapy

Sensor augmented pump therapy

Islet cell / pancreatic transplantation



Sustainability: Challenges

- Staff expertise

Priority 5. Supporting and Developing Staff

Aim: 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.

- Suitable patient cohort: post structured education

Priority 2. Type 1 Diabetes

Timely access to structured education at 12 month post diagnosis.

- Funding for new insulin pump & CGM starts

Health board: under 18 on pumps

1. NHS Ayrshire & Arran
42%

2. NHS Borders
52%

3. NHS Dumfries & Galloway
37%

4. NHS Fife
48%

5. NHS Forth Valley
35%

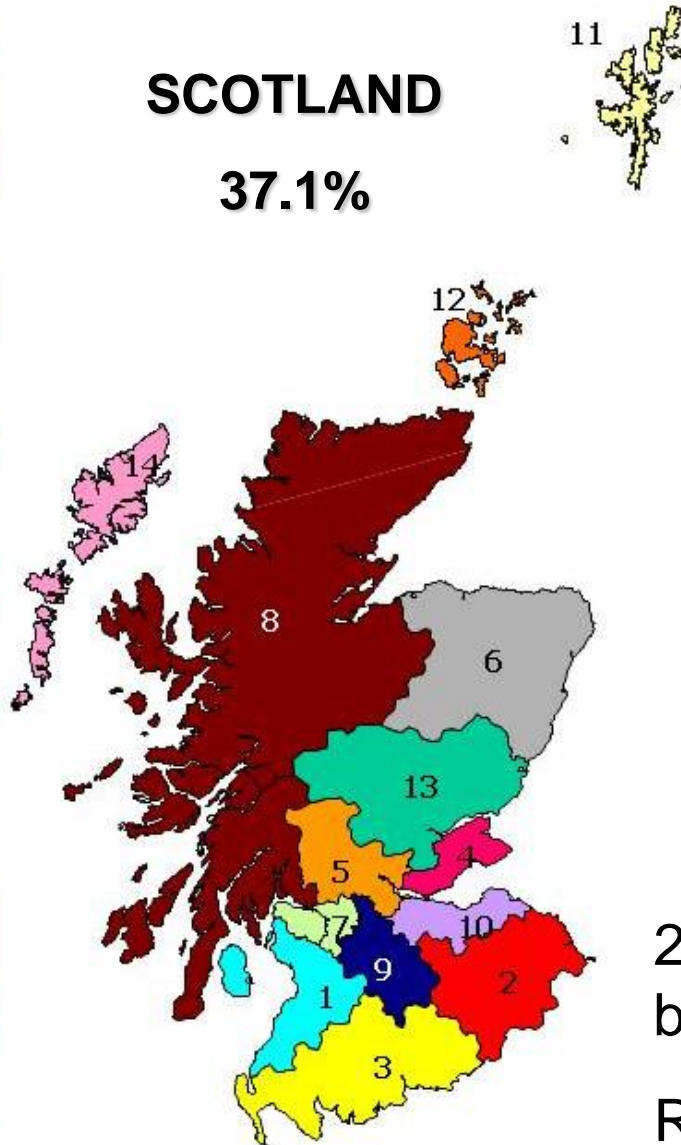
6. NHS Grampian
26%

7. NHS Greater Glasgow & Clyde
34%

8. NHS Highland
39%

SCOTLAND

37.1%



9. NHS Lanarkshire
32%

10. NHS Lothian
45%

11. NHS Shetland
29%

12. NHS Orkney
67%

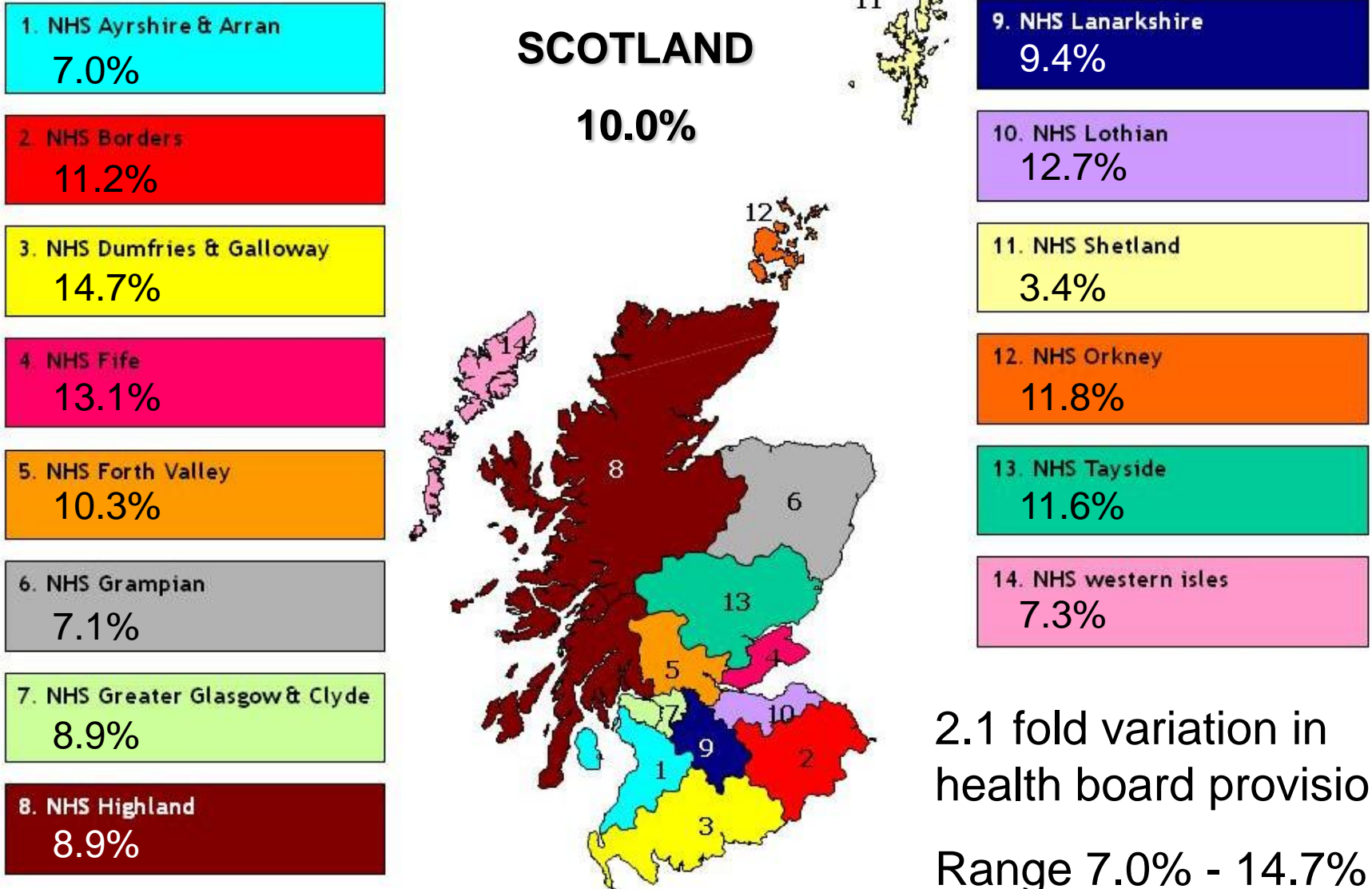
13. NHS Tayside
43%

14. NHS western isles
21%

2 fold variation in health board provision

Range 26% - 52%

Health board: over 18 on pumps



Continuous Glucose Monitoring & Sensor Augmented Pumps

National CGM Support & Training Lead: Sister Liz Mackay

- Teaching and training: skilled workforce
- Standardised pathways and contracts

National Criteria

Adults (fulfill all the following)

- 2 or more episodes of severe hypoglycaemia within a 12 month period
- Severe or disabling impaired awareness of hypoglycaemia
- Active engagement with the diabetes service and self-management.

Children

- All < 5 years on a pump
- 5-18 years - frequent severe hypos, impaired awareness or an inability to recognise or communicate hypos

Numbers: March 2018 there are 208 NHS funded CGMs



IT: National approach



- Scotland wide data recording
- Population level data

my diabetes + my way
... the interactive diabetes website

HOME MY DIABETES INFORMATION LOCAL SERVICES INVOLVEMENT REGISTER ABOUT US NEWS FEEDBACK

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

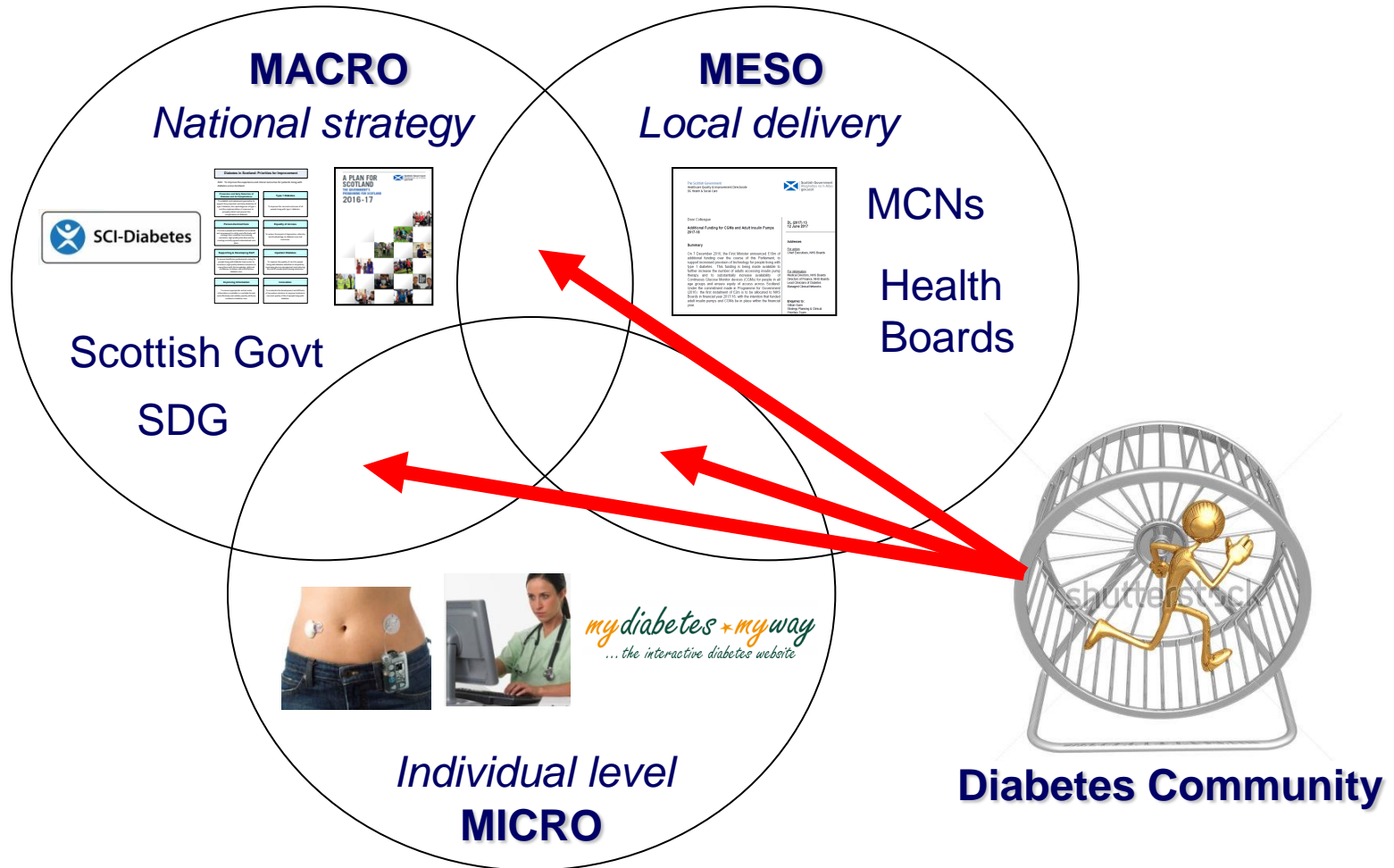


Information

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

Explore

Utilising technology to improve T1DM Care



Co-ordinated approach of ALL 3 improves care & outcomes.....

Flash Blood Glucose Monitoring



- Attempted national approach
- 7 HBs adopted the technology
- Remaining 7 HBs awaiting SHTG assessment
- Recording use on SCI-diabetes

- Ongoing assessment of FBGM
- Includes 'real world' data from SCI-diabetes
- Diabetes Scotland & patient voice
- Expected summer 2018

The future.....



Horizon Scanning....



Medtronic's MiniMed 670G hybrid closed looped system: the first FDA-approved device



Beta Bionics

A Massachusetts Public Benefit Corporation

Introducing the iLet™

At long last, a fully integrated bionic pancreas.
Carry your glucose metabolism in your pocket.



Whole System Approach



- Methodology for Freestyle Libre utilised to assess other technologies
- Use of 'real world' data
- Possible developmental procurement approach
- National approach to CSII and CGMs purchasing
- National bulk deals which all boards can benefit from
- Integration with clinical and procurement teams



How can the Scottish diabetes community make an effective case...

- Building a cohesive clinical and research argument
- Ensure we adopt a consistent approach
- Robust health economic case for investment
- Cognisant of priorities at Scottish Government & health board level

Learn lessons from others!

THANK YOU...

