



Where are we going?

www.DTN-UK.care

@dtn_uk

Dr Emma Wilmot

Consultant Diabetologist, University Hospitals of Derby & Burton
Honorary Assistant Professor, University of Nottingham
Chair, ABCD Diabetes Technology Network UK

Gold Sponsors:



Silver Sponsors:



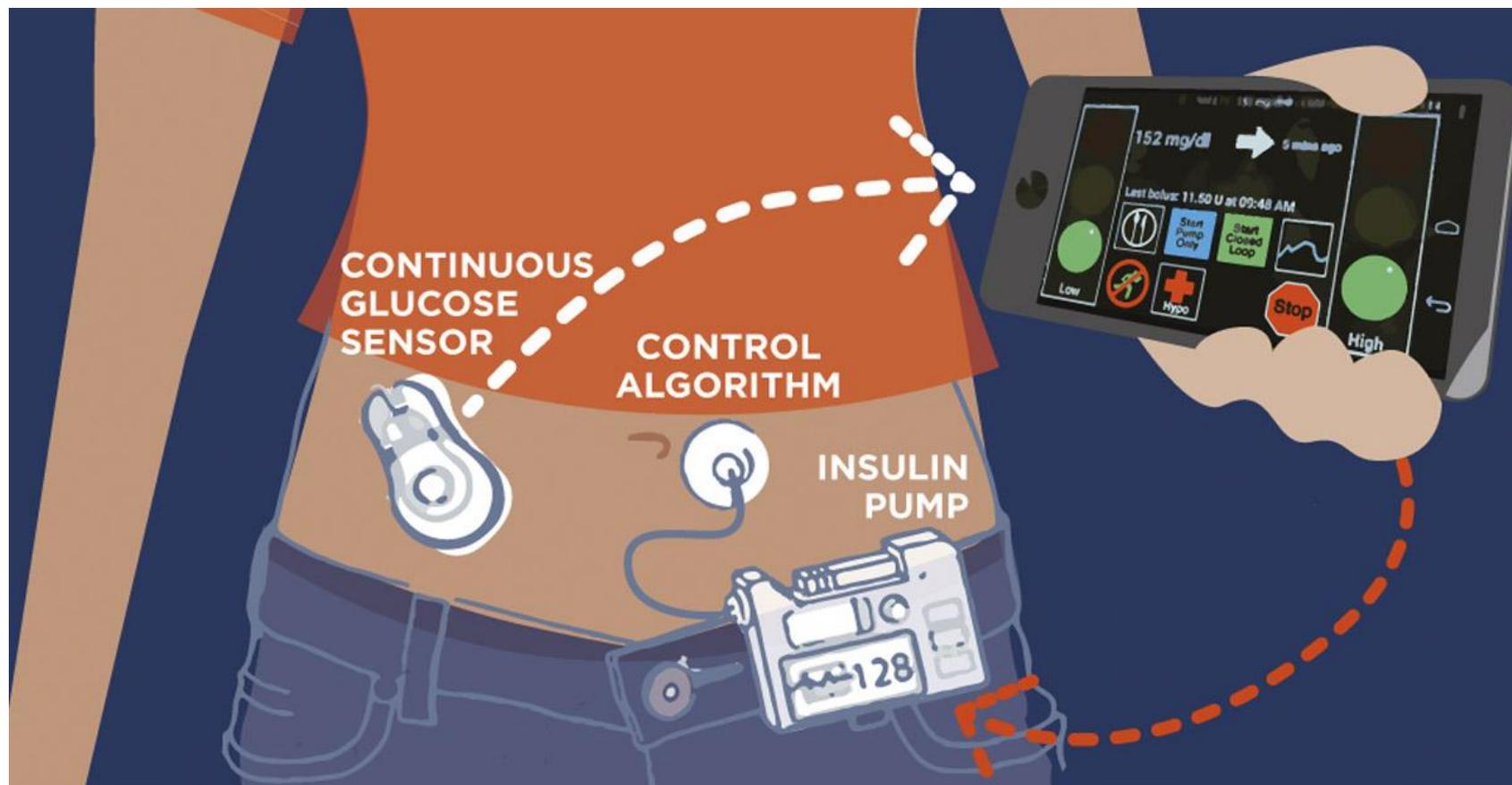
Bronze Sponsors:



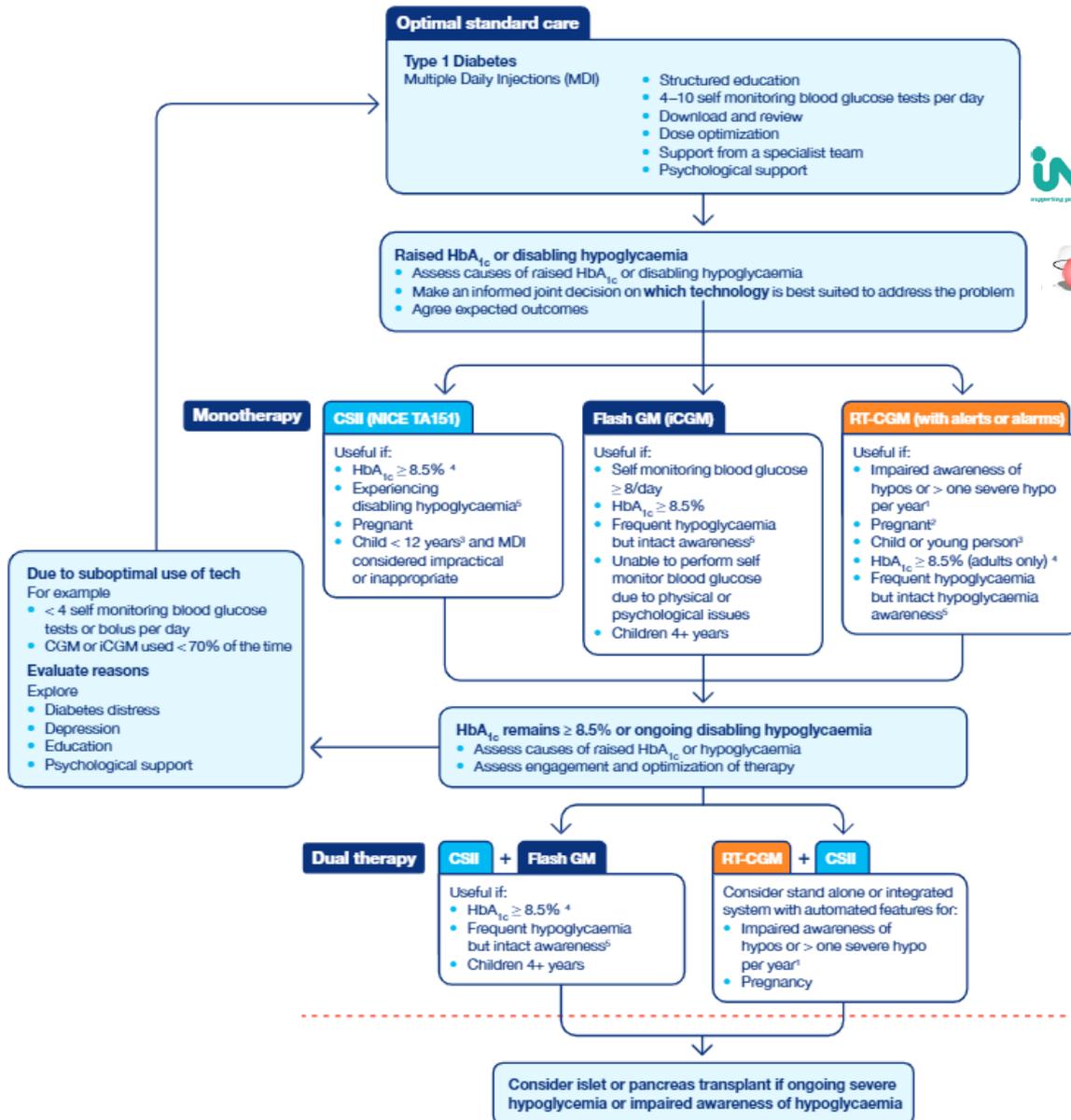
Disclosures

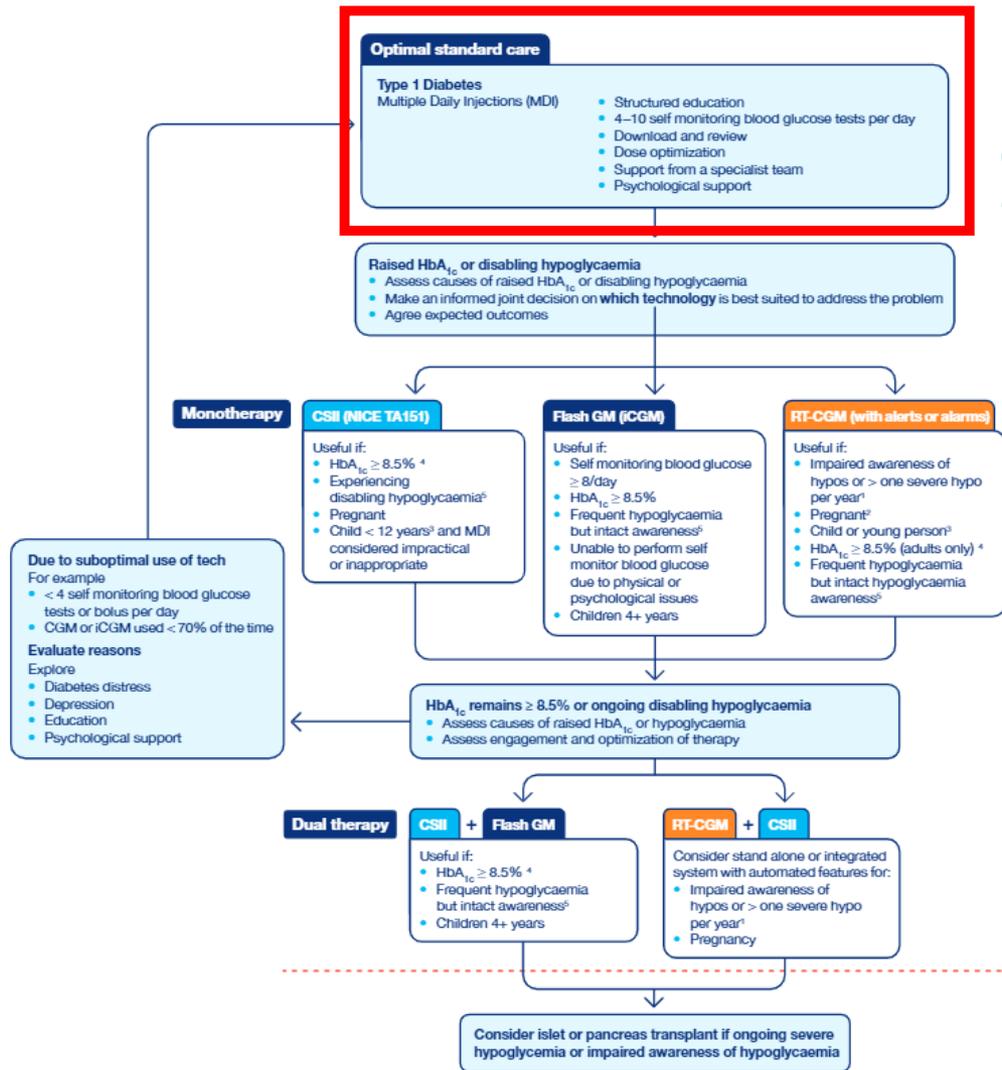
- **Honoraria for speaker engagement:** Abbott Diabetes Care, Dexcom, Eli Lilly, Medtronic, Novo Nordisk, Sanofi Aventis
- **Advisory panel member:** Abbott Diabetes Care, Dexcom, Eli Lilly, Medtronic, Novo Nordisk
- **Funding for attending conference:** Novo Nordisk, Sanofi

Where are we going?



Diabetes UK Joint Societies Type 1 Diabetes Technology Pathway





Optimal Standard Care How are we with the basics?

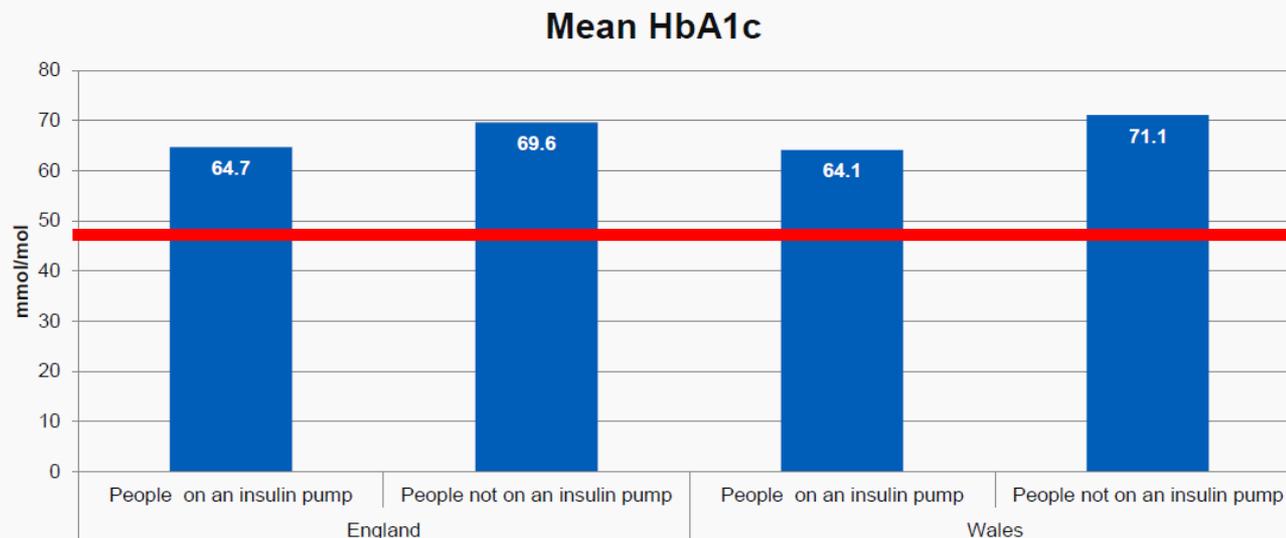
Optimal standard care

- Structured education
- SMBG 4-10/day
- Download and review
- Dose optimisation
- Specialist team support
- Psychology support

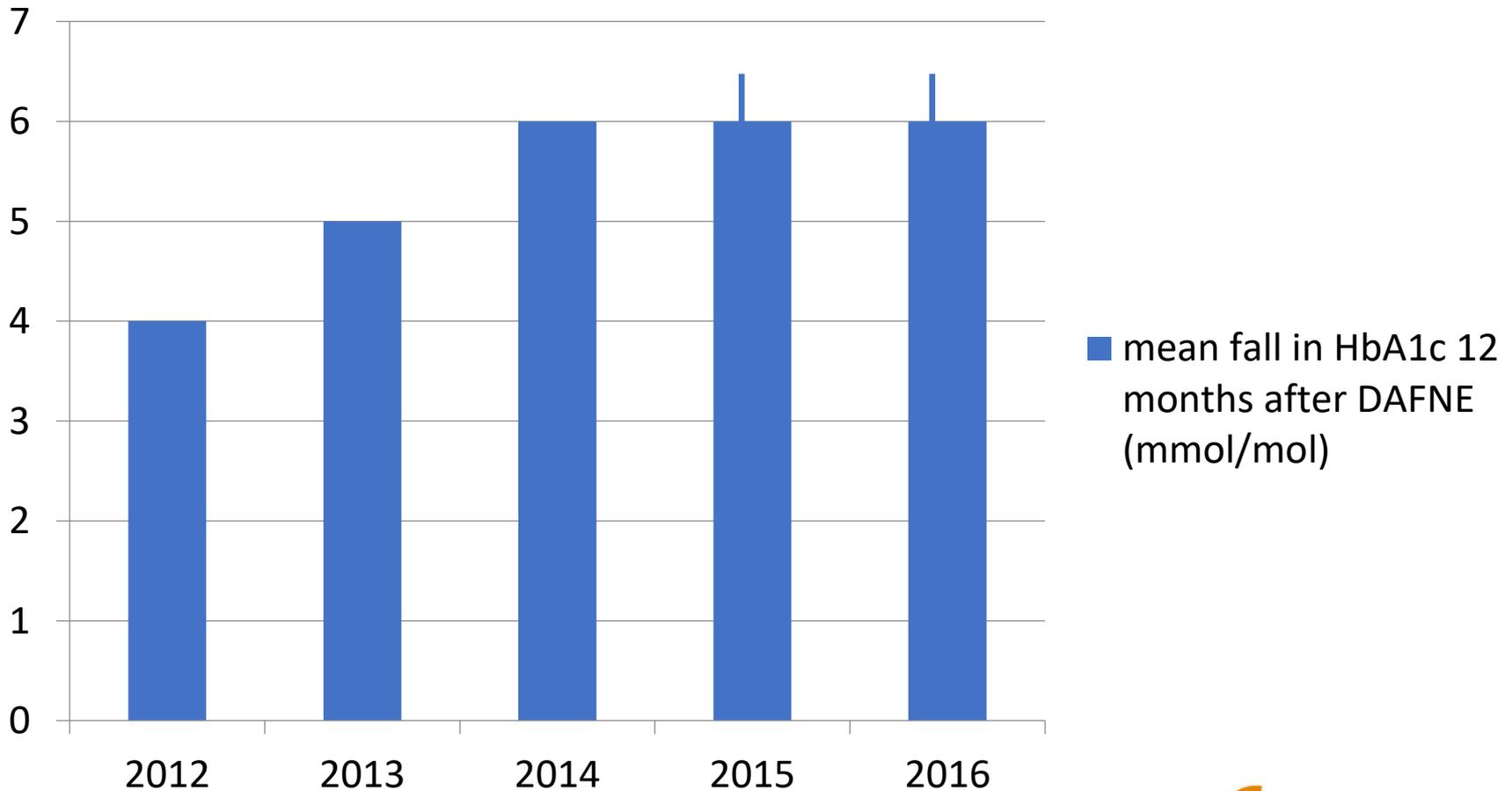
Treatment Targets – Mean HbA1c

Mean HbA1c is lower for Type 1 patients treated with an insulin pump. Analysis for the first Insulin Pump Audit looked at the change in HbA1c after starting pump therapy: <https://digital.nhs.uk/catalogue/PUB20436>.

Figure 15: Mean HbA1c (mmol/mol) for those with Type 1 diabetes on an insulin pump compared to those not on a pump, by country, England and Wales, 2016-2017



Achieving a reduction in HbA1c



Type 1 Diabetes: Less guesswork.
More freedom. Better health.



Emergency treatment costs



Risk of DKA reduced by 61%



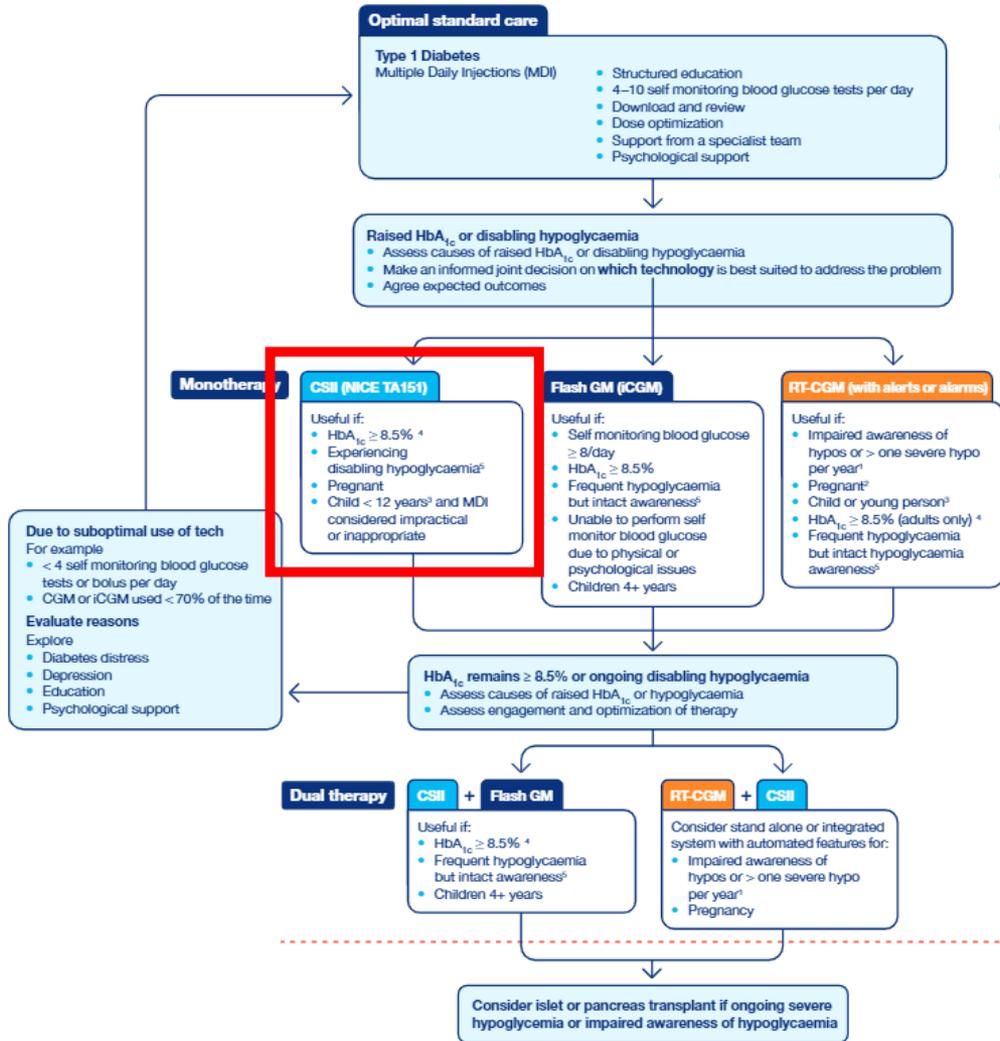
**Risk of severe hypoglycaemia
reduced by 72%**



**Costs of emergency treatments
reduced by 64%**

NDA 2017

	Type 1			
	2013	2014	2015	2016
<u>Offered</u> Structured Education within 12 months of diagnosis	20.8	30.5	34.0	37.8
<u>Attended</u> Structured Education within 12 months of diagnosis	2.6	3.6	3.6	4.3



CSII

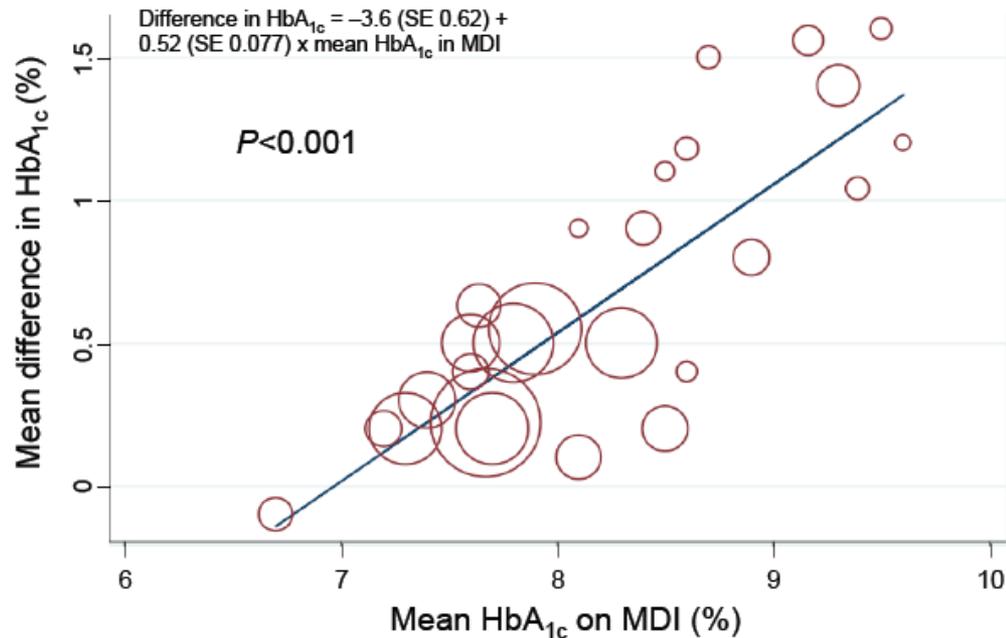
NICE TA 151 (2008)

Insulin pump therapy is recommended for those with T1DM provided:

- attempts to achieve target HbA1c levels with MDI has result in the person experiencing **disabling hypoglycaemia**
or
- **HbA1c** levels have remained high (**8.5% (69mmol/mol)** or above) on MDI therapy despite a *high level of care*

Anticipated HbA_{1c} reduction

Meta-analysis CSII vs MDI: HbA_{1c}



CSII = continuous subcutaneous insulin infusion; MDI = multiple daily injections

UK CSII uptake

SCOTLAND

In Scotland just over 11% of individuals with Type 1 diabetes are on insulin pump therapy. This equates to approximately 35% of under 18s and 9% of adults. DTN-UK has secured appropriate access to technology to improve clinical outcomes. The Scottish parliament has committed to increase access to insulin pumps across Scotland. Challenges remain around time to get the technology, the use of these technologies. The appointment of a national coordinator to support clinical teams to upskill in these technologies will help ensure teams have the resources to support individuals to manage their diabetes.

11%

NORTHERN IRELAND

In Northern Ireland 10% (4-13%) of adults with Type 1 diabetes are on insulin pump therapy. DTN-UK has now established a Diabetes Network inclusive of a Technologies Subgroup to address these challenges.

10%



ENGLAND

The percentage of adults with Type 1 diabetes on pumps in England has increased from 6% in 2012 to 15% in 2023. In the north of England, the uptake is higher than in the south. In 4 nations, there is huge variation between centres with some providing the technology to <5% while other centres have in excess of 30% on insulin pumps. DTN-UK is actively working with NHS England, NHS Digital and ABCD to investigate and address these variations in care.

15%

← **6% in 2012**

WALES

In Wales NICE TA151 applies and therefore funding for insulin pumps should be available. Currently 6% of adults with Type 1 diabetes are on insulin pumps. DTN-UK is currently working on increasing uptake, but, again, there is huge variation between centres. The Welsh government have identified CSII therapy as one of its core priorities to improve the uptake, decrease the inequalities to access and also ensure that services that are delivered are consistent and safe.

6%

DTN UK
collaborate · evolve · support



In every consultation with someone with Type 1 diabetes

THINK PUMP

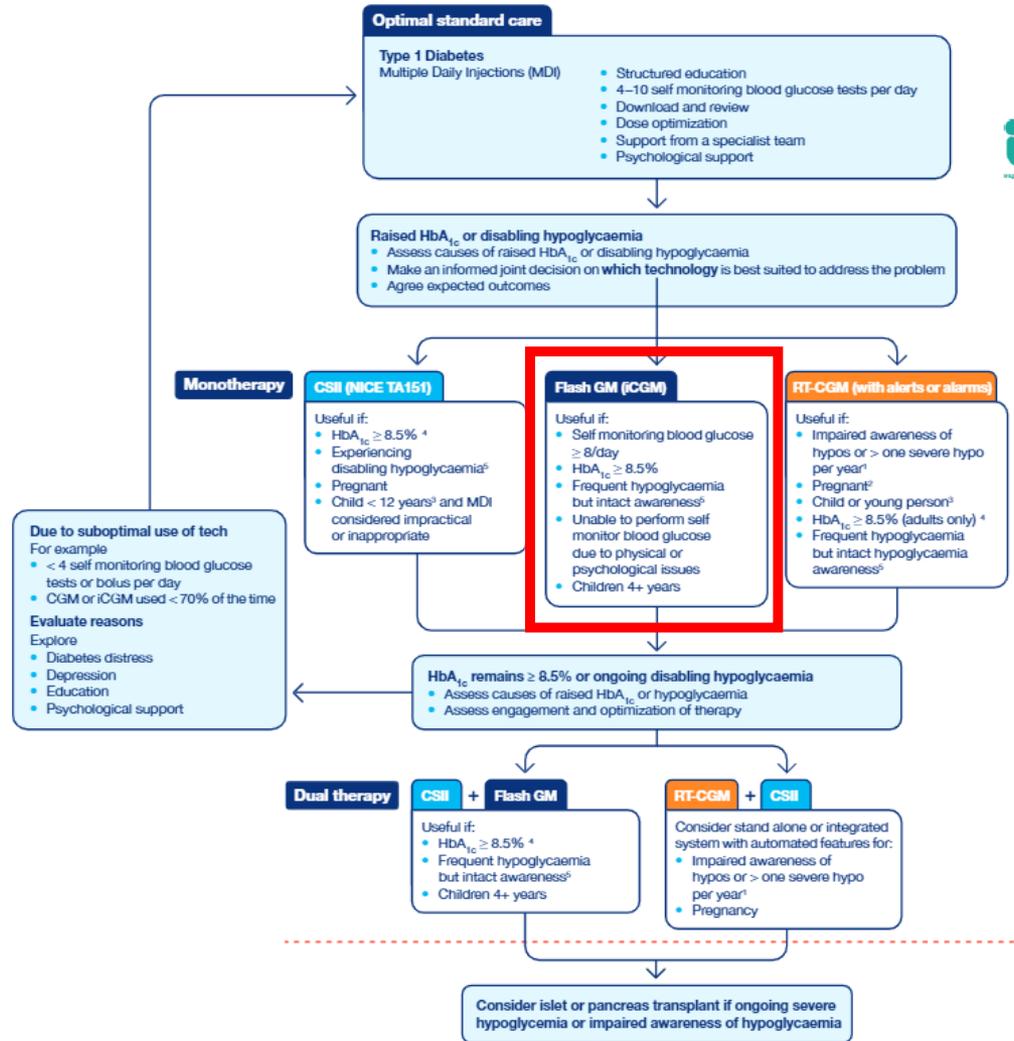
Best Practice Guides www.DTN-UK.care

 <p>BEST PRACTICE GUIDE: Continuous subcutaneous insulin infusion (CSII) A clinical guide for adult diabetes services</p>	 <p>CLINICAL GUIDELINE: Guidelines for managing continuous subcutaneous insulin infusion (CSII, or 'insulin pump') therapy in hospitalised patients</p>	 <p>BEST PRACTICE GUIDE: Continuous subcutaneous insulin infusion (CSII) - A guide to service requirements</p>
---	--	--

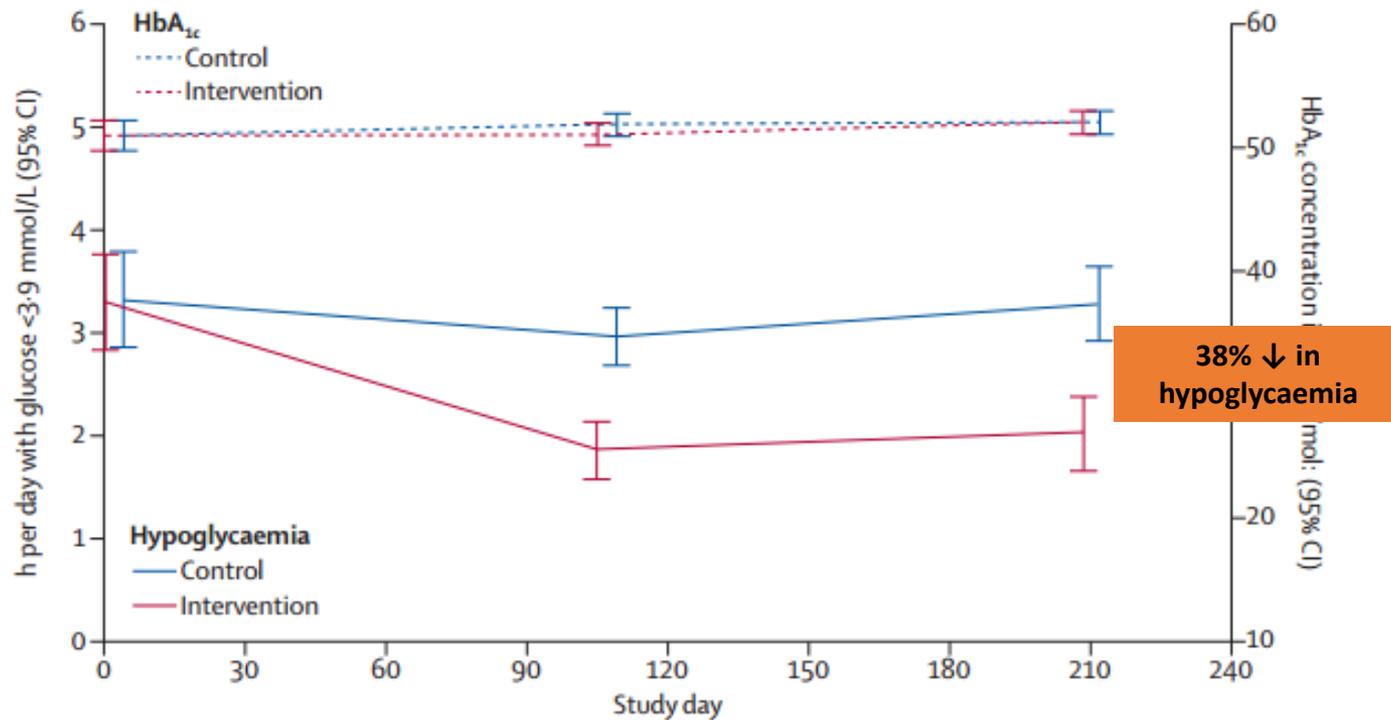
DTN-UK will continue to support CSII service by running educational events across the country



Flash Glucose Monitoring



Results: HbA1c and Hypoglycaemia



Bolinder et al. Lancet Sept 2016

NEWS

[Home](#) | [UK](#) | [World](#) | [Business](#) | [Politics](#) | [Tech](#) | [Science](#) | [Health](#) | [Family & Education](#)[Health](#)

Diabetes glucose monitors 'available to thousands more'

© 14 November 2018

[f](#) [📧](#) [🐦](#) [✉](#) [Share](#)

News

NHS to provide life changing glucose monitors for Type 1 diabetes patients

📅 14 November 2018

[Diabetes](#) [Digital](#) [Long term conditions](#)

Tens of thousands of people with Type 1 diabetes across the country will benefit from life changing glucose monitors on the NHS.

To coincide with [World Diabetes Day](#), Simon Stevens, Chief Executive of NHS England, is announcing action to end the current variation patients in some parts of the country are facing to access Freestyle Libre.

The wearable sensor does away with the need for inconvenient and sometimes painful finger prick blood tests by relaying glucose levels to a smart phone or e-reader.

Updated NHSE FreeStyle Libre Criteria

- Insulin treated diabetes and on haemodialysis
- CFRD
- T1
 - monitoring >8/day
 - Pregnant women
 - Unable to self monitor
 - Occupational or psychosocial indications for a trial
 - Problematic hypos (SH or IAH) (NB CGM preferred)



Association of British Clinical Diabetologists

DTN-UK

FREESTYLE LIBRE EDUCATION PROGRAMME



This series of engaging videos is designed for people with Type 1 diabetes who use the FreeStyle Libre and the health care professionals supporting them.



DR. EMMA WILMOT



DR. PETER HAMMOND



GERALDINE GALLEN



NICOLA TAYLOR



DR. JACKIE ELLIOTT



DR. PARTH NARENDREN



DR. FRASER GIBB



DR. PRATIK CHOUDHARY



DR. IAIN CRANSTON



MIKE KENDALL

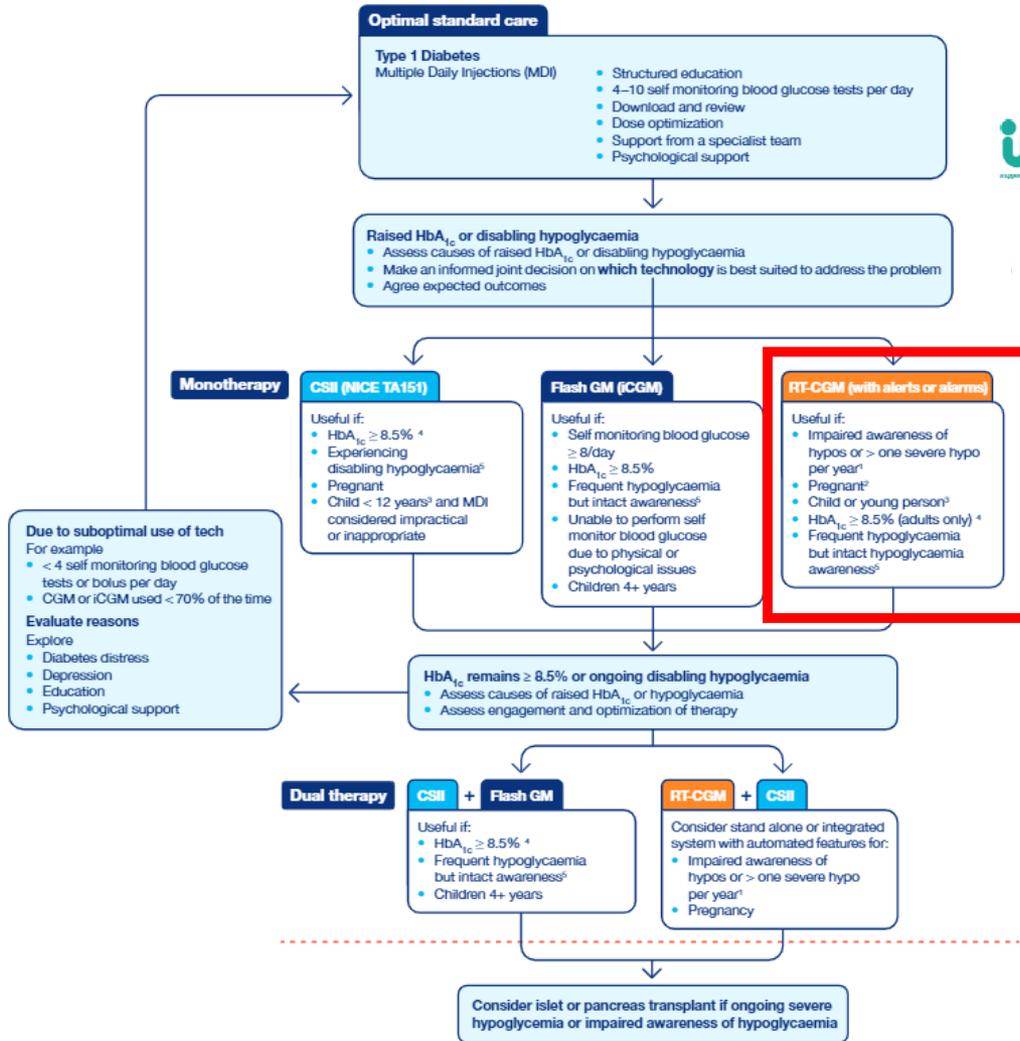


NICK RYCROFT



DR. ROB ANDREWS

Register at www.abcd.care/dtn/education



CGM access and use

rtCGM funding: NICE NG17

- Consider real-time continuous glucose monitoring for adults with type 1 diabetes:
 1. More than 1 episode a year of **severe hypoglycaemia** with no obviously preventable precipitating cause.
 2. **Complete loss of awareness** of hypoglycaemia.
 3. Frequent (more than 2 episodes a week) **asymptomatic hypoglycaemia** that is causing problems with daily activities.
 4. Extreme **fear** of hypoglycaemia.

Access to CGM

- Roche commissioned FOI to determine whether CCGs in England have policies for the reimbursement of CGM
- Responses 99% (205/207) CCGs
- 45% (92/205) had policy on funding of CGM
- **21% (43/205) commission CGM in-line with NICE guidance**

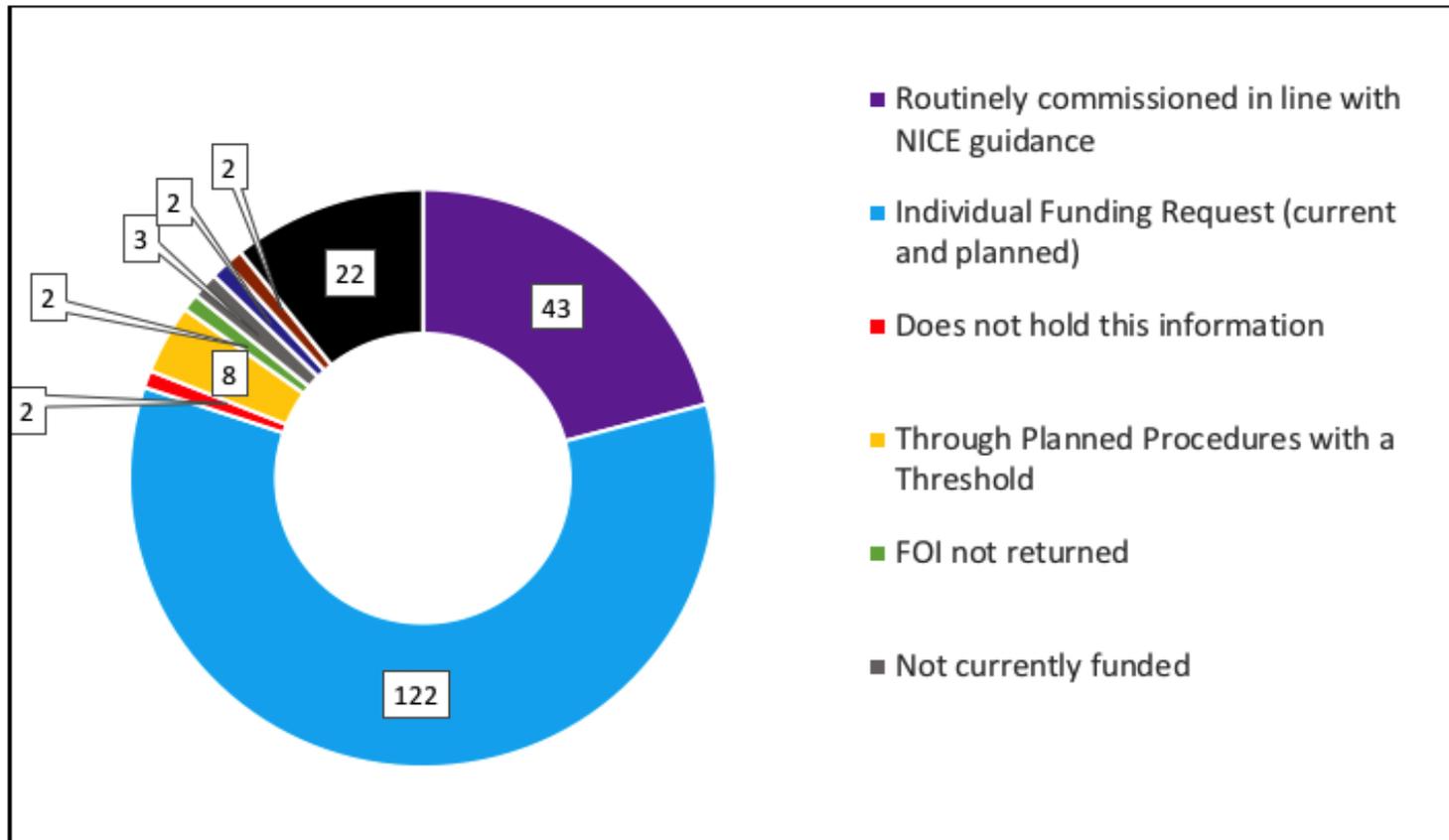
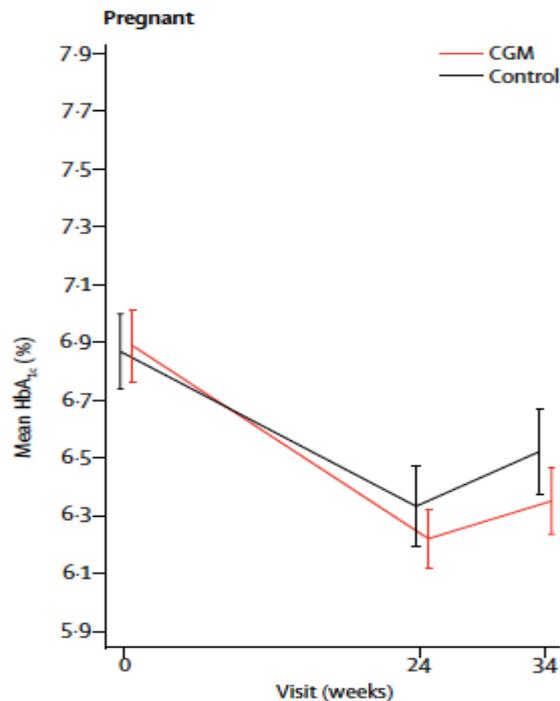


Figure 1: Current routes to funding for continuous glucose monitoring (CGM)

Response to the question “How is CGM currently funded within your CCG?” n=205. Main route to reimbursing CGM was through Individual Funding Requests (IFRs) 60% (122/205).

Continuous glucose monitoring in pregnant women with type 1 diabetes (CONCEPTT): a multicentre international randomised controlled trial



	CGM	Control
Stillbirth	0	1
Congenital Anomaly	2	3
Early preterm < 34 weeks	5%	7%
LGA > 90%	53%*	69%
Macrosomia > 4000g	23%*	27%
NICU > 24 hrs	27%*	43%

CGM in pregnancy implementation group



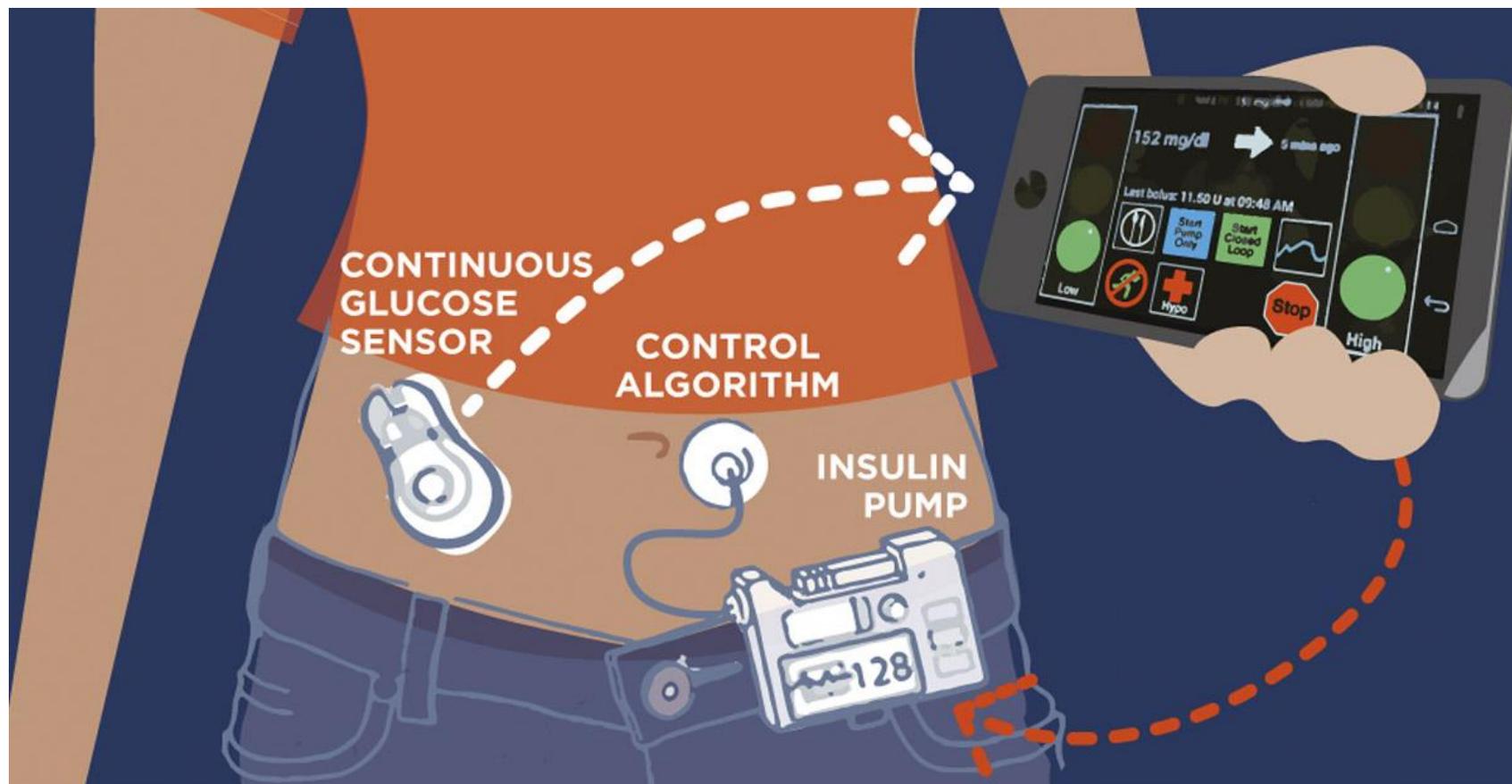
- Roadshows throughout 2020
- Online webinar
- Online modules

- Aim to support the universal uptake of CGM in pregnancy



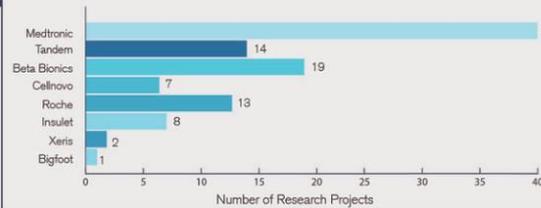
Diabetes Technology: the future

Where are we going?

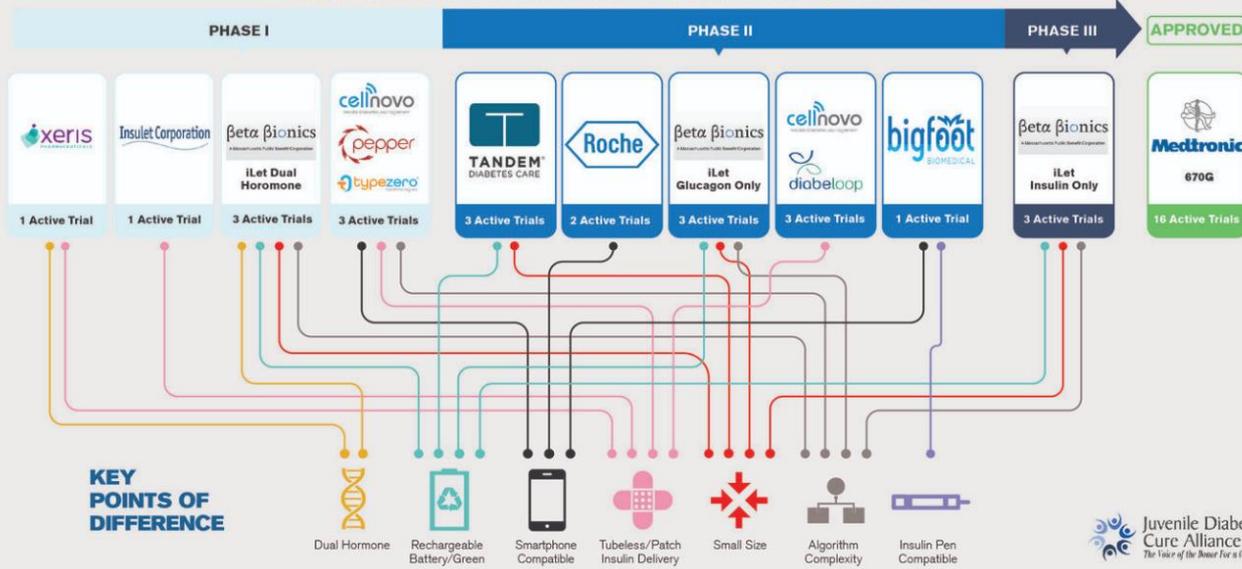


Commercial development of the artificial pancreas

OUT OF 471 **ACTIVE T1D PROJECTS**
IN HUMAN TRIALS
39 ARE ARTIFICIAL PANCREAS



MOST ADVANCED STAGE IN HUMAN TRIALS BY COMPANY

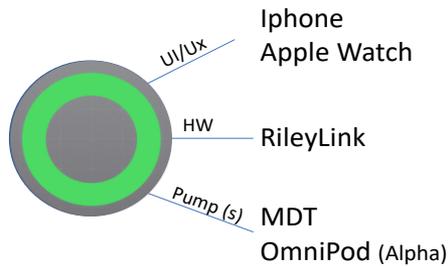


The rise of the 'DIY' artificial pancreas system

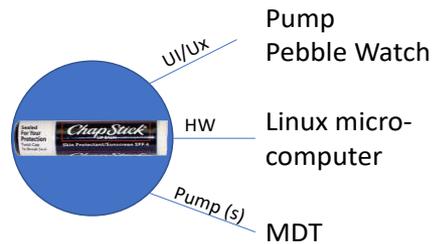
#wearenotwaiting

DIY APS

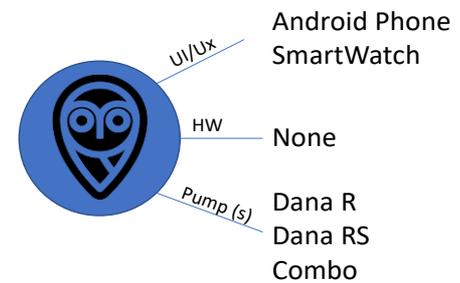
A reminder of different APS systems....



Loop



OpenAPS



AndroidAPS

DIY Artificial Pancreas System

- Controversial area: unregulated
- Risks unknown: need for objective outcome data
- ABCD national audit of DIY APS users planned



Summary

- Technology moving fast
 - New players in the CSII and CGM markets but access to both remains sub-optimal
- Which presents challenges for future closed loops
- Need to get the basics right

Priorities 2019

- **Technology Pathway delivery**
 - Focus on delivery of CGM in pregnancy
 - Increase access to CGM and CSII
- **Education**
 - Educational events
 - 3 further national Best Practice Guides: pregnancy, CGM, primary care
 - DTN-UK CGM in pregnancy education programme (events and online)
- **National Diabetes Type 1 Service Audit**
 - Highlight the key barriers to technology access

Pave the way for access to the artificial pancreas

The future



Dr Pratik Choudhary
DTN-UK Chair



Dr Alistair Lumb
DTN-UK Vice Chair

The committee

- Emma Wilmot (Derby)
- Pratik Choudhary (London)
- Peter Hammond (Harrogate)
- Alastair Lumb (Oxford)
- Dinesh Nagi (ABCD chair, Mid Yorks)
- Geraldine Gallen (London)
- Eleanor Scott (Leeds)
- Sufyan Hussain (London)
- Iain Cranston (Portsmouth)
- Fraser Gibb (Edinburgh)
- Jackie Elliott (Sheffield)
- Sara Hartnell (Cambridge)
- Nick Oliver (London)
- Mark Evans (Cambridge)
- Fiona Campbell (Leeds)
- Philip Weston (Liverpool)
- Julia Platts (Cardiff)

Patient reps

- Mike Kendall (patient rep)
- Joanna Mullineaux (patient rep)
- Liam McMorrow (patient rep)

Thank you



Dr Peter Hammond,
Harrogate



Dr Rob Gregory
Ex ABCD Chair



Thank you

@wilmotemma

Emma.Wilmot2@nhs.net

www.DTN-UK.care



www.dtn-uk.care

[@DTN_UK](https://twitter.com/DTN_UK)