The Australian National Diabetes Strategy Technology

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Perth Children's Hospital
Telethon Kids Institute

NADC: Best Practice in Diabetes Centres Symposium
Saturday 20th October 2018

A NHMRC/JDRF funded Centre of Research Excellence

Search ‘TECHNOLOGY’: 7 identifications

Goals of ANDS

Principles

Five key guiding principles underpin the goals. These principles are expected to guide the policies and programmes considered for the implementation of this Strategy.

1. Collaboration and cooperation to improve health outcomes
   - Working in partnership across government, organisations and other sectors can maximise use of resources and technology

2. Coordination and integration of diabetes care across services, settings, technology and sectors
   - Diabetes care is multidisciplinary across providers and settings: coordination and communication are essential to ensure appropriate interventions and continuity of care

Principles

1. Collaboration and cooperation to improve health outcomes
2. Coordination and integration of diabetes care across services, settings, technology and sectors
3. Facilitation of person-c self-management throu
4. Reduction of health ine
5. Measurement of health behaviours and outcom

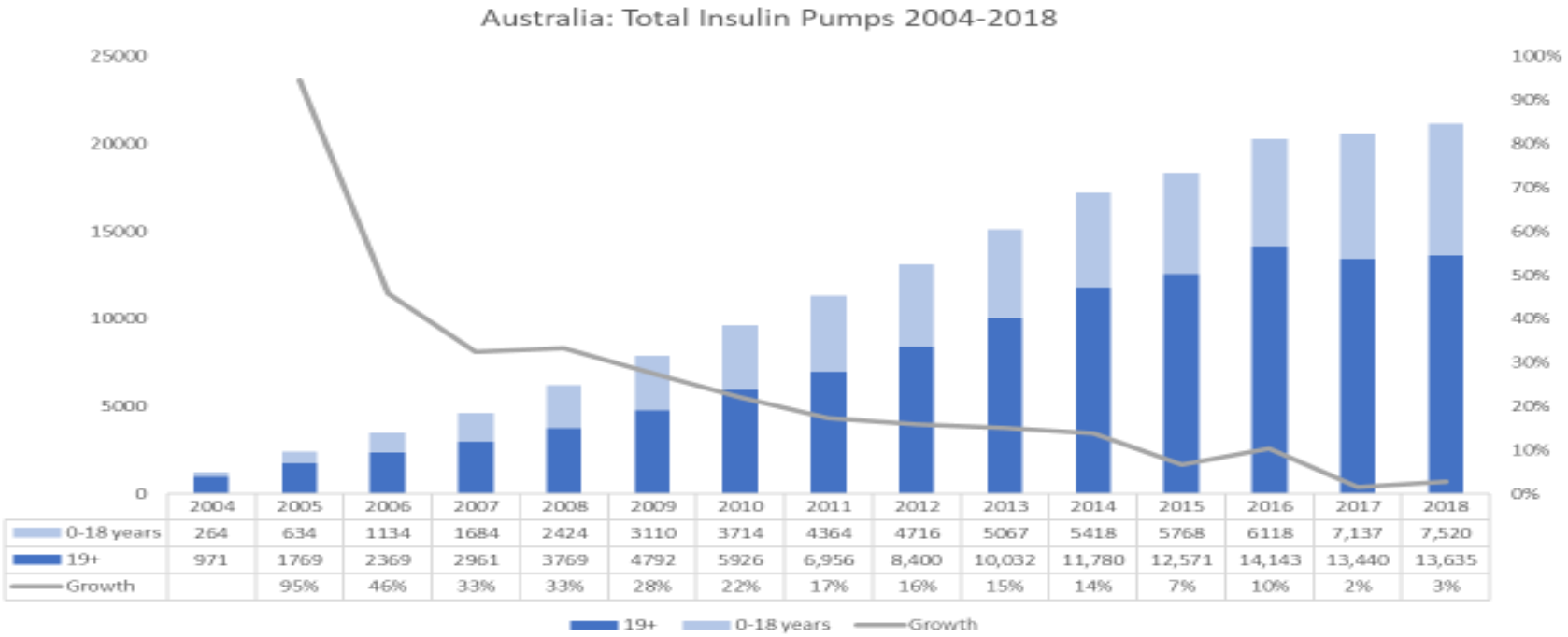
– Identifying the cause(s) of type 1 diabetes and how to prevent, cure and treat the condition (including research into the potential benefits of stem cell technology and islet cell transplantation)

Use information and communication technology

- Facilitate and encourage use of the My Health Record among health care providers through supported software technology to access the national online health record

- What do we know about this area in relation to the Australian diabetes population?
- What are the known gaps/opportunities for improvement/change?
- Are there any learnings from our international colleagues?
- What can we do to make a difference, who should do it and what resources are needed?

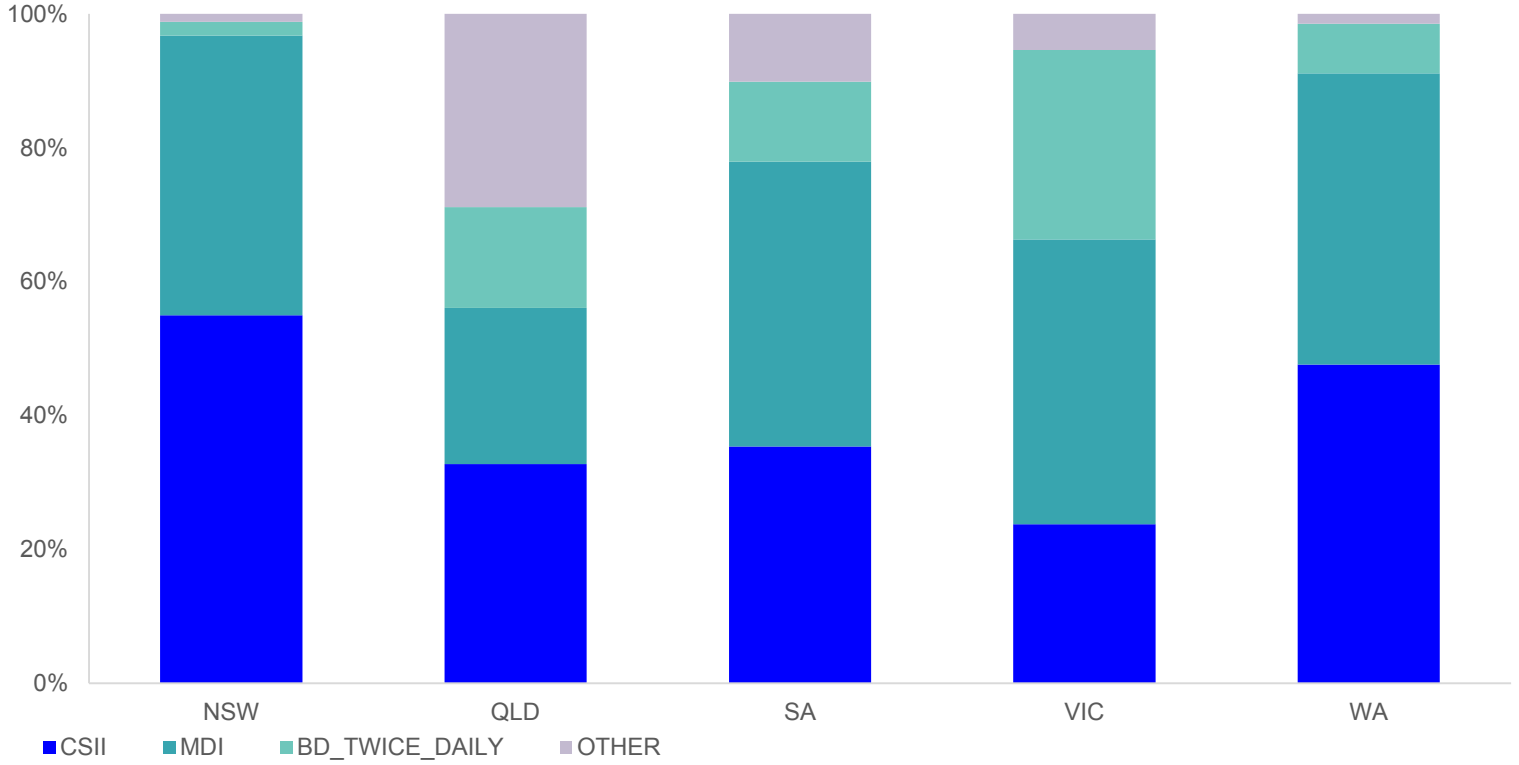
Insulin Pump Use In Australia



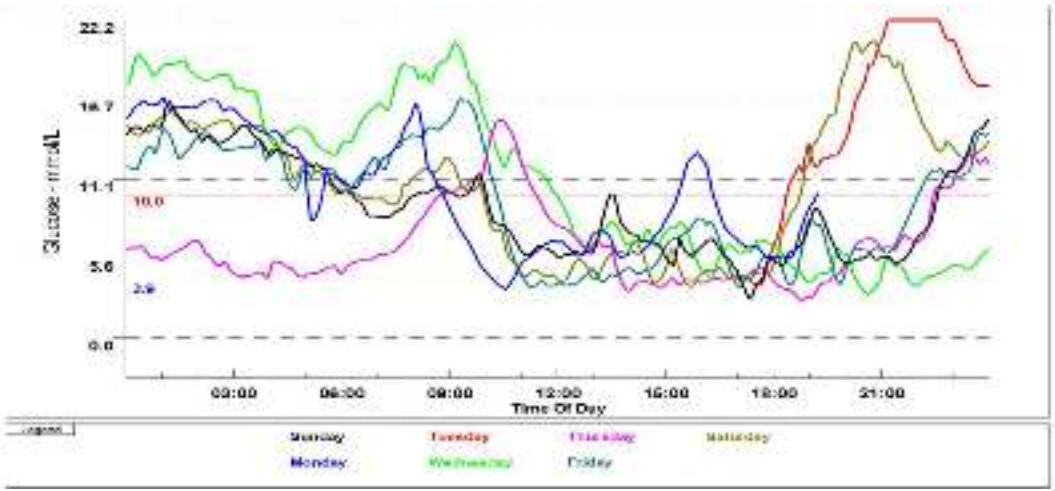
	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
0-18 years	264	634	1134	1684	2424	3110	3714	4364	4716	5067	5418	5768	6118	7,137	7,520
19+	971	1769	2369	2961	3769	4792	5926	6,956	8,400	10,032	11,780	12,571	14,143	13,440	13,635
Growth		95%	46%	33%	33%	28%	22%	17%	16%	15%	14%	7%	10%	2%	3%

Source: NDSS Insulin Pump Consumable Utilisation

ADDN: Insulin regimens of paediatric patients, 2018

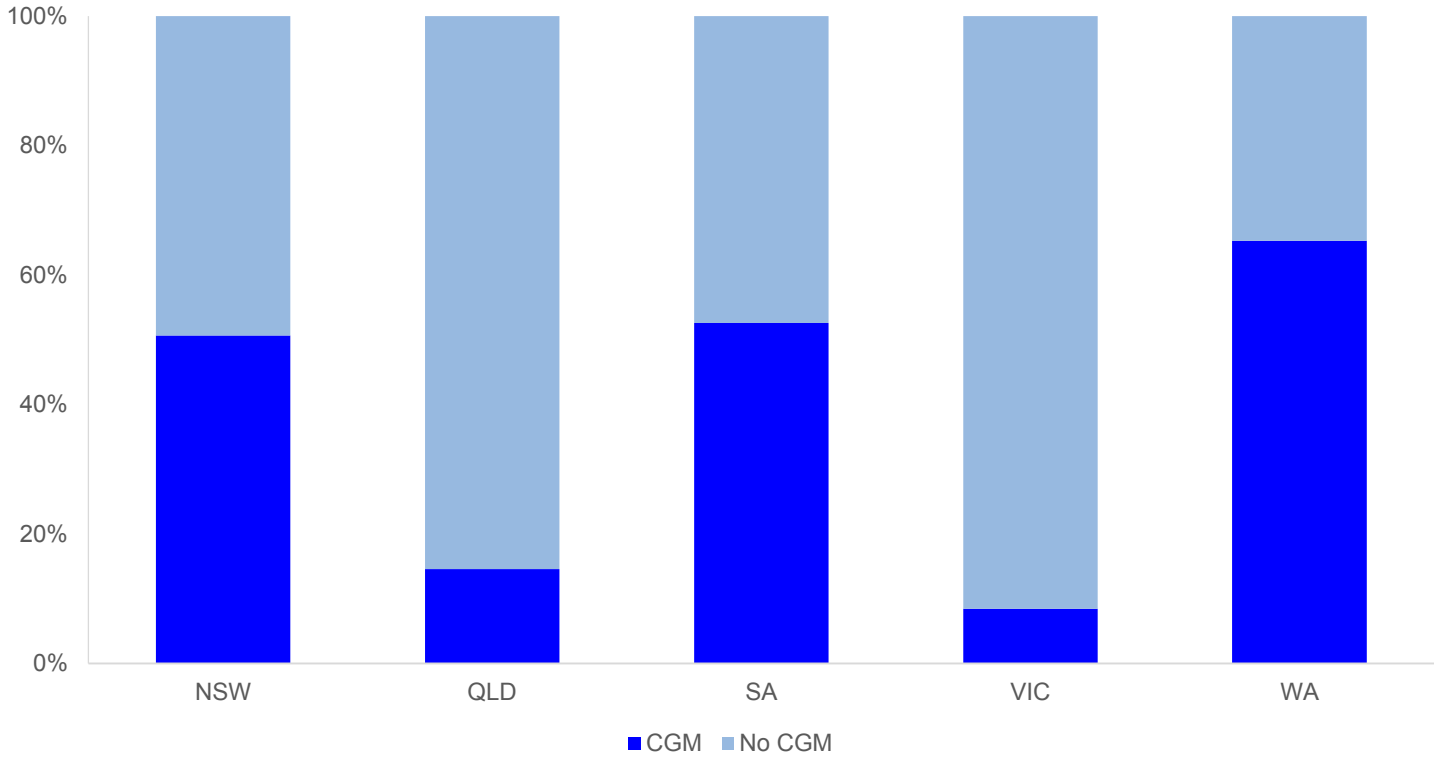


Data: Australasian Diabetes Data Network, generated 18 October 2018



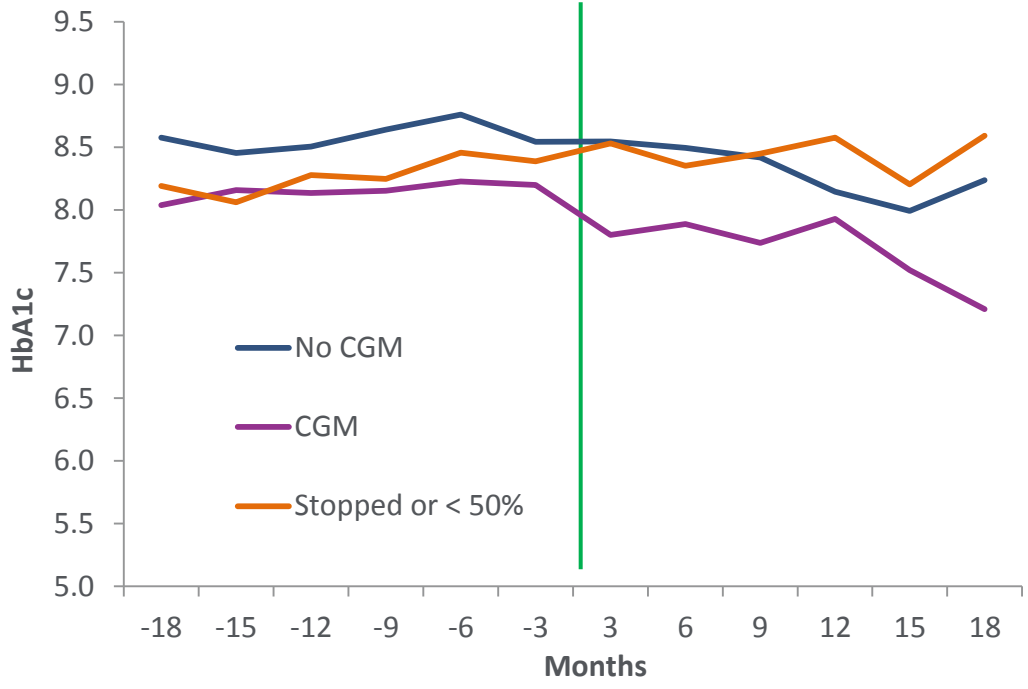
1st April 2017 CGM subsidy announcement

Proportion of paediatric ADDN patients on CGM, 2018



Data: Australasian Diabetes Data Network, generated 18 October 2018

HbA1c pre and post CGM in real world sample



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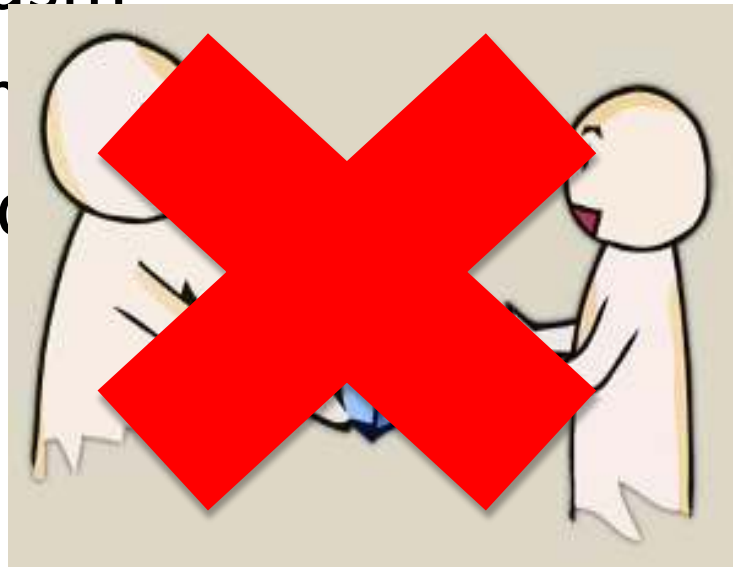
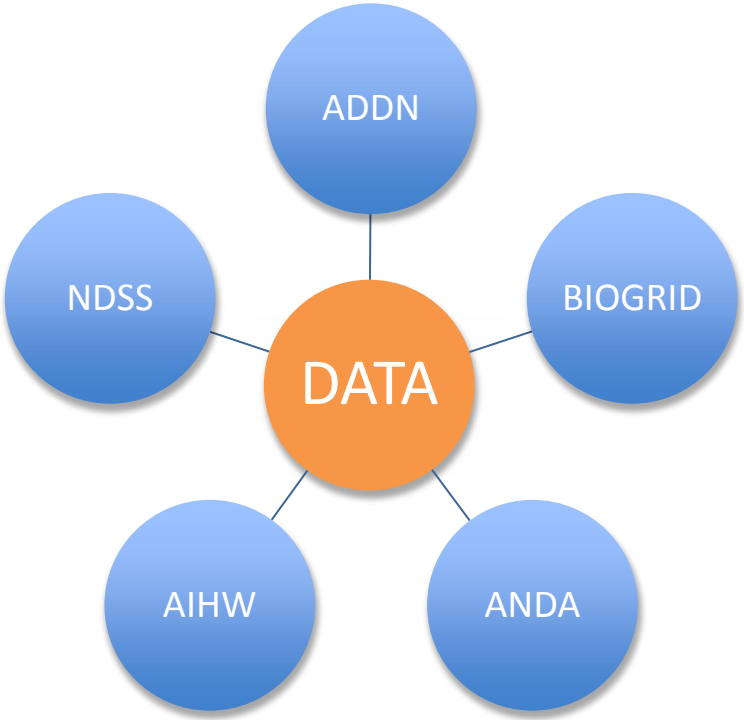
- Scramble
- Huge patient enthusiasm
- Challenges with minir
- Inadequate resource c
- Staff burnout
- Inequitable access



How do we know this?



- Different source data
- Different funding
- Different purposes

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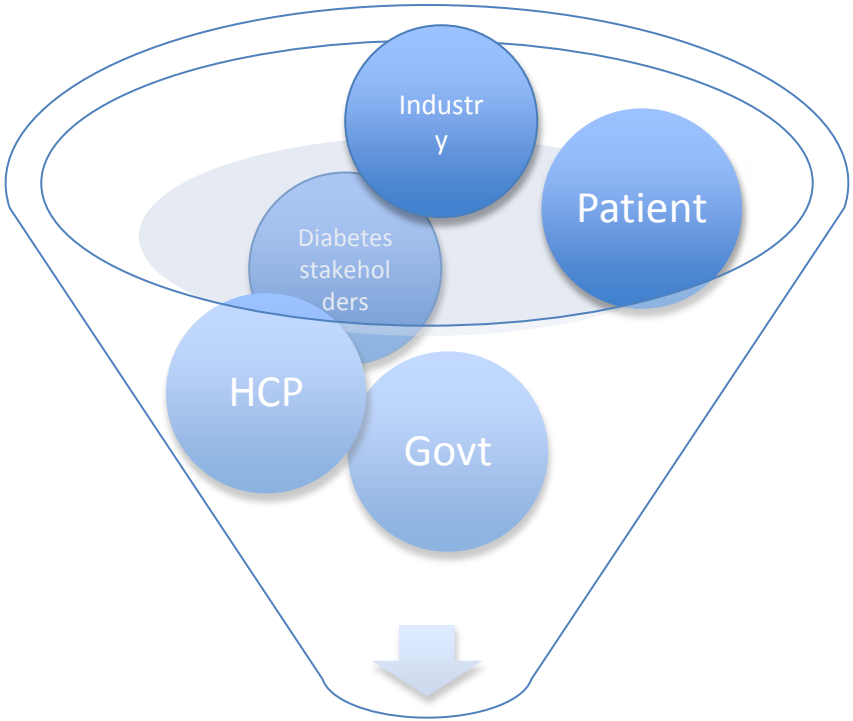

Policy & Practice

Patient perspective

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

Denice S Feig, Lois E Donovan, Rosa Corcoy, Kellie E Murphy, Stephanie A Amiel, Katharine F Hunt, Elizabeth Asztalos, Jon F R Barrett, J Johanna Sanchez, Alberto de Leiva, Moshe Hod, Lois Jovanovic, Erin Keely, Ruth McManus, Eileen K Hutton, Claire L Meek, Zoe A Stewart, Tim Wysocki, Robert O'Brien, Katrina Ruedy, Craig Kollman, George Tomlinson, Helen R Murphy, on behalf of the CONCEPTT Collaborative Group*

Summary

Background Pregnant women with type 1 diabetes are a high-risk population who are recommended to strive for

Lancet 2017; 390: 2347–59

- Severe hypoglycaemia, impaired awareness

HCP perspective

- Evidence based: outcomes and burden
- Want to offer patients the best option to optimise care outcomes
- Education & enhanced training
- Public system, impact of trials
- Reimbursement for CGM/ CSII in private
- Remote monitoring

Govt perspective

- Health economic analysis - This requires usage & outcome data
- Long term view is often difficult
- ‘Reputational’ component to decisions
- State vs Commonwealth

Industry perspective

- Australia is a small market - if it is too hard and too complicated for industry, products wont make it to Australia
- Clearer pathways for assessment, evaluation and funding for govt approach to new technologies, Technology assessment and access branch
- Need FDA or CE mark, but then still need to go through rigorous approval process

Diabetes Stakeholders

- Often lead advocacy & collaboration
- Integrate HCP & patient view
- Represent and champion the long term view
- Maintain long term view with funders

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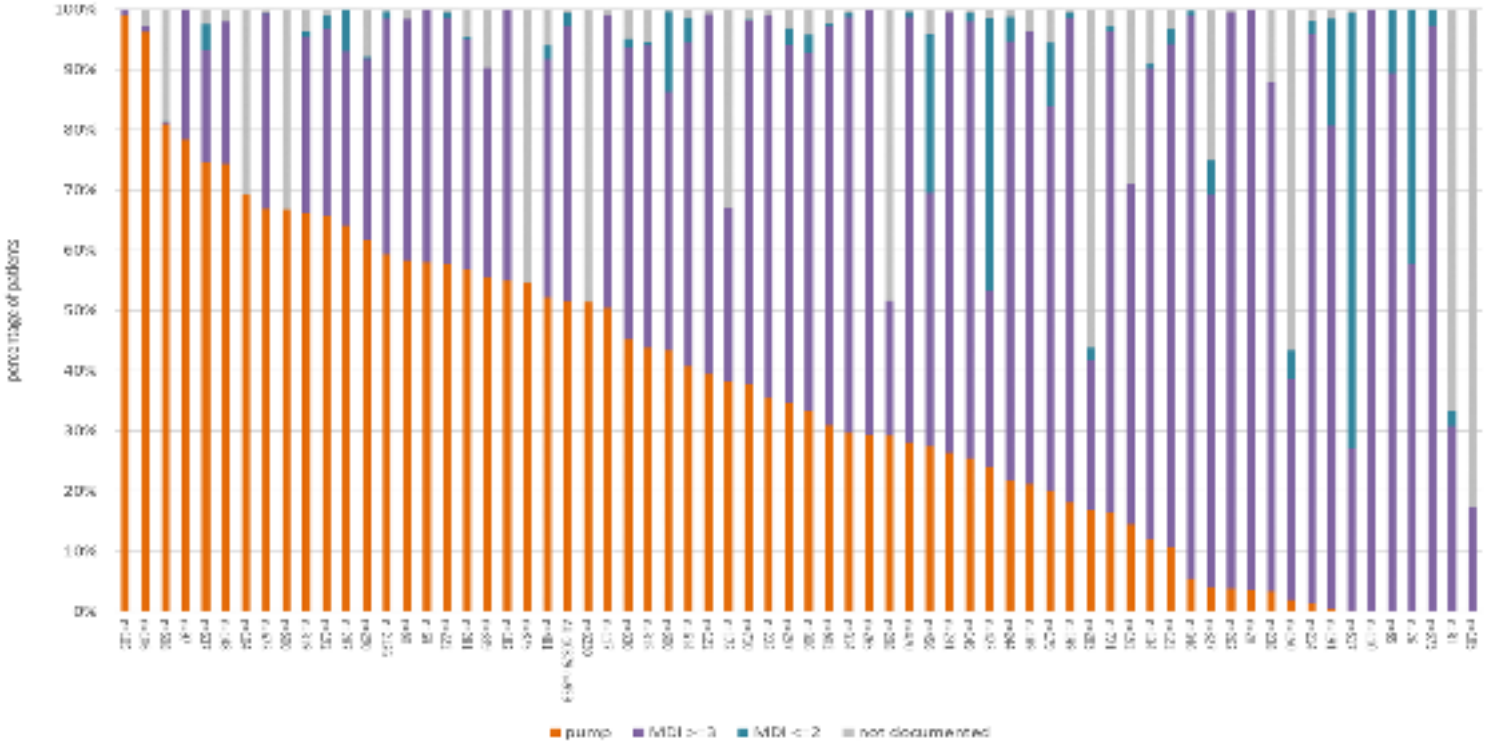
Paediatrics, T1DM, Insulin regimens, 78 centres internationally



SWEET Benchmarking report
01/01/2018 - 31/07/2018

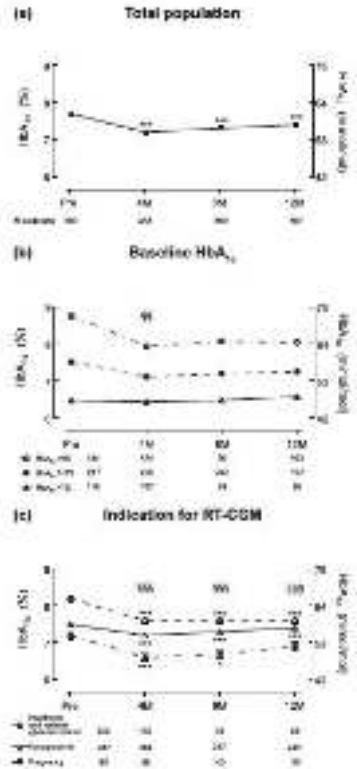
Insulin treatment, T1DM, comparison pump – non pump

all centres, 01/01/2018 - 31/07/2018

	Number of patients overall with fully / partially documented insulin therapy	Pump user percentage and number of patients	Non-pump user percentage and number of patients	HbA1c pump user median of patients' median	HbA1c non-pump user median of patients' median	Average total daily insulin dose all patients units (units / kg)	Average total daily insulin dose pump user units (units / kg)	Average total daily insulin dose non-pump user units (units / kg)	Average daily prandial insulin dose pump user units and percentage of total dose	Average daily prandial insulin dose non-pump user units and percentage of total dose
all patients	22,680	40.6% (10,482)	43.2% (11,869)	7.50	7.60	40.7 (0.82)	47.5 (0.81)	40.8 (0.82)	29.7 (50.7)	23.3 (57.7)
duration <1 y	3,176	23.2% (919)	40.2% (1,060)	7.80	7.10	22.1 (0.61)	17.3 (0.6)	23.8 (0.62)	11.2 (62.4)	13.3 (60)
duration >1 y	10,483	44.1% (6,507)	42.2% (2,115)	7.50	8.00	46.7 (0.84)	48.5 (0.82)	44.7 (0.87)	30.6 (58.5)	25.4 (57.5)
duration >5 y	10,287	48.3% (6,746)	35.3% (4,503)	7.70	8.20	56.6 (0.86)	58.3 (0.89)	52.4 (0.90)	37.7 (65)	29.8 (57.2)
age 0 - <6y	1,482	45.3% (761)	37.3% (527)	7.20	7.80	12.5 (0.7)	13.1 (0.7)	12.1 (0.72)	7.5 (51.7)	5.8 (60)
age 6 - <12y	6,791	43.5% (2,387)	41% (2,147)	7.40	7.70	32.3 (0.75)	41 (0.75)	24.6 (0.76)	30.6 (59.4)	14 (57.9)
age 12 - <18y	[illegible]	[illegible]	44.9% (5,450)	7.80	8.00	51.5 (0.86)	54.7 (0.89)	50 (0.86)	31.4 (67)	26.5 (57.8)
age 18 - <25y	2,004	38.1% (1,236)	45.1% (1,460)	7.70	8.20	54.6 (0.8)	56.5 (0.77)	52.0 (0.82)	33.4 (59.1)	25.9 (55.8)
age > 25y	886	37.0% (254)	50.9% (436)	7.50	7.60	47.6 (0.67)	50.3 (0.63)	46.2 (0.68)	33.7 (66)	27.6 (61.3)
age 0 - <18y	18,591	41.6% (8,086)	42.9% (3,174)	7.60	7.90	41.8 (0.82)	46.1 (0.82)	38.7 (0.84)	29.1 (58.8)	22 (57.8)
age >=18y	3,500	37% (1,494)	47.2% (1,907)	7.60	8.10	53.2 (0.76)	55.6 (0.75)	51.3 (0.79)	33.5 (65.5)	25.7 (57.6)

- Only HbA1c-values after 3 months of diabetes onset were taken into account
- HbA1c values are expressed as raw values

Other countries?



- Belgian health authority reimbursed RTCGM for patients on CSII & treated in selected diabetes centres
- 3 yr pilot with legal obligation for centres to collect outcome data

J Clin Endocrinol Metab, March 2018, 103(3):1224–1232

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What we need to do:

- Set the bar- Clinical standards for diabetes across the life course
- Dynamic guidelines / update on evidence base for new therapies
- Coordinated & prioritised approach for advocacy
- Collaboration
- Develop a health economic analysis framework embedded in roll out of new technologies & outcomes
- There is a need for efficient co-ordinated collection of outcome data ? Current registries / DB
- ?Mandate that support for technology is linked to outcome data
- We need to use technology well: need adequate resourcing for HCP and patient care
- Maintain standards: credential sites / individuals?

children's diabetes centre
Research, Education, Advocacy

Conclusion

- Technology is no longer niche, it is mainstream
- Technology changes quickly – ANDS may not meet the need of some of our patients, need creativity in the interpretation for implementation
- It is a great opportunity to improve the outcomes and reduce the burden for people living with diabetes