

Diabeter

56th ANNUAL MEETING

EASD VIRTUAL MEETING
AI

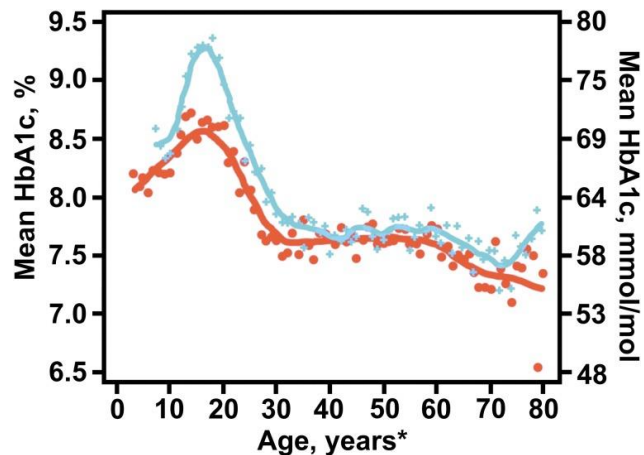
Increased time in range and sustained Auto Mode use in 670G hybrid closed-loop system users: real world experience in DIABETER

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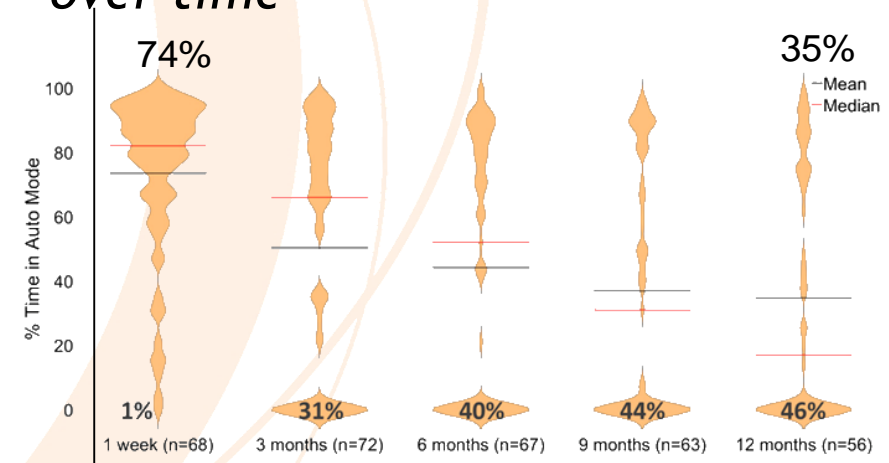
Background (1): Hybrid Closed-Loop

- Current outcomes in type 1 diabetes require improved technology to:
 - improve glucose regulation
 - reduce complexity of treatment for patients: more automated systems
- Optimal time in Auto Mode is crucial for success Medtronic 670G hybrid closed-loop (HCL) system
- It's not just technology....
 - *T1D Exchange*¹



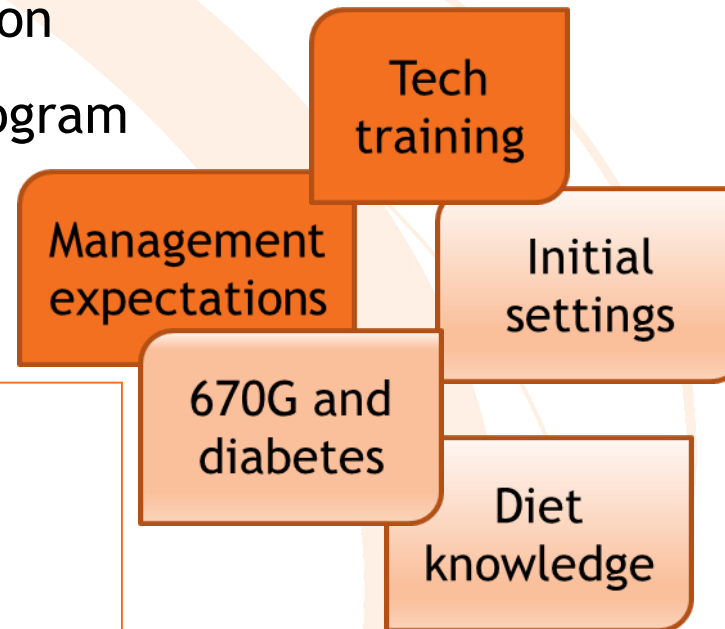
¹Foster et al, 2019; ²Lal et al, 2019

Automode % decreased substantially over time²



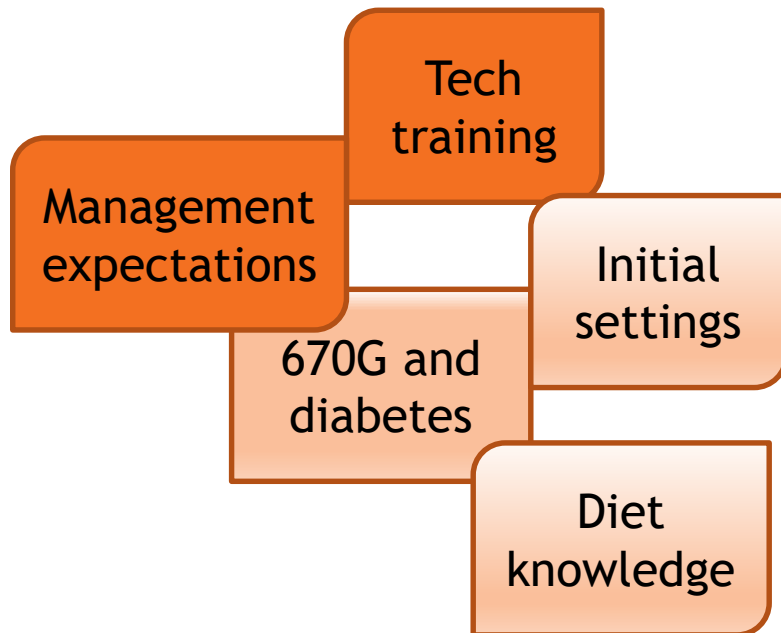
Background (2): Education & Implementation

- DIABETER, a T1D-focussed diabetes care clinic, introduced the 670G HCL system with:
 - comprehensive and structured education
 - an extended support and follow-up program



- Multidisciplinary preparation of 670G implementation:
 - experienced HCP team (multidisciplinary)
 - collaboration with manufacturer: detailed device information by manual

Background (3): Education & Implementation



- Follow-up: multidisciplinary HCP team assessing patients' uploads together:
 - learn from each other (also from patient): behaviour as key
 - bring unequivocal information to patient in consultation room
 - obligatory contacts from patient to team with high frequency

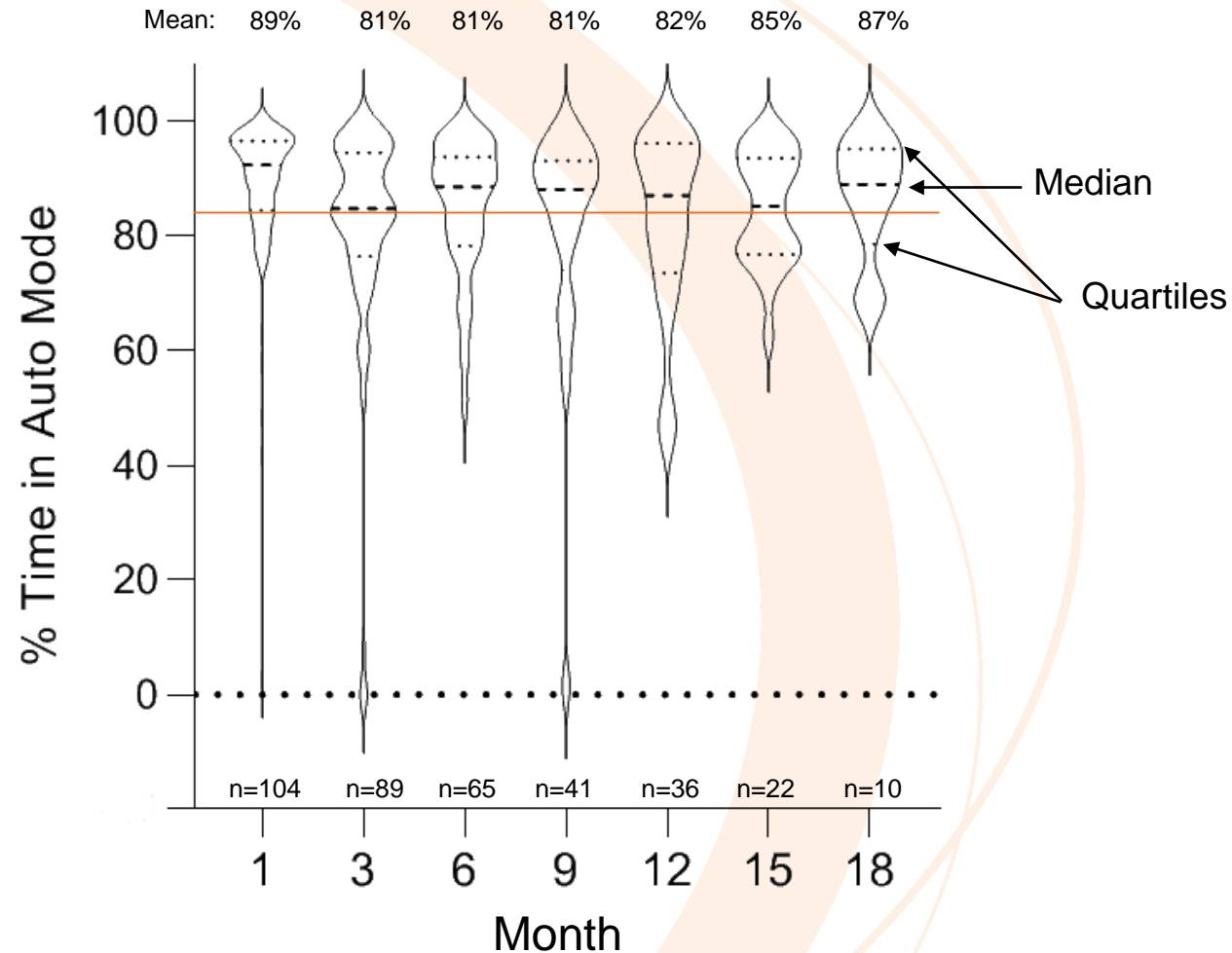
- Aims of this real-world data analysis are to assess:
 - if our structured introduction program helps patients to maintain appropriate amount of time spent in Auto Mode
 - glucometric data over a > 12-month period on the 670G system

Study design

- Included people with Type 1 Diabetes who:
 - switched to 670G HCl system, from MDI or pump with or without CGM between 1-10-2018 and 1-3-2020
 - provided consent for use of their pump and CGM data
 - had ≥ 10 days of (sensor) data available at any time point of the evaluation
- Calculated
 - % time in Auto Mode (Time in Auto Mode/Total pump time)
 - time below range (TBR: glucose < 3.9 mmol/L)
 - time in range (TIR: glucose 3.9 - 10 mmol/L)
 - time above range (TAR: glucose > 10 mmol/L)
 - Glucose management indicator (GMI): estimated A1c from sensor data

Results (1): Time in Auto Mode

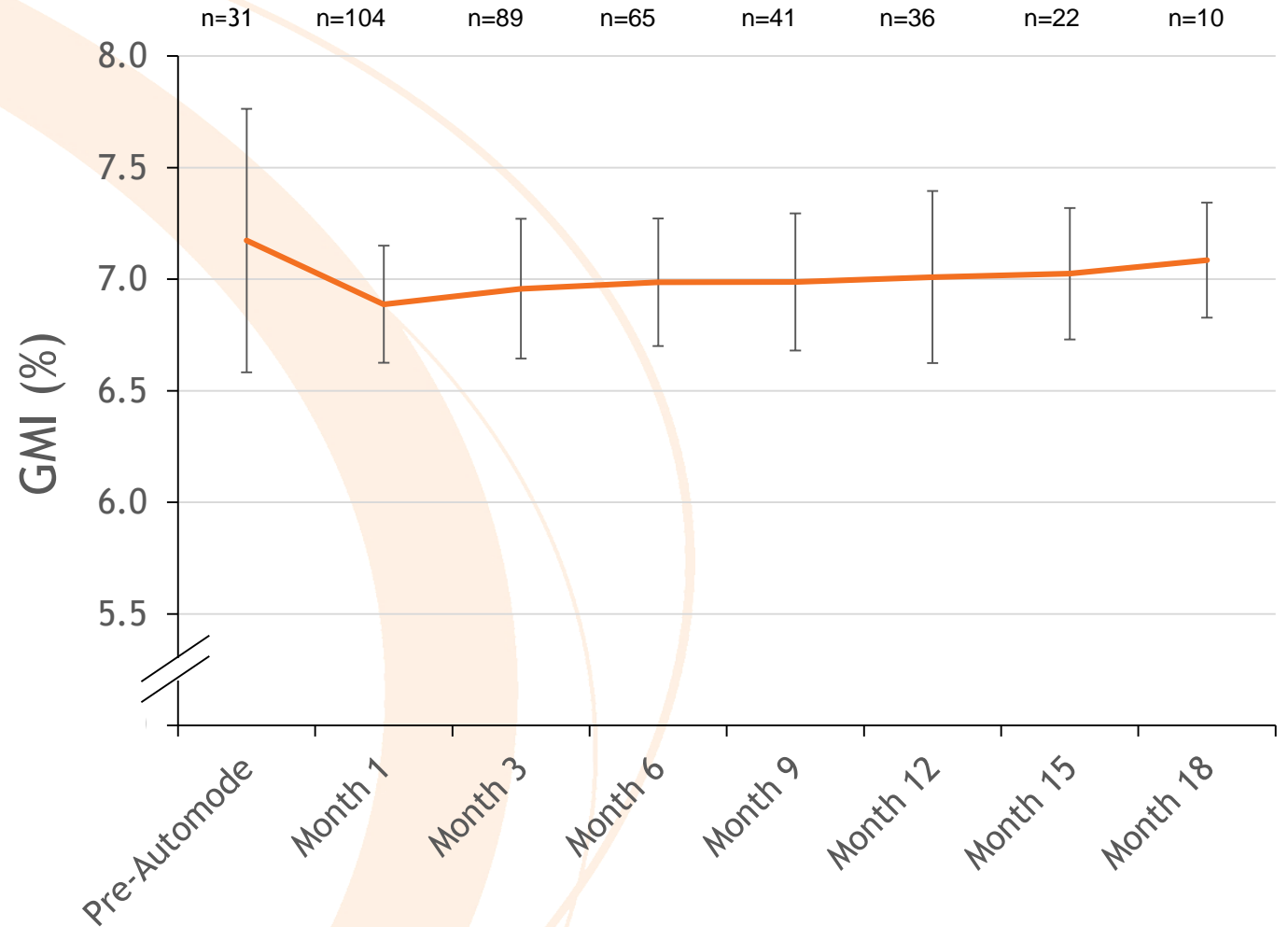
- Percentage Time in Auto Mode remained stable over time (mean 83%)



Actual update(09/20)
Diabeter (to be analysed):
overall, 213 patients with 8000 data points (=days), mean (SD) % Auto Mode: 87 (20)

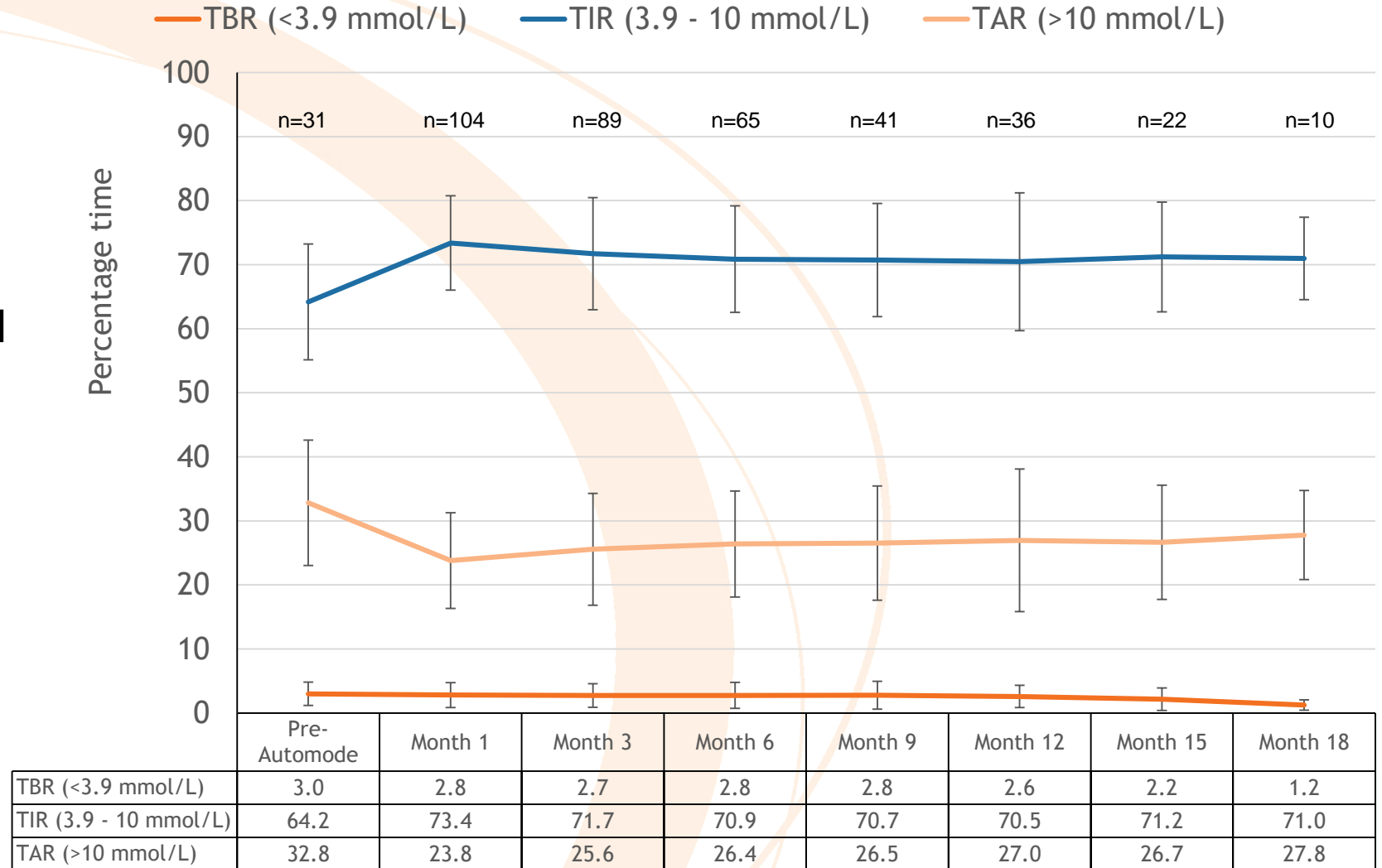
Results (2): Baseline and GMI

	At start Auto Mode
N	104
Age, years (SD)	21.2 (9.7)
Gender, n (%) male	50
Diabetes duration, years (SD)	8.3 (6.0)
HbA1c, in % (SD)	7.1 (0.7)
HbA1c, in mmol/mol (SD)	55 (8)
MDI + SMBG (%)	1
MDI + CGM/FGM (%)	0
Pump + SMBG (%)	16
Pump + CGM/FGM (%)	83



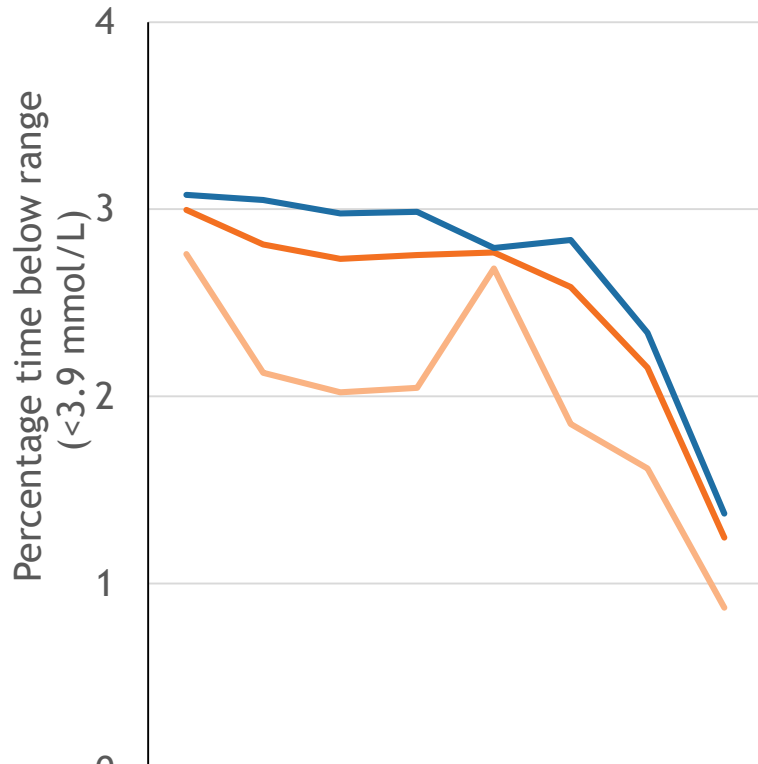
Results (3): TBR, TIR and TAR

- Compared to the pre-Auto Mode phase:
 - TIR increased and remained stable
 - TBR and TAR decreased and remained stable



Results (4): Daytime vs Nighttime

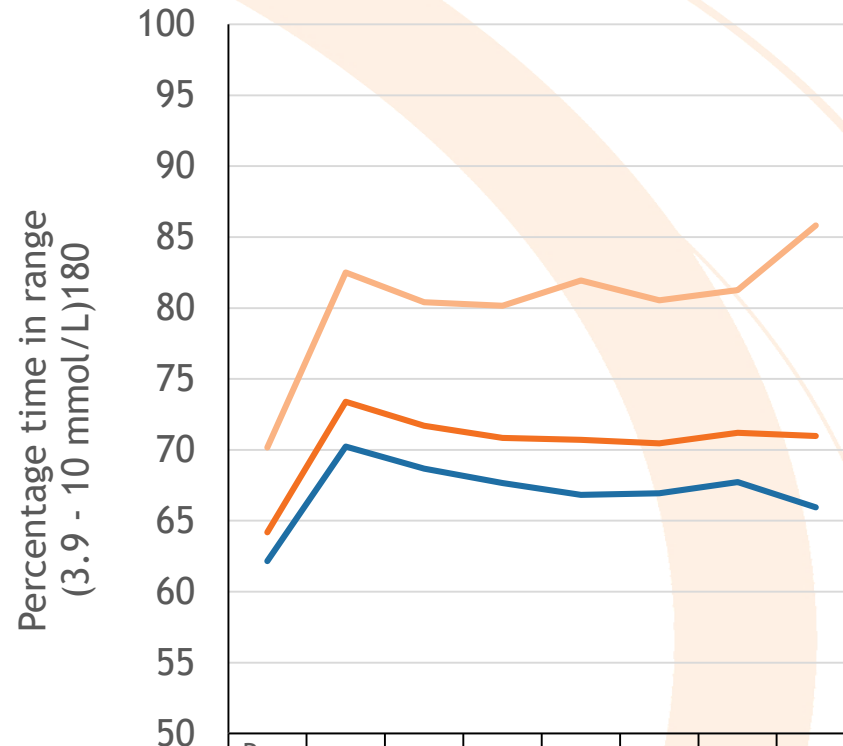
Time below range



	Pre-Auto mode	Month 1	Month 3	Month 6	Month 9	Month 12	Month 15	Month 18
Total	3.0	2.8	2.7	2.8	2.8	2.6	2.2	1.2
Daytime	3.1	3.0	3.0	3.0	2.8	2.8	2.3	1.4
Nighttime	2.8	2.1	2.0	2.0	2.7	1.9	1.6	0.9

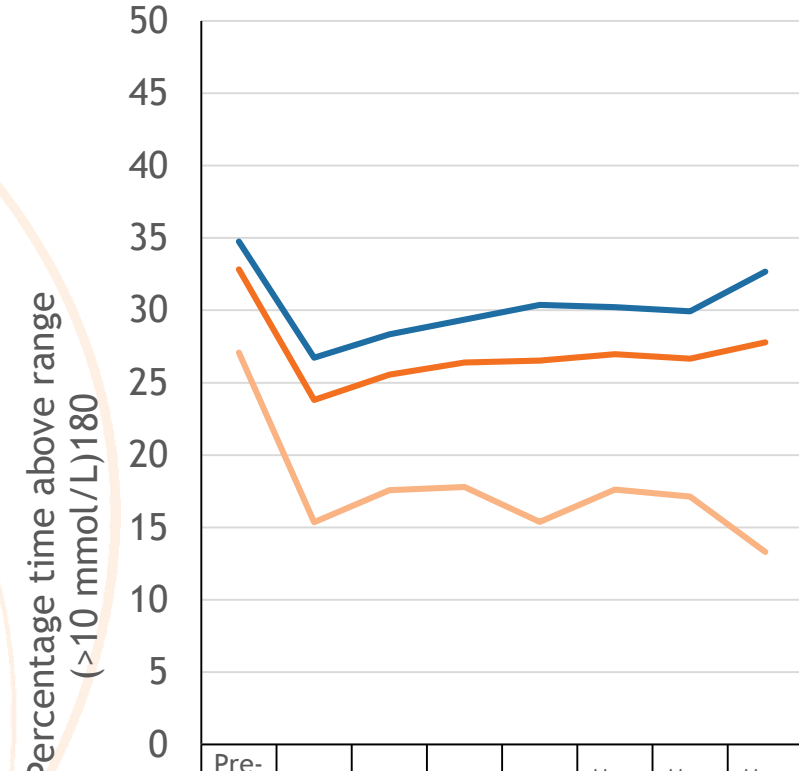
Time in range

— Total — Daytime — Nighttime



	Pre-Auto mode	Month 1	Month 3	Month 6	Month 9	Month 12	Month 15	Month 18
Total	64.2	73.4	71.7	70.9	70.7	70.5	71.2	71.0
Daytime	62.2	70.2	68.7	67.7	66.8	66.9	67.7	66.0
Nighttime	70.2	82.5	80.4	80.2	81.9	80.5	81.3	85.8

Time above range



	Pre-Auto mode	Month 1	Month 3	Month 6	Month 9	Month 12	Month 15	Month 18
Total	32.8	23.8	25.6	26.4	26.5	27.0	26.7	27.8
Daytime	34.8	26.7	28.3	29.4	30.4	30.2	29.9	32.7
Nighttime	27.1	15.4	17.6	17.8	15.4	17.6	17.1	13.3

- 670G HCL system users performed well with consistently high % time in Auto Mode that remained high in >12-month period
 - Not in previous studies: other start-up process and high intensity of follow -uo through remote care
- This results in a sustained improvement of glucose metrics vs pre-Auto Mode situation:
 - in line with ranges specified by international guidelines¹
- It's not only technology:
 - comprehensive education and extended support and follow-up program is facilitating optimal use of the 670G HCL system: patients are supported to stay in the Auto Mode, improving glycemic outcomes.

¹Battelino *et al.*, Diabetes Care. 2019 Aug; 42(8): 1593-1603.

Three thick, overlapping orange arcs that curve from the top left towards the bottom right, framing the central text.

Thank you!

- Due to data acquisition issues, only very recently data on more patients became available
- These data show that, overall, 213 patients with 8000 data points (=days) are in Auto Mode for a mean (SD) of 87% (20%)

