

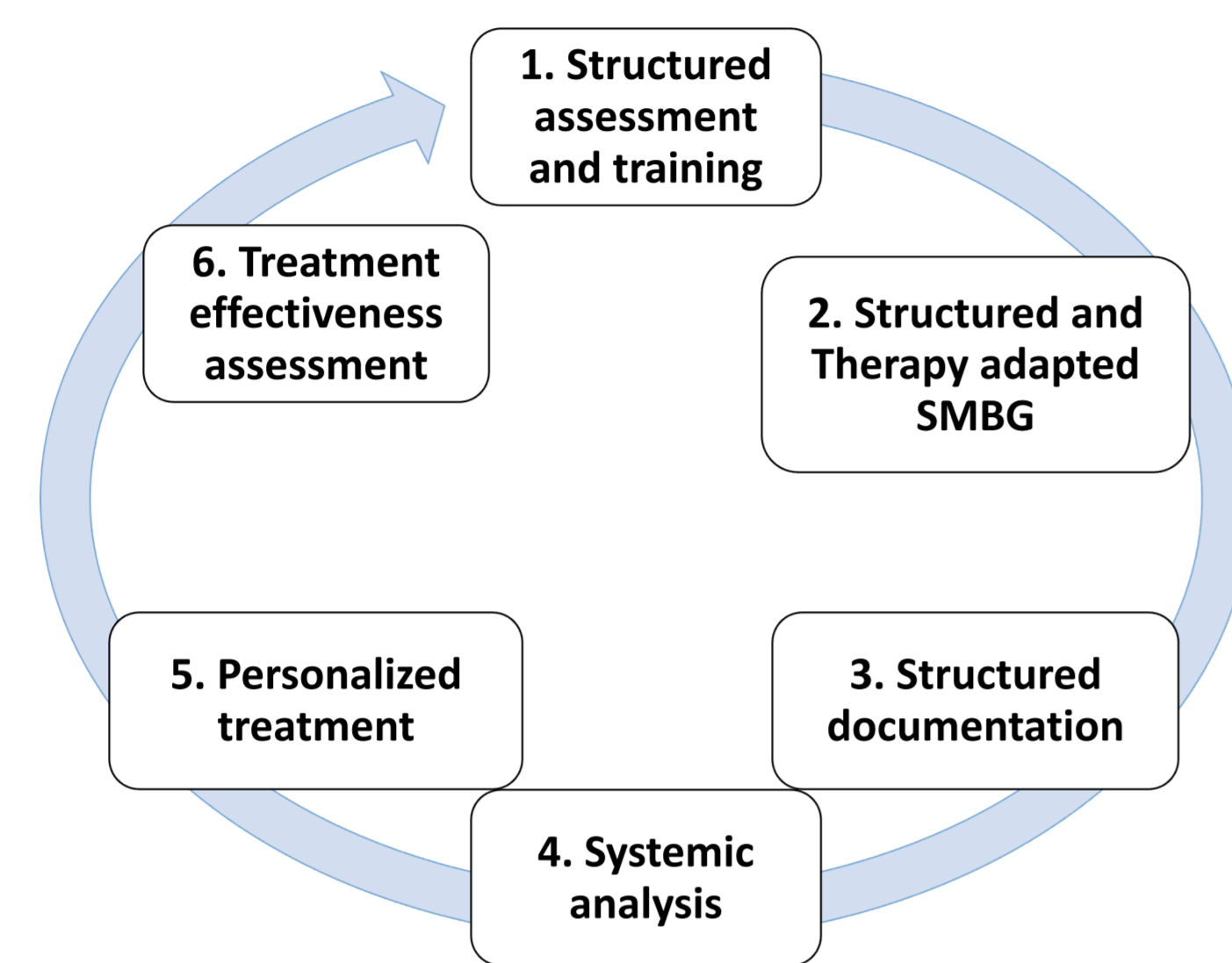
The efficacy of tele-monitoring and structured feedback loop in people with insulin-treated type 2 diabetes mellitus with suboptimal control



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Background

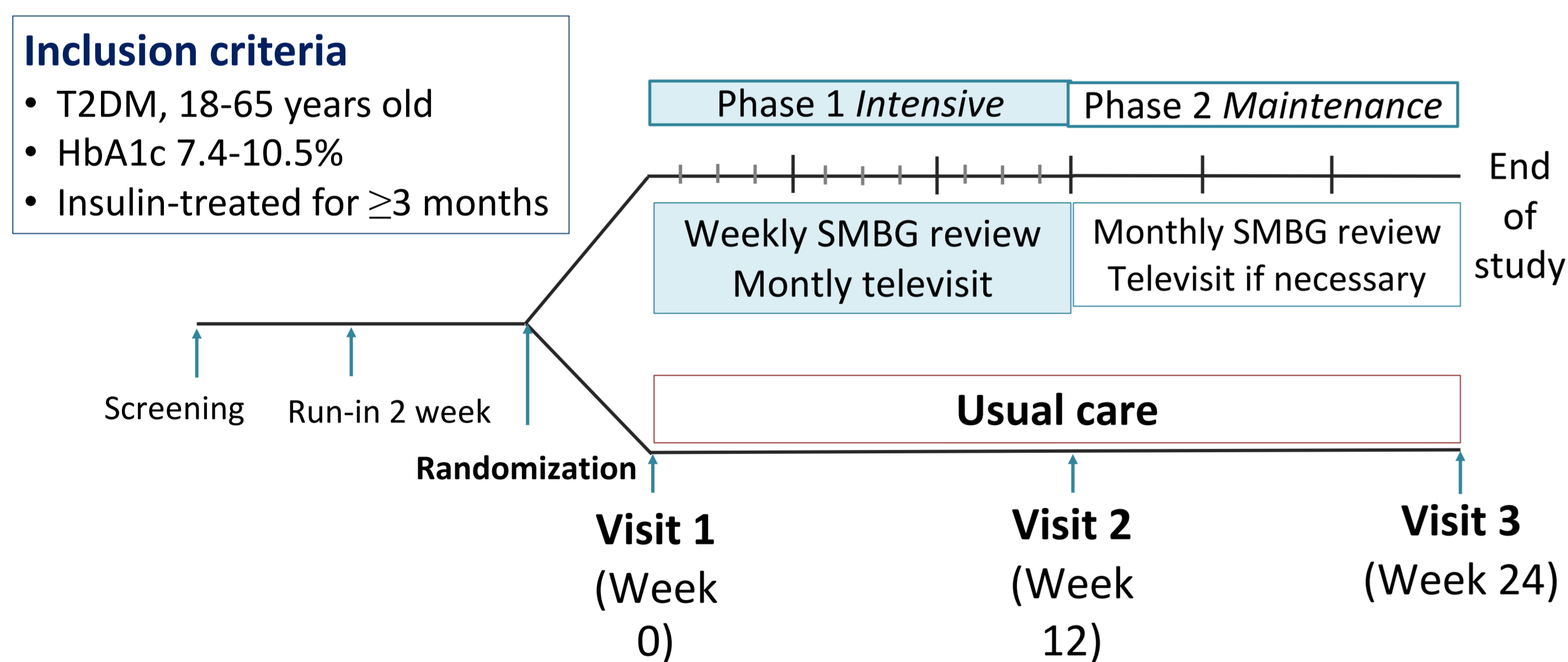
Glycemic control is challenging in real-world practice. The iPDM is one of the strategy to overcome clinical inertia. This requires frequent providers and patient communication.



Objective: To study the efficacy of a telemedicine, in conjunction with iPDM on glycemic control in people with T2D

Methods

Figure 1. Study design



Primary outcome:

- Difference in HbA1c reduction from baseline between the Tele-iPDM group and the usual care group at 6 months

Secondary outcomes:

- Difference in HbA1c reduction from baseline between the Tele-iPDM group and the usual care group at 3 months
- Percent of people with HbA1c < 7% at 24 weeks
- Hypoglycemic events

Statistical analysis

- Intention-to-treat principle
- Primary and secondary outcomes use repeated measure ANOVA to compare the parameter changes within each group and the differences between groups at 0, 12, and 24 weeks
- p-value < 0.05 was considered statistically significant

Results

Figure 2. Consort diagram

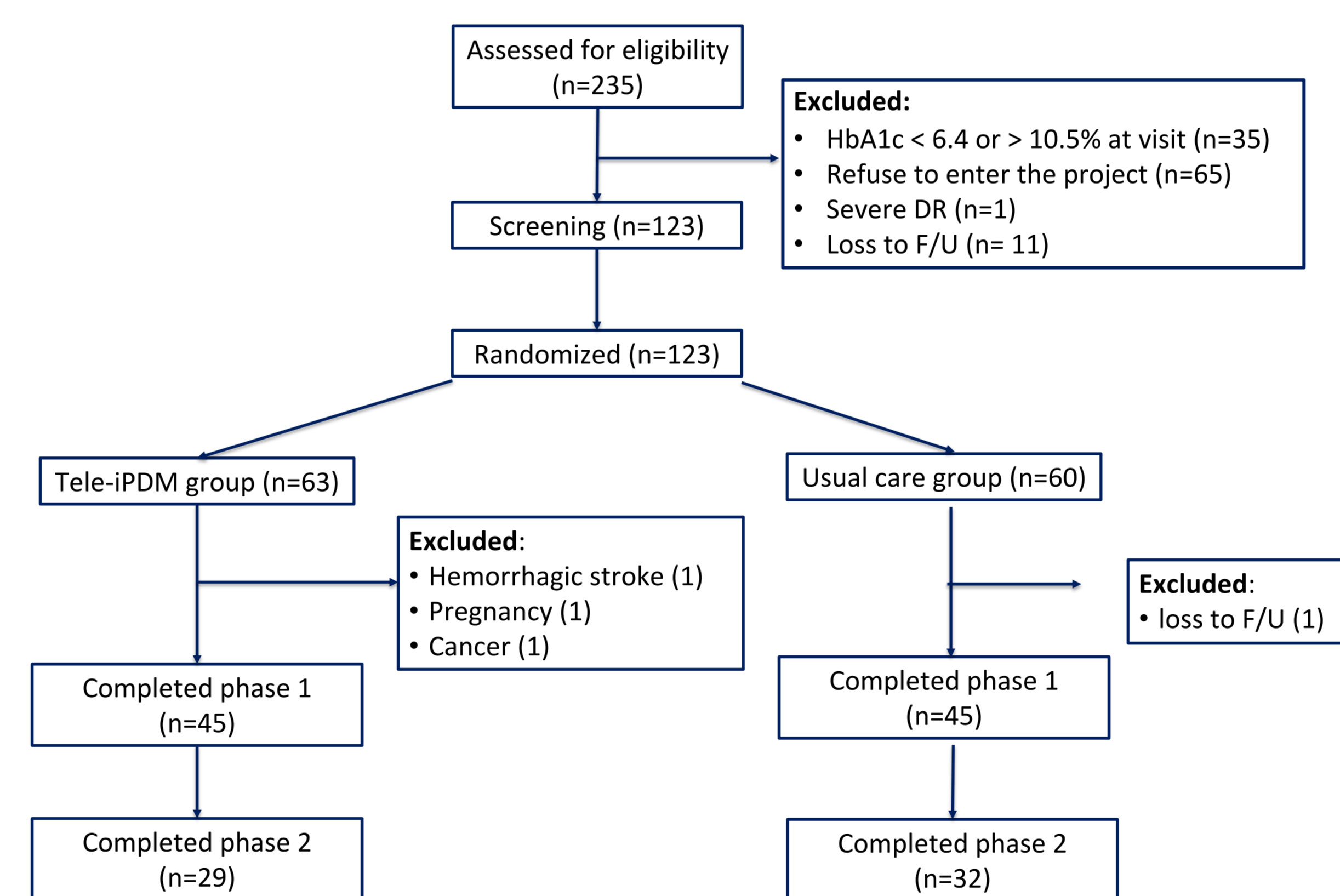
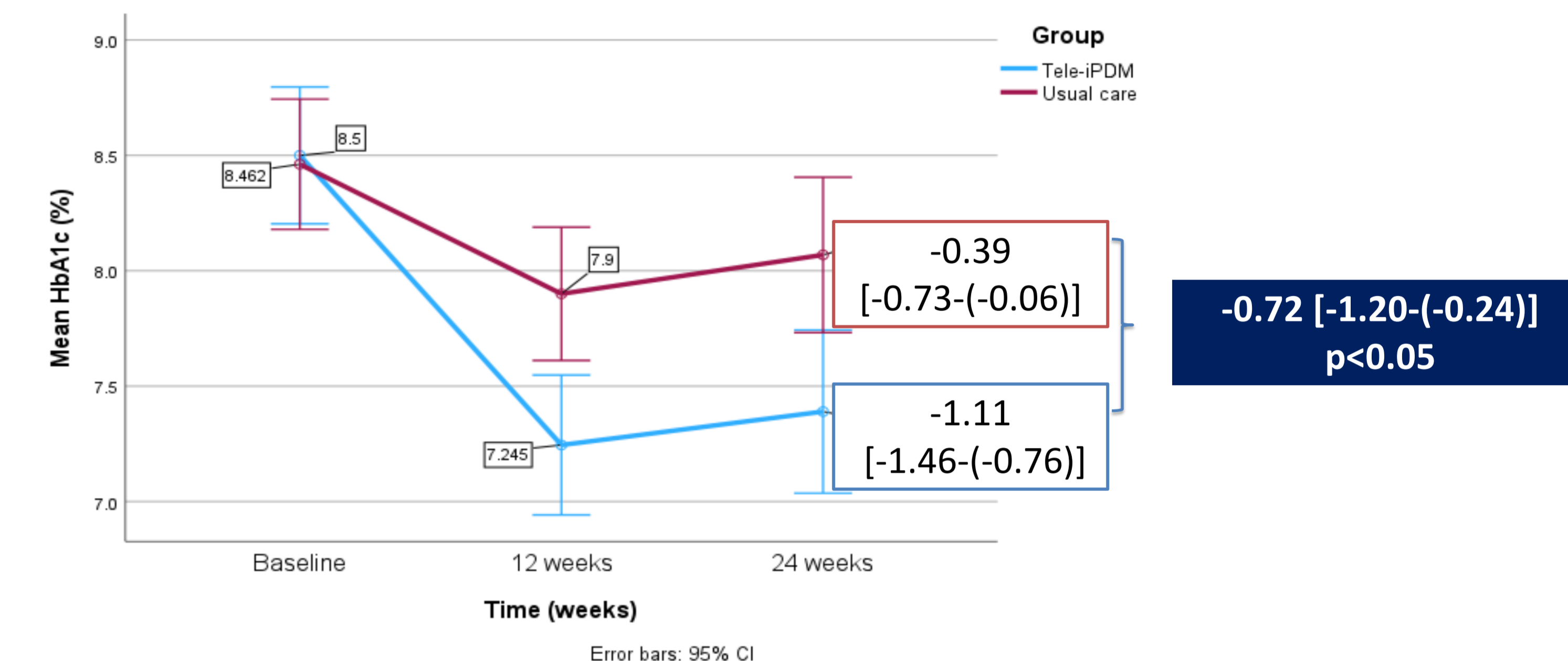


Table 1. Baseline characteristics

Baseline characteristics	Tele-iPDM (n=45)	Usual care (n=45)
Age, years [†]	53.11 ± 7.75	53.02 ± 7.83
Duration of diabetes, years [†]	12.87 ± 9.25	10.64 ± 7.04
BMI, kg/m ^{2†}	29.48 ± 6.00	28.62 ± 5.66
Fasting plasma glucose, mg/dl [†]	158.42 ± 51.85	167.82 ± 59.78
HbA1c, (%) [†]	8.48 ± 0.80	8.48 ± 0.73
Type of insulin, n (%)		
- Premixed insulin	34 (75.6)	35 (77.8)
- Basal insulin	11 (24.4)	10 (22.2)

Results

Figure 3. HbA1c (%) change from baseline



	Baseline	Week 12	Week 24
Tele-iPDM	8.50 [8.20-8.80]	7.25 [6.94-7.55]	7.39 [7.04-7.74]
Usual care	8.46 [8.18-8.74]	7.90 [7.61-8.19]	8.07 [7.73-8.41]

Table 2. Secondary outcomes

Outcome	Tele-iPDM (n=29)	Control (n=32)	P-value
HbA1c < 7%, n (%) [†]			
- 12 weeks	7 (25%)	5 (15.6%)	0.37
- 24 weeks	8 (27.6%)	5 (15.6%)	0.26
HbA1c decrease > 0.5%, n (%) [‡]			
- 12 weeks	25 (86.2%)	19 (59.4%)	0.02
- 24 weeks	20 (69%)	13 (41.9%)	0.035
Hypoglycemia event, n (%) [‡]			
- 12 weeks	14 (48.3%)	12 (37.5%)	0.70
- 24 weeks	11 (37.9%)	8 (25%)	0.42

Conclusions

- Telemonitoring can facilitate the iPDM care model in people with insulin-treated type 2 diabetes mellitus.
- It improves the efficiency of diabetes care and improves glycemic control at 12 weeks and can maintain glycemic control at 24 weeks.

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