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RESEARCH ARTICLE

Treatment

Clinical outcomes of a real-world prospective study using Dexcom ONE continuous glucose monitoring in people with diabetes treated with two or more insulin injections per day

Jackie Elliott[1,2] | **Chloe Husband**[1] | **Heydar Khadem**[3] | **Hoda Nemat**[3] | **Lucy Cardno**[2] | **Laura Currin**[2] | **Susan Hudson**[1]

[1]Diabetes and Endocrine Centre, Sheffield Teaching Hospitals, Sheffield, UK

[2]Department of Oncology and Metabolism, University of Sheffield, Sheffield, UK

[3]Department of Electronic and Electrical Engineering, University of Sheffield, Sheffield, UK

Correspondence
Jackie Elliott, Diabetes and Endocrine Centre, Sheffield Teaching Hospitals, Sheffield S5 7AU, UK.
Email: jackie.elliott6@nhs.net

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Dexcom, Inc.

Abstract

Aims: This study assessed real-world glycaemic outcomes associated with the use of Dexcom ONE in adults with suboptimally controlled diabetes.

Methods: In this single-site prospective study, adults with type 1 (T1D) or type 2 diabetes (T2D) taking two or more insulin injections per day initiated Dexcom ONE CGM use and attended follow-up data collection visits after 3 and 6 months. During the study, participants received usual diabetes care. Primary outcome was a change in HbA1c at 6 months. Additional outcomes included change in participant-reported outcomes and CGM-derived time in glucose range 3.9–10 mmol/L (TIR), time above range >10 mmol/L (TAR), and time below range <3.9 mmol/L (TBR).

Results: There were 110 adults enrolled [T1D ($n=34$): mean age 36.6 years, 55.9% female; T2D ($n=76$): mean age 54.9 years, 38.2% female]. Mean HbA1c significantly decreased from 90 mmol/mol (10.3%) to 79 mmol/mol (9.4%) at 6 months (Δ-12 mmol/mol, $p<0.001$) in T1D users and from 86 mmol/mol (10.1%) to 67 mmol/mol (8.3%) in T2D users (Δ-18 mmol/mol, $p<0.001$). Perception of health and diabetes distress improved at 6 months for both groups. T1D users had modest improvement in TBR. T2D users exhibited a clinically meaningful increase in TIR (Δ + 9.0%).

Conclusion: Real-world Dexcom ONE use was associated with clinically significant reductions in mean HbA1c after 6 months, along with meaningful improvements in participant-reported outcomes. CGM-derived outcomes also improved, with the possibility of there being greater improvement than could be captured in this study. These findings support expanding access to this real-time CGM system.

KEYWORDS

continuous glucose monitoring, deprivation, diabetes distress, glycaemic control, glycated haemoglobin

1 | INTRODUCTION

The prevalence of diabetes is increasing globally, and in the United Kingdom (UK), there are an estimated 4.9 million individuals living with diabetes, most of whom have type 2 diabetes (T2D).[1] A cost analysis by Bain et al.[2] suggested that 1 year of suboptimal glycaemic control, characterized by an HbA1c of 66 mmol/mol (8.2%), may impose excess population-level costs of 975 million British pounds sterling after 10 years. In England, the National Health Service (NHS) diabetes audit showed that only 37.9% of people with type 1 diabetes (T1D) and 64.0% with T2D and other non-T1D diabetes conditions achieved a HbA1c level ≤58 mmol/mol (7.5%) in 2022–2023.[3] The National Institute for Health and Care Excellence (NICE) recommends a target HbA1c level of 48 mmol/mol (6.5%) for those with T1D or 53 mmol/mol (7.0%) for those with T2D to minimize the risk of long-term vascular complications.[4,5]

Continuous glucose monitoring (CGM) has been shown to help improve glycaemic outcomes in users struggling to achieve recommended treatment targets.[6–8] Across several countries, access to CGM technology is growing as insurance and national healthcare systems expand coverage for a wider range of audiences with diabetes. However, cost and uncertainty of eligibility continue to constrain access to CGM technology. The Dexcom ONE (Dexcom, Inc., San Diego, USA) real-time CGM system is designed to meet the clinical needs of insulin-treated people with diabetes while streamlining the glucose monitoring process and enhancing user experience. Like the flagship Dexcom CGM systems, Dexcom ONE is a 10-day wearable sensor that produces real-time continuous glucose readings without requiring fingersticks or calibrations. Indicated for users aged 2 years and older, including pregnant women, Dexcom ONE offers a simplified suite of features including optional, customizable high and low glucose alerts. Analysis of real-world data from Dexcom G6 users has shown that engaging with these alerts is associated with improved CGM-derived metrics such as time in range (TIR) and time in hypo- and hyperglycaemia.[9,10] Unlike other Dexcom systems, Dexcom ONE is not compatible with automated insulin delivery systems.

While there is evidence of glycaemic benefit from using other Dexcom CGM systems, the glycaemic impact of Dexcom ONE use is currently not reported. The aim of this prospective study was to investigate the impact of Dexcom ONE use on HbA1c in a cohort of adults with T1D or T2D treated with at least two insulin injections per day, in addition to evaluating CGM-derived metrics and participant-reported feedback and experiences with system use.

What's new?

What is already known?

- Previous studies, including randomized clinical trials, report improved glycaemic outcomes for people with diabetes using Dexcom continuous glucose monitoring (CGM) systems.

What has this study found?

- This real-world study showed that a socio-economically diverse cohort of adults with suboptimally controlled diabetes using the feature-simplified Dexcom ONE CGM system experienced significant improvements in HbA1c and participant-reported outcomes.

What are the implications of this study?

- These findings suggest that the use of Dexcom ONE may benefit a broader population of people with diabetes than those currently identified as candidates for CGM use by NICE guidelines.

2 | METHODS

Participants for this 6-month single-site prospective study were recruited from Sheffield Teaching Hospitals Foundation Trust, UK. Eligibility criteria included a diagnosis of T1D or T2D for a duration of at least 6 months, treatment with multiple daily insulin injections (defined as at least two daily injections of mixed insulins or with basal-bolus insulin therapy with or without non-insulin glucose-lowering medications), HbA1c >69 mmol/mol (8.5%) within the previous 3 months, real-time CGM-naïve, receiving care from a hospital diabetes specialist nurse (DSN) at the time of enrollment, and for those with T1D, no impaired awareness of hypoglycaemia (Gold[11] score <4). The use of non-insulin glucose-lowering medications was discussed with the general practitioner (GP) where appropriate, however, the majority of the study period was conducted at a time when no new patients could be commenced on glucagon-like peptide-1 receptor agonists (GLP-1 RAs) due to national supply issues. Previous experience using intermittently scanned CGM systems (isCGM) was not exclusionary; however, those treated with insulin pump therapy were excluded. Written informed consent was provided by each participant. Ethical approval was granted by Yorkshire & The Humber – Sheffield Research Ethics Committee 22 June 2022, REC 22/YH/0117, IRAS 313705.

Each participant was provided with a supply of the Dexcom ONE CGM system and instructed to use the system non-adjunctively unless CGM readings did not match their symptoms or expectations. Participants were allowed to use the CGM application features as desired and received education on the interpretation of graphs, trend arrows, and alerts. Diabetes management was conducted through usual care: non-research DSNs provided three weekly telephone calls to participants for 3 months on average to support CGM data interpretation and advise on alert use and insulin titration. Separate dietetic appointments were available upon request and accessed by ~25% of the cohort. Follow-up data collection visits were conducted with each participant at 3 months and 6 months post-baseline by the research nurses, independent of participant interactions with their usual DSN.

Laboratory HbA1c values were gathered from participant medical records at baseline, 3 months, and 6 months. To gain further insight into the potential impact of CGM use in the management of T2D, retrospective HbA1c values from the preceding 5 years prior to baseline were collected for participants with T2D. CGM-derived time in the range 3.9–10 mmol/L (70–180 mg/dL; TIR), time in the tight range 3.9–7.8 mmol/L (70–140 mg/dL; TITR), time above range >10 mmol/L (180 mg/dL; TAR), and time below range <3.9 mmol/L (70 mg/dL; TBR) were collected weekly through Dexcom's retrospective data portal. The means for the CGM metrics were calculated using 2-week data windows at each time point for participants with >50% active sensor time. In addition to glycaemic outcomes, participant-reported outcomes were measured at baseline, 3 months, and 6 months. At each time point, participants attended research visits to complete questionnaires including hypoglycaemia awareness status (Gold),[11] Health and Self-Management in Diabetes (HASMID-10),[12] Problem Areas in Diabetes Questionnaire (PAID-11),[13] and EQ-5D-5L.[14]

The primary outcome of this study was a change in HbA1c after 6 months of Dexcom ONE use. Key secondary outcomes included changes in participant-reported outcomes, TIR, TAR, and TBR. Descriptive statistics were calculated to evaluate change from baseline to six-month follow-up. Change in outcomes was assessed using paired *t*-tests with a statistical significance level of 0.05. Data analysis for the primary outcome was performed for participants with laboratory HbA1c values available at baseline, 3 months, and 6 months. Missing HbA1c values were treated according to the recommendations outlined by the National Research Council Panel on Handling Missing Data in Clinical Trials[15] and demonstrated in the methods of Starling et al.[16] Each missing HbA1c value was randomly imputed 20 times with another HbA1c value that was available, and then the mean of the 20 imputed values was used as the final value. A one-sample *t*-statistic was used to confirm that the imputed HbA1c values were not significantly different from the other values. Secondary outcome analyses were performed without imputation using a one-sample *t*-test.

3 | RESULTS

Between August 2022 and February 2023, there were 110 adults enrolled in the study (34 T1D and 76 T2D). HbA1c data at 6-month follow-up was available for 89 participants (25 T1D and 64 T2D). At 6 months, 82.6% and 92.2% of the T1D and T2D participants who completed the study had >50% active CGM time, respectively. Of the 21 who failed to complete the study, 14 were lost to follow-up, five reported they preferred using isCGM, one had sensor adhesion problems, and one reported they did not like seeing the data.

At baseline, participants with T1D ($n = 34$) had mean age of 37.1 years and 55.9% were women, with a mean diabetes duration of 15.9 years (Table 1). Participants with T2D ($n = 76$) had mean age of 54.9 years and 38.2% were women, with a mean diabetes duration of 14.7 years. A total daily dose of insulin per kilogram of body weight (TDD/kg) was 0.9 units and 1.0 units for T1D and T2D participants, respectively. Most (80%) T2D participants were taking non-insulin glucose-lowering medications. At baseline compared with 6-month follow-up, the use of medications was as follows: metformin 80% vs. 71%, sodium-glucose cotransporter-2 (SGLT2) inhibitors 29% vs. 38%, GLP-1 RAs 24% vs. 34%, dipeptidyl peptidase-4 (DPP-4) inhibitors 5% vs. 3%, and sulfonylureas 3% vs. 2%. Most (85.3%) T1D participants had previous historical experience using isCGM. A smaller proportion of participants in the T2D group owned a Dexcom ONE-compatible smartphone (55.3%), compared with 76.5% of participants in the T1D group. Approximately, 41% of participants with T2D and 29% with T1D belonged to the most deprived Index of Multiple Deprivation (IMD) quintile, reflecting the socio-economic background of the broader diabetes population residing in Sheffield (46% T2D and 36% T1D).[17]

Mean HbA1c significantly decreased in both T1D and T2D groups. For both groups, mean HbA1c at baseline was ≥86 mmol/mol (10.1%). Retrospective observation of the T2D group's historical HbA1c values showed that glycaemic control for these participants had been at a similarly suboptimal level for the past 5 years prior to the baseline period (Figure 1). During the study, HbA1c reductions occurred in the first 3 months of CGM use and were sustained through the 6-month time point. Mean HbA1c in the T2D group decreased from 86 mmol/mol (10.1%) at baseline to 70 mmol/mol (8.6%) at 3 months

Characteristic	Type 1 diabetes Cohort ($N=34$)	Type 2 diabetes Cohort ($N=76$)
Age, years	37.1 ± 16.6	54.9 ± 12.3
Gender		
Male	15 (44.1)	47 (61.8)
Female	19 (55.9)	29 (38.2)
Race		
White	27 (79.4)	66 (86.8)
Asian	4 (11.8)	7 (9.2)
Black	2 (5.9)	3 (3.9)
Other	1 (2.9)	0 (0)
IMD <3 (most deprived)	10 (29.4)	31 (40.8)
Duration of diabetes, years	15.9 ± 11.6	14.7 ± 7.7
Duration of insulin treatment, years	15.4 ± 11.8	6.1 ± 6.2
Taking non-insulin antidiabetes medications	7 (20.6)	61 (80.0)
HbA1c, mmol/mol	89.6 ± 19.6	86.4 ± 13.9
TDD, IU	70.0 ± 40.7	105.6 ± 67.6
TDD/kg	0.9 ± 0.4	1.0 ± 0.6
Weight, kg	81.9 ± 21.6	101.8 ± 20.7
BMI, kg/m^2	28.0 ± 6.5	34.8 ± 7.0
Display device used in study		
Compatible personal smartphone	26 (76.5)	42 (55.3)
CGM receiver	6 (17.6)	32 (42.1)
Prior experience using isCGM	29 (85.3)	10 (13.2)

TABLE 1 Participant baseline characteristics.

Note: Data are reported as mean ± SD or as frequency (%).

Abbreviations: BMI, body mass index; CGM, continuous glucose monitoring; HbA1c, glycated haemoglobin; IMD, Index of Multiple Deprivation quintile; isCGM, intermittently scanned continuous glucose monitoring; TDD, insulin total daily dose.

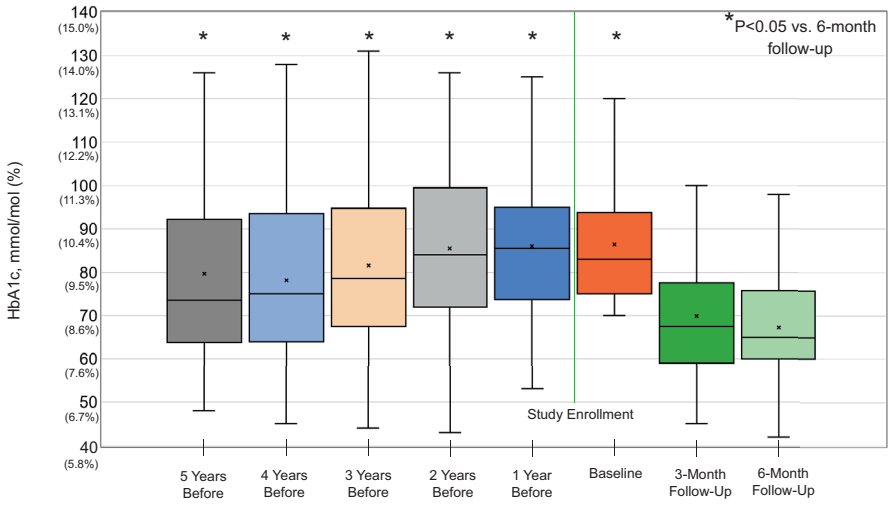

FIGURE 1 HbA1c levels before and after initiation of Dexcom ONE continuous glucose monitoring in those with T2D ($n=76$). The six leftmost boxes demonstrate persistent hyperglycaemia, with improvement evident at 3- and 6-month follow-ups. The boxes represent the interquartile range, the line within each box is the median, the 'X' marks the mean, and the whiskers represent the extreme values.

and then to 68 mmol/mol (8.4%) at 6 months (6-month Δ -18 mmol/mol, $p < 0.001$; Table 2). In the T1D group, mean HbA1c decreased from 90 mmol/mol (10.3%) at baseline to 81 mmol/mol (9.6%) at 3 months and then to 77 mmol/mol (9.2%) at 6 months (Δ -12 mmol/mol, $p < 0.001$).

Questionnaire completion rates were high, 96.0% for T1D and 97.0% for T2D, for participants who completed the study. Participant-reported perception of health and diabetes distress showed improvement at 6 months, and T2D participants experienced improvement across all time points. The mean Health Today score from the EQ-5D-5L questionnaire increased from 48.7 to 59.0 in T1D participants ($p = 0.002$) and from 53.0 to 62.8 in T2D participants ($p < 0.001$) at 6 months (Table 2; score of 100 denoting the best health imaginable). The proportion of participants with severe diabetes distress (PAID-11 score ≥ 18) decreased from 70.6% to 41.7% and from 51.3% to 31.3% at 6 months in T1D and T2D participants, respectively.

CGM-derived metrics showed a trend towards clinically relevant improvement, although statistical significance was not evaluated (Table 3). T1D users experienced minimal change in CGM metrics with the exception of TBR, which decreased from 1.9% to 0.5% at 6-month follow-up. For the T2D cohort, mean TIR increased 9.0 percentage points from the first 2 weeks initiated at the study start (32.3%) to 6-month follow-up (41.3%), corresponding to an additional 2.2 hours per day spent in the target glucose range. Mean TITR also increased in the T2D cohort from 13.6% to 18.0%.

There was no significant difference in TDD nor TDD/kg in T1D or T2D users from baseline to 6-month follow-up (not shown), however, nine T2D users changed their type of insulin. For the T2D cohort, there was a modest increase in body weight from 101.8 kg at baseline to 103.2 kg at follow-up (Table 2). There were no device-related adverse events reported in the study.

4 | DISCUSSION

This prospective study explored real-world user experience and glycaemic impact of Dexcom ONE real-time CGM use in adults with suboptimal diabetes control treated with two or more insulin injections per day. In this study, significant reductions in mean HbA1c without hypoglycaemia were observed in both T1D and T2D groups following Dexcom ONE use, with accompanying improvements in perception of personal health and diabetes distress. These results were reported for a cohort exhibiting suboptimal glucose management at baseline despite treatment with two or more daily insulin injections and a large proportion treated with other antidiabetes medications or previous use of isCGM.

CGM use is expanding to more people with T2D for glucose management. In this study, participants in the T2D group experienced a mean HbA1c decrease of 18 mmol/mol with no significant change in insulin usage. The HbA1c result observed in this study is aligned with findings from previous studies investigating glycaemic impact of other Dexcom CGM systems. A real-world prospective study by Gilbert et al. showed that participants with T2D on intensive insulin therapy experienced decreased mean HbA1c, from 69 mmol/mol (8.5%) to 54 mmol/mol (7.1%; $p < 0.001$), 3 months after G6 use.[18] Another prospective study reported that intensive insulin-treated participants with T2D experienced a one-percentage-point reduction in mean HbA1c and a significant 12-percentage-point increase in TIR after 3 months of G6 use ($p < 0.001$ for both).[19] The MOBILE randomized controlled trial reported a 1.1-percentage-point reduction ($p < 0.02$) in mean HbA1c after 8 months of G6 use in T2D participants with suboptimal glycaemic control treated with basal insulin.[6] The study also showed higher TIR among the G6 user group (59%) compared with users who monitored their blood glucose through fingersticks (43%; $p < 0.001$). More recently, the 2GO-CGM randomized controlled trial reported a significantly greater 10-percentage-point increase in TIR after 12 weeks of G6 use in a cohort of people with high-risk, insulin-treated T2D compared with the cohort using fingersticks.[20] Recent studies also report the benefits of real-time CGM use for adults with T2D not treated with multiple daily insulin injections. The Steno2tech randomized controlled trial demonstrated significant glycemic improvement in a cohort of adults with T2D where 83% of participants were using basal insulin without prandial insulin.[21] The trial showed a significantly greater 0.8-percentage-point reduction in HbA1c and a greater 12-percentage-point increase in TIR in the cohort using G6 compared with the fingersticking cohort at 6 months.

In our study, the T2D cohort experienced reduced mean HbA1c and clinically meaningful improvement in TIR (Δ + 9.0%) with CGM initiation, although mean TIR fell far short of the clinical target of >70%.[22] This suggests that to continue the momentum achieved with a real-time CGM intervention, participants may benefit from additional support for adjusting insulin doses, more specialized dietetic input,[23,24] or optimization of non-insulin glucose-lowering therapy, especially now that newer GLP-1 RAs are available. Additionally, while not an outcome investigated in this study, a review of participant medical records from the preceding 5 years revealed substantially elevated mean HbA1c levels for a prolonged period in the T2D cohort (Figure 1), despite routine care and possible changes to therapy during that time, thus illustrating clinical inertia in the real world.[25,26] It is possible that without the CGM intervention, or another significant

TABLE 2 Change in HbA1c and participant-reported outcomes.

	Type 1 diabetes cohort					Type 2 diabetes cohort				
Outcome	**Baseline**	**3 Months**	**6 Months**	**Δ Baseline to 6 Months**	**P-value**	**Baseline**	**3 Months**	**6 Months**	**Δ Baseline to 6 Months**	***p*-value**
HbA1c										
N	34	30	25	NA	NA	76	70	64	NA	NA
HbA1c, mmol/mol	89.6 ± 19.6	81.4 ± 20.2	77.3 ± 18.1	−12.4 ± 13.1	<0.001	86.4 ± 13.9	70.3 ± 14.4	68.2 ± 14.3	−18.2 ± 18.8	<0.001
Participant-reported outcomes										
N	34	25	24	NA	NA	76	66	64	NA	NA
Total PAID-11 score	21.6 ± 10.9	20.5 ± 10.6	17.9 ± 9.9	−4.7 ± 8.8	0.015	19.4 ± 10.6	16.2 ± 10.9	14.5 ± 9.9	−4.8 ± 9.3	<0.001
PAID-11 score ≥ 18, *n* (%)	24 (70.6%)	14 (56.0%)	10 (41.7%)	NA	NA	39 (51.3%)	25 (37.9%)	20 (31.3%)	NA	NA
EQ-5D-5L 'Our Health Today' (E6) score	48.7 ± 19.6	49.3 ± 21.3	59.0 ± 16.5	11.3 ± 16.1	0.002	53.0 ± 21.5	59.2 ± 22.7	62.8 ± 20.7	10.5 ± 19.4	<0.001
Weight, kg	81.9 ± 21.6	80.9 ± 25.5	80.0 ± 19.7	−1.3 ± 3.8	0.125	101.8 ± 20.7	103.3 ± 21.1	103.2 ± 21.9	1.9 ± 5.0	0.004

Note: Data are reported as mean ± SD unless otherwise indicated.

Abbreviations: NA, not applicable; HbA1c, glycated haemoglobin; PAID-11, Problem Areas in Diabetes Questionnaire.

TABLE 3 CGM-derived metrics at weeks 1–2, 3- and 6-month follow-up.

	Type 1 diabetes cohort			Type 2 diabetes cohort		
	Weeks 1–2	**3 Months**	**6 Months**	**Weeks 1–2**	**3 Months**	**6 Months**
N > 50% active time/total eligible	26/34	21/24	19/23	70/76	61/66	59/64
Mean glucose, mmol/L	13.3 ± 3.0	14.4 ± 3.0	13.4 ± 2.8	12.5 ± 2.3	11.9 ± 2.6	11.4 ± 2.2
CV, %	34.4 ± 9.0	31.1 ± 7.4	32.7 ± 5.3	27.4 ± 6.3	27.5 ± 5.2	27.4 ± 4.0
TIR 3.9–10 mmol/L, %	30.8 ± 16.5	23.1 ± 15.5	30.6 ± 18.9	32.3 ± 18.0	38.8 ± 22.8	41.3 ± 21.9
TITR 3.9–7.8 mmol/L, %	16.8 ± 10.7	12.1 ± 9.1	15.9 ± 12.1	13.6 ± 11.1	17.0 ± 14.2	18.0 ± 15.2
TAR>10 mmol/L, %	67.4 ± 17.2	76.1 ± 16.0	68.8 ± 19.4	67.5 ± 18.1	61.0 ± 23.0	58.5 ± 22.2
TBR <3.9 mmol/L, %	1.9 ± 2.5	0.8 ± 1.0	0.5 ± 0.6	0.2 ± 0.3	0.2 ± 0.4	0.2 ± 0.8

Note: Data are reported as mean ± SD. Mean was calculated using 2-week data windows at each time point.

Abbreviations: CGM, continuous glucose monitoring; CV, glucose coefficient of variation; TIR, time in range; TITR, time in tight range; TAR, time above range; TBR, time below range.

treatment intervention, clinical inertia might have continued unabated for these participants, potentially increasing the risk of long-term microvascular complications.

A notable finding of this study is that participant-reported measures improved after 6 months of Dexcom ONE use. In particular, the proportion of participants with severe diabetes distress decreased in both T1D and T2D groups. Anecdotally, participants reported a greater understanding of the effects of both food and insulin on glucose levels and felt safer, with the reassurance of CGM alerts, to have lower glucose levels overnight. This evidence suggests that adding CGM use to participants' diabetes management regimens did not worsen their level of diabetes distress, and indeed lessened it. In addition, participants achieved these improvements in glycaemic and qualitative outcomes while experiencing only a modest gain in body weight.

Strengths of the study include a socioeconomically diverse population, with a substantial proportion belonging to the most deprived IMD quintile. This shows the potential wide-reaching usability and benefit of this technology for underserved populations, especially since UK census data indicate that people living in the most deprived regions die nearly 10 years earlier and have about 20 fewer healthy life expectancy years than those living in the least deprived regions.[27] Additionally, 42% of T2D participants used a receiver device to view their glucose data since their smartphone models were incompatible with the Dexcom ONE application at the time of the study. Despite this, and even though both cohorts had a relatively long duration of diabetes (on average 15 years), participants benefited by initiating real-time CGM. Also, participants experienced clinical and qualitative improvements while relying on usual care for their diabetes management, with only three data collection research visits throughout the study period. This suggests that other populations, including those living in socioeconomically deprived areas, may benefit from Dexcom ONE use without dramatic interruption to their usual care regimen. Benefits may also be sustainable; findings from a longitudinal clinical trial suggest that glycaemic benefit from CGM use persists over time.[28]

Limitations of the study include the lack of a blinded CGM run-in period. It is well documented that users can experience improvements in CGM metrics very soon after CGM initiation,[29] as was noted in this study. Since this was a real-world single-arm prospective study, blinded sensors were not used to measure baseline CGM metrics. Despite this, mean TIR in the T2D cohort increased by 9.0 percentage points from the first 2 weeks of sensor wear to 6-month follow-up. It is possible that CGM metrics may have improved more than what is reported here. Additionally, the elevated mean BMI and baseline HbA1c of the cohort, and the exclusion of people with impaired awareness of hypoglycaemia, may not render results generalizable to other populations. Also, behaviour change resulting from observation bias may have contributed to the outcomes. And while the current study reports the proportion of participants taking non-insulin medications at baseline and follow-up, medication adherence and dosage optimization cannot be determined. However, the 2GO-CGM trial reported improved TIR with G6 use in people with T2D who had their non-insulin medications optimized at baseline and during the run-in period, along with insulin titration conducted during the study period.[20] Another consideration is that the current study did not measure participants' level of engagement with their CGM systems which may affect TIR outcomes. Real-world retrospective analyses of G6 users have shown that feature use frequency was associated with the magnitude of TIR improvement.[9,10] However, participants still experienced clinically meaningful improvements in HbA1c along with TIR, which additional studies have shown to be associated with significant benefits in HbA1c.[30,31]

Diabetes care recovery efforts in the UK continue post-pandemic. Diabetes UK surveyed 11,304 people in England with diabetes or diabetes caregivers and found that 48% experienced difficulties managing diabetes in 2022, including lack of healthcare access.[32] The same survey found that 46% of respondents did not use CGM but were interested in using it.[32] National audit data show that a smaller proportion of people in more deprived IMD quintile groups were prescribed CGM in 2021–2022 compared with less deprived quintile groups.[33] The use of real-time CGM may help address these issues by providing individuals with diabetes an evidence-based tool to help improve their glycaemic outcomes while providing healthcare providers a tool to remotely monitor patients and better inform treatment decisions. Dexcom ONE was designed as a simplified system to increase CGM access for a broader audience and can be prescribed by primary care practitioners, although patient eligibility depends on NICE guidance and the discretion of local healthcare systems. However, the results of this study, especially considering the socio-economic deprivation and lack of technology access observed in both cohorts, illustrate how people from underserved populations can benefit from real-time CGM.

Real-world findings from this study suggest that using Dexcom ONE real-time CGM with a simplified feature set may help individuals with suboptimal glucose control on at least two insulin injections per day improve their glycaemic outcomes. Use of this system was associated with significant reductions in mean HbA1c at 6 months in addition to improved participant-reported outcomes. This may indicate a potential opportunity for a broader audience of people with diabetes to experience CGM benefits beyond the recommended populations currently identified by NICE guidance.

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CONFLICT OF INTEREST STATEMENT

JE has received fees for educational and advisory board events from Abbott, Boerhinger, Dexcom, Glooko, Insulet, Eli Lilly, Novo Nordisk, Roche, Sanofi, and Ypsomed. The other authors declare no potential conflicts of interest regarding this research study or the authorship and/or publication of this article.

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