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'I was ready for it at the beginning': Parent experiences with early introduction of continuous glucose monitoring following their child's Type 1 diabetes diagnosis

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Abstract

Aim: This study aimed to capture the experience of parents of youth with recent onset Type 1 diabetes who initiated use of continuous glucose monitoring (CGM) technology soon after diagnosis, which is a new practice.

Methods: Focus groups and individual interviews were conducted with parents of youth with Type 1 diabetes who had early initiation of CGM as part of a new clinical protocol. Interviewers used a semi-structured interview guide to elicit feedback and experiences with starting CGM within 30 days of diagnosis, and the benefits and barriers they experienced when adjusting to this technology. Groups and interviews were audio recorded, transcribed and analysed using content analysis.

Results: Participants were 16 parents (age 44.13 ± 8.43 years; 75% female; 56.25% non-Hispanic White) of youth (age 12.38 ± 4.15 years; 50% female; 50% non-Hispanic White; diabetes duration 10.35 ± 3.89 months) who initiated CGM 11.31 ± 7.33 days after diabetes diagnosis. Overall, parents reported high levels of satisfaction with starting CGM within a month of diagnosis and described a high level of reliance on the technology to help manage their child's diabetes. All participants recommended early CGM initiation for future families and were committed to continue using the technology for the foreseeable future, provided that insurance covered it.

Conclusion: Parents experienced CGM initiation shortly after their child's Type 1 diabetes diagnosis as a highly beneficial and essential part of adjusting to living with diabetes.

Keywords

children and adolescents; devices; health care delivery; psychological aspects

1 | INTRODUCTION

Continuous glucose monitoring (CGM) systems compared with self-monitoring of blood glucose have resulted in greater improvements in glycaemic outcomes and quality of life in youth with Type 1 diabetes using continuous subcutaneous insulin infusion or multiple daily injection therapy.^{1,2} One caveat is that the benefits of CGM correlate with the frequency of and access to ongoing device use.^{3,4} Early introduction to CGM in conjunction with health care provider/care team education and insulin-dosing adjustments can allow for tighter glucose level ranges during the clinical remission phase.⁵ It has also been shown that CGM initiation in the new onset period is in fact feasible and well accepted by youth and their families.⁶ As such, the American Diabetes Association ‘Standards of Medical Care in Diabetes’ recommend that CGM should be considered in all children and adolescents with Type 1 diabetes.⁷

Based on the Type 1 Diabetes Exchange and Diabetes Prospective Follow-up (Diabetes-Patienten-Verlaufsdokumentation) registries, CGM use in individuals <18 years of age has increased from <5% in 2011 to ~31% and 44% in 2017, respectively.⁸ In a study conducted on parents’ perspectives of using remote monitoring and CGM in children with Type 1 diabetes for >1 year, parents reported improved sleep quality, increased peace of mind, impact on anxiety and greater freedom and confidence.⁹

Preliminary quantitative data have demonstrated sustained usage and benefits of early CGM initiation for glycaemic outcomes.⁶ However, little is known qualitatively about how parents and their children experience the process of CGM initiation during this new onset period. A new diagnosis of Type 1 diabetes is a major life adjustment, and families already receive a large amount of necessary education on diabetes management.^{10–12} Diabetes distress is common for parents during this new onset period,¹³ so it is not known how CGM introduction during this period affects parents who are also adjusting to and learning daily management of Type 1 diabetes. Therefore, the purpose of this qualitative study was to explore experiences of device initiation among families who received their CGM within approximately 1 month of Type 1 diabetes diagnosis to inform and improve upon future clinical practice.

2 | RESEARCH DESIGN AND METHODS

This study was part of a pragmatic research study, for which the full approach has been previously reported.⁵ The larger study established a new clinical protocol to initiate CGM within 30 days of Type 1 diabetes diagnosis. Families received 30 days of CGM supplies at no cost through the research study; insurance approval was applied for during this time. All families received Dexcom G6 CGM (Dexcom Inc.), which was selected for the study for several reasons: factory calibration, integration with Apple Health and Food and Drug Administration approval for a paediatric age group. Figure 1 presents an overview of the flow of care delivery following diagnosis. CGM was initiated at Visit 2 following diagnosis, which was an outpatient visit.

2.1 | Sample and recruitment

Eligible participants were those who were part of the larger study: parents of youth who had started CGM within 1 month of their Type 1 diabetes diagnosis and had a minimum diabetes duration of 6 months. We approached a convenience sample of participants from the larger study to share their experiences with CGM initiation after diagnosis. This study was approved by the Stanford University Institutional Review Board. Participants were compensated with a \$50 gift card.

2.2 | Data collection

Focus groups and interviews were held between February and May 2020 over a HIPAA-compliant videoconference platform (Zoom), which enabled continuing recruitment and participation during the SARS-CoV-2 pandemic. Efforts were made to recruit at least two to three parents per group; individual interviews were conducted if last-minute cancellations led to only one parent in attendance. Focus groups and interviews explored parents' experiences and perceptions about (1) initiating CGM shortly following their child's Type 1 diabetes diagnosis; (2) the perceived benefits and burdens of using CGM; and (3) their intentions to continue using CGM in the future. Groups and interviews were conducted by two researchers (M.L.T. and D.P.Z.) using a semi-structured interview guide to ensure consistency across groups and interviewers. The interview guide was developed with input from the clinical and research team who implemented the protocol for the larger trial. Primary questions from the interview guide are presented in Table 1. Groups and interviews were recorded and transcribed. A total of five groups (with between two and four participants) and three individual interviews were conducted. Interviews and groups lasted between 39 and 94 min. Transcriptions were checked for quality and de-identified prior to use for qualitative data analysis.

2.3 | Data analysis

Data from transcripts were analysed using the Framework Method,^{14,15} combined with thematic analysis.¹⁶ During an initial open coding phase, all three coders independently read and coded one transcript to develop a working analytical framework. The initial framework was then applied to subsequent transcripts. Coders developed and refined the framework through an iterative process that was both top-down (informed by initial focus group questions) and bottom-up (adding new codes as needed, arising from the data). The analytical framework was revised until no new codes emerged. Throughout this process, coders met weekly to discuss codes and iteratively revise the analytical framework. Transcripts coded in the initial phase were then re-coded to apply the final framework. Three coders (A.A., M.L.T. and D.P.Z.) trained in qualitative data analysis participated in coding and analysis. The coding team was multidisciplinary (a paediatric endocrinologist, a clinical health psychologist with diabetes expertise and an exercise physiologist and diabetes researcher who lives with Type 1 diabetes and uses CGM), enabling investigator triangulation and supporting credibility of the data.¹⁷ Each transcript was coded by two coders. Initial per cent agreement between the two coders was 79.7%. Through group discussion and a third coder reviewing and resolving discrepancies, agreement was reached on all codes. Finalized coding was entered into NVivo 12 qualitative data analysis

software.¹⁸ Once all transcripts were coded, data were charted into matrices containing codes and illustrative quotes.^{14,19} One matrix was created for each transcript, and then these were synthesized to create a matrix representing all transcripts. To additionally support credibility, the overall framework and results were presented to the larger clinical team (endocrinologists, nurse practitioners and diabetes educators) involved in implementing the CGM initiation protocol for feedback. To support dependability and confirmability, the coding team maintained an audit trail throughout coding to track decision making.²⁰ The Standards for Reporting Qualitative Research was used to ensure rigour.²¹

3 | RESULTS

3.1 | Participants

Our sample consisted of 16 parents (parent age 44.13 ± 8.43 years old, 75% female, 56.25% non-Hispanic White; child age 12.38 ± 4.15 years old, 50% female, 50% non-Hispanic White; diabetes duration 10.35 ± 3.89 months at time of participation). Table 2 presents participant characteristics.

3.2 | Themes

3.2.1 | Feedback on timing of CGM start in relation to diagnosis—Participants reported appreciating starting CGM within the first month after their child's diagnosis (Table 3). Parents expressed differing preferences in exactly how soon within the first month after diagnosis ranging from a few days to a few weeks post-diagnosis. Most parents shared that they felt it was important to become comfortable with finger sticks to check blood glucose levels prior to starting CGM, and some felt this could be done in several days whereas others felt 1–2 weeks would be sufficient. Further, whereas some parents expressed wanting some initial time to adjust to the diagnosis before initiating CGM, others felt that CGM helped with this adjustment process.

3.2.2 | Benefits of CGM experienced soon after Type 1 diabetes diagnosis—Most participants described multiple benefits to starting CGM including decreased stress; ability to use the data to improve diabetes management; fewer finger sticks for their child; better sleep for parents (because it reduced/eliminated the need to wake up in the middle of the night to do a finger stick); and the ability to access the data remotely when not with their child (which had positive implications for the child's independence, for being at school or with other caregivers, for two-household families and for working parents; Table 4). The majority of parents reported that CGM initiation decreased stress, worry and anxiety in the early phase of adjusting to their child's diagnosis and beyond. Parents pointed to data availability providing 'peace of mind', particularly overnight, because they knew they would be alerted if needed to help prevent hypoglycaemia. In addition, because CGM technology allows parents to remotely monitor their child's glucose levels from their own smartphone, this feature helped reduced parents' stress and worry when they were not with their child. Parents of teenagers in particular shared the benefit of not having to nag or disturb their adolescent to learn their glucose level.

Access to CGM data also provided participants with an enhanced understanding of their child's Type 1 diabetes and an improved ability to manage diabetes. Participants described using CGM data to learn about aspects of diabetes management including timing insulin doses; effects of different foods on glycaemia; and how quickly glucose values can change. Parents appreciated being able to start CGM within a month of diagnosis because it dramatically limited the number of finger sticks their child needed to do. Participants described finger sticks as painful for their children, inconvenient and as providing significantly less glucose data. Due to all of these benefits, several parents noted feeling grateful that their child was diagnosed at a time with this level of advanced technology available to them.

3.2.3 | Burdens and hassles of CGM and associated stress—Most parents described burdens and hassles of CGM use, including accuracy issues, bleeding with insertion of CGM and other technical challenges and shortcomings of the device (e.g., signal loss, compression lows and adhesives not lasting). These challenges are consistent with those previously reported.^{22,23} Parents for the most part shared that the benefits they gained from the technology outweighed these hassles. Some participants noted that when they did not have access to data (e.g., due to signal loss or during the sensor warm-up period), they experienced a high level of stress and worry (Table 5).

3.2.4 | Plans to continue using CGM in the future (if covered by insurance)—All parents confidently expressed that they intended for their child to continue to use CGM going forward. Parents described the technology as 'life-changing', 'a basic necessity', 'game-changer' and a 'no-brainer' to continue using in the future (Table 6). Several shared their disbelief that anyone could manage Type 1 diabetes without CGM technology. Parents also thought ahead to future benefits of CGM for their children including being able to use the device in college and also the ability to use CGM as part of a closed-loop system. The only potential barrier to sustained use of CGM reported by some parents is if their insurance plan changes and does not cover CGM in the future.

4 | DISCUSSION

This study presents qualitative data on the experience of parents of youth who initiated CGM soon after their Type 1 diabetes diagnosis, a new practice that has been shown quantitatively to improve glycated haemoglobin (HbA_{1c}) and lead to sustained CGM use.⁶ Our findings demonstrate that parents not only accepted CGM soon after their child's diagnosis but also viewed this technology as essential to adjusting to the diagnosis and overall diabetes management. Although parental preference on the exact timing of CGM initiation varied from a few days to a few weeks, all participants in the current study shared the view that they would not have wanted to wait longer to include CGM in the diabetes management regimen. Thus, despite the additional clinic visits and an increased time burden of CGM education²⁴ in the first weeks after diabetes diagnosis to introduce CGM, all participants in the current study expressed the introduction of CGM during this time period was valuable and essential.

Parents in the current study cited a multitude of benefits they and their children experienced from CGM initiation post-diagnosis. Beyond the more obvious benefit of decreasing the need for finger sticks multiple times a day, parents described how the prompt introduction of CGM helped enhance their understanding of Type 1 diabetes in a way that improved overall diabetes management. Having access to up to 288 glucose data points a day led to parents learning more quickly about the effects of different foods and about the timing of insulin dosing. At the same time, parents described CGM as reducing their stress while adjusting to their child's diagnosis and being able to sleep better at night knowing they had access to the data and would receive alerts to be able to prevent and respond to potential hypoglycaemia. Finally, many parents shared ways in which CGM enabled them to be apart from their child when at work and school while remaining actively engaged with their child's diabetes care.

At the same time, parents shared an acceptance and awareness of the fact that CGM technology is not perfect. They shared a variety of experiences with shortcomings of the technology, some of which were hurdles they were able to troubleshoot and learn from (e.g., compression lows), whereas others remained longer term frustrations and disappointments with the technology (e.g., signal loss, warm-up period without data, Bluetooth connection issues and accuracy) that they wished could be improved upon.

Still, parents expressed that the benefits of CGM use outweighed the shortcomings. When asked if they planned for their child or adolescent to continue using CGM in the future, all participants firmly stated that they would. The only caveat mentioned by some parents was insurance coverage determining their ability to continue using CGM. This finding is consistent with prior research demonstrating that insurance coverage, or lack thereof, determines whether individuals and families are able to sustain CGM use.^{4,25–27} In the United States, individuals from lower socio-economic groups use CGM at significantly lower rates than those from higher socio-economic groups; this relationship between socio-economic status and CGM use is not seen in Germany where insurance and health care delivery differ from the United States.²⁸ Many in the current study described the technology as a 'necessity' for their child's diabetes care that they would not want to give up. Some also expressed an additional rationale for continuing to use the device that CGM is an essential piece of closed-loop systems to further improve and optimize their child's diabetes management in the future.

There are several limitations to the current study. First, this study focused on the experiences of parents of youth with Type 1 diabetes instead of the youth themselves. Future research should explore the experiences of beginning to wear and use CGM shortly after diagnosis for this paediatric population and explore their perceptions of benefits and burdens of the technology.²² Adolescents commonly experience hassles and burdens associated with wearing CGM on their body,²³ and parents' experience of these burdens in relation to benefits may differ from the attitudes of their children. An additional limitation is that the relatively small sample size may limit generalizability to other families initiating CGM following their child's diagnosis. This limitation is offset by the clear consensus and saturation on the study's primary themes (i.e., perceived benefit of CGM for diabetes management, acceptance of early CGM initiation and plans to continue using the device). Focus groups and interviews were conducted in English, and the majority (78%) had private

insurance, so findings may not be generalizable to non-English-speaking families and those with public insurance; more research is needed to explore the experience of early CGM initiation among a non-English-speaking clinic sample and families with public insurance. Relatedly, we did not collect additional data on socio-economic status of participants (e.g., household income and parental education); future studies should gather this information as well. Further, participants in the current study had already agreed to be part of the original study and start to use CGM. Some families declined use of CGM when offered, and more research is needed to understand the reasons for declining and whether families who declined differ by demographic, socio-economic, psychosocial or other characteristics.

This study's findings generate hypotheses for a future quantitative study with a larger sample size to confirm the acceptance and satisfaction of CGM during the new onset Type 1 diabetes period. Given that families reported individual preferences in terms of CGM timing (from several days to several weeks after diagnosis), one important future direction is to explore strategies for tailoring the exact timing of CGM initiation to each family based on their readiness, which would be consistent with a precision medicine approach.²⁹ Given some parents' preference for initiating CGM days after diagnosis, CGM should likely be made available and offered to all families after diagnosis but then initiated once the family is ready. An additional hypothesis that may be worth further quantitative investigation is whether early CGM introduction decreases parental distress, given that participants in the current study shared ways that CGM alleviated anxiety and worry.

To conclude, this study's qualitative data demonstrate that the new practice of introducing CGM within the new onset period of Type 1 diabetes is not only accepted but also viewed as essential by parents. Rather than add undue burden and distress during a significant life adjustment, CGM initiation appears to have contributed to reduced diabetes management burden and reduced distress and worry among parents in our study. These results complement prior quantitative findings that early introduction of CGM improved glucose time-in-range and that the majority of families used the technology consistently.⁶

This new approach to the new onset period represents a significant shift from emphasizing the value of this technology only for those with higher HbA_{1c}s^{30,31} to recommending CGM to everyone as an important component of their diabetes care. Furthermore, use of CGM with the ability to transfer data to clinics can contribute to improvements in delivery of telehealth-based diabetes care, which has increased significantly during the SARS-CoV-2 pandemic and will likely be a continuing future trend in Type 1 diabetes care.^{32,33} That CGM was well accepted by families at this stage may also lead them to a greater likelihood of adopting advanced closed-loop technologies in the future; longitudinal research is needed to investigate the influence of early device initiation on likelihood to adopt new diabetes technologies later on.

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CONFLICT OF INTEREST

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What's new?

- Continuous glucose monitoring (CGM) in a paediatric Type 1 diabetes population has benefits for time spent in glucose target range and parents' sleep and stress levels; introducing CGM shortly after Type 1 diabetes diagnosis is a new clinical practice.
- Parents in this qualitative study reported a high level of acceptance of early CGM initiation following their child's diagnosis, a sense of CGM as a 'necessity' and a clear intention to continue using CGM in the future.
- Counter to clinical concerns that introducing a new device soon after Type 1 diabetes diagnosis could overwhelm families, these results point to the benefits of this new clinical practice for parents who described a range of benefits to having access to the technology such as increased peace of mind overnight, an ability to learn about the impact of food and insulin on glucose levels and an appreciation for being able to monitor their child's glucose levels remotely.

FIGURE 1.

Flow of care delivery for early continuous glucose monitoring (CGM) initiation. T1D, Type 1 diabetes

TABLE 1

Primary interview/focus group questions

How soon after diagnosis do you think is the best time to start CGM?
What has your experience been with using CGM and starting it soon after your child’s diagnosis?
Have you experienced any technical challenges with using CGM?
Do you think CGM has helped with your overall stress about diabetes?
Do you think you will continue to use CGM going forward? Why or why not?

Abbreviation: CGM, continuous glucose monitoring.

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TABLE 2Participant characteristics (*N* = 16)

	<i>N</i> (%)	<i>M</i> (SD)	Range
Parent age (years)		44.13 (8.43)	30–55
Parent gender			
Female	12 (75)		
Male	4 (25)		
Parent race/ethnicity			
White	9 (56.25)		
Asian	2 (12.5)		
Hispanic	1 (6.25)		
Not available	4 (25)		
Youth age (years)		12.38 (4.15)	3–19
Child gender			
Female	8 (50)		
Male	8 (50)		
Child race/ethnicity			
White	8 (50)		
Asian	3 (18.75)		
Hispanic	3 (18.75)		
Other	1 (6.25)		
Not available	1 (6.25)		
Insurance type			
Private	14 (77.78)		
Public	4 (22.22)		
Months since diagnosis		10.35 (3.89)	5–18
CGM start (days after diagnosis)		11.31 (7.33)	4–30

Abbreviation: CGM, continuous glucose monitoring.

TABLE 3

Theme: Feedback on the timing of CGM initiation

Subtheme	Example quote	
The sooner the better	<p>'I think within the first week is an ideal time for starting'</p> <p>'I needed at least two or three days just to process the fact that she had diabetes, and I was gonna have to deal with this life-changing thing. Once I could process that, I was in a much better place to say, okay, where's the CGM?' Cause I was ready for it at the beginning, but I wasn't ready to absorb it at the beginning All I would need is a week, and then that's enough for me personally to be able to have processed the diagnosis and the life change that's happening and can move on to the next step, which was the CGM'</p>	(FG1, mother, daughter aged 14)
Start CGM after learning to do finger sticks	<p>'Before [my child] started CGM ... I wanted him to get used to the more conventional matter in case the technology failed. Sometimes we were not able to get the sensors on time, so at least he was able to check his [glucose] ... at least three to four weeks [before starting CGM], just for him to get used to that, to know the process'</p>	(FG2, mother, daughter aged 12)
Start CGM after an initial period of adjusting to the Type 1 diabetes diagnosis	<p>'If you started CGM the first week it might be more overwhelming. For my child, he was adjusting to his new reality, too, and I think he was actually a little nervous about CGM, stickin' this needle in him ... I think the timing probably was just perfect. It wasn't like the day after you leave the hospital after the initial diagnosis; you have a little time to settle in, get your head around this and then let's go to the next step and put the CGM on'</p> <p>'For us, the month ended up working out because it allowed all of us to just adjust to the new normal and get everybody comfortable, not only your child but each parent and caretakers. When we got it, we were ready for it'</p>	(I7, mother, son aged 13) (FG4, father, son aged 11) (FG5, mother, son aged 7)

Abbreviation: CGM, continuous glucose monitoring.

TABLE 4

Theme: Benefits of CGM experienced soon after Type 1 diabetes diagnosis

Subtheme	Example quote
Decreased stress	<p>'[CGM has] helped just as parents [to] keep us connected with what's going on in our kid's body. It's helped relieve some stress in general' (FG5, mother, son aged 7)</p> <p>'It's life-changing less stress. To me, this is the main benefit of it: not having to worry about it ... I don't know how parents could deal with [Type 1 diabetes] before If you're worried about anything, being able to look at the data right there and see, oh, okay, it's fine, or if it isn't, you'll know if you need to do something. The fact that it's alerting you and it's also that it's non-invasive' (FG2, father, daughter aged 18)</p> <p>'My big worry with [my child] was the lows. [Having CGM] helped. That was huge with the worry about the lows, having that monitor' (FG3, father, daughter aged 19)</p> <p>'I was really excited to see how [my child's] sugars were constantly ... [CGM] gave me a bigger picture ... I really wanted to look at it all the time 'cause I wanted to see how he was reacting to certain foods and when his insulin would kick in when I gave it and things like that. I think it really helped with everything' (FG4, mother, son aged 9)</p> <p>'I like the arrows. I like when they tell you if it's one or two, because if it's just one, I don't react to that. But when it's two, then I'll be like, "Hey, you know, did you realize?"' (I8, mother, son aged 16)</p> <p>'[Youth with Type 1 diabetes] are already feeling strange enough having diabetes among their friends, but having to bust out stuff and do finger sticks all the time, it's just not needed in today's world' (FG1, mother, daughter aged 14)</p> <p>'My expectation was that it would let me not prick her all the time. That was the very first expectation, which was true' (I6, father, daughter aged 3)</p> <p>'If we didn't have the CGM, I think [my husband] would change his whole professional life because he couldn't travel without knowing what's going on. He can go to [another country], and he can monitor her numbers all the time. He couldn't do what he's doing without knowing that everything's okay with her, his girl, all the time. It changed our life. I can tell you, because it wouldn't be possible for him' (FG2, mother, daughter aged 13)</p> <p>'We are in our offices and we can still check [our child's] blood sugars. If it's going low or if it's going high, I just call his school and let them know, or if he can call me It's a blessing to be diagnosed at the right time and have the right technology to take care of it' (I7, mother, son aged 13)</p> <p>'As soon as my daughter got the CGM on her, I could finally sleep throughout the night' (FG3, father, daughter aged 19)</p> <p>'Not having to wake up at night to test her, which was a real drag for her and for us We were like, "Thank goodness we won't have to do that anymore"' (FG2, mother, daughter aged 12)</p>
Seeing the numbers on CGM enhances understanding of Type 1 diabetes and improves diabetes management	
Fewer finger sticks	
Increased independence and ability to be away from child but still monitoring diabetes	
Sleep benefit for parents	

Abbreviation: CGM, continuous glucose monitoring.

TABLE 5

Theme: Burdens and hassles with early CGM initiation

Subtheme	Example quote	
Accuracy issues	<p>'I would say the more challenging thing is that it's not entirely 100% reliable all the time'</p> <p>'The main complaint I have is, it seems like the first six hours or so ... it sometimes reads low artificially, which is really annoying. We now have a policy: no putting in new sensors at night ... 'cause nobody wants to get woken up in the middle of the night with a false alarm'</p>	<p>(FG5, mother, son aged 7)</p> <p>(FG2, father, daughter aged 18)</p>
Bleeding with insertion of CGM	'It started bleeding and it was like his whole arm was almost full of blood, so I had to take it off. I didn't have any other choice'	(17, mother, son aged 13)
Signal loss and other technical shortcomings (e.g., compression lows and adhesive issues)	<p>Especially if he is sleeping on top of his arm, it's no signal. I start getting really worried'</p> <p>Every now and then, it goes into that error mode where it needs three hours to see whether it can recover'</p>	<p>(FG5, mother, son aged 10)</p> <p>(16, father, daughter aged 3)</p>
High stress when there is no access to data	<p>'The first one fell off within five days. The second one was pretty quickly as well and yes, we still have issues to this day. We lost a whole transmitter one time when it just fell off during recess. He didn't even notice'</p> <p>'When it's not working flawlessly, it's really stressful 'cause you come to rely on [the CGM] every minute of every day. When you look for the number, you want it to be there You get accustomed to seein' it and then the minute you don't, it caused a lot of stress'</p> <p>'That period of time when [the CGM] wasn't working, we weren't getting alerts. I was sleeping in her room, I think, for a while because I was worried that it would go off, and I wouldn't hear it'</p>	<p>(FG4, mother, son aged 9)</p> <p>(FG4, father, son aged 11)</p> <p>(FG2, mother, daughter aged 12)</p>

Abbreviation: CGM, continuous glucose monitoring.

TABLE 6

Theme: Future plans to use CGM

Subtheme	Example quotes	
CGM as a necessity	'I can't imagine trying to manage Type 1 [diabetes] without a CGM'	(FG4, father, son aged 11)
	'I don't know how parents could deal with [Type 1 diabetes] before [CGM]'	(FG2, father, daughter aged 18)
	'It's definitely not something that we're gonna quit on. I can't go back now. It's just been, honestly, a lifesaver, a game-changer as far as dealing with this illness with your child'	(FG2, mother, daughter aged 12)
	The idea of the CGM is definitely a forever'	(FG5, mother, son aged 14)
Definitely will continue to use (if insurance covers it)	'[My child will] have to use it the whole time she's in college, and I think she will continue to use it after because it's just so much more helpful for her too. We all agree it's been life-changing for us. As long as we can keep the insurance and everything covered, she'll keep using it, I'm assuming, forever'	
		(FG3, father, daughter aged 19)

Abbreviation: CGM, continuous glucose monitoring.