

Early continuous glucose monitor use in children and adolescents with type 1 diabetes: Rates of initiation and impact on glycemic outcomes



Study objective

To evaluate the impact of early CGM initiation on long-term glycemic outcomes in pediatric patients with T1D



Study overview

- Multicenter, real-world, observational analysis
- Used data from T1DX-QI from 25 pediatric diabetes centers across the U.S.
- Included patients diagnosed with T1D between 2019–2020, followed glycemic outcomes for 3 years

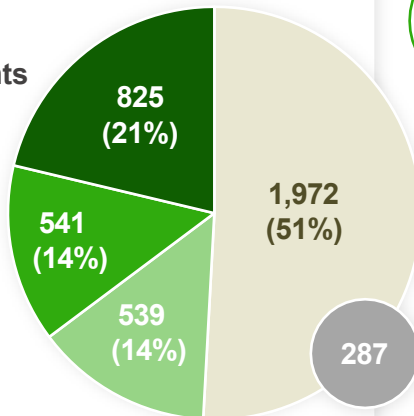


Study groups

The study included 4,164 patients with a mean age of 12.6 years. Patients were classified based on timing of CGM initiation:

- No CGM
- CGM 0–3 months
- CGM 3–6 months
- CGM 6–12 months
- CGM >12 months

after diagnosis



3,877 (93%) patients initiated CGM within 3 years of diagnosis

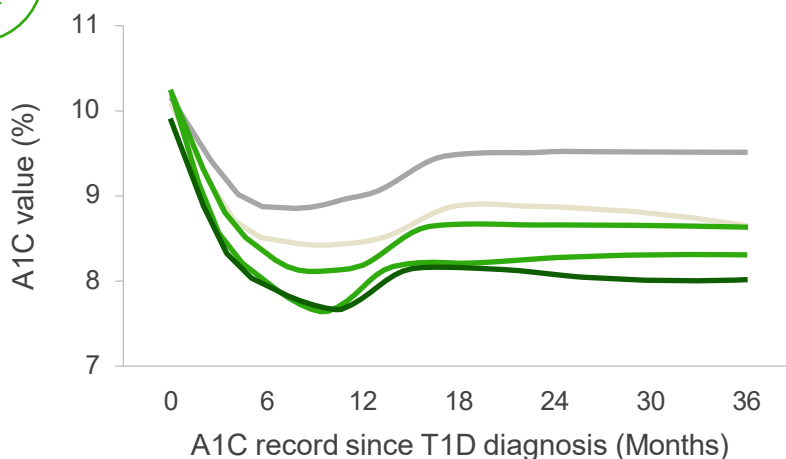


Study outcomes

- A1C trajectories by CGM initiation groups over 3 years
- DKA rates
- A1C by CGM initiation groups at 3 years after diagnosis
- Odds of achieving HbA1c <7% and HbA1c >9%



A1C trajectories by CGM initiation groups over 3 years

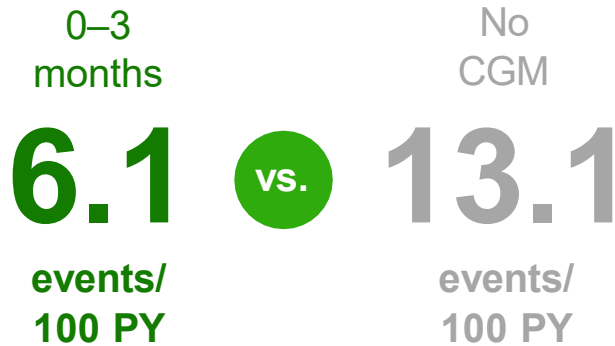


- No CGM
- CGM >12 months after diagnosis
- CGM 6–12 months after diagnosis
- CGM 3–6 months after diagnosis
- CGM 0–3 months after diagnosis

Earlier CGM use is associated with lower A1C through 3 years.

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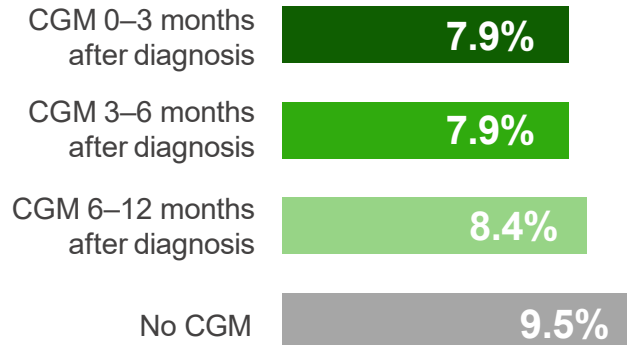
DKA rates



DKA rates were significantly higher in non-CGM users, with the greatest difference observed vs. the 0-3-month initiation group.

Median A1C

Median A1C at 3 years after diagnosis



Median A1C at 3 years was lower in the 0-3 and 3-6-month groups vs. 6-12 months and non-CGM users.

In this study:

Patients initiating CGM **within the first 3 months** were significantly **more likely to have A1C <7%** and significantly **less likely to have an A1C >9%**

Patients initiating CGM **within the first 6 months** had **consistently lower A1Cs** across the follow-up period and were **unaffected by confounders**



Key takeaways

Earlier CGM initiation in pediatric T1D is associated with **improved long-term outcomes.**

Initiating CGM within the **first 3 months** of T1D diagnosis leads to **lower rates of DKA.**

Initiating CGM within the **first 6 months** of T1D diagnosis leads to **meaningful benefits.**

Therefore, **initiating CGM as early as possible**, ideally within 6 months, **is critical.**