



The Diabetes, Data & Devices (D³) Education Program: Motivating Patient-Driven Review of Diabetes Data and Insulin Dose Changes

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Background / Objective

While there is increasing use of continuous glucose monitor (CGM) and insulin pump technology, patient-driven data review and insulin dose changes are rare, despite associations with improved glycemic outcomes.* **This project aimed to provide patients and families with training in how to interpret and act on their diabetes data.**

Methods

Through a literature review and qualitative work with diabetes providers, an interdisciplinary team developed the **Diabetes, Data & Devices (D³) curriculum which promotes regular retrospective data review and teaches patients and families to:**

1. Understand key glycemic metrics
2. Identify patterns of hypo- and hyperglycemia in their diabetes data
3. Make changes to behavior and/or insulin dosing to address patterns

Pre- and post-attendance glycemic outcomes, diabetes management self-efficacy, and diabetes data literacy were evaluated.

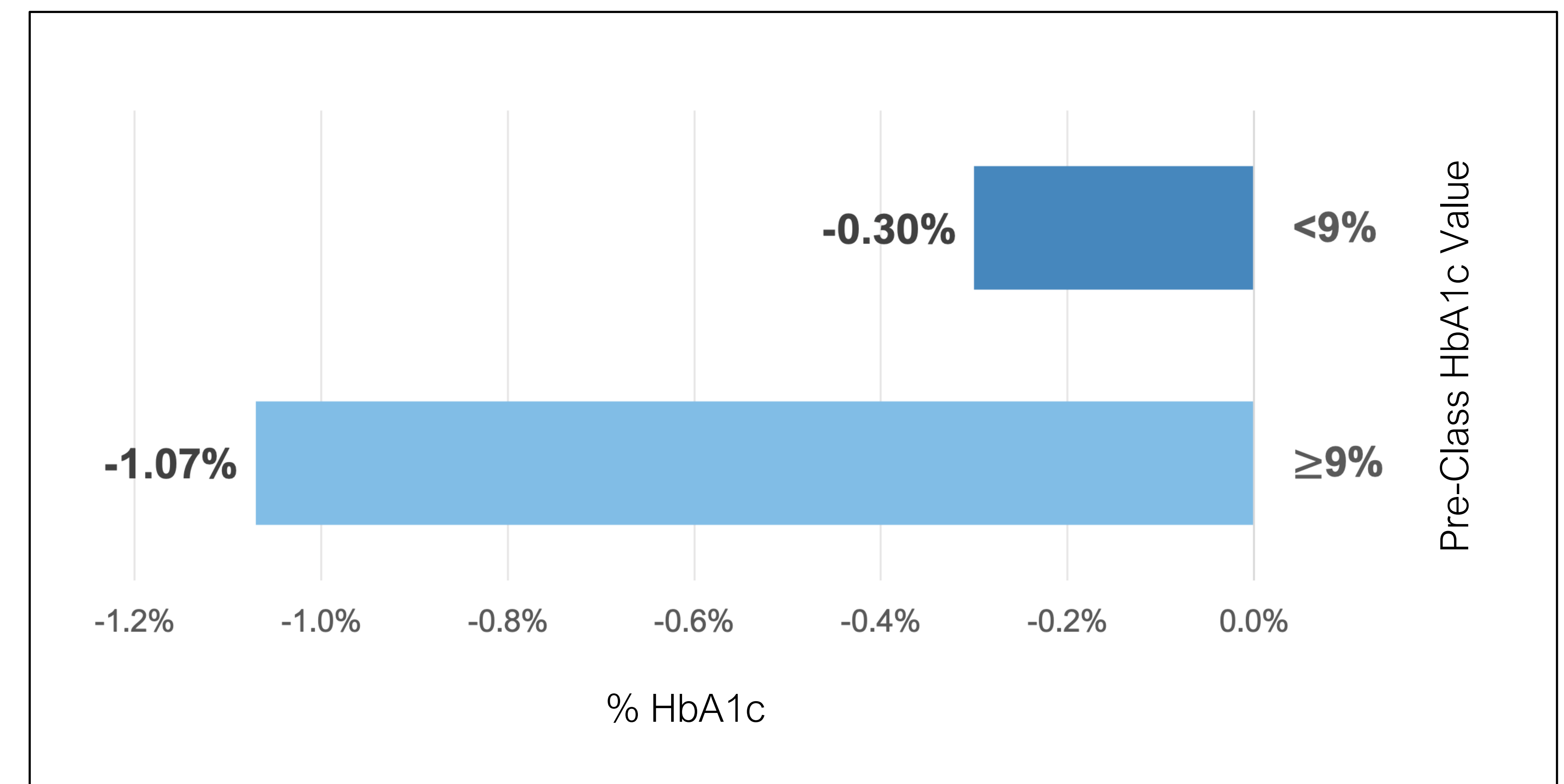
Results

Through August 2022, 155 pediatric diabetes patients and their families attended a D³ class. For our analysis, we excluded new onset patients (i.e., those who attended a D³ class within 3 months of diagnosis; n=20).

We then compared pre- and post-attendance hemoglobin A1c (HbA1c; minimum 365 days post-class attendance; n=101). Post-participation, **patients had an average reduction in HbA1c of 0.42% with greater reduction among patients whose pre-class HbA1c was $\geq 9\%$ (-1.07%).**

We also compared pre-post (minimum 180 days post-class attendance) self-efficacy and data literacy scores. **Total self-efficacy score increased by 1.4 points, and total diabetes data literacy score increased by 0.2 points.**

Figure 1. Average Post-Class HbA1c Change (min. 365 days post attendance) by Pre-Class HbA1c



Conclusions

The D³ program educates and empowers patients to review and act upon their personal diabetes data, leading to increased knowledge and confidence as well as improvements in glycemia.

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