Establishing a Proactive Care Approach for Youth with Type 1 Diabetes Requiring Additional Support

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Background

- Type 1 Diabetes (T1D) is a chronic, life-threatening condition
- Requires lifelong insulin therapy via multiple daily injections or insulin pumps via continuous subcutaneous infusion
- Poor glycemic control can result in:
  - Acute complications: diabetic ketoacidosis (DKA), severe hypoglycemia
  - Chronic complications: cardiovascular disease, kidney failure, neuropathy, vision loss
- Youth with T1D face higher rates of depression, anxiety, and diabetes-related distress
- Challenges with managing T1D contribute to:
  - Increased hospitalizations
  - Lower quality of life
  - Higher healthcare costs
- Patients who need additional support require an **innovative proactive care** model to improve outcomes

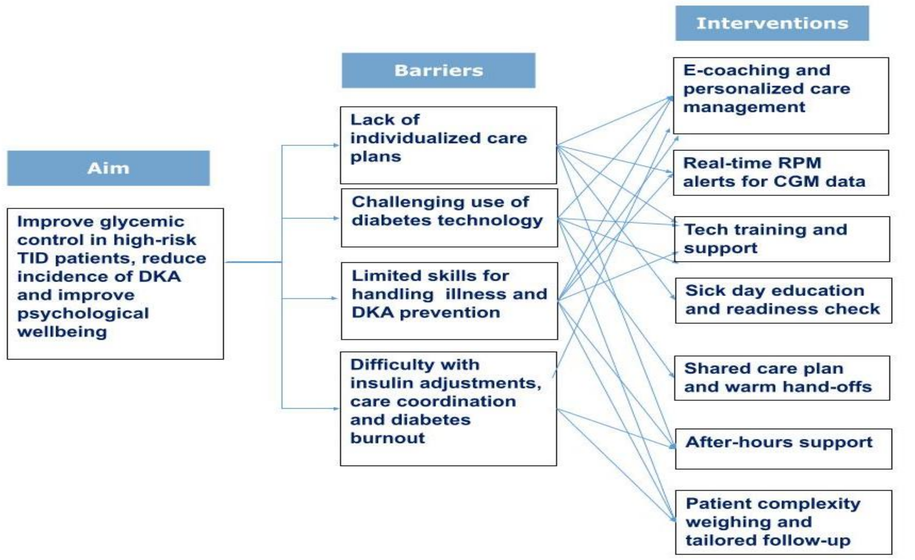
Aim

Improve glycemic control patients with T1D who need additional support to achieve increased health outcomes and support psychological wellbeing.

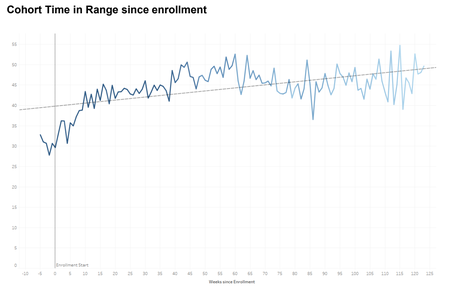
Methods

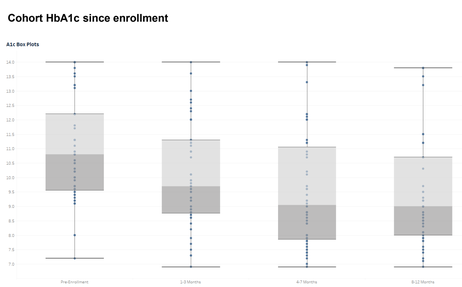
- Identified a cohort of 33 youth with T1D patients using risk stratification model applied to our patient population
- Eligibility: Two HbA1c ≥ 9% and/or ≥ 2 DKA events
- Team-based care management program coordinated support needs before, during, and between medical encounters
- Enhanced nurse care management with e-coaching, diabetes management feedback, technology optimization, sick-day education, after hours support
- Care coordinator support with care navigation, medical equipment and medication support, social determinants of health resource coordination

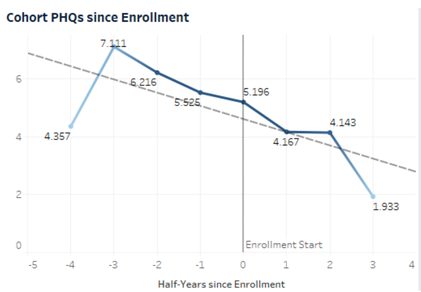
Improvement Model

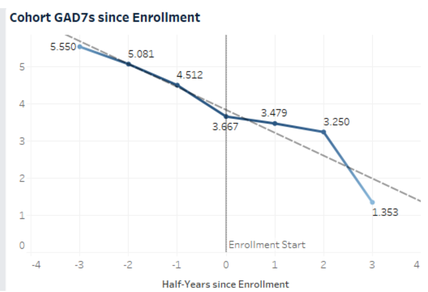


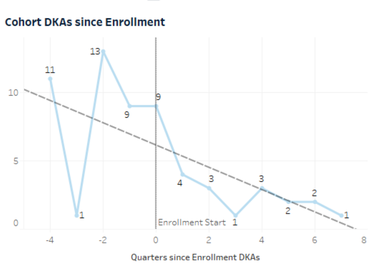
Results











Results, cont.

Improved Glycemic Control

- 84% of patients had ≥0.5% A1c reduction by 11-13 months
- 69% of patients had ≥1% A1c reduction by 11-13 months
- A1c improvements sustained across all timepoints

Time in Range (TIR) Trends

- Mean TIR increased from 33% (SD 15.2) at baseline to 44.7% (SD 14.8) at 12 months
- Patients with the highest engagement showed the most improvement

Behavioral Health Outcomes

- 40% of patients had lower PHQ scores at 6 months
- Mean PHQ score decreased from 5.4 to 4.8 at 6 months
- GAD-7 scores trended towards improvement/downward
- Patients with improved PHQ also showed improved glycemic outcomes

Reduced DKA Events

- Suggests early success in sick day education and proactive outreach

Care Engagement

- 80% of patients engaged in nurse led individualized coaching
- High retention rate suggests model was feasible and acceptable to families

Conclusions

- A proactive, team-based care model showed improved glycemic control, better psychological health outcomes and reduced DKA hospitalizations in youth with T1D requiring additional support.
- Enhanced nurse care management and care coordination, data-driven outreach, and tailored education were critical to patient engagement and clinical success
- Future directions include scaling the model, developing DKA risk stratification score, a proactive care playbook, and pursuing sustainability through system integration and payer alignment

Acknowledgements

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References available upon request.