Standardizing insulin pump therapy initiation in children with type 1 diabetes

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Background

- Insulin pump therapy leads to improved glycemic control, reduced hypoglycemia, alleviation of diabetes burden and enhanced quality of life
- International Society of Pediatric and Adolescent Diabetes and American Diabetes Association support need for structured technology education for children and youth with diabetes
- Insulin pump therapy is recommended as main mode of insulin delivery for those under age 7 years with type 1 diabetes mellitus (T1D)

Burning Platform

- Our diabetes care center noted decreased insulin pump utilization when compared to peer institutions
- Furthermore, general prescribing barriers were also deemed to be of concern
- Prior to implementation of this quality improvement project, a lack of standardized process for insulin pump initiation existed within our division
- As such, a multidisciplinary team of pediatric endocrinologists, advance nurse practitioners, diabetes educators and hospital leaders implemented QI initiatives aimed at increasing insulin pump use

Aims

- By end of summer 2022, increase insulin pump use in new onset T1D patients (less than 1 year from diagnosis) by 5% at Texas Children's Hospital, The Woodlands (community campus)

- The secondary objective of this project was to standardize the approach to insulin pump initiation

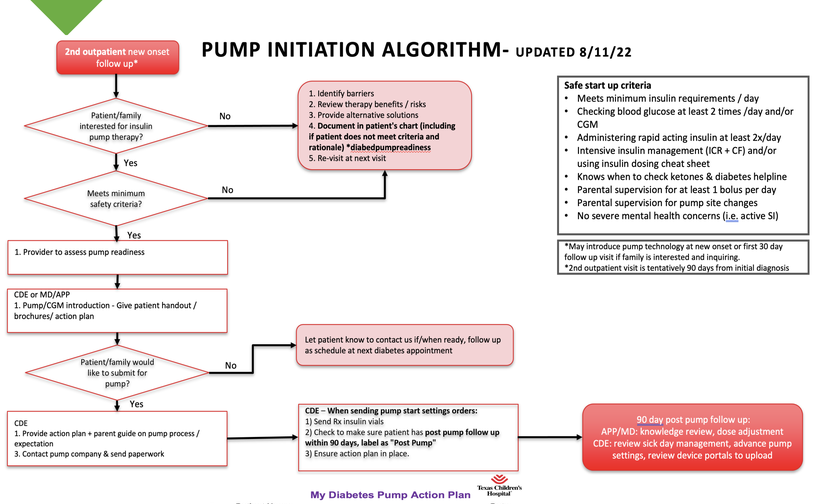
Methods/Materials

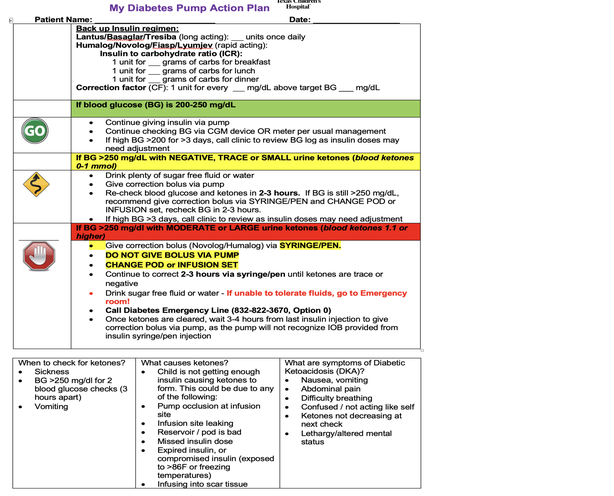
PDSA 1:
- P: Educated providers and diabetes educators about the new onset pump initiation protocol, safe start criteria, pump action plan and pre and post pump visit checklist
- D: Jan 2021
- S: Increase percent initially
- A: Adopt

PDSA 2:
- P: Implemented the new process of early introduction of pump technology and education to patients/families
- D: Spring 2021
- S: Clinically better to wait until second follow up at 90 days post diagnosis
- A: Adapt- instead of introducing at 30 days post diagnosis, to introduce at 90 day

PDSA 3:
- P: Scheduled and labeled post-pump follow up visit with provider and diabetes educator
- D: Summer 2021
- S: Initially increased percent
- A: Adopt

PDSA 4:
- P: Greatly simplified the process, action plan, reminding providers, diabetes educators about process
- D: Fall 2021
- S: Increased percent
- A: Adopt

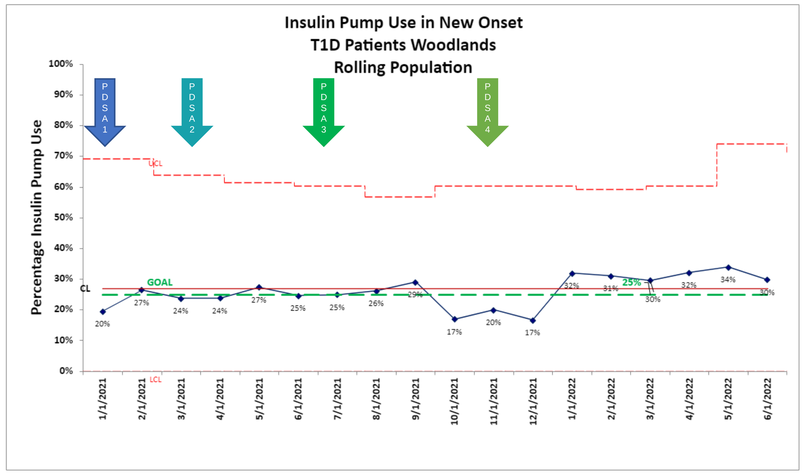




Results

- In patients with T1D duration of <1 year, insulin pump use has increased from a baseline of 20% in January 2021 to ≥30% in January 2022 and remains sustained

- Given this improvement, we are spreading the initiative to additional TCH campuses



Conclusion

- Early standardized pathway and multidisciplinary education facilitates a structured way to increase the uptake of insulin pumps in youth with recent T1D
- It may also help reduce healthcare disparity via elimination of unconscious provider prescriber biases

References

- Available upon request
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