

Implementation of a School Diabetes Education and Support Program

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The Hassenfeld Children's Hospital, Pediatric Diabetes Center at NYU Langone

Hassenfeld Children's Hospital at NYU – Pediatric Diabetes Center



Multidisciplinary Team Members

Ped Endo MD: 5 PNP: 1 Ped Endo Fellows: 3

CDCES: 3 RD, 2RN Staff RN: 1 Social Worker: 1 Psychologist: 0.5 FTE Child/Adol Psychiatrist: 0.2 FTE Neuropsych: 0.1 FTE

Child Life: shared Family Advisors: 5 Research Team: 2.2 Demographics ~450 patients with T1D for more than one year receiving ongoing care ~600 patients seen at Diabetes Center

Newly diagnosed patients per year: ~70 Insurance:

insurance:

Volume and

- ~ 50% public
- Race:
- ~ 50% White
- ~ 10% Black
- ~ 5% Asian
- ~ 35% Unknown/Other



Background

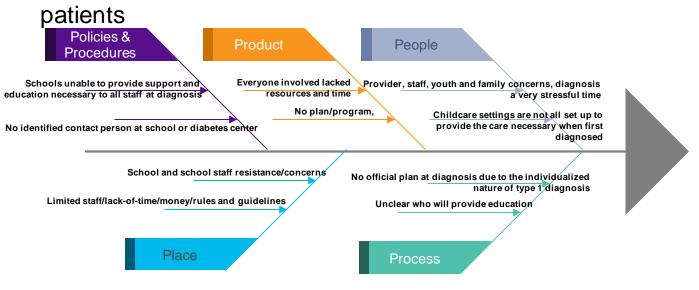
- Youth with T1D require care throughout the day regardless of their setting.
 - School staff require diabetes management education and support so that students with T1D are able to remain successful in the academic/childcare setting.
 - Children with diabetes require:
 - Accomodations
 - 504 plans/meetings
 - IEP plans/meetings
 - DMAF
 - Supplies in nurses
 office/classroom
 - Technology
 - Yearly training glucagon/diabetes

- Substitutes/hallway
 monitors/all staff being aware
- Special teachers being aware
- Afterschool/sports care
- Care during field trips
- Emergency drills/go bags
- Emotional support
- Phone/tech support



Problem Identified

There was no official/streamlined education plan for returning back to school after type 1 diagnosis for our





QI Project

- The purpose of this quality improvement (QI) project was to increase school diabetes education sessions by 20% each year, over the first three years following the development of a diabetes education and support program at a NYC diabetes center.
- Additional aims include:
 - improving the quality of care and education provided to schools by beginning a school program
 - offering programs and initiatives
 - improve NYC DOE/DOH collaboration



School Education Program for Children at the NYU Pediatric Diabetes Center

QI initiatives began - Summer 2020

- CDCES RN was designated to lead this program and be the one to provide in-person and remote education sessions to schools and childcare settings
- Additional initiatives:
 - Reached out to schools/childcare programs at diagnosis
 - Created option for additional school and diabetes class at diagnosis
 - School education events:
 - Safe at School Event for families
 - School Staff Education day
 - Continue to meet with other NYC diabetes centers about diabetes management at schools, discussion about NYC DMAF/504, CDCES staffing for schools, etc.



Ongoing Initiatives

- 2021-2022
 - Create dedicated email and phone number/cell phone for school liaison
 - Create online option for requesting school forms using RedCap
 - Quarterly Zoom program for educators and parents of children with diabetes
- 2022-2023
 - Monthly Zoom program for educators and parents
 - School bags made at diagnosis for child to bring supplies to schools
 - Protect staff time of school liaison RN, CDCES for school related tasks
 - Surveys and questions administered to staff who use RN, CDCES to assess needs and identify challenges for families and staff
 - Planning of 2024 school conference

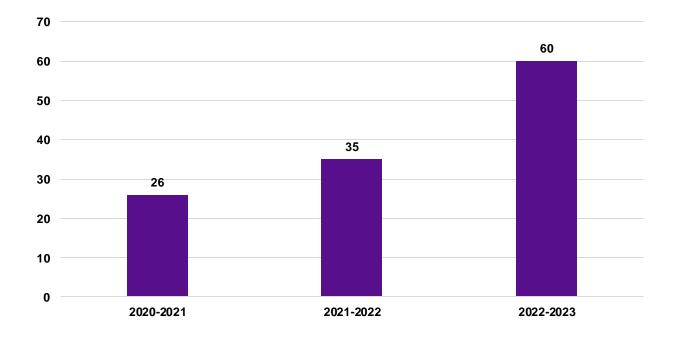


Results of School Education Program

- To assess the school diabetes education program growth we reviewed the number of in-person and remote education sessions provided to our patient's schools.
 - 2020-2021: 26 sessions
 - 2021-2022: 35 sessions
 - 2022-2023: 60 sessions
- Education sessions increased each year by more than 20%
- Results from surveys administered to school staff were also reviewed to understand unmet needs:
 - Question: Do you feel proficient with diabetes technology?
 - 51 respondents
 - 17 strongly agreed/agreed
 - · 27 reported having limited education/understanding
 - 7 disagreed/strongly disagreed



School Education Sessions by Year





Quotes from School Staff

"NYU staff offered support to my school in the past two years, which was vetoed by the Principal. However, I am still able to call the NYU staff personally as a resource."

"It is good to refresh skills before school starts. Not every year there is student with diabetes and so it is always nice to refresh skills. Diabetes technologies change all the time. Thank you for doing this."

"We need consistent support form the health care provider, parent and the school administration."



Future Steps

- Continue to assess needs of schools and patients
 - Qualitative interviews and surveys
 - Knowledge assessments
- Monitor patient outcomes (HbA1c, TIR, etc.)
- Pre-record education sessions to help RN, CDCES save time
- Modules for all staff to help provide more education
 - Specifically for diabetes technology and updates
- Increase events planning Feb 2024 event
- Continue to ensure student needs are being met
 - Legal action as needed/continue meeting with other NYC diabetes centers



Conclusion

- With ongoing initiatives our center was able to increase diabetes education sessions to schools
 - Biggest step was creation of a Diabetes at School Program/staff member
 - Need for diabetes education and support for school staff is growing
- Nurses and school staff are utilizing the NYU school liaison and are requesting individual education sessions and attending continuing education events
- Additionally, school nurses report a need for education on diabetes technology
 - This will only increase due to the release of improved and new technology





HASSENFELD CHILDREN'S HOSPITAL AT NYU LANGONE

Thank you!

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Patient Involvement to Improve New Onset Type 1 Diabetes Mellitus Education

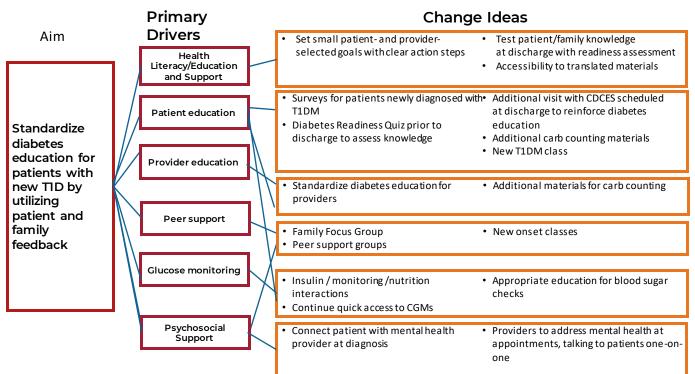
Isabel Reckson, RD, CDCES, MPH Elizabeth Gunckle, CPNP Alyson Weiner, MD 11.14.23

Background

- Little research exists on the transition from inpatient to outpatient care in pediatric patients with newly diagnosed Type 1 Diabetes Mellitus (T1D)
- Our practice does not have a standardized approach for inpatient new onset diabetes education
 - o Patients and providers have reported knowledge gaps
- Engaging patients in decision making can improve quality of care and patient outcomes
- Objective
 - Standardize and improve diabetes education for those with newly diagnosed T1D by utilizing patient/family feedback



KDD for Inpatient to Outpatient Education



Methods

PDSA 1	PDSA 2	PDSA 3	PDSA 4	PDSA 5	PDSA 6	PDSA 7
Provider Survey May 2023	Patient Survey June 2023	Utilize CDCES/RD June 2023	Improve patient survey response rate July 2023	Family Focus Group Involvemen t Sept 2023	Standardiz e new onset education Sept 2023	Develop Diabetes Readiness Quiz September 2023



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Patient and Provider Surveys

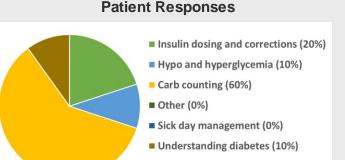
Provider survey: response rate 65% Patient survey: response rate 44%

Difficult Concepts - Inpatient

Provider Responses



- Hypo and hyperglycemia (20%)
- Carb counting (16%)
- Return to school (16%)
- Sick day management (8%)
- Understanding diabetes (4%)
- Exercise (0%)



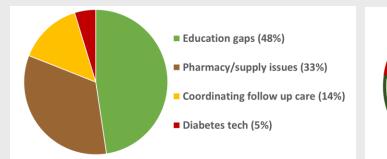
Exercise (0%)

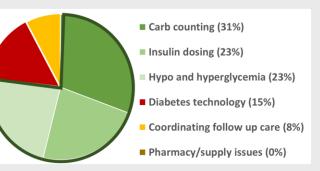
Weill Cornell Medicine Pediatrics **NewYork-Presbyterian** Komansky Children's Hospital

Difficult Concepts - Outpatient

Provider Responses







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Patient Input

Patient Survey

- •Topics to be reinforced inpatient-
- "How to get back to your normal day to day life after being diagnosed with diabetes. Especially for the children with going back to school and just learning and unlearning new and old habits."
- "Return to school. That was hardest for me to wrap my head a round. It's all so incredibly overwhelming in the beginning and you are just trying to figure out how to make it from day to day. Some practical tips from parents would be helpful to add to the wonderful booklet you distribute would be helpful."
- •Topics to be reinforced outpatient-
- "Carb counting and when to do corrections. More about the honeymoon phase"
- "Low blood sugars"

Family Focus Group

- More teaching for emergency medications prior to discharge
- Teaching videos prior to discharge to reinforce topics
- More community support-parent groups, virtual new-onset class post discharge

Standardizing New Onset Teaching





Conclusions and Next Steps

Continue to streamline diabetes education

- CDCES visit 1 week after discharge
- •Additional resources needed-
- •Handouts for patients and providers on difficult to understand topics
- •Carb counting booklet

Diabetes discharge videos

•Grant Funding

Patient and parent involvement

- •New onset surveys
- •Family focus group
- Monthly class for new diabetes diagnosis

Additional community and school support





NewYork-Presbyterian Komansky Children's Hospital

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Strategies to Improve Smart Pen Uptake – Lessons Learned from a Pediatric Diabetes Center

Brian Miyazaki, MD; Jose Aceves, BA, Jessica Alula, PNP, James Connard, PNP, Lily C. Chao, MD, MS

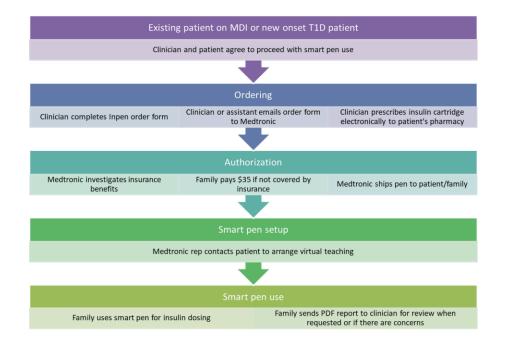
Background

• In 2022, CHLA was invited by T1D Exchange to participate in QI PROJECT INCREASING EQUITABLE ACCESS TO CONNECTED PEN DATA USE AND SHARED DECISION MAKING IN THE T1DX-QI COLLABORATIVE

- Increase connected pen dosing data availability by 10% from baseline in 9 months
- Increase shared decision-making documentation using the Diabetes Technology Assessment tool for eligible patients on connected pens by 25% from baseline in 9 months
- Increase by at least 5%, the patients on a connected pen with a clinically significant HbA1c improvement of 0.5%
- Reduce by 5% racial inequities in the availability of connected pen insulin dosing reporting for clinical management
- Increase time spent educating patients on connected pen use
- Implement standardized workflows to improve clinical efficiencies.









Key Driver	Intervention	PDSA
Communication/Shared decision making	Develop tools to help facilitate discussion	Cycle 1: 5 MDI Cycle 2: 5 MDI & 5 CGM Cycle 3: Independent Clinician

Figure 5: Diabetes Technology Assessment questions

How much do you agree with these statements?

1) Diabetes techno	logy has mad	de my life better		
1	2	3	4	5
Strongly disagree	Disagree	Neutral	Agree	Strongly agree
2) Diabetes techno	logy has mad	de my life easier		
1	2	3	4	5
Strongly disagree	Disagree	Neutral	Agree	Strongly agree
3) Diabetes techno	logy has mad	de my health be	tter	
1	2	3	4	5
Strongly disagree	Disagree	Neutral	Agree	Strongly agree
4) Diabetes techno	logy does m	ore good than ba	ad	
1	2	3	4	5
Strongly disagree	Disagree	Neutral	Agree	Strongly agree
5) I am lucky to liv	e in a time w	ith so much dial	betes technol	ogy
1	2	3	4	5
Strongly disagree	Disagree	Neutral	Agree	Strongly agree



Key Driver	Intervention	PDSA
Communication/Shared decision making	Develop tools to help facilitate discussion	Cycle 1-3: DTA Cycle 4: Technology Laminate

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Key Driver	Intervention	PDSA
Communication/Shared decision making	Develop tools to help facilitate discussion	Cycle 1-3: DTA Cycle 4: Technology Laminate Cycle 5: Technology Sample Box





Medtronic InPen Smart start Pilot program

Medtronic InPen Access Program

Your InPen Sample Expires On _____

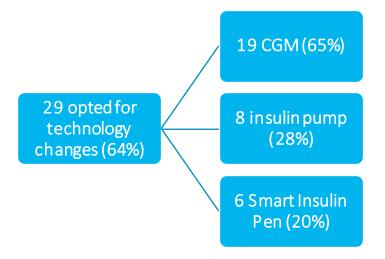






Results

• Between December 2022 to April 2023, we documented 45 total share decision making instances (N=34 for type 1, N=11 for type 2 diabetes; 18 already using continuous glucose monitor [CGM]).





Results

- Among patients interested in the SmartPen, none succeeded in initiating smart pen.
- Barriers to Smart Pen
 - copay requirement
 - lack of insulin cartridge samples in clinic to facilitate in-clinic device training
 - poor responsiveness when trainer reaches out to family.





Clinic process change: technology sample boxes are now placed in every patient room for our clinicians to utilize when discussing technology with family



Integrated Diabetes Education and Support (IDEAS) Program

Tamara Hannon, MD, Anna Neyman, MD, Kathryn Haberlin-Pittz, MPH, CHES Division of Pediatric Endocrinology and Diabetology





Background

- At our Diabetes Center in 2022, the percent of patients with T1D who were admitted to the hospital with DKA or another acute complication of diabetes:
 - 7% of youth with T1D and public insurance
 - 2% of youth with T1D and private insurance
- The national rate of DKA in youth with established T1D is 6-8%.¹
- DKA is a potentially fatal complication of diabetes with both short- and long-term health consequences: cerebral edema, renal injury, electrolyte imbalances, rhabdomyolysis, DVT, PE, among others.²
- DKA is more prevalent in those with fewer resources, mental health or other health challenges.

1EL-Mohandes N, Yee G, Bhutta BS, et al. Pediatric Diabetic Ketoacidosis. [Updated 2023 Apr 9]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2023 Jan-. Available from: https://www.ncbi.nlm.nih.gov/books/NBK470282/

²Glaser N, Fritsch M, Priyambada L, Rewers A, Cherubini V, Estrada S, Wolfsdorf JI, Codner E. ISPAD clinical practice consensus guidelines 2022: Diabetic ketoacidosis and hyperglycemic hyperosmolar state. Pediatr Diabetes. 2022 Nov;23(7):835-856. doi: 10.1111/pedi.13406. PMID: 36250645.





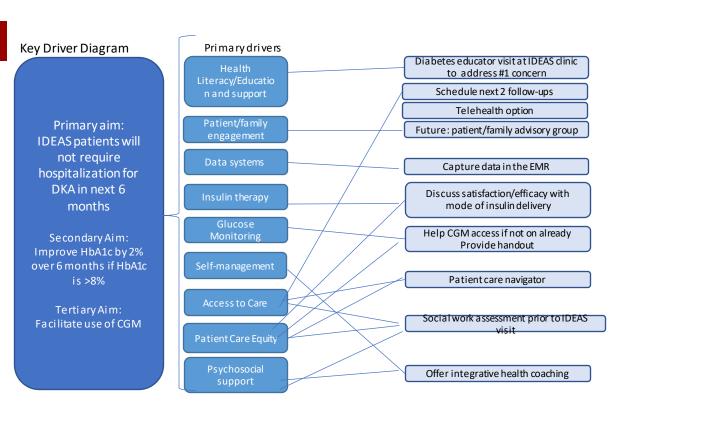
Integrated Diabetes Education and Support (IDEAS) Program

• We started the IDEAS program to:

- Organize the resources and support available for families struggling to maintain metabolic control (financial, social, school, and health behavior support);
- Increase patient knowledge of how to reduce the risk of having a repeat diabetes related hospitalization;
- Better direct clinic and outpatient resources toward higher risk patients.
- Pilot program
 - Patients with T1D who were admitted in the hospital/or in the ED for diabetes related reason who are at high risk for readmission in the next 2 years as determined by provider/diabetes educator, should be referred to the IDEAS Program.
 - SW, Diabetes Educators, Health Educator/Coach.



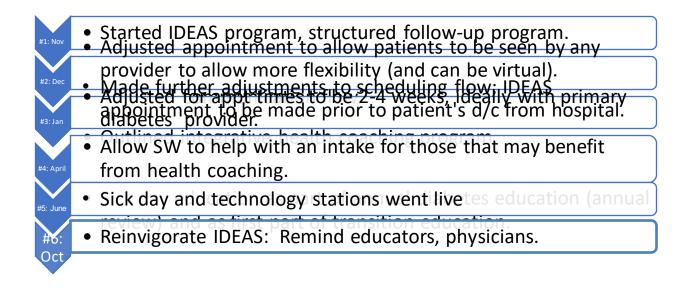








PDSA Cycles







Results

	2022 DKA (n=58)	IDEAS Referrals (n=14)
Age at the time of hospitalization, mean [SD], years	12.91 [3.47]	13.9 [1.8]
Sex (%)	45% M	64% M
Race/ethnicity		
Non-Hispanic Black	18%	36%
Non-Hispanic White	69%	57%
Hispanic	5%	7%
Unknown	8%	
Insurance	71% public	71% public
Technology use		
CGM	Prescribed-79%	Using CGM- 50%
Pump	18%	7%
Most recent HbA1c (%), mean [SD]	10.0% [2.1]	12.2% [2.5]
# DKA events*, mean [SD]	1.82 [1.27]	$0.92 \ [1.5]$ (insulin omission most common)





Results

- All consulted with a LMSW
- One participated in integrative health coaching; had reduction in HbA1c (-1.9 %).
- Seven had repeat HbA1c ≥1 (mean 3.1 ± 1.3 months) after baseline.
- Trend towards reduction in HbA1c (13.1% vs 10.8%, p=0.16)
- One of eleven had a DKA episode after participation in the program.
 - That participant had a history of 5 DKA episodes in the prior year and has had 1 DKA admission after enrolling in IDEAS. This participant has not been admitted to the hospital in past 4 months and HbA1c has decreased from 14.4% to 12.3%.

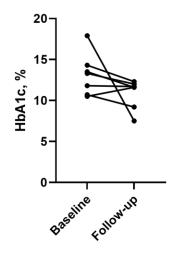


Figure 1: HbA1c at baseline and at most recent follow-up visit.





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 We want to thank all the amazing team at Riley, including Britney Merchant and our amazing diabetes educators, Jill Booher, Jill Meier, Elizabeth Moran, Lori St. Dennis-Feezle, Linda DiMeglio and our amazing physicians, NP's, nurses, medical assistants, and office staff.





T1Dx Quality Improvement Learning Collaborative Conference November 2023 Diabetes Patient and Family Focus Group Program: A new initiative to incorporate the voice of the consumer!



Toyetta Barnard-Kirk, Mary Joy Okafor, Amy Thompson, Alicia Clark, Don Buckingham, Justin Indyk, Malak Abdel-Hadi, Manmohan Kamboj

Center for Clinical Excellence





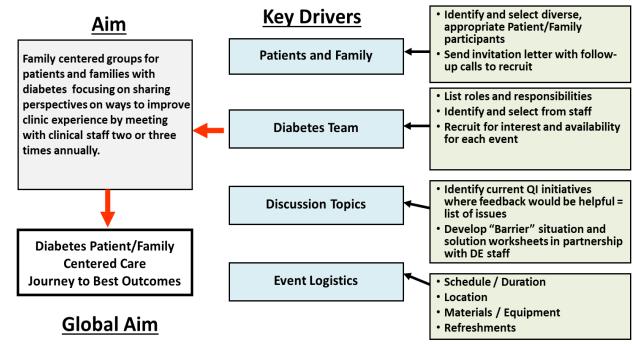
Session Objectives

- Improve communication between patients/families and diabetes care team.
- Incorporate the voice of the consumer by increasing the exchange of ideas for improvement between patients/families and diabetes care team.
- Establish a greater sense of camaraderie among patients/families and providers.



Family Focus Group Program Development

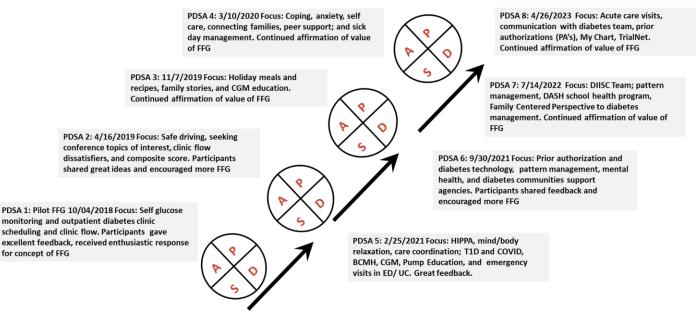
Interventions





Diabetes (DM) Patient/Family Focus Groups (FFG) PDSA 2018 - 2023

Family Focus Group Program Implementation





Leadership

Diabetes team members meet with patients/families 2-3 times annually in evenings, with dinner provided. Agenda items are preplanned and presenters pre-selected.



Content

The topics that have been discussed to date include, diabetes daily management, sick day management, DM technologies, school diabetes resources, medical handicap/insurance, and strategies and resources for coping with DM.





Feedback



Our groups encompass diversity in age, gender, ethnicity, race, socio-economic backgrounds, allowing for families to correlate their experiences with different families with diverse backgrounds and needs.



Results

- Session participation has demonstrated encouragement in a desire of patients/ families to increase their technology usage, improve emotional support, develop coping mechanisms, decrease difficulty with social determinants of health, and improved health literacy.
- Additionally, this has allowed the DM team to identify areas for practice change to best meet needs of patients and families.
- Some of the feedback testimonials include: "I do not feel alone", "Great to feel our feedback matters", "We are all on different paths but still some similarity".



Thank you for your interest!



