



**T1D**  
*Exchange*

# Pediatric Collaborative Call

January 30, 2025

# Agenda

- Updates from T1DX-QI Coordinating Center, Osagie Ebekozien, MD, MPH and Nicole Riales, MA
- Center Presentations
  - SUNY, David Hansen, MD
  - Nemours Delaware, Patrick Hanley, MD
  - Texas Children's Hospital, Daniel DeSalvo, MD, Sarah Lyons, MD, and Selorm Dei-Tutu, MD

# Pediatric Qualitative Opportunity

- The University of Pittsburgh is conducting a qualitative study with a national sample of pediatric diabetes centers/practices about their current processes for working with schools. This study is intended to complement the survey data that your center may have shared through the T1DX annual survey. The information learned through this research will be used to help develop strategies to implement interventions for diabetes in the school setting.
- Interval interviews are anticipated to last between 30-60 minutes
- This study is being conducted by Dr. Christine March (PI), who can be reached at 412-692-9156 or [Christine.eklund@chp.edu](mailto:Christine.eklund@chp.edu), if you have any questions.



# 2024 Invoicing

For your Statements of Work with T1D Exchange, all invoices for deliverables completed on or before December 31, 2024, must be invoiced on or before 5pm EST March 1, 2025. Please work with your finance teams to ensure that we receive your invoices as we will be unable to process past due invoices for Calendar year 2024 after 3/1/2025.

*Invoice for payment following the deliverables schedule in 1.C and/or 1.D and include deliverable number and date. All payments will be made through electronic funds transfer (EFT). Please include your banking information on invoice.*

*1. Bank account name & address*

*2. Bank account number*

*3. Bank account routing number*

*Invoices should be sent via email attachment.*

*To: [t1dxap@t1dexchange.org](mailto:t1dxap@t1dexchange.org)*

*CC: [nrioles@t1dexchange.org](mailto:nrioles@t1dexchange.org)*

*[linda.crasco@t1dexchange.org](mailto:linda.crasco@t1dexchange.org)*

*[rweathers@t1dexchange.org](mailto:rweathers@t1dexchange.org)*

Kindly forward this reminder to your finance contacts so that they are aware of the deadline.



# Thank you!

Thank you for a wonderful journey together over the past 7 years. I truly appreciate each and everyone of you who have made my time at TID Exchange so memorable!

Please stay connected via LinkedIn ([1](#)) [Osagie Ebekozi MD, MPH](#) | LinkedIn or email [Osagie.ebeks@gmail.com](mailto:Osagie.ebeks@gmail.com)







# Center Presentation



# Diabetes Resources Education and Management Support (DREAMS): Program for Adolescents at High Risk of Diabetic Ketoacidosis

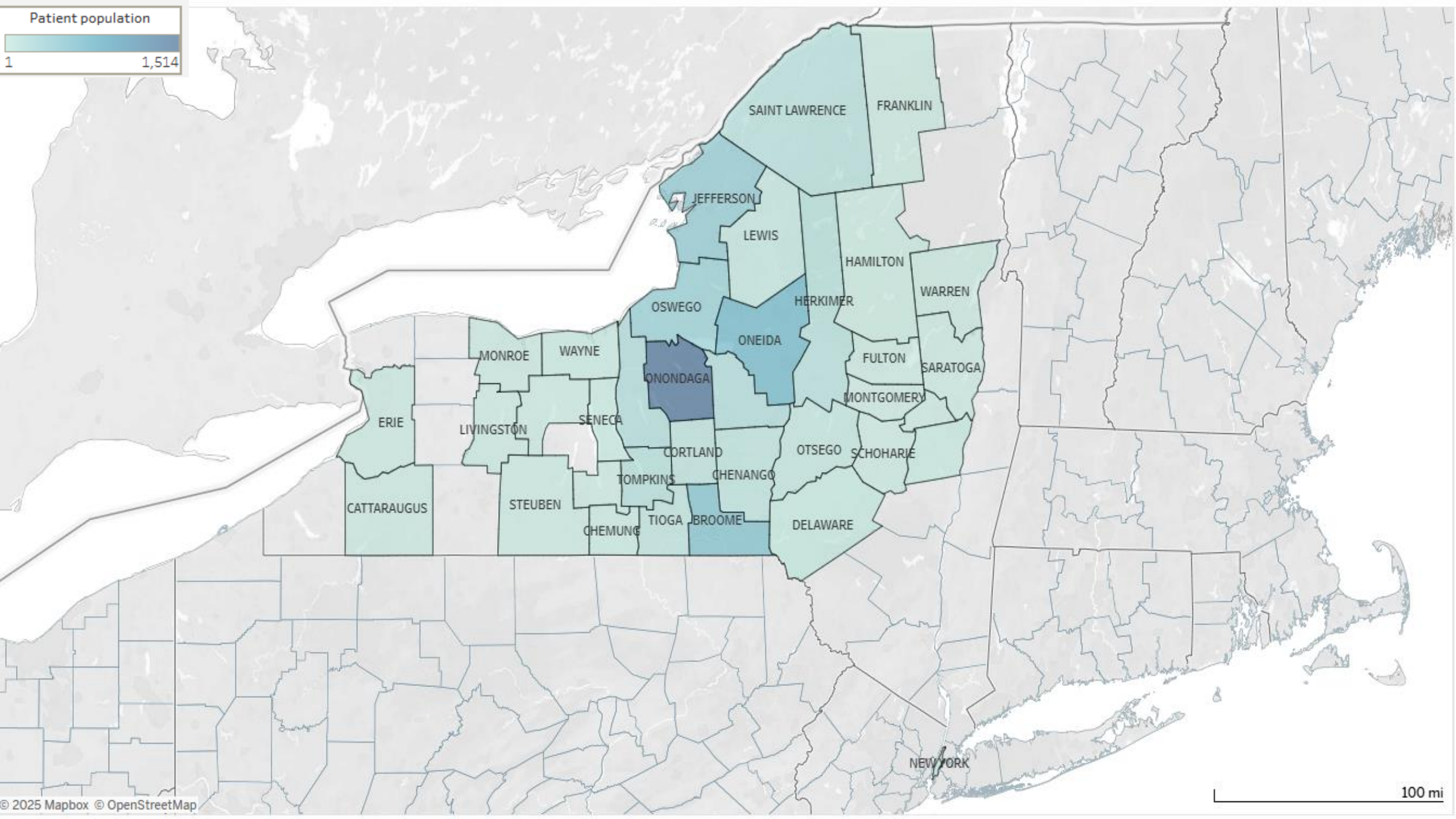


# Program Staff

- PIs: Dr. David Hansen, Dr. Roberto Izquierdo
- Diabetes Care and Education Specialists:  
Ann-Marie Hudy, Janine Robbins, Eden Dodd, Courtney Parry
- Psychologist: Dr. Ashely McDuffee
- Social Worker: Beth Evans
- Child Life Specialist: Margaret Nellis
- Registered Dietician: Kathryn Lewis
- QI Team: Jerusha Owusu-Barnie, Joe Erardi
- Management: Beth Wells, Jess Reis, Melissa Stacy

# Joslin Diabetes Center at SUNY Upstate Medical University

- In 2024
  - 3571 individuals with at least 1 visit (Type 1, Type 2, and all other endocrine)
  - 844 individuals with Type 1 had at least 1 visit
  - 84 individuals with Type 1 newly diagnosed
  - 47.4 % are on public insurance
  - 76.8% NH White
  - 9.4% NH Black
  - 7.0% Hispanic



Patient population

1 1,514

# Purpose

- The program is intended to give additional support to individuals with diabetes who have been admitted to the hospital with diabetic ketoacidosis (DKA) or who have an HbA1c that is above 9.0% and at risk for DKA.
- AIM: Decrease DKA admissions and improve HbA1c of program participants and increase quality of life for high-risk patients over 8 months of program enrollment.

Participant/Family Knowledge

- Lack of transportation to program visits
- Needs more guidance on diabetes management
- No Support System

Communication / Shared Decision

- Getting patients to join
- Different language
- No peer support groups

Guidelines/ Education

- No required training for School Nurses, SW, guidance counselors (support at schools)
- A need for more education required for support systems

- No way of knowing if they are connected to clinic
- Depends on each patient needs

Technology

- No education telemedicine visits
- A need for more flexible schedules
- No set follow – up after program

Process/Procedure

Patients with high risk of DKA and high HbA1c

# Program Timeline/ PDSA Cycles

June/July 2019: Develop Initial Enrollment Criteria, Education Curriculum, and return to usual care protocol.

Aug 2020: Second Cohort of 16 begins.

Nov 2022: Rolling Admissions begin. 7 participants enrolled. Program rebranded to DREAMS.

November 2023: Added psychologist to program

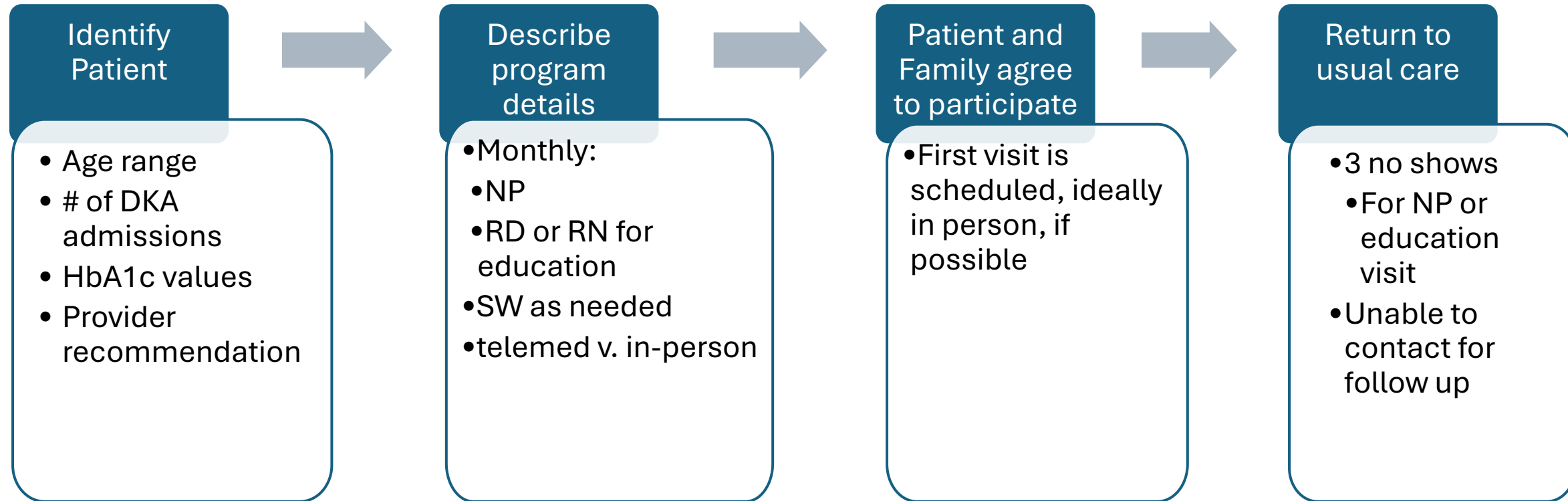
Aug 2019: Began cohort of 16 participants. Program initially called Diabetes Wellness Program.

Fall 2022: Lessons Learned & changes to curriculum and rolling admission

Fall 2023: Lessons Learned #2 and changes to curriculum and eligibility criteria. added

November 2023: Began Cohort #4 (DREAMS #2): Rolling admission of 13 participants

# Enrollment Process for Cohorts 1 & 2





# Education Curriculum for Cohorts 1 & 2

Visit 1

Weekly Calls

Visit 2

Weekly Calls

Visit 3

Weekly Calls

Visit 4

Weekly Calls

Visit 5

Weekly Calls

Visit 6

- MyChart setup and usage
- Keeping BG log and/or downloading of devices
- Setting SMART goals
- Nutrition education needs assessment

- Ketone review
- Sick day guidelines

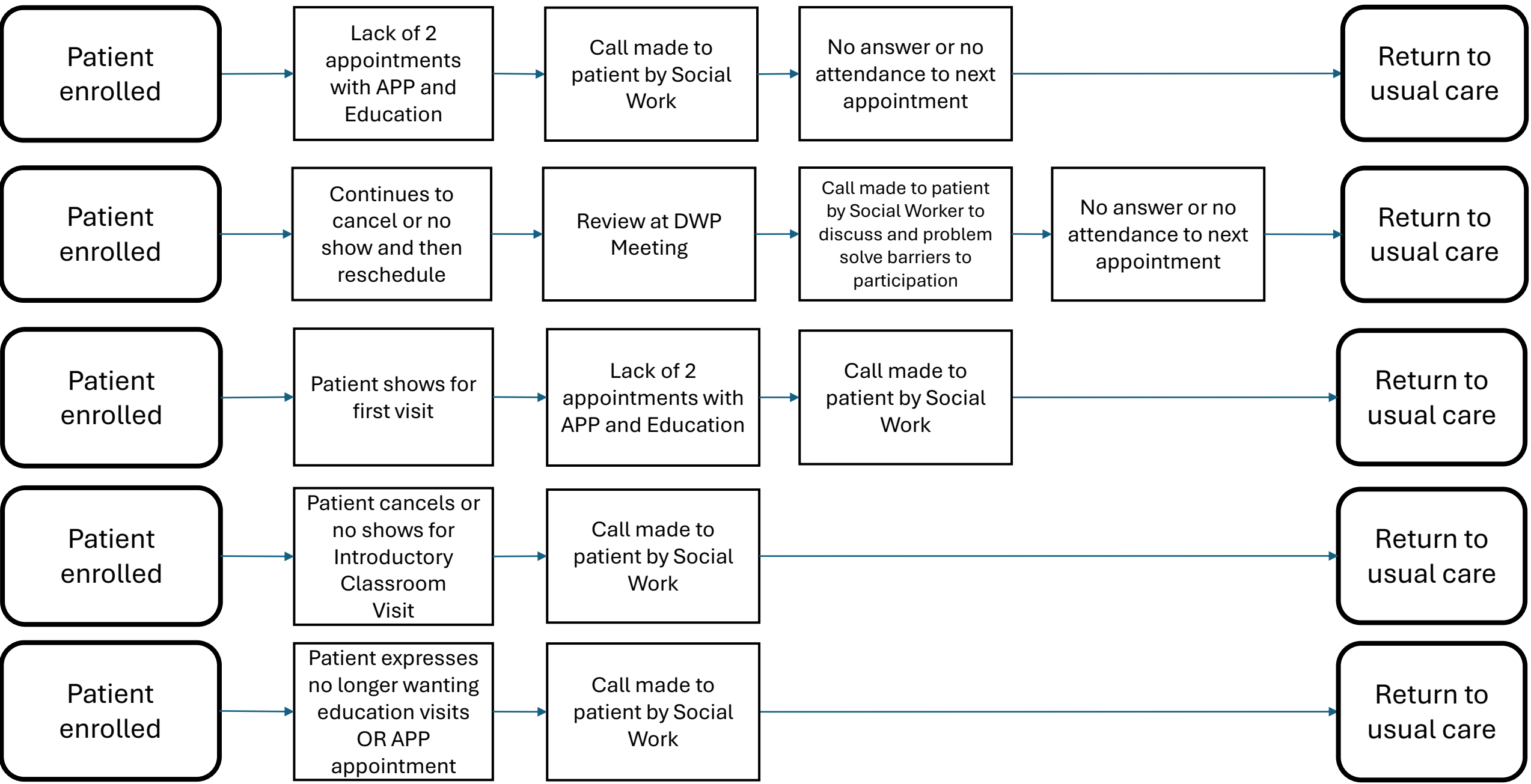
- Hypoglycemia protocol
- Review use of Glucagon
- Review NY driving laws (if applicable) and importance of checking BGs

- Sports and exercise management
- Technology
- Increasing independence
- Identifying blood sugar patterns
- Making changes based on patterns
- Establishing routines

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- Making changes based on patterns
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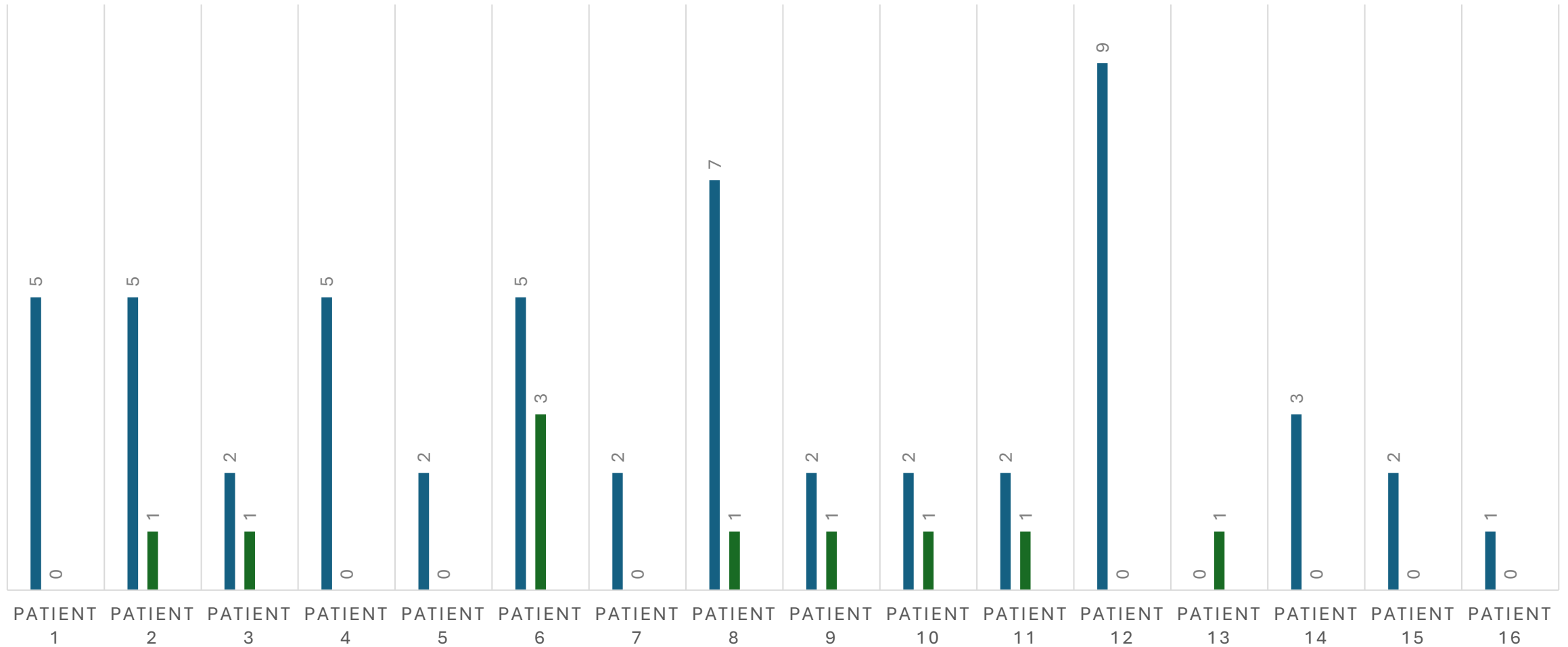
- Independent dosing changes
- Patient choice of topic
- Habits for maintenance
- “After Hours” game

# DWP Return to Usual Care Criteria for Cohort 1 & 2

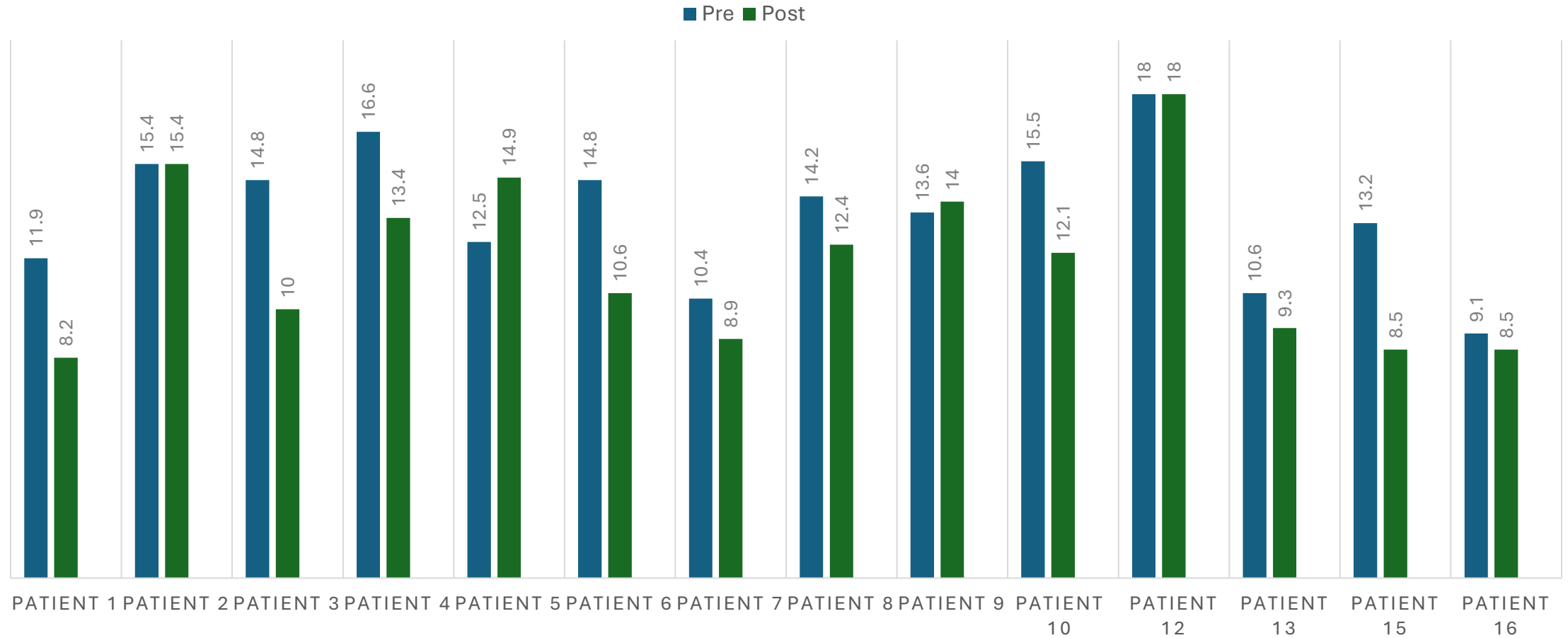


# Cohort 1: DKA Data prior to DWP and post DWP

■ Pre ■ Post



# Pre and Post Cohort 2: HbA1C



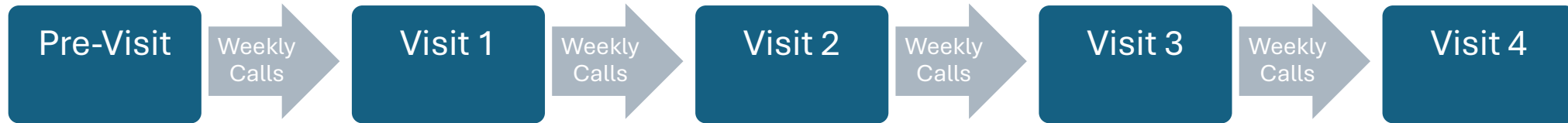
# Lessons Learned from Cohorts 1 & 2

- Change in scheduling process to decrease no shows and rescheduling
- The program was effective for those who attended and completed the program
- We need to make our program more accessible for patients who are already facing many barriers
- Don't need all 6 visits, decreasing the number of visits may help participation

# DREAMS

- To increase participation and reduce those returning to usual care:
  - Reduced the number of visits from 6 → 4.
  - Changed scheduling process to have some visits follow a visit with a clinician.

# New Curriculum for Rolling Admissions



## RN DCES

- Confirm First Appt Date/Time
- Review of Program & Expectations
- Licensed Master SW and Child Life Specialist meet with patient in person
- Notify QI Team
- MyChart setup & usage

## MD/APP + DCES

LMSW/CCLS (as necessary)

- Keep BG Log and/or Downloading of Devices
- Setting SMART goals
- Nutrition Education
- Introduce Tech if indicated
- Obtain A1c (preferably at admission)

DCES + LMSW/CCLS (as necessary)

- Ketone Testing/Sick Day Guideline
- Low Blood Sugar Management
- Nutrition Education
- Review Blood Glucose

DCES + LMSW/CCLS (as necessary)

- Sport and Exercise Management
- Technology
- Achieving a greater independence at school
- Nutrition Education
- Establishing Routines
- Review Blood Glucose

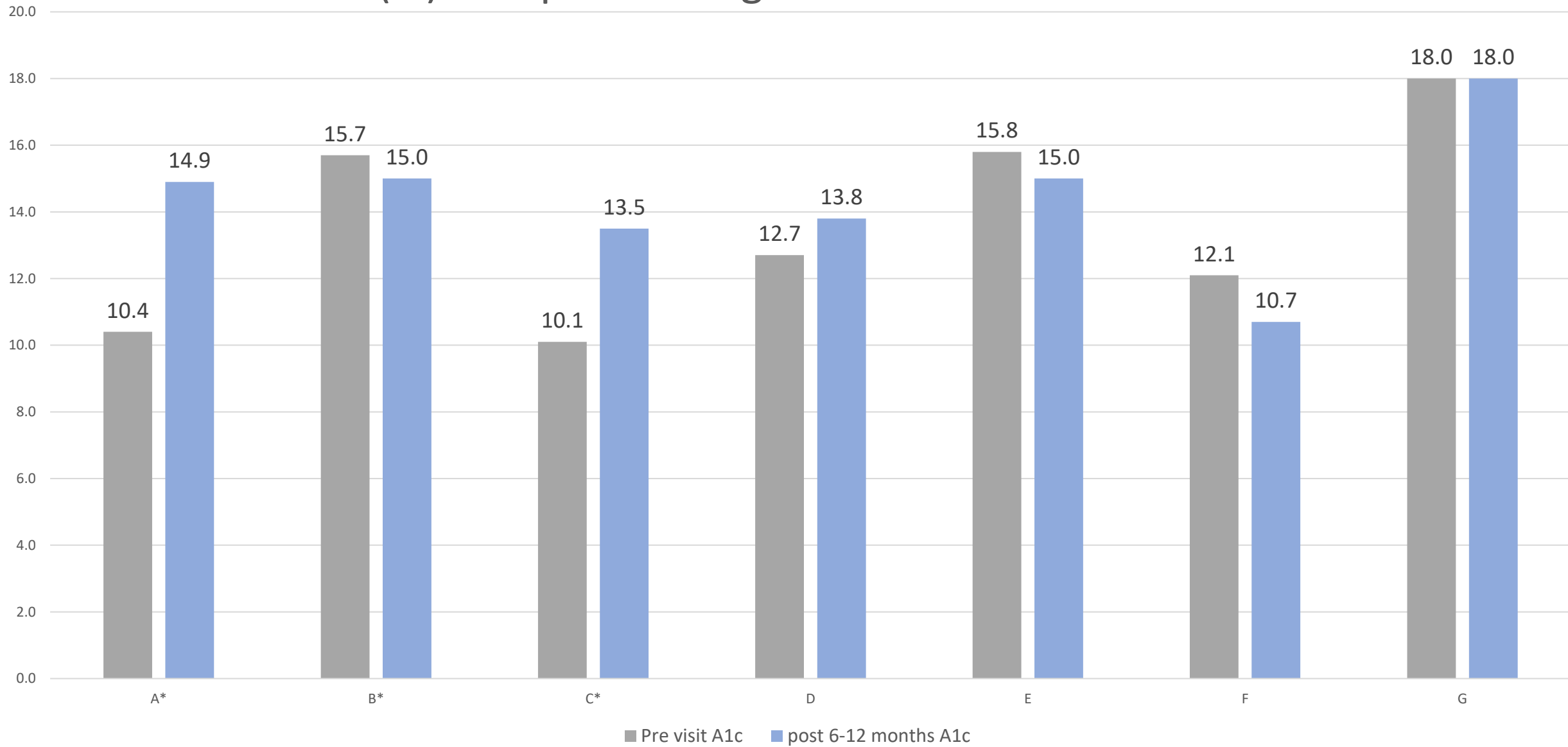
MD/APP + DCES LMSW/CCLS

- How to identify blood sugar patterns and make changes
- After Hours Game
- Review the preview topics as needed
- Review Blood Glucose

	Completed DREAMS	Returned to Usual Care (Did not complete program)	Total Enrollment
n	4	3	7
Age, mean $\pm$ SD (years)	15.3 $\pm$ 1.30	19.3 $\pm$ 0.47	17 $\pm$ 2.27
Female % (n)	50.0 (2)	66.7 (2)	57.1 (4)
Race			
White % (n)	25 (1)	33.3 (1)	28.6 (2)
Black/African American % (n)	75 (3)	66.7 (2)	71.4 (5)
Insurance			
Public % (n)	75.0 (3)	100.0 (3)	85.7 (6)
Private % (n)	25.0 (1)	0 (0)	14.3 (1)
HbA1c (%) [mean] at start of program $\pm$ SD	14.7 $\pm$ 2.4	12.1 $\pm$ 2.6	13.5 $\pm$ 2.8
HbA1c (%) [mean] ~6-12 months after completion or return to usual care	14.4 $\pm$ 2.6	14.5 $\pm$ 0.7	14.4 $\pm$ 2.0

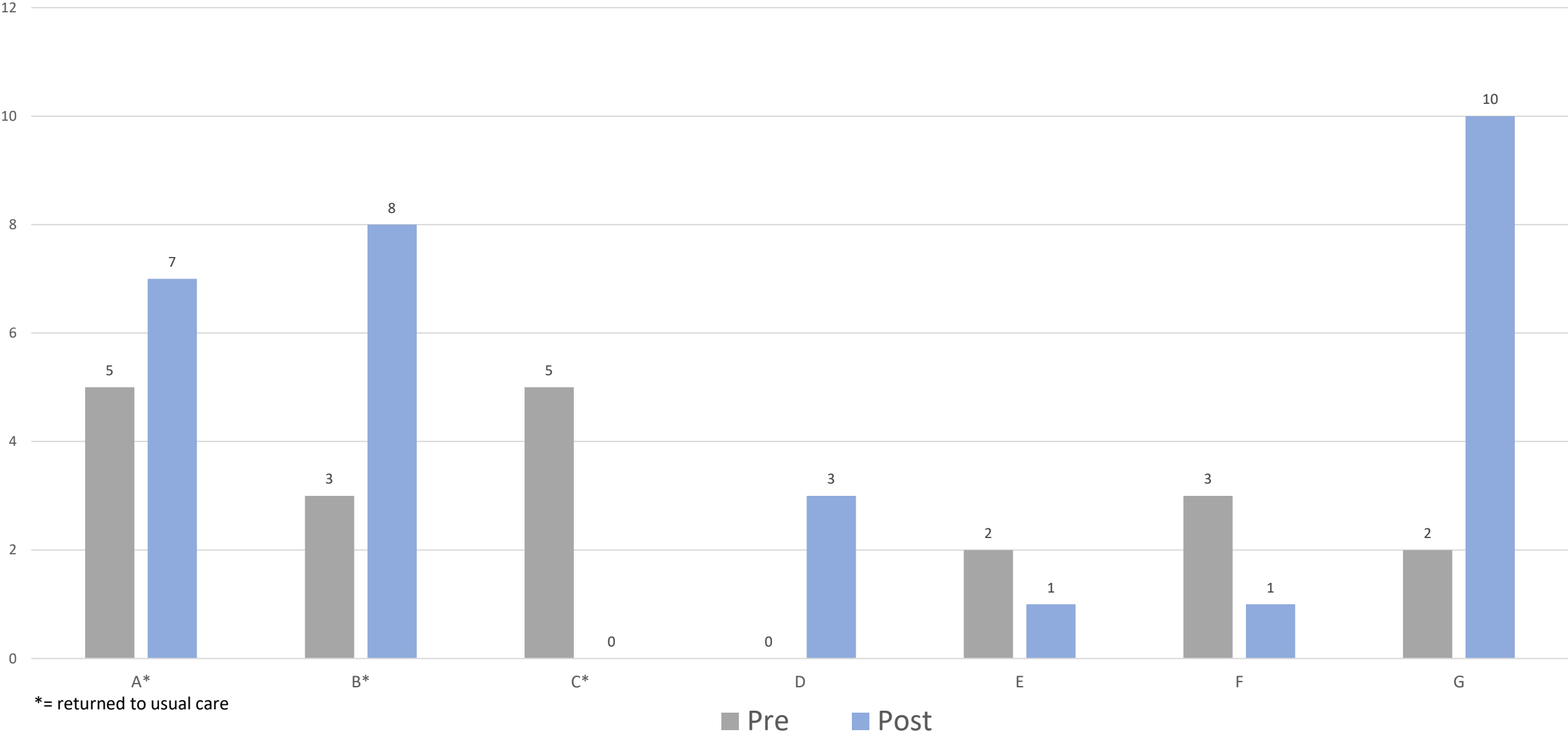


# HbA1c (%) Completed Program and Returned to Usual Care



\*= returned to usual care

# DKA Admissions



# Lessons Learned DREAMS Cohort 1

- Barriers to self-management and attending appointments are multifaceted. Changes to curriculum and reduction of visits appears to not mitigate barriers.
- No reduction in HbA1c among those who completed (n=4) program but those that returned to usual care (n=3) saw an increase 6-12 months later.
- Reduction in enrollment in part because of reduction in DKA admissions in total clinic population.
- Some participants may have benefited from extra two visits that were discontinued.

# DREAMS Cohort # 2 (11/2023 to Current)

- Added two visits back to curriculum as optional; determined by education staff if they deemed extra visits needed.
- Added psychologist to program.
- Involved social worker with parents/guardians of those in program. (Parental Goals)
- Changed eligibility criteria. Allow those with HbA1c of  $> 9.0\%$  to enroll or by referral from clinician.
- Eliminated return to usual care protocol. Return to usual care will be discussed with group on case-by-case basis.
- New intervention chart created in Epic to keep track of topics covered in each DREAMS visit

+ Care Coordination Note

Search for new problem

+ Add

DxReference

Show:  Past Probl

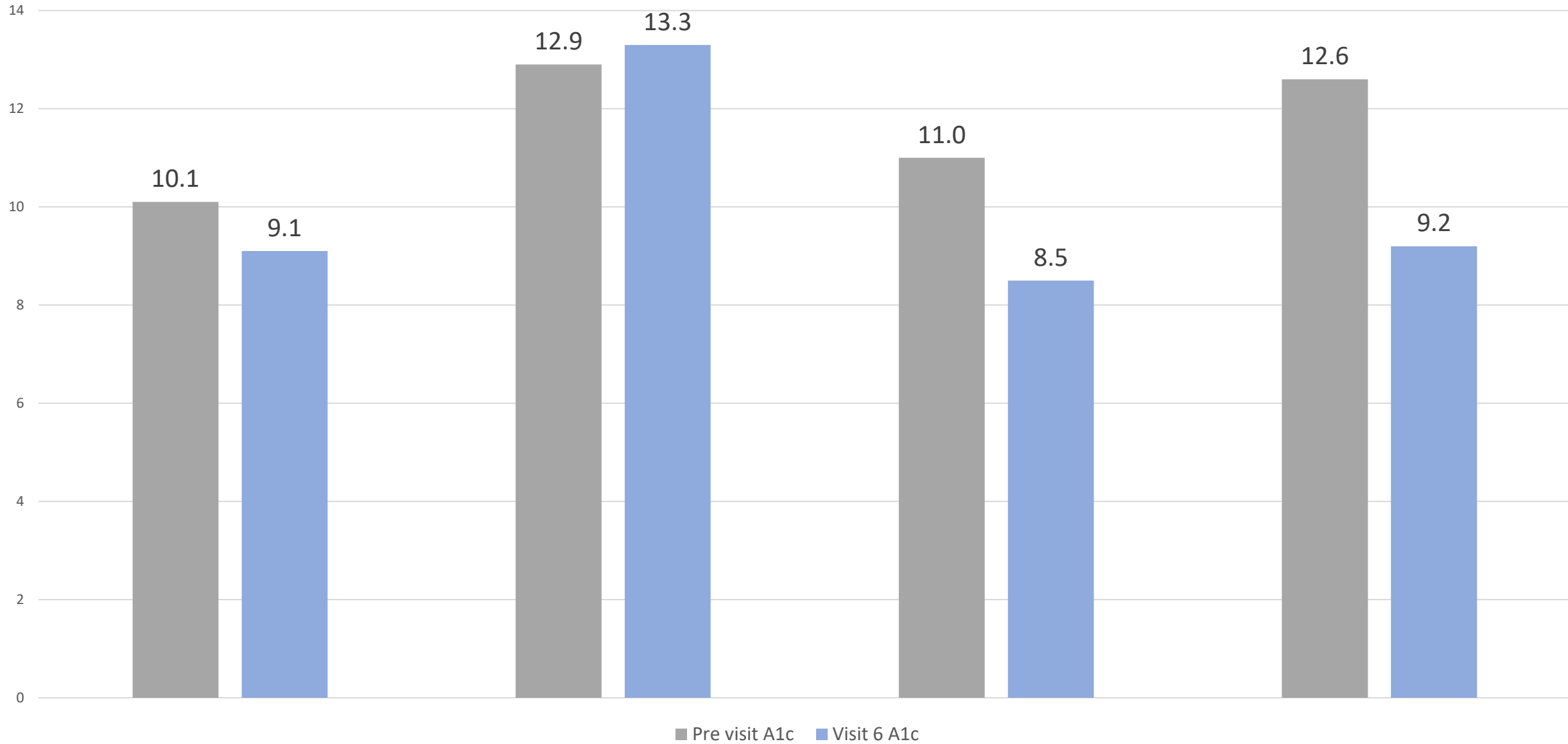
Joslin Dreams Intervention Chart

**DREAMS Interventions**

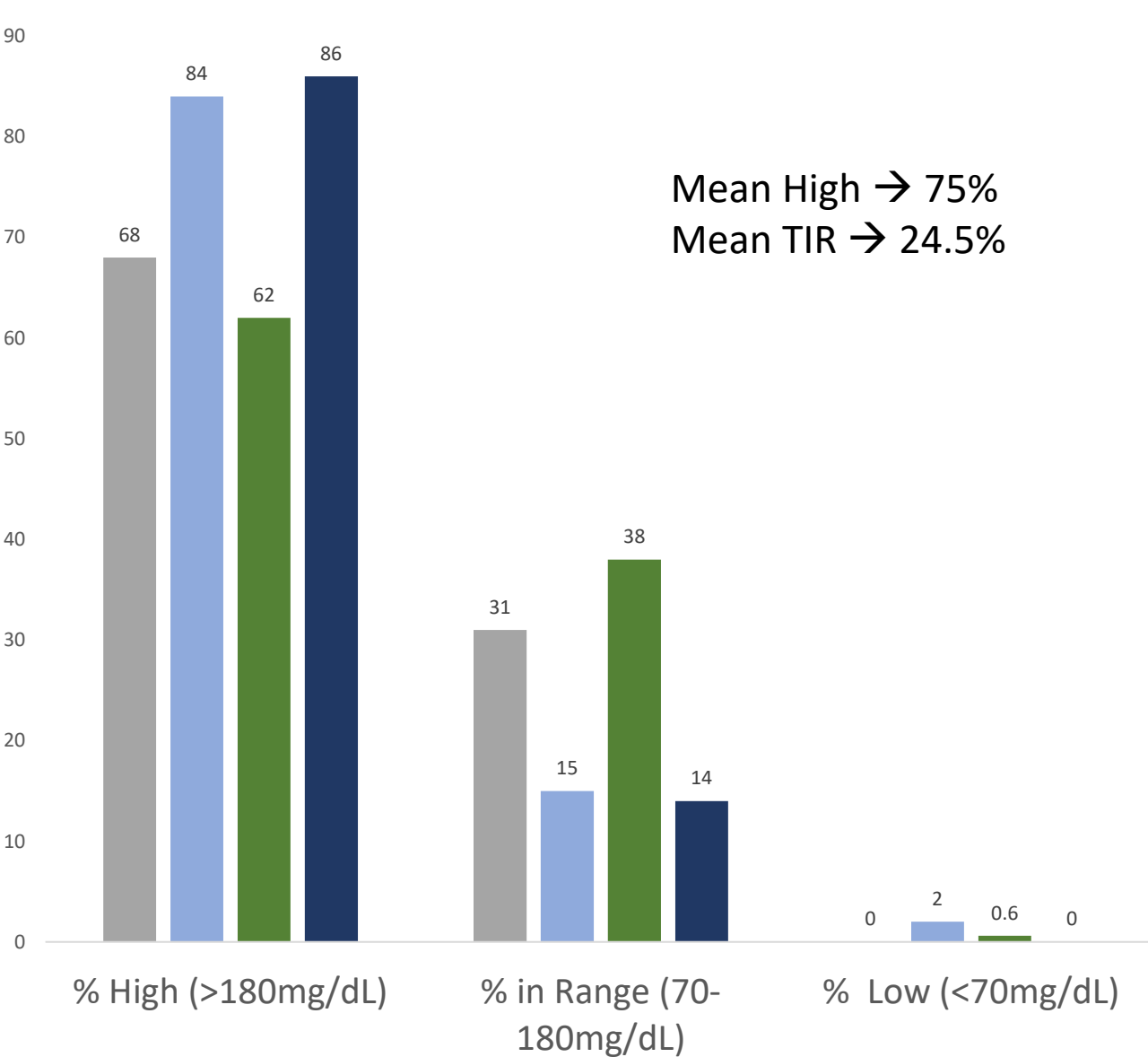
	Visit #1	Visit #2	Visit #3	Visit #4	Visit #5	Visit #6
DME Handouts - Contact info	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Program Details Handout	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Transportation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SW Referral	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Diabetes education reviewed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
CGM	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pump	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
InPen	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hybrid Closed Loop System	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A1c and TIR Handout	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Personalized goal setting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Exercise handout/plan	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
RD visit	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Child Life Interaction	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Peer-to-peer support	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Increase parental supervision	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Training of other caregivers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Contact information via My Chart	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Community resources	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Insulin regimen changes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Safety Quick Card	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Behavioral Health Interaction	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	Completed Program	Returned to Usual Care (Did not complete program)	Total Enrollment
n	4	3	13
Age, mean $\pm$ SD (years)	15.5 $\pm$ 1.12	16 $\pm$ 1.63	15.2 $\pm$ 2.01
Female % (n)	75 (3)	66.7 (2)	76.9 (10)
Male % (n)	25 (1)	33.3 (1)	23.1 (3)
Race			
White % (n)	75 (3)	66.7 (2)	69.2 (9)
Black/African American % (n)	0 (0)	33.3 (1)	15.4 (2)
Other % (n)	25 (1)	0(0)	15.4 (2)
Insurance			
Public % (n)	50 (2)	66.7 (2)	76.9 (10)
Private % (n)	50 (2)	33.3 (1)	23.1 (3)
HbA1c (%) [mean] at start of program $\pm$ SD	11.7 $\pm$ 1.15	11.8 $\pm$ 0.97	11.6 $\pm$ 1.66
HbA1c (%) [mean] at last visit or when returned to usual care $\pm$ SD	10.0 $\pm$ 1.90	12.5 $\pm$ 0.85	11.1 $\pm$ 1.96

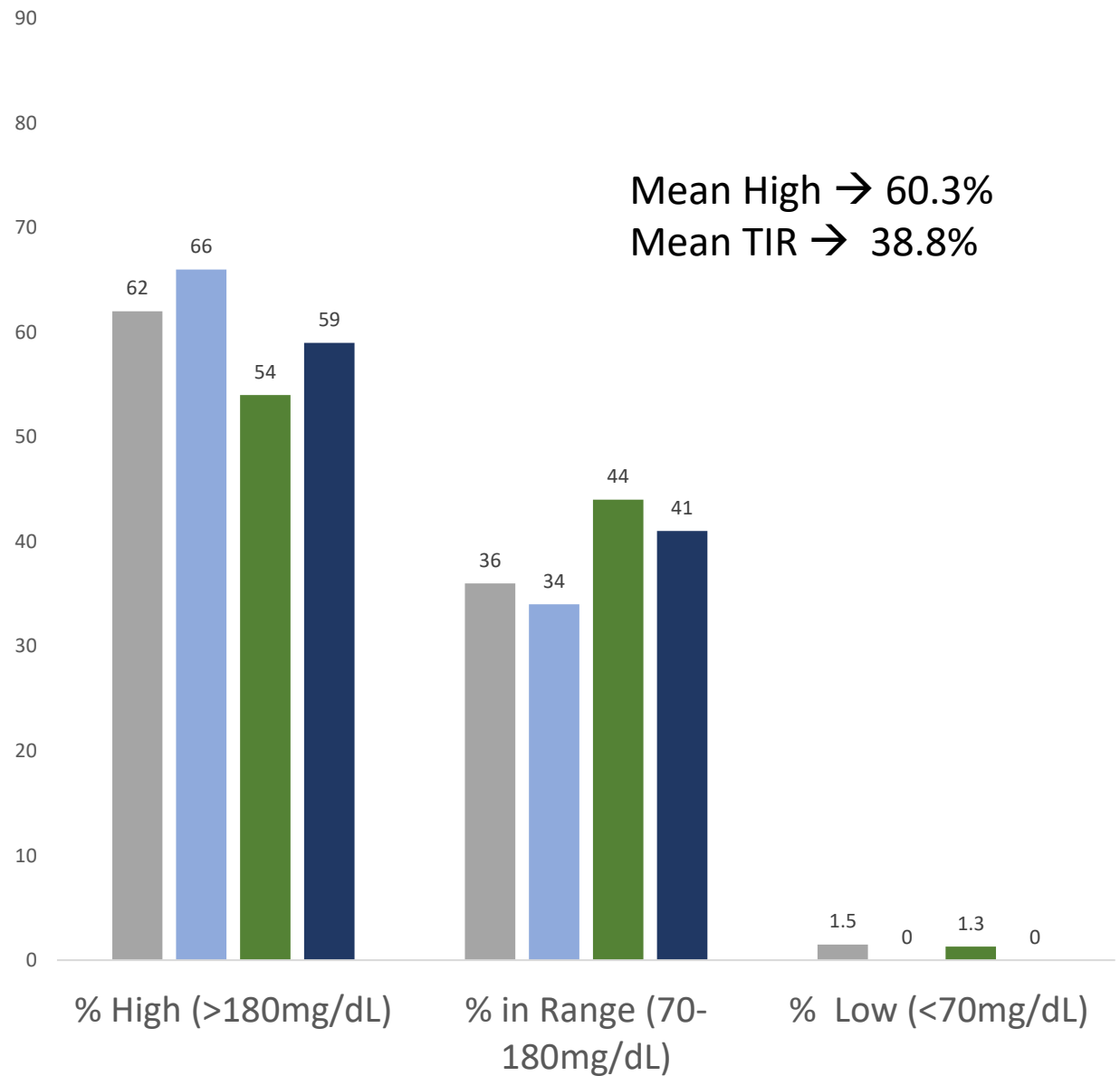
# HBA1c(%) of those that completed DREAMS



# CGM Metrics at Start of Program

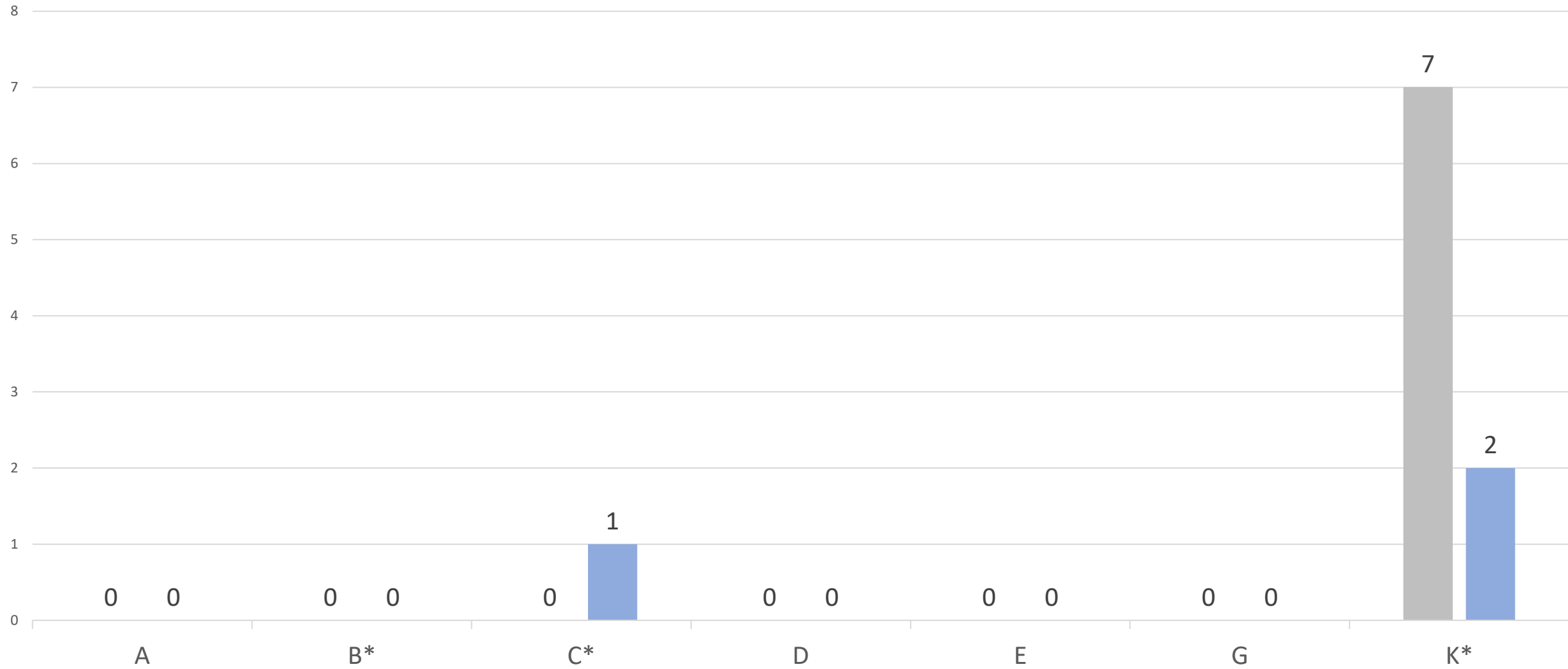


# CGM Metrics at Program Completion





# DKA Admissions



\* Returned to usual Care

■ Pre ■ Post

# Next Steps/Conclusions

- Finish visits/complete program for those enrolled in recent cohort
  - Analyze outcome measures of full cohort
- Determine participant satisfaction of program and get feedback from those that completed program
- Continue to try new interventions to address barriers

# Center Presentation



# Nemours Children's Hospital, Delaware

Patrick Hanley, MD, MSHQS

January 30<sup>th</sup>, 2025



**NEMOURS**  
CHILDREN'S HEALTH

# About Us

- Nemours joined as three different sites last year:
  - Delaware: Site PI Patrick Hanley
  - Orlando: Site PI Neha Vyas
  - Jacksonville: Site PI Monica Mortensen

# Nemours Children's Hospital, Delaware

## Multidisciplinary Team

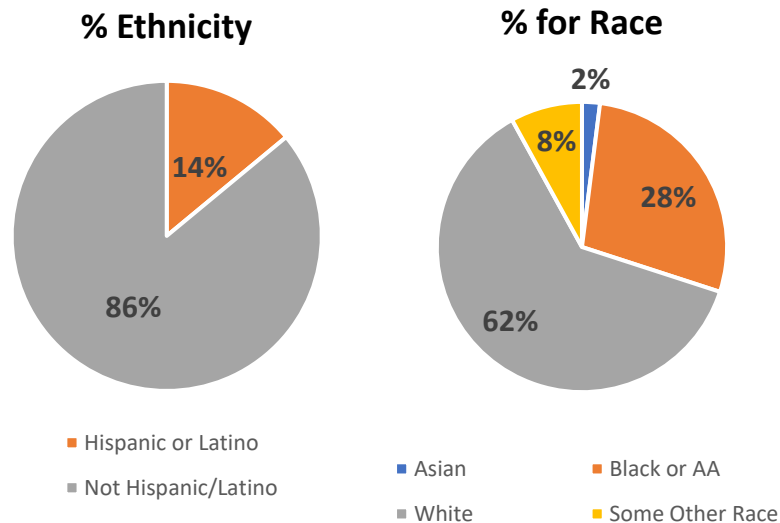
- Ped Endo Physicians: 10 (6.67 cFTE)
- Nurse Practitioners: 4 (3.1 cFTE)
- Physician Assistant: 1 (0.8 cFTE)
- Social Worker: 1 (1.0 cFTE)
- Psychologist: 1 (0.2 1cFTE)
- Endo fellow: 1 (July 2025)
- CDCES (3.1 FTE total)
  - Nurses – 2.1 FTE
  - Dietitians – 1.0 FTE

## Volume and Demographics

- 1056 patients with T1D
- Average ~ 110 new onset T1D per year

**Insurance:** 31% Medicaid

## Race/Ethnicity (T1D & T2D)



## Contact Names

### Site PI

- Patrick Hanley, MD, MSHQS
- [Patrick.Hanley@nemours.org](mailto:Patrick.Hanley@nemours.org)

### QI Site Coordinator:

- Ashley Medina, DHSc, MHA, CPHQ, CPPS, PMP
- [Ashley.Medina@nemours.org](mailto:Ashley.Medina@nemours.org)

### Other Team Members:

- Jeffrey Myers (Bioinformatician)
- [Jeffrey.Myers@nemours.org](mailto:Jeffrey.Myers@nemours.org)

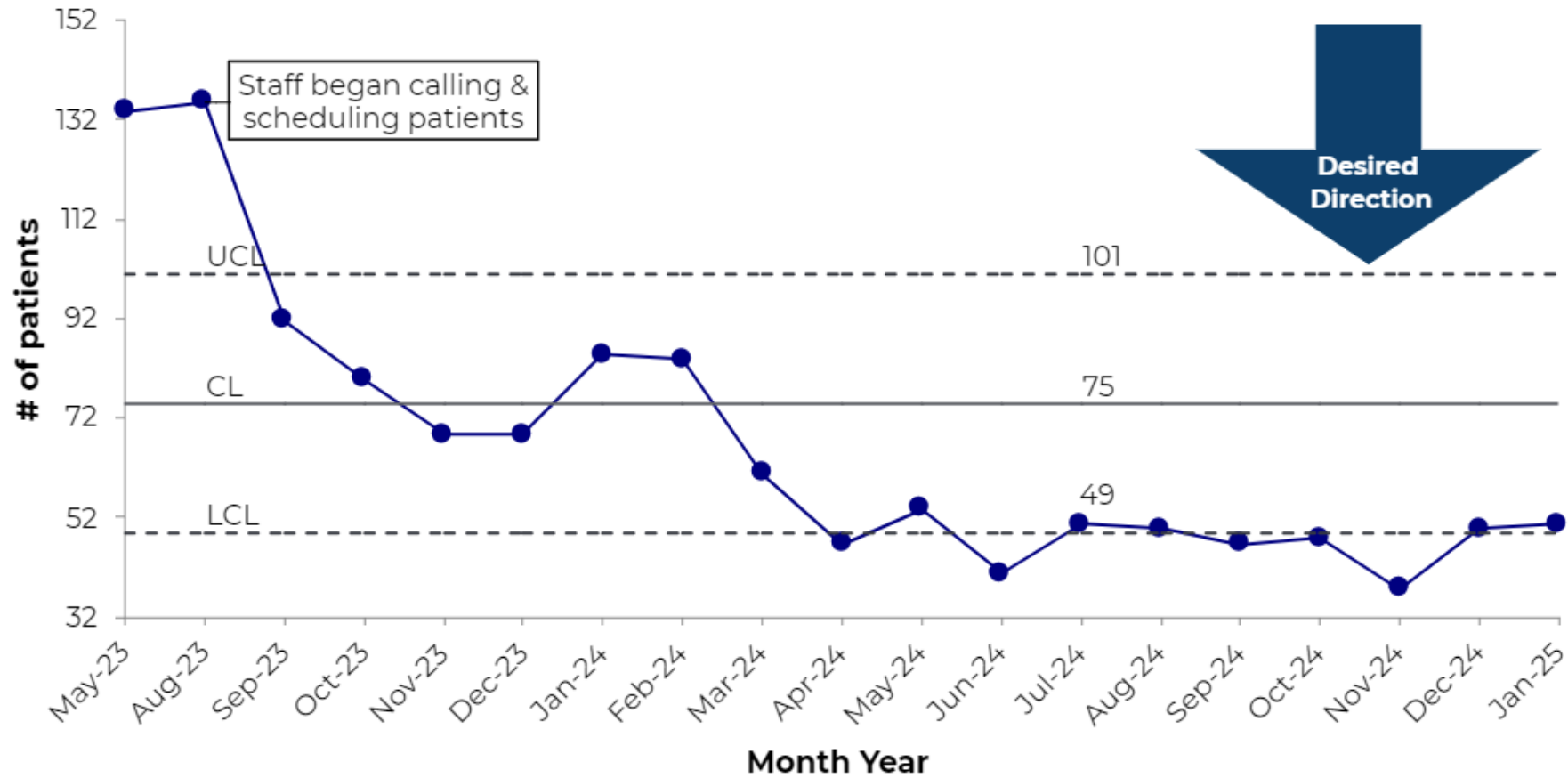


# Diabetes SmartForm & Learning Health System (LHS)

- Review sample Diabetes SmartForm patient in Epic BLD
- Review features in Diabetes LHS
- [Knowledge Base LHS](#)

# Process Measure: Patient Scheduling

# of T1D patients not scheduled and not seen in 6 months





# Continuous Glucose Monitor Utilization Project AIMS

- Investigate reasons for decreased CGM utilization.
- Increase CGM utilization in patients with HbA1c >8.5% by 10% by July 2024.

# Baseline Data for CGM Utilization

<b><u>CGM Prescribed</u></b>	<b><u>A1c &gt; 8.5% (N=322)</u></b>	<b><u>Percent of Total</u></b>	<b><u>A1c &lt; 8.5% (N=752)</u></b>	<b><u>Percent of Total</u></b>
Yes	283	<b>88%</b>	703	<b>93%</b>
No	35	<b>11%</b>	38	<b>5%</b>
<i>Not documented</i>	4	<b>1%</b>	11	<b>2%</b>
<b><u>CGM Used Reliably</u></b>	<b><u>A1c &gt; 8.5% (N=322)</u></b>	<b><u>Percent of Total</u></b>	<b><u>A1c &lt; 8.5% (N=752)</u></b>	<b><u>Percent of Total</u></b>
Yes	179	<b>56%</b>	615	<b>82%</b>
No	104	<b>32%</b>	48	<b>6%</b>
<i>Not documented</i>	39	<b>12%</b>	89	<b>12%</b>

# Interventions in CGM Utilization Project

Core team: Diabetes NP, QI Specialist, 2 Endocrinologists, Medical Student.

## **Changes implemented:**

- Patient questionnaire
- Standardized definition for documenting using CGM reliably
- Created and distributed a CGM tipsheet
- Added automatic billing to documenting CGM usage in SmartForm
- Collected feedback on CGM tipsheet

# Standardize “Reliably” for CGM Use

Open Diabetes LHS

DIABETES SUMMARY FORM

- Diabetes Summary
- Annual Laborator...
- Immunization Rpt
- Quarterly Labora...
- CGM Time in Ra...
- Depression Scrn
- Depression Flwsht

PEDSQL DIABETES

- PedsQL Diab Scrn
- PedsQL Flwsht

## Diabetes Summary

Expand All Collapse All

Date of DM Visit Review  
10/17/2024

> Background Information

Technology

Does patient have access to continuous glucose monitor?

Does the patient reliably use the continuous glucose monitoring system?

Was the continuous glucose monitoring data reviewed during visit

Percent Time in Range (TIR)

Glucose Monitor Table

	Type	Start Date	Stop Date
1	Dexcom		
2	<input type="text"/>	<input type="text"/>	<input type="text"/>

# CGM Tipsheet



## Tips for Wearing a Continuous Glucose Monitor (CGM)

If your continuous glucose monitor falls off sometimes, try these things to keep it in place. Find out how to handle other problems too.

### Basic Tips

- Try placing your CGM on different parts of the body. Ask your provider for suggestions.
- Clean your skin of oils and lotions. Wash the site using a non-moisturizing soap like Dial®.
- After you insert the sensor, rub the dressing around the sensor to attach it securely.
- Use an overlay patch to hold your sensor in place.



Dexcom



Libre

### How to Hold Your CGM in Place?

Try using a skin adhesive and a clear film dressing to help your CGM stay secure.

First, use a skin adhesive (like Skin Tac™ or Mastisol®)

Follow these steps:

1. Wipe the Skin Tac or Mastisol in a donut shape at the insertion site. Let the adhesive product dry completely.
2. Insert the CGM sensor.
3. Wipe the tape, including edges, with the Mastisol or Skin Tac again. Let it dry completely.
4. When it is dry, place the overlay patch on top.
5. At any time during the week, if the edges of the dressing come loose, wipe the edges with more Skin Tac or Mastisol.



### How to Remove Your CGM?

If you have trouble removing the dressing before removing your CGM, try using TacAway® adhesive remover wipes or baby oil. Gradually rub at the outside edge of the tape and skin while slowly pulling the tape. Continue working inward until you reach the final edge of the adhesive, and the sensor comes off easily.

### How to Avoid Irritated or Sensitive skin caused by the Sensor Adhesive?

Scan the QR code to read what to do.



### Where to Buy Overlay Patches and Skin Adhesives?

You can buy overlay patches, skin adhesives, and adhesive remover wipes online or at a local retail store. Try Amazon, Walmart etc.

### What to Do If Your Sensor Falls Off?

If your sensor falls off, contact your CGM company to get a replacement.

You can contact the company by going to their website and using the chat, reaching out to them on their app, or calling their support line.

For the Libre support line, call (855) 632-8658 or scan the QR code. For the Dexcom support line, call (844) 607-8398 or scan the QR code.



Libre



Dexcom

### When to Contact Your CGM Company?

Call the company that makes your CGM if:

- Your sensor falls off too soon. The company will send you a replacement at no cost to you.
- You have a technical problem. (like a sensor error or you cannot connect your CGM to your phone.)
- When inserting your sensor, you have a lot of bleeding at the site and need a replacement sensor.

### When to Contact Your Diabetes Care Team?

# Added Billing to CGM Documentation in Diabetes SmartForm

Open Diabetes LHS

DIABETES SUMMARY FORM

- Diabetes Summary
- Annual Laborator...
- Immunization Rpt
- Quarterly Labora...
- CGM Time in Ra...
- Depression Scrn
- Depression Flwsht

PedsQL DIABETES

- PedsQL Diab Scrn
- PedsQL Flwsht

**Diabetes Summary**

Expand All Collapse All

Date of DM Visit Review  
10/17/2024

> **Background Information**

Technology

Does patient have access to continuous glucose monitor?  
Yes No

Does the patient reliably use the continuous glucose monitoring system?  
Yes No

Was the continuous glucose monitoring data reviewed during visit?  
Yes No

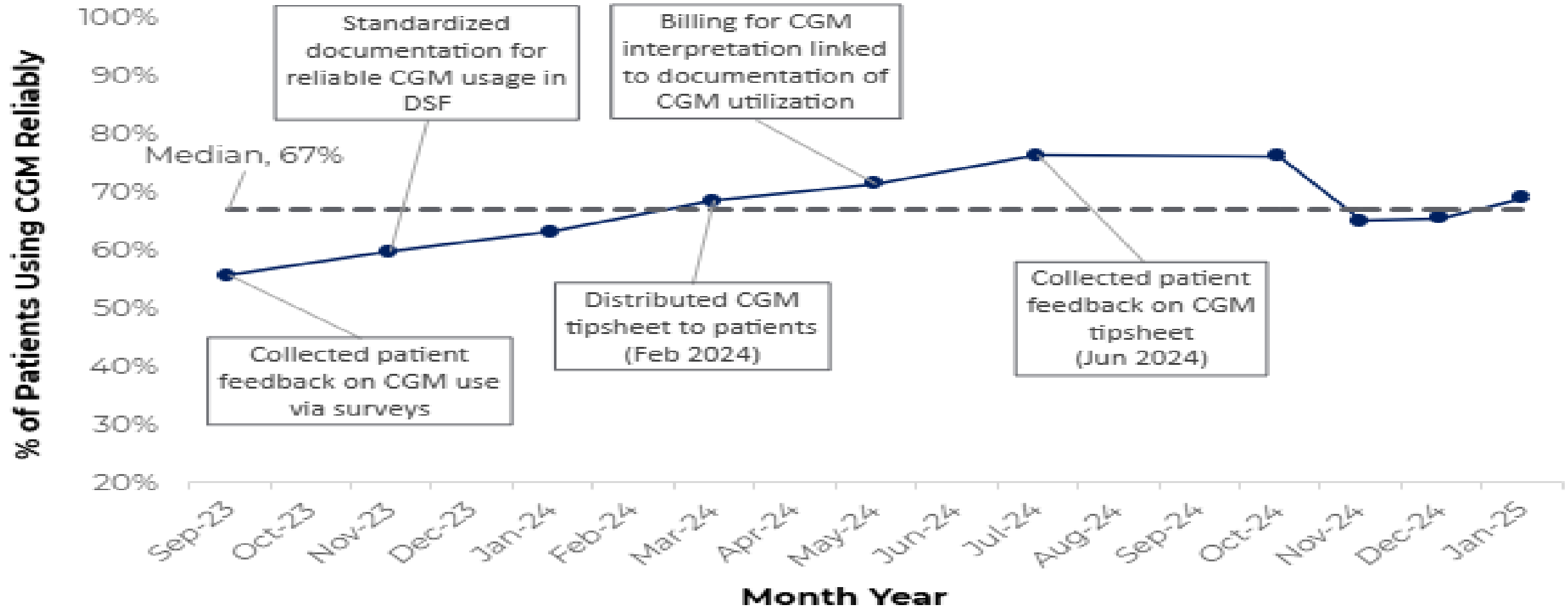
## Charge Capture Charges

Charge ID	Code	Procedure Description	Qty.	Modifiers	Charge Entry User	Diagnosis
103608238	99215	OFFICE/OUTPATIENT ESTABLISHED HIGH MDM 40-54 MIN	1	25	Hanley, Patrick, MD	Type 1 diabetes mellitus with hyperglycemia
103608614	95251	CONT GLUCOSE MONIT 72 HR PHYS INTERP	1		Hanley, Patrick, MD	Type 1 diabetes mellitus with hyperglycemia

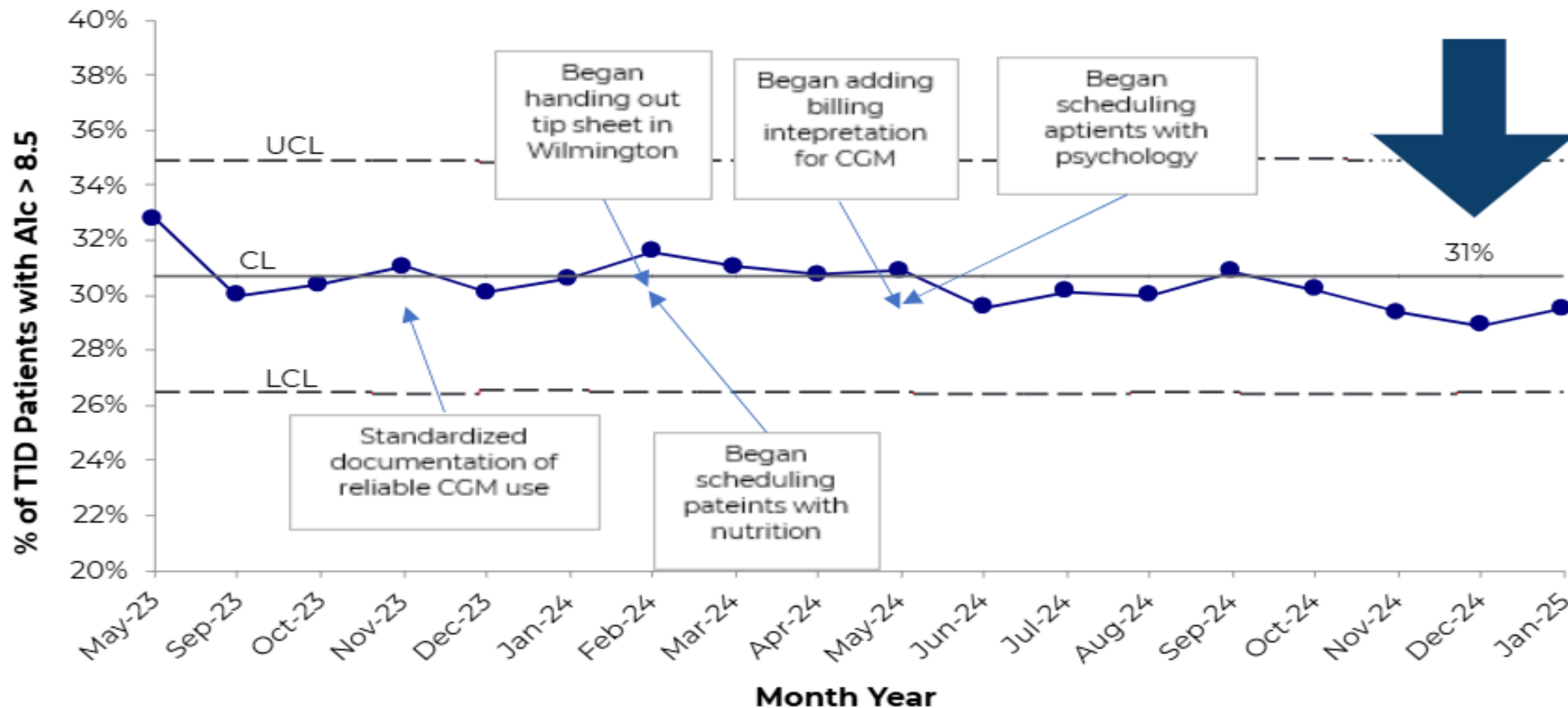


# Run Chart for CGM Project

## % Using CGM Reliably & A1C > 8.5



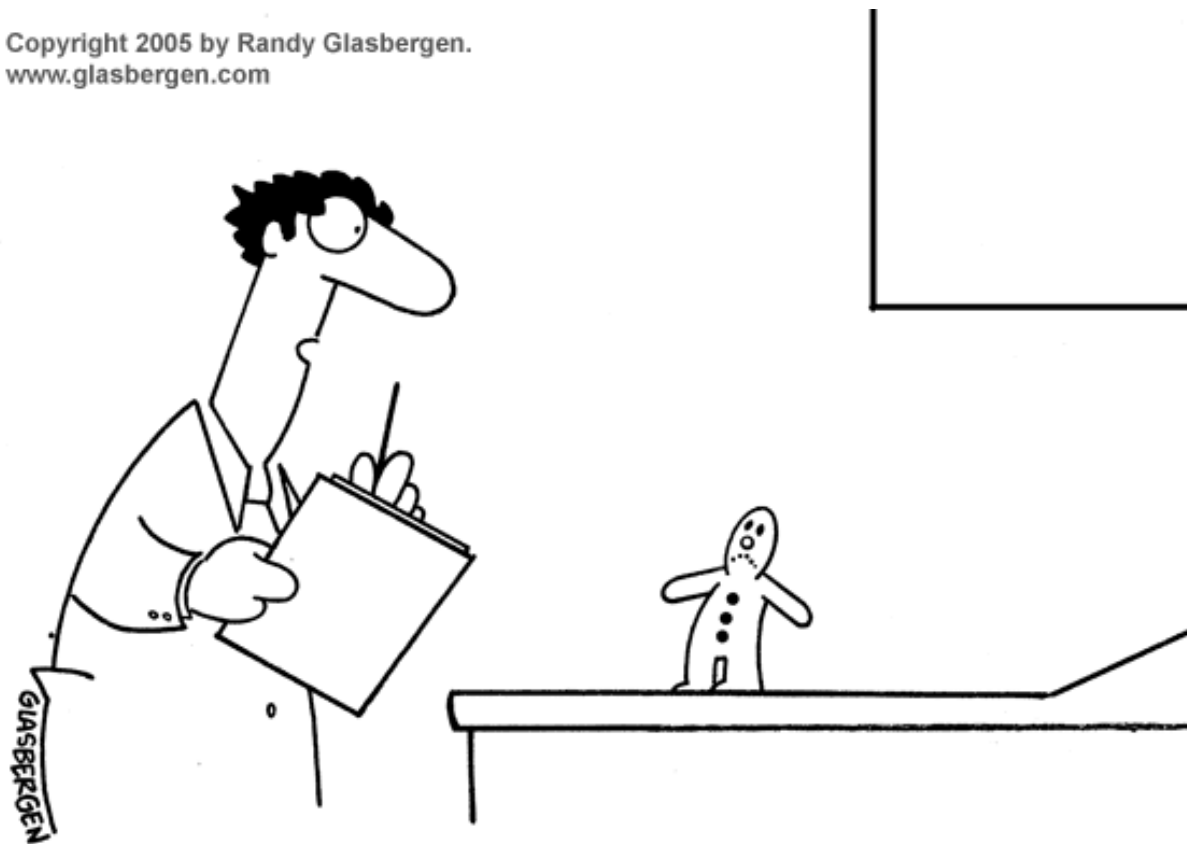
# Control Chart for Patients with A1c > 8.5%





# Thank you for your time – questions or feedback?

Copyright 2005 by Randy Glasbergen.  
www.glasbergen.com



**“Your blood sugar is too high.”**

[Patrick.Hanley@nemours.org](mailto:Patrick.Hanley@nemours.org)



# Center Presentation

Baylor  
College of  
Medicine

DEPARTMENT OF  
PEDIATRICS



Division of Pediatric Diabetes & Endocrinology

# Texas Children's Diabetes Care

Daniel DeSalvo, MD

Sarah Lyons, MD

Selorm Dei-Tutu, MD, MPH

T1D Exchange QI Collaborative – January 2025 Pediatric Collaborative Call



# Diabetes clinic information

## Locations

Houston: 6 clinics and 3 hospitals  
Austin: 1 clinic and hospital

## Faculty and staff

Pediatric endocrinologists: 35  
Advanced practice providers: 9  
CDCES FTE: 29 (includes 3 remote)  
RD FTE: 10  
Social workers FTE: 6  
Psychologists: FTE: 2

## FY2024 patient demographics

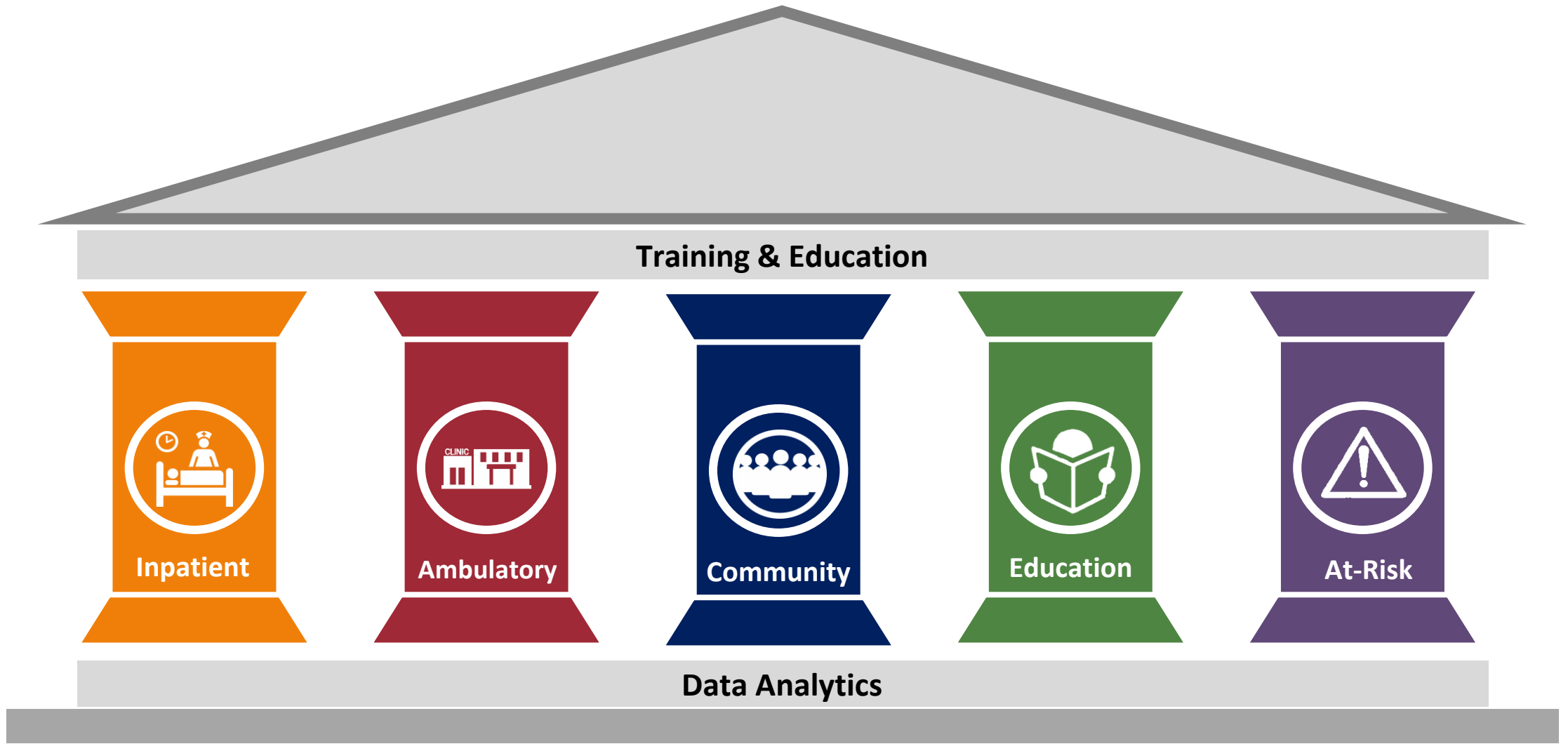
**Type 1** population: 3396, new onset: 358/yr

Insurance: 38% public

Race/ethnicity: 40% non-Hispanic white, 31% Hispanic, 21% non-Hispanic Black, 8% other

**Type 2** population: 779, new onset: 124

# Quality Infrastructure:



# Diabetes Care Process Team Structure:



**Dr. Rona Sonabend**  
Care Process Team Lead  
Physician Lead



**Dr. Sarah Lyons**  
Care Process Team Lead  
Physician Lead



**Mrs. Rhonda Wolfe, RN**  
Care Process Team Lead  
Operational Lead



**Mr. Curtis Yee**  
Care Process Team Lead  
Operational Lead



**Siripoom McKay, MD**  
Inpatient Process



**Grace Kim, MD**  
**Mili Vakharia, APP**  
Education



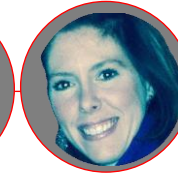
**Melissa Marshall, RN**  
**Daniel DeSalvo, MD**  
Clinic Process



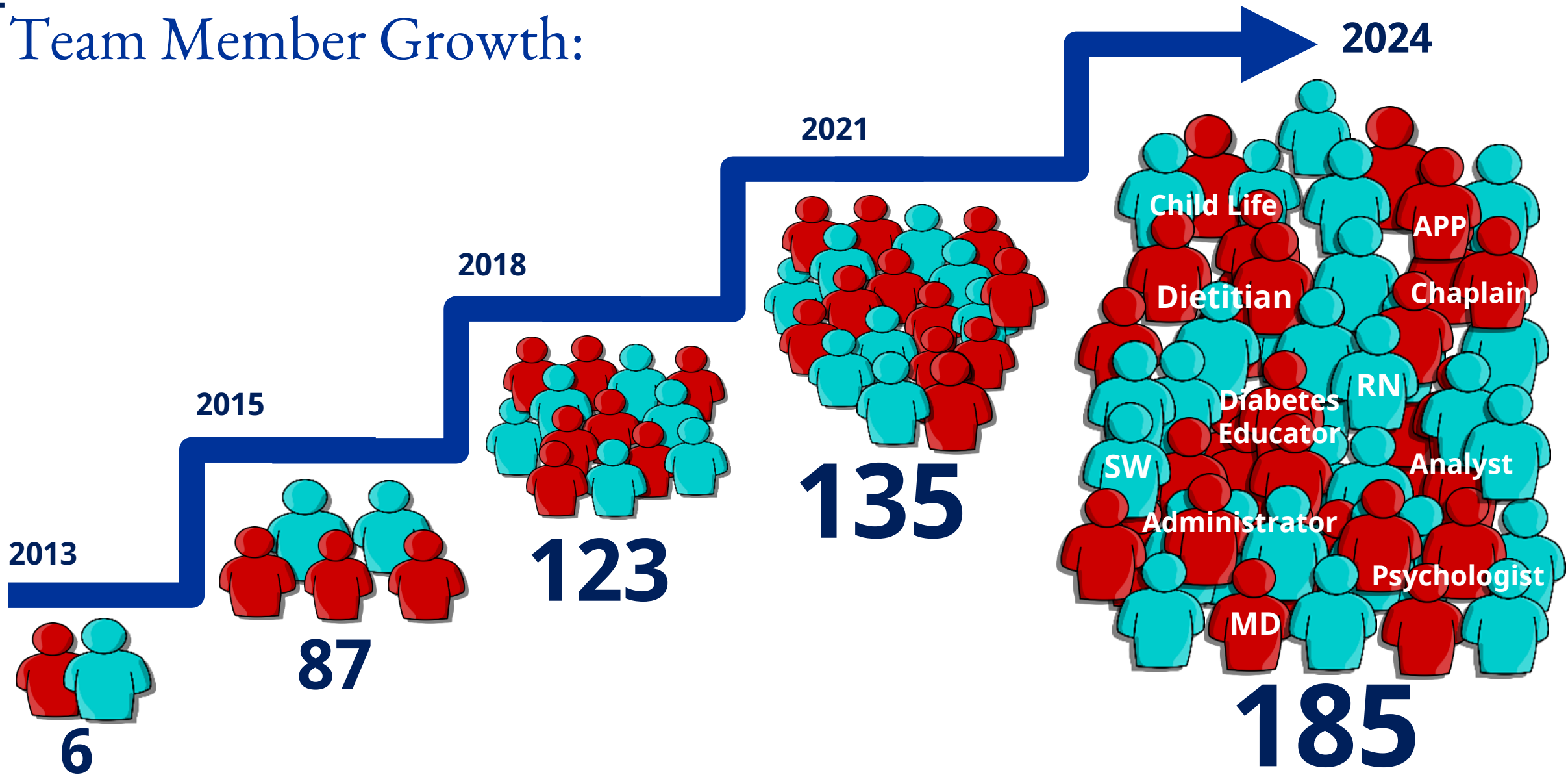
**Selorm Dei-Tutu, MD**  
**Becky Butler, LMSW**  
At Risk Population



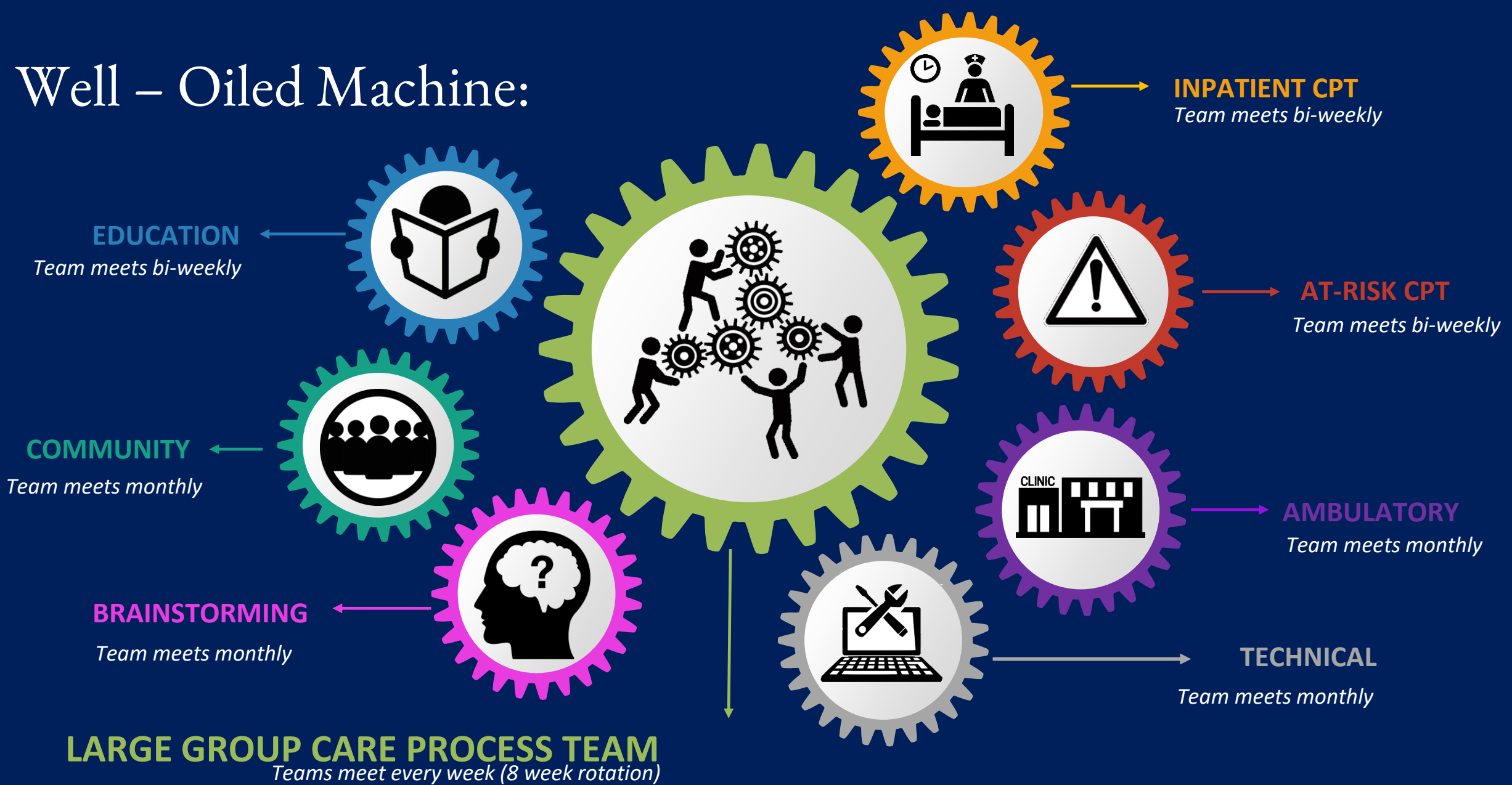
**Bonnie McCann, MD**  
**Lisa Setchfield**  
Community Collaborations



# Team Member Growth:



# Well – Oiled Machine:





# Diabetes Scorecard:

Category	Classification	Metrics	IOM Domain
General	Outcome	Emergency department visits/hospital admissions for potentially preventable events (established patients)	Effective, Safe
	Process	Percentage of patients treated by providers and ancillary service within timeframes endorsed by national guidelines (includes new and established patients)	Effective, Timely
	Outcome	Percentage of children whose community providers have utilized educational tools within EPIC, patient-specific documents within EPIC (e.g., portable medical summary)	Care Coordination
Screening	Process	Adherence to screening procedures as defined by national guidelines for the following: cholesterol; blood pressure, thyroid disease; eye exam; micro albumin, celiac disease and depression	Effective, Efficient
Treatment / Management	Outcome	Percentage of patients above HbA1c target (7.5) or poor control (>9) (stratify by age)	Effective, Safe
	Structural/ Process	Development of a decision tree for strategies to address glycemic control (e.g., referrals for social work – psychology consult – diabetes educator vs. dietician – case management/care coordinator). Utilization of a risk-assessment score to determine the appropriate strategies described in the aforementioned measure	Effective, Efficient, Care Coordination
	Structural/ Process	Development of an educational pathway. Adherence to educational pathway (all patients will undergo initial training and are re-assessed on condition-specific topics)	Patient Centered

# Successes:

## 2013

- Launch
- **Data analytics**
- Balanced scorecard
- Insulin guidelines
- Education handbook

## 2014

- Inpatient diabetes unit
- Order sets
- Nursing education pathway
- Family centered rounds

## 2015

- **Expansion to 5 teams**
- New onset risk score
- Diabetes action plan
- Hospital follow-up visit

## 2016

- Comorbidity screening
- Ancillary touchpoints
- Diabetes psychologist
- School orders
- **National collaborative**

## 2017

- **EMR health registry**
- Preclinic planning
- High risk social worker
- Advanced education
- Community outreach
- TCHP partnership



## 2018

- Readmission bundle
- Clinic passport
- **Psychosocial assessment**
- School nurse conference

## 2019

- Access initiatives
- Depression screening
- Cholesterol management

## 2020

- Telehealth
- Food Insecurity
- State Medicaid advocacy

## 2021

- MyChart questionnaires
- Sick day visits
- Advanced technology
- Nurse coordinator

## 2022

- Medical nutrition therapy
- Toddler diabetes program
- Hypoglycemia management
- Prediabetes pathway
- Remote patient monitoring program

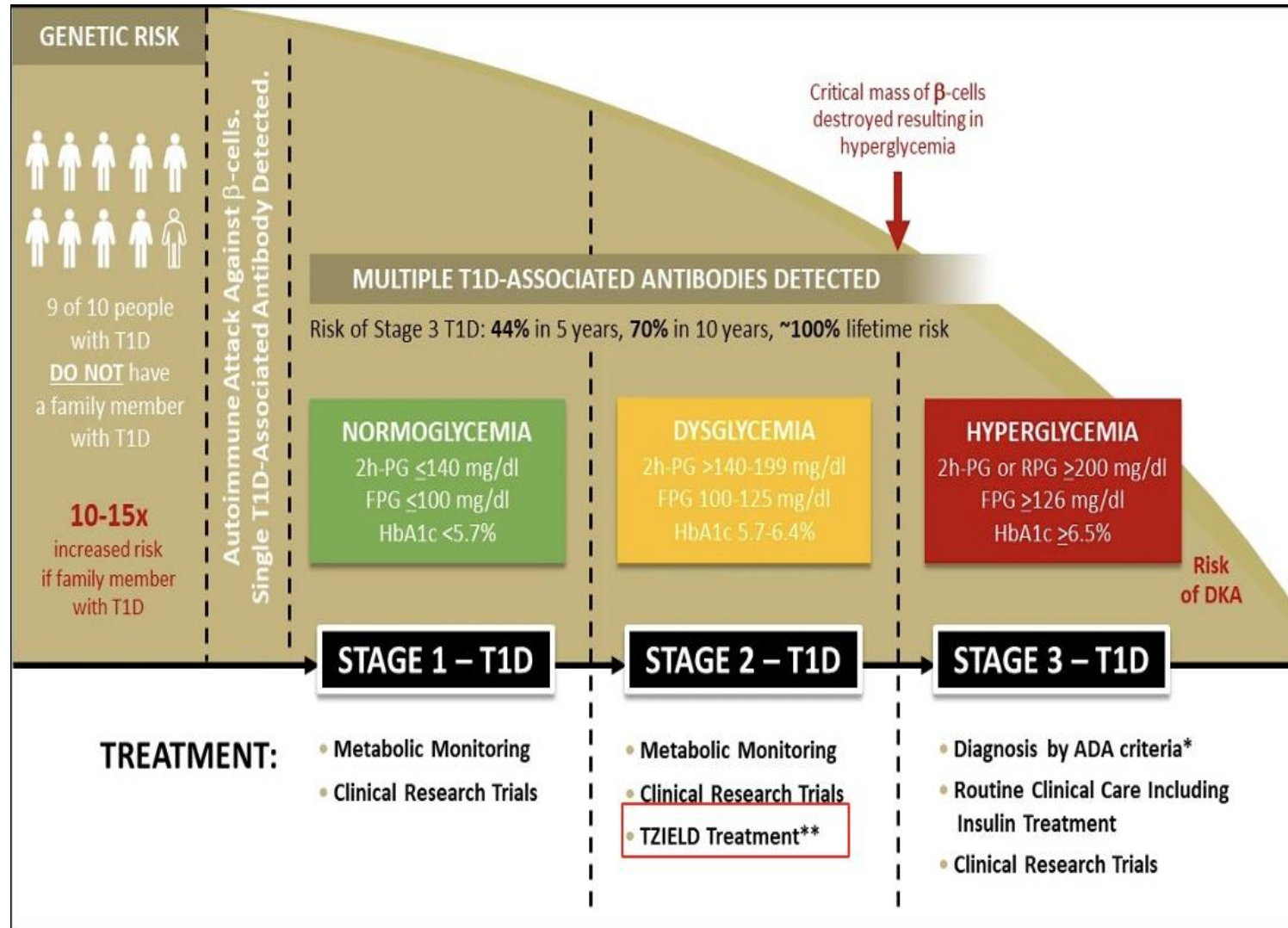
## 2023

- New to technology clinic
- Transition to adult care
- **Type 1 prevention**

## 2024

- AID system expansion
- Wrap around care for high-risk patients
- New onset type 2 pathway and med use

# SIT Down T1D! - Screening & Intervention To Delay T1D

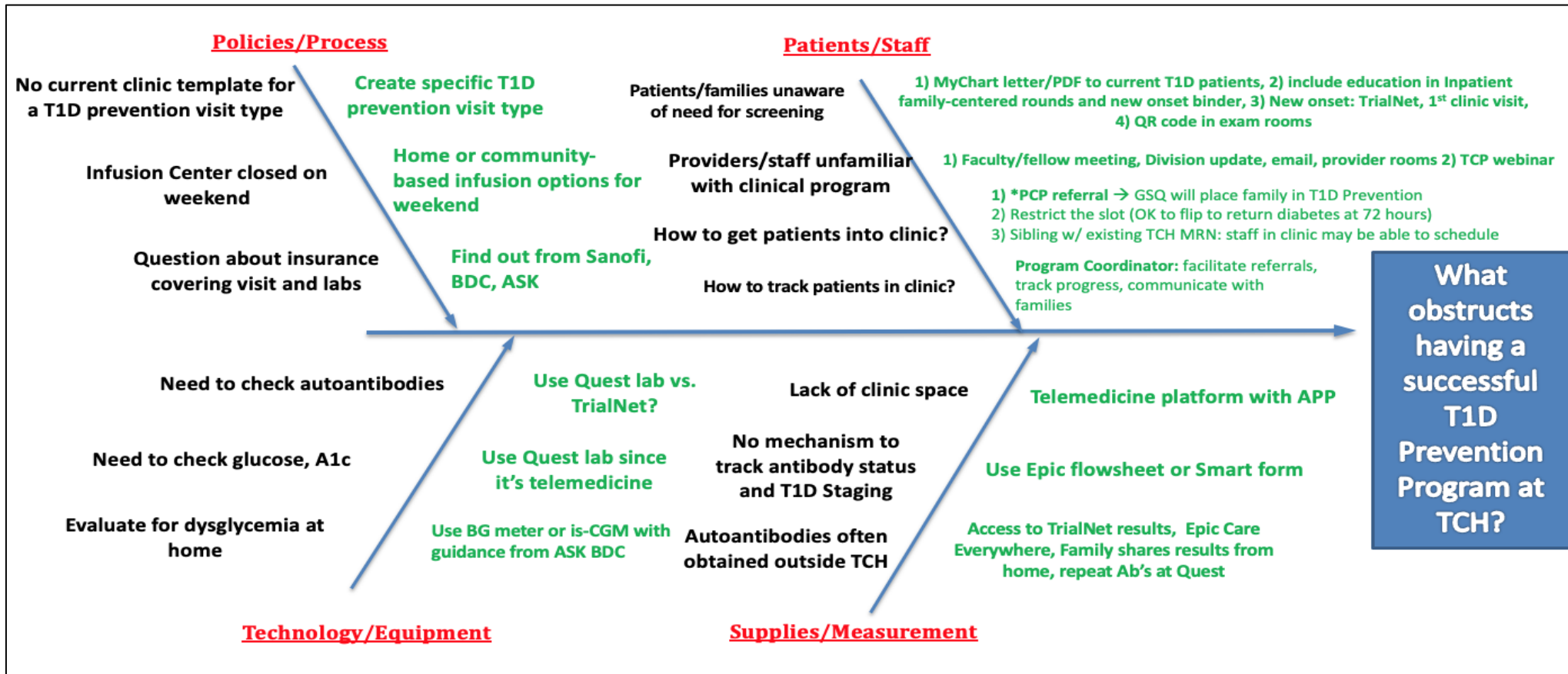


# T1D Exchange QI Collaborative – T1D Screening Project

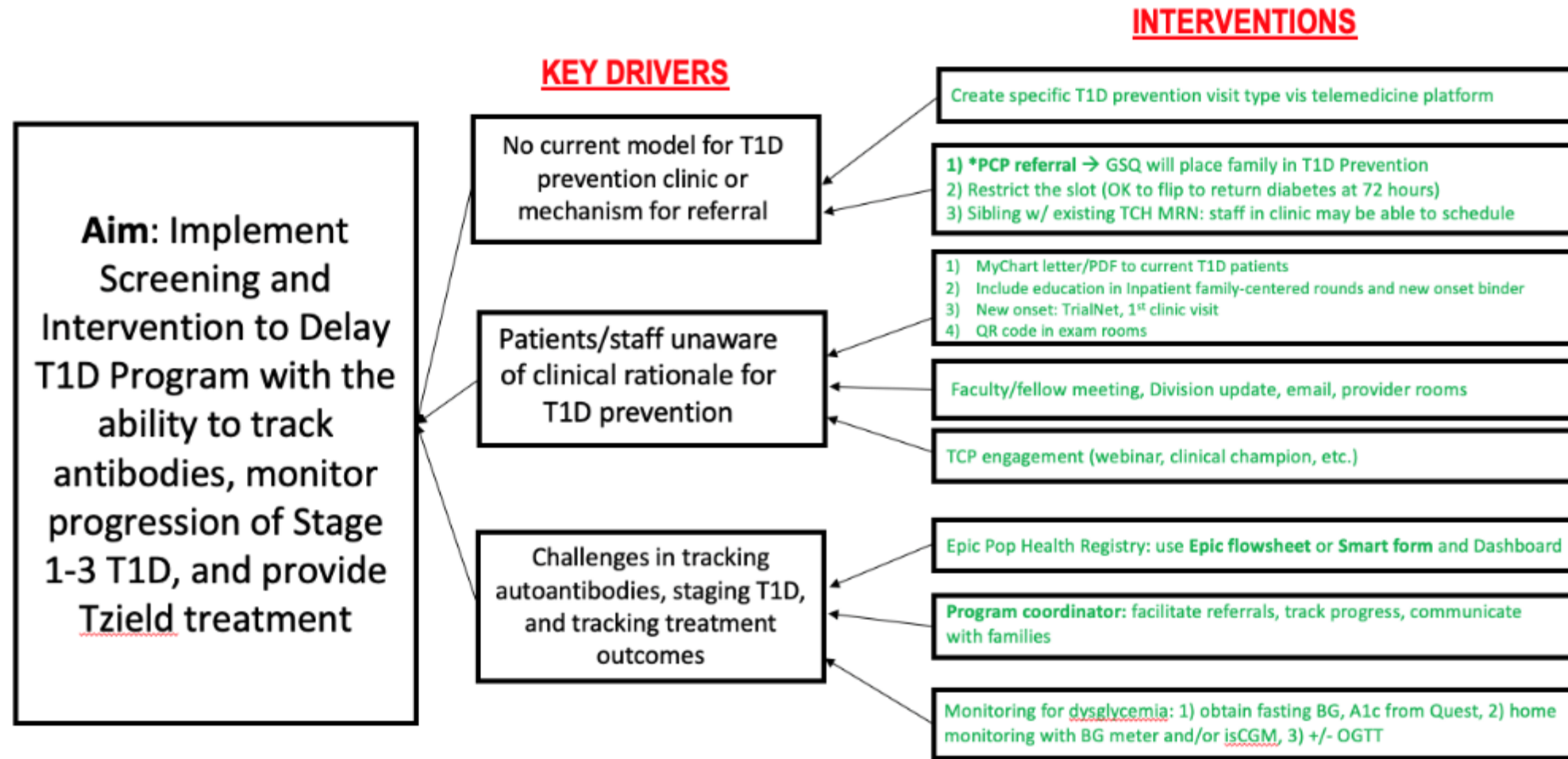
- Collaboration with:
  - Lurie Children’s Hospital of Chicago
  - Children’s National Hospital
  - University of Indiana
  - Rady Children’s Hospital (UCSD)
  - University of Florida



# Fishbone Diagram – T1D screening and intervention



# Key Driver Diagram – T1D screening and intervention



## T1D Screening Project: Implementation Rolling Action Item List

**AIM: Increase by at least 15% (from baseline) the proportion of people screened for T1D in 18 months. (June 2024- Dec 2025)**

Key Driver	Intervention	PDSA	Point Person	Progress Note	Next Steps	Status
PCPs unaware of need for T1D screening	PCP education on T1D screening, staging, and prevention	<ol style="list-style-type: none"> <li>1) TCP live Webinar (Aug 2024) led by Lauren Culbreth and Dr. Aguirre</li> <li>2) Webinar was shared with external Pediatric offices (Oct 2024)</li> </ol>	Daniel DeSalvo	Webinar complete	<ul style="list-style-type: none"> <li>• Booster education</li> </ul>	Adopted
No current model for T1D prevention clinic or mechanism for referral	Utilize new referral mechanism for PCPs	<ol style="list-style-type: none"> <li>1) PCP referral type update: "Screening and staging to delay type 1 diabetes" (Aug 2024)</li> <li>2) Algorithm for central scheduling at TCH update to schedule into SIT Down T1D clinic (Aug 2024)</li> <li>3) Education about new referral type at TCP Webinar (Aug 2024)</li> <li>4) Education about new referral type to TCH Pediatric Endocrinology faculty and fellows (Sep 2024)</li> <li>5) Based on feedback from TCP providers, change referral to "Pre-symptomatic screening for type 1 diabetes" with just 1 click</li> </ol>	Curtis Yee (practice administrator)		<ul style="list-style-type: none"> <li>• Expand clinics once they are booked 3 months out</li> </ul>	Adopted
Patients/families unaware of need for T1D screening	Multimodal education to patients and families	<ol style="list-style-type: none"> <li>1) New onset binder (July 2024)</li> <li>2) Flier in exam rooms (Sep 2024)</li> <li>3) Future: MyChart letter to current T1D patients</li> </ol>	Melissa Marshall (Clinic Manager)	Binder and flier complete	<ul style="list-style-type: none"> <li>• Discuss plan for MyChart message</li> </ul>	In-process
No current model for T1D prevention clinic or mechanism for referral	Schedule pre-diabetes referrals with normal BMI in SIT Down T1D clinic	<ol style="list-style-type: none"> <li>1) Meet with clinical lead for pre-diabetes – Dr. Horne (Oct 2024)</li> <li>2) Revise protocol so that pre-diabetes referral with BMI &lt;90th%, age &lt;10y, +autoimmune condition, goes to SIT Down clinic (Nov 2024)</li> </ol>	Dr. Horne and Curtis Yee	Referral algorithm updated Nov 2024	<ul style="list-style-type: none"> <li>• Track progress</li> </ul>	In-process
Patients/families feeling overwhelmed with diagnosis	Psychology involvement	<ol style="list-style-type: none"> <li>1) Meet with diabetes psychologists (Drs. Gallagher and Carreon) – Jan 2025</li> <li>2) Consider having separate telemedicine vs. shared medical/psychology visit</li> </ol>	Dr. Gallagher	Meeting Jan 2025	<ul style="list-style-type: none"> <li>• Pilot referrals</li> </ul>	In-process
Families seeking interventions to aid in delay of Stage 3 T1D	Addressing nutrition	<ol style="list-style-type: none"> <li>1) Provider discusses avoidance of concentrated sweets</li> <li>2) Include Smartphrase in patient message (AVS) after visit concluded</li> <li>3) Consider referral to RD on case-by-case basis (Jennifer Cleveland, RD)</li> </ol>	Jennifer Cleveland, RD	Jennifer accepting referrals	<ul style="list-style-type: none"> <li>• Pilot with Jennifer Cleveland</li> </ul>	Adopted

# SIT Down T1D! - Screening & Intervention To Delay T1D

## Relative of Someone with T1D?

You (or your child) may be eligible for Texas Children's Type 1 Diabetes Screening & Prevention Program.

**Who is eligible for the Texas Children's Type 1 Diabetes (T1D) Screening & Prevention Program?**

Family members of a person with T1D who are under the age of 18. In most cases, this will be the sibling of someone with T1D.

**What is the risk of developing T1D in family members?**

- Those with a family member with T1D have a 1 in 20 risk of developing T1D, which is about 15 times higher than those without a family history.

**What is the benefit of screening for T1D?**

- There are ways to identify people with early stages of T1D – even before symptoms and the need for insulin arise. One way to identify early stages of T1D includes screening for autoantibodies, which indicate the autoimmune process in the pancreas has begun.
- By identifying T1D early, it may be possible to prevent the onset of diabetic ketoacidosis (DKA).
- We now have an FDA-approved medication for patients 8 years and older. Tzield (teplizumab) has been shown to delay the onset of insulin-required T1D by approximately 2 years, on average.

**What does the T1D Screening & Prevention Program entail?**

- Telemedicine visit(s) with a Texas Children's Diabetes & Endocrinology provider.
- Laboratory screening for autoantibodies, staging of T1D, monitoring for progression and counseling on teplizumab if eligible.

**How do I schedule a T1D screening & prevention visit?**

- Talk to your PCP about a referral for T1D screening and prevention at Texas Children's.
- Depending on your insurance, you may be able to schedule a screening on MyChart or by calling central scheduling at 832-822-2778

**Symptoms of Type 1 Diabetes include**

- Frequent Urination
- Extreme Thirst
- Dry Mouth
- Fatigue and Weakness
- Increased Appetite
- Unexplained Weight Loss
- Slow Healing Cuts

**STAGE 1**  
Two or more autoantibodies can be identified, but blood sugar levels are normal, and the person has no symptoms.

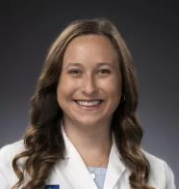
**STAGE 2**  
Two or more autoantibodies can be identified, and blood sugar levels are not normal, but most people still have no symptoms.

**STAGE 3**  
Two or more autoantibodies can be identified, blood sugar levels are high, and the person typically has symptoms.

For more information, visit [texaschildrens.org](https://www.texaschildrens.org)

Texas Children's Hospital

- Telemedicine clinic with **Lauren Culbreth, PA-C** launched in June 2024



- **Epic Pop Health T1D Screening Registry**, Smartform, documentation, dashboard, and reports
- PCPs can refer siblings for **“Screening and staging to delay type 1 diabetes”**
- **TCP webinar** with PCPs August 2024



# SmartForm for T1D Screening & Staging

SmartForm Designer - ENDO TZIELD INTAKE SMARTFORM [1762] - General

Diabetes Intake

Diabetes staging (puts patient on prevention registry)

Pre-screening (autoantibodies not yet obtained) Screening (all autoantibodies negative)

Screening (only 1 autoantibody positive) Stage 1 T1D

Stage 2 T1D Stage 3 T1D

Family member with T1D

Sibling Aunt 2nd Cousin No known family members with T1D

Mom Uncle Grandmother Other

Dad 1st Cousin Grandfather

Stage 1 T1D status

known NA unknown other

Stage 1 T1D date

Stage 2 T1D status

known NA unknown other

Stage 2 T1D date

Method of detecting dysglycemia

Fasting BG Random BG HbA1c OGTT

CGM Other

Stage 3 T1D status

known NA unknown other

Stage 3 T1D date

Positive antibodies

GAD65 Glutamic acid decarboxylase 65 IA-2A Insulinoma-associated antigen 2

IAA Insulin autoantibody ICA Islet cell autoantibody

ZnT8 Zinc transporter-8 autoantibody No positive antibodies

Antibodies have not been checked Other

Antibody testing source

Quest Diagnostics TCH Lab

LabCorp Other commercial lab

TrialNet Autoimmunity Screening for Kids (ASK)

Enable Biosciences (online ordering) Antibodies have not been checked

Other

Is the patient monitoring blood glucose levels at home?

Yes, with CGM Yes, with blood glucose meter No Other

Has patient received teplizumab (TZIELD)?  yes  no

(if yes, puts patient on TZIELD registry)

Has the patient received any other diabetes prevention medications?  yes  no

What diabetes prevention medications has the patient received? test

Teplizumab (TZIELD) Details

Date teplizumab (TZield) was received (start date)

Did patient receive all 14 doses of TZield?  yes  no

TZIELD infusion location

All doses received in TCH infusion center

All doses were received at outpatient infusion center other than TCH

All doses were given in home setting by infusion center other than TCH

Business days at infusion center / weekends home healthcare infusion

Hybrid model (explain)

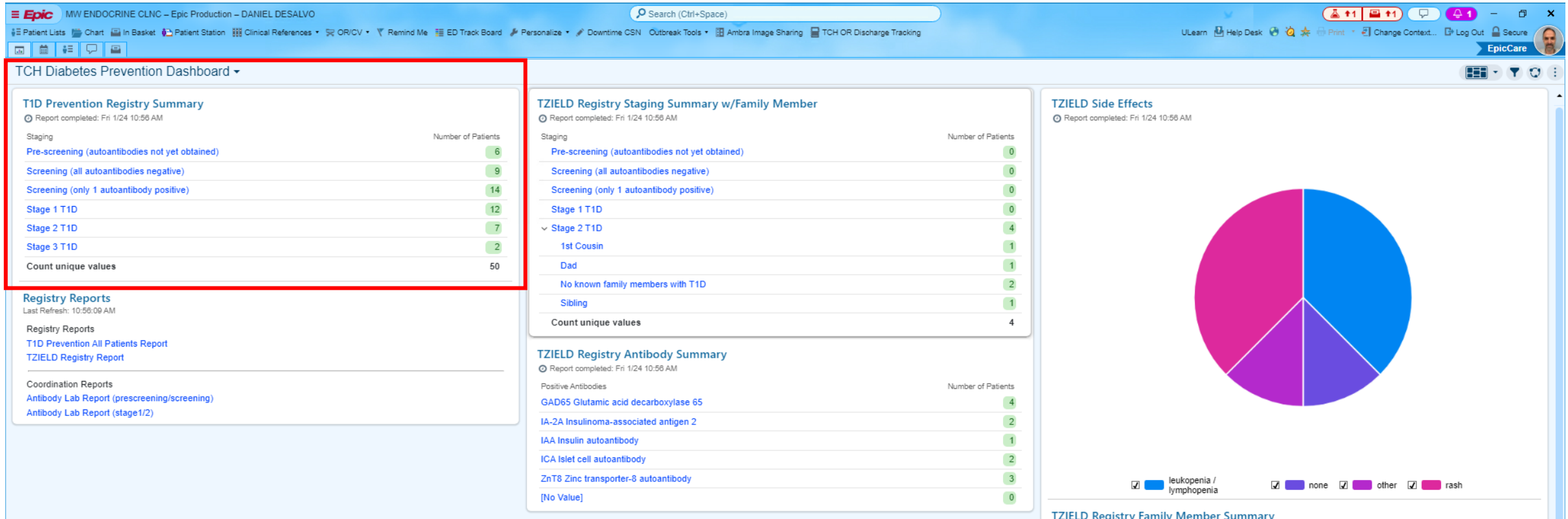
What significant side effects did the patient experience?

cytokine release syndrome leukopenia / lymphopenia serious infection

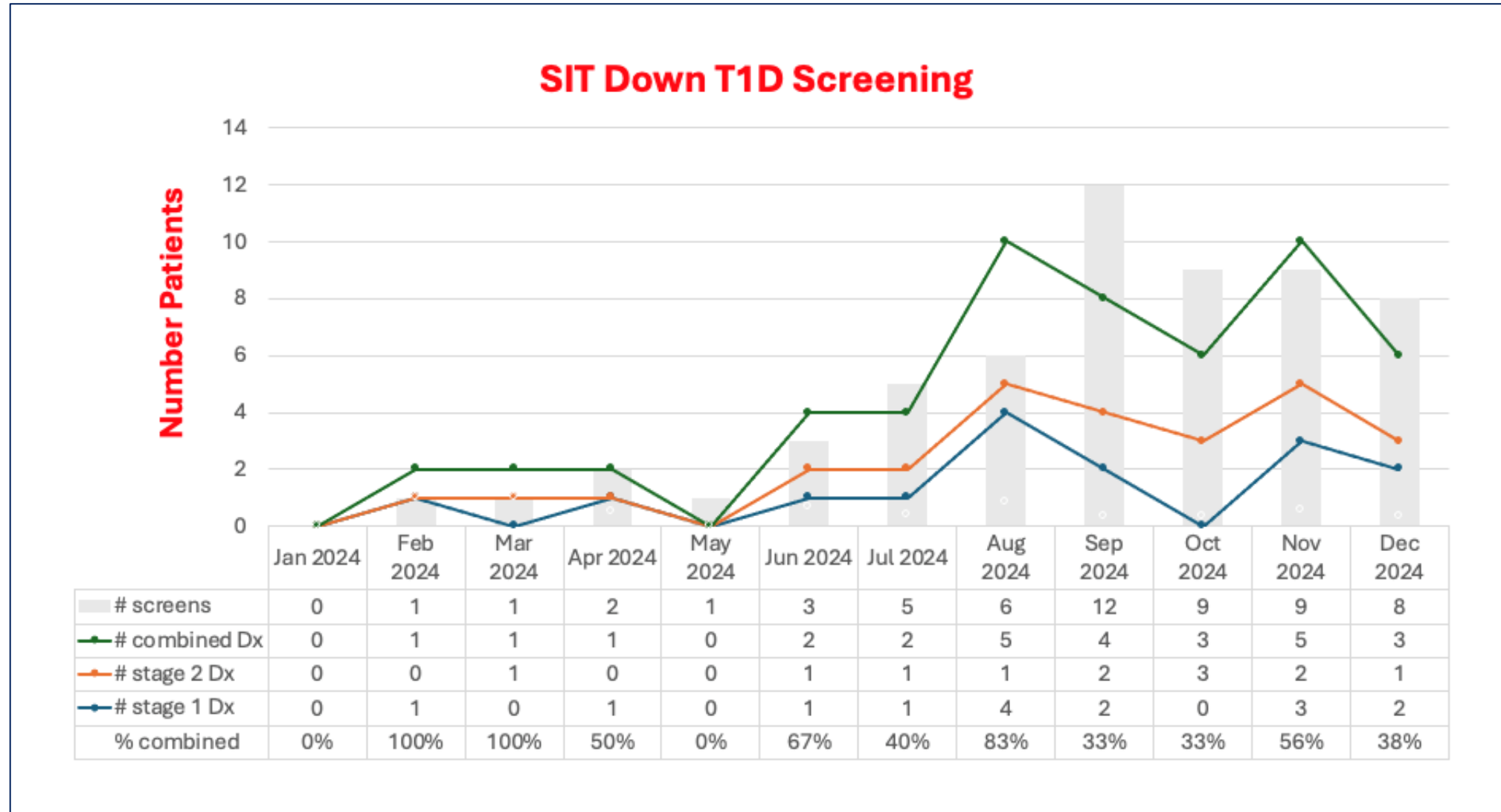
hypersensitivity rash elevated LFTs (AST >3x upper limit)

none other

# T1D Screening & Staging Registry - Dashboard



**SMART Aim:** Increase, by at least 15% (from baseline), the proportion of people screened for T1D in 18 months (from June 2024 – December 2025)



Baylor  
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Medicine

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PEDIATRICS

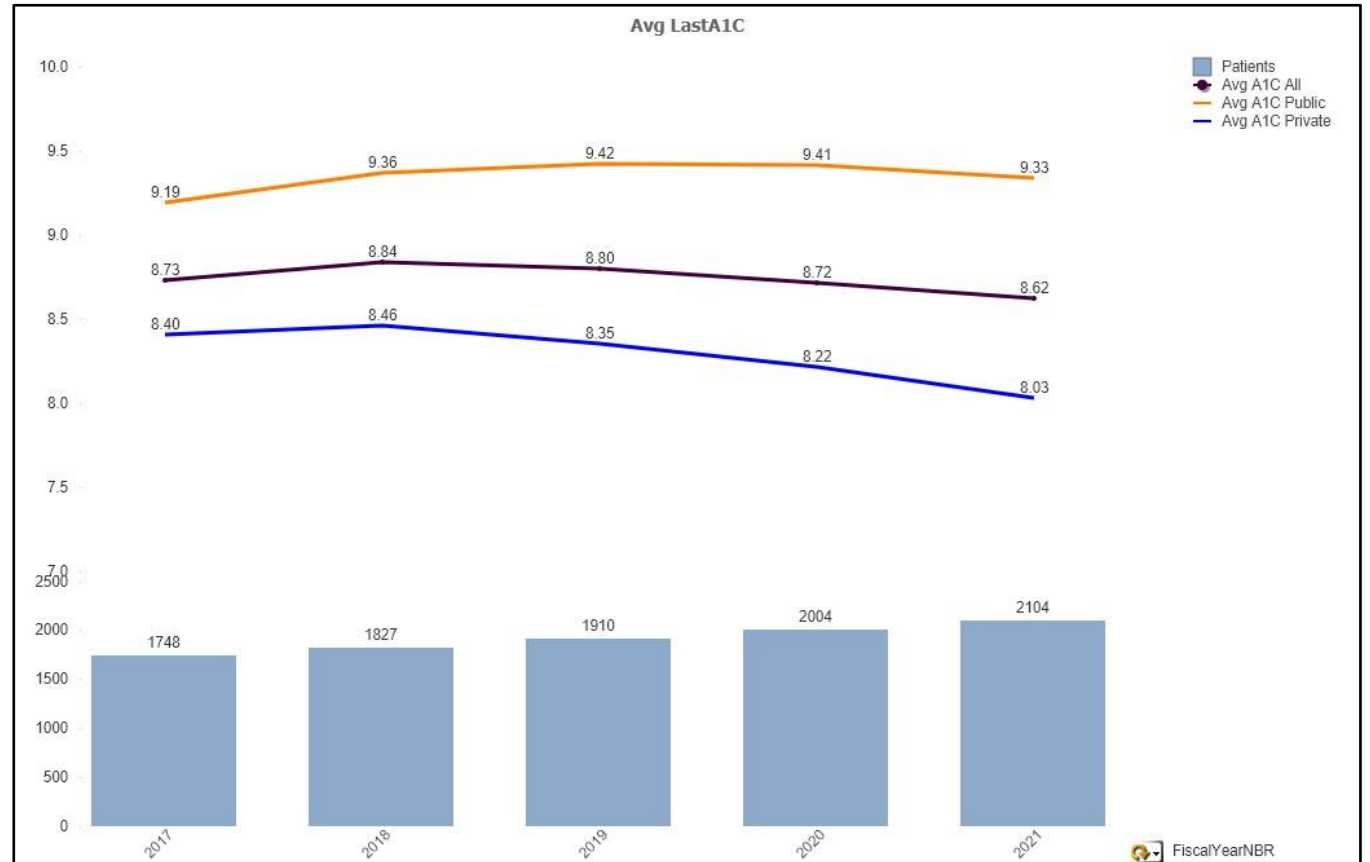


# ROCKET T1D: Remote Outreach & Care for Kids' Empowerment and Technology use in T1D



# The state of T1D at Texas Children's Hospital in 2021

- Over 5 years, A1c trend barely budging
- Widening gap between privately and publicly insured status



# We needed a paradigm shift in care...

# And at that time, the Helmsley Charitable Trust announced a Diabetes Clinic Innovation grant

THE LEONA M. AND HARRY B.  
**HELMSLEY**  
CHARITABLE TRUST

Diabetes Clinic Initiative  
2021 Request for Proposal (RFP) Overview

#### Purpose

The Leona M. and Harry B. Helmsley Charitable Trust's (Helmsley) Type 1 Diabetes (T1D) Program is launching a limited Request for Proposals (RFP) for nonprofit diabetes clinics throughout the United States. The RFP's goals are: 1) to enable innovative projects for telemedicine, diabetes technology, research, and alternative care models; 2) to encourage junior faculty to propose novel ideas; 3) to address some of the key clinical barriers and inefficiencies to providing quality care. The overarching purpose of the Diabetes Clinic Initiative RFP is to support clinics to empower people with T1D (including their caregivers) in taking care of their diabetes, improve their health outcomes, and quality of life.

#### RFP Goals

Helmsley's Type 1 Diabetes program's mission is to improve the lives of people living with T1D. We strive to achieve our mission by increasing access to quality care and diabetes technologies, as well as increasing adoption of diabetes technologies. All people living with T1D should have access to the best care and tools to manage their disease regardless of where they live.

The Diabetes Clinic Initiative RFP seeks innovative projects in the following broad strategic areas:

- **Telehealth** (e.g. remote patient monitoring approaches within and/or beyond clinic borders, addressing workflow issues, expanding the reach of services provided by scalable workforces such as CDCES(s), social workers, data generation for building evidence to increase access to telehealth, etc.)
- **Adoption of Diabetes Technologies** (e.g. innovative approaches for increasing adoption and persistent use of tech within and/or beyond clinic borders)
- **Decision Support integration into clinical care** (for providers and PWDs)
- **Equip, empower and education of people with T1D** (e.g., for diabetes technologies, data downloads, tech, and insurance navigation)
- **Collaborative projects between endocrine and primary care**
- **Multi-stakeholder projects** (e.g., involving payer, health systems, PCP's, pharmacists, psychologists, behavioral health therapists, and other relevant practices)
- **Integrated care approaches** (e.g., integration of behavioral health with diabetes care)

# ROCKET T1D RPM Program



Remote Outreach & Care  
for Kids' Empowerment  
and Technology use in T1D

**Overarching Aim:** To empower youth and their families to leverage emerging technology, improve diabetes self-management habits, and achieve their self-care goals to thrive with T1D

# 3 Major Components of Project



## 1) Remote patient monitoring (RPM):

via EMR diabetes registry and Glooko Population Tracker







# RPM Program

**Launch:** Active participation phase with clinical outreach focused on diabetes management habits

**Orbit:** RPM phase with periodic data review and therapy adjustment if needed

## Target Population:

1. All new onset T1D patients
2. Established patients with
  - Moderate to high RI-DKA score
  - Starting new technology
  - Recent DKA



# Intervention: Remote Patient Monitoring

## Care team

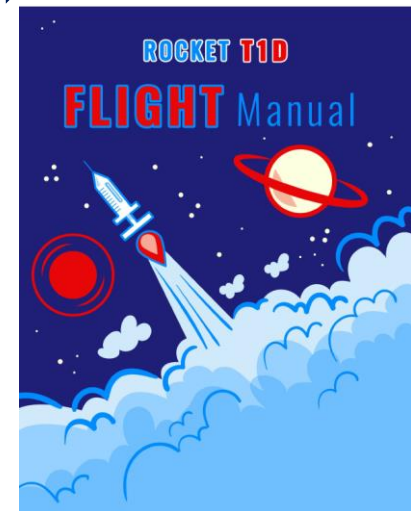
2 CDCES for new onset Launch  
3 CDCES for Established Launch and Orbit  
Fellow  
Social Worker → Community Health Worker  
Program coordinator  
PIs and Co-Is  
*Mission Control Meetings*

## Remote platform

Cloud-connected device data  
Communication via  
-telehealth visits  
-MyChart  
-Phone: ROCKET T1D line

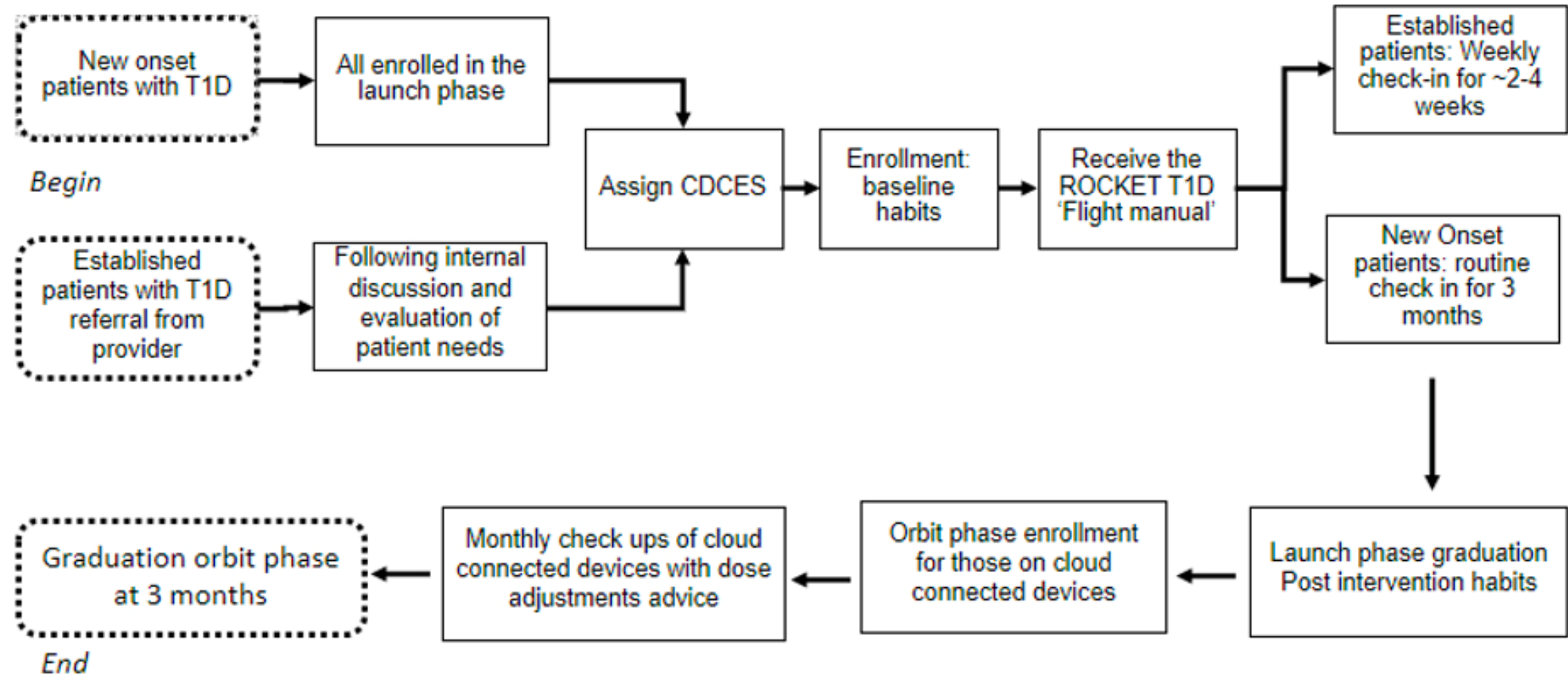
## Education & goals

ROCKET T1D 'Flight manual'  
-Diabetes self managements habits  
-Sick day management  
-Troubleshooting devices  
-Other family goals related to T1D





# Process Map



# EMR Tools: TCH Diabetes Registry

### TCH Diabetes Registry

**My Diabetes Patient Reports**  
Last Refresh: 03:09:23 PM

- Provider Specific Registry Reports
- My Diabetes Patients
- Department Specific Registry Reports
- Registry Patients by Location

**Diabetes Qlikview Application**  
Qlikview Application

**Clinic Process Team Aims**  
Last Refresh: 03:09:23 PM

Has Eye Exam Completed Past 2 Year (Types 1 & 2)					
Has Microalbumin/Creatinine Ratio Past 1 Yr (Types 1 & 2)		77%	77%	77%	77%
Has Lipid Panel Past 5 Years (Types 1 & 2)		99%	99%	99%	99%
Has TSH Past 2 Years (Type 1)		94%	91%	91%	91%
Has 4 or More Endocrine Visits Past 1 Year (Type 1)		56%	47%	47%	47%
Has RD Encounter Past 1 Year (Types 1 & 2)		76%	78%	78%	78%

**Community Team Aims**  
Last Refresh: 03:09:24 PM

	Aug	YTD	QTD	MTD
Received School Packet Past 12 months (Types 1 & 2)	69%	68%	68%	68%
Received Flu Vaccine in Past 6 months (Types 1 & 2)	0%	0%	0%	0%

**At Risk Team Aims**  
Last Refresh: 03:09:24 PM

Results expired: Fri 9/29 03:02 PM

**19** New Patients

Results expired: Fri 9/29 03:03 PM

**0** Due Today

Next 10 Days

[No Value]

**Registry Reports**  
Last Refresh: 03:09:24 PM

REACH

- My Active REACH Patients (Care Team)
- Active Patients
- Inactive Patients
- Inactive Patients With Rising Risk

Outreach Reports

- SW Patients Due For Outreach
- Active Patients Scheduled Next 7 Days
- Canceled/No Show Appointments: Past 2 Weeks

HELLO

**Diabetes Patients Reports**  
Last Refresh: 03:09:23 PM

- Diabetes Registry High Risk / Social Work- Minimal Metrics
- Diabetes Registry High Risk / Social Work- Minimal Metrics - Active
- Diabetes Registry High Risk / Social Work- Minimal Metrics - Inactive
- Diabetes Registry Administration- primary
- T1/T2 Bulk Communication Report
- Diabetes Care Coordinator Report
- Diabetes Registry USWNR- primary

**ROCKET T1D Registry Summary**  
Report completed: Fri 9/29 03:09 PM

RT1D Phase	Total Patients
Graduated from ROCKET T1D Program	13
Launch (Phase 1)	5
Launch established T1D (Phase 1)	1
Launch new onset T1D (Phase 1)	56
Launch: graduation/not progressing to orbit	13
Launch: new onset T1D (Phase 1)	6
Launch: withdrawal	3
Orbit (Phase 2)	28
Orbit withdrawal	1
[No Value]	2

**ROCKET T1D Reports**  
Last Refresh: 03:09:24 PM

- Active Phase | LAUNCH Established Patients
- Active Phase | LAUNCH New Onset
- Monitoring Phase | ORBIT Patients
- Graduated Patients
- CDCES: Patients Due For Follow Up Next 7 Days



# RPM using Glooko Population Tracker

glooko Name [v] [Enter a patient name] TCH - Pediatric Endocrinology ProConnect Code: tchpeds DD [v]

Assign Devices View Patients [Switch to legacy patient list] Create Patient Account

Filter Patients [v] 1-15 of 5031

Search Filters

Provider

- Daniel DeSalvo
- No Provider

Tag

- Extra care/at-risk (main campus)
- Rocket t1d - orbit phase
- Rocket t1d - launch phase

Last Sync [v] Flags Tags

Last run on 2023-06-15

day +

day +

- ✓ Syncs data in real-time
- ✓ Access remote data on-demand as interactive reports
- ✓ EMR integration

# Launch Phase: Anchored by the 6 Habits

JAMA  
Network | **Open**



Original Investigation | Diabetes and Endocrinology

## Feasibility of Electronic Health Record Assessment of 6 Pediatric Type 1 Diabetes Self-management Habits and Their Association With Glycemic Outcomes

Joyce M. Lee, MD, MPH; Andrea Rusnak, MS; Ashley Garrity, MPH; Emily Hirschfeld, BA; Inas H. Thomas, MD; Michelle Wichorek, PhD; Jung Eun Lee, MS; Nicole A. Riales, MA; Osagie Ebekozien, MD, MPH, CPHQ; Sarah D. Corathers, MD

In collaboration with Joyce Lee,  
MD MPH; Ashley Garrity, MPH;  
and Justine Ross



**U-M Pediatric  
Diabetes**



<b>A</b>	Welcome!
<b>B</b>	Sick Day Management
<b>C</b>	Habit 1: Glucose Monitoring
<b>D</b>	Habit 2: Frequent Bolusing
<b>E</b>	Habit 3: Insulin Pump
<b>F</b>	Habit 4: Pre-Meal Bolusing / Insulin Timing
<b>G</b>	Habit 5: Reviewing Data
<b>H</b>	Habit 6: Insulin Dose Changes
<b>I</b>	Miscellaneous

# ROCKET T1D Flowsheet & Dashboard



**Flowsheets**

File Add Rows LDA Avatar Add Col Insert Col Last Filed Reg Doc Graph Gg to Date Responsible More

Complex Vital Signs Intake/Output LDA Assessment Respiratory Flowsheet **ROCKET T1D Intake** ROCKET T1D Int...

Expanded View All

Search (Alt+Comma)

**ROCKET T1D Details**

Phase

**6 Self-Management Habits**

Habit #1: Blood glucose checking frequency on download

Habit #2: Average # of bolus insulin doses per day on download (for pump) and patient report

Habit #3: Type of intensive therapy

Habit #4: Timing of insulin with meals

Habit #5: Times blood glucose or insulin data were downloaded and reviewed for blood glucose

Habit #6: Times insulin was adjusted by family or by diabetes team since the last diabetes clinic visit

**CDCES ROCKET T1D Follow Up**

CDCES Follow Up Date

CDCES Follow Up Need

Next Row

Updated 3 years ago - Tch Rn Int DI Test RN

CF Summary & Needs

Modify

**Endocrine ROCKET T1D: Patients Due For Follow Up Next 7 Days [9829026] as of Fri 7/29/2022 9:31 AM**

Re-run Report Refresh Selected Select All

Follow Up Date	Follow Up Need	RT1D Assigned Team	Launch FYI	Orbit FYI	RT1D Phase	Diabetes Type	Date of Dx	Pump? CGM? DKA Risk Score	Last A1c Date
08/05/2022	Other	Mission A (Med Center)	7/15/2022		Orbit (Phase 2)	Type 1	03/09/2020	2	09/18/2020
08/01/2022	Check in Week 3	Mission A (Med Center)	7/18/2022		Graduated from ROCKET T1D Program	Type 1	11/03/2014	?	

Allegies

Enable clinical decision support by reconciling outside information

- Azithromycin High - Hives
- Fish-derived Products High - Anaphylaxis
- Amoxicillin Medium - Itching
- Penicillin G Benzathine Medium - Rash
- Cefzil [cefprozil] High - No reactions specified
- Penicillins High - Hives, Itching, Rash
- Lanolin Medium - Itching, Swelling
- Sulfasalazine Medium - Diarrhea

Outpatient Medications

Enable clinical decision support by reconciling outside information

- acetaminophen PO CHEW TAB 160 mg Last Edited 9 months ago  
Give 1 Tablet by mouth every 6 hours as needed for pain or fever, temp >101F.
- amphetamine/dextroamphetamine (ADDERALL XR (10MG)) PO CAP XR 10 mg 1 year ago  
Give 10 mg by mouth.
- azelastine NASAL SPRY 137 mcg/spray 1 year ago

2 results

# 3 Major Components of QI, Clinic Innovation Project



## 2) Predictive analytics:

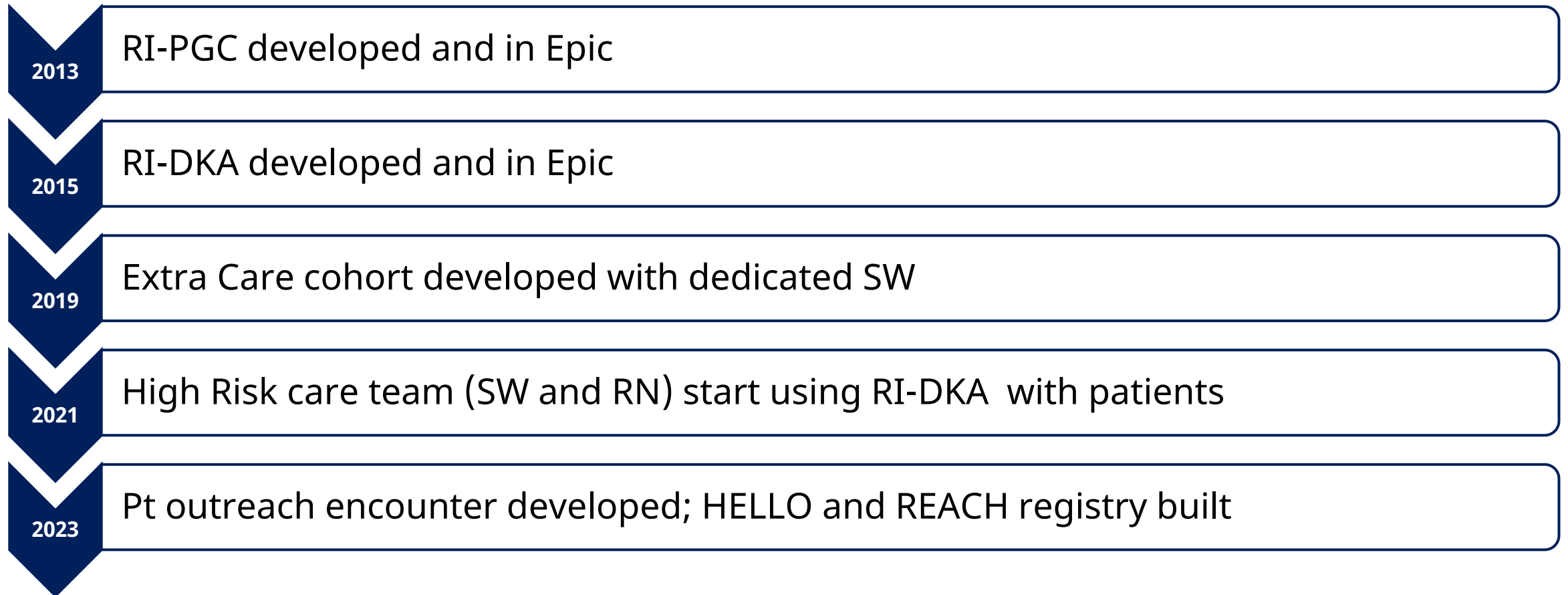
validated DKA risk score (RI-DKA)



3) Timely interventions:  
tailored care by diabetes team



# History of Predictive Analytics at TCH



# RI-DKA Score

› [Clin Diabetes](#). 2022 Spring;40(2):204-210. doi: 10.2337/cd21-0070. Epub 2022 Apr 15.

## An Automated Risk Index for Diabetic Ketoacidosis in Pediatric Patients With Type 1 Diabetes: The RI-DKA



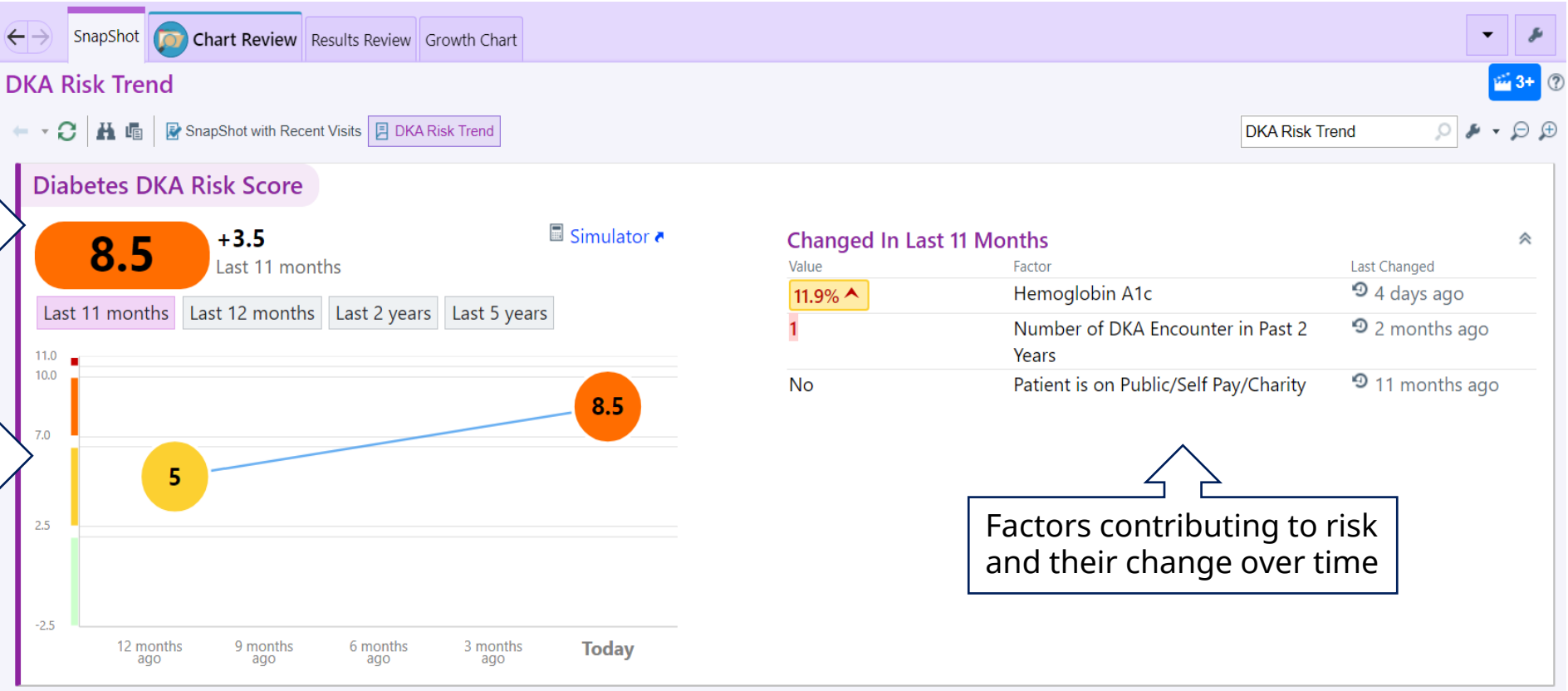
David D Schwartz<sup>1</sup>, Rosa Banuelos<sup>2</sup>, Serife Uysal<sup>3</sup>, Mili Vakharia<sup>3</sup>, Kristen R Hendrix<sup>3 4</sup>, Kelly Fegan-Bohm<sup>3</sup>, Sarah K Lyons<sup>3</sup>, Rona Sonabend<sup>3</sup>, Sheila K Gunn<sup>3</sup>, Selorm Dei-Tutu<sup>3</sup>

Affiliations + expand

PMID: 35669298 PMCID: [PMC9160557](#) DOI: [10.2337/cd21-0070](#)

[Free PMC article](#)

Score	Category
-3.5 – 2	Low risk
2.5 – 6.5	Medium risk
7 – 10	High risk
10.5 – 14	Very high risk



Risk score with change over user-specified timeframe

Risk levels color-coded

Factors contributing to risk and their change over time

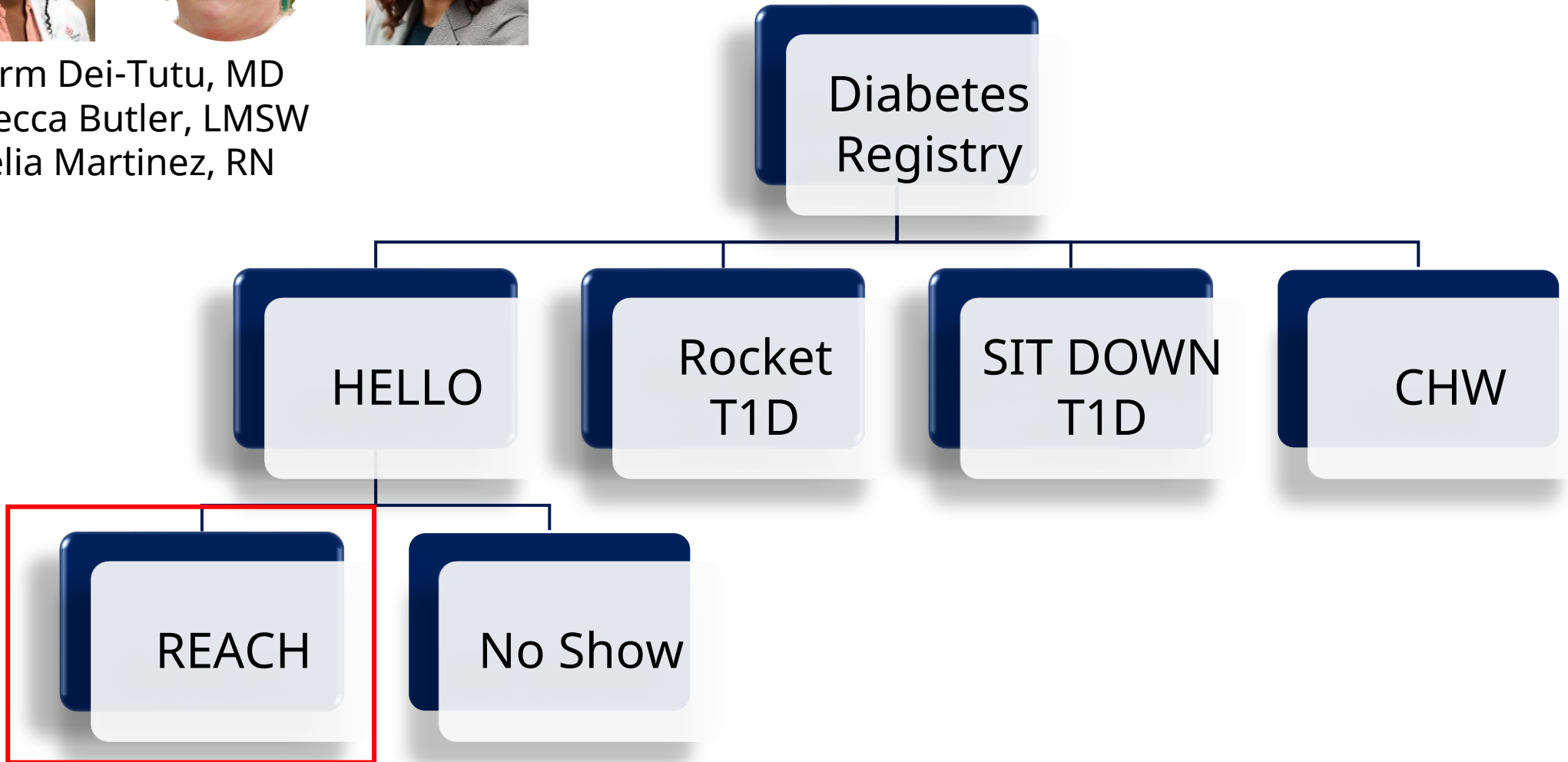
**DIABETES AND ENDOCRINE PROBLEMS (1)**  
 Type 1 diabetes mellitus with hyperglycemia, with long-term current use of insulin  
 Other problems (12)

**RISK SCORES**  
 8.5 Diabetes DKA Risk Score

College of Medicine



Selorm Dei-Tutu, MD  
Rebecca Butler, LMSW  
Amelia Martinez, RN



# HELLO vs REACH

HELLO (help for youth with elevated glucose levels to improve otcomes)

- Youth with T1D at moderate risk of DKA (RI-DKA score between 2.5 - 7)

REACH (resources and care to improve health outcomes)

- Youth with T1D at high risk of DKA (RI-DKA Score >7 or h/o multiple DKA episodes in past year)

# REACH Intervention Examples



Room # \_\_\_\_\_

Patient Name: \_\_\_\_\_ Provider: \_\_\_\_\_

Appointment Time: \_\_\_\_\_ Patient Label: \_\_\_\_\_

### Diabetes Clinic Checklist

	To be Done today:	Completed today:	Notes:
Lipid Panel:	<input type="checkbox"/>	<input type="checkbox"/>	
TSH:	<input type="checkbox"/>	<input type="checkbox"/>	
Micro-albumin:	<input type="checkbox"/>	<input type="checkbox"/>	
Retinal Exam:	<input type="checkbox"/>	<input type="checkbox"/>	Last Retinal Exam: _____
Flu Vaccine:	<input type="checkbox"/>	<input type="checkbox"/>	
Psychology:	<input type="checkbox"/>	<input type="checkbox"/>	
PHQ- 9:	<input type="checkbox"/>	<input type="checkbox"/>	<div style="border: 1px solid red; padding: 2px;">           PHQ-9 Score: _____ DKA Risk Score: _____         </div>
Social Worker:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Please See Provider First
			<input type="checkbox"/> Insulin affordability <input type="checkbox"/> Diabetes burnout/distress/non-adherence <input type="checkbox"/> Depression/suicidal ideation <input type="checkbox"/> Basic Need Insecurity (Transportation/food scarcity risk) <input type="checkbox"/> Lack or no insurance <input type="checkbox"/> Transition to adult care/college <input type="checkbox"/> Disability <input type="checkbox"/> Support groups <input type="checkbox"/> Medical power of attorney <input type="checkbox"/> Immigration <input type="checkbox"/> 504 Plan <input type="checkbox"/> Other _____
Care Coordinator:	<input type="checkbox"/>	<input type="checkbox"/>	_____

# Epic Tools to Enable Proactive Care

### New REACH Patients

Report completed: Wed 9/6 02:38 PM

**19** New Patients

### RN/CDCES Outreach Tasks

Report completed: Wed 9/6 02:38 PM

**16** Overdue | **0** Due Today | **0** Due Next 10 Days

### REACH Registry Summary

Report completed: Tue 9/5 02:33 PM | Results expired: Wed 9/6 02:33 PM

REACH Patients (All)	Count
Active Patients	50
Inactive Patients	8
[No Value]	184

### Registry Reports

### REACH Registry Panel Metrics

Last Refresh: 02:47:20 PM

	Jun	Jul	Aug	MTD
REACH No Show Rate	7.66 %	11.72 %	10.25 %	10.70 %

### Diabetes REACH Cohort Intake

Extra Care Cohort Intake

Extra Care Cohort Status: **active** | dismissed

Reason for enrollment: **social needs** | technology needs | learning deficit | **DKA**

risk score | other

Enrollment Date: 1/18/2023

Primary location of care: **Medical Center** | West Campus | Woodlands | Sugar Land

Clear Lake | Cy Fair | Austin

Close

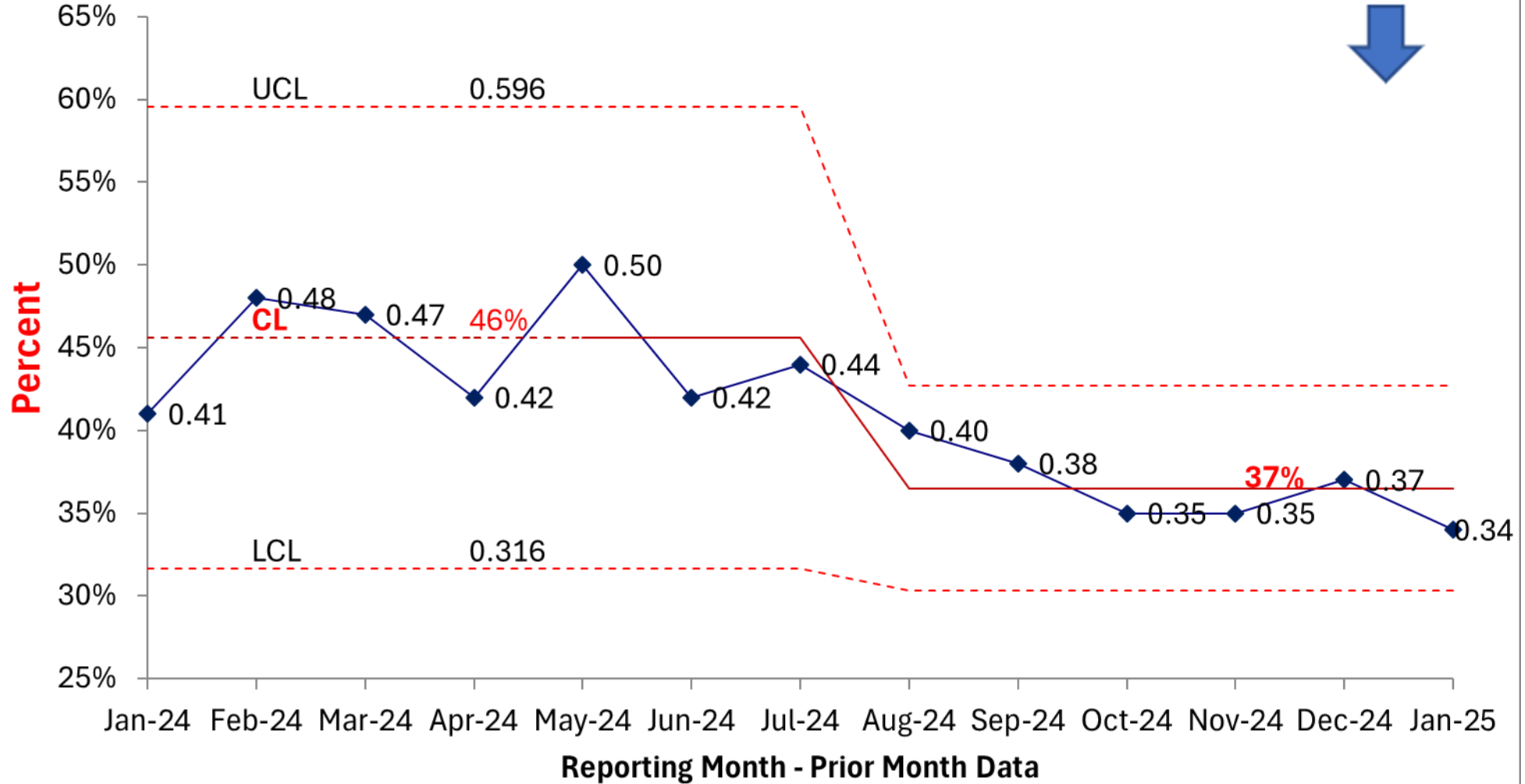
# REACH Scorecard

REACH Metrics of Interest	1/7/2025	Avg 2024	Relative % change over 2024 Avg	Prior Month 12/5/2024	Improvement	
HbA1c mean	11.00	11.27	2%	11.1	lower good	increase bad
%>12	0.34	0.42	12%	0.37	lower good	increase bad
%<9	0.19	0.19		0.21	increase good	lower bad
%<7.5	0.03	0.03		0.03	increase good	lower bad
ED Visits after enrollment	0.33	0.29	-22%	0.35	lower good	increase bad
DKA past 12 mo.	0.38	0.44	14%	0.38	lower good	increase bad
RI-DKA Score mean	7.90	8.80	9%	8.00	lower good	increase bad
Pump use	0.37	0.30	-19%	0.36	increase uptake good	decrease bad
CGM use	0.70	0.64	-6%	0.68	increase uptake good	decrease bad
PHQ9 administered	0.22	0.17	-5%	0.18	increase uptake good	decrease bad



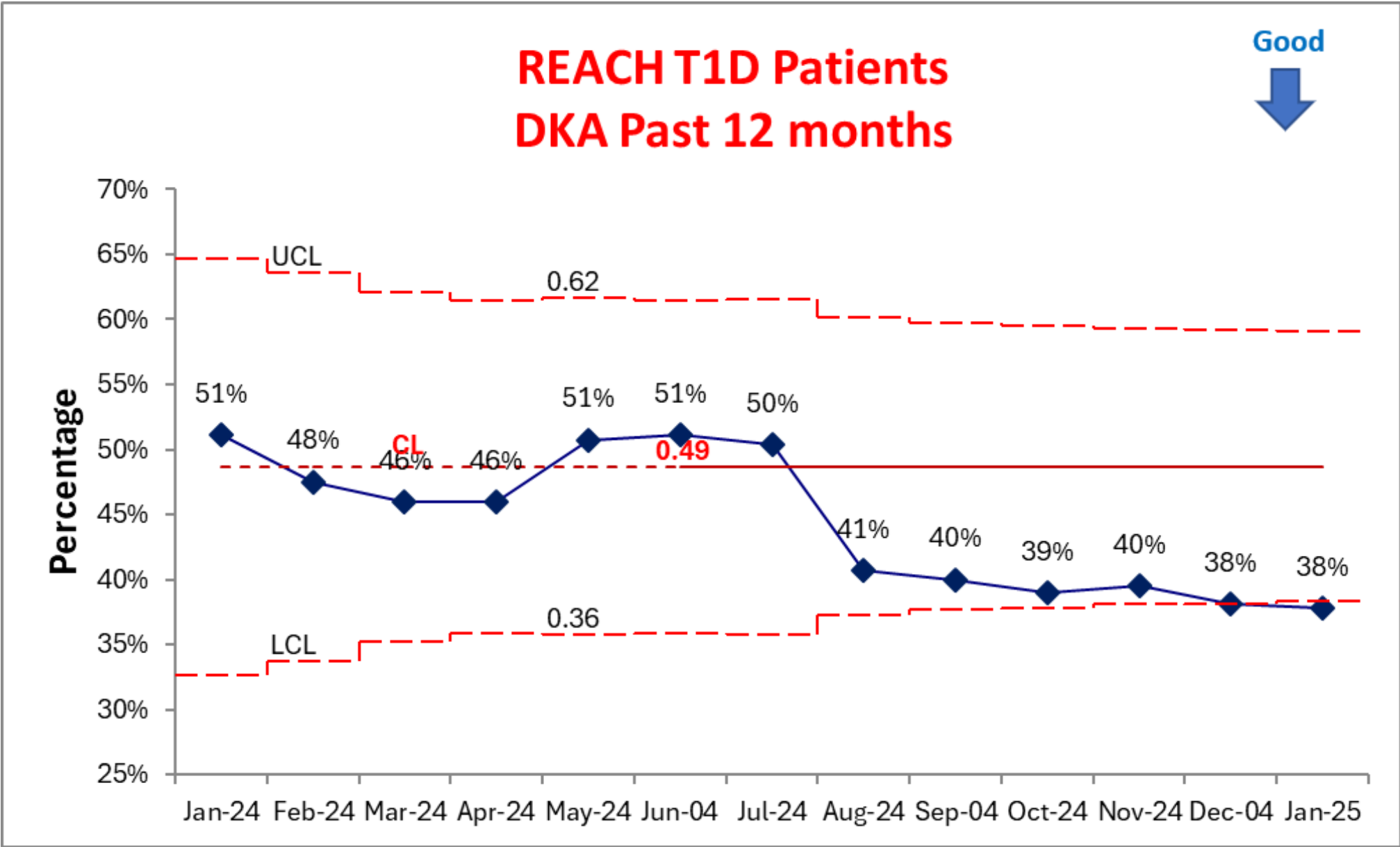
# REACH T1D Patients HbA1c > 12

Good  
↓

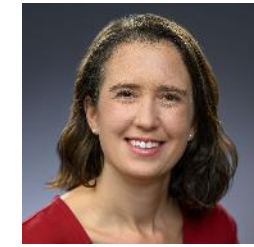


# REACH T1D Patients DKA Past 12 months

Good  
↓



# Community Health Worker Program



Meghan Craven, MD, MPH  
Adrina Jones, CHW

Extension of the Extra Care team with focus on 5 goals:

- Improve **appointment management** and **communication** with the care team
- Increase **access to healthy food**
- Navigate barriers to access in **diabetes technology**
- Apply for **public benefits** and patient assistance programs
- Support **transition** to adult care provider

# Examples of Community Health Worker support

## Connect to community resources

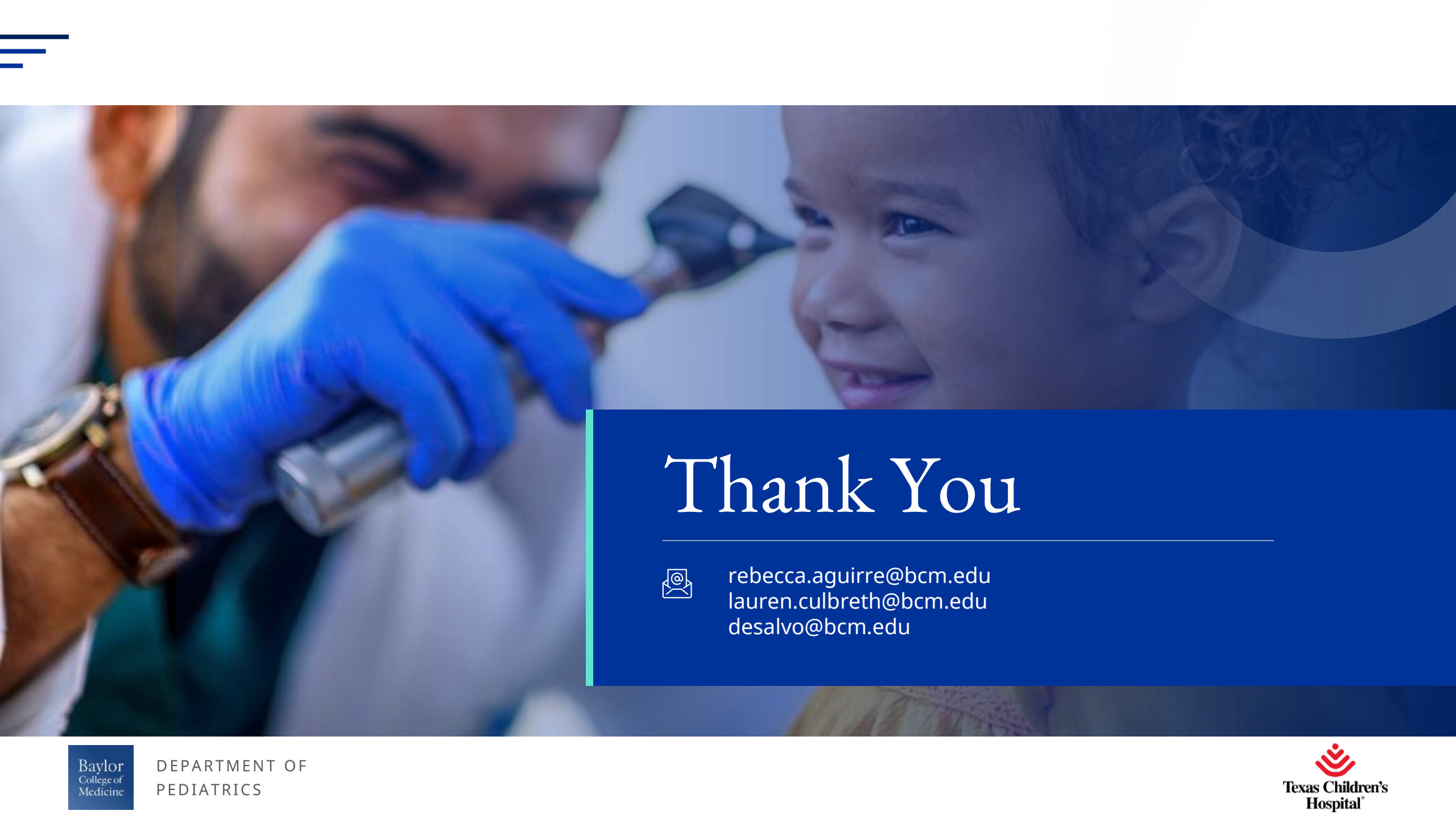
- Utility assistance
- Cellphone service
- Rent assistance
- Career center
- Diaper depot
- Food pantry

## Assist with applications

- SNAP benefits
- County healthcare services

## Assist with appointments

- Pump training
- Clinic visits



# Thank You

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