T1D Exchange

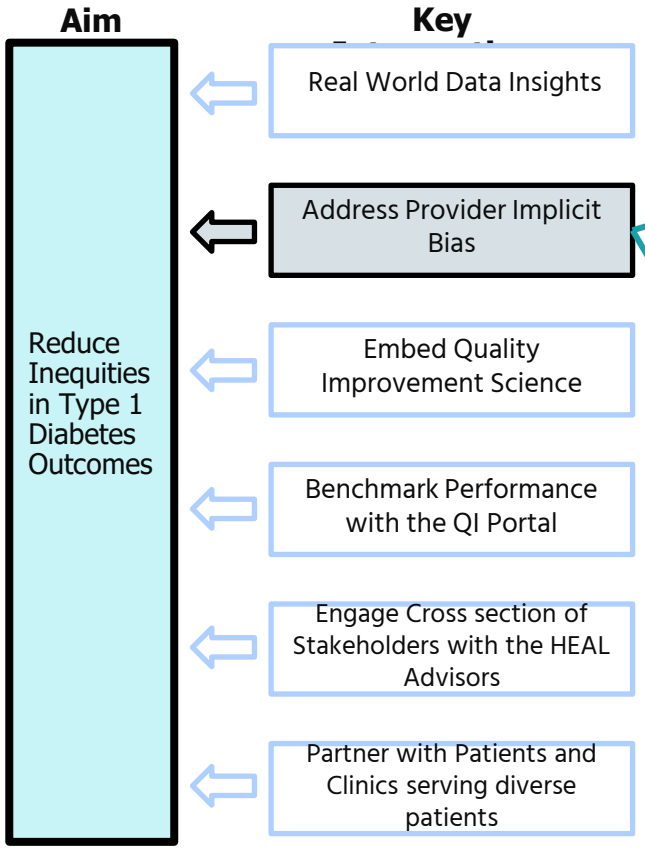
BPA-TECH Project Kickoff Meeting
August 13, 2024

Agenda

- Welcome
- Background
- Participating centers share brief overview of BPA process
- Project overview
- Timeline
- Coordinating centers' updates
- Deliverables/next steps
- Questions/feedback

Background

T1D Exchange Approach to Health Equity



Implicit Racial–Ethnic and Insurance-Mediated Bias to Recommending Diabetes Technology: Insights from T1D Exchange Multicenter Pediatric and Adult Diabetes Provider Cohort

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TABLE 3. UNADJUSTED ODDS RATIO FOR RACE/ETHNICITY-MEDIATED AND INSURANCE-MEDIATED PROVIDER BIAS

	Insurance bias	P	*Race/ethnicity bias*	P
Age	1.03 (0.99, 1.08)	0.06	0.99 (0.96, 1.04)	0.9
Race/ethnicity (NH White)	1.11 (0.48, 2.52)	0.8	0.76 (0.32, 1.79)	0.5
Clinic type (adult)	1.29 (0.56, 3.05)	0.5	1.09 (0.45, 2.53)	0.8
Practice years	**1.08 (1.02, 1.16)**	**0.02**[#]	1.00 (0.95, 1.06)	0.8
Recognize own bias (agree/strongly agree)	1.54 (0.66, 3.57)	0.3	**5.25 (1.83. 19.01)**	**0.004**[#]

[#]*P*-value <0.05.
Bold values indicate statistical significance.

Odugbesan, O., Addala, A., Nelson, G., Hopkins, R., Cossen, K., Schmitt, J., Indyk, J., Jones, N. Y., Agarwal, S., Rompicherla, S., & Ebekozien, O. (2022). Implicit Racial-Ethnic and Insurance-Mediated Bias to Recommending Diabetes Technology: Insights from T1D Exchange Multicenter Pediatric and Adult Diabetes Provider Cohort. *Diabetes Technol Ther.* *https://doi.org/10.1089/dia.2022.0042*

Opportunities to reduce waste in the health system.

FIGURE 1-1 Schematic of the health care system today

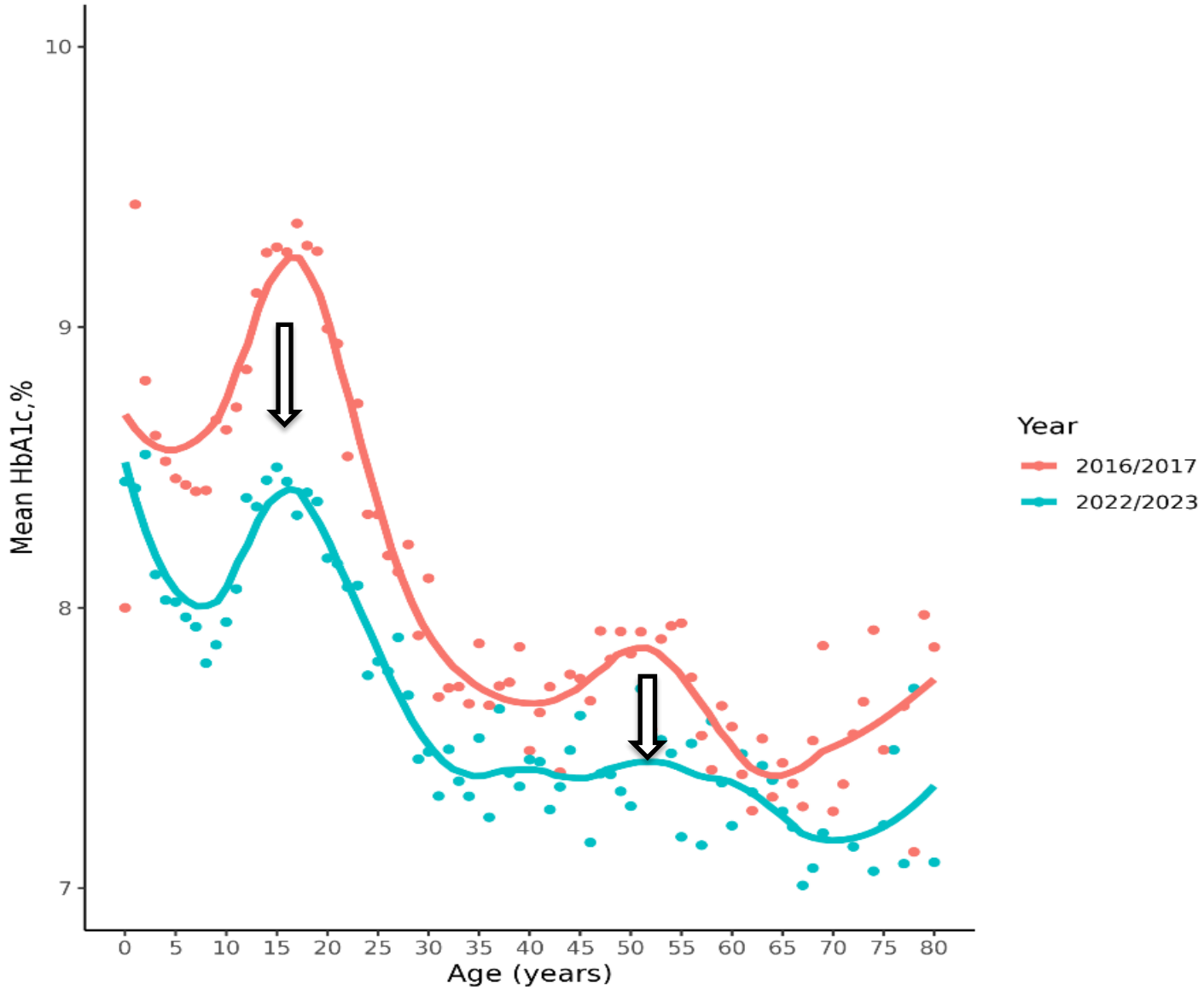
Best Care at Lower Cost: The Path to Continuously Learning Health Care in America. Committee on the Learning Health Care System in America; Institute of Medicine; Smith M, Saunders R, Stuckhardt L, et al., editors. Washington (DC): National Academies Press (US); 2013 May 10.

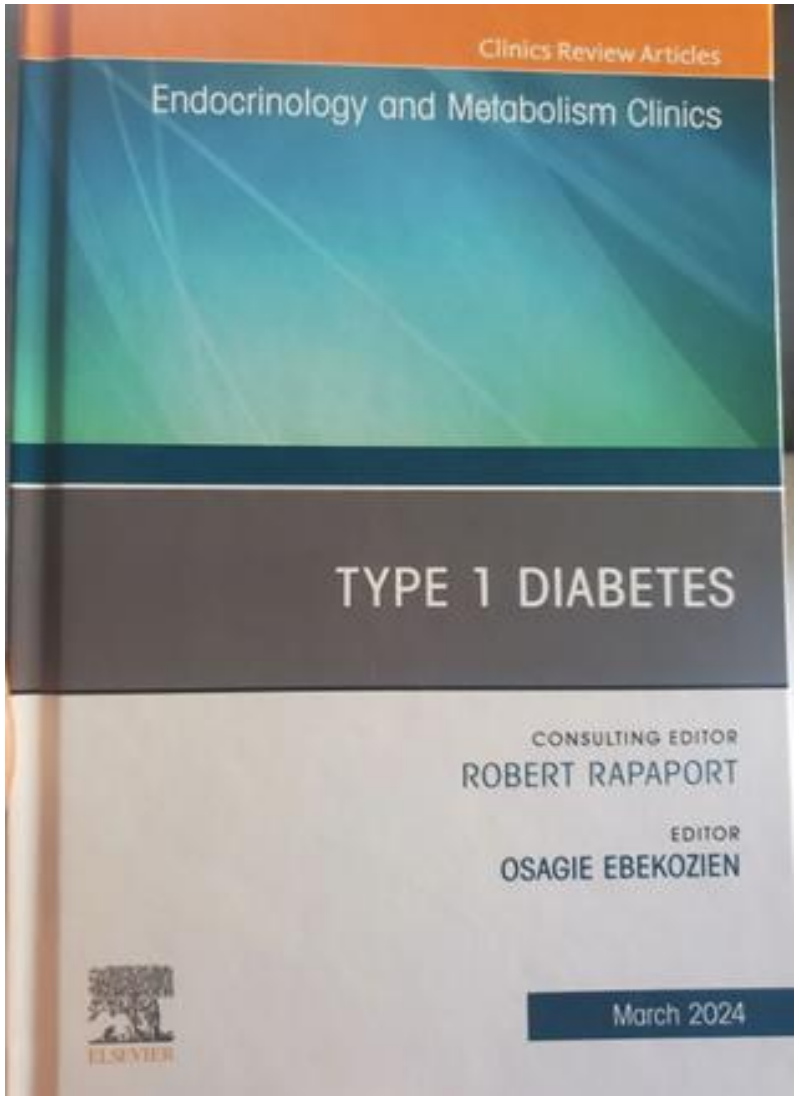
Higher baseline HbA1c > 8.3%

Combinations of QI strategies	Post-interventionmean[a] HbA1c (95% CrI) [d]	Absolute mean differ
Five most common combinations of QI strategies observed in included studies reporting HbA1c		
QI combination (no. of arms)		
CM + PE + PSM (n = 31)	8.13 (7.98 to 8.29)	-0.57 (-0.72 to -0.41)
CM + TC + PE + PSM (n = 28)	8.03 (7.87 to 8.18)	-0.67 (-0.82 to -0.53)
CM + FR + PE + PSM (n = 13)	8.09 (7.91 to 8.27)	-0.61 (-0.79 to -0.43)
FR + PSM (n = 10)	8.53 (8.34 to 8.73)	-0.17 (-0.34 to 0.01)
CM + TC + PE (n = 8)	8.39 (8.20 to 8.59)	-0.31 (-0.49 to -0.12)
Sequential combination of the model-estimated five most effective QI strategies for HbA1c		
CM + EPR	8.25 (8.03 to 8.48)	-0.45 (-0.63 to -0.25)
CM + EPR + PE	8.08 (7.85 to 8.32)	-0.62 (-0.84 to -0.39)
CM + EPR + PE + PSM	7.96 (7.75 to 8.17)	-0.74 (-0.95 to -0.53)
CM + EPR + PE + PSM + TC	7.98 (7.73 to 8.22)	-0.72 (-0.95 to -0.50)

Abbreviations - QI strategies: AF = audit and feedback, CE = clinician education, CM = case management, CQI = continuous quality ir reminders, EPR = electronic patient registry, FI = financial interventions, FR = facilitated relay, PE = patient education, PR = patient re management, QI = quality improvement, TC = team changes; Other: CrI = credible interval, n = number, QI = quality improvement.

Where are we now? Clinical and significant improvement HbA1c 16/17 vs 22/23





Improving Outcomes for people with diabetes through collaboration. Endo Clinics 2023

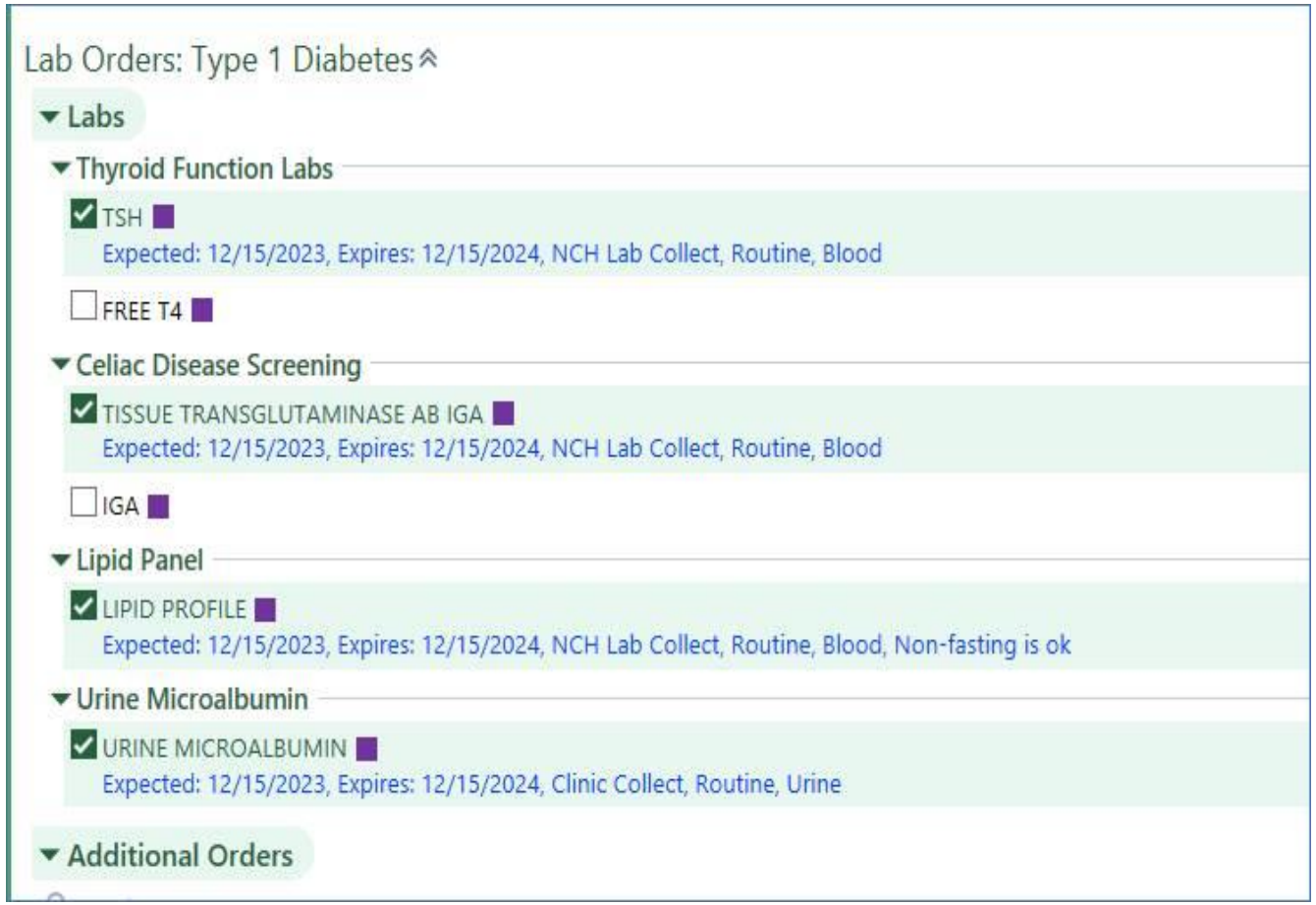
Longitudinal Trends in Glycemic Outcomes and Technology Use for Over 48,000 People with Type 1 diabetes (2016-2022) from the T1D Exchange Quality Improvement Collaborative. Diabetes Technology and Therapeutics 2023

Participating Centers' Current BPA Examples

Nationwide Children's

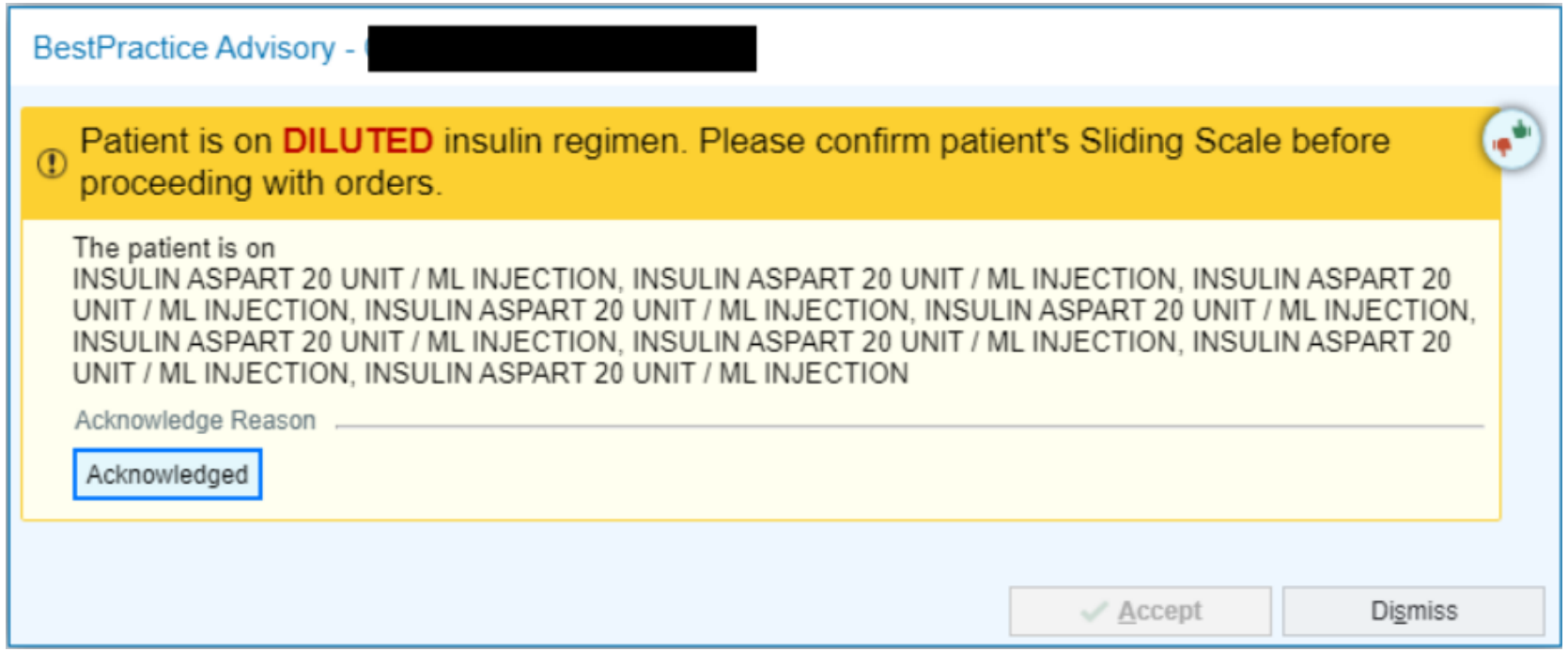
Over the last few years, we have built several BPA alerts:

- Urine microalbumin in T1D
- High BP in T1D
- Urine microalbumin in T2D
- More recently: a bundled BPA for lab orders for T1D: This looks like:



UT Southwestern

- BPA for Patients on Diluted Insulin.
- Timeframe: a few weeks.



SUNY Upstate-Adult

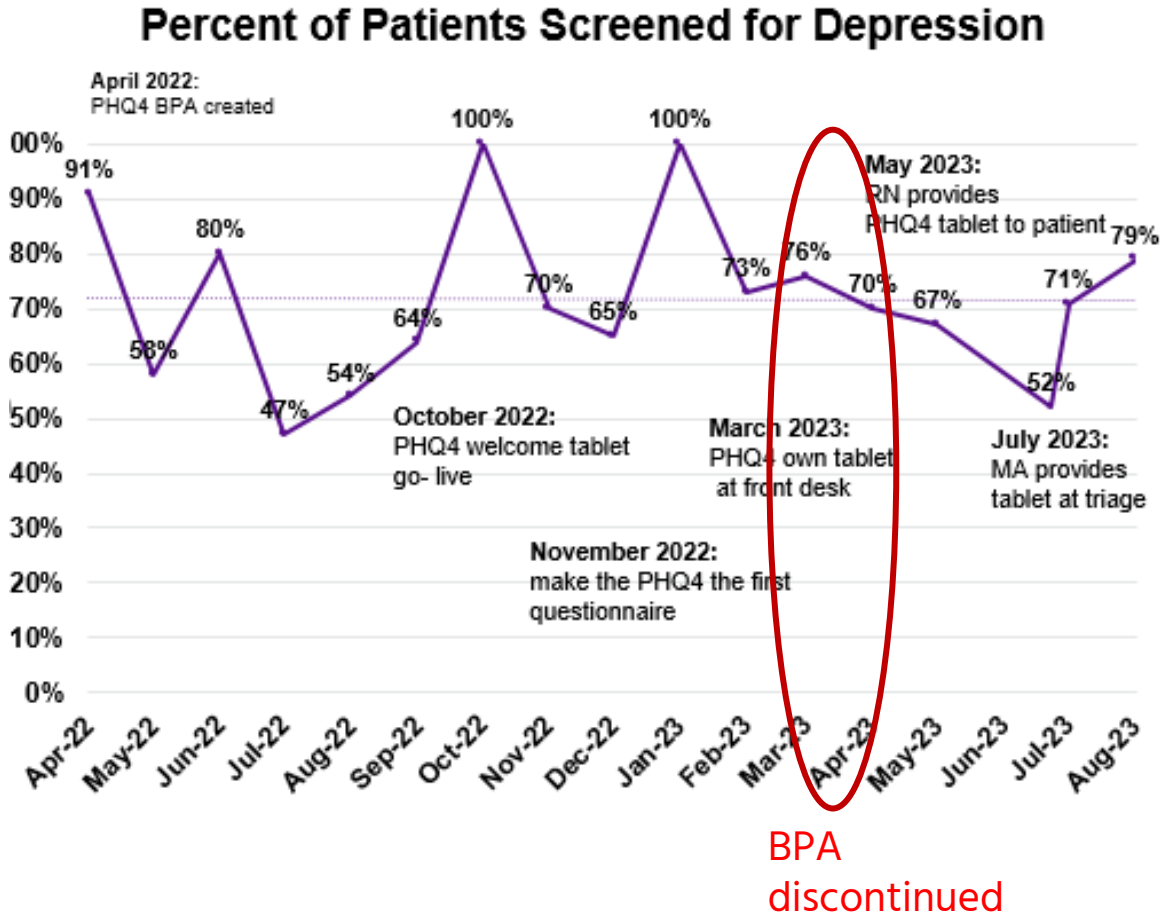
- **BPA for Positive PHQ-9 Screening:**
  - When someone scores ≥ 10 on the PHQ-9 screening a BPA triggers to place a referral to our social worker. LPN pends referral to be signed by clinician.
  - **Timeframe:**
    - Pilot for depression screening began in October 2016, BPA was created and went into production in 2017.

- **BPA for Positive SDOH Screening:**
  - If a positive response to one of SDOH questions and patient consents to social worker contact, BPA alerts staff to place a referral. LPN pends referral to be signed by clinician.
  - **Timeframe:**
    - Pilot of Screening for SDOH began in August 2021. The BPA went live in December 2021.

- **Lessons Learned:**
  - BPA for positive screening was necessary but not sufficient.
  - Selection tool in EMR for resources needed
  - Process needed for determining efficacy of resources provided.
  - Staff burnout from notifications created BPA desensitization.
    - Solution: BPAs were combined into one.

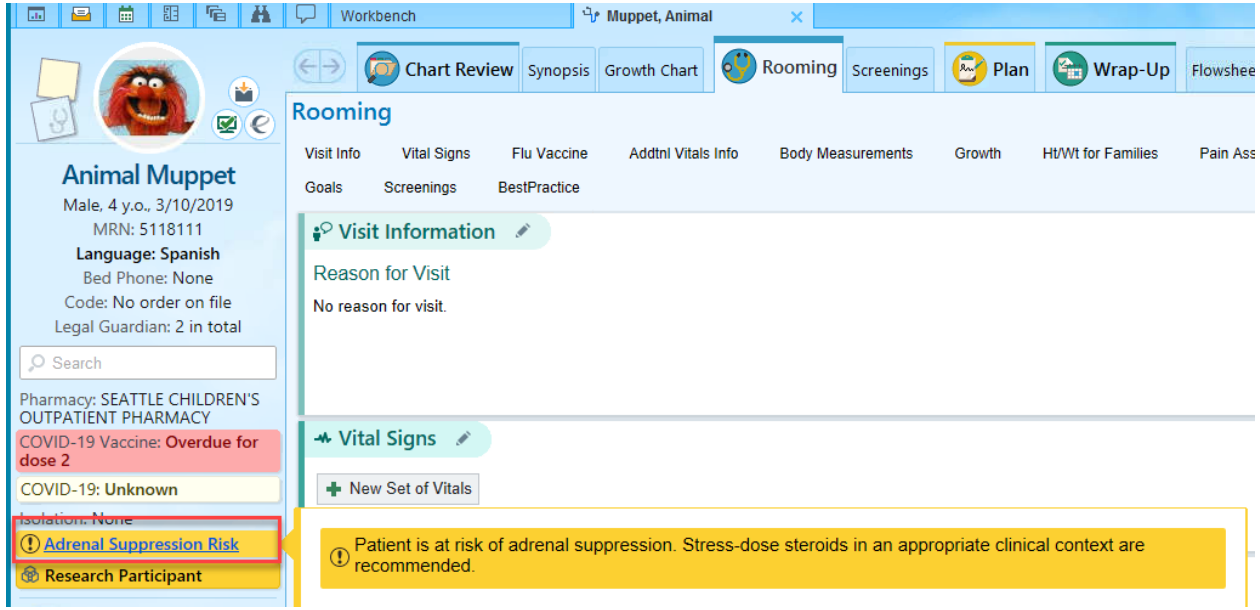
Hassenfeld Children's Depression Screening in the Pediatric Diabetes Center

- BPA created to notify MA to administer PHQ4
- Started in April 2022 and discontinued in April 2023 because it obscured suicide screen BPA from MA view until completed
- Lessons learned:
  - Imperative to make BPA visible to the appropriate team member
  - Effective, but necessary to consider impact on current workflow
  - Important to create a BPA to notify provider of result



Seattle Children's

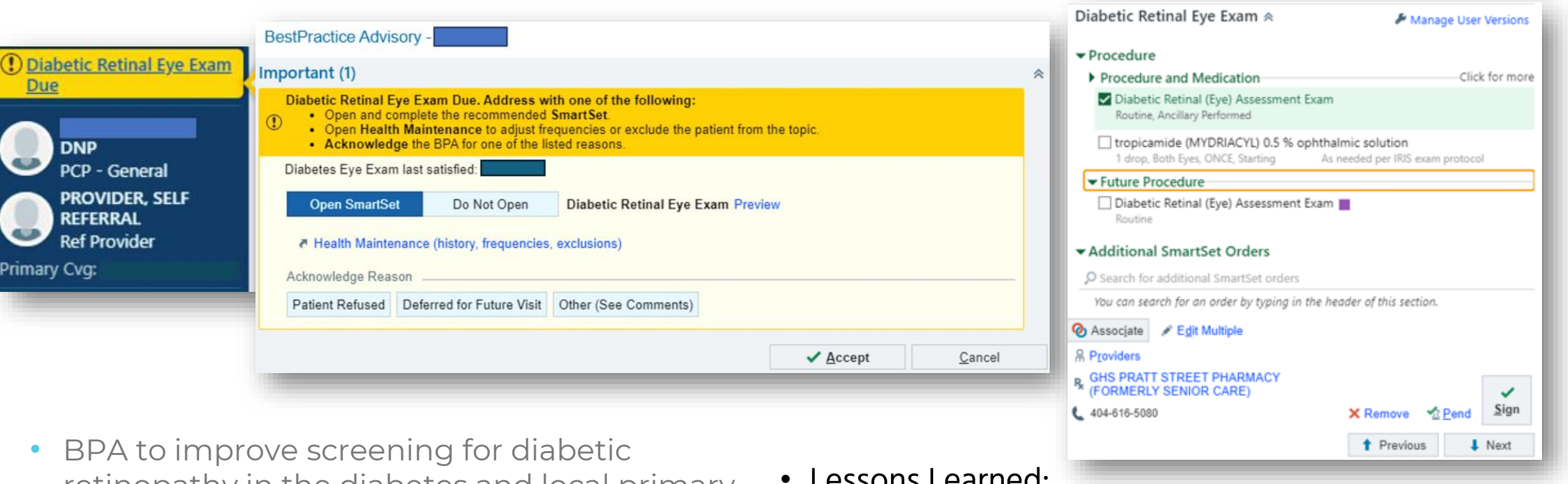
- Institution has several BPAs in practice e.g. sepsis alert, difficult airway acknowledgement, telehealth check-in, telemed compliance documentation, etc.
- For endocrinology, BPA identifying 'Adrenal suppression' risk→ particularly helpful for ED encounters and stress dosing
  - Concept ICD-10 codes on problem list (PL) linked to BPA on Storyboard



Lessons learned:

- Critical safety alerts→ build turnaround is quick
- Requires addition of a problem list item→ PL not commonly used by most providers
- Helpful that it is on storyboard→ less likely to contribute to Alert fatigue

Grady Memorial Hospital-Adult



- BPA to improve screening for diabetic retinopathy in the diabetes and local primary care centers
- BPA alert: history of diabetes and absence of ophthalmology appointment or retinal imaging during past 12 months
- Estimated implementation timeframe: ~6 months (including administrative approvals)

- Lessons Learned:
  - Need to consider alert fatigue when adding BPAs to clinical demand
  - Changes to clinical workflow surrounding BPA
  - Consider for options for modifying and acknowledging alerts

BPA Project Overview

Study Objectives

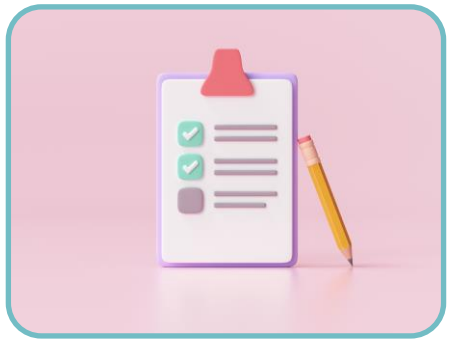
Aim 1	Aim 2	Aim 3
• To develop and implement an EMR-based BPA using stakeholder feedback to standardize the approach for prescribing and documentation of ADT use among children and adults with T1D	• To determine the effectiveness of an EMR-based BPA in reducing racial inequities in ADT use	• To explore the reasons identified for providers' decision to not prescribe ADT and whether they were patient or provider led, and the association between reason provided and patient's race/ethnicity

T1D Exchange

Aim 1: Qualitative Research

Focus groups/ structured interviews:

- Pediatric and adult endocrine providers who are part of T1DX-QI
- PWD/caregivers with T1D



Electronic surveys

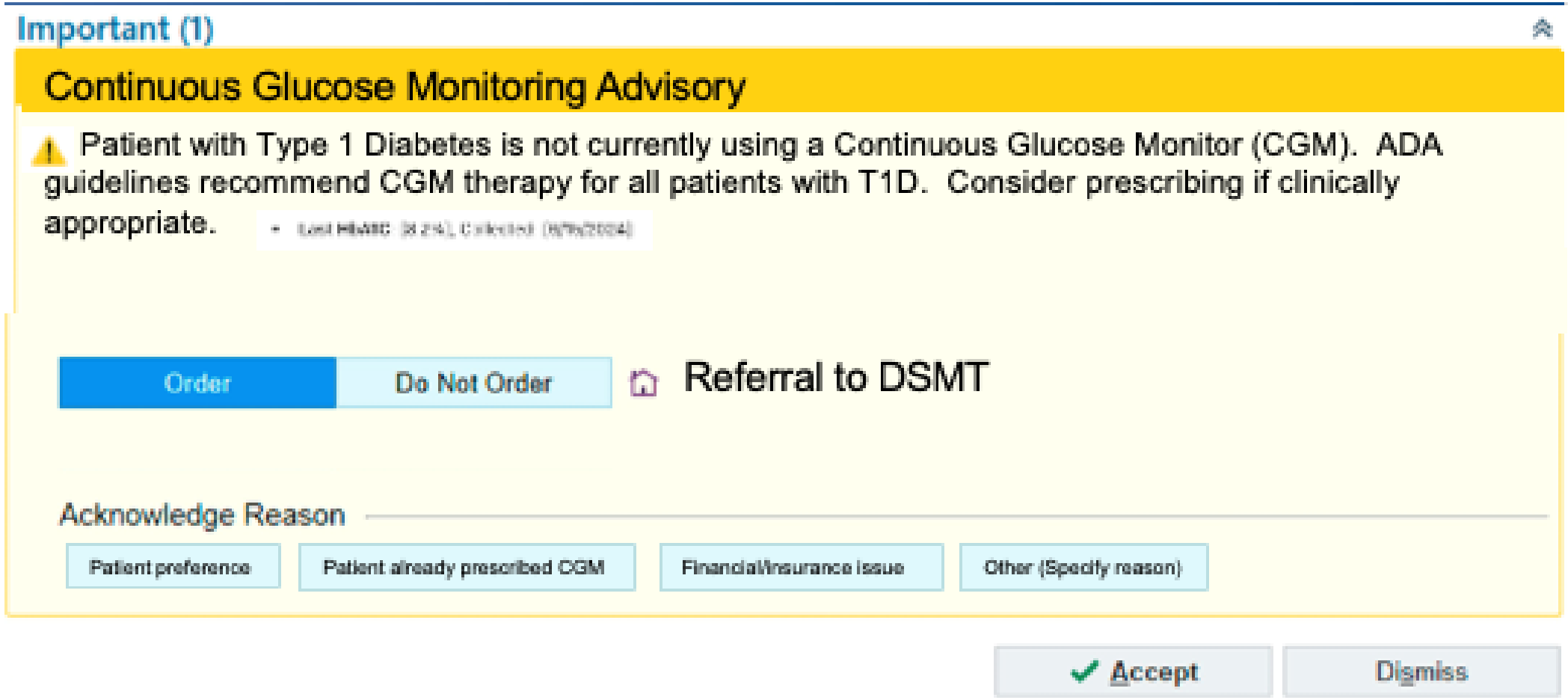
- T1D Exchange Registry

Aim 1: Five Rights of CDS

Five Rights of Clinical Decision Support	Provider	Patients
Right information	How to translate ADA standards of care for CGM and insulin pumps into prompt/alert? Reason device not offered/declined?	What information would be helpful to you in making a decision about using ADT? Reasons device declined?
Right person	Who should receive the prompt? Endocrinologist or diabetes advanced practice provider? Primary care physician?	Who should receive the information about technology (patient only, parent, primary care physician)?
Right intervention format	Define BPA inputs	MyChart notification*
Right channel	Order entry Progress note template Level of service (closing chart) Health maintenance/care gap	MyChart notification Pre-visit questionnaire Post-visit questionnaire
Right timing	Pre-visit charting During encounter When closing encounter How often? Once, 3 months, 6 months, 12 months?	Prior to visit? After visit? How often? Once, 3 months, 6 months, 12 months?

T1D Exchange

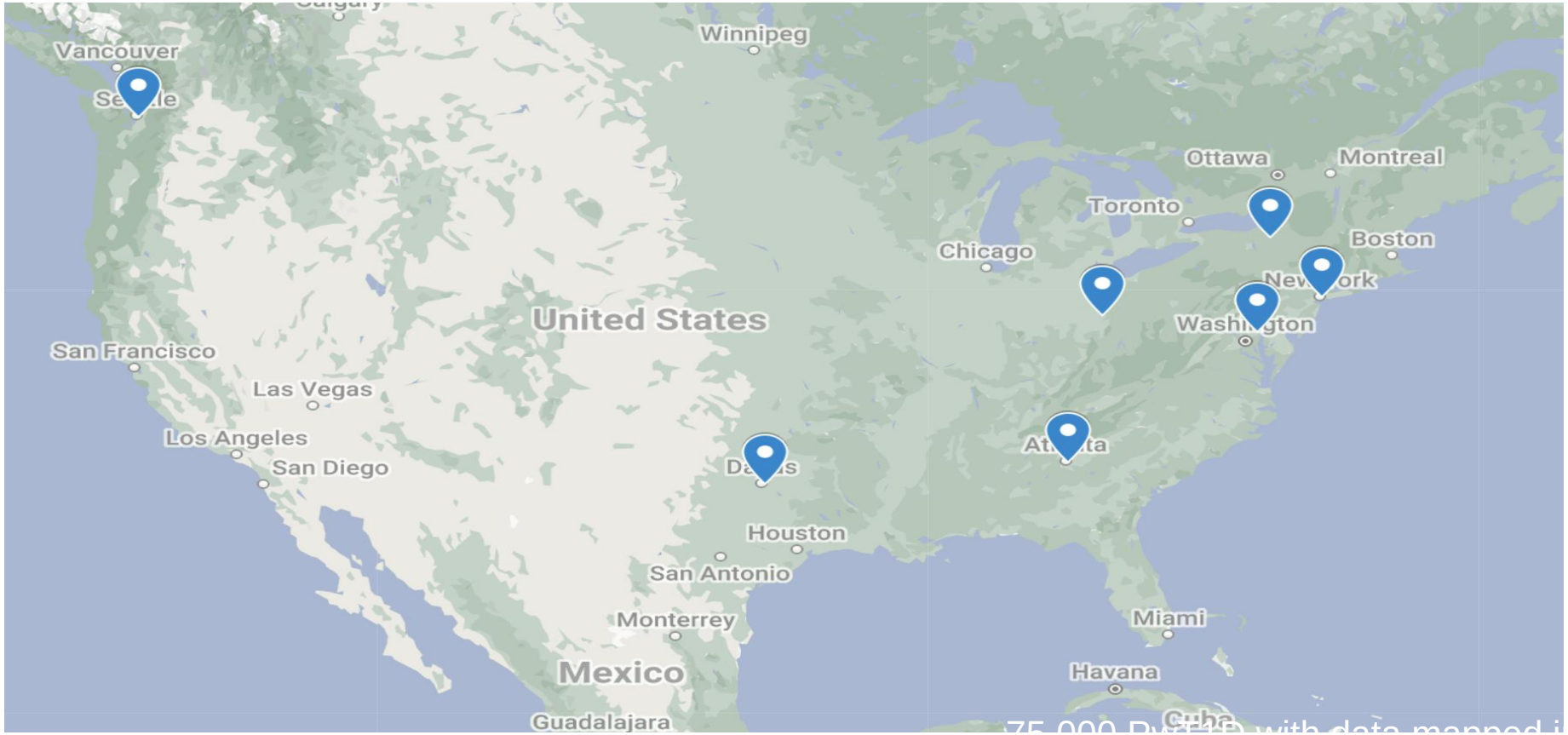
Aim 1: Prototype Testing



Aim 2: Effectiveness

- Non-randomized matched-pair intervention design
- Compare ADT use following BPA intervention among non-Hispanic Black and Hispanic PwT1D receiving care at 6 T1DX-QI centers with matched control non-Hispanic Black and Hispanic PwT1D receiving care at a non-intervention center over a 12-month period

Participating Centers



Primary Outcome

- Progression in ADT use in intervention PwT1D compared with matched-pair control PwT1D during the 12-month study period:
  - No CGM → Any CGM
  - MDI → Insulin pump
  - No AID → AID

Aim 3

- Explore reasons for not prescribing ADT
- Determine if reasons are PwT1D- or provider-led
- Analyze relationships between reasons and PwT1D race/ethnicity

Project Timeline/ Scope of Work

Study Timeline

Milestones	Apr-24	Jul-24	Oct-24	Jan-25	Apr-25	Jul-25	Oct-25	Jan-26	Apr-26	Jul-26	Oct-26	Jan-27
Start-up	x											
Aim 1												
Qualitative Study		x	x									
BPA develop/impl.			x	x	x							
Publication				x								
Aim 2												
BPA deployed					x	x	x	x	x			
Data collection						x	x	x	x	x		
Data analysis								x	x	x	x	
Aim 3												
Data analysis										x	x	x
Publications											x	x

Scope of Work

- Duration of Project: July 1, 2024, to January 30, 2027

- Description of work to be performed by participating centers:
  - Participate in monthly group check-in calls.
  - Participate in survey and focus groups.
  - Implement an EMR-based BPA.
  - Contribute to publications (abstracts, manuscripts, change packages)

Next Steps

- Next meeting: September
- Participating centers will create a process map that highlights the center's overall process of integrating a BPA into their EMR.
- Setting up a time to meet for the Focus groups.

Next Steps/Questions