



T1D
Exchange

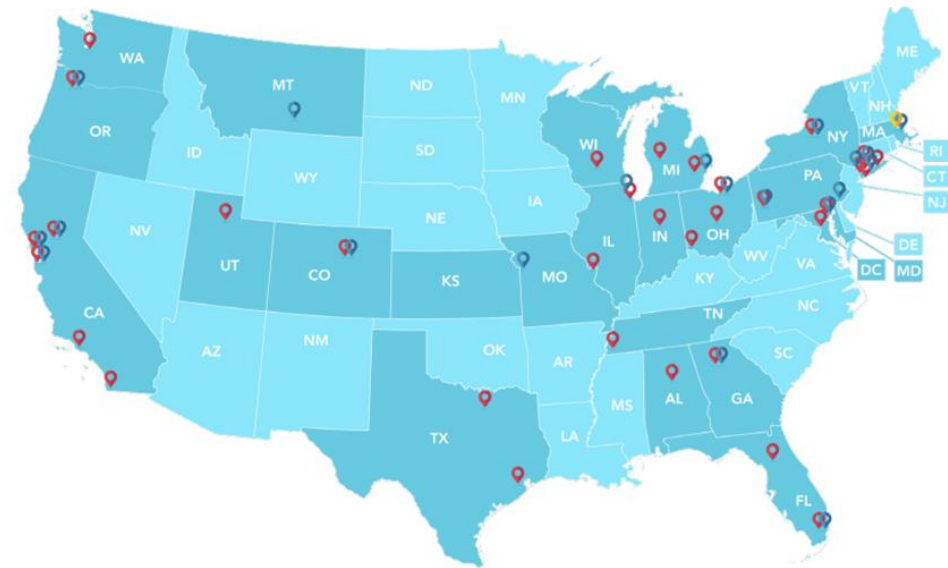
T1D-QI Equity Program Overview

March 2022

Background

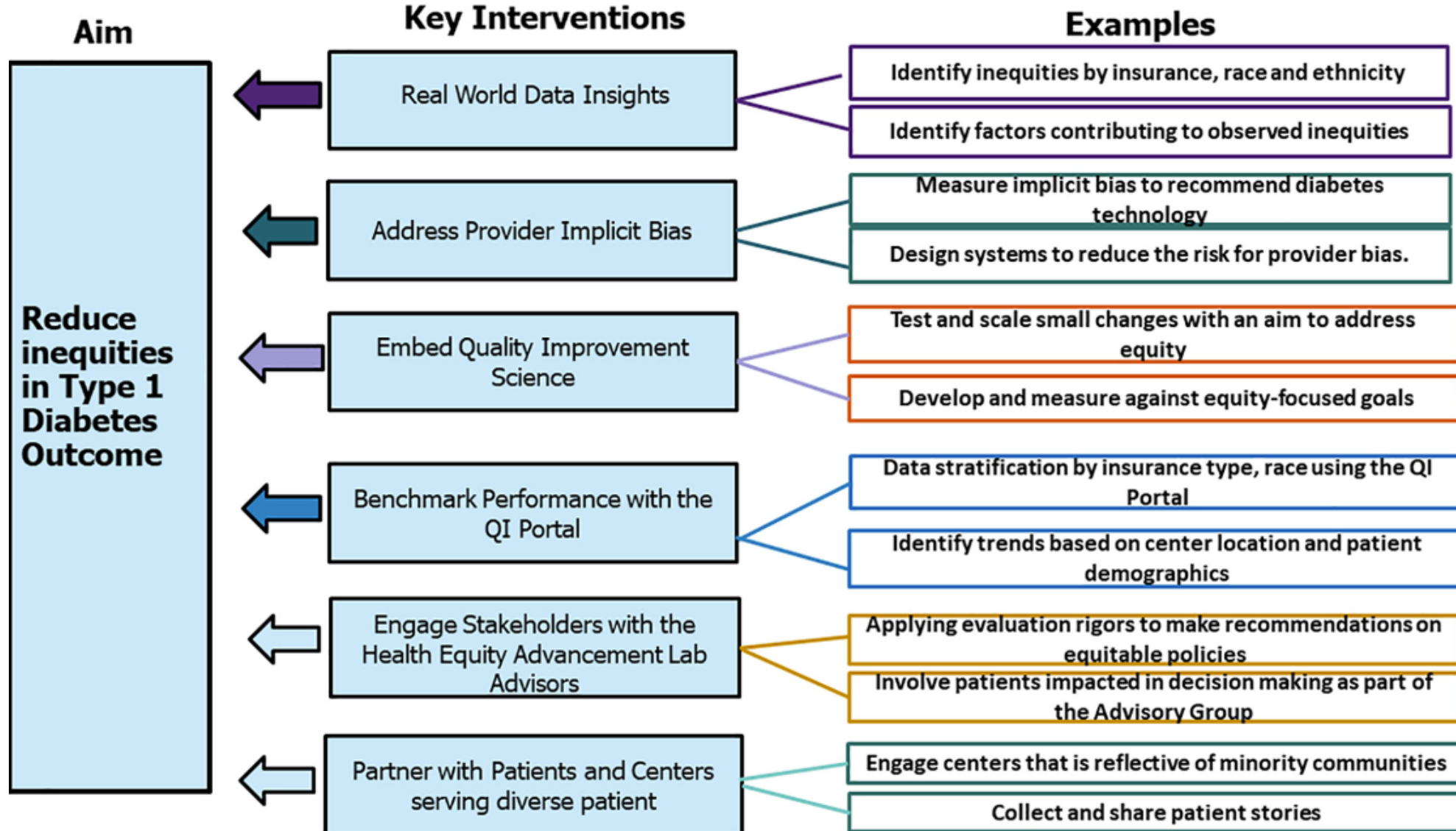
- The T1D Exchange is a Boston-based nonprofit with a mission to improve the outcomes of people with type 1 diabetes (T1D)
- The T1D Exchange Quality Improvement Collaborative (T1DX-QI) has 55 pediatric and adult endocrinology center sites with 70,000+ patient data
- As a learning health system, T1DX-QI clinics use research, population health science and quality improvement methodology to improve clinical outcomes for patients with T1D

MAP OF T1D EXCHANGE PARTICIPATING CENTERS



T1D-QI Equity Program

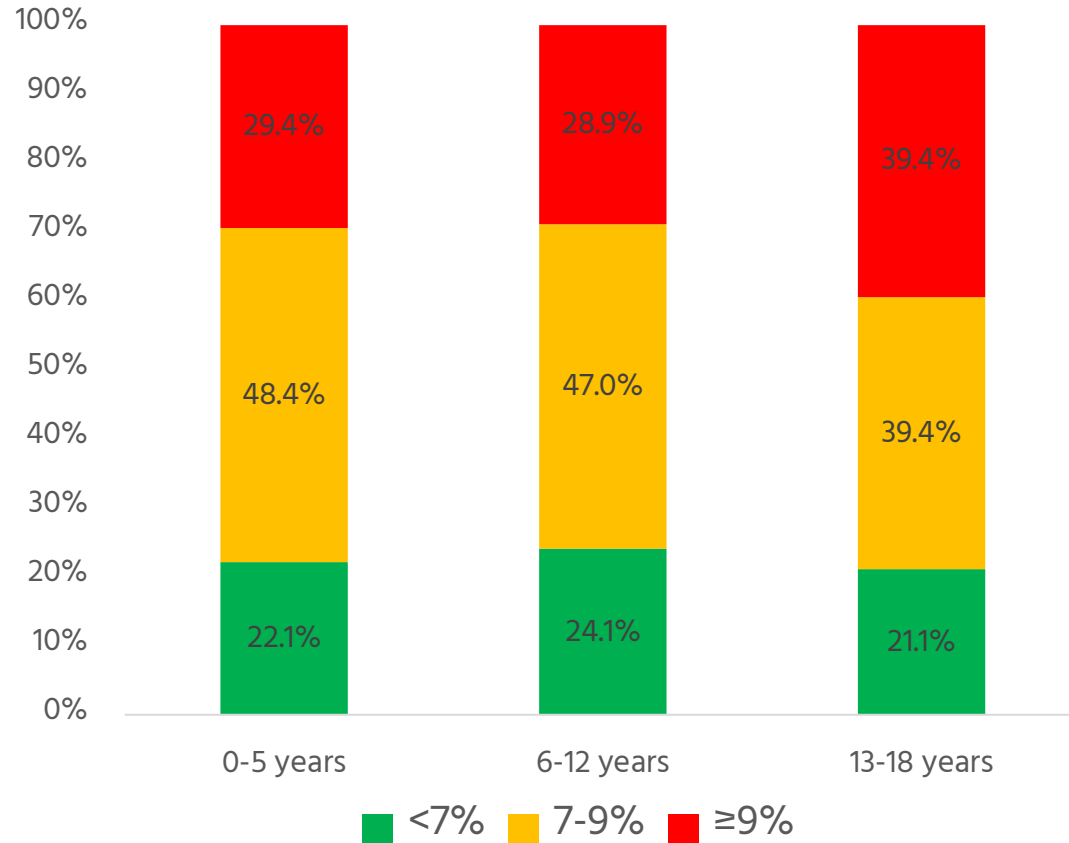
Key Driver Diagram: T1D Exchange QI Program Addressing Health Inequities



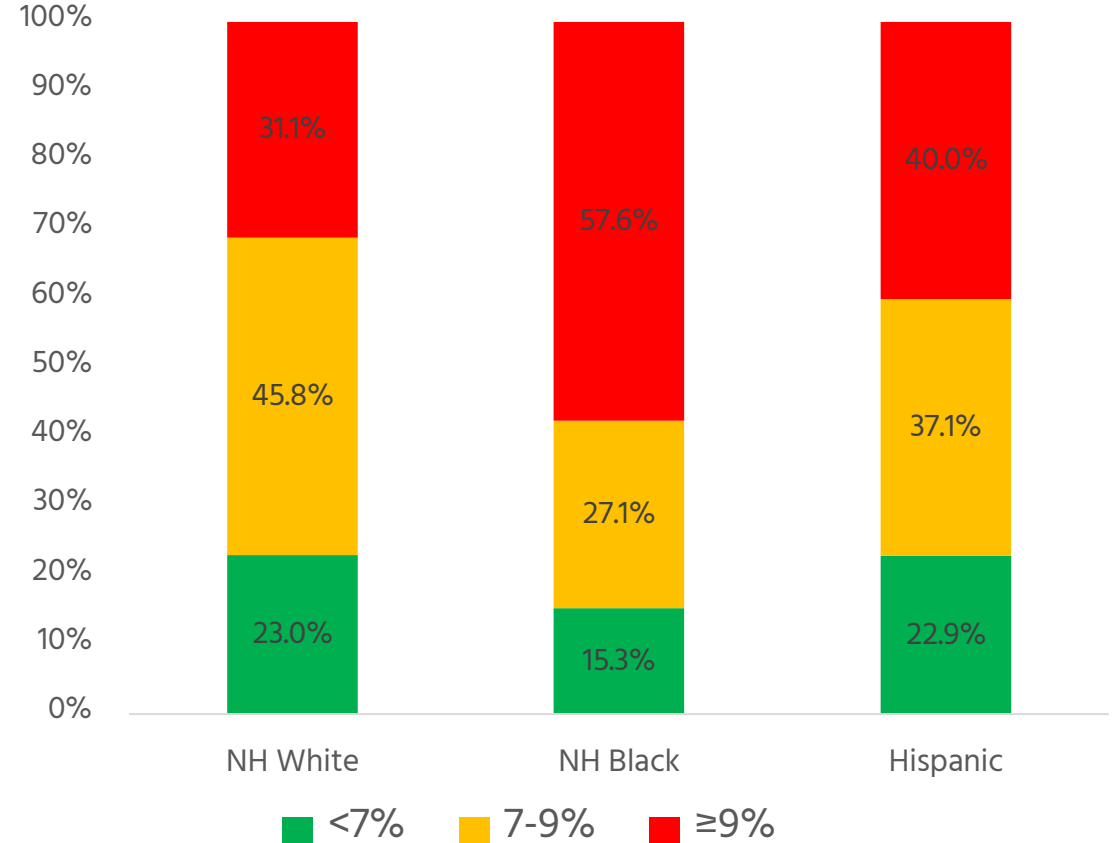
T1DX-QI Real-World Data Insights

- The incidence of T1D is increasing in the United States across all populations, most significantly in Hispanic youth.
- When compared to non-Hispanic white patients, Non-Hispanic Black and Hispanic patients use CGM less frequently and Mean A1C levels were found to be higher in Hispanics and non-Hispanic Blacks
- Despite an overall increase in the use of Pumps and CGM, NHB patients had the lowest rate of CGM use (NHB 17%; Hispanic 37%; NHW 40%; $p < 0.001$) and Insulin pump use (NHB 41%; Hispanic 56%; NHW 60%; $p < 0.001$)
- T1DX-QI identified barriers to Smart Insulin pen use to included insurance coverage and prescribing processes. Study findings indicated the need for provider and care team education and training on proper SIP features, use, and prescribing.

A1C distribution by age in Pediatrics

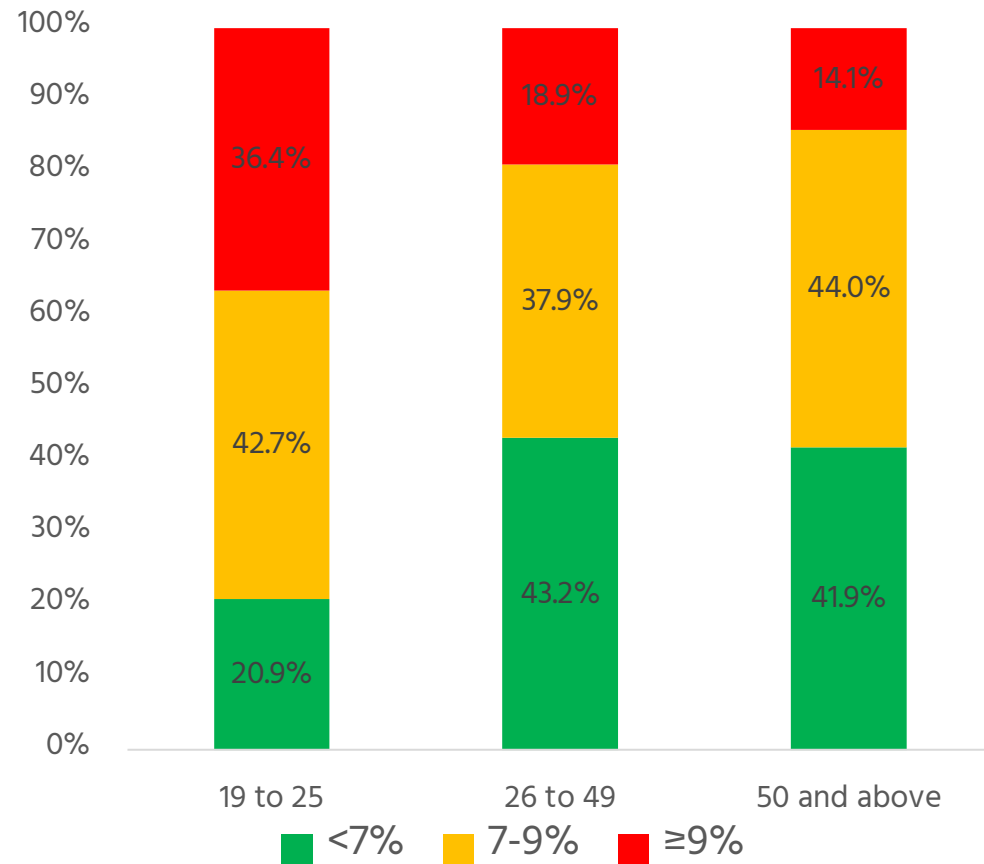


A1C by race/ethnicity in Pediatrics

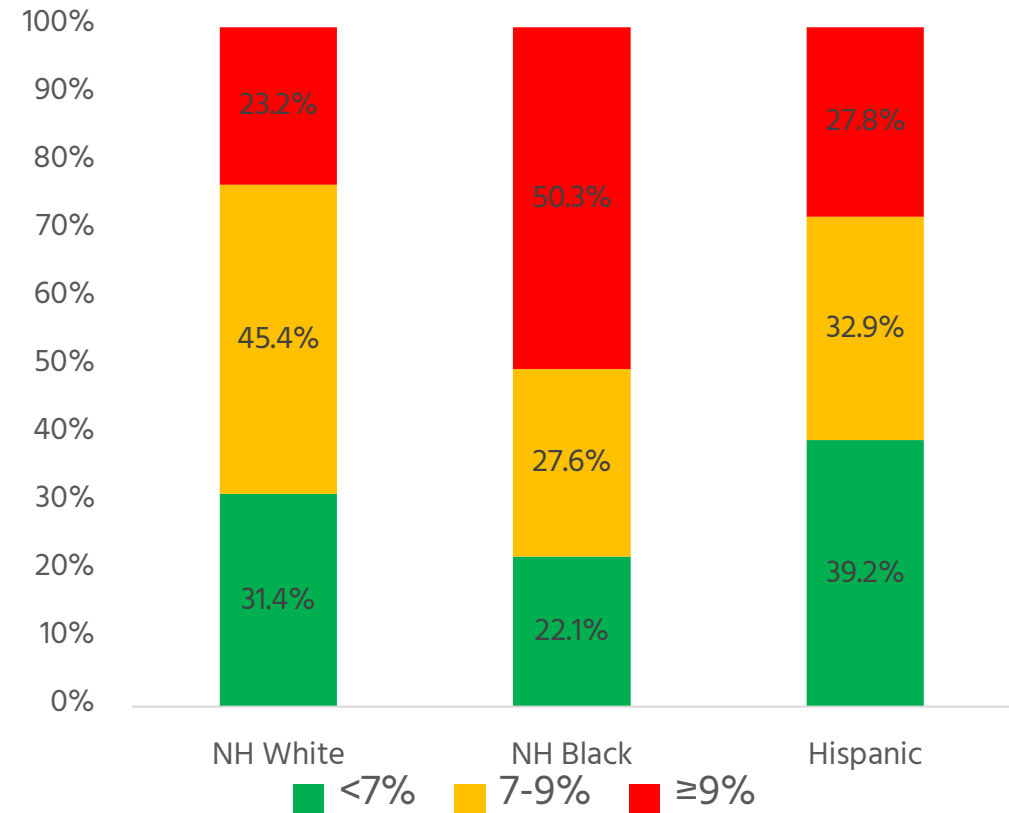


Only a minority of children, adolescents with type 1 diabetes achieved the previous A1C target of <7%

A1C distribution by age in Adults



A1C by race/ethnicity in Adults

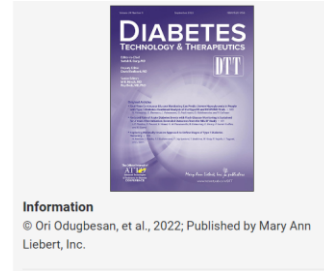


Only a minority of adolescent and adult with type 1 diabetes achieved the previous A1C target of <7%

T1DX-QI Study Addressing Provider Bias

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

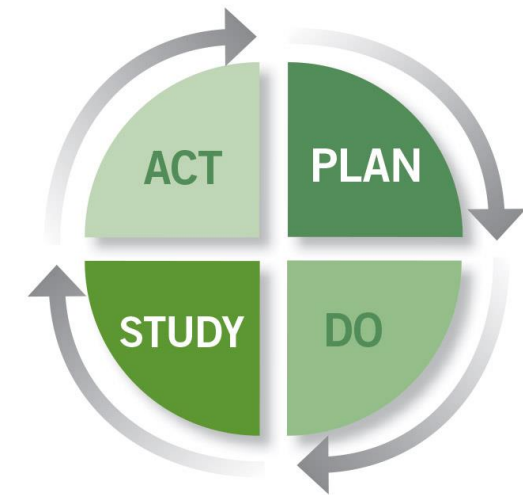
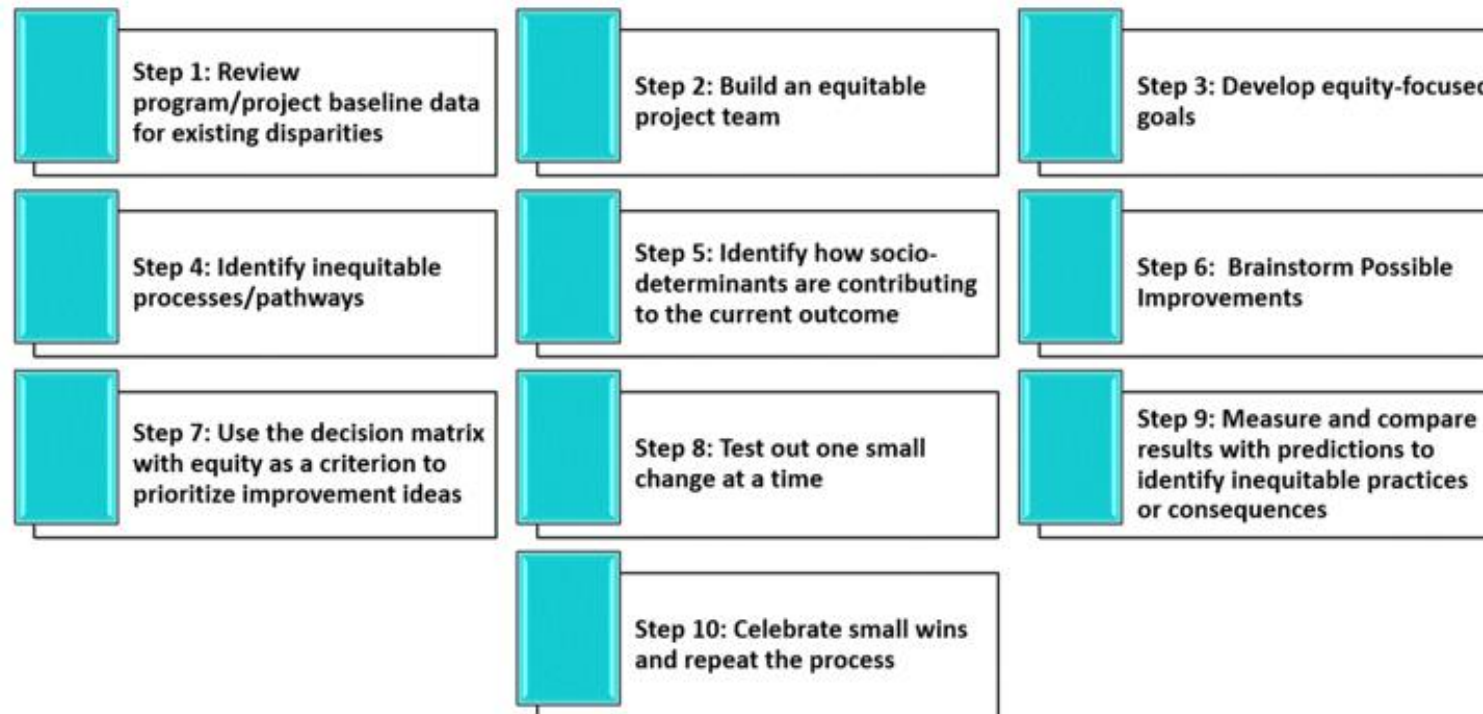
Ori Odugbesan , Ananta Addala, Grace Nelson, Rachel Hopkins, Kristina Cossen, Jessica Schmitt , Justin Indyk, Nana-Hawa Yayah Jones, Shivani Agarwal , Saketh Rompicherla, and Osagie Ebeozien 



- We used the D-PIB tool to identify Bias. The tool includes a hypothetical clinical vignette and a ranking exercise of patient factors that providers consider to be important in the recommendation of diabetes technology
- Provider implicit bias to recommend diabetes technology was observed based on insurance and Race/Ethnicity in our pediatric and adult diabetes provider cohort

T1DX-QI Quality Improvement Science Framework

10-step Framework





Quality Improvement Science: Equity Project Pilot Highlight

2021/2022 Equity Project Pilot Sites



Children'sSM
Healthcare of Atlanta



Cincinnati
Children'sSM

UPSTATE
MEDICAL UNIVERSITY



**NATIONWIDE
CHILDREN'S**
When your child needs a hospital, everything matters.SM



**THE UNIVERSITY OF
ALABAMA AT BIRMINGHAM**

Montefiore

Le Bonheur
Children's Hospital



Contributing Factors to CGM & Insulin Pump inequities

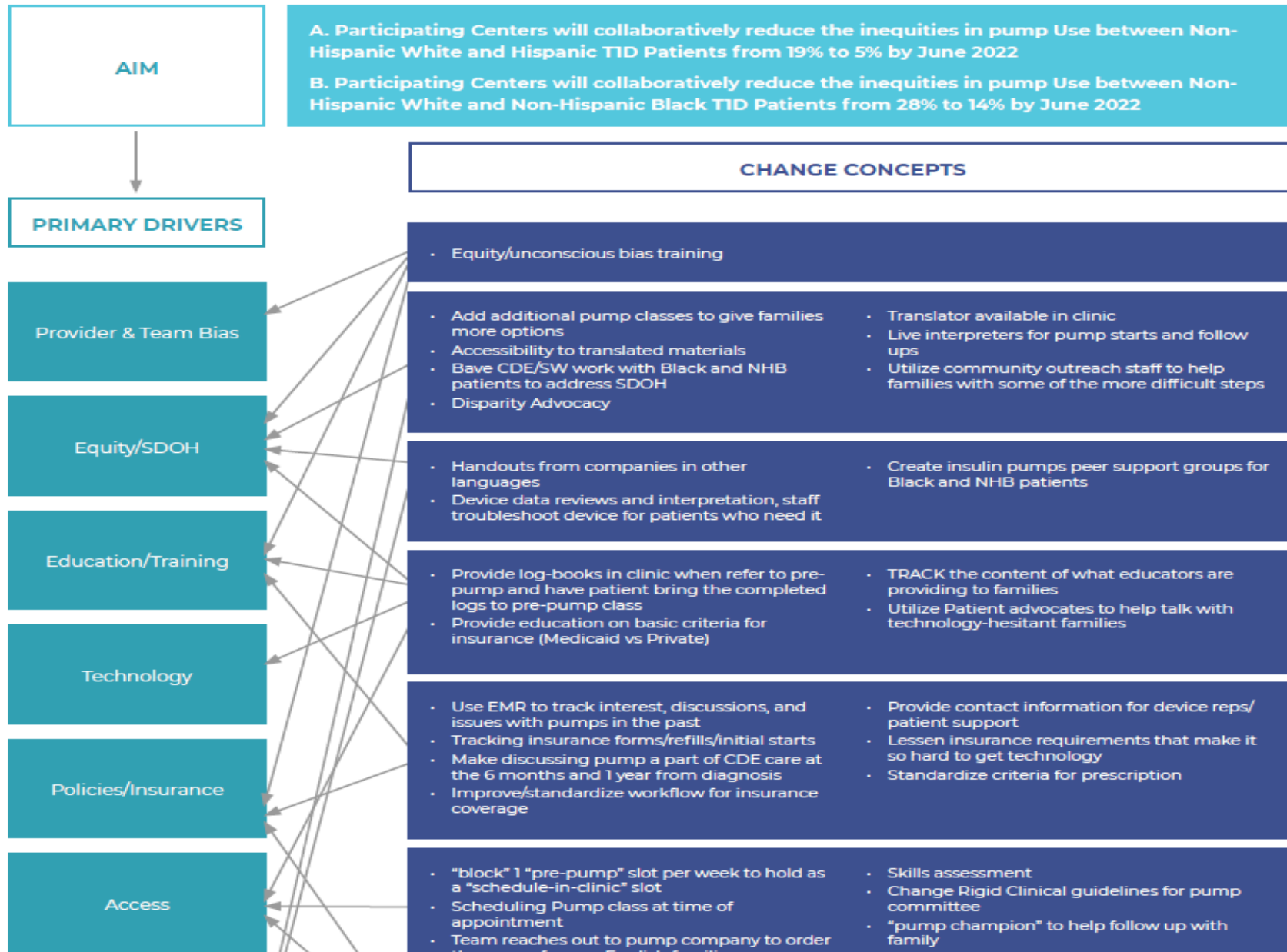
FIGURE 6 PAIN POINTS CONTRIBUTING TO INEQUITABLE CGM USE

Tier 1	Finding out specific pharmacy/DME covered by insurance	Providers not aware when CGM has been approved or denied	Lag time between prescription and initiation of paperwork
Tier 2	Need for multiple electronic prescription	High burden of complex paperwork/ insurance denials	Language barrier for non-English speakers

FIGURE 7 PAIN POINTS CONTRIBUTING TO INEQUITIES IN PUMP UPTAKE

Tier 1	Difficulty contacting patients for pump classes, visits, and shipment of device	Communication to and from pump vendors to clinic/patients	Insurance issues/ denials	Stringent guidelines/ multiple paperwork for patients on public insurance
Tier 2	Language barrier/Lack of interpreter/materials not in other languages	Provider bias in offering pumps	Multiple visits/travel cost/missed school/ work	Staffing challenges/ staff turnovers
Tier 3	Lack of standardized screening tools to assess pump readiness	Provider concerns about pump safety	Patient refusal/ believes/want nothing attached to their body	Out of pocket cost for uninsured or underinsured patient

Key Drivers to Inequities



A. Participating Centers will collaboratively reduce the inequities in pump Use between Non-Hispanic White and Hispanic T1D Patients from 19% to 5% by June 2022

B. Participating Centers will collaboratively reduce the inequities in pump Use between Non-Hispanic White and Non-Hispanic Black T1D Patients from 28% to 14% by June 2022

<https://t1dexchange.org/equity-change-package/>



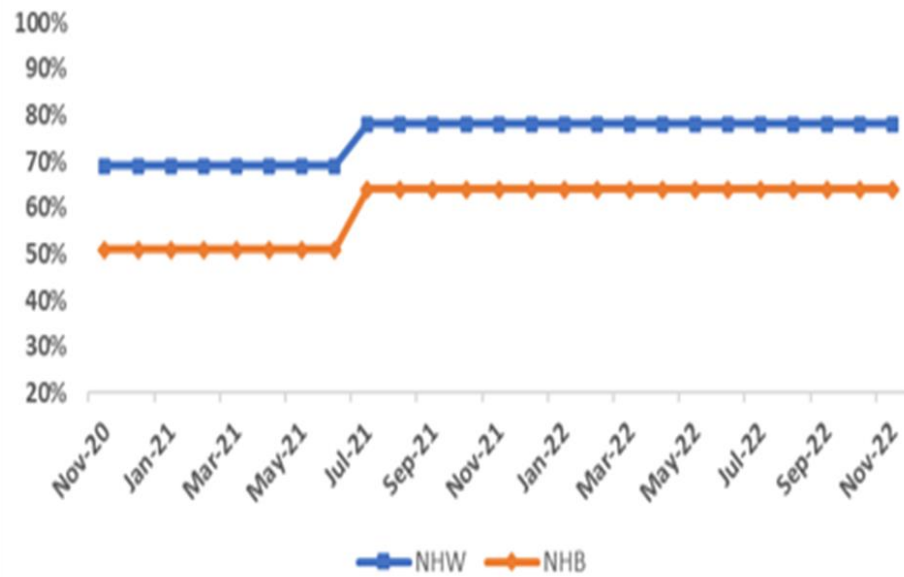
Examples of T1DX-QI CGM Equity QI Projects

Practice Type	Number of T1D Patients	Intervention Period (months)	Intervention Examples	Outcome
Pediatric	613	12	<ul style="list-style-type: none"> • Patient education folders for families • CGM champion built a relationship with DME company 	<ul style="list-style-type: none"> • 6% Increase in NHB CGM use. • 10% increase in overall center CGM Use.
Pediatric	1886	22	<ul style="list-style-type: none"> • Multidisciplinary team approach • Targeted patient education • Onboarding assistance for NHB 	<ul style="list-style-type: none"> • 50% reduction in equity gaps between NHW and NHB persons.
Pediatric	2784	12	<ul style="list-style-type: none"> • CGM submission process for high-risk patients • CGM evidence-based practice summary submitted to state level 	<ul style="list-style-type: none"> • >50% increase in CGM use for publicly insured patients.
Pediatric	1500	9	<ul style="list-style-type: none"> • Improving provider understanding of requirements for CGM coverage • Assist patient with documentation 	<ul style="list-style-type: none"> • Reduced CGM disparity between public and privately insured patients from 36% to 12%.
Adult	280	23	<ul style="list-style-type: none"> • Single provider streamlining paperwork to one location. • Including Social Worker to streamline process 	<ul style="list-style-type: none"> • Increase in CGM usage from 12% to 57% in NHB on public insurance.
Adult	900	31	<ul style="list-style-type: none"> • Conducting social needs assessments and management, • Training support staff to place trial CGMs at the point of care, • Optimizing prescription workflows, and • Educating providers on CGM 	<ul style="list-style-type: none"> • 30% increase in NHB CGM use. • 13% increase in Hispanic CGM use.

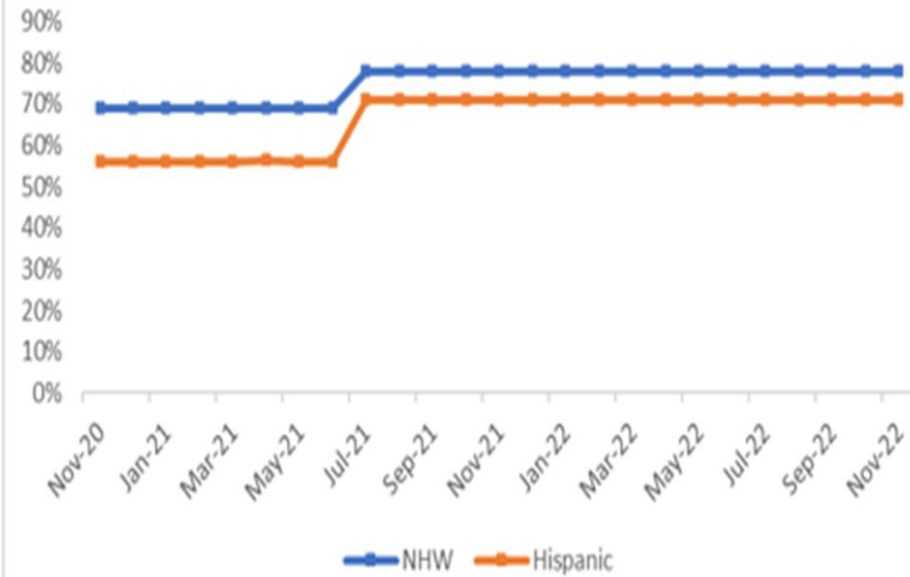
T1DX-QI Equity Project Result: Cohort 1

The median increased by 7% in NHW, 12% in NHB, and 15% in Hispanic patients. The gap between NHW and NHB closed by 5% and the gap between NHW and Hispanic patient closed by 6%.

Pre-Post Intervention for CGM Use in NHW compared to NHB Patients with T1D



Pre-Post Intervention for CGM Use in NHW Compared to Hispanic Patients with T1D



22-25 FEBRUARY 2023
BERLIN & ONLINE



Endocrine today

By Michael Monostra

Fact checked by Richard Smith

+ Source/Disclosures

February 23, 2023 | 2 min read

SAVE 

Quality improvement interventions reduce disparities with CGM use in type 1 diabetes

+ ADD TOPIC TO EMAIL ALERTS

Interventions that incorporate shared decision-making, reduce racial-ethnic bias and provide language-specific instruction can reduce [disparities with continuous glucose monitoring use](#) in type 1 diabetes, according to two presenters.

In findings presented at the International Conference on Advanced Technologies & Treatments for Diabetes, five clinics participating in the T1D Exchange Quality Improvement Collaborative were able to boost CGM use among patients through a variety of interventions. The largest increases in CGM use were observed among non-Hispanic Black and Hispanic people with type 1 diabetes.

Change in CGM use among people with type 1 diabetes from baseline to post-intervention:



Read next

DKA more common for Black vs. white people with type 1 diabetes

Healio 

Pilot: Lessons Learned

- Quality Improvement tools were useful in increasing equitable CGM and insulin pump use
- Clinic processes and policies are different for participating sites, and interventions can be tailored to the guidelines and procedures
- Monthly team meetings was useful for sharing improvement ideas and to foster learning
- Patient/parent participation is important in brainstorming change ideas, and to understand barriers and contributors to inequities
- Timely data reporting and a dedicated and engaged QI team accelerate the success of QI
- <https://trello.com/c/9dNVDdWK/45-equity-change-package>



Quality Improvement Science: Equity Project Expansion (Cohort 2 Sites)

Participating Centers

Adult Centers



WAYNE STATE
UNIVERSITY



Barbara Davis
Center for Diabetes
UNIVERSITY OF COLORADO
ANSCHUTZ MEDICAL CAMPUS

BOSTON
MEDICAL
CENTER



UCSF Health

Pediatric Centers



Timeline	Expectations
June 2022 –January 2023 (7 months)	<ul style="list-style-type: none"> All participating sites will report project baseline data using the smart sheet. All participating sites will review their existing data. The baseline data review will be stratified by race/ethnicity
February 2023	<ul style="list-style-type: none"> Hold Kick off meeting/Plan recurring monthly meeting Each site will identify champions for the QI project, including at least one patient/parent who identifies as Black or Hispanic
March/April 2023	<ul style="list-style-type: none"> Hold Equity/unconscious bias training (5-10 participants per site) Baseline data analysis Each site will identify champions for the QI project, including at least one patient/parent who identifies as Black or Hispanic
April 2023	<ul style="list-style-type: none"> Teams map out current process and annotate pain points in the process. Teams will share process map at meeting in April
May 2023	<ul style="list-style-type: none"> Team will perform a fishbone activity/ create KDD and set SMART Aims
June- End of the project	<ul style="list-style-type: none"> Use PDSA Cycle to test intervention starting with one provider and scaling across the clinic. Weekly/bi-weekly Plan-Do-Study-Act cycles; Each team will complete at least 15 PDSA cycles
June –End of the Project	<ul style="list-style-type: none"> QI documentation: Each site will share PDSAs results with other team at monthly meetings and share updates using RAIL tool
Deliverables	<ul style="list-style-type: none"> Abstracts, manuscripts, patient focus group

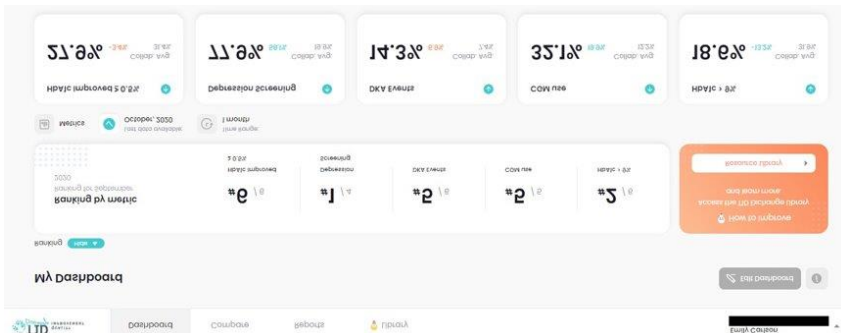


Benchmarking performance: QI Portal

T1DX-QI Quality Improvement Portal



- The QI Portal is a tool for sites to use real-time data to review trends and identify opportunities for improvement
- Allow clinics to display data stratified by race and ethnicity to visualize equity in key T1D metrics, including
 - HbA1c,
 - CGM use,
 - insulin pump use,
 - diabetic ketoacidosis events
 - Depression screening



T1DX-QI Health Equity Advancement Lab



- The T1DX-QI HEAL Program is a network of health equity clinical and research leaders
- Aim is to provide thought leadership around the T1DX-QI health equity initiatives
- The Health Equity Advancement Lab (HEAL) works to understand and change the care provided to people of color with diabetes.

<https://t1dexchange.org/quality-improvement/heal/>

T1DX-QI Partnering with Patients and families



- Patient advisor on equity projects
- T1DX-QI Patient advisory committee
- Patient representative on HEAL
- The T1DX-QI engages with patients on multiple levels to involve them in process improvement
- Patients are regularly invited to participate in QI activities, including QI projects

Next Steps for Participating Sites

Prioritize Monthly data reporting

Document Document and share interventions with coordinating center using rapid Plan Do Study Act cycles and RAIL tool and PDSA worksheet

Recruit Participating centers will recruit NHB and Hispanic patient advisors

Attend Attend group monthly meetings



Questions?