Diabetes Device Equity & Optimization

Our Journey Through Quality Improvement (QI)

Cook Children's T1D Exchange Group

Principal Investigator: Susan Hsieh, MD
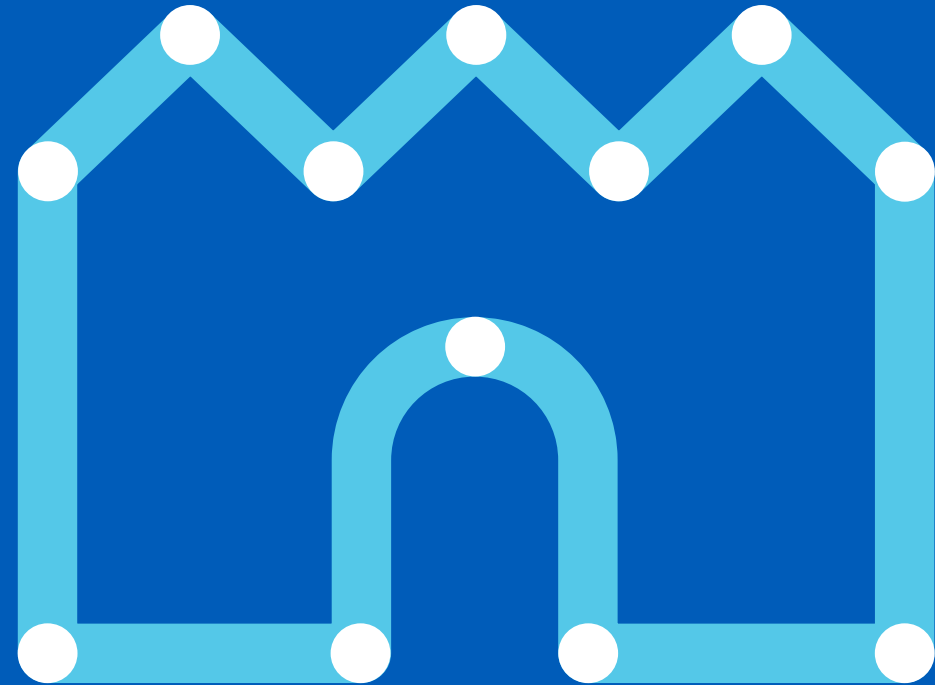
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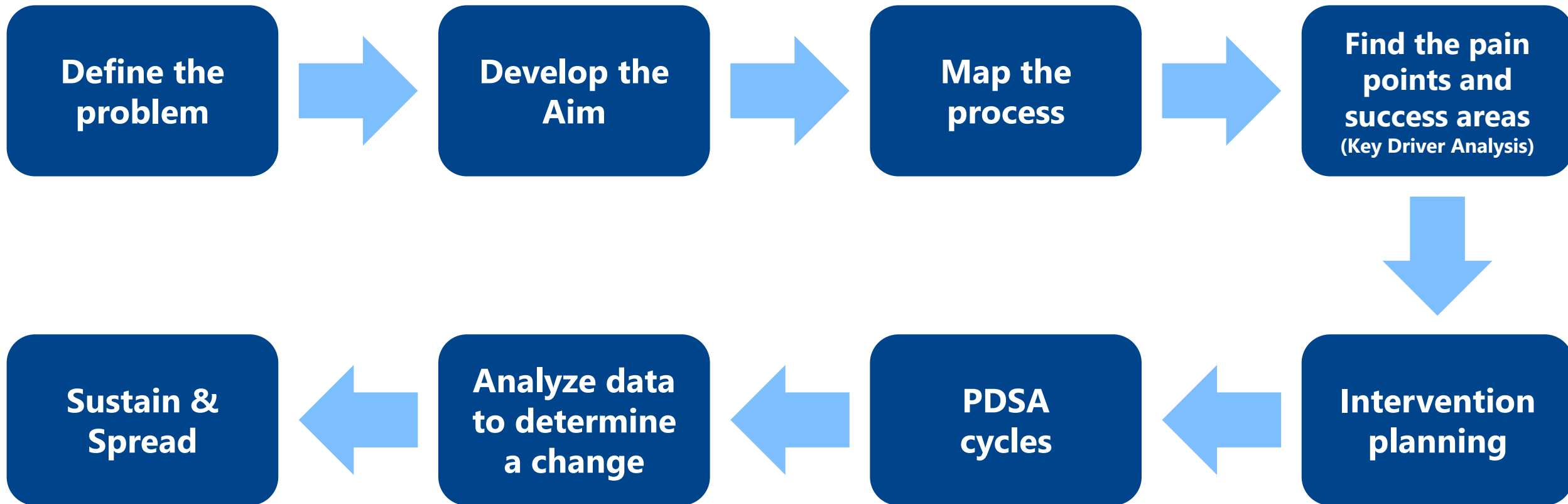Jasmine Jones, LVN

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Objectives

1. To review the purpose and aim of the T1D Exchange Device Equity Program

2. To evaluate trends of device use before and after QI interventions

3. Identify areas of success and clinic champions within our workflow

4. Identify areas of growth to expand device use in patients with T1D

Clinic Profile

Multidisciplinary Team Members	Volume and Demographics
Pediatric Endo MDs: 13	**Approx. 1500 patients with T1D seen in the last 1 year**
APP: 6	**Newly diagnosed patients with T1D per year**: 290
Diabetes Educators: 13 (2 w/CDCES)	**Insurance**:
Registered Dieticians: 5 (2 part time)	Private 64%
Medical Assistants: 4	Public 35%
Social Worker: 1	Other 1%
Clinical Therapists: 4 (2 part time)	**Race**:
Data Coordinator: 1 (part time)	Non-Hispanic White (NHW)) 63%

Race:
Non-Hispanic White (NHW)) 63%
Non-Hispanic Black (NHB) 14%
Asian 3%
American Indian / Alaska Native <1%
Native Hawaiian/Pacific Islander <1%
Other <1%

Ethnicity:
Hispanic 19%
Non-Hispanic 79%
Other / Not Reported 2%

Quality Improvement Road Map

Define the problem → **Develop the Aim** → **Map the process** → **Find the pain points and success areas** (Key Driver Analysis)

↓

Sustain & Spread ← **Analyze data to determine a change** ← **PDSA cycles** ← **Intervention planning**

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Barriers to Diabetes Care

Health Literacy	**Access**	**Lack of Social Support**
Cost	**Stigma**	**Language / Cultural Barriers**

Source: American Diabetes Association. 2022. Health Equity and Diabetes. https://diabetesjournals.org/spectrum/article/35/3/264/147399/Health-Equity-in-Diabetes

Define the problem

What we know...

The use of diabetes devices such as insulin pumps and continuous glucose monitors (CGMs) in the management of type 1 diabetes (T1D):

- Improves glycemic control
- Improves long-term outcomes
- Improves quality of life
- Reduces diabetes distress
- Results in high patient satisfaction

Source: Ori Odugbesan MD MPH, et al. T1D Exchange. Diabetes device equity change package. Boston, MA; December 2022.

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Define the problem

What is actually happening…

Despite its documented benefits, there are inequities in diabetes technology.

- When compared to non Hispanic white patients (NHW), <u>non-Hispanic Black (NHB) and Hispanic patients use diabetes technology less frequently</u>.

- <u>Individuals from high SES and non-Hispanic white groups were more likely to be started on insulin pumps within the first year of diagnosis</u> when compared to those who were Non-Hispanic Black, Hispanic, or of lower SES.

Define the problem

What is actually happening...

- The attitudes, assumptions, and behaviors of providers are contributing factors

- Studies have demonstrated <u>a disconnect between providers' perceived barriers to diabetes</u> technology use and those experienced by persons with T1D.

- Perceived discrimination, cultural congruence, and limited English proficiency likely exacerbate this disconnect between providers and patients.

Source: Ori Odugbesan MD MPH, et al. T1D Exchange. Diabetes device equity change package. Boston, MA; December 2022.

Equality vs. Equity

Equality

Hx of DKA

A1 <8%

Equity

Discuss with all patients with guidance for success

Source: Robert Wood Johnson Foundation, Visualizing Health Equity (https://www.rwjf.org/en/insights/our-research/infographics/visualizing-health-equity.html)
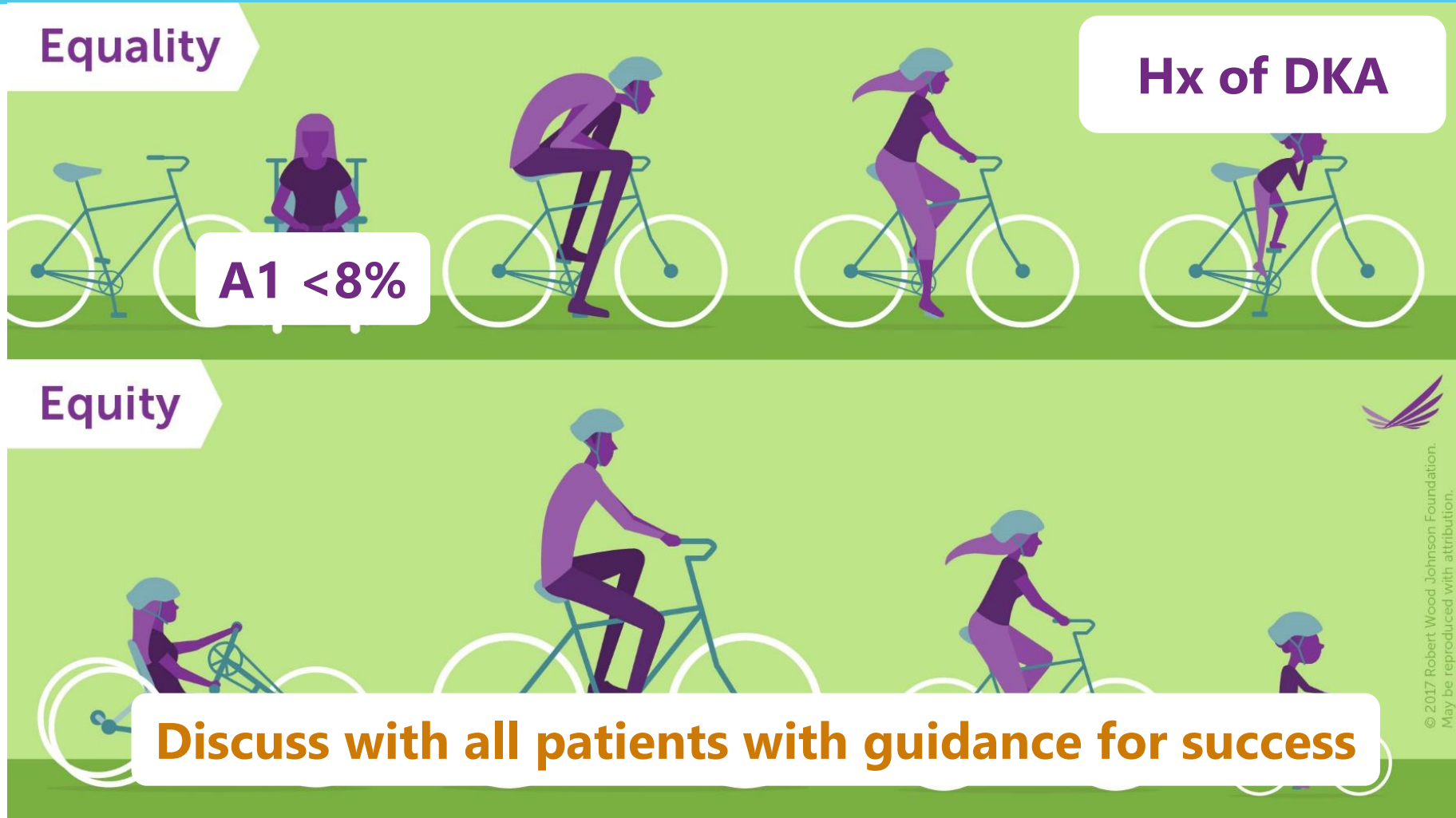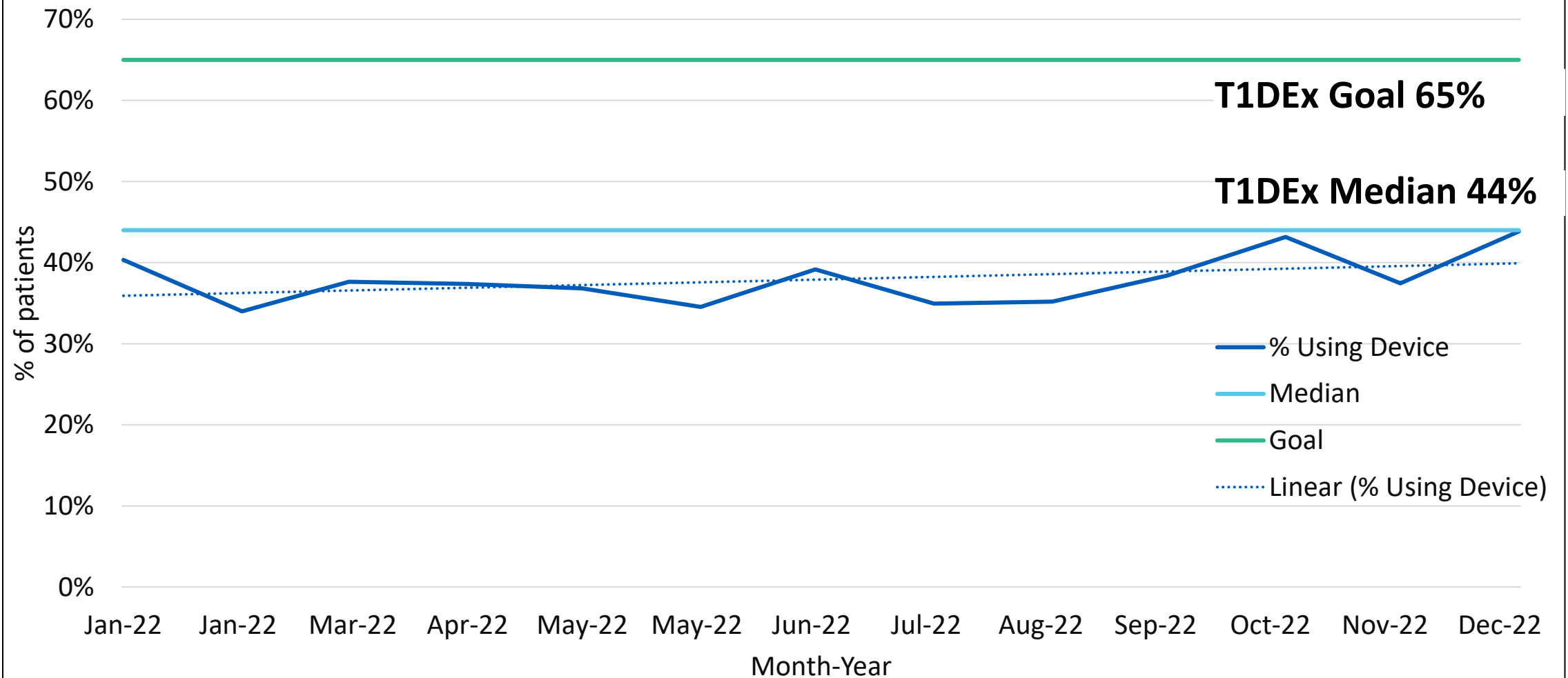
The Health Equity Expansion Group

- Cook Children's was selected to participate in January 2023

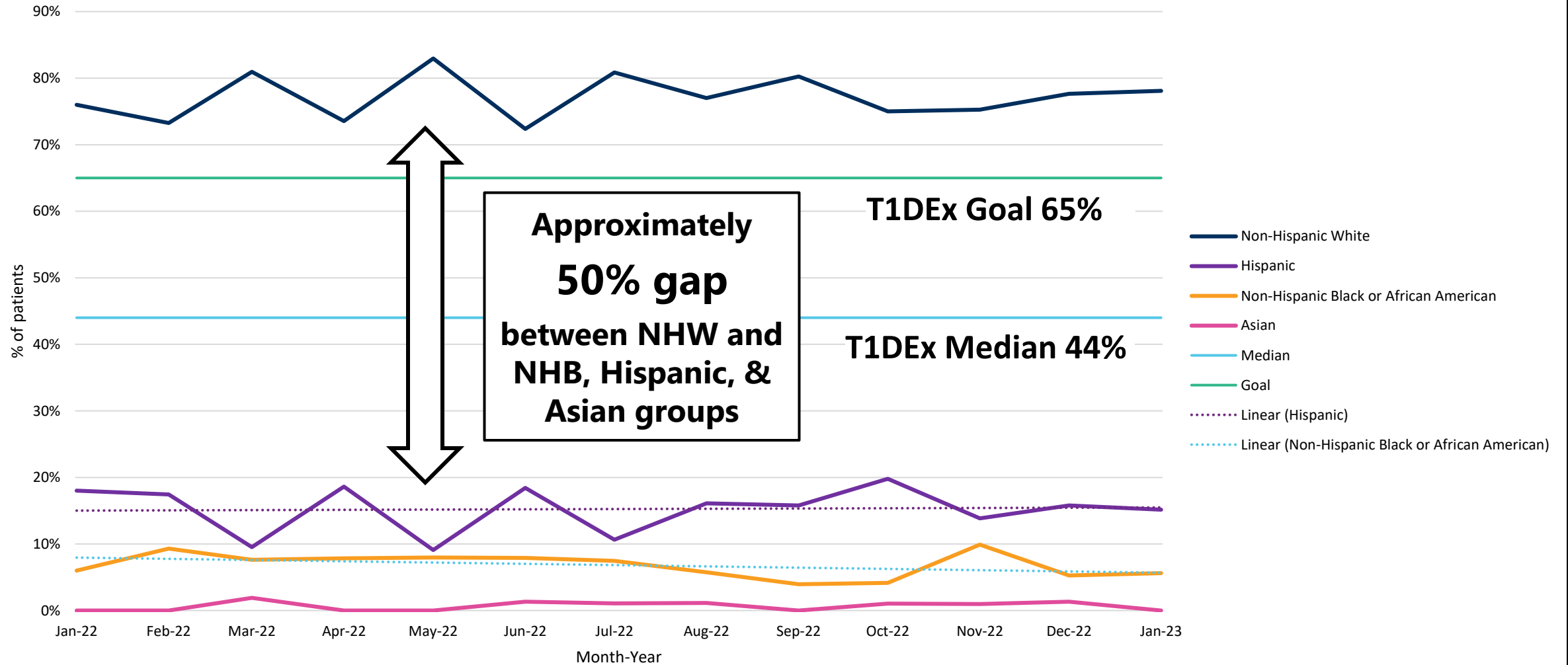- Participating organizations received quality improvement guidance from the T1DX-QI Improvement Coaches
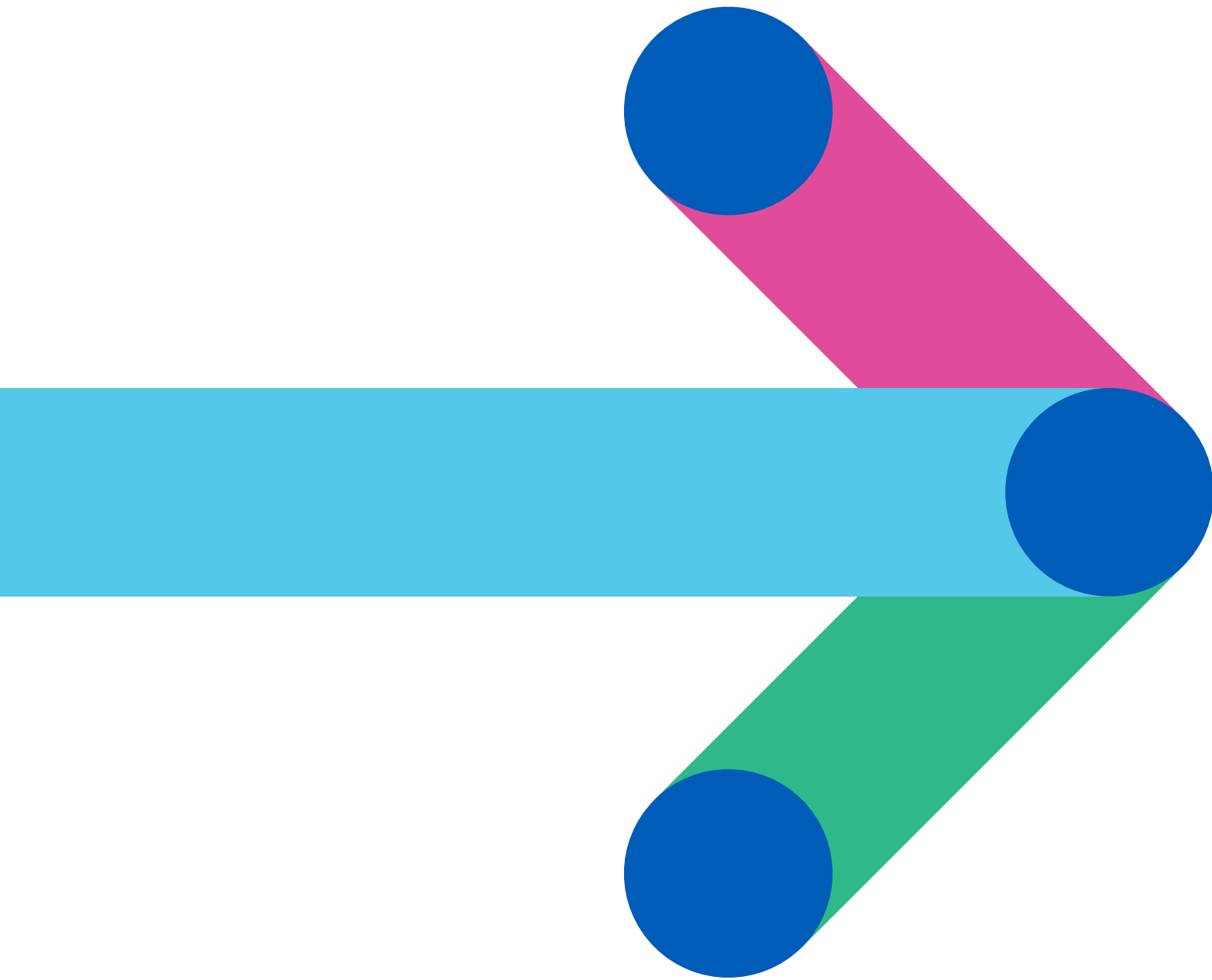
Insulin Pump Therapy

Percent of Patients with T1D Actively Using Insulin Pump
Pre-Intervention

T1DEx Goal 65%

T1DEx Median 44%

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Percent of Patients with T1D Actively Using Insulin Pump (By Race/Ethnicity)

Patient Survey

✓Patient Barrier Assessment Survey – August 2023

   ✓ **34 patients total**
   ✓ **14 not on pump therapy**
      ✓HALF of that group were

   "never told" about pump therapy and happened to be **NHB or Hispanic** and on **government insurance**

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Provider Assessment

- Related to hemoglobin A1c:

  "I would like <9%, but sometimes will accept >10% if I feel effort has been good, but control very difficult ie give pump if I believe patient and family will work hard, make a good effort"

- Related to age:

  "Unless it is an infant or very young child, **I prefer children >8, but family and patient desire and willingness** to do what is necessary for successful pump therapy is more important than strict age mandate"

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Cook Children's Pump Equity Key Driver Diagram

Aim

Increase the utilization of Insulin Pump use by 10% for people with T1D by 12/31/24.

Demonstrate reduction in Insulin Pump disparities by 3%

Improve access to pump data with 10% increase in patients added to HC portals

Primary Drivers

- **Address Inequities**
- **Pump Interest**
- **Pump Access**
- **Patient Education**
- **Provider Education**
- **Improve Pump Data Analysis**

Change Ideas

- Patient Barrier Assessment Survey
- Provider bias survey / Pump Bias Survey
- Establish Parent Partnership Group
- Ensure support and education available for non-English speakers

- Early education
- Equitable delivery

- Updated approved pump approval guidance
- Streamlined approval notice

- Virtual Pump Education
- Group Vendor Education
- 1:1 Education for non-English speaking families

- Regular review of data on our pump users
- Provider to Provider Pump Education Refresher
- Regular review of updated resource

- Efficient access to integrated pump data
- Safe storage of patient information (CCMC IT)

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PDSA cycles

Pump Equity Interventions

✓ May 2023 - Provider bias survey / Pump Bias Survey

✓ August 2023 – Patient Barrier Assessment Survey

✓ October 2023 – Use of "Pump Approval" Order in Epic

    Pump Packets given in clinic

✓ November 2023 – Provider (MD and APP) Pump Equity Discussion

✓ November 2023 – Discussion about Implicit Bias Education

✓ January 2024 – Revision of "Pump Start Guidance"

✓ May 2024 - Diabetes Team Pump Equity Education

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Percent of Patients with T1D Actively Using Insulin Pump
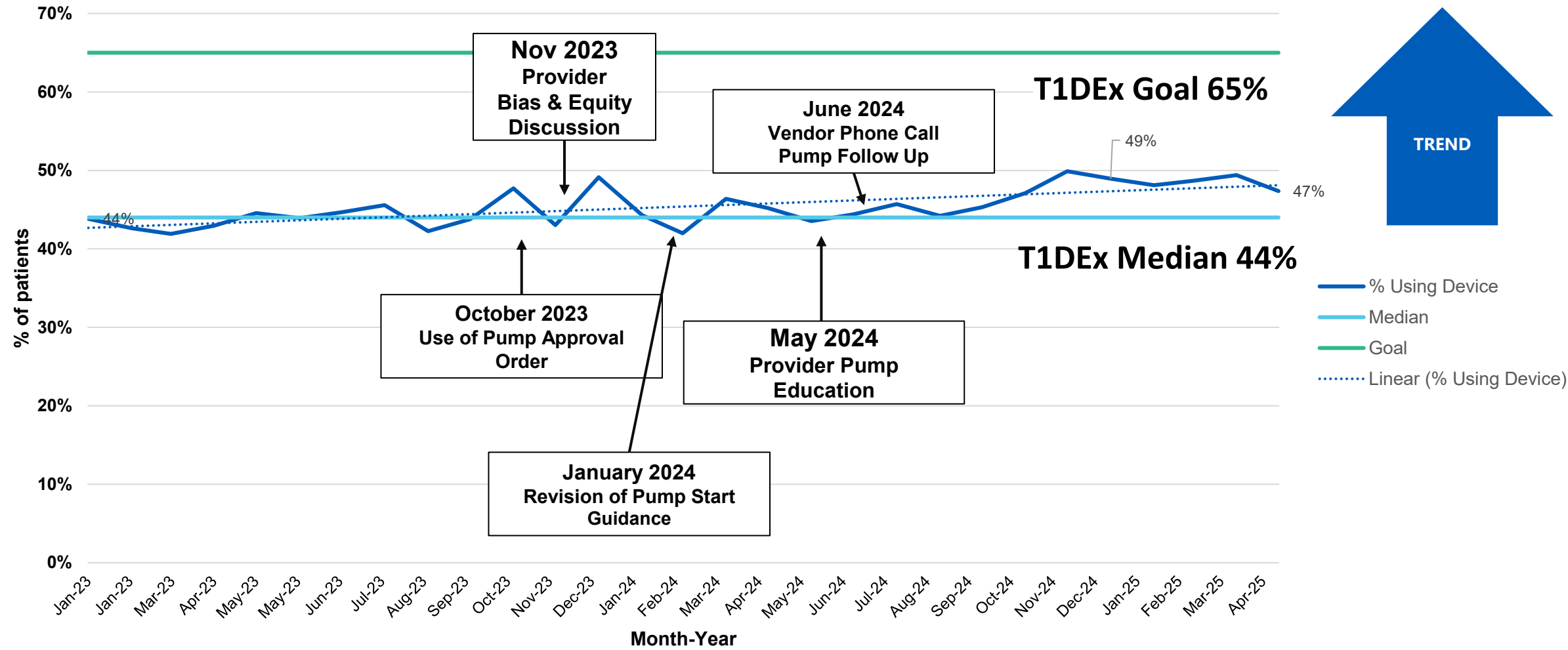
Intervention Period

Percent of Patients with T1D Actively Using Insulin Pump Intervention Period, By Race/Ethnicity
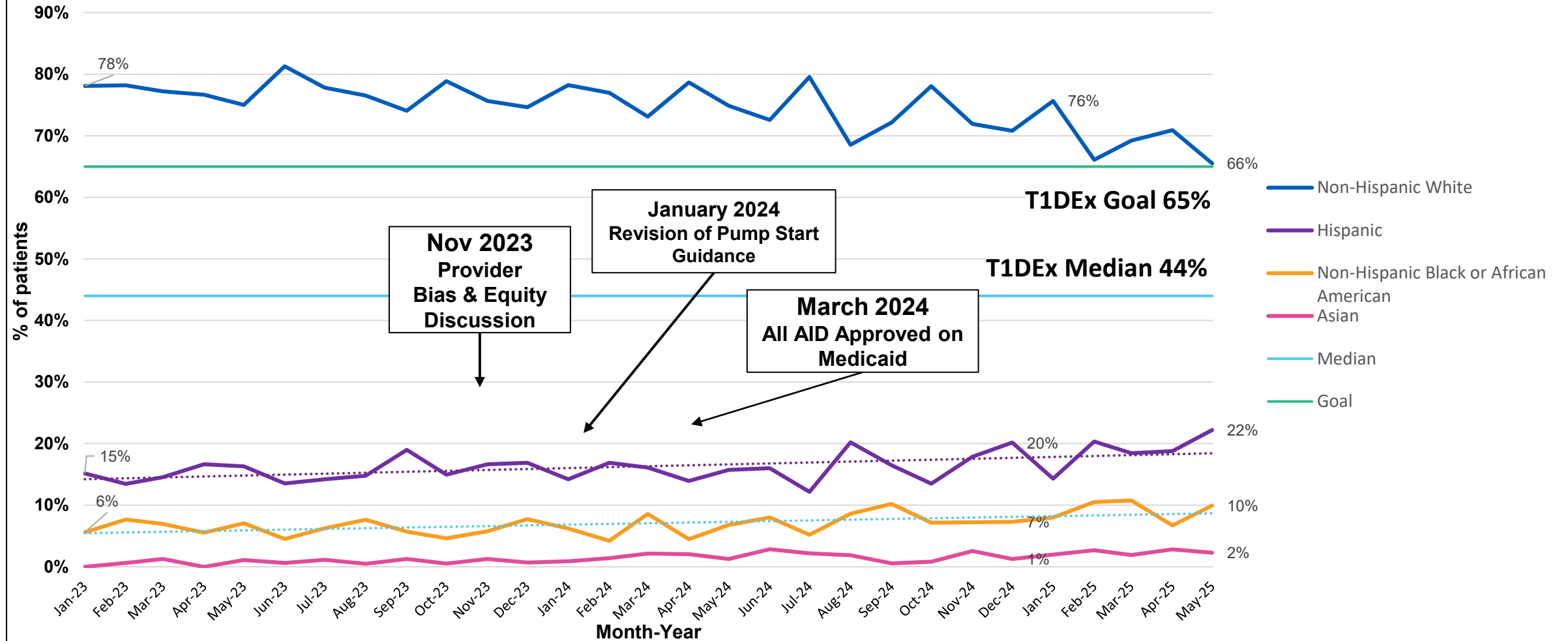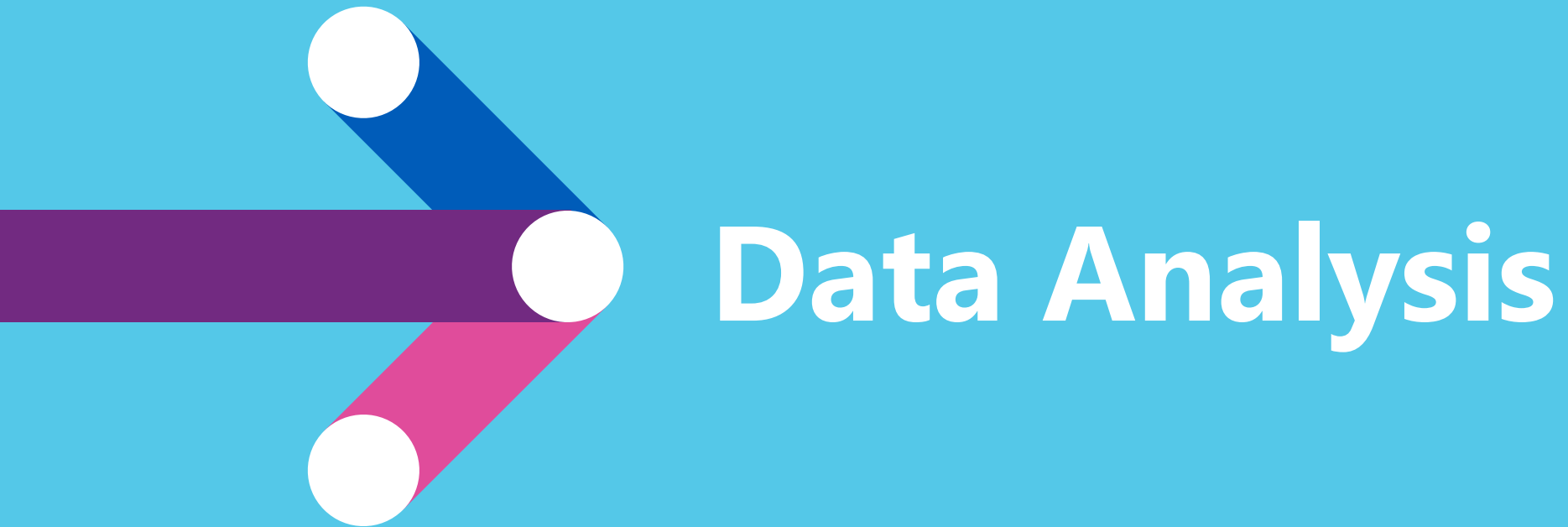
Data Analysis

Pump Equity Aim Use

Increase the utilization of Insulin Pump use by 10% for people with T1D by 12/31/24.

Pump use for all patients did improve, but did not reach 10% improvement

44% (pre) vs 49% (post) vs 47% (present)

Demonstrate reduction in Insulin Pump disparities by 3%

Reduction in disparities based on race and ethnicity improved by 3%

NHW-NHB 3% reduction (16% reduction at present)

NHW-Hispanic 7% reduction (19% reduction at present)

Improve access to pump data with 10% increase in patients added to HC portals

In collaboration with our **hospital-based technology support center (PEAK Tech Zone)**, access to patient device data has increased significantly
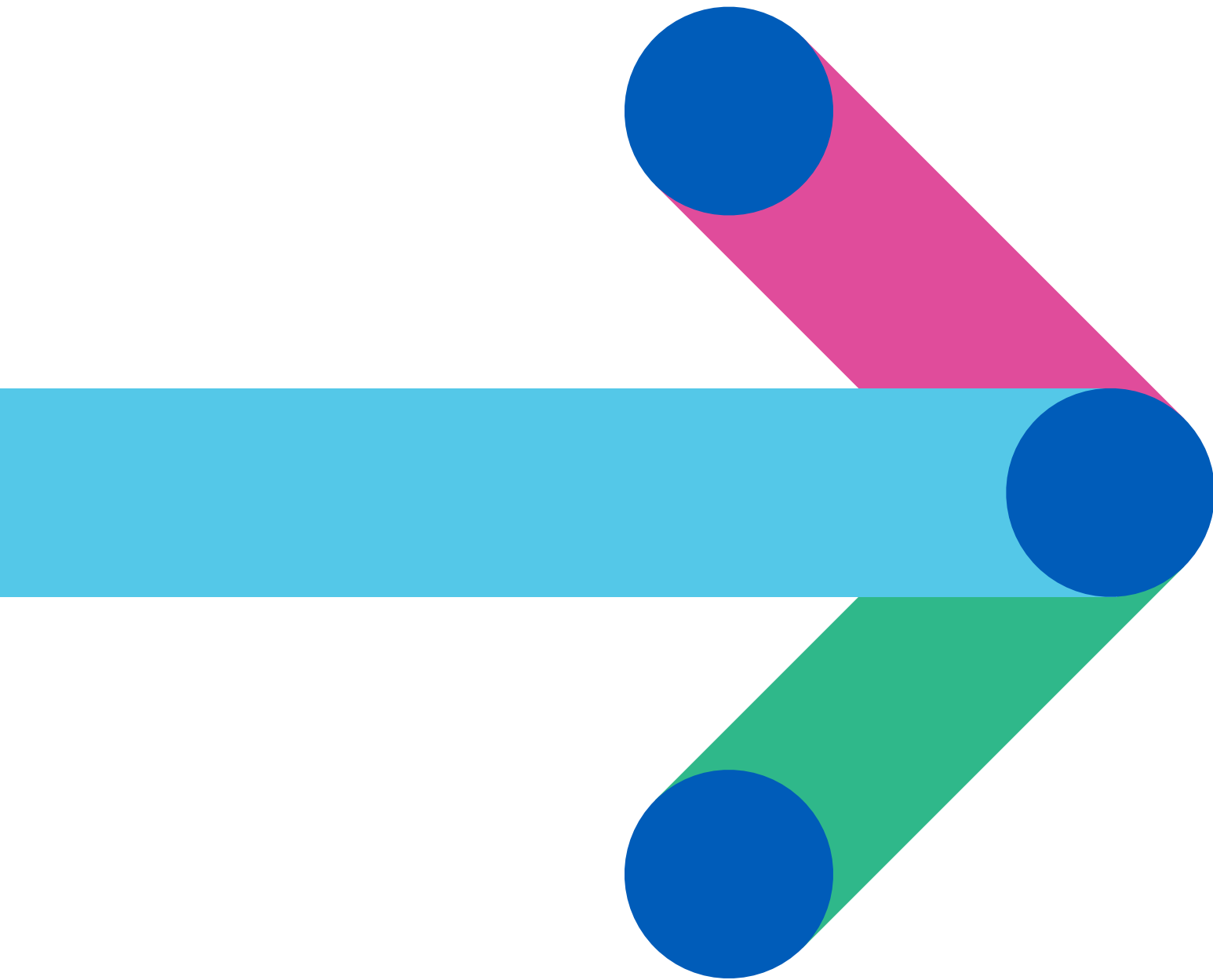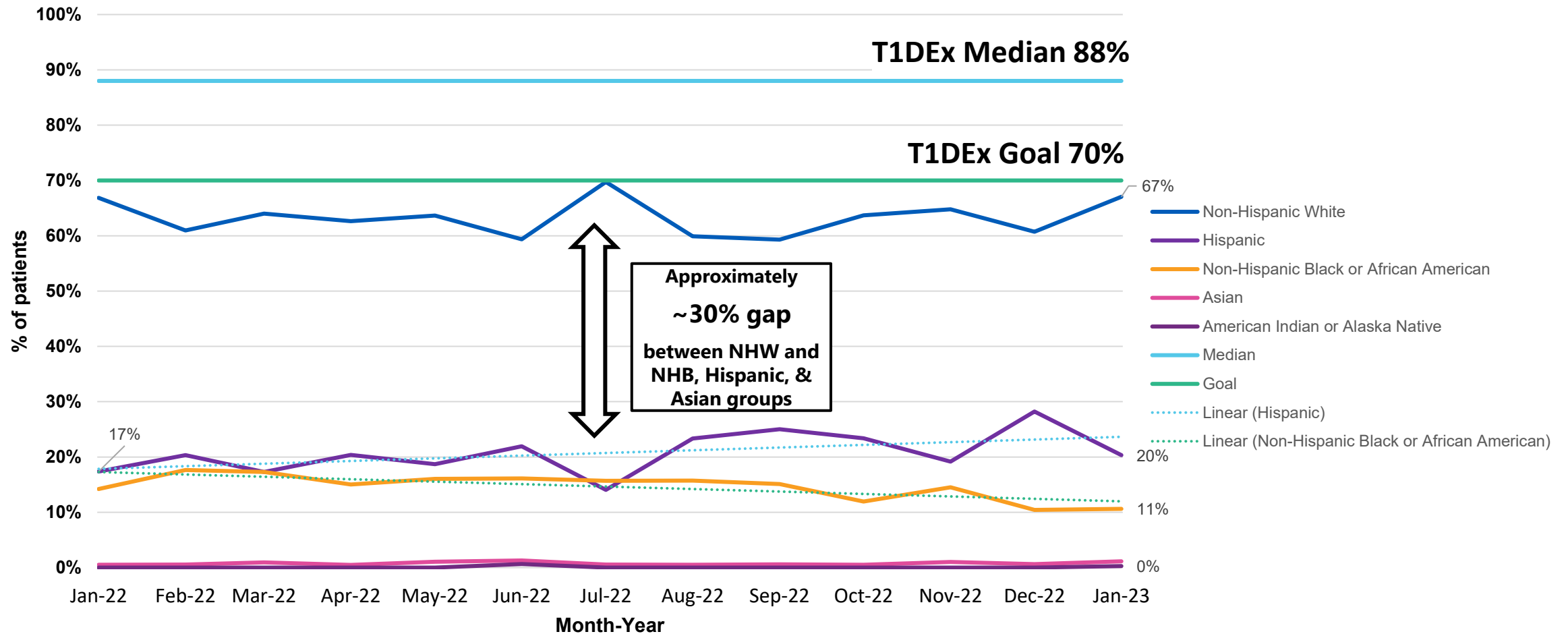
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Continuous Glucose Monitoring (CGM)

Percent of Patients with T1D Actively Using CGM
Pre-Intervention
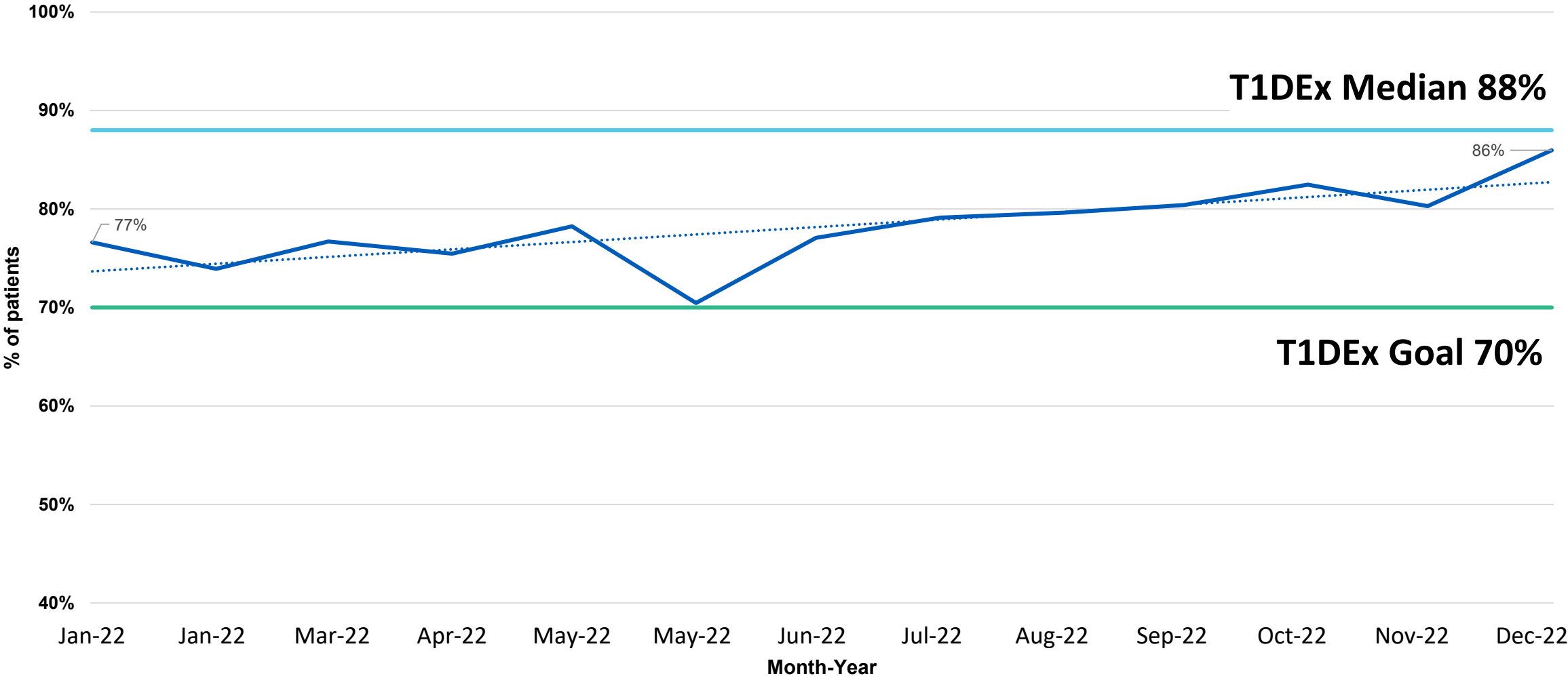
Percent of Patients with T1D Using CGM Pre-Intervention, By Race/Ethnicity

Cook Children's CGM Equity Key Driver Diagram

Change Ideas

Aim

Increase the utilization of CGM use by 10% for people with T1D by 12/31/24.

Demonstrate reduction in CGM disparities by 3%

Primary Drivers

Address Inequities

- Patient Barrier Assessment Survey
- Provider bias survey / Educator Bias Survey
- Establish Parent Partnership Group
- Ensure support and education available for non-English speakers

CGM Interest & Access

- Early education – Initiate discussion at diagnosis
- Equitable delivery – "Right tool for all patients"
- Education in multiple languages
- Financial support and education

Patient Education

- Education at Diagnosis, Follow-Up
- Documentation of "Lack of Interest"
- Follow up re "Lack of Interest" esp in Diabetes Distress

Provider Education

- Review of data
- Continuing education

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Educator Assessment

Related to CGM Discussion at diagnosis:

- "Family is already overwhelmed or **they are uninsured**, OR if patient expresses refusal to wear a continuous monitor"

- **"Patient's solely rely on CGM if they do not get practice using a manual glucometer.**

- "Initially I did, and I still usually do; but if family seems overwhelmed I don't mention it unless the pt is a small child <6"

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CGM Equity Interventions

- ✓ April 2024 - Educator bias survey
- ✓ May 2024 – Educator Conversation at T1D Diagnosis
- ✓ May 2024 – Use of Vendor Material in English and Spanish

Percent of Patients with T1D Actively Using CGM
Intervention Period

T1DEx Median 88%

T1DEx Goal 70%

April 2024 Educator Bias Survey

May 2024 - PDSA 1 CGM Conversation
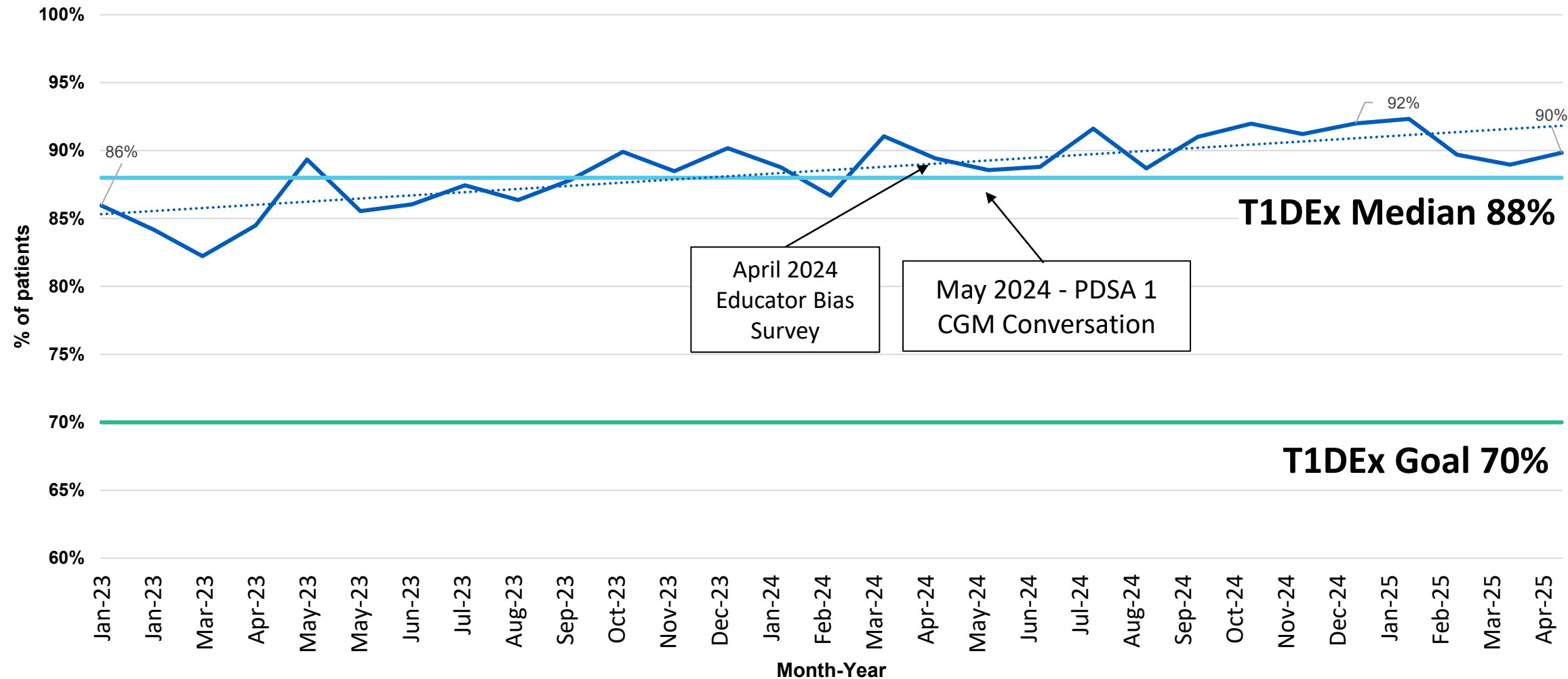
Percent of Patients with T1D Using CGM
Intervention Period, By Race/Ethnicity
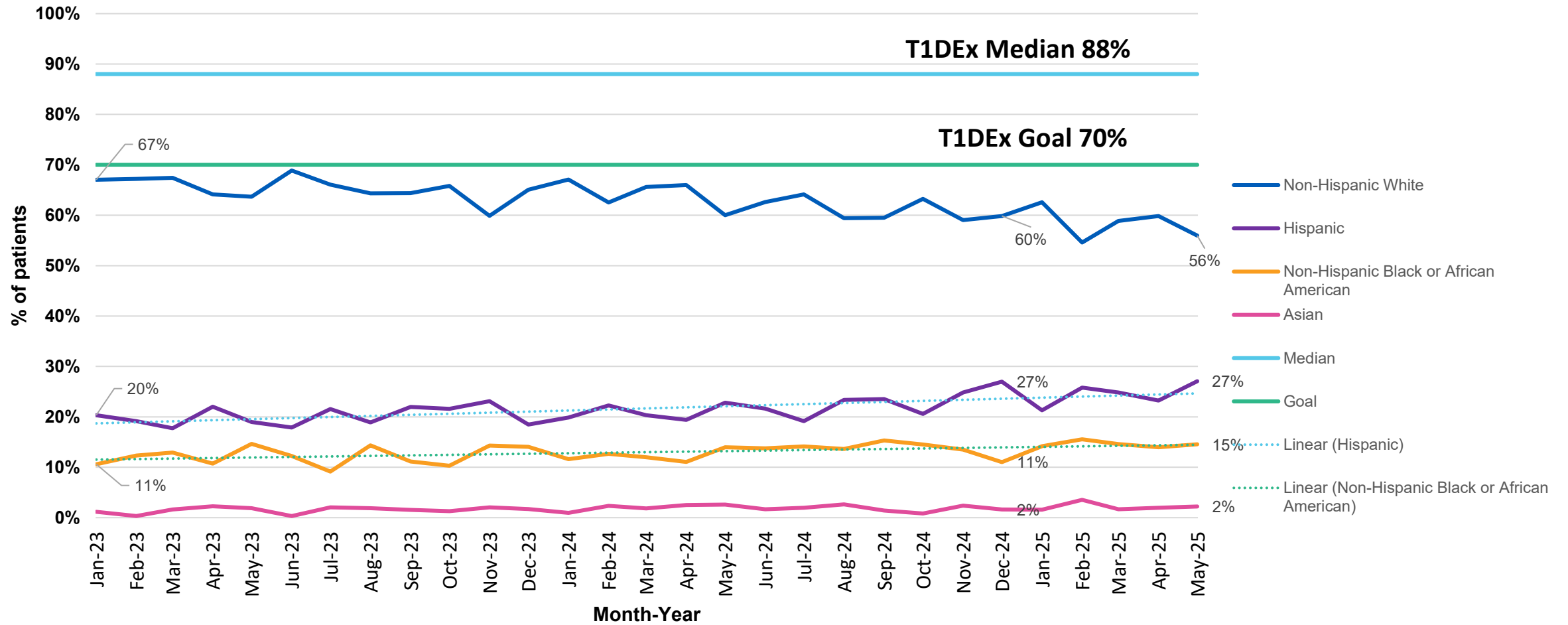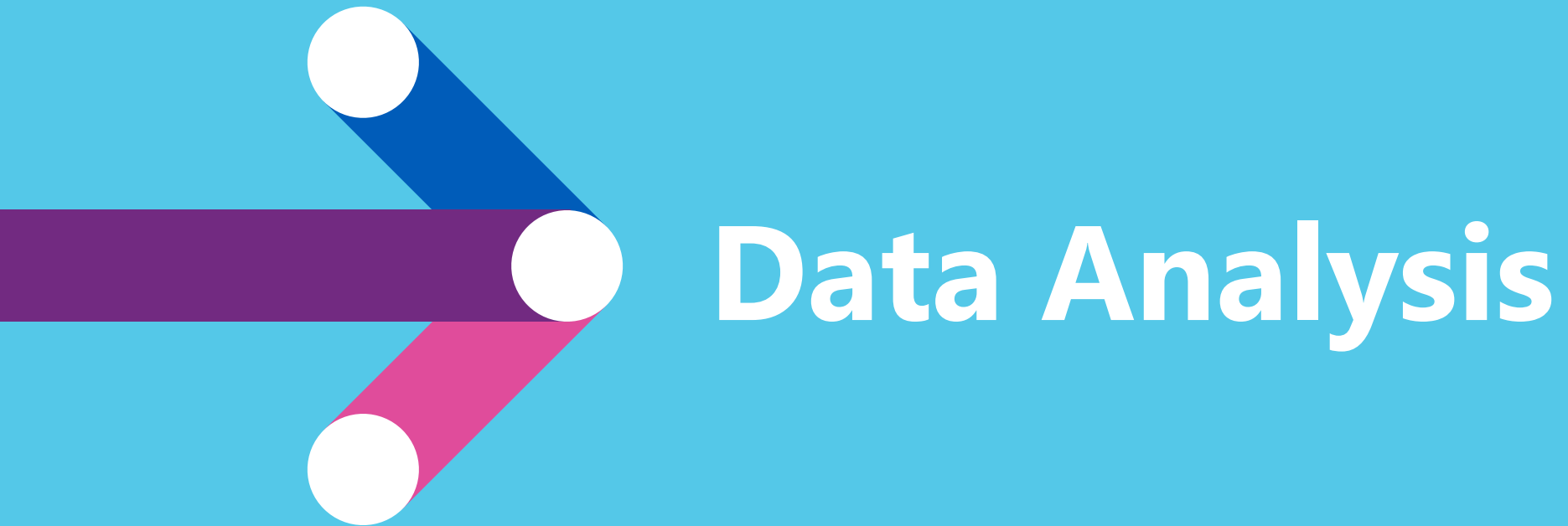
Data Analysis
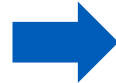
CGM Equity – Our Aim

Increase the utilization of CGM use by 10% for people with T1D by 12/31/24.

➤ **CGM use for all patients did improve, but did not reach 10% improvement**

86% (pre) vs 92% (post) vs 90% (present)

Demonstrate reduction in CGM disparities by 3%

➤ **Reduction in disparities based on race and ethnicity improved by 3%**

NHW-NHB 7% reduction (15% reduction at present)

NHW-Hispanic 14% reduction (18% reduction at present)

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Areas for Improvement

Pump

- Add classes (virtual, in person, modules)
- 6-9 month post pump follow up

CGM

- Advocate for improved access (pharmacy) to CGM for public insurance

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Questions & Comments

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