T1D Exchange

QI Collaborative Call, Pediatrics

7/28/22

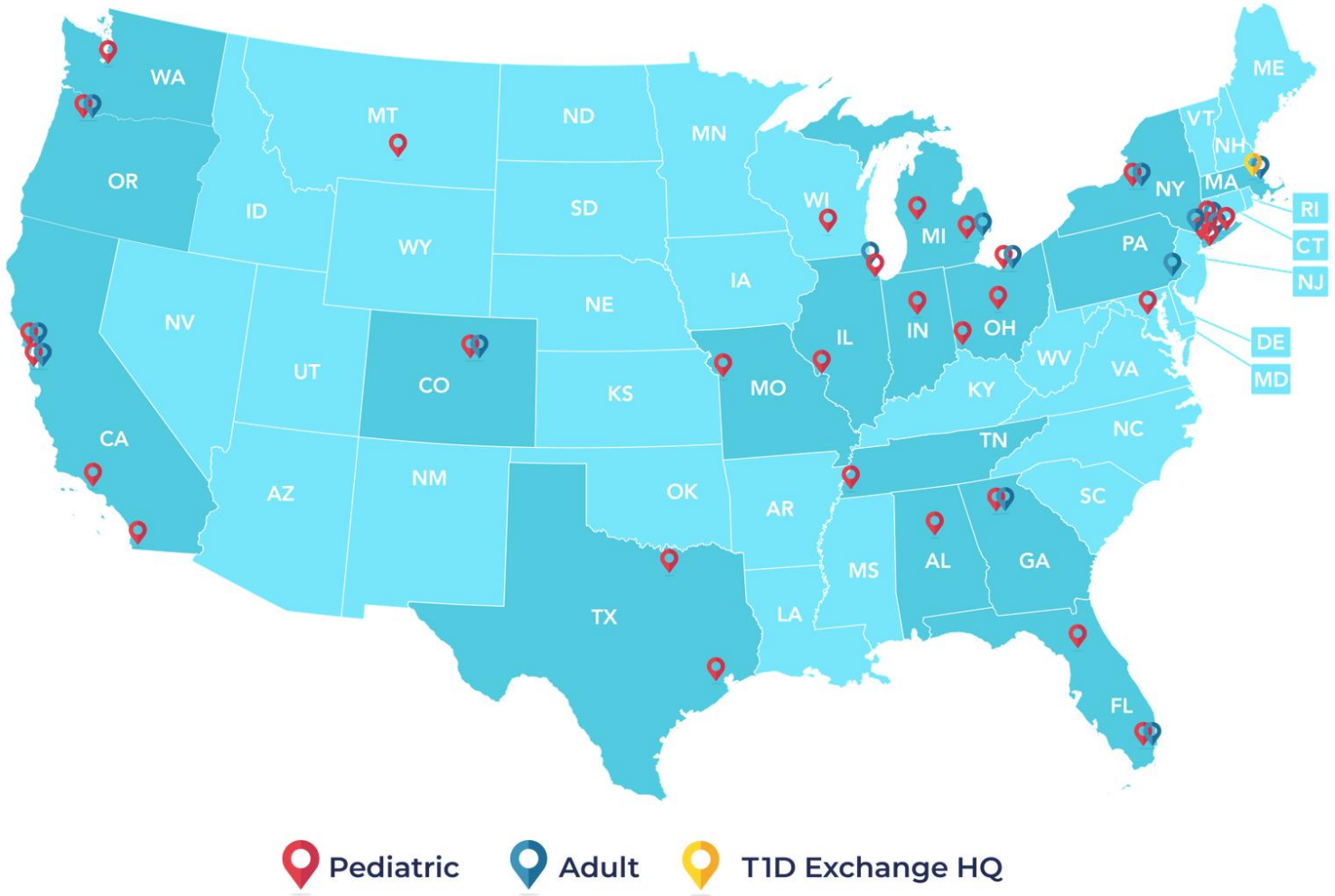
Welcome & introductions

Agenda

- Collaborative updates
- New clinics joining the Collaborative
  - New measures for the 2023-2025 period
  - Annual survey
  - RSVP for the November Learning Session
  - August Newsletter
- Member presentations:
  - Dr. Alwazeer, Cook Children's
  - Dr. Fogel, Lurie Children's
- Portal updates
- Publications updates

T1D Exchange Updates

T1DX-QI network of 49 centers, caring for 72,000+ T1D patients across 19 states and Washington D.C.



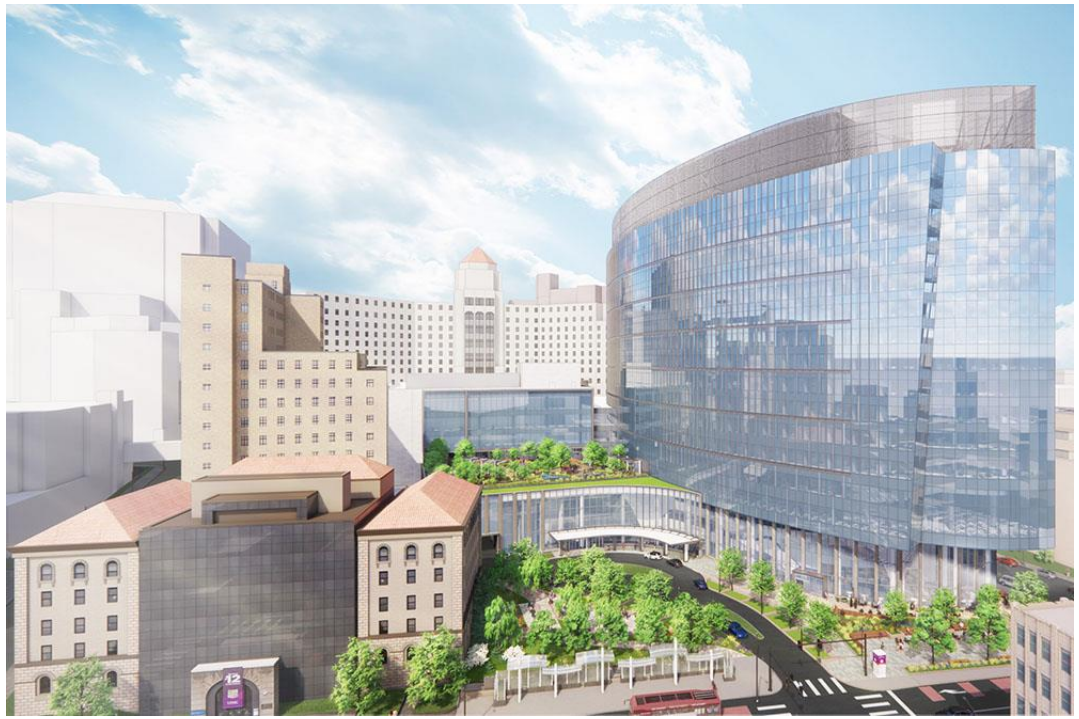
Priya Prahalad, Nicole Rioles et al. T1D Exchange Quality Improvement Collaborative: Accelerating Change through Benchmarking and Improvement Science for People with Type 1 Diabetes. Journal of Diabetes. November 2021

31 pediatric clinics – caring for 46,000+ patients with T1D

49 Participating Clinics, 31 Pediatric & 18 Adult

Pediatric Clinics	Lurie Children's Naomi Fogel MD	**Adult Clinics** Albert Einstein Shivani Agarwal MD MPH	**Pediatric and Adult Clinics**
Children's Mercy Hospital Mark Clements MD PhD	Mott Children's Joyce Lee MD	Billings Clinic Haleigh James MD	Cleveland Clinic, Pratibha PR Rao MD MPH & Andrea Mucci MD MASc
Children's Hospital Los Angeles Brian Miyazaki, MD	Nationwide Children's Manu Kamboj MD	Boston Medical Center Devin Steenkamp MD	Mount Sinai Carol Levy MD & Robert Rapaport MD
Cincinnati Children's Hospital Sarah Corathers MD	Rady Children's, Carla Demeterco Berggren MD PhD	Grady Memorial Hospital Sonya Haw MD	NYU Langone: Lauren Golden MD & Siham Accacha MD. Hassenfeld Children's Hospital at NYU Mary Pat Gallagher MD
CHOA Kristina Cossen MD	Seattle Children's Hospital, Faisal Malik MD, MSHS and Alissa Roberts MD	Northwestern Medicine Grazia Aleppo MD	Oregon Health & Science University Andrew Ahmann and Ines Guttmann-Bauman MD
Cohen Children's Medical Center, Northwell Health, Jennifer Sarhis MD & Allison Mekhoubad MD	Texas Children's, Daniel DeSalvo MD	Penn Medicine Ilona Lorincz MD	Stanford University Marina Basina MD & Priya Prahalad MD
Cook Children's Paul Thornton MD & Susan Hsieh	University of Florida Laura Jacobsen, MD	Washington University Alexis McKee MD	SUNY, Pediatrics and Adult Ruth Weinstock MD PhD Roberto Izquierdo MD
Helen Devos Children's Donna Eng MD	University of Alabama Mary Lauren Scott MD	Wayne State University, Berhane Seyoum MD & Elizabeth Morrison MD	UCSF, Pediatrics and Adult, Umesh Masharani MD & Jenise Wong MD
Indiana University Health Anna Neyman MD	University of Wisconsin, Madison Liz Man MD	**Pediatric and Adult Clinics**	University of Miami, Francesco Vendrame, MD PhD & Janine Sanchez MD
Le Bonheur Children's, U TN Grace Bazan MD	Weill Cornell Alexis Feuer MD	Barbara Davis Center Halis Akturk MD & Todd Alonso MD	University of Pittsburgh Medical Center, Jason Ng, MD & Alissa Guarneri MD

Welcome two new University of Pittsburgh Medical Center clinics!



Pediatric PI: Alissa Guarneri, MD, UPMC

Oregon Health and Sciences University

Harold Schnitzer Diabetes Health Clinic
Division of Endocrinology, Diabetes and Clinical Nutrition

Multidisciplinary Team Members

- 9 Attending Physicians
- 5 Endocrinology Fellows
- 3 Physician's Assistants
- 6 Diabetes Educators (combined RN and RD)
- 3 Psychologists
- 1 Pharmacist
- 1 Social Worker

Volume and Insured Patients (last 2 years)

- Between 800 - 1,100 established T1D patients
- 98% of patients are insured through public or private insurance
- 44.2% of patients insured through public health insurance
- 55.9% of patients insured through private health insurance

Contact Names

- Pediatrics PI: Ines Guttmann-Bauman, MD
- Site Coordinator: Brittany Caswell
- Site Coordinator: Brianna Morales-Gomez

T1D Exchange

T1DX-QI welcomes a new team member!

Data Integration Manager

Jesse Cases-Villablanca, MS, MPA

Growth and promotions in the Collaborative!

Dr. Nana-Hawa Yaya Jones is now Associate Professor at Cincinnati Children's!

New measures for the Collaborative

- New measures will be circulated in early August
- Separate measures and definitions for Adult and Pediatric centers
- Google link will be shared for a 30-day comment period
- After your feedback is collected and definitions are finalized, final measures will be distributed in October so that your analysts have 90 days to review and update/create new reports for the measures
- New measures go live Jan 1, 2023 and will remain in use until Dec 31, 2025

T1DX-QI Annual Survey

- A new survey link will be shared on Qualtrics for the T1DX-QI Annual Survey
- Survey link will be live 8/15-9/15
- Each clinic is being asked to complete 1 survey
  - Ideally you will review with your internal team members to have knowledge/consensus for your responses
  - A PDF of the survey will be shared so that you can review before answering the questions. PDF will be accessible on the T1D-QI member website
  - Topics
    - LGBTQ+
    - Equity
    - Transitions
    - Staffing

Friday 7/29 is deadline to RSVP for Learning Session

- Last day to RSVP for the November Learning Session is Friday 7/29
- Email your response to QI@t1dexchange.org so that we know who is attending in person or virtually/through Zoom
- Details for the event:
  - 2-day learning session: Monday November 7-Tuesday November 8
  - Activities begin by 8am on 11/7, so in person attendees are encouraged to fly in on Sunday 11/6
  - Activities end by 3pm on 11/8 so that you can fly home Tuesday evening
  - Activities will have CME/CEU credits
  - T1D Exchange will cover costs for:
    - Two team member flights and hotels for two nights (We book the hotel. You book flights and we reimburse for the flights.)
    - If you wish to bring a 3rd team member, communicate that to T1DX-QI. Those expenses will need to be covered by your institution
    - Our reimbursement form/details can be found on the T1D Exchange website, using this link

Friday 7/29 is deadline for Learning Session Abstracts

- Due COB Friday
- Abstracts should be sent to QI@t1dexchange.org
- Review process led by Publications Co-Chairs
- Accepted abstracts will be published in the *Journal of Diabetes*
- Accepted abstracts will be presented during the November Learning Session

T1DX-QI August Newsletter is released on Monday, 8/1

SCHOOL OF NURSING
UNIVERSITY OF MICHIGAN

Are you interested in helping to change diabetes care experiences for people with type 1 diabetes?

Take part in our research study to help determine if an educational video intervention is effective to raise awareness of issues around the use of effective language in diabetes care.

Register here or here!

https://umich.qualtrics.com/jfe/form/SV_3VmVBRx1EjpMwCO

You are eligible to participate if you:

- Currently work as a healthcare provider (physician, nurse practitioner, physician assistant)
- Regularly provide care for young adults with type 1 diabetes
- Have access to a computer, tablet, smartphone with internet access and a microphone. A camera is optional

Compensation: $40 Amazon gift card or $40 donated to the ADA or the T1D Exchange.

Questions? Contact Mackenzie Adams at mpadams@umich.edu

Study ID: 00219915 IRB: Health Science and Behavioral Sciences Date: 6/27/22

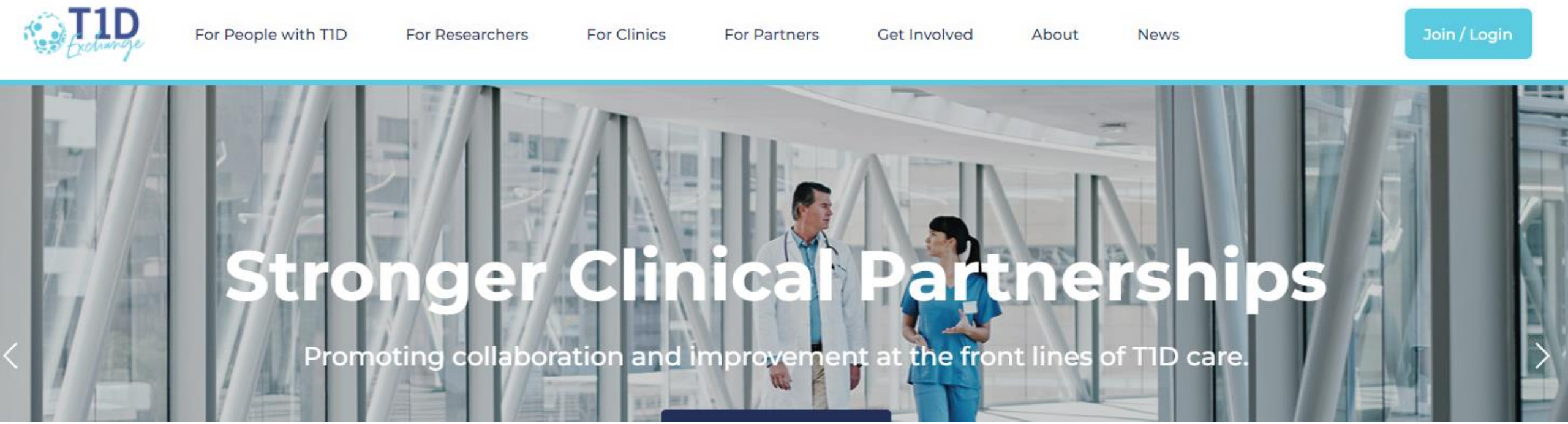
For example

Be sure to check out the newsletter next Monday

Resources, links, reminders, deadlines, highlights are all featured

If you have something that you would like to announce from your clinic, we'd be happy to highlight it on a newsletter

T1D Exchange Website

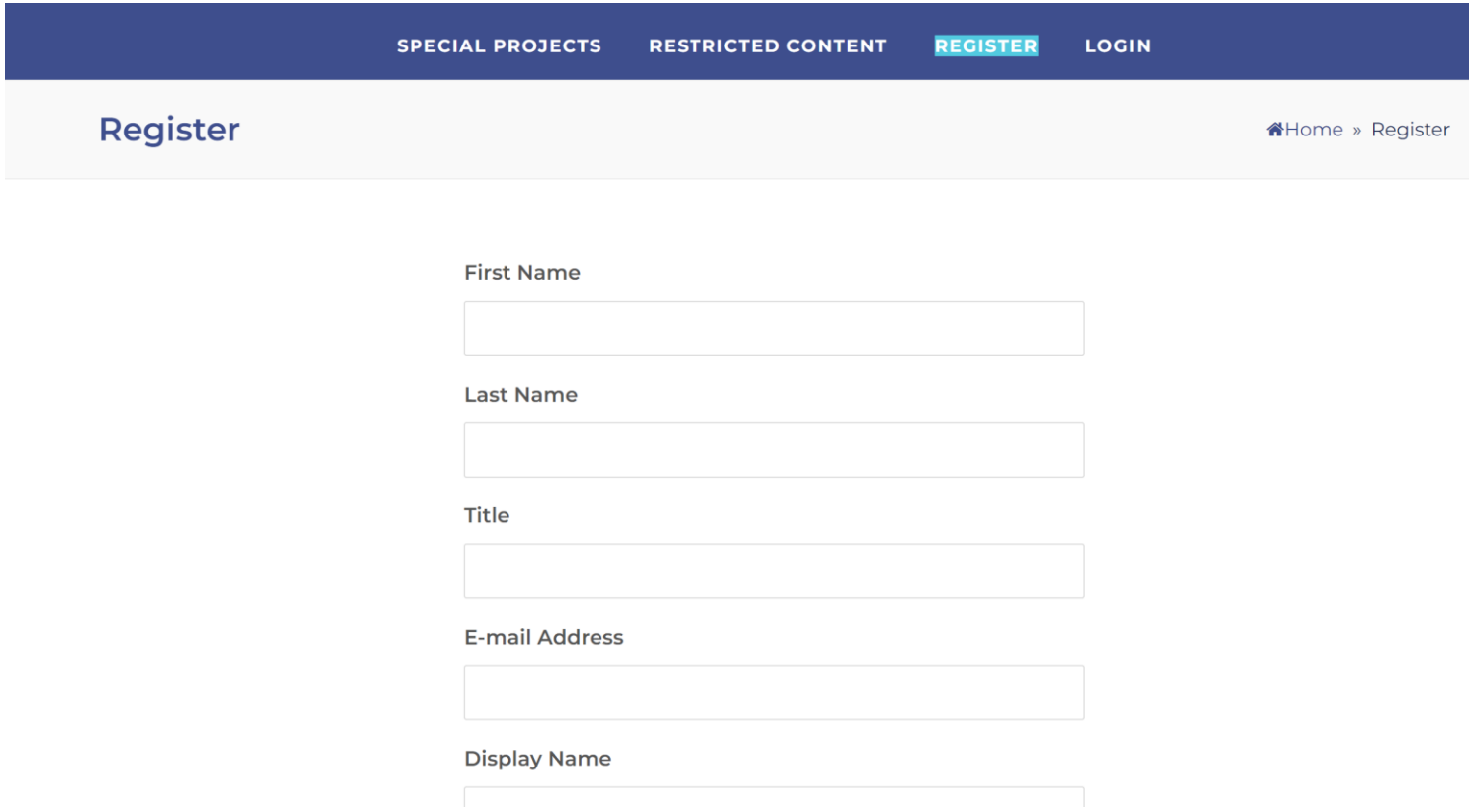


We use the protected space to:

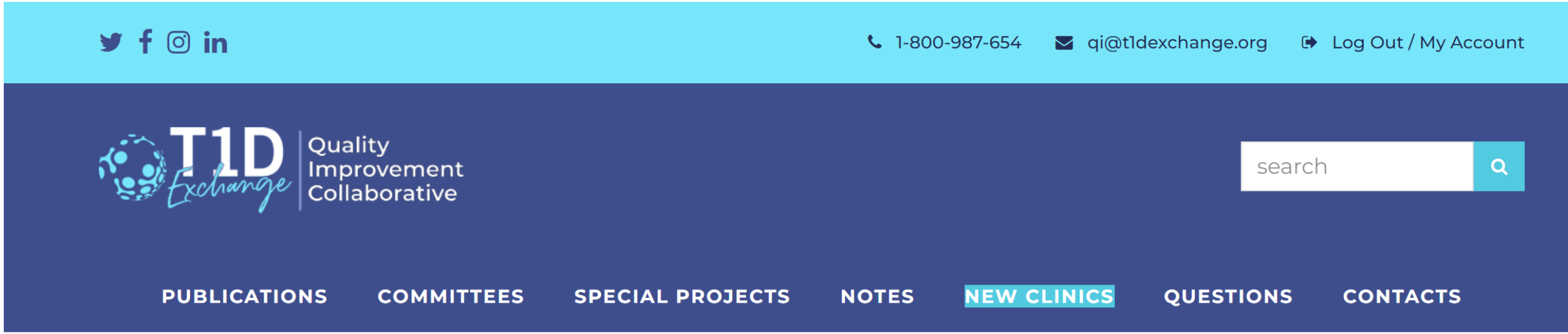
- Share work in progress, including emerging case studies and interventions
- Ask questions to the Collaborative network with the ability to view archived threads and responses

How to join website: 3 easy steps

1. Visit registration page: https://t1dx-qi.t1dexchange.org/register/
2. Register with name, title, email information. Create a password.
3. T1DX-QI team gets pinged to ensure that newly registered members are affiliated with the Collaborative- and you're in!



What you will find on the website



Clinical Presentation: Cook

Increasing Patient Engagement Through the Use of Online Diabetes Questionnaire

Cook Children's Medical Center, Fort Worth, Texas

Objectives

- Discuss the benefits of using pre-visit online questionnaire
- Discuss enablers to use the pre-visit online questionnaire
- Discuss barriers to use the pre-visit online questionnaire

Which of the following statements is accurate with regards to pre-visit online questionnaire

- Questionnaire completion will enhance one's understanding of one's own disease control
- Questionnaire completion leads to the physician having a more thorough understanding of one's condition, translating into better health care and disease control
- A reminder would ensure that the questionnaire would be completed
- All of the above

Yamanda et al, J Med Internet Res, 2020

With regards to possible barriers to complete the pre-visit online questionnaire, which of the following statements is inaccurate

- Prior experiences of poor disease control discourages questionnaire completion
- Concerns about web-based security of questionnaire data
- Concerns about whether one can complete the questionnaire correctly
- Competing priorities may impede questionnaire completion before appointment

Yamanda et al, J Med Internet Res, 2020

Benefits of Pre-visit Online Questionnaire

- Online health questionnaires engage patients in taking a more active role in their care
- They increase efficiency by reducing data acquisition burdens on clinicians
- Little is known about patient perceptions of these questionnaires and their actual uptake and what strategies can be leveraged to drive their use

Gupta S, et al, *Eur Respir J.* 2019.

Enablers to Using The Pre-visit Online Questionnaire

- Ease of use with no training required
- Accessibility (personal electronic devices, in-office tablets)
- Providing flexibility in when it can be completed
- A reminder from the doctor's office via email, text, or phone before their appointment
- Highlighting the value and importance of the online questionnaire
  - Prior experiences with poor disease control motivates patients to use the tool
  - Patients believe primary care physicians would have a more thorough understanding of their condition
  - Patients indicate that completing the questionnaire would enhance their understanding of their own disease control

Yamanda et al, J Med Internet Res, 2020

Barriers to Using The Pre-visit Online Questionnaire

- Competing priorities (lack of time, forget to do complete it prior to the visit)
- Conflicting believes
- Concerns about data security
- Concerns about not completing the data accurately

Yamanda et al, J Med Internet Res, 2020

Background

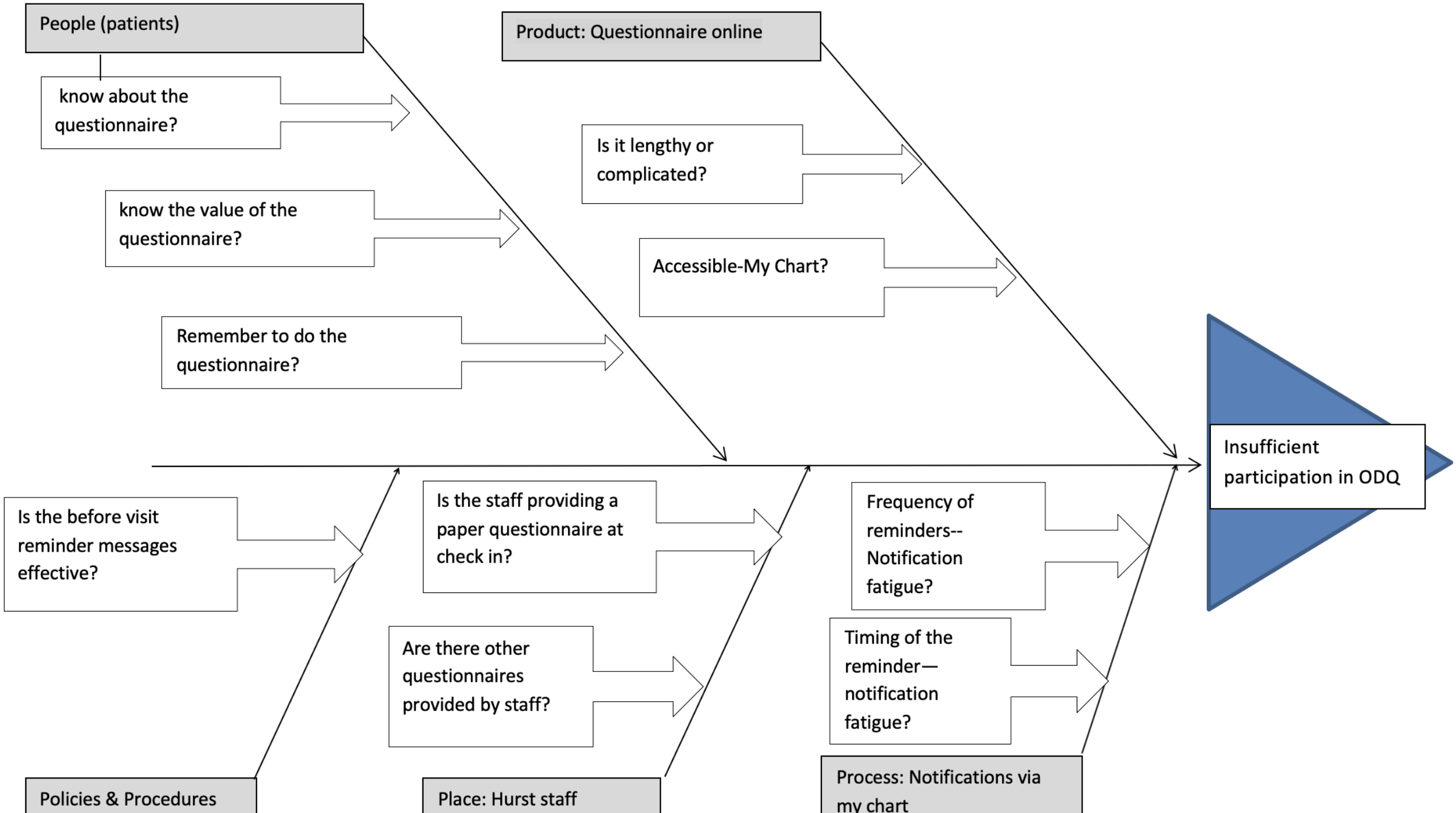
- The utilization of the online diabetes questionnaire ODQ by patients with type 1 diabetes (T1D) prior to their clinic appointment is at 37% at best

Aim Statement

- To improve the ODQ utilization by T1D patients by at least 10% over 12 months at one of Cook Children’s sites

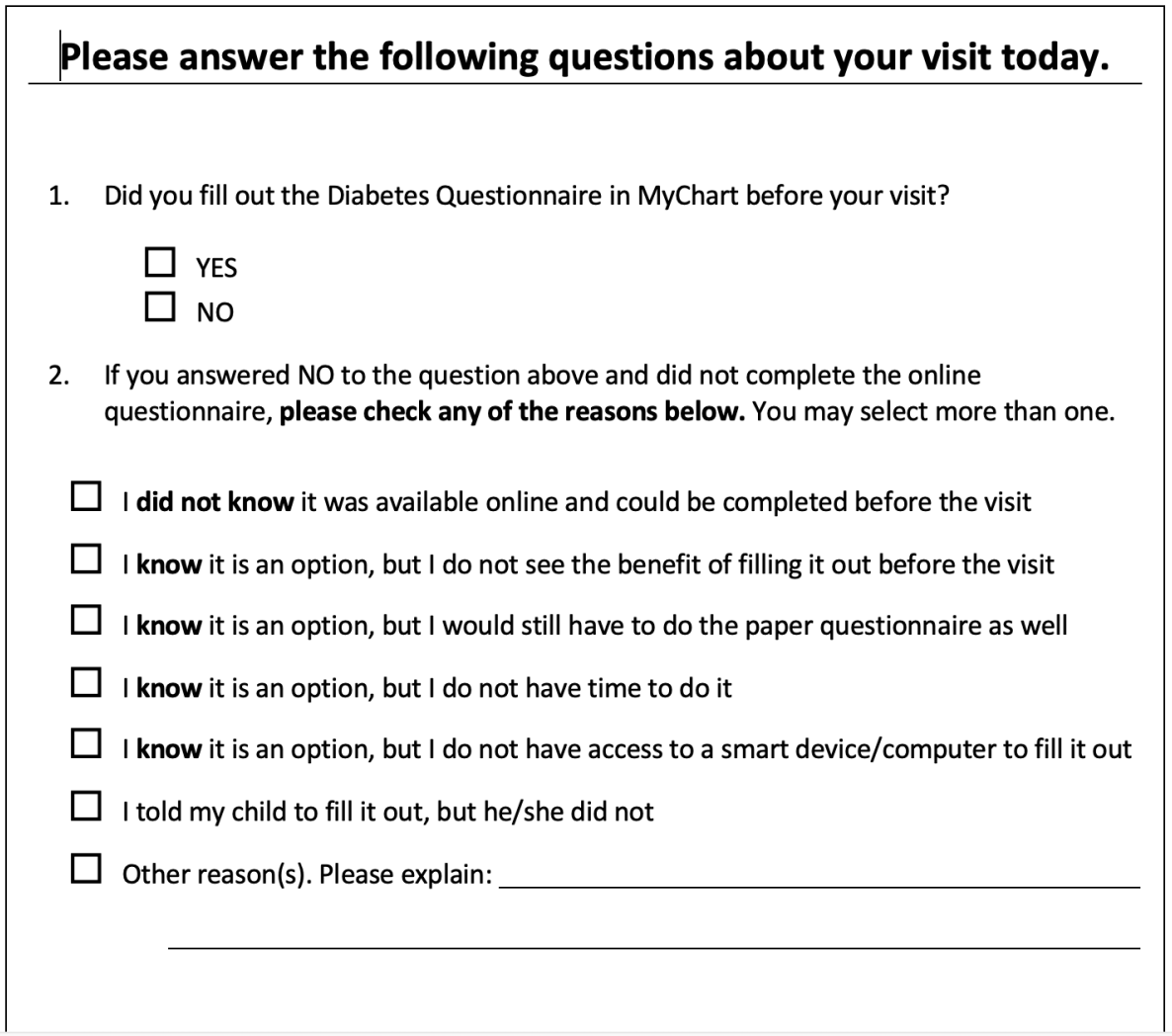
Patient Population

- Established pediatric type 1 diabetes patients
- >90% of patients have MyChart (patient portal access)
- 85% of patients are on commercial insurance
- Completing the ODQ takes 2-3 minutes


People (patients)
know about the questionnaire?
know the value of the questionnaire?
Remember to do the questionnaire?
Product: Questionnaire online
Is it lengthy or complicated?
Accessible-My Chart?
Insufficient participation in ODQ
Is the before visit reminder messages effective?
Is the staff providing a paper questionnaire at check in?
Are there other questionnaires provided by staff?
Frequency of reminders-- Notification fatigue?
Timing of the reminder— notification fatigue?
Policies & Procedures
Place: Hurst staff
Process: Notifications via my chart

Assess Barriers Related To Patients (Barriers Survey)

- **Barriers Survey baseline results:**
- 37.5% of patients know the ODQ exists online
- 25% of patients forget to complete it prior to the visit



Please answer the following questions about your visit today.

1. Did you fill out the Diabetes Questionnaire in MyChart before your visit?

   ☐ YES
   ☐ NO

2. If you answered NO to the question above and did not complete the online questionnaire, **please check any of the reasons below.** You may select more than one.

☐ I **did not know** it was available online and could be completed before the visit

☐ I **know** it is an option, but I do not see the benefit of filling it out before the visit

☐ I **know** it is an option, but I would still have to do the paper questionnaire as well

☐ I **know** it is an option, but I do not have time to do it

☐ I **know** it is an option, but I do not have access to a smart device/computer to fill it out

☐ I told my child to fill it out, but he/she did not

☐ Other reason(s). Please explain: _____

_____

PDSA-1 (MyChart Msg)

- Objectives:
  - Improve Patients' knowledge about the ODQ (goal of 20% increase in knowledge from 37.5% baseline)
  - By increasing patients' knowledge of the ODQ, their participation prior to the visit will increase
- Intervention:
  - MyChart message:
    - one of our team members will send a massage to the patient via MyChart
    - educate patients about the questionnaire
    - one week prior to the scheduled visit one
  - 8 weeks duration for the intervention
  - Data to collect:
    - Patients' Barriers Survey handed out at check in by front desk staff
    - ODQ participation rate

PDSA-1 (MyChart Msg)
Content of The Message

- Did you know that you can fill out the diabetes questionnaire online now through MyCookChildrens (MyChart)?
- This will help save you time & make your clinic visit run smoothly.
- It will also mean less paperwork for you to fill out on the day of the visit.

We look forward to seeing you,

PDSA-1 (MyChart Msg) Results

- Intervention began: 2/1/21
- Intervention ended April 1st, 2021.
- Total encounters: 11
- 2 patients completed Barriers Survey

PDSA-1 (MyChart Msg)
ODQ Participation Results

- Baseline : 37%
- PDSA-1: 54%

PDSA-1 (MyChart Msg)- Conclusion

- Participation in the ODQ improved. However, due to the small sample size, we couldn't assess the objectives
- Challenges:
  - 70% didn't read MyChart Msg
  - Due to weather challenges:
    - Cancellations and no shows resulted in small number of patients to complete the barriers survey
  - Notification fatigue:
    - Time of notification?
    - Other notifications?

PDSA-1 (MyChart Msg)-
EPIC Automatic Notifications

- Patients receive a reminder notification 2 days before their appointment

PDSA-2 (Late MyChart Msg)

- Objectives:
  - To improve patients' knowledge about the ODQ (goal of 20% increase in knowledge from 37.5% baseline)
  - Remind patients to complete the ODQ prior to the visit
    - Baseline: 25% of patients say they forget to complete it
    - Goal to lower the rate by at least 5%
  - By increasing patients' knowledge of the ODQ and reminding them to do complete it, their participation prior to the visit will increase
- Intervention:
  - MyChart message:
    - one of our team members will send a massage to the patient via MyChart
    - educate and remind patients about the questionnaire
    - 4 days prior to the scheduled visit one
  - 12 weeks duration for the intervention
  - Data to collect:
    - Patients' Barriers Survey handed out at check in by front desk staff
    - ODQ participation rate

PDSA-2 (Late MyChart Msg) Results

- Intervention began: 4/1/21
- Intervention ended 6/22/21
- Total encounters: 18
- 15 patients completed the barriers survey
- No intervention on (MyChart message was NOT sent): 4/12, 4/26, 4/27, 5/4, 5/24, 6/14, 6/21, and 6/22.

PDSA-2 (Late MyChart Msg)
Results of Barriers Survey

- Awareness of the ODQ: 77% (improved from 37.5%)→ Met the goal
- Forgetting to do the ODQ: 17% (improved from 25%) → Met the goal
- New challenges:
  - Limited staff (no intervention conducted on 8 days)
  - 68.7% of patients do NOT read their MyChart notification messages!

PDSA-2 (Late MyChart Msg)
ODQ Participation Results

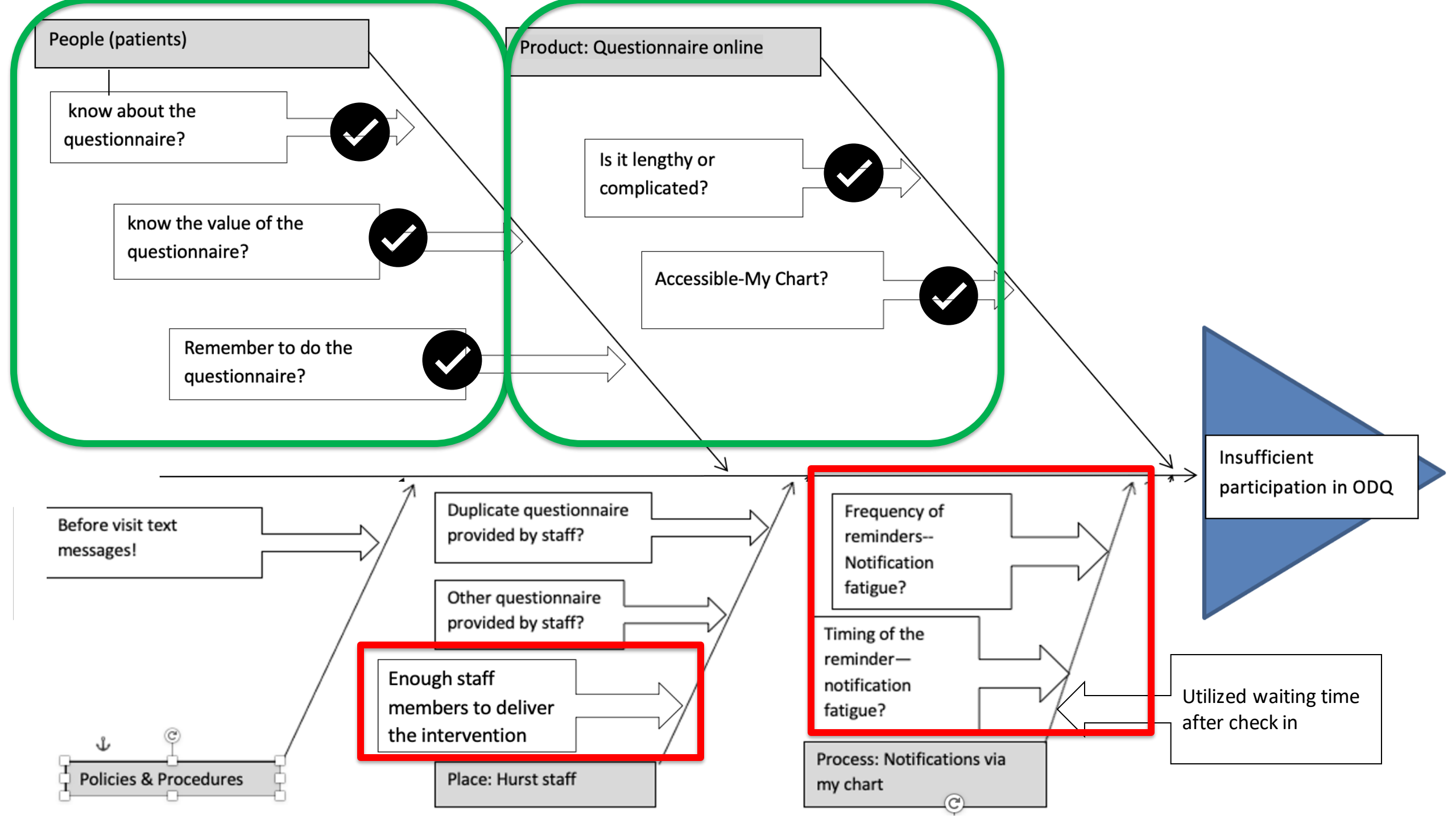
- Baseline : 37%
- PDSA-1: 54%
- PDSA-2: 37.2%

PDSA-1&2
Data Analysis

Month	Intervention delivered	MyChart Msg was read by patient	When MyChart Msg was read, ODQ was completed	Overall ODQ utilization rate
March	50%	50%	100%	58.3%
April	57%	25%	100%	35.7%
May	22%	50%	100%	55.5%
June	0	0	NA	16.65%

PDSA-2 (Late MyChart Msg) Conclusion

- The intervention (MyChart Msg) helped meet the targeted objectives:
  - Increased awareness of the ODQ
  - Effectively reminded patients to complete the ODQ
- The ODQ participation rate didn't improve, possibly due to:
  - The intervention may have resulted in notification fatigue (only 31.25% of patients read their MyChart message)
  - Intervention implementation may not be sustainable on the long run (only delivered 33.8% over the 5 months period)


People (patients)
know about the questionnaire?
know the value of the questionnaire?
Remember to do the questionnaire?
Product: Questionnaire online
Is it lengthy or complicated?
Accessible-My Chart?
Insufficient participation in ODQ
Before visit text messages!
Duplicate questionnaire provided by staff?
Other questionnaire provided by staff?
Enough staff members to deliver the intervention
Place: Hurst staff
Policies & Procedures
Frequency of reminders-- Notification fatigue?
Timing of the reminder— notification fatigue?
Process: Notifications via my chart
Utilized waiting time after check in

PDSA-3 (Medical Receptionists Reminder)

- Objectives:
  - Eliminate the notification fatigue : Goal to reduce it by 20% (baseline is 68.75%)
    - Stop MyChart messages about the ODQ
  - Utilize staff efficiently
  - The above two measures will improve the participation in the questionnaire
- Intervention:
  - Medical Receptionists reminder
  - 12 weeks duration for the intervention, starts 7/19/21
  - Expand the patient population to include two additional providers
  - Data to collect:
    - Patients' Barriers Survey
    - ODQ participation rate

PDSA-3(Medical Receptionists Reminder) Design

A) Patient completed ODQ prior to the visit:

1) Arrives to appointment
2) Parent tell front desk it's already completed; no paper questionnaire given
3) Medical assistant (MA) confirms ODQ completed prior or during check-in
4) MA gives Barriers Survey (parent checks "yes I already completed it")
5) Visit completed

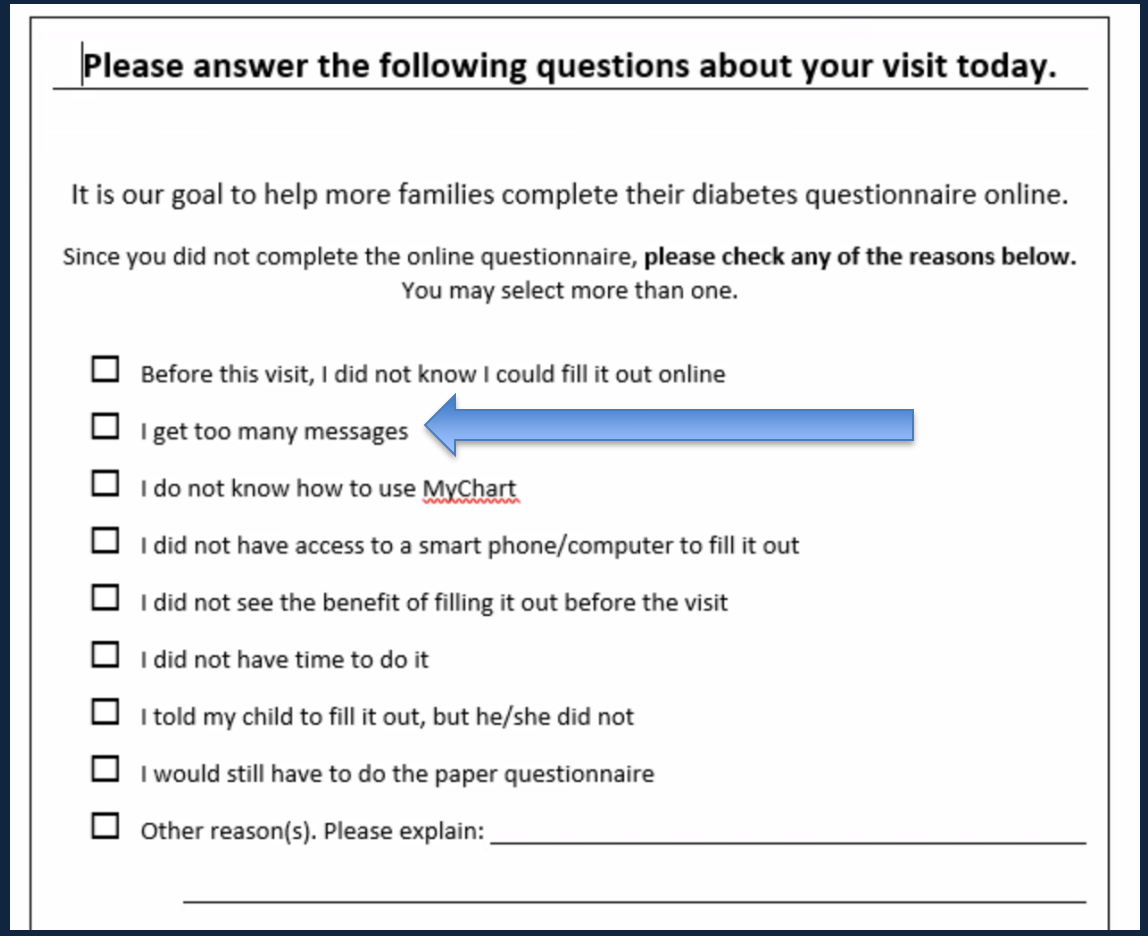
PDSA-3(Medical Receptionists Reminder) Design

B) Patient DID NOT complete ODQ prior to the visit:

1) Arrives to appointment
2) Front desk asks “Did you complete your diabetes questionnaire online?”
3) Parent tells front desk they DID NOT complete it online
4) Front desk asks family “Are you willing to complete online now? You can use your MyCookChildrens App while waiting to be roomed in”.
5) Family begins to work on it in the waiting room OR NOT
6) MA confirms ODQ completed during room check-in
7) If still not completed, MA gives paper copy of questionnaire, as well as Barriers Survey
8) Parent documents reason for not completing on yellow PDSA survey (Barrier Survey)
9) Visit completed

PDSA-3(Medical Receptionists Reminder) Design

Update the Barrier Survey to include assessment for notification fatigue



Please answer the following questions about your visit today.

It is our goal to help more families complete their diabetes questionnaire online.

Since you did not complete the online questionnaire, **please check any of the reasons below.** You may select more than one.

- ☐ Before this visit, I did not know I could fill it out online
- ☐ I get too many messages
- ☐ I do not know how to use MyChart
- ☐ I did not have access to a smart phone/computer to fill it out
- ☐ I did not see the benefit of filling it out before the visit
- ☐ I did not have time to do it
- ☐ I told my child to fill it out, but he/she did not
- ☐ I would still have to do the paper questionnaire
- ☐ Other reason(s). Please explain: _____

_____

PDSA-3(Medical Receptionists Reminder) Results

- Intervention start date 7/19/21
- End of intervention 11/4/21
- Total encounters to date: 66
- Barrier survey completed by 36 patients

PDSA-3(Medical Receptionists Reminder) Barrier Survey Results

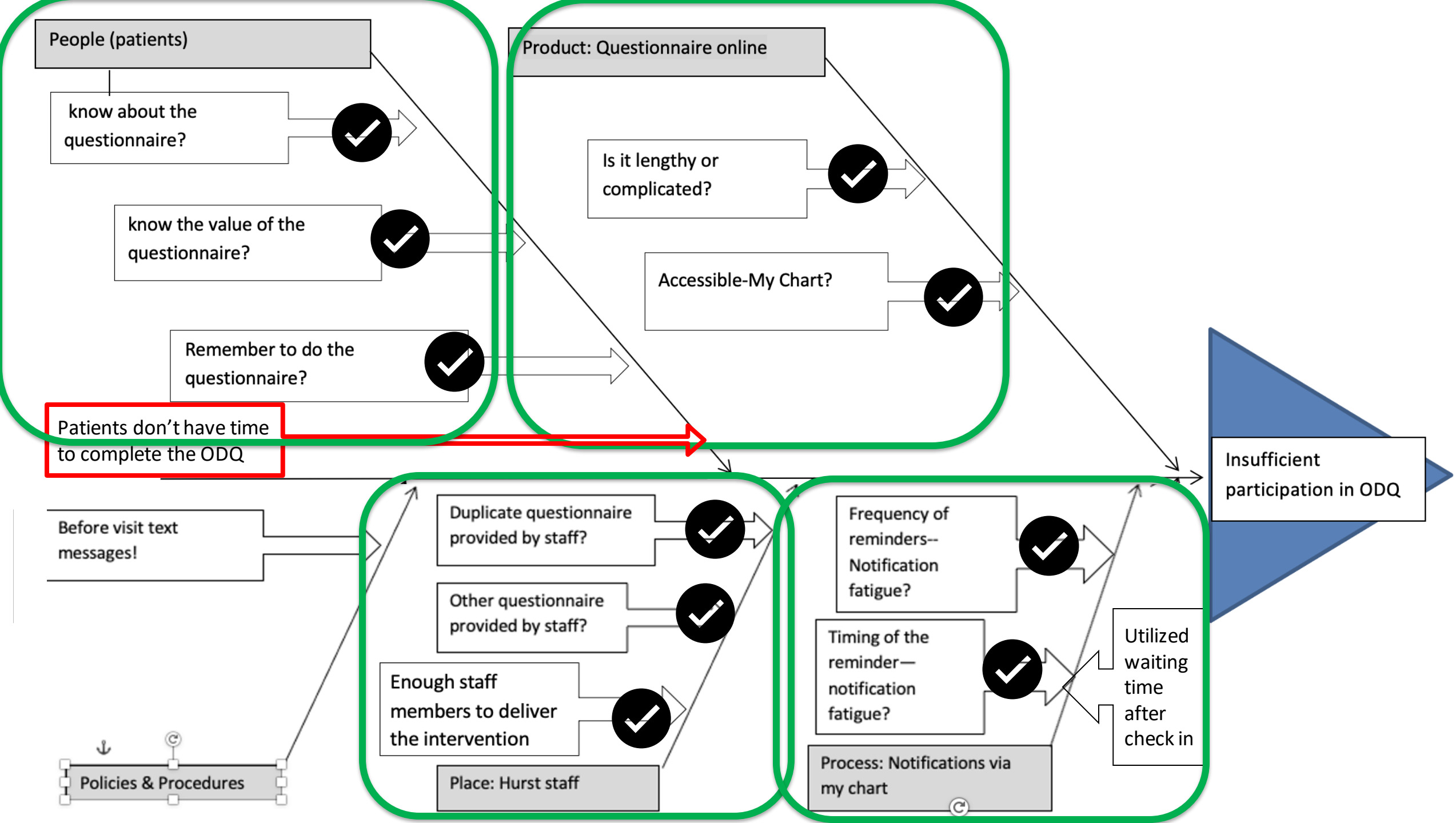
- Notification fatigue assessment ”I get too many notifications”: 11% (met the goal)
- Awareness of the ODQ : 81% (baseline 37.5%, PDSA-2 77%)
- Forgetting to do do the ODQ: 11% (baseline 25%, PDSA-2 17%)
- I did not have time to do it: 36%

PDSA-3(Medical Receptionists Reminder) ODQ results

- Baseline 37%
- PDSA 2: 37.2%
- PDSA-3: 45%

PDSA-3(Medical Receptionists Reminder) Conclusion

- The intervention helped meeting the targeted goal of objectives:
  - lowered the notification fatigue
  - Intervention was implanted smoothly using the current clinic staff
- Although the ODQ participation rate improved, it didn't meet the targeted ODQ participation rate
  - New challenge: 36% of the patients reported they did not have time to do the ODQ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Is it lengthy or complicated?
Accessible-My Chart?
Insufficient participation in ODQ
Before visit text messages!
Duplicate questionnaire provided by staff?
Other questionnaire provided by staff?
Enough staff members to deliver the intervention
Place: Hurst staff
Policies & Procedures
Frequency of reminders-- Notification fatigue?
Timing of the reminder— notification fatigue?
Utilized waiting time after check in
Process: Notifications via my chart

PDSA-4(Exam Room Reminder)

- Objectives:
  - Give patients more time to complete the ODQ
    - Goal to improve it by 10% (baseline 36%)
  - The above measure will improve the participation in the questionnaire
- Intervention:
  - Medical assistant (MA) to remind the patients to complete the ODQ while waiting for the provider in the exam room
  - 12 weeks duration for the intervention, starts 1/10/22
  - Data to collect:
    - Patients' Barriers Survey
    - ODQ participation rate

PDSA-4(Exam Room Reminder) Design

B) Patient DID NOT complete ODQ prior to the visit:

1) Arrives to appointment
2) Front desk asks “Did you complete your diabetes questionnaire online?”
3) Parent tells front desk they DID NOT complete it online
4) Front desk asks family “Are you willing to complete online now? You can use your MyCookChildrens App while waiting to be roomed in”.
5) Family begins to work on it in the waiting room OR NOT
6) MA confirms ODQ completed during room check-in
7) **If still not completed, MA gives patients the Barrier Survey to complete and asks families to complete the ODA while waiting in exam room for the provider.**
8) Parent documents reason for not completing on yellow PDSA survey (Barrier Survey)
9) Visit completed

PDSA-4 (Exam Room Reminder) Results

- Intervention start date 1/10/22
- End of intervention 04/07/22
- Total encounters: 52
- Barrier survey provided to 49 patients

PDSA-4 (Exam Room Reminder) Barrier Survey Results

- Lack of time to complete the ODQ “I did not have time to do it”: 5% (PDSA-3: 36%) , which met the targeted goal

- Notification Fatigue: 5% (PDSA-3: 11%)
- Awareness of the ODQ: 73% (baseline 37.5%, PDSA-2 77%, PDSA-3 81%)
- Forgetting to do the ODQ: 18% (baseline 25%, PDSA-2: 17%, PDSA-3: 11%)

PDSA-4 (Exam Room Reminder)
ODQ Results

- Baseline: 37%
- PDSA 2: 37.2%
- PDSA 3: 45%
- PDSA 4 : 58%

PDSA-4 (Exam Room Reminder) Conclusion

- The intervention met the targeted objective
  - It helped utilize patient time in clinic efficiently (only 5% of patient reported they didn't have time to complete the ODQ)
- Participation in ODQ improved and met the target goal
-

Conclusion of the study

- In contrary to other studies, online reminders to complete ODQ did not improve participation in ODQ prior to visit.
  - It may have resulted in notification fatigue
  - It was not sustainable due to limited manpower
- In our clinic cohort/settings, the most effective method to increase participation in the ODQ was onsite reminders via the medical receptionists and MAs as it helped utilize patients waiting time efficiently
- The medical assistant and medical receptionists' intervention didn’t stretch the staff thin in our clinic

Future Plans

- Analyze data based on socioeconomic status, education, race/ethnicity to help better understand and improve the participation rate
- Expand to Cook’s other locations

Questions?

<u>Cook Children's T1D Exchange Clinical Team:</u>

Susan Hsieh
Christin Morell
Candice Williams
Stephanie Ogburn
Mouhammad Alwazeer

Clinical Presentation: Lurie

Ann & Robert H. Lurie
Children's Hospital of Chicago®
Center for Quality and Safety

Standardized Documentation to Address Equity in CGM Use

Naomi R. Fogel, MD

Ann & Robert H. Lurie Children's Hospital of Chicago
Division of Endocrinology
Center for Quality and Safety
July 28, 2022

Ann & Robert H. Lurie Children's Hospital of Chicago®
Center for Quality and Safety

Lurie Children's Hospital Diabetes Program

- Main campus in downtown Chicago
  - Satellite sites in N and W suburbs (total 8 diabetes clinic sites)
  - Partnership with LaRabida Children's Hospital in the S
- Diverse patient population
- Estimated 40-50% Medicaid
- Approximate racial/ethnic breakdown
  - 26% Hispanic
  - 56% White/Non-Hispanic
  - 8% Black/Non-Hispanic
  - 10% other/no response
- ~1400 established T1D patients
  - 120-150 newly diagnosed per year

CQS

Lurie Children's Hospital Diabetes Program

- Diabetes Team
  - 8 Attending Physicians
  - 3 Endocrine Fellows
  - 2 Nurse Practitioners
  - 8 RN/CDCES
  - 2 RD (1 CDCES)
  - 3 Psychologists (as of Fall '22)
  - 2 Social Workers

- Joined T1D Exchange QI Collaborative in January 2021

Continuous Glucose Monitor use

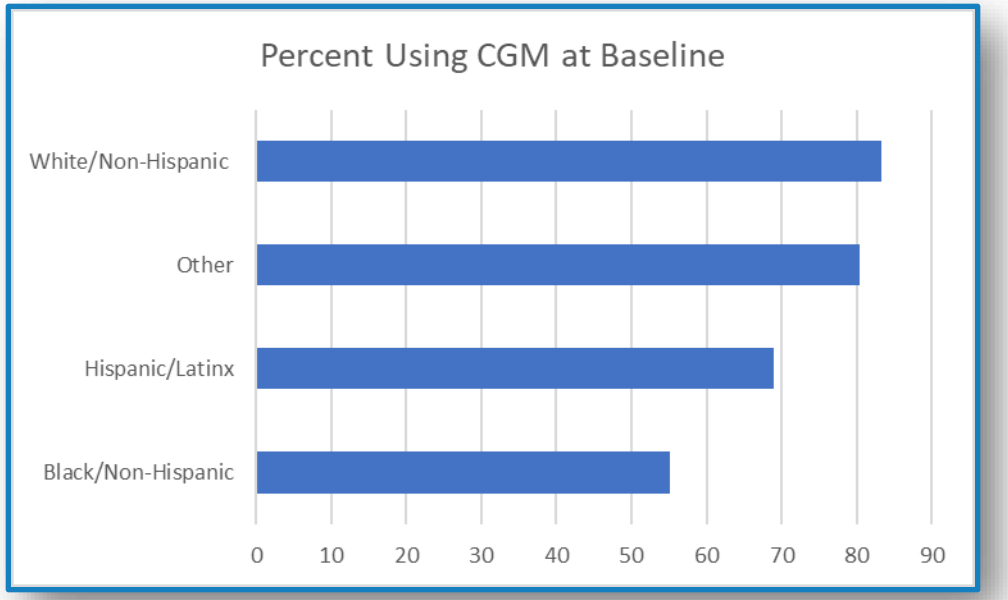
- CGM has been shown to have multiple benefits for pediatric patients with type 1 diabetes, including improved glycemic control, decreased frequency of fingerstick glucose monitoring and integration with insulin delivery devices, leading to lower rates of short- and long-term complications.

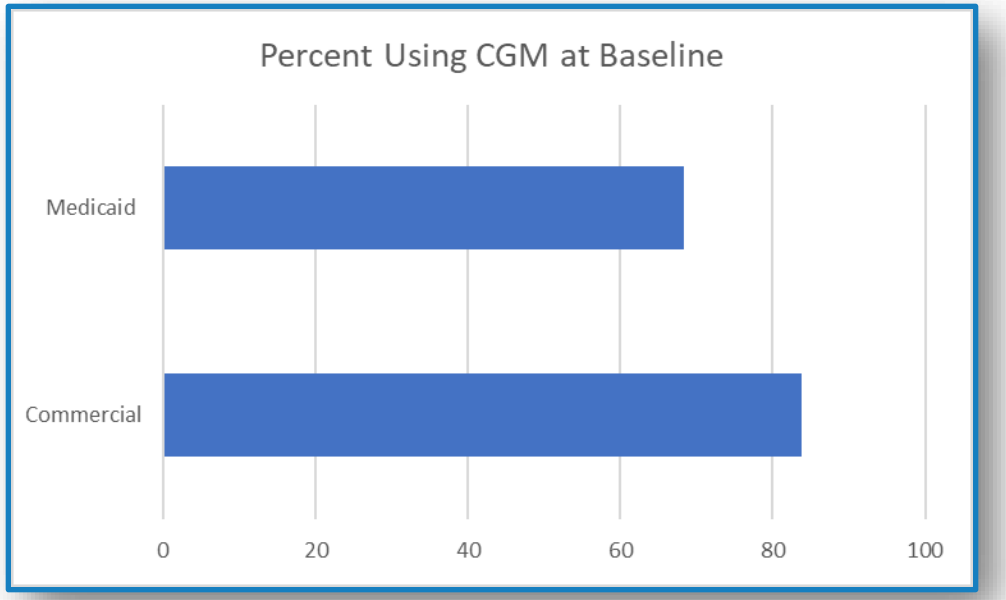
- Disparities exist between demographic groups regarding CGM use
  - Provider issues (bias)
  - System issues (insurance)
  - Patient issues

Disparities in CGM use

- Non-Hispanic Whites had highest rates of CGM use followed by Hispanics and lowest rates in Non-Hispanic Blacks, and those with private insurance more likely to use CGM than those with public insurance (DeSalvo 2021)
- Lower CGM use in Non-Hispanic Black children due to lower rates of initiation AND increased discontinuation (Lai 2021)
- SES and other factors (demographic, diabetes-specific) did not fully explain disparities; consider patient preferences, provider implicit bias, systemic racism and mistrust of medical system (Agarwal 2021)
- Racial/ethnic disparities in technology use persist even after adjusting for age, language, insurance, annual income (Fantasia 2021)

CGM Use: Baseline (April-September 2021)

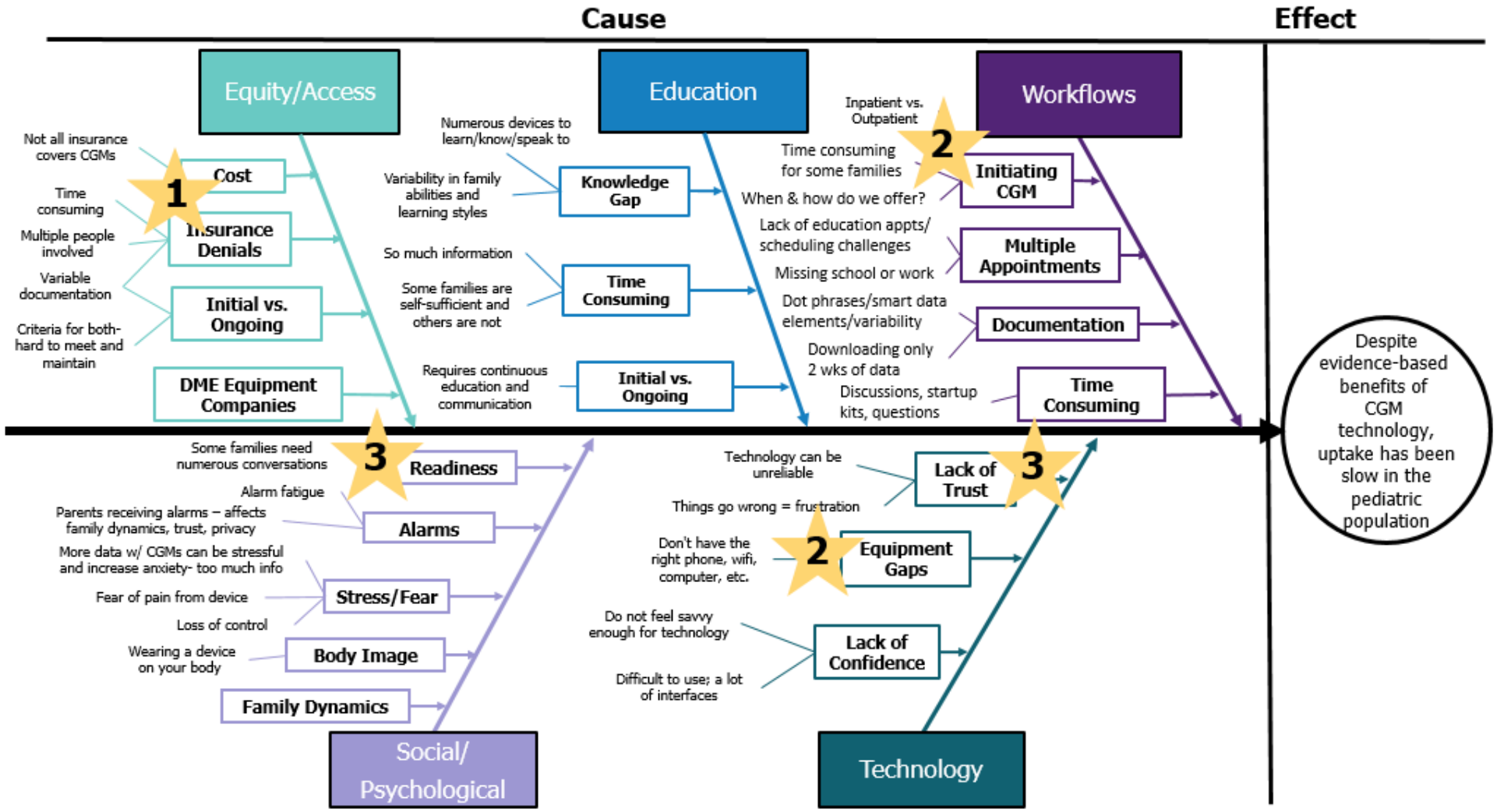




Overall 78% CGM use

Note: CGM covered by IL Medicaid (with evidence of insulin use and glucose monitoring) since 2020

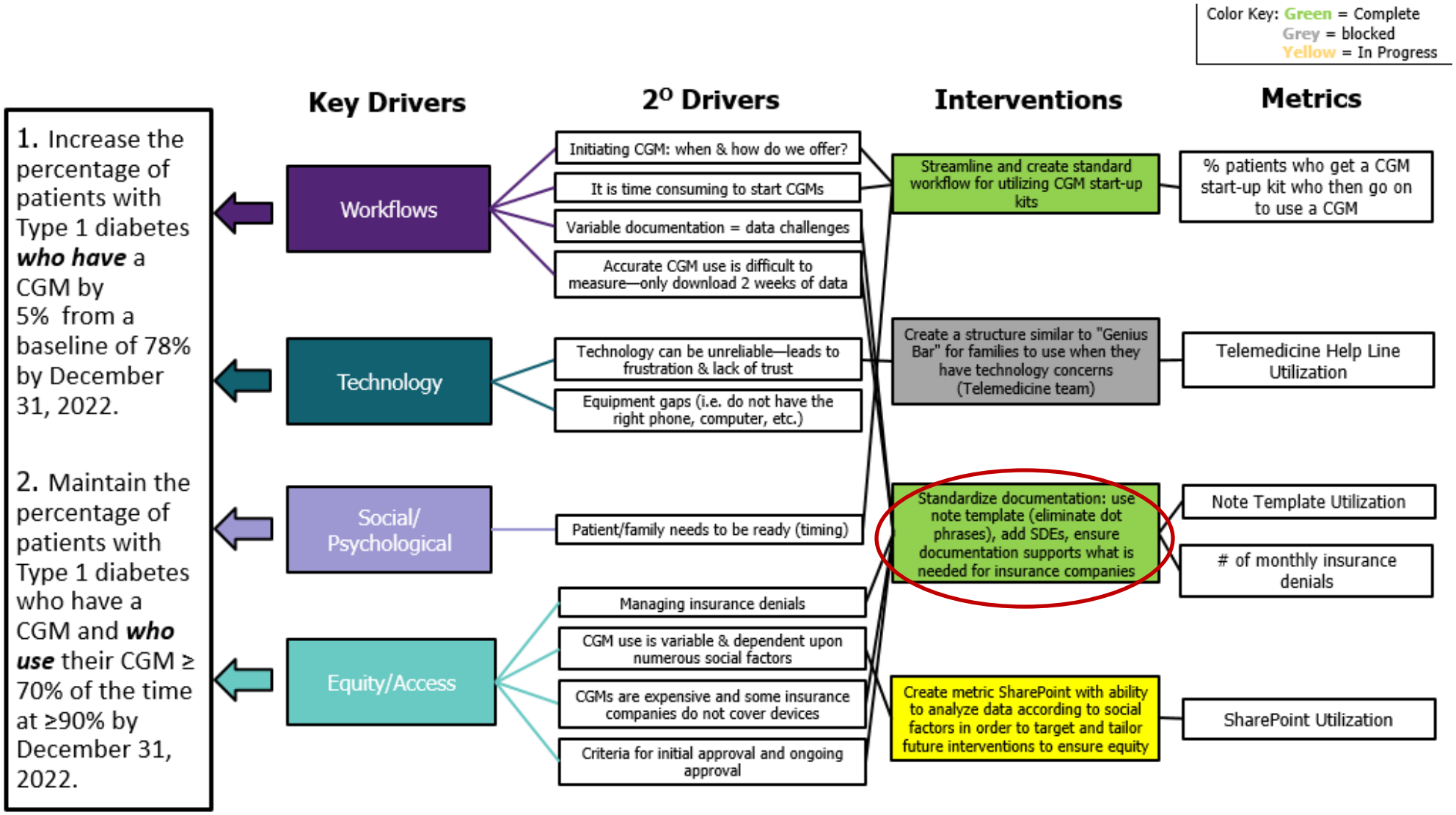
Fishbone


Cause
Effect
Equity/Access
Education
Workflows
Social/ Psychological
Technology
Not all insurance covers CGMs
Time consuming
Multiple people involved
Variable documentation
Criteria for both- hard to meet and maintain
1
Cost
Insurance Denials
Initial vs. Ongoing
DME Equipment Companies
Numerous devices to learn/know/speak to
Variability in family abilities and learning styles
Knowledge Gap
So much information
Some families are self-sufficient and others are not
Time Consuming
Requires continuous education and communication
Initial vs. Ongoing
Inpatient vs. Outpatient
Time consuming for some families
When & how do we offer?
2
Initiating CGM
Lack of education appts/ scheduling challenges
Missing school or work
Multiple Appointments
Dot phrases/smart data elements/variability
Documentation
Downloading only 2 wks of data
Discussions, startup kits, questions
Time Consuming
Despite evidence-based benefits of CGM technology, uptake has been slow in the pediatric population
Some families need numerous conversations
3
Readiness
Alarm fatigue
Parents receiving alarms – affects family dynamics, trust, privacy
Alarms
More data w/ CGMs can be stressful and increase anxiety- too much info
Fear of pain from device
Loss of control
Stress/Fear
Wearing a device on your body
Body Image
Family Dynamics
Technology can be unreliable
Things go wrong = frustration
Lack of Trust
3
Don't have the right phone, wifi, computer, etc.
2
Equipment Gaps
Do not feel savvy enough for technology
Difficult to use; a lot of interfaces
Lack of Confidence

AIM Statement

- 1. Increase the percentage of patients with Type 1 diabetes who have a CGM by 5% from a baseline of 78% by December 31, 2022.
- 2. Maintain the percentage of patients with Type 1 diabetes who have a CGM and who use it ≥70% of the time at ≥90% through December 31, 2022

Key Driver Diagram

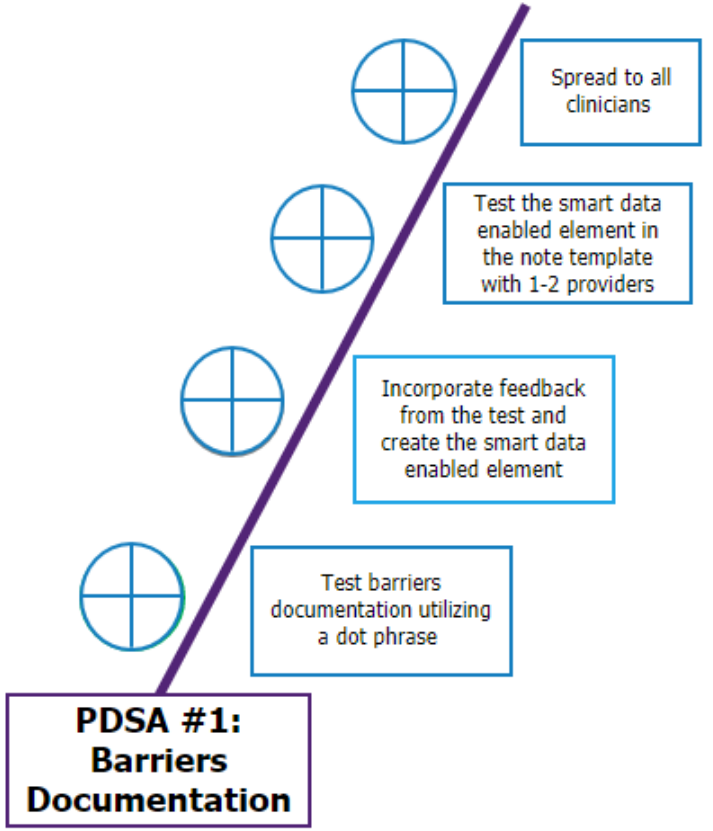


Hypothesis

- Requiring standardized documentation of CGM use and identification of barriers will increase awareness and identify potential targets for future interventions, ultimately increasing CGM use in our patient population.

Development and Implementation

- Designed standard documentation within the EMR to assess CGM use and barriers to use.
- Surveyed a subset of patients and families about CGM use.
- Standardized documentation was tested with a single diabetes provider with 24 patients.
- Feedback was incorporated and smart data enabled element added to diabetes note template.



CGM Barriers Documentation

Blood Glucose Monitoring:
Does (patient) have a CGM? {YES/NO ENDO CONTINUOUS GLUCOSE MONITOR:10753}

YES

Blood Glucose Monitoring:
Does (patient) have a CGM? Yes
Has (patient) used CGM ≥70% of the time in the last 14 days? {YES/NO:21745}

{GLUCOSE MONITOR TYPE:10754}

NO

Blood Glucose Monitoring:
Does (patient) have a CGM? No
Why? {No CGM Reasons:21748}
Prescribed? {Yes/No/Other:1208
Starter kit given? {Yes/No:21747}

Barriers to CGM use

- No barriers-prescribed today
- No barriers-not indicated for degree of dysglycemia/insulin therapy
- Cost
- Insurance coverage
- Lack of education/distrust
- Skin/adhesion issues
- Technological issues
- Alarm fatigue
- Self-image
- Resistance to wearables
- Other ***

YES

Blood Glucose Monitoring:
Does (patient) have a CGM? Yes
Has (patient) used CGM ≥70% of the time in the last 14 days? Yes, verified by captured data

{GLUCOSE MONITOR TYPE:10754}

CGM 14d Data:
Glucose average: ***mg/dl
Time in target range (70-180mg/dl): {CGM 14D:19343::"***"}%
Time in high range (>180mg/dl): ***%
Time in very high range (>250mg/dl): ***%
Time in low range (<70mg/dl): ***%
Time in very low range (<54mg/dl): ***%

NO

Blood Glucose Monitoring:
Does (patient) have a CGM? Yes
Has (patient) used CGM ≥70% of the time in the last 14 days? No. Why? {Reasons:21746}

{GLUCOSE MONITOR TYPE:10754}

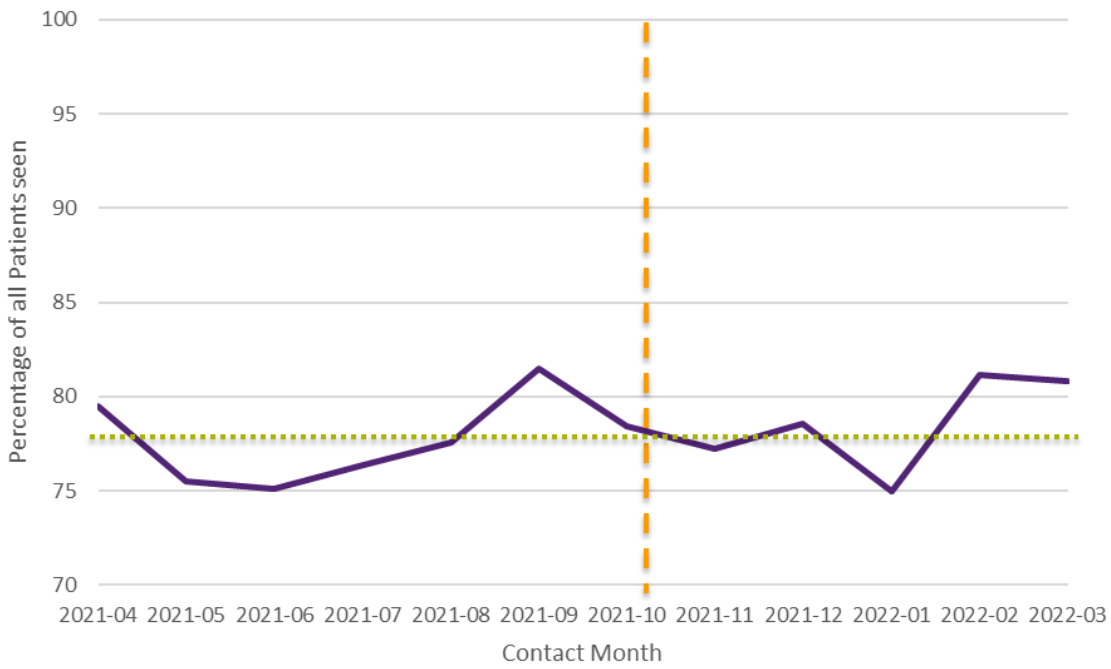
CGM 14d Data:
Glucose average: ***mg/dl
Time in target range (70-180mg/dl): {CGM 14D:19343::"***"}%
Time in high range (>180mg/dl): ***%
Time in very high range (>250mg/dl): ***%
Time in low range (<70mg/dl): ***%
Time in very low range (<54mg/dl): ***%

Barriers to 70% use

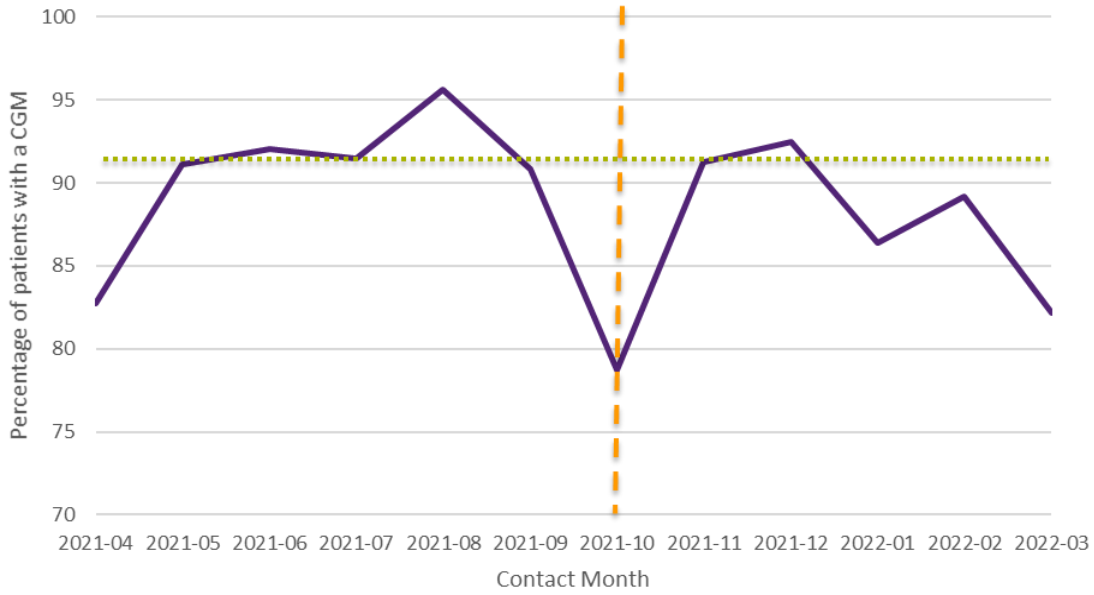
- Cost
- Insurance coverage
- Lack of education/distrust
- Skin/adhesion issues
- Technological issues
- Alarm fatigue
- Self-image
- Resistance to wearables
- Refill delay
- Desire for CGM break
- Other ***

Run Charts

CGM Use



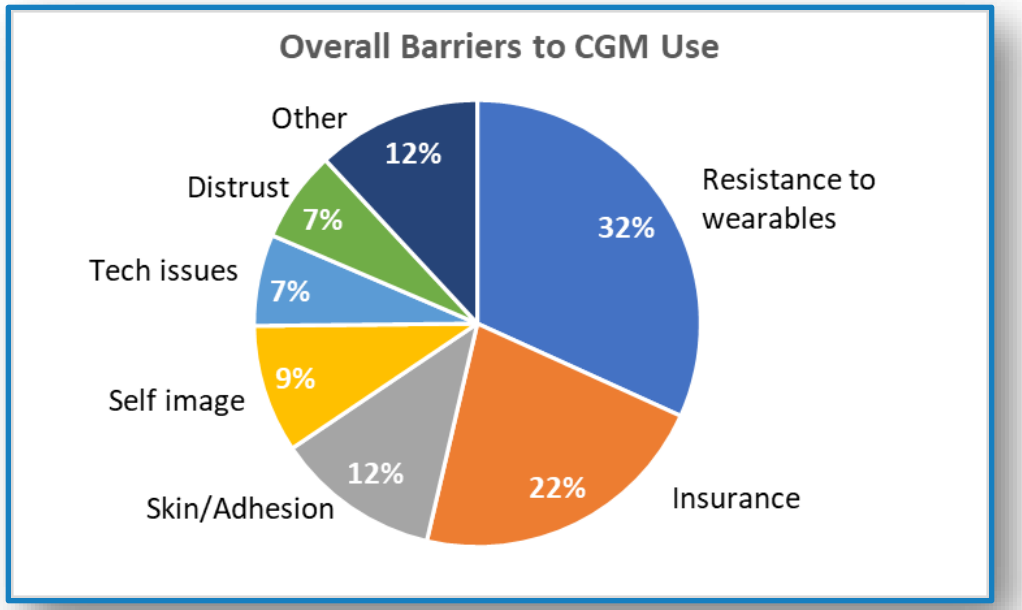
CGM Use ≥70%



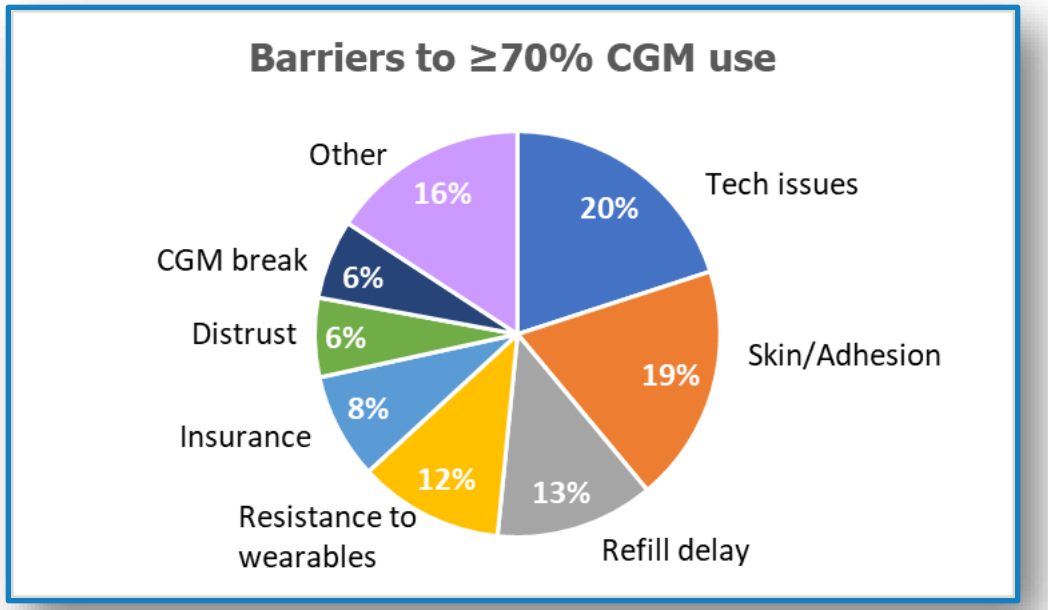
Intervention Date

Pre-intervention Average

Barriers to CGM use: Oct 2021-March 2022

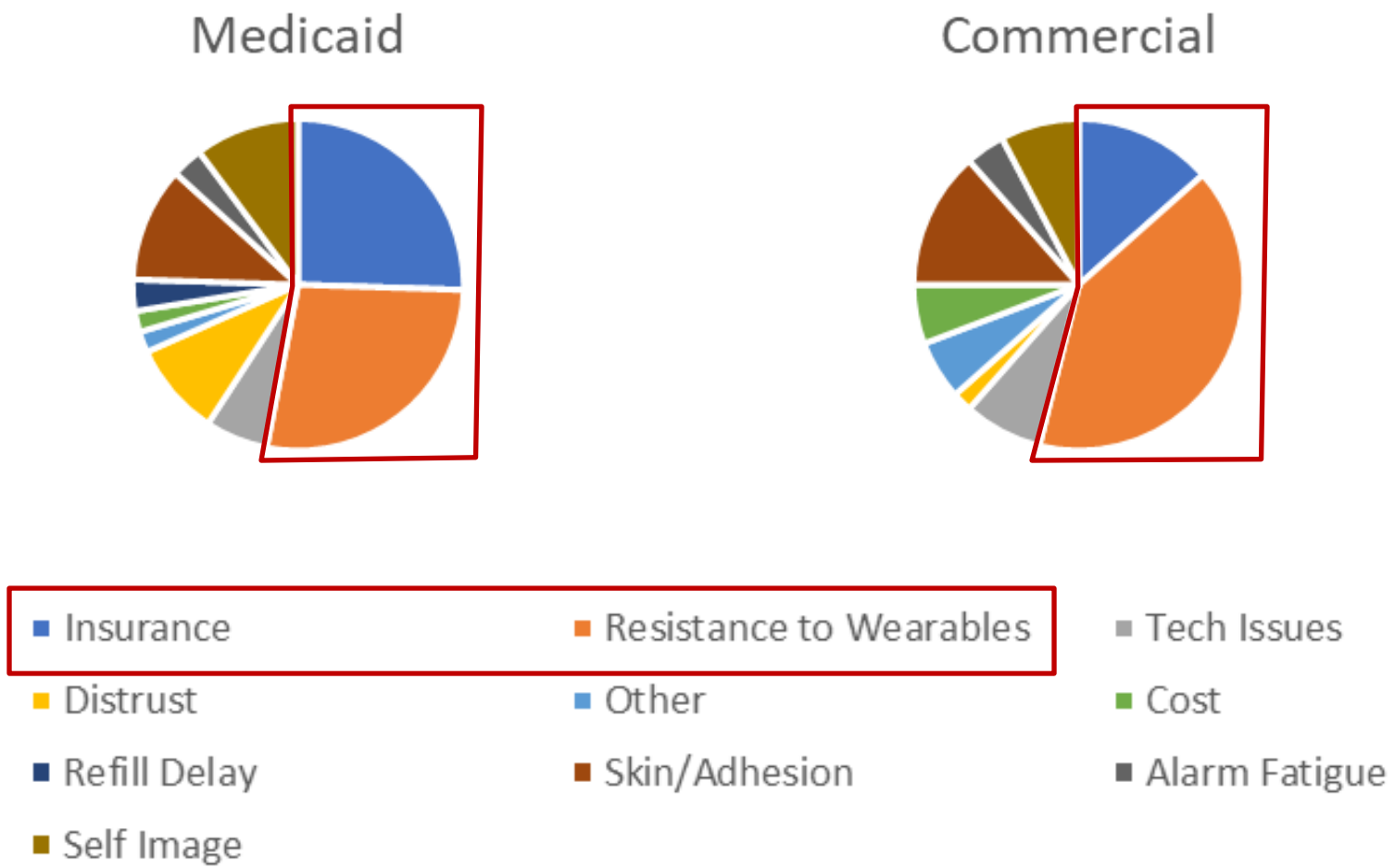


n=151

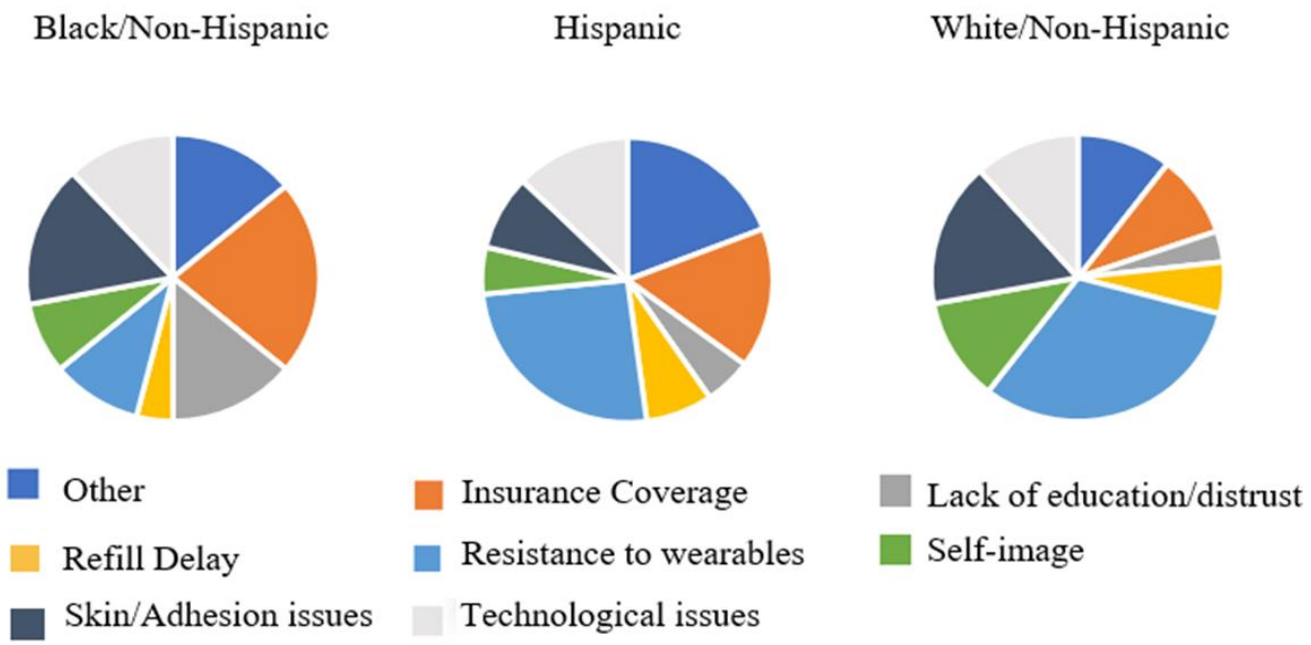


n=95

Barriers to CGM by insurance group



Barriers to CGM use by racial/ethnic group



Black (Non-Hispanic)
1. Insurance Coverage
2. Skin/Adhesion Issues
3. Lack of Education/Distrust

n=50

Hispanic/Latinx
1. Resistance to wearables
2. Insurance Coverage
3. Technological Issues

n=92

White (Non-Hispanic)
1. Resistance to Wearables
2. Skin/Adhesion Issues
3. Technological Issues

n=84

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Results

- Our patient population had a high rate of CGM use
- Use of standardized documentation has not yet substantially changed the use of CGM or time of CGM usage in our population.
- CGM use is asked/documented at over 90% of patient visits
- Barriers to CGM varied by racial/ethnic background
- Top barriers were consistent among insurance types
- Starting to see themes within different populations, but need more data

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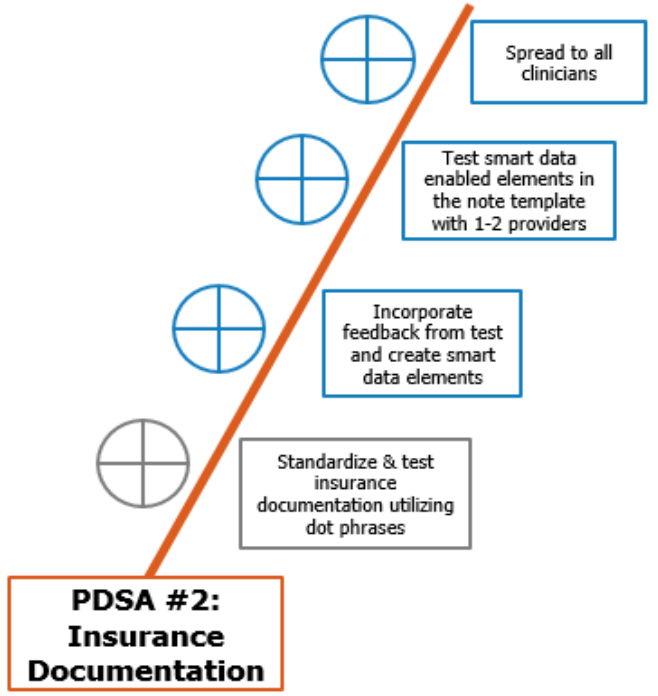
Next Step: Interventions to address barriers

- Insurance Barrier
  - Document rationale for CGM in every clinic note
  - Prior authorizations
  - Multiselect
  - Incorporated feedback from providers, nurses, office staff



RATIONALE FOR CGM: We strongly believe continuous glucose monitoring will {be/remain:21981} beneficial for (*name*) for the following reasons: {CGM INSURANCE REASONS:21980}

- History of nocturnal hypoglycemia
- History of hypoglycemia unawareness
- History of exercise-induced hypoglycemia
- History of severe hypoglycemia
- Patient has been hospitalized or has required paramedical treatment for hypoglycemia
- Patient is unable to communicate symptoms of hypoglycemia due to age, developmental delay, or additional medical condition
- Coexistent morbidity that poses challenges with concomitant hypoglycemia
- Wide excursions in daily blood glucose levels and need for frequent dose adjustments
- Fasting hyperglycemia
- Integration with insulin pump
- The patient has been unable to achieve optimal glycemic control as defined by the most current version of the American Diabetes Association Standards of Medical care. Most recent hemoglobin A1C ***% on ***.

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Next Step: Interventions to address barriers

- Insurance Barrier: Advocacy
  - New bill in IL signed at Lurie Children's by Governor Pritzker to require commercial insurance coverage of CGM
  - Insurance coverage should no longer be a barrier for any patient with Type 1 in IL

Next Step: Interventions to address barriers

- Resistance to wearables, self-image
  - Posters in clinic with photos and quotes from actual patients/families
- Skin/Adhesion issues
  - Tip sheets readily available
- Lack of education, distrust
  - Pilot study by psychology fellow testing a multidisciplinary (diabetes education + psychology) intervention for teens not on CGM to address specific barriers
  - Family representatives

Lessons Learned

- Standardized documentation can hardwire discussion of CGM
  - Mitigate provider bias
- Asking about barriers can help identify and address disparities
  - Start discussion, create plan
- Documenting barriers increases awareness
  - Common barriers can be addressed with one solution
  - Barriers specific to particular groups can be investigated
- Still more work to do to reduce disparities in technology use

Thank you

- Sean DeLacey, MD and Apoorva Aekka, MD
- Naomi Sullivan, RN
- Eric Jones, MPH
- Rest of Lurie T1DX QI Collaborative Team: Monica Bianco MD, Maria Chiappetta RN,CDCES, Abby Dieguez MD, Laura Levin DO, Mary McCauley MD, Kaitie Perri RN,CDCES, Paula Petrie RN,CDCES, Jill Weissberg-Benchell PhD
- Lurie Diabetes patients

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CQS

Pre/Post learning

QI Portal Updates

QI Portal – April – July 2022 updates

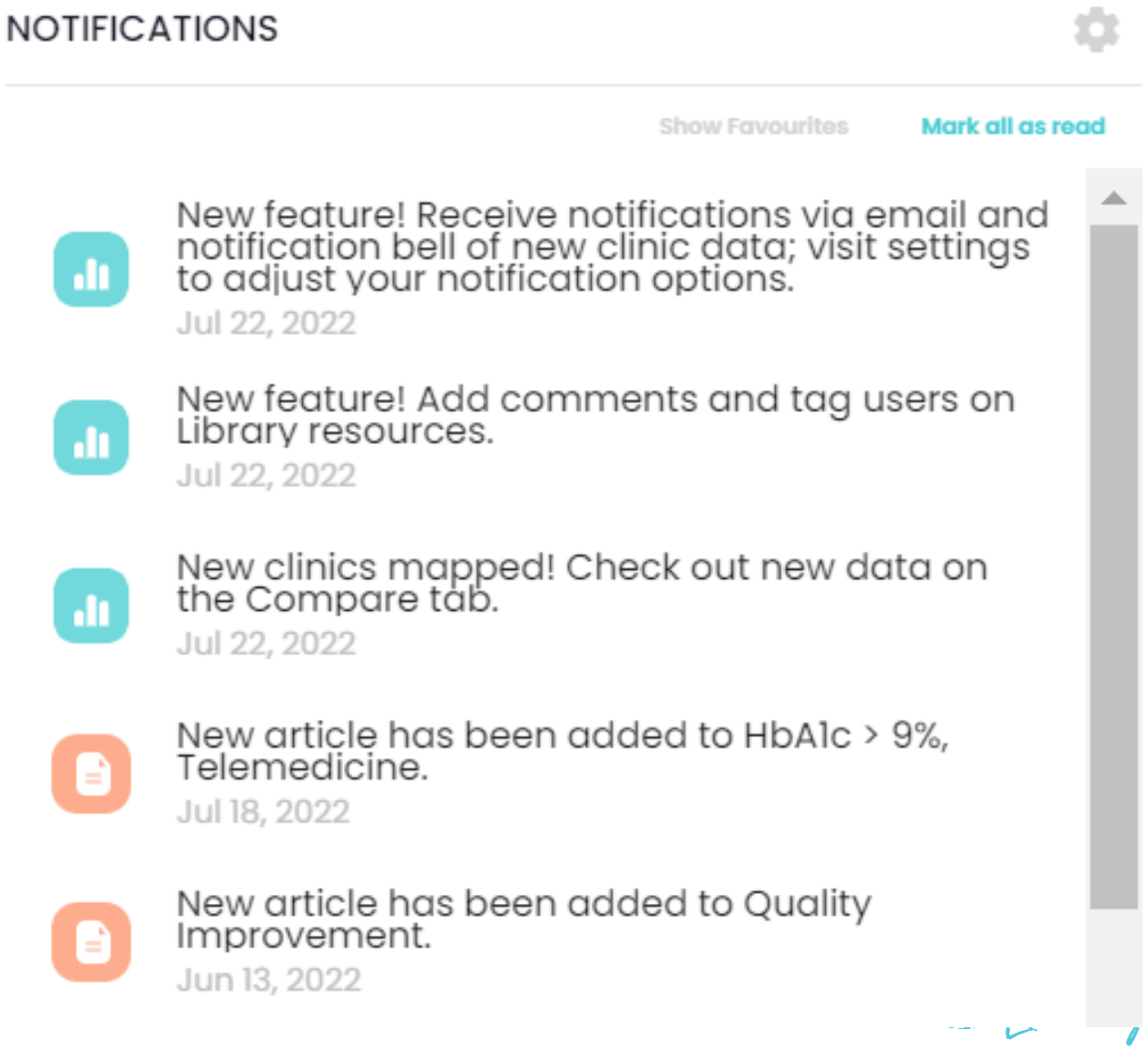
Expanded Health Equity features!

QI Portal – April – July 2022 updates

New notification bell!

- Notifications for new:
  - QI Portal features
  - Clinic data
  - Library article

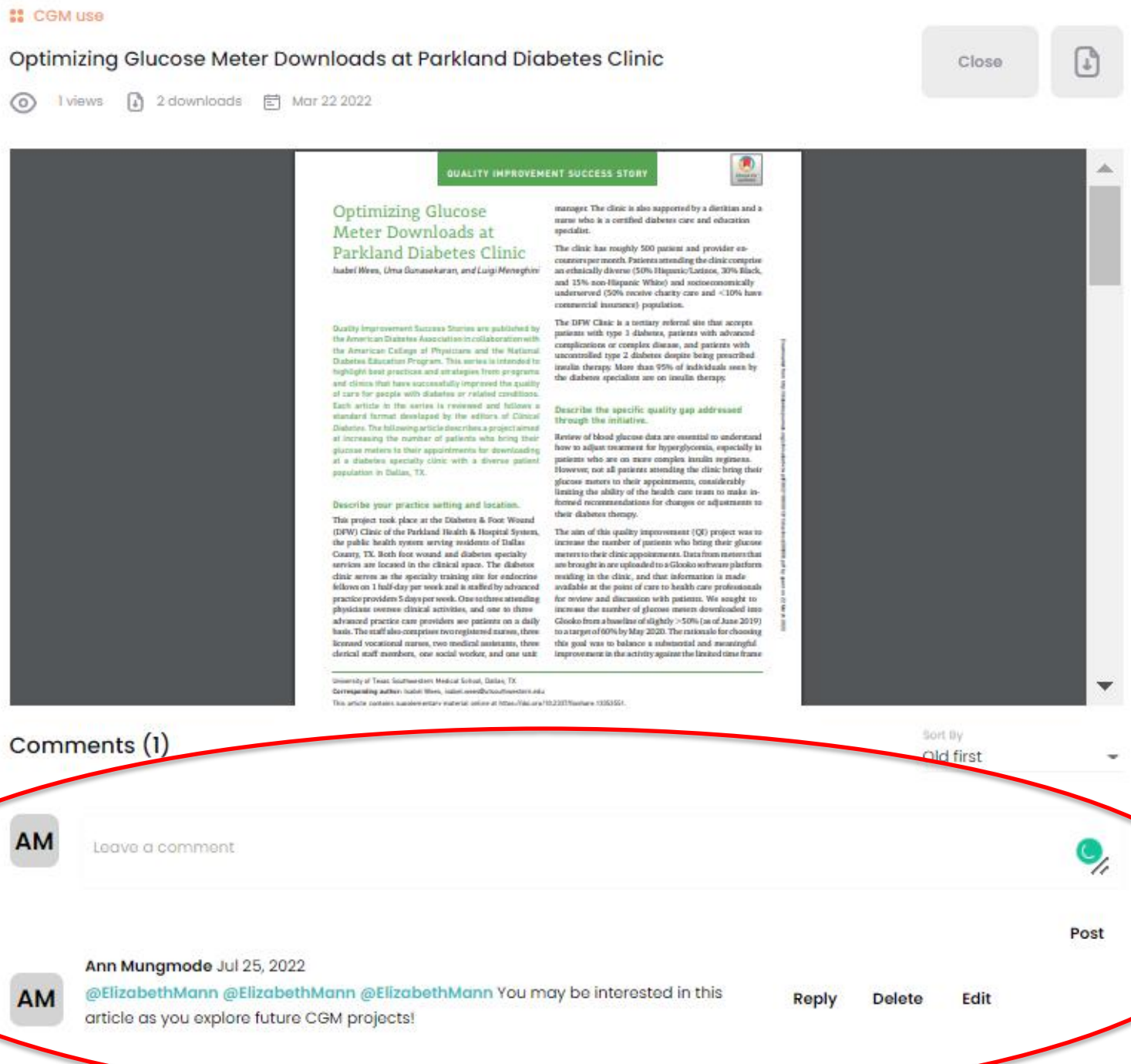
- Change notification type in Settings



QI Portal – April – July 2022 updates

New metrics! Time in Range and Social Determinants of Health

New library comments!



Seize the Data! Contest – September 2022

Explore the QI Portal and win a prize!

From 9-1 through 9/30, T1DX-QI will host a Seize the Data! Contest!

Weekly awards will be given for:

- Highest # of logins
- Each login = one chance to win
- Bonus chances to win if access all four QI Portal tabs

T1DX-QI Publications Updates

Publications Policy

T1D Exchange Quality Improvement Collaborative (T1DX-QI) Publication Policy and Procedure

1. **Objectives**

   This policy describes the process for T1DX-QI publications and presentations.

2. **Definitions**

   T1DX-QI includes clinical centers participating in the collaborative that have signed data
   agreements with T1D Exchange and share data for quality improvement/population hea
   research.

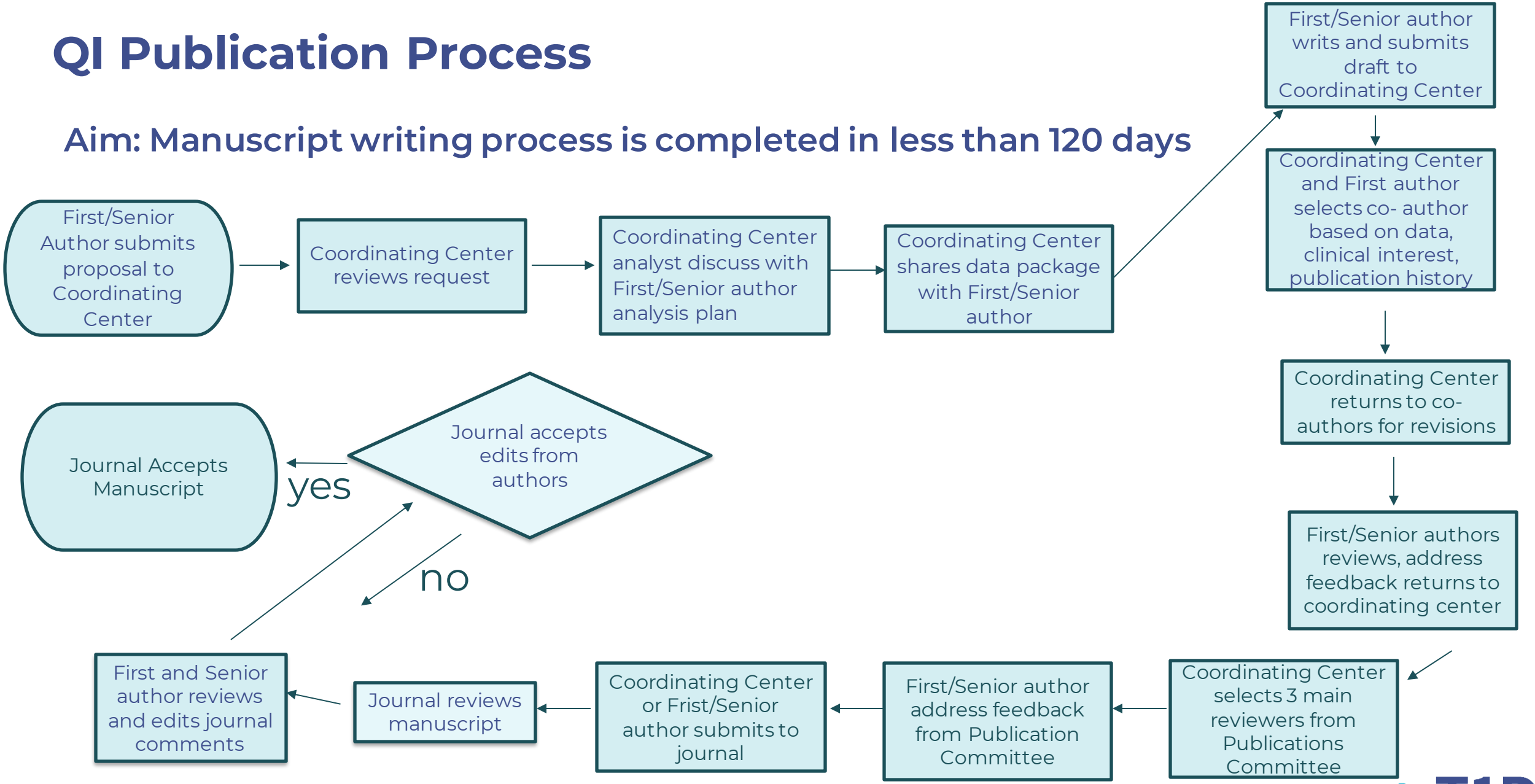
3. **Publications**

   A publication is any document submitted to a professional journal with regional or natio
   circulation. Approval of publications may be withheld until such time as deemed approp
   the Publication Committee. Prior publications and presentations can be found here.

   A. Projects can be proposed by completing the application form.
   B. Workflow process:
      i. First/Senior author submits proposal manuscript idea to Coordinating Cent

QI Publication Process

Aim: Manuscript writing process is completed in less than 120 days



Last revised 7/11/22

T1DX-QI HEALTH EQUITY STUDY IS ONE OF TOP TEN DISPARITIES ABSTRACT PRESENTED AT ADA 2022 SCIENTIFIC CONFERENCE

American Diabetes Association.
Connected for Life

June 1, 2022

Dear Dr. Osagie Ebekozien,

On behalf of the American Diabetes Association, we would like to extend our heartfelt congratulations to you on having been selected as a recipient of the National Health Disparities Committee's Top 10 Recommended Abstracts for the following abstract:

Abstract #4224
Inequities in Glycemic Outcomes for Patients with Type 1 Diabetes: Six-Year (2016–2021) Longitudinal Follow-Up by Race and Ethnicity of 36,390 Patients in the T1Dx-QI Collaborative

OSAGIE EBEKOZIEN, NUDRAT NOOR, MANMOHAN K. KAMBOJ, ORI ODUGBESAN, SHIDEH MAJIDI, RACHEL HOPKINS, EMILY L. DEWIT, ROBERTO IZQUIERDO, SHIVANI AGARWAL, ANASTASIA ALBANESE-O'NEILL, DAVID M. MAAHS, MARK A. CLEMENTS, T1DX-QI COLLABORATIVE

The Health Disparities Committee's Top 10 Recommended Abstracts recognizes health disparities related abstracts that have been accepted to the American Diabetes Association 82nd Scientific Sessions. These abstracts focus on health care disparities/inequities in diabetes outcomes. The ideal selections may detail research that helps us understand factors underlying diabetes disparities and inequities or demonstrates practical interventions that may contribute to eliminating them. For additional information please visit: professional.diabetes.org/HDCabstracts.

Once again, congratulations on this much-deserved recognition for your significant contributions to the diabetes community.

Sincerely,

Dr. A. Enrique Caballero
Harvard Medical School
Chair, National Health Disparities Committee

T1D Exchange

T1DX-QI PAPER IS THE CURRENT MOST CITED ARTICLE 2020-2022 IN THE JOURNAL OF DIABETES

Articles

Most Recent | **Most Cited** | Most Read

The most cited articles published in the last 2 years , according to crossref.

RESEARCH LETTER | Free Access

Increased DKA at presentation among newly diagnosed type 1 diabetes patients with or without COVID-19: Data from a multi-site surveillance registry

Kara Beliard, Osagie Ebekozien, Carla Demeterco-Berggren, Guy Todd Alonso, Mary Pat Gallagher, Mark Clements, Robert Rapaport

Journal of Diabetes | Pages: 270-272 | First Published: 7 December 2020

TABLE 1 Patient demographic and clinical indicators of newly diagnosed T1D and COVID-19 (April–August 2020)

	Category	Positive COVID-19 test (n = 24)	Negative COVID-19 test (n = 124)	*P* value
Mean age at diagnosis (SD)		15.64 (15.35)	10.84 (5. 43)	.14
Age categories	0-10 y/o	7 (29)	59 (48)	.11
	11-19 y/o	15 (63)	64 (52)	.37
	>19 y/o	2 (8)	1 (1)	.06
Gender	Female	13 (54)	59 (48)	.65
Race/ethnicity	NH White	3 (13)	75 (60)	<.001
	NH Black	7 (29)	0 (0)	<.001
	Hispanic	10 (42)	26 (21)	.03
	Other/unknown	4 (17)	23 (19)	1
Median HgA1C (IQR)		12.4 (2.9)	13.1 (2.7)	.55
Insurance*	Public	18 (75)	48 (39)	.001
	Private	6 (25)	71 (57)	.006
	Uninsured	0 (0)	5 (4)	1
DKA on presentation	Yes	16 (67)	77 (62)	.81
	No	8 (33)	47 (38)	.81

Note: Data are represented as mean, median (SD), and n (%).
Abbreviations: COVID-19, coronavirus disease 2019; DKA, diabetic ketoacidosis; HbA1c, glycosylated hemoglobin; IQR, interquartile range; NH, non-Hispanic; SD, standard deviation; T1D, type 1 diabetes.
*Public insurance is subsidized or paid for by government funds, while private insurance is paid for by the individual.

Highlights

- Our multicenter study reports a higher proportion of diabetic ketoacidosis presentation of over 60% in newly diagnosed patients with type 1 diabetes with or without confirmed coronavirus disease 2019 (COVID-19) at diagnosis.
- This finding is suggestive of delays in seeking care during the COVID-19 pandemic.

Abstract | Full text | PDF | References | Request permissions

T1D Exchange

T1DX-QI PAPER IS ONE OF TOP FIVE MOST READ ARTICLE 2020-2022 IN THE JOURNAL OF DIABETES

Articles

Most Recent | Most Cited | Most Read

The most read articles published in the last 2 years

Open Access

Prevalence and impact of diabetes in hospitalized COVID-19 patients: A systematic review and meta-analysis

Sian A. Bradley, Maciej Banach, Negman Alvarado, Ivica Smokovski, Sonu M. M. Bhaskar

Journal of Diabetes | Pages: 144-157 | First Published: 23 December 2021

Abstract | Full text | PDF | References | Request permissions

Open Access

Time-limited diets and the gut microbiota in cardiometabolic disease

Karina Ratiner, Hagit Shapiro, Kim Goldenberg, Eran Elinav

Journal of Diabetes | Pages: 377-393 | First Published: 13 June 2022

Abstract | Full text | PDF | References | Request permissions

Free Access

New-onset diabetes in "long COVID"

Thirunavukkarasu Sathish, Mary Chandrika Anton, Tharsan Sivakumar

Journal of Diabetes | Pages: 693-694 | First Published: 23 April 2021

Full text | PDF | References | Request permissions

Free Access

Diabetic ketoacidosis drives COVID-19 related hospitalizations in children with type 1 diabetes

Guy Todd Alonso, Osagie Ebekozien, Mary Pat Gallagher, Saketh Rompicherla, Sarah K. Lyons, Abha Choudhary, Shideh Majidi, Catherina T. Pinnaro, Sadana Balachandar, Mariam Gangat, Alissa Jeanne Curda Roberts, Brynn E. Marks, Ana Creo, Janine Sanchez, Tossaporn Seeherunvong, Jose Jimenez-Vega, Neha S. Patel, Jamie R. Wood, Liana Gabriel, Kathryn M. Sumpter, Meredith Wilkes, Robert Rapaport, Anna Cymbaluk, Jenise C. Wong, Srinath Sanda, Anastasia Albanese-O'neill

Journal of Diabetes | Pages: 681-687 | First Published: 14 April 2021

Abstract | Full text | PDF | References | Request permissions

T1D Exchange

T1DX-QI PAPER WAS ONE OF THE TOP TEN PERCENT CITED ARTICLE 2020-2022 IN THE JOURNAL OF CLINICAL ENDOCRINOLOGY & METABOLISM

JCEM THE JOURNAL OF CLINICAL ENDOCRINOLOGY & METABOLISM

Dear Drs. Grenye O'Malley; Osagie Ebekozien; Marisa Desimone; Catherina T Pinnaro; Alissa Roberts; Sarit Polsky; Nudrat Noor; Grazia Aleppo; Marina Basina; Michael Tansey; Devin Steenkamp; Francesco Vendrame; Ilona Lorincz; Priyanka Mathias; Shivani Agarwal; Lauren Golden; Irl B Hirsh; Carol J. Levy,

Congratulations! Your *The Journal of Clinical Endocrinology & Metabolism* paper "COVID-19 Hospitalization in Adults with Type 1 Diabetes: Results from the T1D Exchange Multi-Center Surveillance Study" was one of the top 10 percent of articles published in the journal in 2020-2021, as assessed by rate of citation.

As you consider where to publish forthcoming work, I hope you will consider submitting your research to the Endocrine Society's family of journals. By publishing with us, you will ensure that your work will reach a global audience of influential researchers. We are delighted with the peer recognition, visibility, and readership impact your paper has received, and we would welcome the opportunity to work with you again in the future.

Please feel free to contact me to discuss your research - I am interested in learning how we can collaborate on your upcoming projects. I look forward to hearing from you, and once again, congratulations!

Tim Bearley

T1D Exchange

T1DX-QI PAPER WAS ONE OF THE TOP TEN PERCENT CITED ARTICLE 2020-2022 IN THE JOURNAL OF CLINICAL ENDOCRINOLOGY & METABOLISM

JCEM THE JOURNAL OF CLINICAL ENDOCRINOLOGY & METABOLISM

Dear Drs. Osagie Ebekozien; Shivani Agarwal; Nudrat Noor; Anastasia Albanese O Neil; Jenise C. Wong; Tossaporn Seeherunvong; Janine Sanchez; Daniel DeSalvo; Sarah K. Lyons; Shideh Majidi; Jamie R. Wood; Runa Acharya; Grazia Aleppo; Kathryn M. Sumpter; Anna Cymbaluk; Nirali A. Shah; Michelle Van Name; Lisa Cruz-Aviles; Guy Todd Alonso; Mary Pat Gallagher; Srinath Sanda; Alexis Jamie Feuer; Kristina Cossen; Nicole Rioles; Nana-Hawa Yayah Jones; Manmohan K. Kamboj; Irl B Hirsch,

Congratulations! Your *The Journal of Clinical Endocrinology & Metabolism* paper "Inequities in Diabetic Ketoacidosis among Patients with Type 1 diabetes and COVID-19: Data from 52 US Clinical Centers" was one of the top 10 percent of articles published in the journal in 2020-2021, as assessed by rate of citation.

As you consider where to publish forthcoming work, I hope you will consider submitting your research to the Endocrine Society's family of journals. By publishing with us, you will ensure that your work will reach a global audience of influential researchers. We are delighted with the peer recognition, visibility, and readership impact your paper has received, and we would welcome the opportunity to work with you again in the future.

Please feel free to contact me to discuss your research - I am interested in learning how we can collaborate on your upcoming projects. I look forward to hearing from you, and once again, congratulations!

Tim Bearday

T1D Exchange

Next Collaborative meeting:

September 22: 11am-12:30pm (EST)