T1D Exchange

QI Collaborative Call, Pediatrics

1/27/22

Welcome & introductions

Agenda

- Welcome & introductions
- Updates from the Collaborative
  - New staff
  - Welcome to the Cleveland Clinic
  - Plans for May Leadership/PI Session
  - Website updates
  - Committee Chair opportunities
- SUNY
- Nationwide
- Quarterly data results, Ori Odugbesan

T1D Exchange Updates

29 pediatric clinics – caring for 38,500+ patients with T1D

14 adult clinics – caring for 19,500+ patients with T1D

Welcome to the Cleveland Clinic!

Adult PI: Pratibha PR Rao, MD, MPH

Pediatric PI: Andrea Mucci, MD, MASc

Welcome!

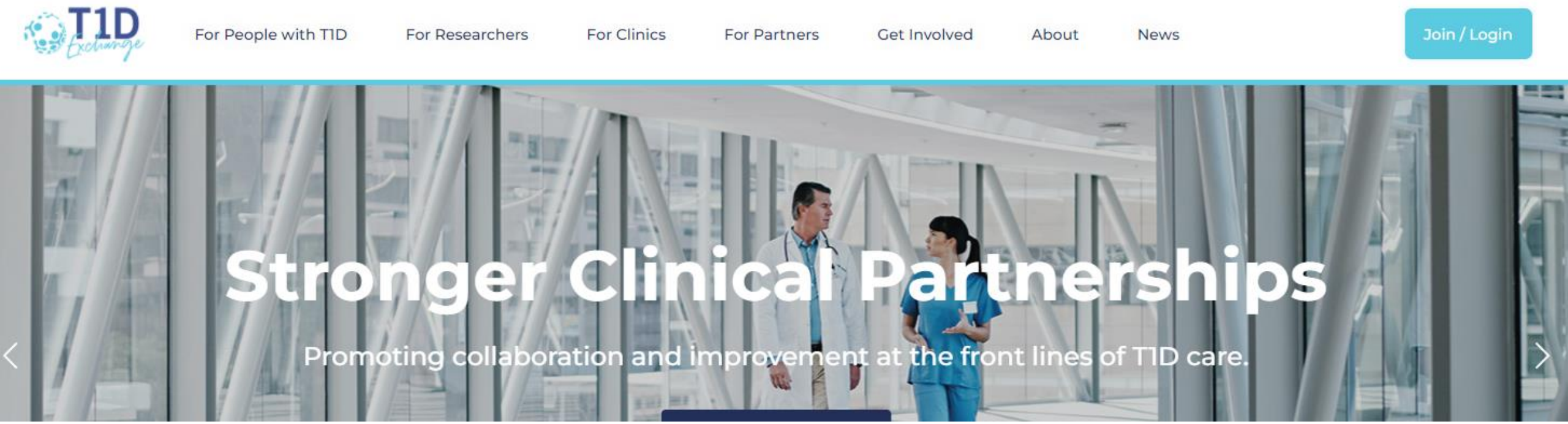
New team member at T1DX-QI!

QI Coordinator,
Holly Hardison, BS

Holly Hardison joined the Collaborative on 1/10 as our coordinator. She came from Baptist Health Research Institute in Jacksonville, FL where she held the position of Clinical Research Assistant, working on cardiology, covid and neurology research studies. Holly previously held the position of Camp Director for the American Diabetes Association in Jacksonville, FL Holly brings strong organization skills, event planning and problem-solving skills, and a lot of enthusiasm! She graduated from Jacksonville University with a BS in Biology.

Holly can be reached at hhardison@t1dexchange.org or X7210

T1D Exchange Website will have a password protected space for Collaborative, beginning 3/1/22



We will 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

T1DX-QI Committee Chair Roles

T1DX-QI Is looking for new committee chairs

We are looking for new Co-Chairs to help us lead the committees.

Terms last for twenty-four (24 months) and the new term will begin 6/1/2022.

Each committee has two co-chairs from a pediatric and adult clinic.

Expectations* of Committee Chairs:

- Facilitate quarterly committee meetings
- Create the vision for the future direction of the committee and its impact on the QI Collaborative's future
- Participate in one planning meeting with their co-chair and with the T1DX-QI coordinating center staff for 30 or 60 minutes
- Facilitate or co-facilitate committee meetings
- Participate in the development of content related to the committees.
- *In addition to these tasks, Publications Committee Co-Chairs also review and edit abstracts and manuscripts that are written by the Collaborative.

T1DX-QI Is looking for new committee chairs

T1DX-QI Chair terms are ending in June 2022.

Please use this form to nominate yourself for a T1DX-QI Committee Chair position for the 2022-2024 period or share with a colleague who you think would be a good match.

If you are interested in applying for one of the committee roles, please complete the Nomination Form before Monday February 28th.

To learn more about the committees, please visit these Trello pages:
Clinical Leadership: https://trello.com/b/4F3ABcug/clinical-leadership-committee
Publications: https://trello.com/b/K5EUYxbf/updated-publications-committee
Data Science: https://trello.com/b/YmmgugBB/data-science-committee

Clinical Presentation: SUNY

A Program to Decrease DKA Admissions:
Diabetes Wellness Program (DWP)
Pediatric Diabetes Program
SUNY Upstate Medical University
Syracuse, NY

Margaret Greenfield, MS, CHES
Karen Kemmis, RN, DPT, CDCES
Cassie Bunker, CPNP
Hollie Cartini, LMSW
Casey Mohrien, MS IV
David Hansen, MD, MPH
Danielle Stegman-Barber, RD, CDCES
Janine Robbins, BSN, RN
Maria Winkworth, RD
Christopher P. Morley, PhD
Emilie Hess, MS
Amanda Zuccaro, BSN, RN
Ann Marie Sanders, MSN, RN
Renee Pierce, LCSW
Roberto Izquierdo, MD

UPSTATE MEDICAL UNIVERSITY

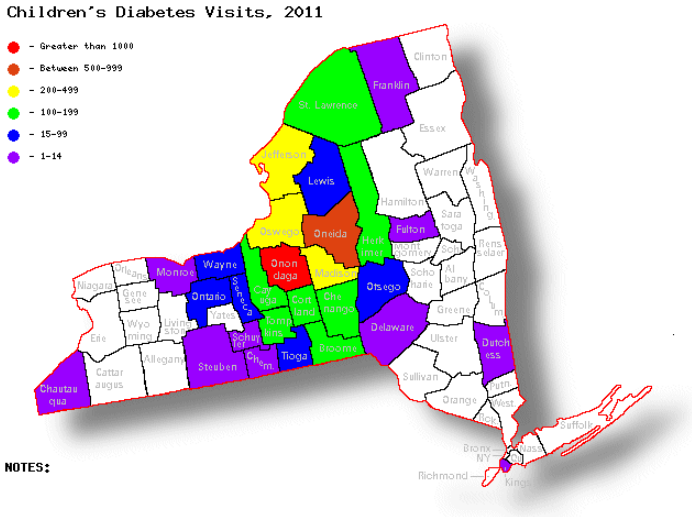
Joslin Diabetes
Affiliate at SUNY Upstate Medical University

UPSTATE Golisano Children's Hospital

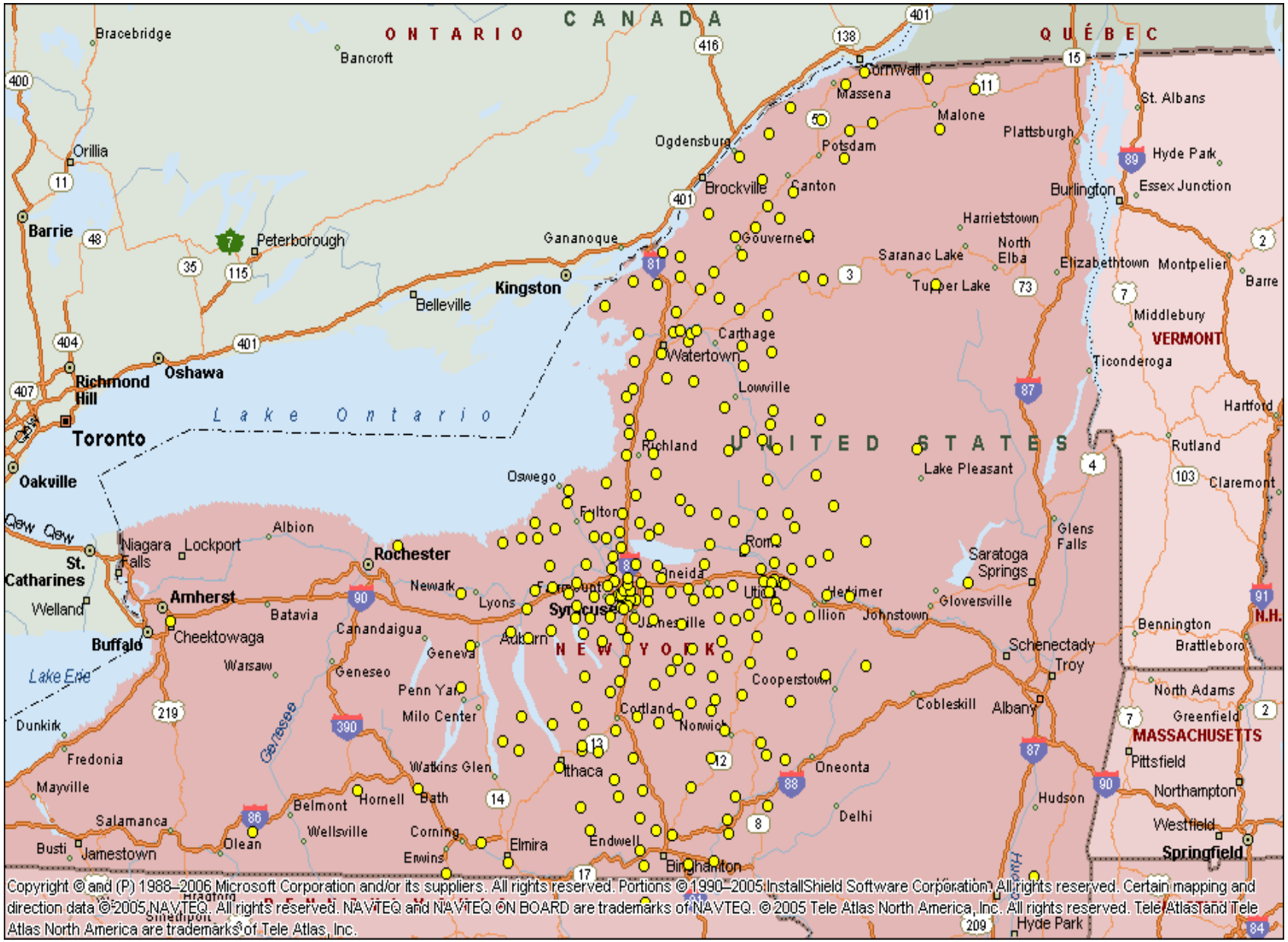
Joslin Diabetes Center at SUNY Upstate Medical University

- We serve more than 25 counties in Central New York
- Our patient panel over past two years:
  - 1262 with type 1
  - 620 with type 2
- We see 100-142 patients with newly diagnosed diabetes each year, mostly with type 1 diabetes
- Age range: 6 weeks to 21 years of age

Joslin Diabetes Center
Affiliate at SUNY Upstate Medical University



Joslin Pediatric Diabetes Home Locations



Increase in newly diagnosed type 1 diabetes among pediatric and adolescent patients during the COVID-19 Pandemic in the US*

Retrospective study that included patients from 7 large US clinical centers that were member sites

	2019	2020	p value
Newly diagnosed patients with T1D[2,3]	1277	1399	0.007
Presented in DKA[1]	38.6%	42.8%	<0.001

[1] Higher proportion presented in severe DKA (pH<7.1, bicarb<5)	0.01
[2] Less likely to have private insurance	0.001
[3] Fewer females and fewer NH White youth	<0.001

*Wolf et al. ISPAD 2021

The Journal of Clinical Endocrinology & Metabolism, 2021, Vol. 106, No. 8, 2343–2354
doi:10.1210/clinem/dgab287
Clinical Research Article

Clinical Research Article

National Trends in Pediatric Admissions for Diabetic Ketoacidosis, 2006–2016

Estelle M. Everett,[1,2,3] Timothy P. Copeland,[4] Tannaz Moin,[1,2,5] and Lauren E. Wisk[2]

[1]Division of Endocrinology, Diabetes, & Metabolism, Department of Medicine, David Geffen School of Medicine, University of California, Los Angeles, California, USA; [2]Division of General Internal Medicine & Health Services Research, Department of Medicine, David Geffen School of Medicine, University of California, Los Angeles, California, USA; [3]VA Greater Los Angeles Healthcare System, Los Angeles, California, USA; [4]Department of Health Policy and Management, Fielding School of Public Health, University of California, Los Angeles, California, USA; and [5]HSR&D Center for the Study of Healthcare Innovation, Implementation & Policy, VA Greater Los Angeles Healthcare System, Los Angeles, California, USA

Methods

- Used the 2006, 2009, 2012, and 2016 Kids' Inpatient Database to identify pediatric DKA admissions per 10,000 admissions and per 10000 population, length of stay (LOS), and trends over time among all hospitalizations and by demographic subgroups
- Regression models were used to evaluate differences in DKA rates within subgroups overtime.

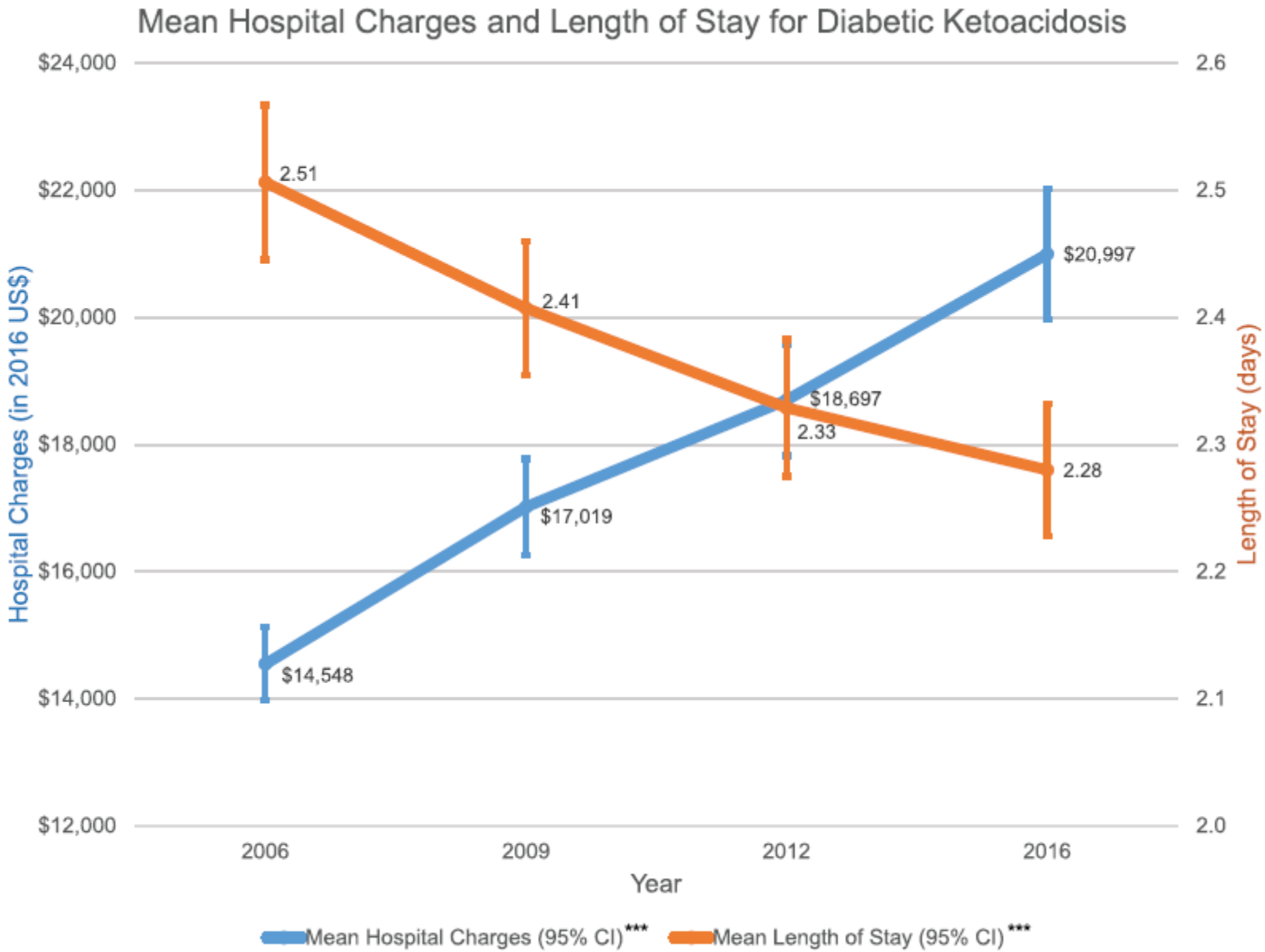
Rising Rate of DKA Admission

Table 1. Continued

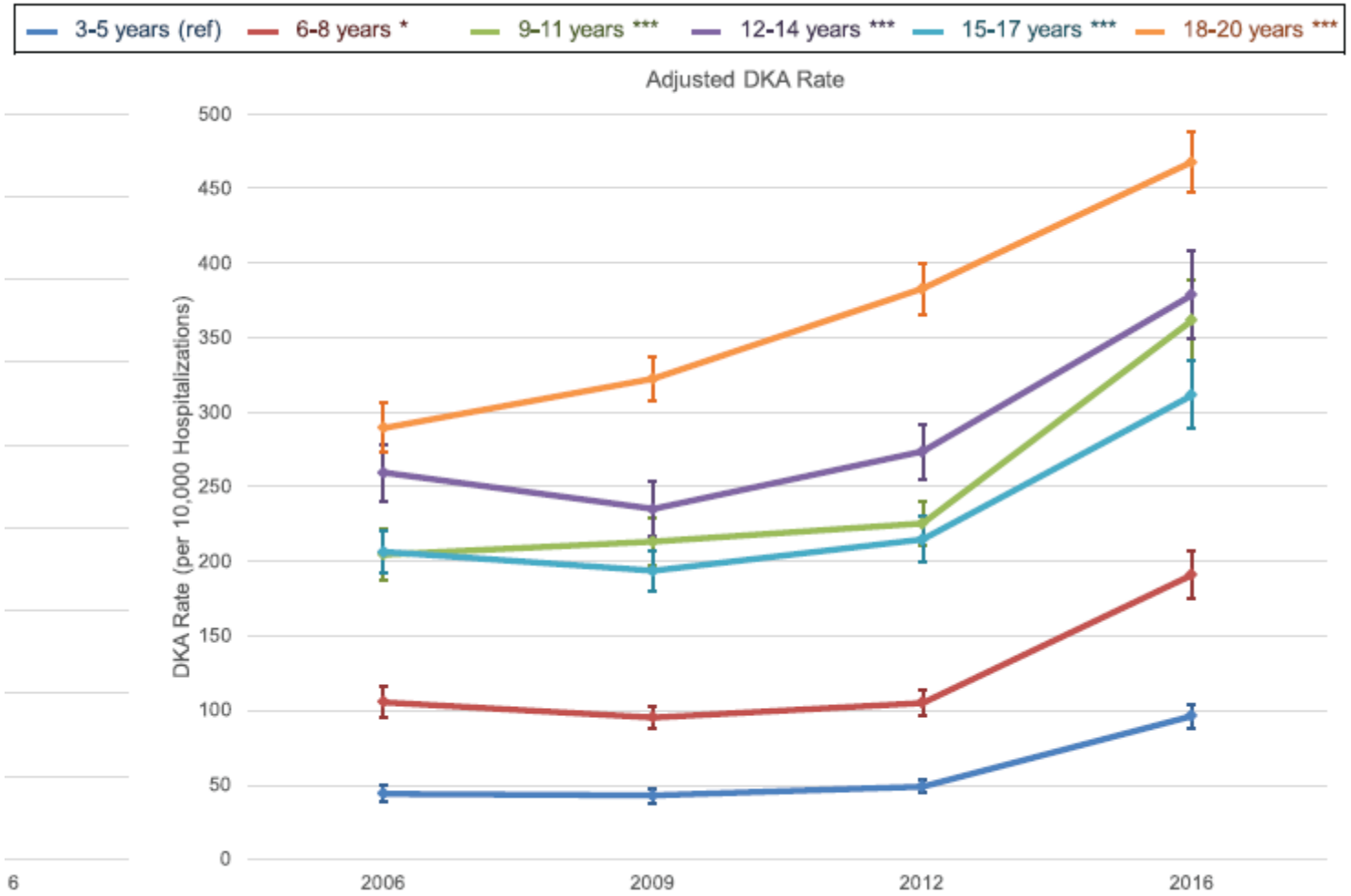
	N (%), DKA admissions	Rate per 10 000 admissions (95% CI)	*P* value	Rate per 10 000 youth with diabetes (95% CI)
Large	89 811 (60.1)	147.4 (142.8-152.2)		--
Unknown	4236 (2.8)	142.0 (125.6-160.6)		--
Year			<0.0001	
2006	32 612 (21.8)	120.5 (115.9-125.2)		1349.8 (1212.5-1487.2)
2009	34 473 (23.1)	128.6 (123.4-134.0)		1426.9 (1288.1-1565.6)
2012	36 444 (24.4)	151.8 (145.7-158.1)		1508.4 (1355.9-1661.0)
2016	46 006 (30.8)	217.7 (208.3-227.5)		1904.2 (1691.9-2116.6)

Weighted frequency counts of DKA admissions across all years (2006, 2009, 2012, 2016 Kid's Inpatient Database) are shown; weighted column percentages reflect the prevalence of each characteristic among all DKA admissions. Two average annual DKA rates are shown. The first indicates the unadjusted number of DKA admissions per 10 000 pediatric admissions (for all causes) by characteristics included in the Kid's Inpatient Database. The second indicates the unadjusted number of DKA admissions per 10 000 US youth with diabetes by characteristics included in the National Health Interview Survey.

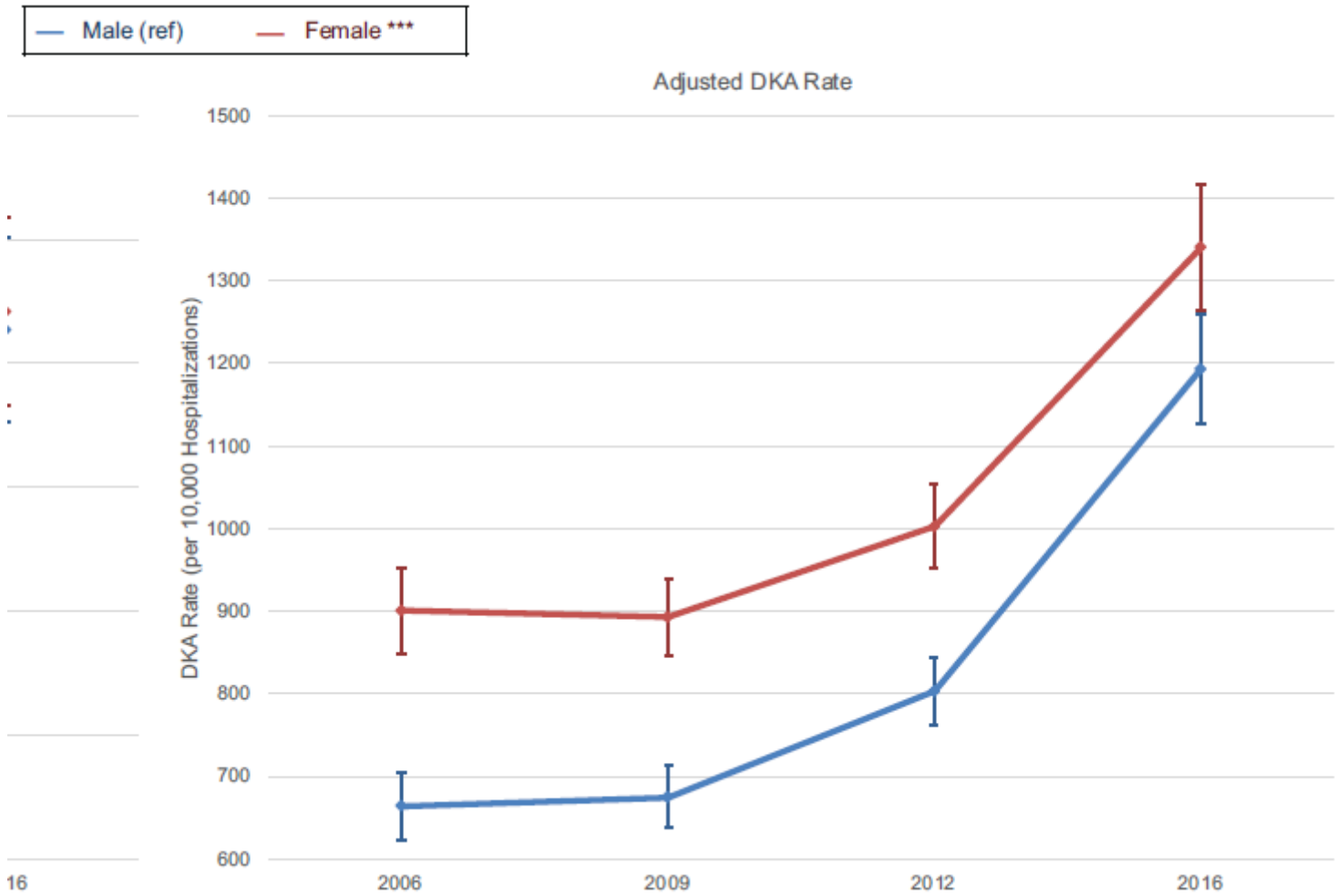
Pediatric DKA admissions have risen by 40% in the US and vulnerable subgroups remain at highest risks



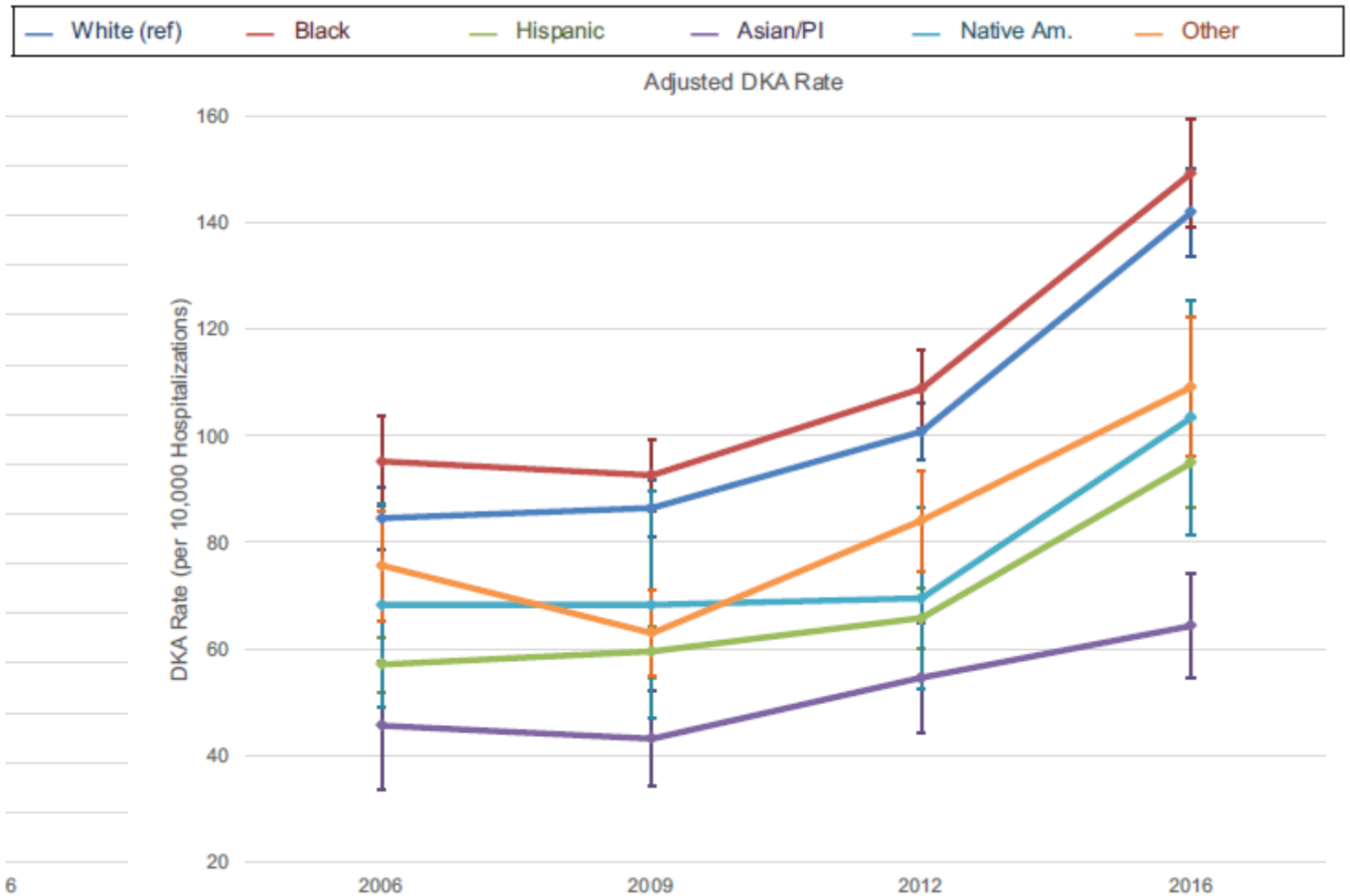
DKA admissions are costly



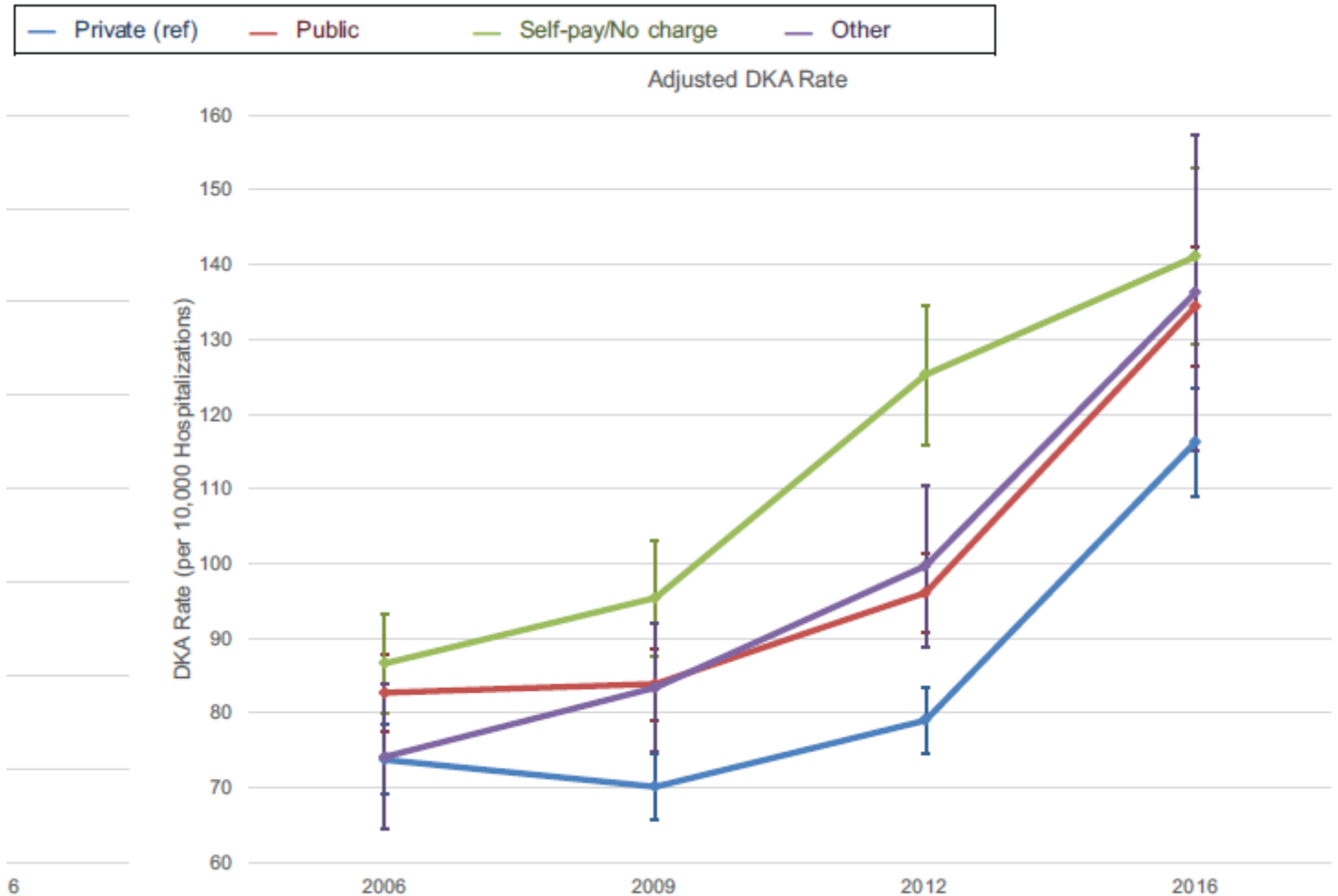
Highest risk group:
18-20 yr old
12-14 yr old



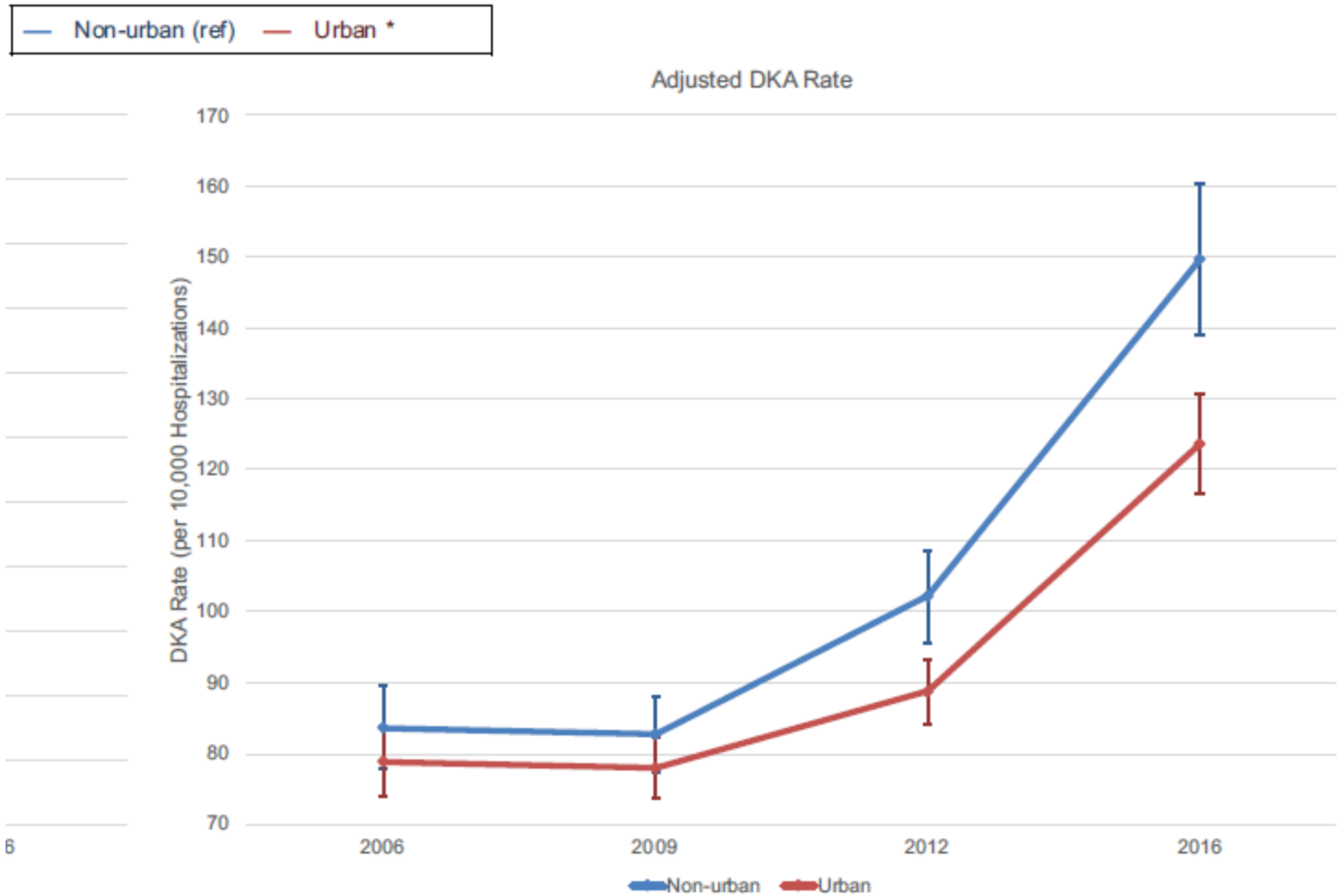
DKA risk:
Female > Male



Highest risk group:
Black



Highest risk group:
Self-pay/Public > Private



Highest risk group:
Non-urban > Urban

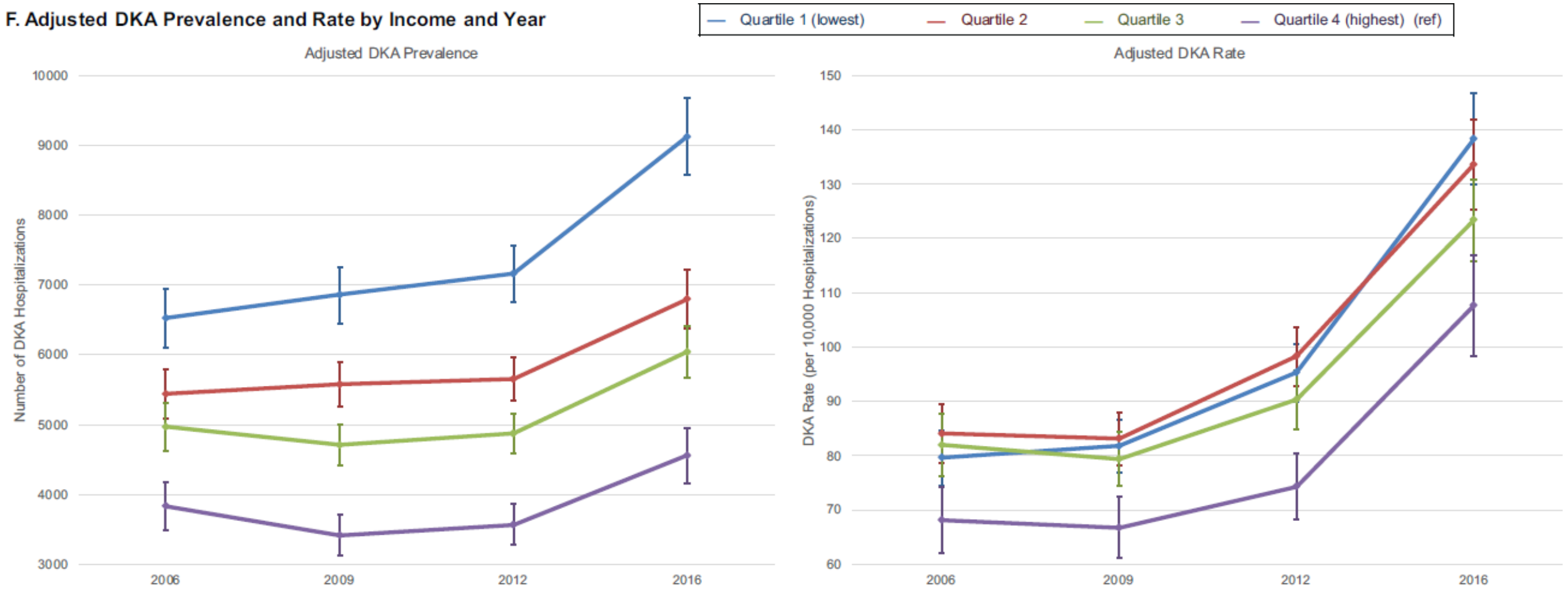


Figure 2 Continued

Highest risk group: those in the lowest quartile for income

Conclusion

- Pediatric DKA admissions have risen by 40% in the US and vulnerable subgroups remain at highest risks
- Further studies should characterize the challenges experienced by these groups to inform interventions to mitigate their DKA risk and to address the rising DKA rates nationally

Inequities in Health Outcomes in Children and Adults With Type 1 Diabetes: Data From the T1D Exchange Quality Improvement Collaborative

Shideh Majidi,[1] Osagie Ebekozien,[2] Nudrat Noor,[2] Sarah K. Lyons,[3] Ryan McDonough,[4] Kajal Gandhi,[5] Roberto Izquierdo,[6] Carla Demeterco-Berggren,[7] Sarit Polsky,[1] Marina Basina,[8] Marisa Desimone,[6] Inas Thomas,[9] Nicole Rioles,[2] Jose Jimenez-Vega,[10] Faisal S. Malik,[11] Brian Miyazaki,[12] Anastasia Albanese-O'Neill,[13] and Nana-Hawa Yayah Jones,[14] on behalf of the T1D Exchange Quality Improvement Collaborative Study Group

Clinical Diabetes Journal 2021

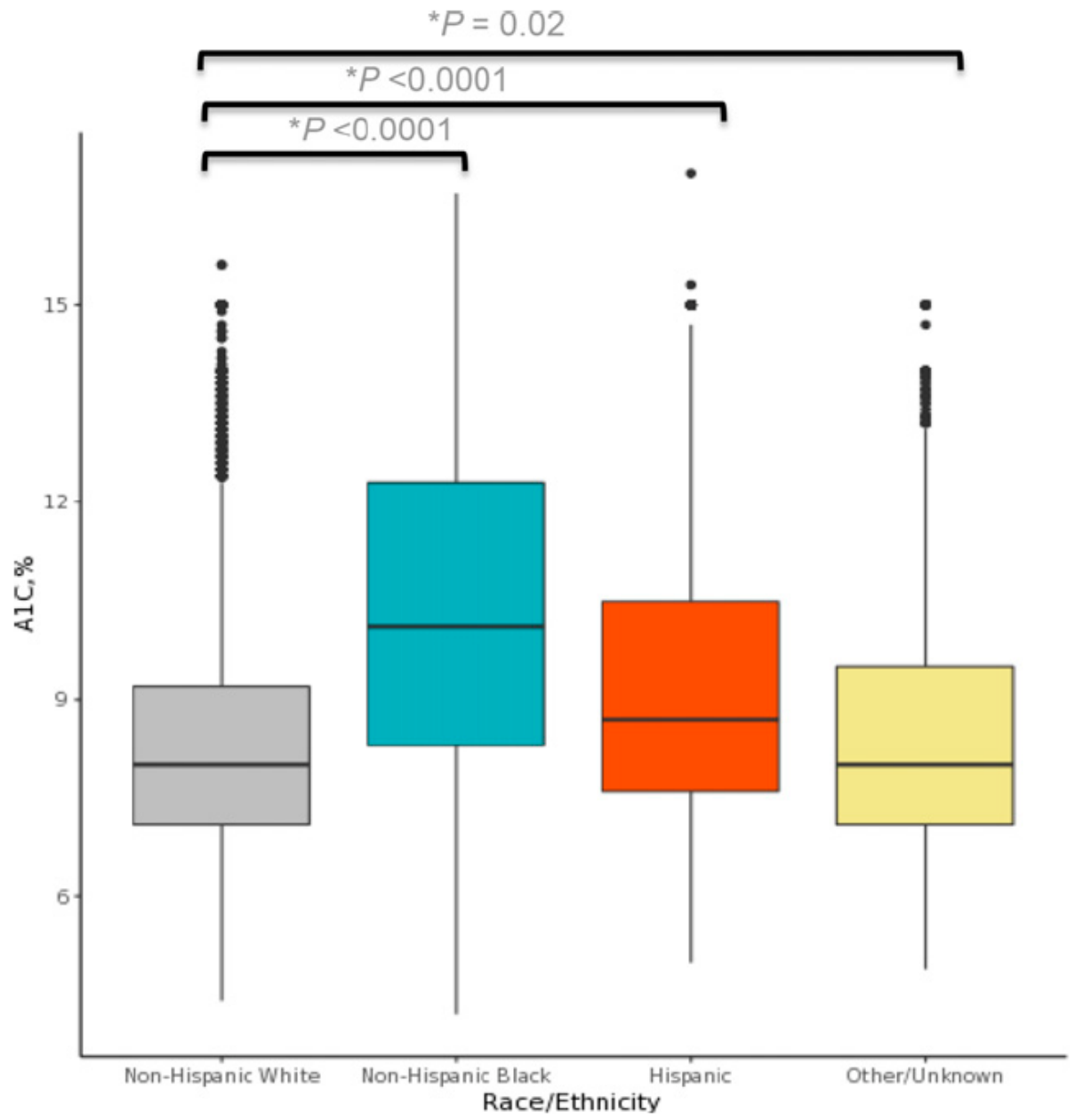


FIGURE 1 Difference in A1C levels across racial/ethnic groups. **t* test.

TABLE 2 Distribution of Clinical Outcomes Across Race/Ethnicity (*N* = 19,226)

Clinical Outcomes	Non-Hispanic White (*n* = 14,124)	Non-Hispanic Black (*n* = 1,435)	Hispanic (*n* = 1,685)	Other (*n* = 1,982)
DKA*†	248 (8)	49 (28)	68 (12)	54 (7)
Severe hypoglycemia*†	26 (0.8)	7 (5.1)	3 (0.6)	3 (0.4)

Data are *n* (%). **P* <0.001. †Data were available on a subset of the total population (non-Hispanic White *n* = 13,852, Non-Hispanic Black *n* = 1,403, Hispanic *n* = 1,672, and other *n* = 1,944).

Conclusion

- These results underscore the crucial need to study and overcome the barriers that lead to inequities in the care and outcomes of people with type 1 diabetes

TABLE 1 Distribution of Patient and Diabetes Characteristics Across Race/Ethnic Groups (*N* = 19,226)

	Non-Hispanic White (*n* = 14,124)	Non-Hispanic Black (*n* = 1,435)	Hispanic (*n* = 1,685)	Other* (*n* = 1,982)
Age, years†	23 ± 15	19 ± 11	18 ± 9	21 ± 13
Age-group, years†				
0–12	1,709 (21)	181 (23)	291 (23)	400 (28)
13–18	2,931 (36)	404 (51)	629 (50)	506 (35)
19–25	1,542 (19)	404 (51)	199 (16)	195 (14)
26–49	1,375 (17)	46 (6)	122 (9)	268 (19)
50+	577 (7)	20 (2)	19 (2)	63 (4)
Male sex	7,330 (52)	722 (50)	809 (48)	1,028 (52)
Insurance†				
Public	2,450 (17)	583 (41)	828 (49)	546 (28)
Private	8,108 (58)	480 (33)	734 (44)	1,192 (60)
Other/unknown	3,566 (25)	372 (26)	123 (7)	244 (12)
CGM use†,‡	5,526 (40)	244 (17)	618 (37)	1,067 (55)
Pump use†,‡	8,315 (60)	578 (41)	938 (56)	1,438 (74)

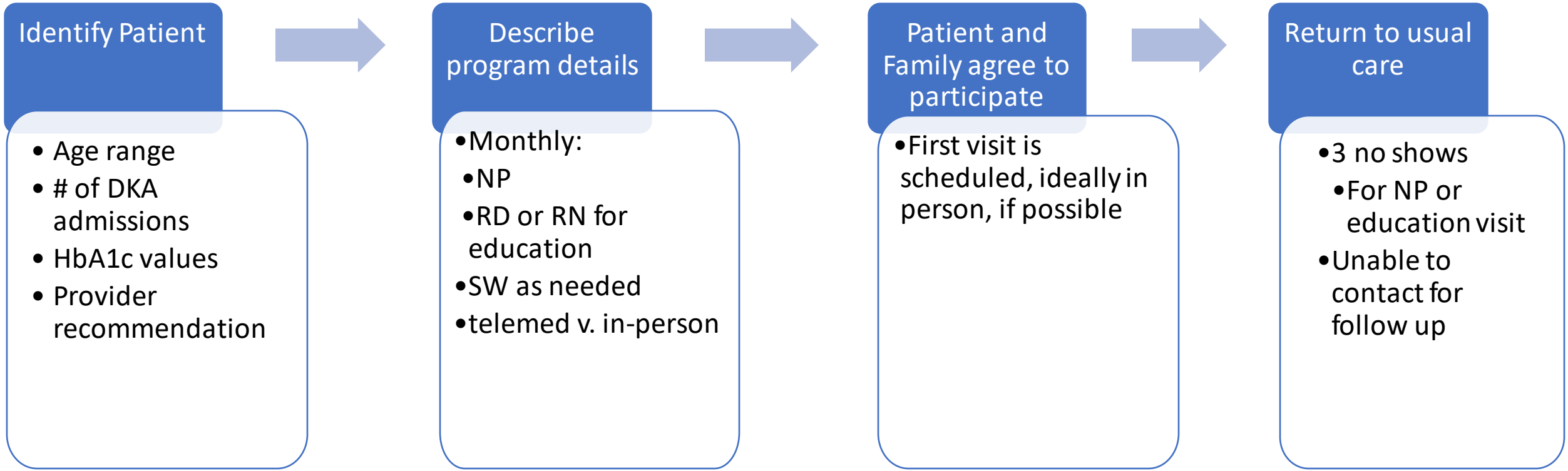
Data are mean ± SD or *n* (%). *"Other" includes Asian (*n* = 191), American Indian or Alaska Native, Native Hawaiian or other Pacific Islander (*n* = 1,011), or responses recorded as unknown (*n* = 780). †$P < 0.001$. ‡Data were available on a subset of the total population (non-Hispanic White *n* = 13,852, Non-Hispanic Black *n* = 1,403, Hispanic *n* = 1,672, and other *n* = 1,944).

Needs Assessment for Diabetes Wellness Program (DWP)

- Nineteen patients had at least two or more DKA admissions from Aug 1, 2019 – Aug 1, 2020
- Seventeen patients has at least two or more DKA admissions from August 2, 2020- August 2, 2021
- Patients with frequent ER visits, sustained A1c $\geq$14%, or frequent outpatient calls for hyperglycemia in association with ketonuria

- Two Intervention Cohorts: 16 patients each

Enrollment Process for Cohorts 1 & 2



Education Curriculum for Cohorts 1 & 2

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

- Ketone review
- Sick day guidelines

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

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

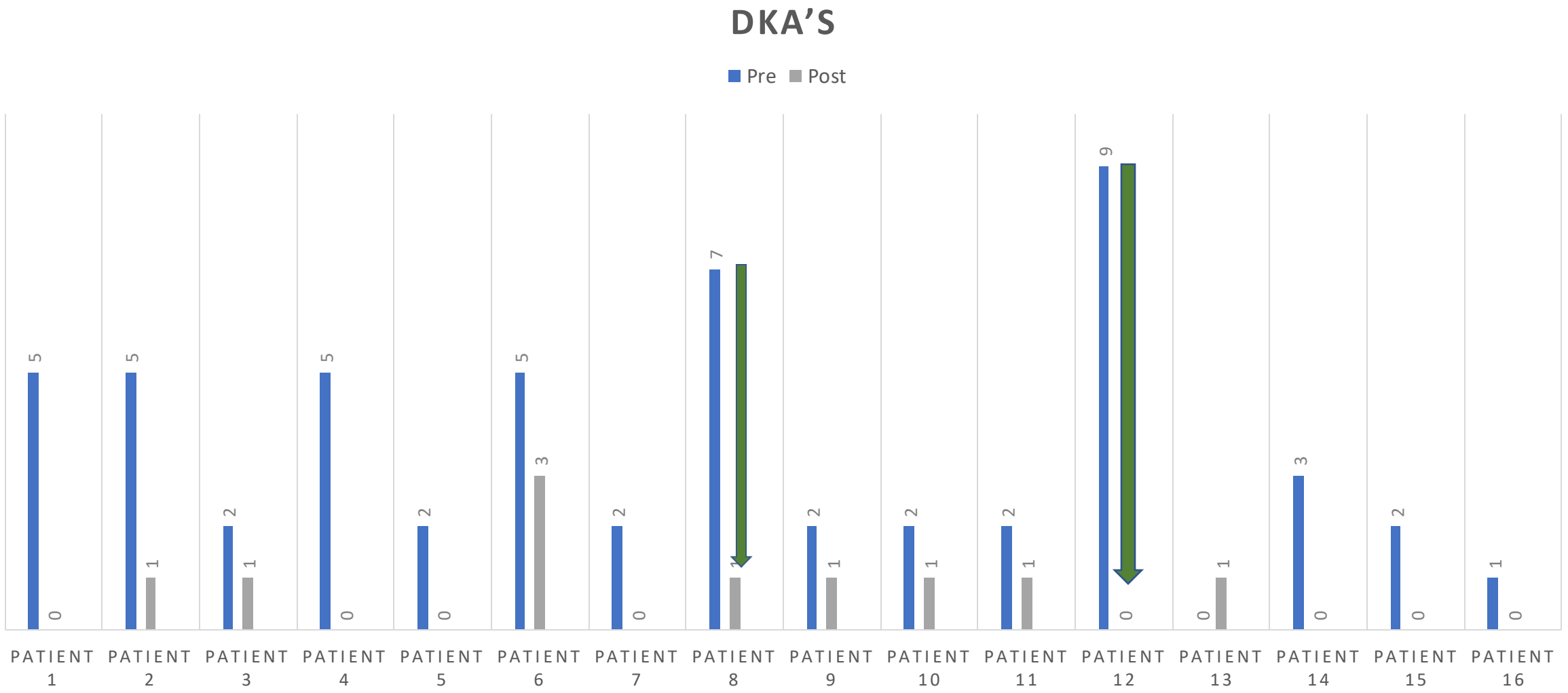
- Sports and exercise management
- Technology
- Increasing independence
- Identifying blood sugar patterns
- Making changes based on patterns
- Establishing routines

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

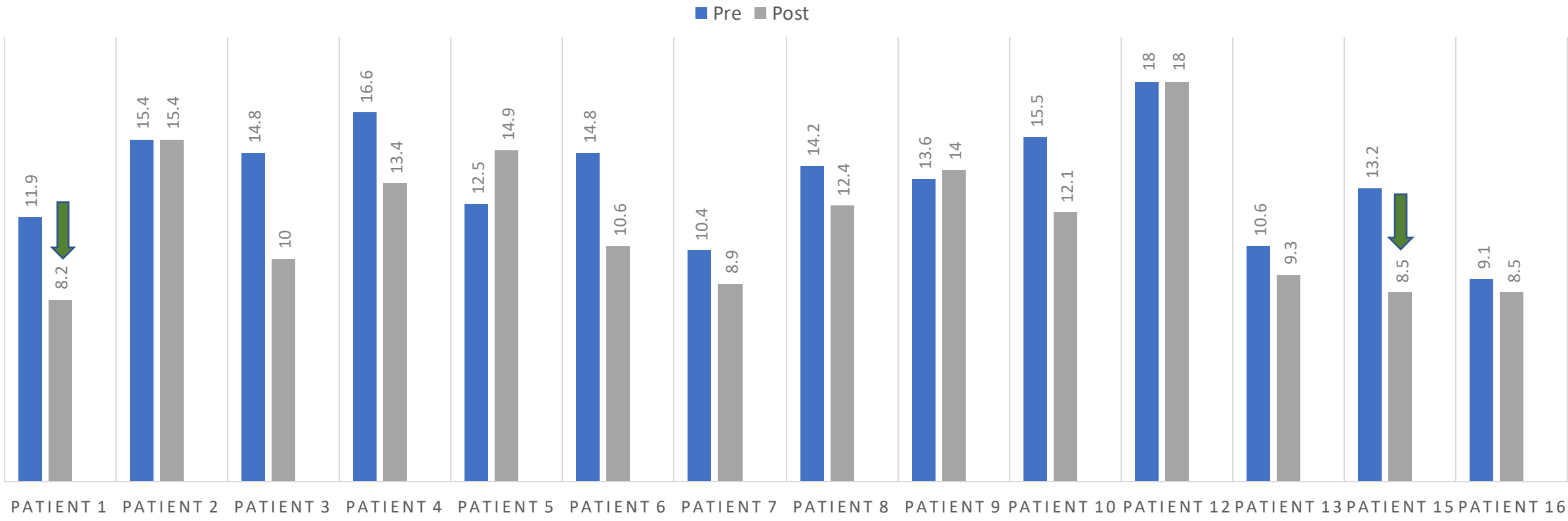
Lessons Learned from Cohort 1

- Change in scheduling process to decrease no shows and rescheduling
- Nutrition assessment not always done in visit 1: learning- move to visit 2 for second cohort
- Goal was to review all the material however not all patients were ready to receive it

Cohort 1: DKA Data prior to DWP and post DWP



Pre and Post Cohort 2: HbA1C



Demographics

	Completed DWP	Returned to Usual Care	Not Enrolled	Total
N	18	14	81	113
Age, mean ± SD	15.2 ± 2.9	16.8 ± 2.2	15.4 ± 4.1	15.5 ± 3.8
Female %	44.4	64.3	51.2	53.1
Race				
White %	66.7	64.3	80.2	76.1
Black %	27.8	28.6	11.3	15.9
American Indian %	0	0	1.3	0.9
Mixed Race %	5.6	0	1.3	0.9
Other %		7.1	6.3	6.2
Insurance				
Public %	88.9	71.4	64.2	69.0

Clinical Outcomes

	Completed DWP	Returned to Usual Care	Not Enrolled	Total
A1c, mean ± SD				
Pre	12.7 ± 2.0	11.8 ± 2.6	9.9 ± 2.3	10.5 ± 2.5
Post	11.3 ± 2.5	12.0 ± 3.6	9.5 ± 2.2	10.0 ± 2.4
DKA admissions, mean ± SD				
Pre[1]	3.28 ± 3.1	2.21 ± 1.6	1.44 ± 1.1	1.83 ± 1.8
Post[2]	0.89 ± 1.1	0.25 ± 0.5	0.52 ± 1.4	0.56 ± 1.3
CGM User %	77.8	64.3	58.0	61.9

[1]August 2018 – August 2020

[2] Since the end of each cohort

Change in A1c and DKA admissions

	Completed DWP	Not Enrolled	P-value
A1c Change in mean ± SD	-1.49 ± 2.4	-0.54 ± 1.98	0.05
DKA admissions Change in mean ± SD	-2.39 ± 3.5	-0.94 ± 1.62	0.009

Type 1 Diabetes and Quality of Life (T1DAL) Measures [1]

- 77% of the participants who completed the program had an improvement in quality-of-life scores as shown by their pre- and post-T1DAL surveys

[1] Hilliard et al. *J Pediatr Psychol* 2019

Post Participation Survey

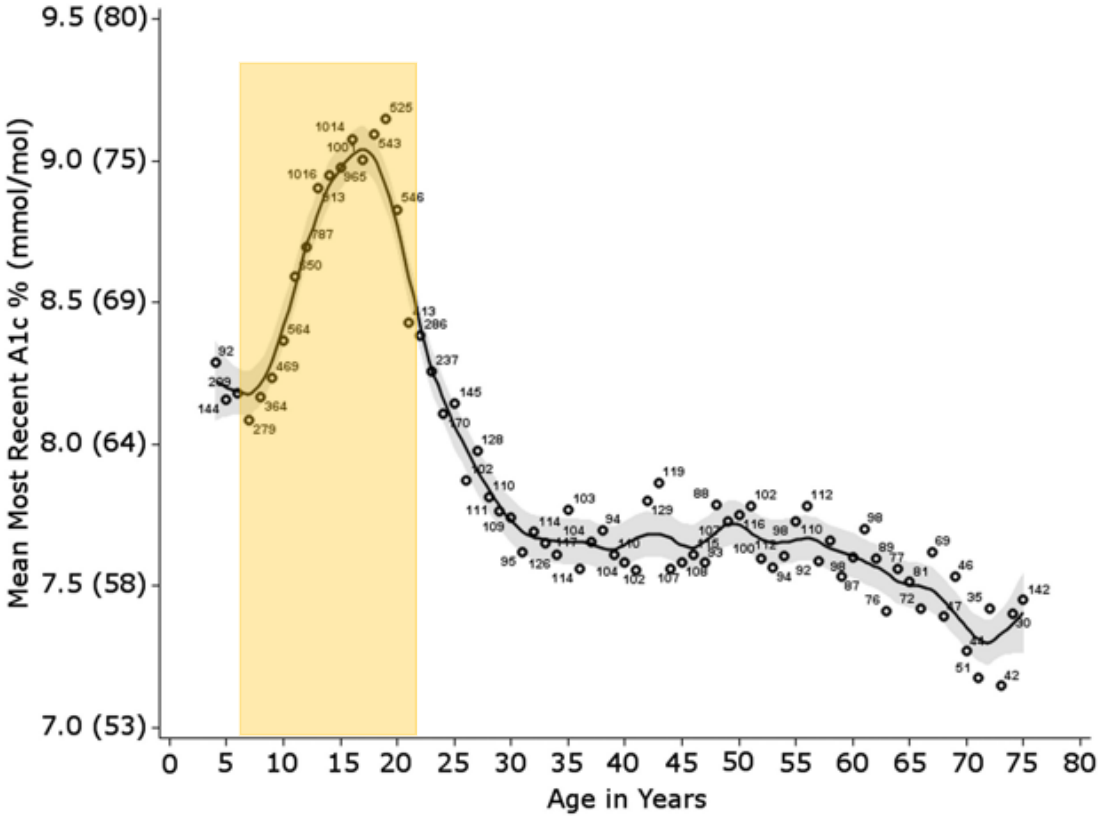
	YES	NO
Did the Diabetes Wellness Program helped you learn how to prevent DKA admissions?	100%	0
Do you feel the program helped with your diabetes related quality of life overall ?	100%	0
After completing the program, do you feel more confident in independently managing your diabetes?	100%	0
The weekly calls were helpful? 5 = strongly agree, 3 = neither agree nor disagree, 1 = strongly disagree	4.2 ± 0.8	
What were the most helpful education topics? (check all that apply)	• Making changes based on blood sugar patterns • Diabetes technology	

What have we learned?

- The program was effective for those who attended and completed the program
- We need to make our program more accessible for patients who are already facing many barriers
- Don’t need all 6 visits, decreasing the # of visits may help participation

Next Steps…

A1c at different ages



Miller et al. Diabetes Care 2015; 38:971

- Advances in diabetes technology has improved glycemic control and quality of life in many children
- Many factors influence the ability to achieve goals of therapy for type 1 diabetes
- However, there is a subset of children who have been left behind
- Children from low-income families and non-Hispanic Black children are not experiencing these benefits of technology

Lipman and Hawkes. *Diabetes Care* 2021

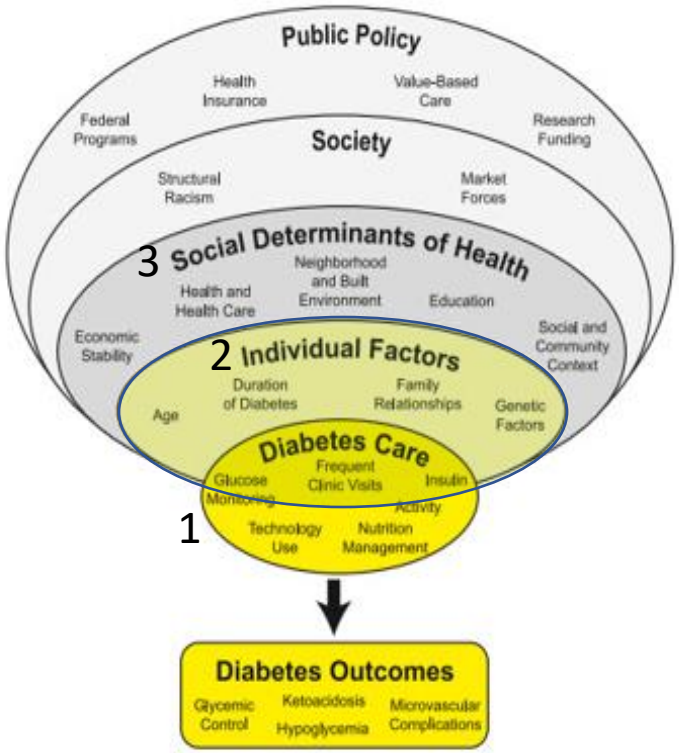


Figure: Conceptual framework for influences on diabetes health outcomes.

1. Traditionally we have focused on behavioral aspects of diabetes care such as frequency of visits with the diabetes team, frequency of blood glucose monitoring, and implementations of technologies such as insulin pump and CGMS
2. Our multidisciplinary diabetes teams attempt to address individual factors that influence the ability to achieve excellent diabetes outcomes, such as family relationships, age (adolescence), genetic factors (obesity, insulin resistance), and underlying mental health conditions (depression, eating disorders)
3. BUT we are recognizing that factors in health care and society influence patient outcomes – Social Determinants of Health (SDOH)

Lipman and Hawkes. *Diabetes Care* 2021

Social Determinants of Health (SDOH)

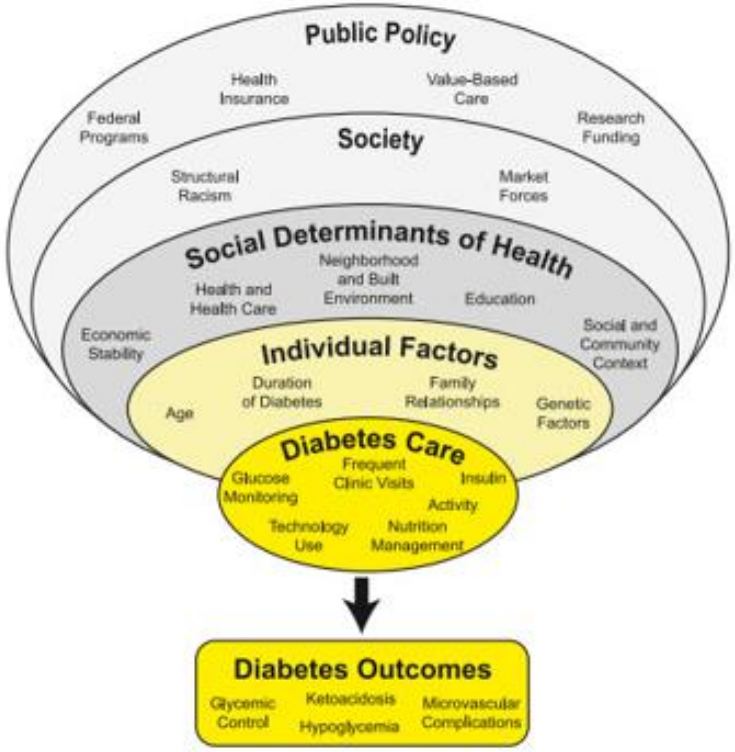
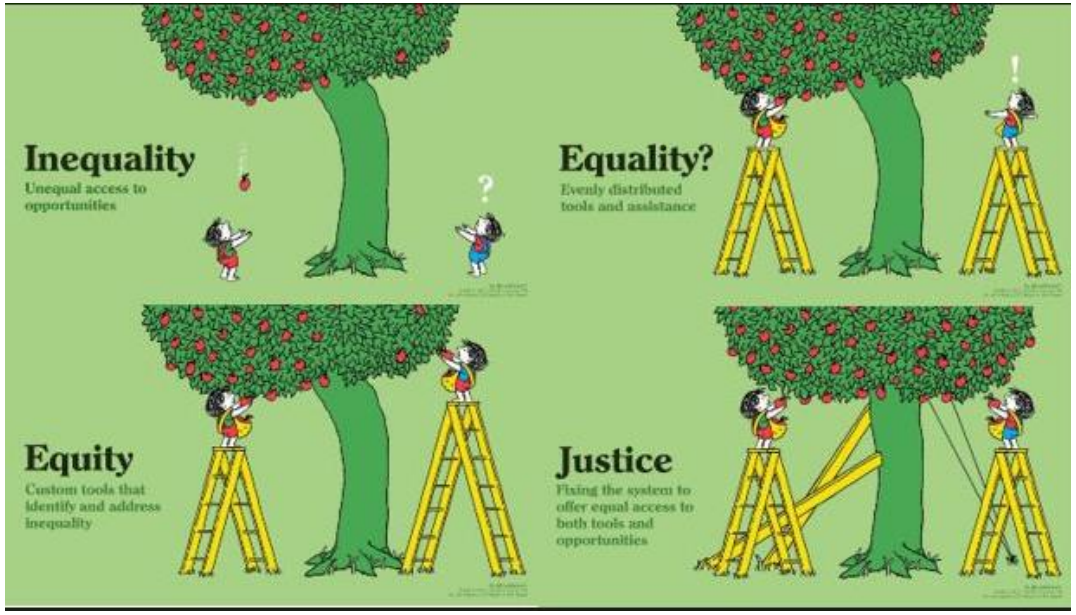


Figure: Conceptual framework for influences on diabetes health outcomes.

- Factors in a person's life across the lifespan that result in unequal distribution of resources:
  - Socioeconomic status
  - Neighborhood (rural vs urban)
  - Food environment (food insecurity)
  - Access to affordable and high-quality health care (lack of insurance, under insured)
  - Social factors – social capital, support, cohesion (racism vs multiculturism, racial equality)
  - Economic stability (homelessness)

NEXT PHASE:

Identify & Address → SDOH → Identify & Address → Health Disparity



Recognition of and addressing health disparities can lead to change in practice

→ Health Equity

Health Disparity: A health difference associated with social, environmental, or economic disadvantage that typically affects people experiencing barriers or who have few resources (on the basis of race/ethnicity, socioeconomic status, geographic location, sex, and sexual orientation and gender identify, among others)

Health Equity: An aspirational goal describing the elimination of remediable factors that adversely influence health

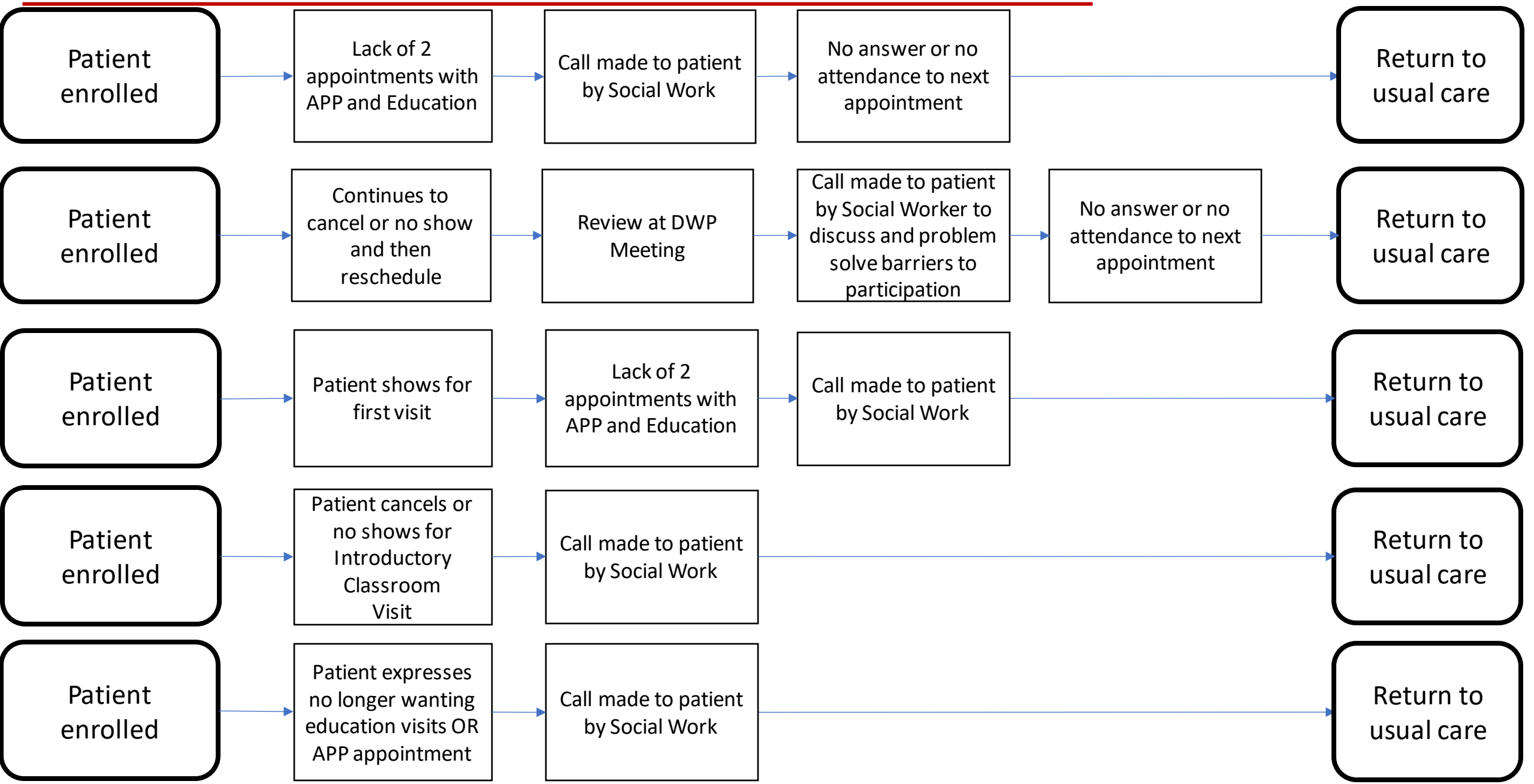
Next Steps

- MAJOR AIM:
  - Improve the program retention, patients' glycemic status and quality of life by addressing the SDOH (now that we have a dedicated social worker)
  - We do not need all six visits

Education Curriculum for Next Cohort

Introductory Call/Visit	Weekly call	Visit 1	Weekly call	Visit 2	Weekly call	Visit 3	Weekly call	Visit 4
• Attend Classroom Introductory Visit in Person • Confirm first appointment date/time • Review of Program and Expectations • Hollie will be with each family individually		• MyChart setup and usage • Keeping BG log and/or downloading of devices • Setting SMART goals • Nutrition education needs assessment		• Ketone Testing/Sick Day Guidelines • Low Blood Sugar Management • Nutrition education needs assessment		• Sport and Exercise Management • Technology • Achieving a greater independence at school • Establishing Routine		• How to identify blood sugar patterns and make changes • “After Hours” game • Review the preview topic as needed

DWP Return to Usual Care Criteria for Cohort 2022



Next Steps

- AIM: Improve retention, patients' glycemic status and quality of life by addressing the SDOH
  - Tests of change:
    - Identify and address SDOH that are barriers to care
    - ↑ flexibility of appointment times
    - ↑ accessibility:
      - Offer/encourage telemedicine visits to improve adherence to visits
      - Partner with school nurses to offer televisits at school[1]
    - ↑ involvement of case management and social work services
    - Celebration of small victories with assistance from child life specialist
    - Rolling admission

[1] Izquierdo, Weinstock et al. *J Pediatric* 2009. School Telemedicine Project.

Thank You for Your Attention

Clinical Presentation: Nationwide

Cultural Humility in Working with Latinx Families

Ariana Hoet, PhD
Lorena Asadi, LISW-S
Gilda Begly, Payor Financial Analyst

Nationwide Children's
When your child needs a hospital, everything matters.

The Ohio State University
College of Medicine

A Few Definitions…

Immigrant

A person who comes from another country to live in the U.S. “Alien” is the legal word for any person who is **not a citizen** of the U.S.

Asylee

A person who arrives in the U.S. asking for protection because it is dangerous for them to be in their home country. Asylees apply for asylum once in the country.

Asylum

A legal status for people who came to the U.S. because they were harmed or threatened because of who they are or what they believe.

A Few Definitions…

Refugee

Any person forced to flee their country of nationality to escape war, violence, or persecution. Unlike asylees, refugees apply to enter the country from abroad (many times while residing in a refugee camp) and are granted entry to the U.S. after extensive vetting (the average length of the process is anywhere between 5-10 years).

Undocumented migrant

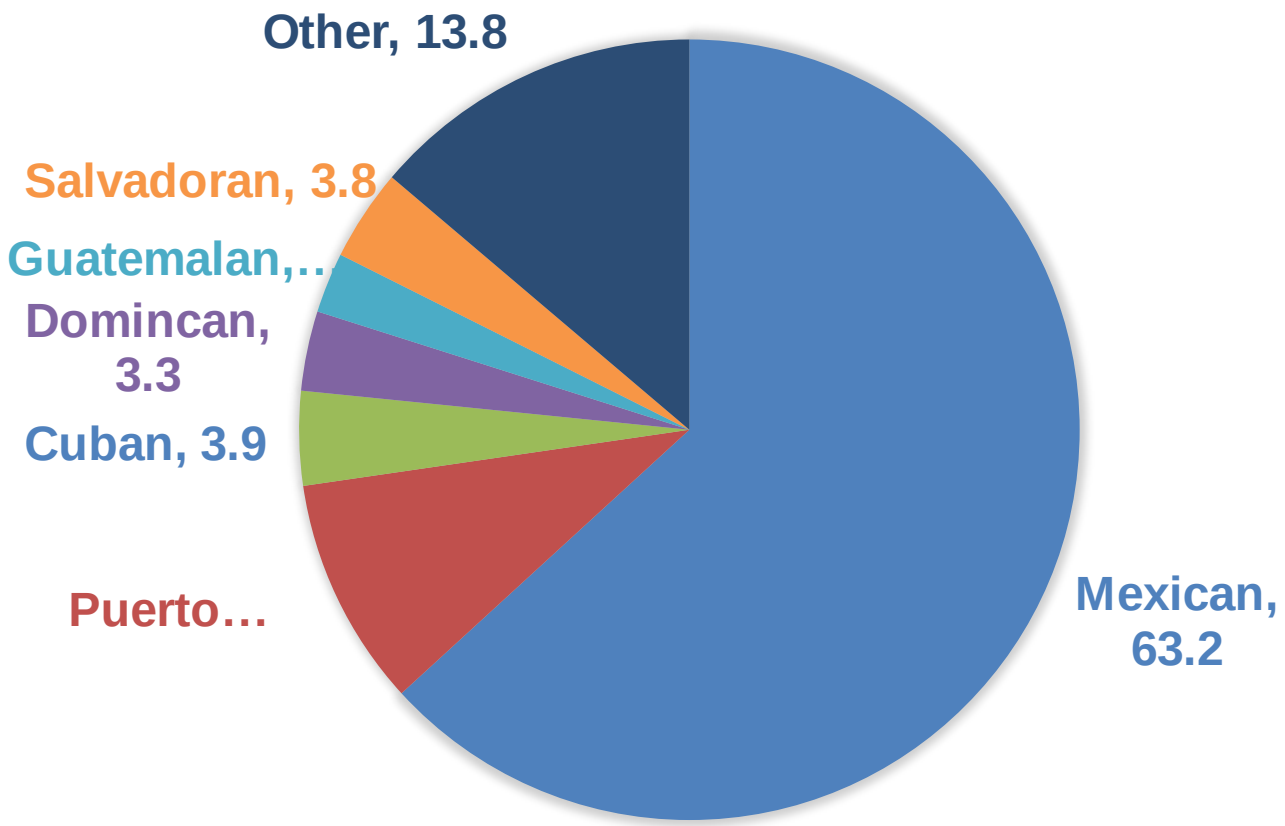
A person who enters or stays in a country without proper legal documents (i.e. visa). This refers to individuals who enter the country without going through an official port of entry or those who enter legally (with proper documentation) but overstay their visa or go “out of status” once their visa expires.

Diversity within the U.S. Latino Population

Source:
https://theconversation.com/the-effect-racist-rhetoric-has-on-young-latinos-and-why-all-americans-should-care-57408

Latinos in the US

Source: https://greaterspokane.org/blog/2015/11/doing-business-in-latin-america/



Prevalence of Diabetes

10.2% in South Americans

13.4% in Cubans

17.7 % in Central Americans

18.0% in Dominicans and Puerto Ricans

18.3% in Mexicans

Source: https://beyondtype1.org/diabetes-disparities-hispanic-population/

Latinos in the US

57.5 Million	Latinos living in the US as of 2017 17.8% of the US population
119 Million	Projected Latino population by 2060 28.6% of the US population
11.7 Million	Undocumented immigrants living in the US
34.2%	Are foreign-born; Majority are born in the US.

Source: Census, 2012, 2017;
Pew Research Hispanic Trends Project, 2012

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Racial Identity

Racial Group	Latinos	Non-Latinos
White	53%	76.2%
Black	2.5%	14.6%
American Indian	1.4%	0.9%
Asian	0.4%	5.6%
Some other race	36.7%	0.2%
Two or more races	6%	2.3%

Source: Census, 2010

Racial Inequities

Those who classify as some other race compared to White, have lower levels of education and are:

Less likely to:

- Speak English
- Be citizens
- Label themselves as “American”

More likely to:

- Be living in poverty
- Report discrimination
- Report feeling marginalized
- Believe discrimination is a major problem

Immigration

Source: https://www.youtube.com/c/theflama/videos

Impact of Immigration on Families

- Family separation and grieving
  - Less social support
- Remittances and commitments back home
- Changes in parental and familial roles
  - Mothers engaging in the workforce
  - Children interpreting for parents
- Mixed documentation families

Diane Guerrero

https://www.youtube.com/watch?v=49fN762AQWE

Source: https://www.pinterest.com/pin/775956210772997362/


Social Network
Language
Transportation
Acculturation Stress
Difficulty navigating systems
Migration Experience
Cultural Beliefs
Experience with Service Providers
Legal Issues
Health Inequities
Workforce Diversity
Employment
Service Utilization
Culturally Responsive Care

Inequities in Diabetes

- White patients use insulin pumps at higher rates than Black or Hispanic patients (Willi et al., 2015)
- White children under 13 are more likely to use CGM (Wong et al., 2014)
- Mixed findings on A1C levels:
  - Willis et al. (2015) did not find differences between Hispanic and white
  - Gandhi's et al. (2016) review cited worse glycemic control for Hispanic-Americans
  - Agarwal et al. (2020) did find that Hispanic YA reported higher A1C levels
- No differences in frequency of DKA and hospitalizations (Gandhi et al, 2016)

Barriers to Services

Despite the fact that new Americans are eligible for a variety of health and human services, research shows that they are often unable or unwilling to utilize them.

This is due to:

- Confusion surrounding applications, eligibility, and rights
- Distrust of helping professionals
- Cultural beliefs and health literacy
- Insufficient financial capital (insurance and time off)

  DKA is more frequent in children without private health insurance (Klingensmith et al., 2013)
- Language and literacy barriers

  Parent reading comprehension is positively associated with adolescents' adherence (Janisse et al., 2010)

Other Causes of Disparities

- Food insecurity and easier access to calorie dense, high fat and carbohydrate foods
  - Predicts hospitalization in children (Marjerrison et al., 2011)
  - 44% of Hispanic-Americans with T1D are overweight or obese (Lawrence et al., 2009; Liu et al., 2009)
- Language obstacle to understanding nutritional information
- Depression, stress, racism…

Putting it into Practice

Cultural Values & Treatment

- **Personalismo** = Business like interaction with mental or medical professionals seems unwelcoming
- **Simpatia** = Reluctant to share unpleasant emotions
- **Respeto** = Agreeableness
- **Espiritualismo** = More likely to seek assistance from religious leaders

Cultural Values & Treatment

Familismo = Attempt to solve problems within the family and not seek services or share personal information

- Also impacts how adolescents make treatment decisions and who comes to treatment (along with respeto)
- Promotes family involvement, improving T1D management (Gandhi et al., 2016)

Machismo = Help seeking is weak

Marianismo = Too busy caring for others to care for self (could feel selfish)

Other Considerations

- Consider level of education
- Immigrants have learned survival skills, which may make them appear more demanding and untrusting
- Remember that many of the immigrants have fled violence, and have been abused, tortured, or imprisoned

Working with Interpreters

Source:
https://www.pinterest.com/pin/647533252665251615/

When is an Interpreter Needed?

- Patients seeking treatment may not speak English or feel completely comfortable in the language
- Child patient may speak English but not parents
  - It is important to keep parents involved!
- Assessment measures are developed and meant to be used in English
  - Not understood or culturally inappropriate at times

Ethical Concerns & Other Problems

- Each interpreter may have a different background and level of training
- Only available interpreters may be immigrants themselves & may know the client
  - Confidentiality issues
  - Families may not be as open as they would be otherwise
- Some words may not be translatable to other languages
- Different dialects

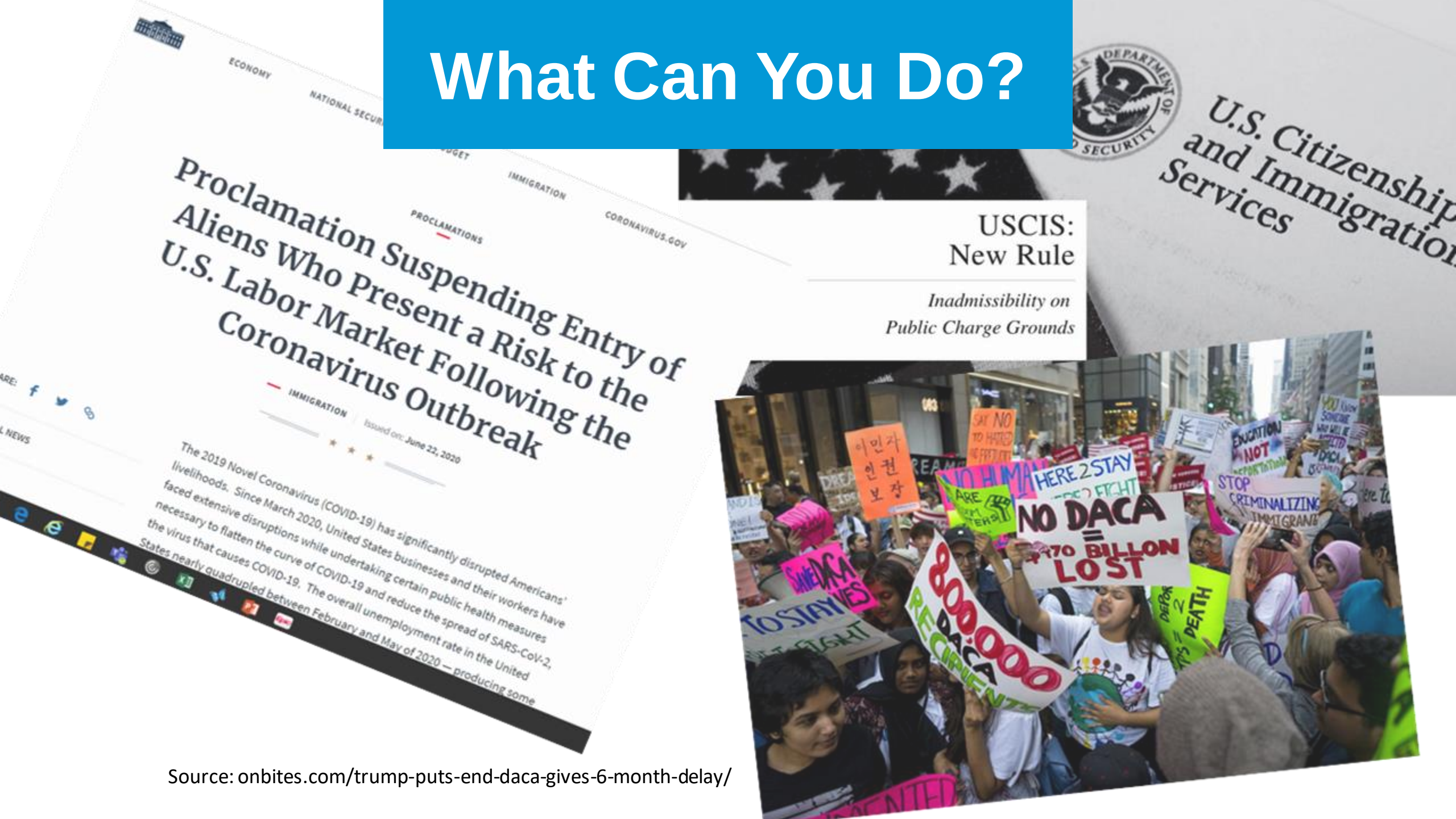
Tips When Using an Interpreter

- Talk directly to the patients when using an interpreter
- When asking questions, make sure to ask one question at a time
- Do not use kids under 18 to interpret

Tips When Using an Interpreter

- Do not ask interpreters to sum up an appointment or large portions of it
- Eliminate idioms
- Schedule for twice the time for an appointment when working with an interpreter

What Can You Do?



Source: onbites.com/trump-puts-end-daca-gives-6-month-delay/

Next Steps

- Cultural Humility!

  Lifelong process, continuous

- Be informed about policy changes:
  - Dream Act or Deferred Action (DACA)
  - Public Charge
  - H1B visas
  - Migrant Protection Protocols

Questions?

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Data and the T1D Exchange

Data Mapping

- Typically led by IT team, process to map against T1Dx data specifications resulting in access to the full QI portal and contribution to population health research.

Smartsheets

- Temporary data sharing solution (prior to site completing data mapping) where site shares aggregate data to produce dashboards; allows sites the benefit of benchmarking and identifying shifts and trends over time.

Special Initiatives

Modify/use an existing data collection tool to support a temporary project (i.e. COVID-19 or telemedicine)

Smartsheets

Primary Column	July 2020	Aug 2020	Sept 2020	Oct 2020	Nov 2020	Dec 2020
All Denominators (A): The number of patients with T1D (all ages) at your center with a minimum duration of diabetes ≥ 12 months with 1 or more HbA1c values in the preceding 12 months, of which the last visit (either in-person or telehealth visit) was from the reporting month.						
Phase 1 (Priority Measures to be completely reported by December 2020)						
(1) The number of patients in (Denominator - A) with HbA1c <8(Most recent A1C)						
(2) Median A1c of all patients from (A): of the unique type 1 diabetes patients ages 1-85, what was the median of the most recent hemoglobin A1c value from all patients in this reported month						
(3) The number of patients in (A) who reported using a sensor/CGM during the month being reported on						
(4) Number of patients in (A), excluding CGM users, who check their FSBG > or = to 4x/day						
(5) The number of patients in (A) who are active pump users						
(6a) Number of patients in (A), ages 12 and older, who met eligibility criteria* for depression screening for reporting month						
(6b) Number of patients in 6a that were screened						
Phase 2 (Measure reporting due before March 2021)						
(7a) The number of patients in (3) who wear CGM at minimum 14 days OR 70% of wear in reporting month.						
(7b) The number of patients in (7a) who reported using a CGM during the month reported with Time in Range (70-180) > 50%						
(7c) The number of patients in (7a) who reported using a CGM during the month reported with time in hypoglycemia (<70)						
(7d) The number of patients in (7a) who reported using a CGM during the month reported in time in severe hypoglycemia (<54)						
(8) The number of patients in (A) with a diagnosis of hypertension and BP < 140/90mm Hg who are prescribed ACE-I or ARBs in the measurement year						
(9) The number of DKA events that occurred during the reporting month among all patients in (A)						
(10) The number of patients in (A) with a diagnosis of hyperlipidemia or an LDL > 130 mg/Dl who is prescribed a statin for cholesterol.						
(11) The number of patients in (A) who have SDOH documented in their chart (related to food security, transportation needs, education, housing security, or employment status.)						
Phase 3 (Measure reporting due before June 2021)						

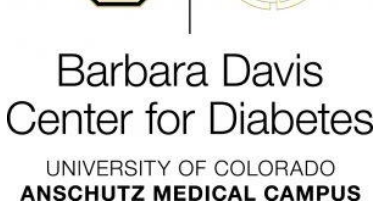

T1D
Exchange

T1D Exchange

QI Collaborative Pediatric Centers Dashboard Review

January 2022

28 pediatric clinics – caring for 36,000 patients with T1D



Pediatric T1D Glycemic Targets KDD

Aim

Among people with T1D,* increase proportion of patients achieving glycemic targets:

- **At least 25% with A1c <7%, OR**
- **Increase proportion of patients A1c <7% by 5%, OR**
- **Increase TIR among CGM users by 5%**

from baseline in 2 years.

*Duration > 1 year, ages 1-25, with at least one in-person or telemedicine visit in the last year

Primary Drivers

- Health Literacy/Education and Support
- Use of Data
- Insulin therapy
- Social Determinant of Health
- Glucose monitoring
- Transition
- Access to in-person and virtual care
- Psychosocial Support

Change Ideas

- Patient Education on diet, exercise, transition, device use and self management habits
- Education to reduce DKA events/admission, 4X glucose check education
- Set small patient- and provider-selected goals with clear action step
- Working with families as well as providers

- Referral to nutrition therapy/guidance
- Physical activity coaching
- Peer support groups
- New onset classes
- Accessibility to translated materials

- Use data registries to support population health
- Use EMR templates
- Incorporate QI measures or flow sheets

- Culturally Competent Care
- Catalogue of community resources
- Train staff about SDOH
- Documenting barriers to care (housing, transportation, food, etc.)

- Insulin / monitoring /nutrition interactions
- Coach >4 checks/day (for non CGM patients)
- Test new workflows to improve device use
- Use workflows to improve device documentation
- Advertise CGM in waiting rooms, etc.
- Device data reviews and interpretation, staff troubleshoot device
- Provide contact information for device reps/patient support

- READDY questionnaire
- Partner with adult clinic for hand-off

- Follow up with LTFU patients (not seen for > 180 days); regular follow up (phone/email/text/televisit)
- Improve scheduling process
- Make appointments longer/have a multidisciplinary team (seeing a CDE/SW/RD)

- Conduct mental health screening and referrals (i.e. depression, FOH, diabetes distress)
- Improve psychosocial support/train providers
- MyChart message for questionnaires, PROs, high-risk patients
- Create workflow for positive patients who needs referral
- Screen for QOL (compare control of people using CGM vs no CGM)

How we get data at T1D Exchange

Data Mapping

- Typically led by IT team, process to map against T1Dx data specifications resulting in access to the QI portal and contribution to population health research.

Smartsheets

- Temporary data sharing solution (prior to site completing data mapping) where site shares aggregate data to produce dashboards; allows sites the benefit of benchmarking and identifying shifts and trends over time.

Smartsheets

	Primary Column	J... 2...	A... 2...	S... 2...	Oct 2...	Nov 2...	Dec 2...	Jan 2021	February 2021	March 2021	April 2021	May 2021	June 2021
1	All Denominators (A): The number of patients with T1D (all ages) at your center with a minimum duration of diabetes ≥ 12 months with 1 or more HbA1c values in the preceding 12 months, of which the last visit (either in-person or telehealth visit) was from the reporting month.												
2	**Phase 1 (Priority Measures to be completely reported by December 2020)**												
3	(1) The number of patients in (Denominator - A) with HbA1c <8(Most recent A1C)												
4	(2) Median A1c of all patients from (A): of the unique type 1 diabetes patients ages 1-85, what was the median of the most recent hemoglobin A1c value from all patients in this reported month												
5	(3) The number of patients in (A) who reported using a sensor/CGM during the month being reported on												
6	(4) Number of patients in (A), excluding CGM users, who check their FSBG > or = to 4x/day												
7	(5) The number of patients in (A) who are active pump users												
8	(6a) Number of patients in (A), ages 12 and older, who met eligibility criteria* for depression screening for reporting month												
9	(6b) Number of patients in 6a that were screened												
10	**Phase 2 (Measure reporting due before March 2021)**												
11	(7a) The number of patients in (3) who wear CGM at minimum 14 days OR 70% of wear in reporting month.												
12	(7b) The number of patients in (7a) who reported using a CGM during the month reported with Time in Range (70-180) > 50%												
13	(7c) The number of patients in (7a) who reported using a CGM during the month reported with time in hypoglycemia (<70)												
14	(7d) The number of patients in (7a) who reported using a CGM during the month reported in time in severe hypoglycemia (<54)												
15	(8) The number of patients in (A) with a diagnosis of hypertension and BP < 140/90mm Hg who are prescribed ACE-I or ARBs in the measurement year												
16	(9) The number of DKA events that occurred during the reporting month among all patients in (A)												
17	(10) The number of patients in (A) with a diagnosis of hyperlipidemia or an LDL > 130 mg/Dl who is prescribed a statin for cholesterol.												
18	(11) The number of patients in (A) who have SDOH documented in their chart (related to food security, transportation needs, education, housing security, or employment status.)												
19	**Phase 3 (Measure reporting due before June 2021)**												

2020-2021 Data Overview

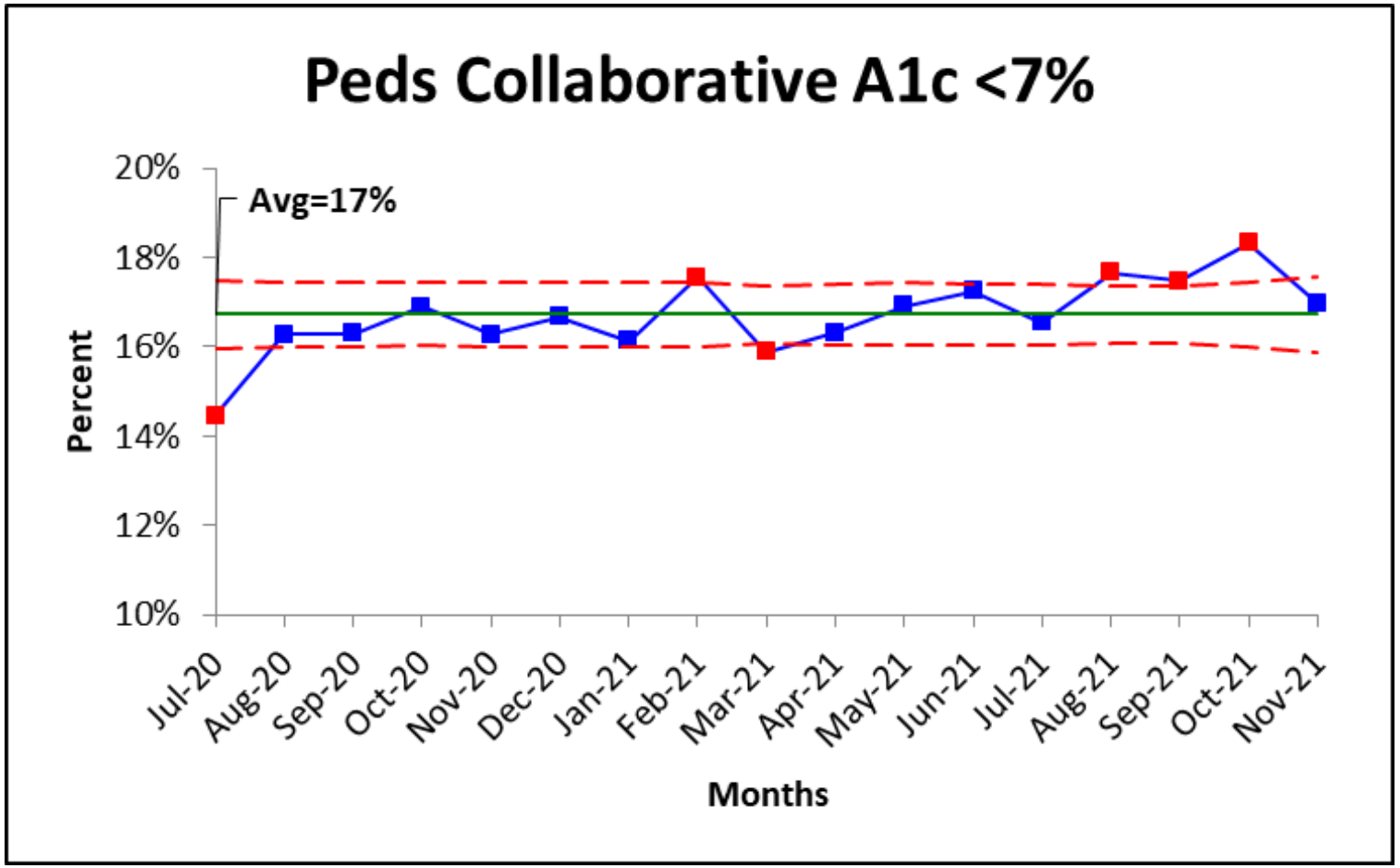
Core QI Measures – Peds clinics

July 2020 – June 2022

Measures reported as of Aug 2021	Measure	# of Pediatrics clinics reporting
Outcome Measures	HbA1c >7%	**24 clinics**
	Median A1c	**24 clinics**
Process Measures	CGM use	**24 clinics**
	Pump use	**24 clinics**
	Depression screening	**16 clinics**
	DKA events	**10 clinics**
Other Measures	Time in Range	**7 clinics**
	Documented Transition	**5 clinics**
	Social Determinants of Health screening	**4 clinics**

T1D Exchange

Peds Clinics - HbA1c < 7%



Run chart favorable direction

Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21
4849	5299	5407	5605	5199	5485	5402	5380	6481	6006	5599	6154	6257	6608	6374	5474	3728
701	862	881	947	846	914	872	945	1029	980	947	1061	1035	1167	1114	1003	633

Peds Clinics - HbA1c < 7% Summary

- **QI Collaborative Goal: 25%**
- **QI Collaborative Average: 16.8%**

- **Sites that meet goal: 1/16**
- **Top performers:**

(1) NYU Ped: 35.5%;
(2) Rady: 22.4%
(3) Lurie: 21.8%
(4) CHLA: 21.6
(5) NYU Mineola: 21.2

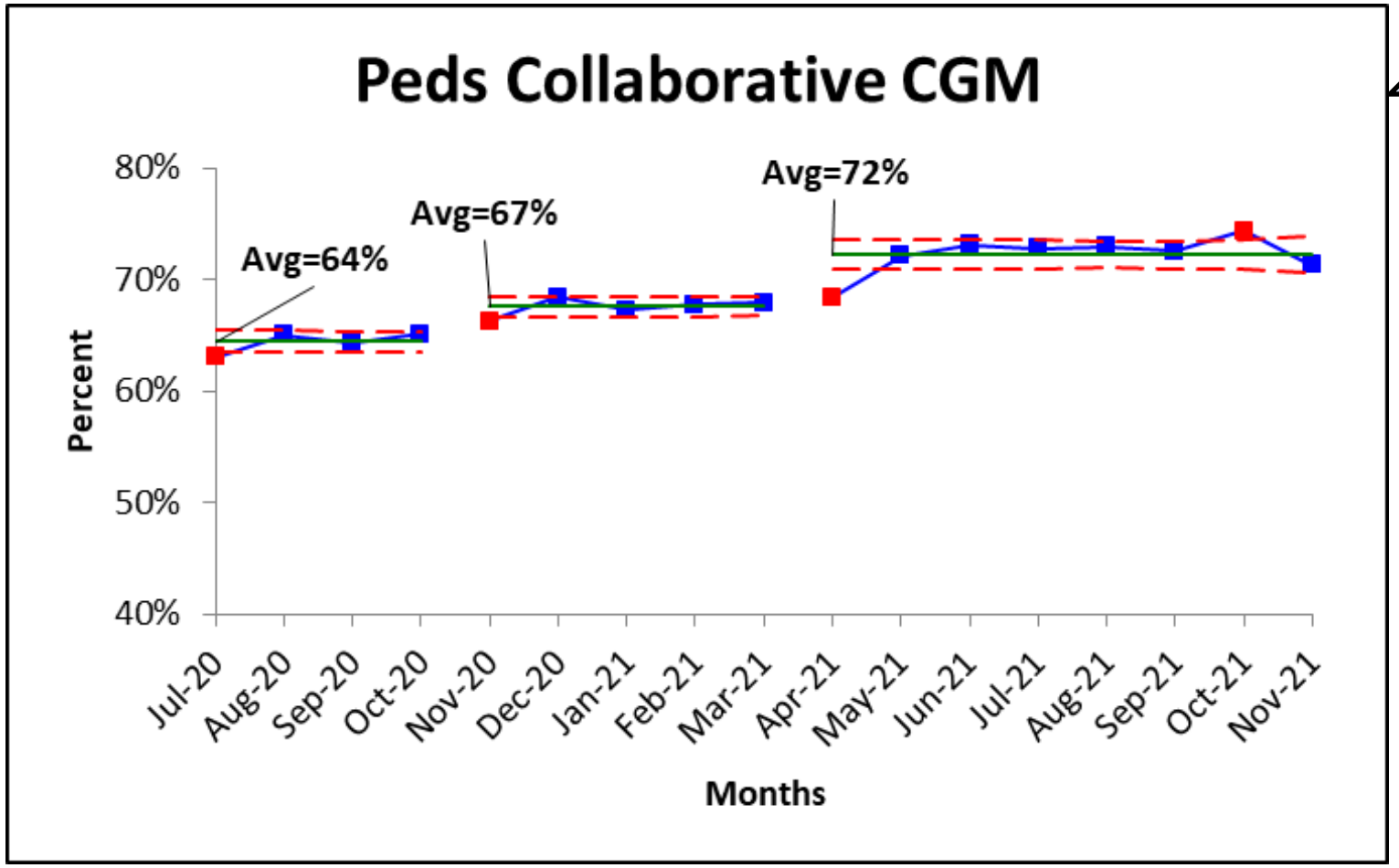
- **Improvement Range:** 11.6%-35.5%

Available data	Available data	Incomplete/No data
Texas	CMH	U of Miami
Michigan	Children National	UCSF
Cornell	SUNY	Mt Sanai
Alabama	Cohen	
CHLA	Seattle	
Tennessee	U of Wisconsin	
Rady	Cook	
BDC Peds	NCH	
Indiana	Atlanta	
Lurie	NYU Peds	
Helen Devos	U Florida	
Stanford	CCHMC	
Mineola		

T1D Exchange

Peds Clinics - CGM Use

Increase by 8%



Run chart favorable direction

Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21
4849	4944	5407	5605	*5199*	5485	5402	5380	6481	*6006*	5599	6154	6260	6606	6420	5462	3706
3057	3215	3482	3648	3447	3753	3632	3646	4403	4110	4040	4498	4557	4818	4655	4062	2643

Peds Clinics – CGM Use

- **QI Collaborative Goal: 70%**
- **QI Collaborative Average: 72%**

- **Sites that meet goal: 12/24**
- **Top performers:**

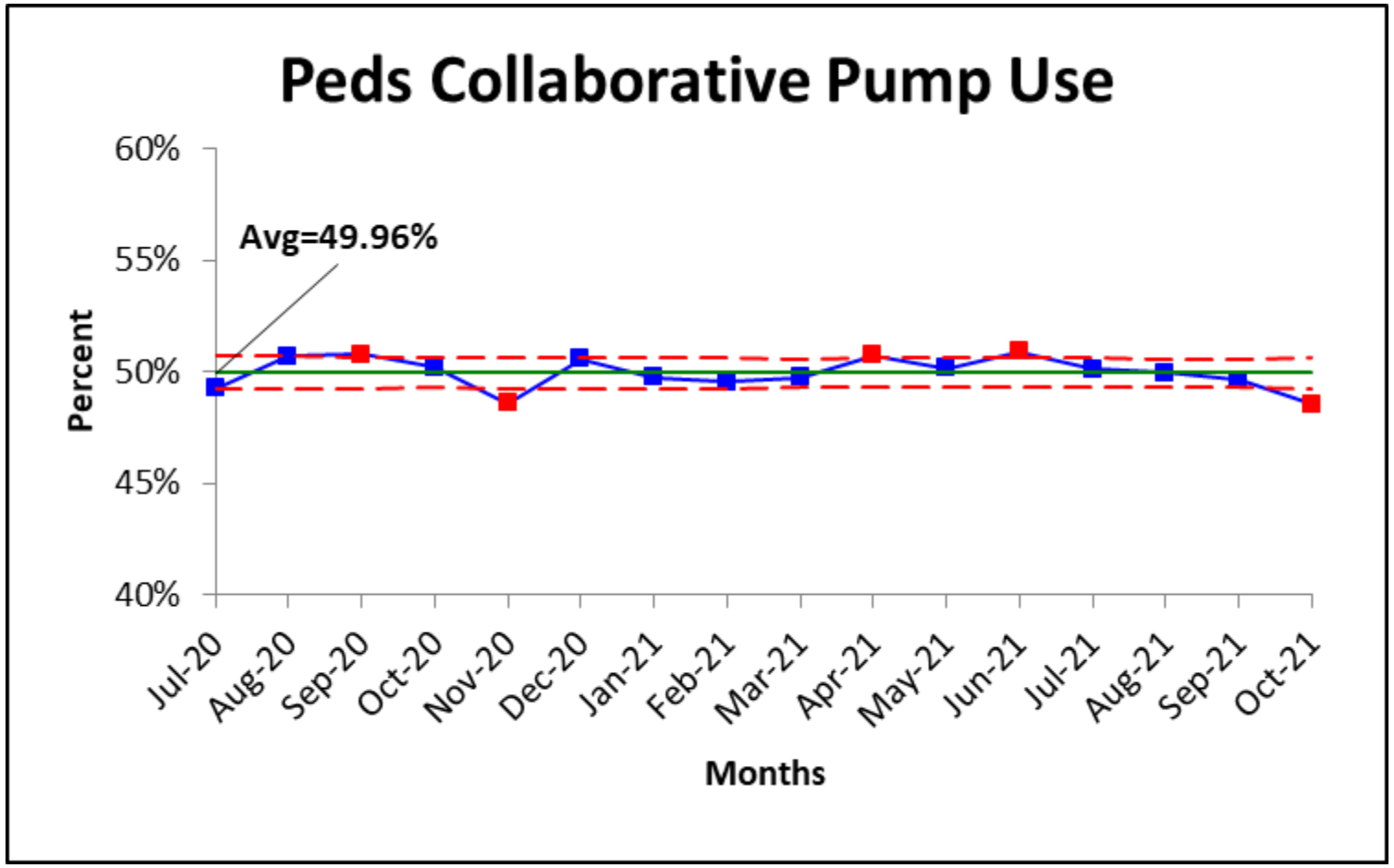
(1) NYU Peds: 85%;
(2) NYU Mineola: 83%
(3) UF: 79%
(4) Seattle: 79%
(5) CMH: 79%

Rady, BDC Peds, NCH, Michigan, Florida, CHoA, Wisconsin

- **Improvement Range: 31%-85%**

Available data	Available data	Incomplete/No data
Texas	CMH	U of Miami
Michigan	Children National	UCSF
Cornell	SUNY	Mt Sanai
Alabama	Cohen	
CHLA	Seattle	
Tennessee	U of Wisconsin	
Rady	Cook	
BDC Peds	NCH	
Indiana	Atlanta	
Lurie	NYU Peds	
Helen Devos	U Florida	
Stanford	CCHMC	
Mineola		

Peds Clinics - Pump Use



Run chart favorable direction

Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21
4849	4944	5407	5605	5199	5485	5402	5380	6481	6006	5599	6154	6260	6606	6420	5462
2388	2506	2745	2815	2527	2774	2688	2665	3224	3047	2809	3134	3139	3299	3185	2652

Peds Clinics - Pump Use

- **QI Collaborative Goal: 65%**
- **QI Collaborative Average:50%**
- **Sites that meet goal: 6/24**
- **Top performers:**

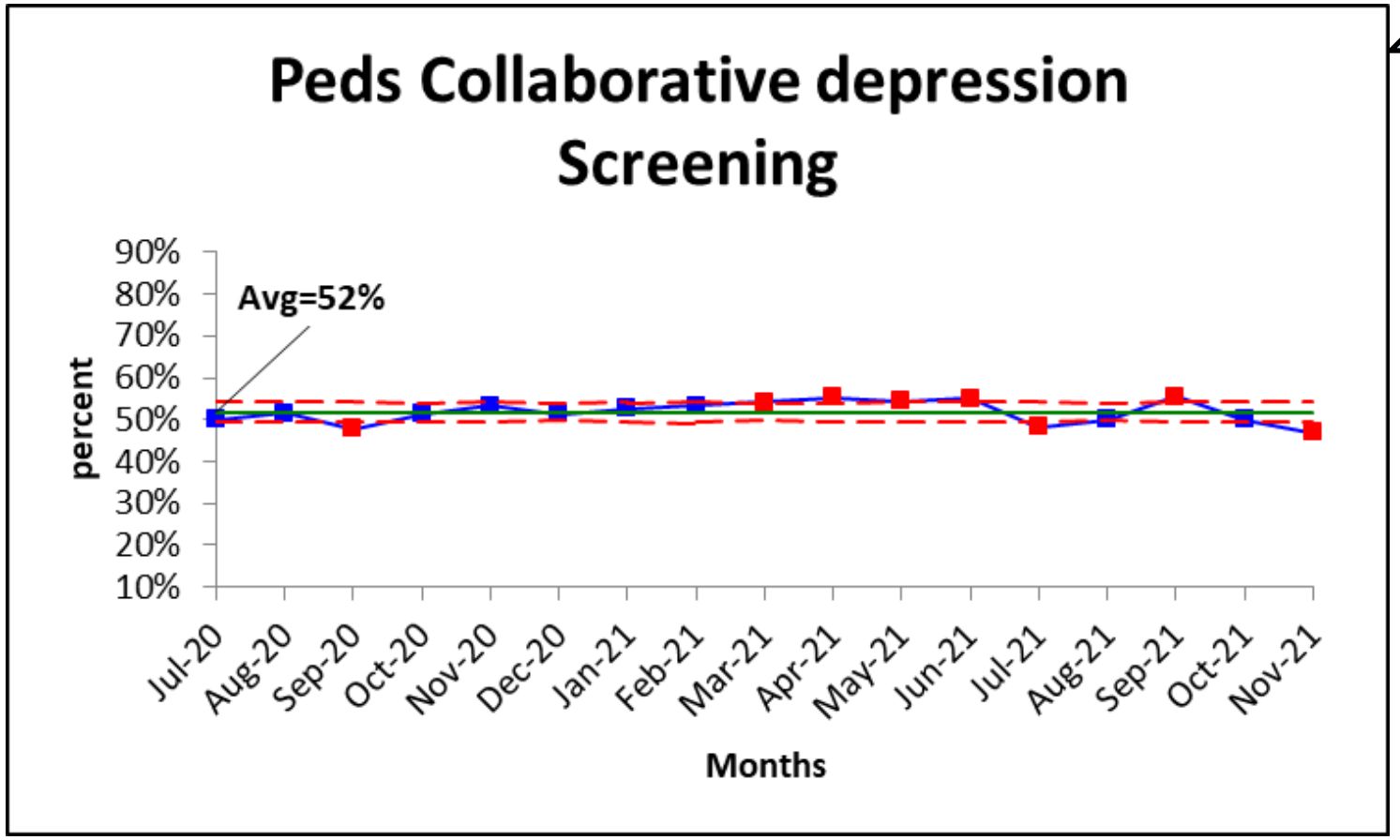
(1) NYU: 79.5%
(2) NYU Mineola: 78%;
(3) CMH: 71%
(4) Cornell, BDC Peds: 69%
(5) Michigan:67%

- **Improvement Range: 15%-79.5%**

Available data	Available data	Incomplete/No data
Texas	CMH	U of Miami
Michigan	Children National	UCSF
Cornell	SUNY	Mt Sanai
Alabama	Cohen	
CHLA	Seattle	
Tennessee	U of Wisconsin	
Rady	Cook	
BDC Peds	NCH	
Indiana	Atlanta	
Lurie	NYU Peds	
Helen Devos	U Florida	
Stanford	CCHMC	
Mineola		

T1D Exchange

Peds Clinics – Depression Screening



Run chart favorable direction

Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21
1603	1528	1661	1704	1567	1731	1573	1508	1900	1695	1436	1610	1586	1727	1528	1400	1444
803	789	794	873	836	888	829	805	1031	937	782	885	767	864	848	699	677

Peds Clinics – Depression Screening

- **QI Collaborative Goal: 80%**
- **QI Collaborative Average: 52%**

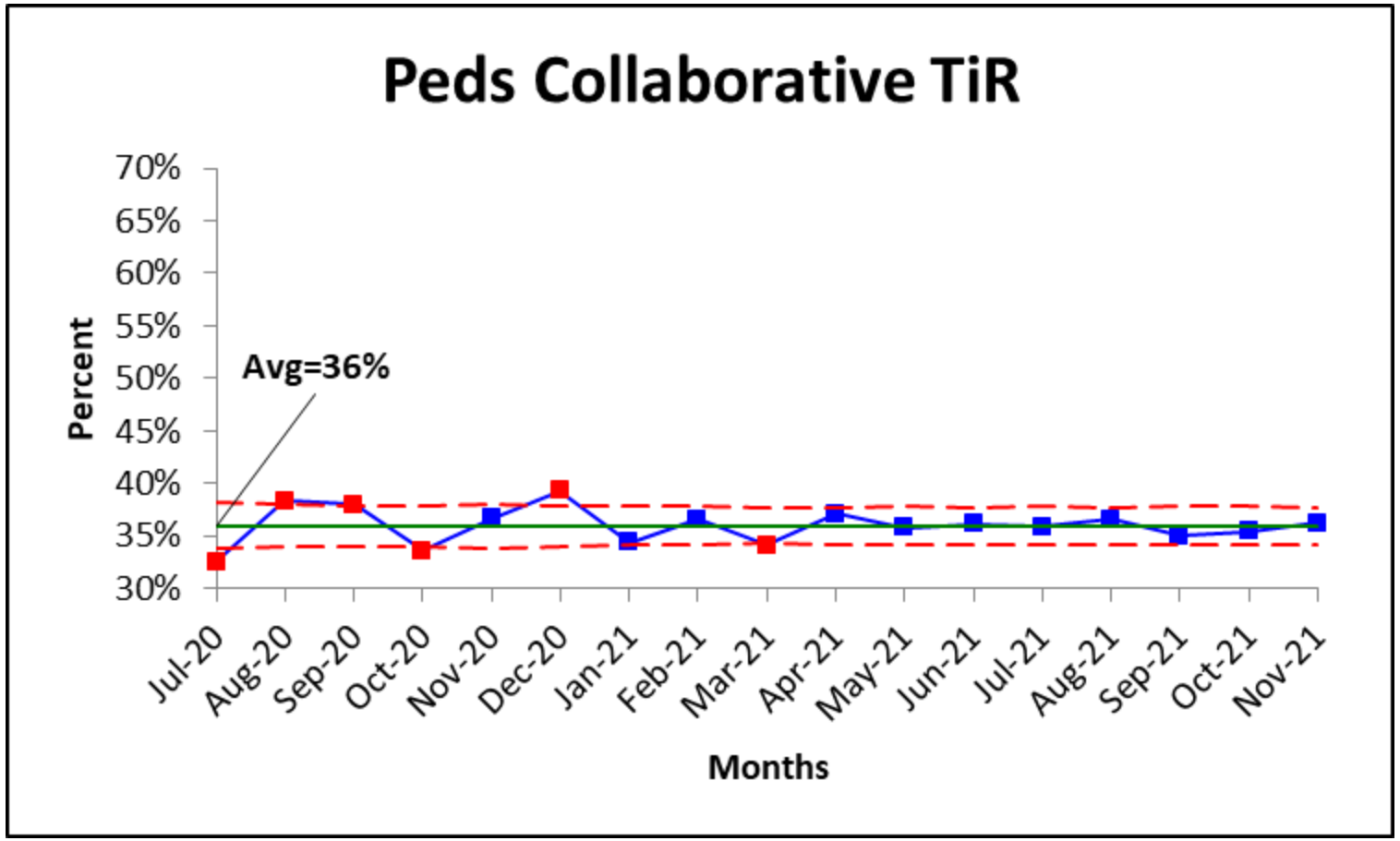
- **Sites that meet goal: 3/16**
- **Top performers:**

(1) Tennessee: 96%;
(2) Texas: 82%
(3) Helen Devos: 79%

- **Improvement Range:** 10%-96%

Available data	Available data	No data
Texas	Indiana	Stanford
NYU Peds	Seattle	UCSF
Cornell	Cohen	NYU Mineola
Florida	NCH	CMH
CHLA		U of Wisconsin
Tennessee		Indiana
Rady		CCHMC
Lurie		Mt Sinai
Helen Devos		Alabama
Cook		BDC Peds
C. National		Michigan
Wisconsin		
CMH		
SUNY		
U. Miami		
Cohen		

Peds Clinics – Time in Range



Run chart favorable direction

Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21
986	1090	1181	1171	1044	1226	1354	1363	1638	1445	1309	1457	1353	1468	1373	1305	1456
321	418	449	393	383	482	465	499	559	536	469	526	486	537	480	462	527

Peds Clinics – Time in Range

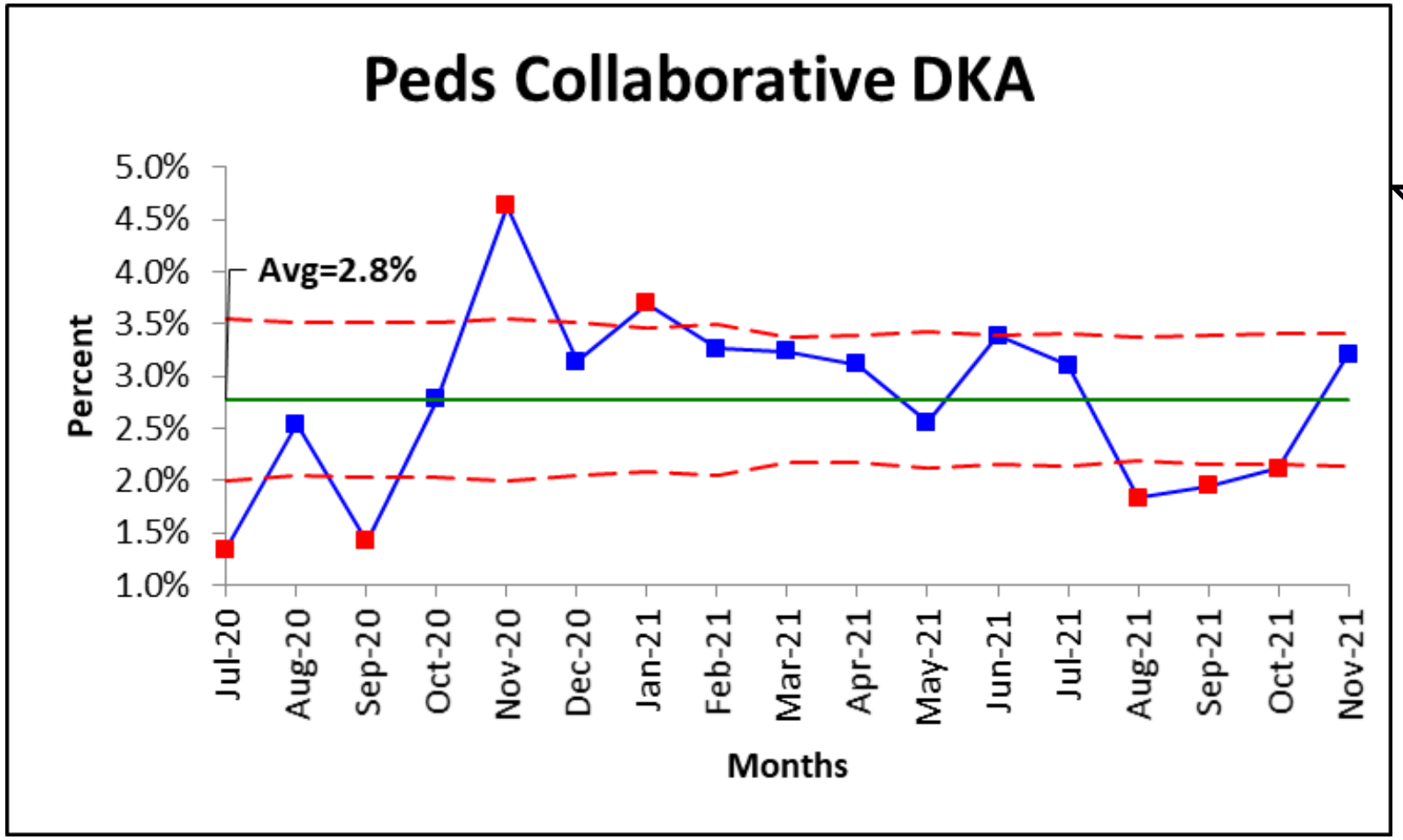
- **QI Collaborative Goal: 70%**
- **QI Collaborative Average:36%**
- **Sites meeting goal: None**
- **Top performers:**

(1) NYU Peds: 50%;
(2) BDC Peds: 50%

- **Improvement Range: 5%-50%**

Available data	No data	No data
Lurie	CCHMC	U of Miami
NYU Peds	Stanford	UCSF
CMH	SUNY	NYU Mineola
Florida	Cohen	CMH
BDC Peds	Seattle	U of Wisconsin
NCH	Tennessee	Cook
Cornell	Rady	Children National
	CHLA	Mt Sinai
	Indiana	Atlanta
	Texas	Michigan
	Helen Devos	Stanford
		Alabama

Peds Clinics – DKA Events



Run chart favorable direction

Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21
1731	1929	1904	1911	1728	1942	2220	1993	2936	2794	2466	2692	2612	2947	2718	2645	2528
23	49	27	53	80	61	82	65	95	87	63	91	81	54	53	56	81

Peds Clinics – DKA Events

- **QI Collaborative Goal: 6.3%**
- **QI Collaborative Average: 2.8 %**

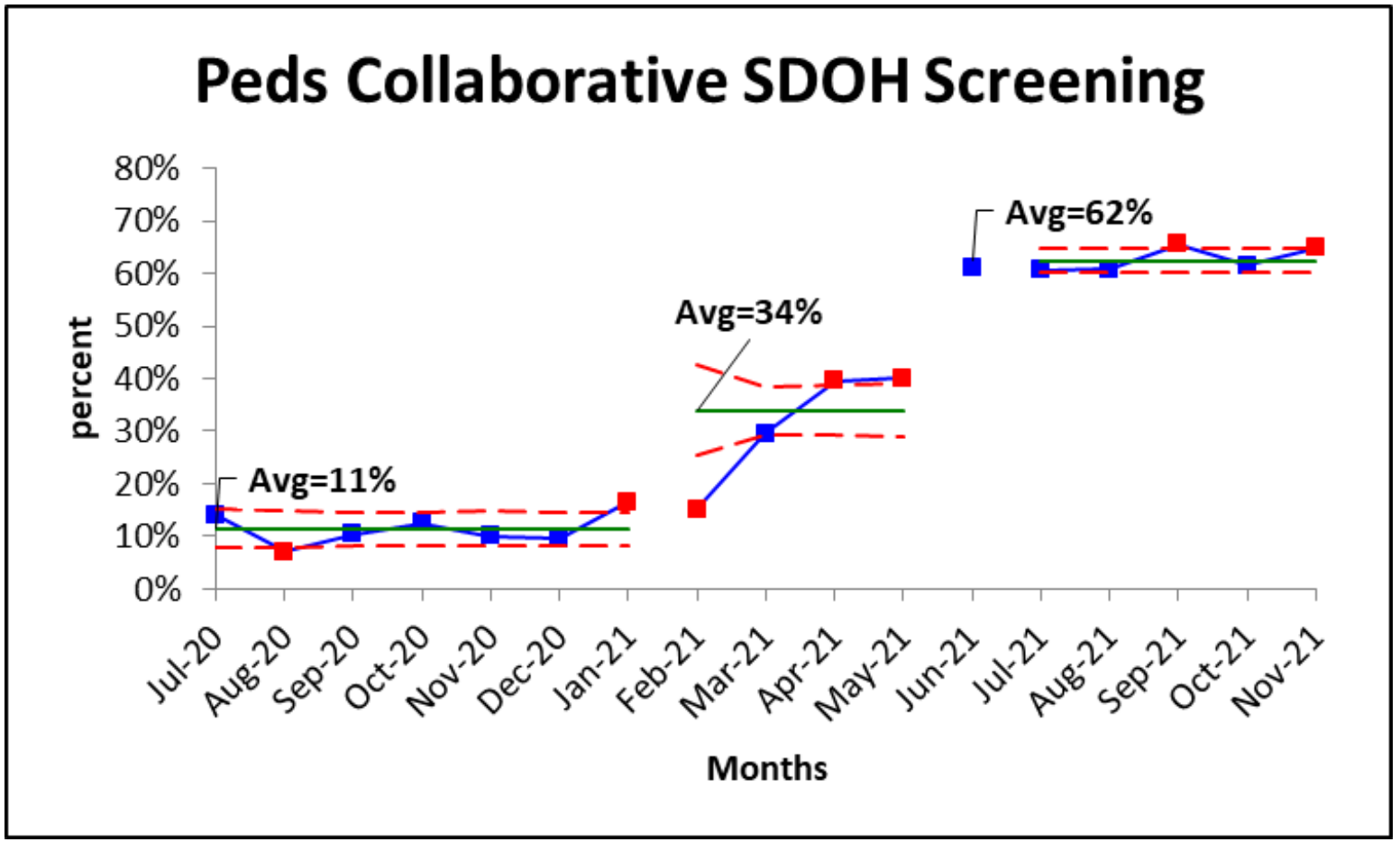
- **Sites that meet goal: 09/10**
- **Top performers:**

(1) NYU Mineola: 0.2%;
(2) Lurie: 0.6%
(3) Cohen: 0.6%
(4) BDC Peds: 0.7%

- **Improvement Range: 0.2-11%**

Available data	No data	No data
Lurie	CCHMC	U of Miami
NYU Peds	Stanford	UCSF
Cornell	SUNY	NYU Mineola
Florida	Cohen	CMH
BDC Peds	Seattle	U of Wisconsin
Texas	Tennessee	Cook
Cook	Rady	Children National
Cohen	CHLA	Mt Sinai
NYU Mineola	Indiana	Atlanta
CMH	Texas	Michigan
	Helen Devos	Stanford
	NCH	Alabama

Peds Clinics – SDOH Screening



Run chart favorable direction

Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21
210	236	264	275	240	297	267	*266*	892	797	693	799	*765*	889	837	831	824
36	24	29	36	29	28	40	40	264	306	274	477	450	525	530	496	535

Peds Clinics – SDOH Screening

- **QI Collaborative Goal: 10%**
- **QI Collaborative Average:61%**
- **Sites meeting goal: All**
- **Sites that meet goal: 4/4**
- **Top performers:**

(1) NYU Peds: 67%;
(2) Texas: 61%

- **Improvement Range: 5%-50%**

Available data	Incomplete/No data	No data
Cornell	CCHMC	U of Miami
NYU Peds	Stanford	UCSF
Cohen	SUNY	NYU Mineola
Texas	Cohen	CMH
	Seattle	U of Wisconsin
	Tennessee	Cook
	Rady	Children National
	CHLA	Mt Sinai
	Indiana	Atlanta
	Texas	Michigan
	Helen Devos	Stanford
		Alabama

T1D Exchange

Peds Improvement Score Card

Sites	A1c<7%	CGM Use	Pump Use	Depression screening	DKA Events	TIR	Documented Transition	SDOH Screening
QIC Goals	*<7%*	*70%*	*60%*	*80%*	*<6.3%*	*>70%*		
QIC Status	17%	72%	50%	52%	2.8%	36%	28%	62%
Lurie	22%	68%	43%	11%	0.6%	12%		
NYU Peds	36%	86%	80%	50%(↑45%)	1.5%	50%	56%	67%
Cornell	16%	66%	69%	39%	1.9%		39%	18%
Florida	21%	77%	44%	65%	1.6%	22%		
BDC Peds	15%	78%(↑7%)	69%		0.7%	50%		
Texas	18%	63%	50%	81%	1.6%			61%
Cook	18%	65%	36%		2.9%			
Cohen	20%	31%	16%		0.6%			17%
Mineola	21%	82%	78%		0.2%			
CMH	18%	79%	71%(↑6%)	55%	11%	35%	25%	
Helen D	15%	55%						
NCH	19%	72%						

Legend

Favorable

Below Goal

T1D Exchange

Peds Improvement Score Card

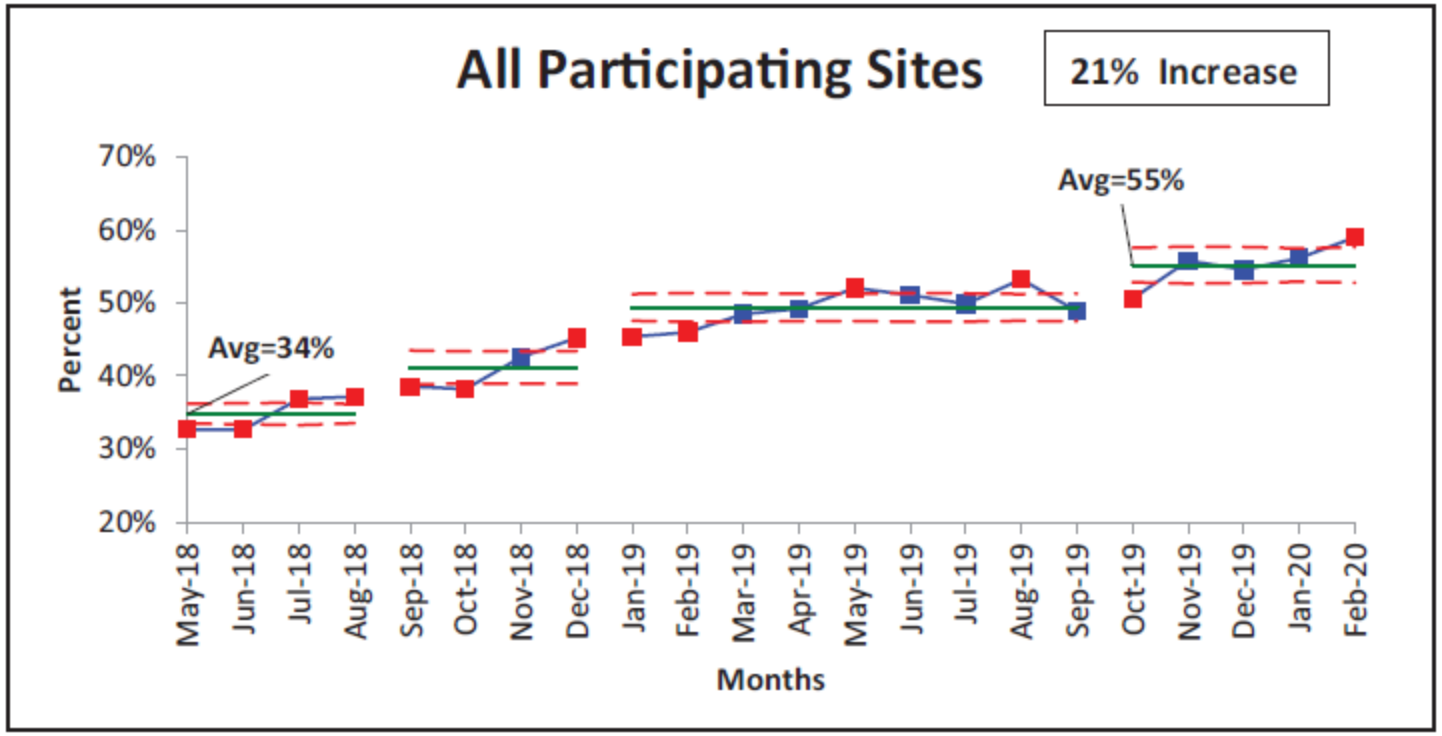
Sites	A1c<7%	CGM Use	Pump Use	Depression screening	DKA Events	TIR	Documented Transition	SDOH Screening
QIC Goals	*<7%*	*70%*	*60%*	*80%*	*<6.3%*	*>70%*		
QIC Status	17%	72%	50%	52%	2.8%	36%	28%	62%
Rady	23%	80%(↑7%)	43%					
Alabama	13%	54%(↑17%	31%					
Michigan	14%	76%	67%					
Seattle								
Atlanta	15%	79%	41%					
Tennessee	12%	55%	23%	96%				
Indiana	16%	41%	42%					
Stanford	24%		52%					
CHLA	22%	59%	48%	49%(↑30%)				
SUNY	18%	51%	62%	40%				
National	17%	53%	31%					
Wisconsin	15%	72%	55%	48%				

Legend Favorable Below Goal

T1D Exchange

Multi-Clinic Quality Improvement Initiative Increases Continuous Glucose Monitoring Use Among Adolescents and Young Adults With Type 1 Diabetes

Priya Prahalad,[1,2] Osagie Ebekozien,[3] G. Todd Alonso,[4] Mark Clements,[5] Sarah Corathers,[6] Daniel DeSalvo,[7] Marisa Desimone,[8] Joyce M. Lee,[9] Ilona Lorincz,[10] Ryan McDonough,[5] Shideh Majidi,[4] Ori Odugbesan,[3] Kathryn Obrynba,[11] Nicole Rioles,[3] Manmohan Kamboj,[11] Nana-Hawa Yayah Jones,[6] and David M. Maahs,[1,2] on behalf of the T1D Exchange Quality Improvement Collaborative Study Group



Clinical Diabetes 2021 Jul; 39(3): 264-271.https://doi.org/10.2337/cd21-0026

T1D Exchange

Peds Clinic Insights

- **Decrease High risk patients' proportion**
- **Increase Pump use**
- **Increase CGM Use**
- **Depression screening**
- **SDOH Screening**
- **Increase device download**
- **Increase smart pen Use**
- **Equity Project**

Next Steps

- Provide Phase 1 measures
- Take on new QI projects
- If collecting Phase 1, begin collection on Phase 2 measures
- Utilize the QI Portal for data trending, benchmarking, and creating alerts (mapped sites)
- Take IHI Open School courses
- Document PDSAs in LifeQI
- Engage other faculty members in your improvement efforts
- Consider submitting an abstract for your improvement work

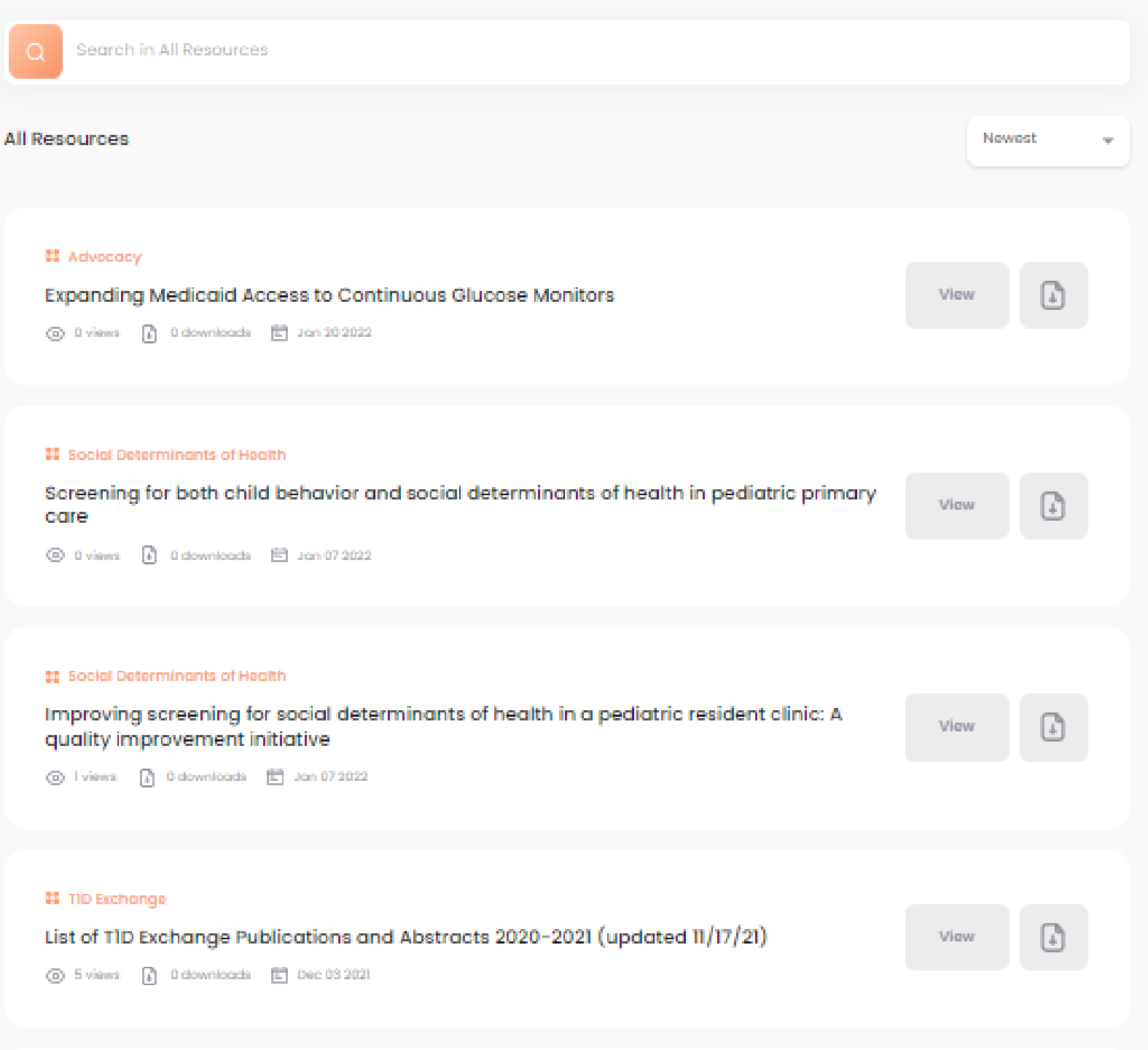
Resources Available

- **Monthly Collaborative Calls**
- **Check in Calls with Ori/Ann**
- **Dashboards**
- **IHI Open School Courses**
- **PDSA cycle documentation in LifeQI**
- **T1Dx QIC Trello page**
- **QI Portal**

QI Portal

Available for ALL clinics

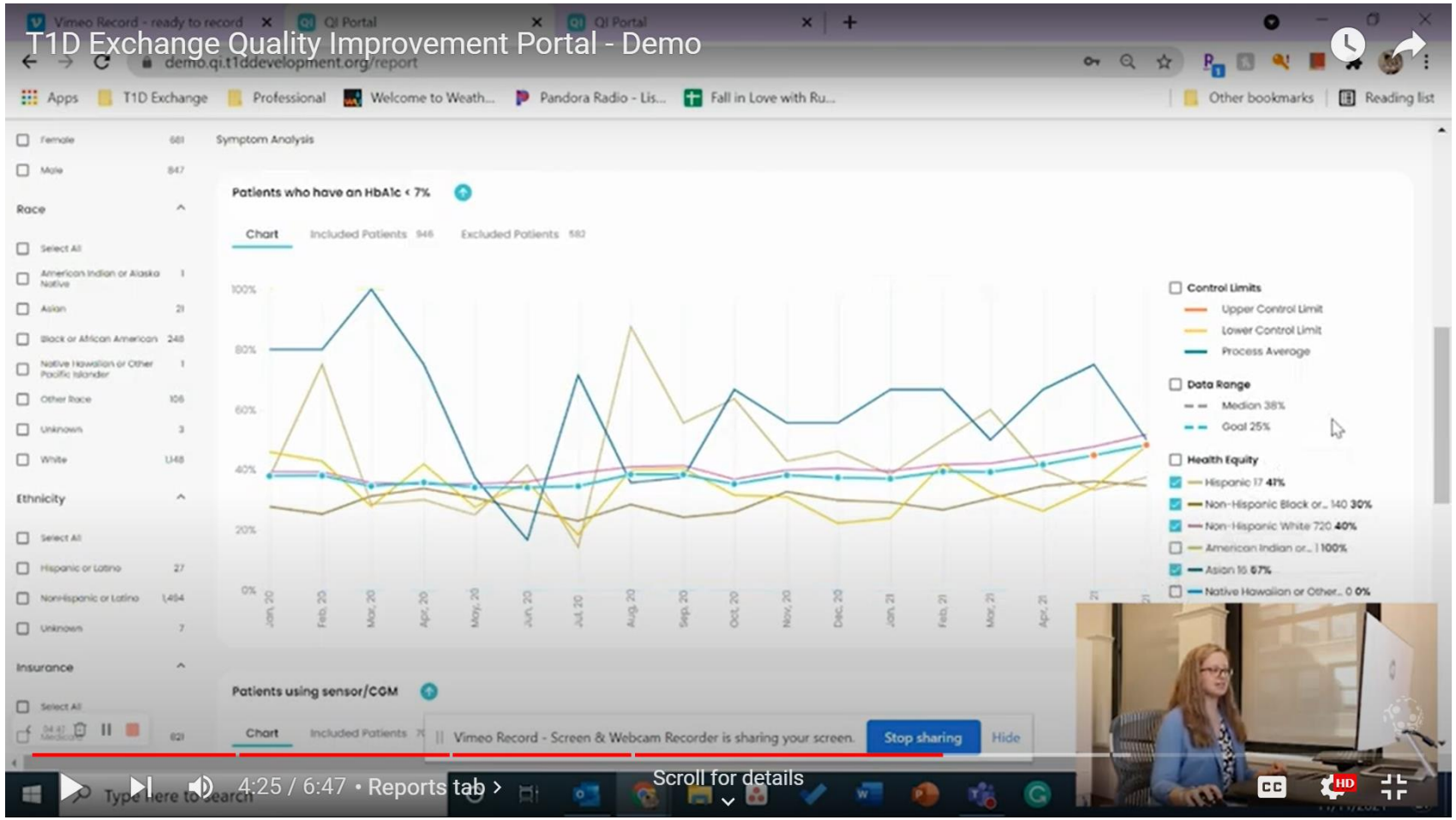
QI Portal offers benchmarking, charting, and library resources



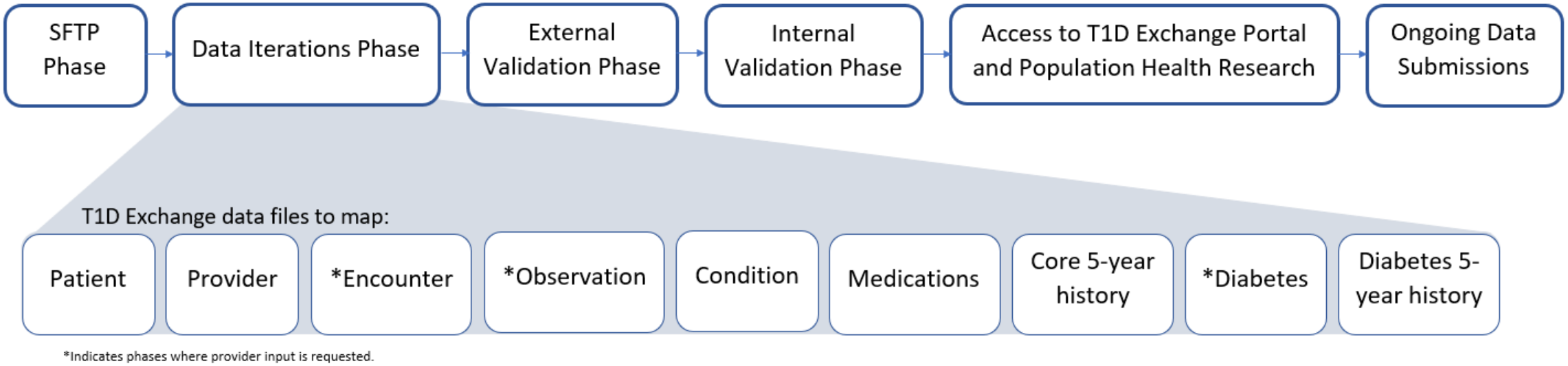
QI Portal Demo Video

- Five-minute overview of all four Portal tabs. Or, select tab “chapters” for a quick refresher on a specific feature

- https://www.youtube.com/watch?v=iZCe48_MtsE



Data Mapping Process



*Indicates phases where provider input is requested.

Data Mapping Progress – Peds clinics

Sites

19/22

Site	Data Mapping Orientation	SFTP Established	Patient File	Provider File	Encounter File	Observation File	Condition File	Medication File	Diabetes File	5-Year History	External Validation	Internal Validation	Post Data Mapping/ Ongoing Validation
BDC													
Texas Children's													
Cincinnati													
Nationwide													
SUNY													
Rady													
U of Florida													
Children's Mercy													
Cook													
Cohen/Northwell													
Seattle													
Alabama													
CHLA													
U of Miami													
NYU Langone													
U of Wisconsin													
Michigan													
Helen DeVos													
Lurie													
Mt. Sinai													
Le Bonheur													
CHoA													
Children's National													
Indiana													
UCSF													
Stanford													
Weill Cornell													
NYU Mineola													

Key

- Completed
- In Progress


T1D
Exchange

Next Pediatric Collaborative Call (combo with Adults)

Thursday March 24th, 11:00-12:30 PM EST

Questions from the Collaborative