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“DASH”ing the way to health equity and chronic disease care success: innovations and development of the DASH (Diabetes and School Health) Program



June 2023
School-Based Health Alliance Conference
Washington, DC

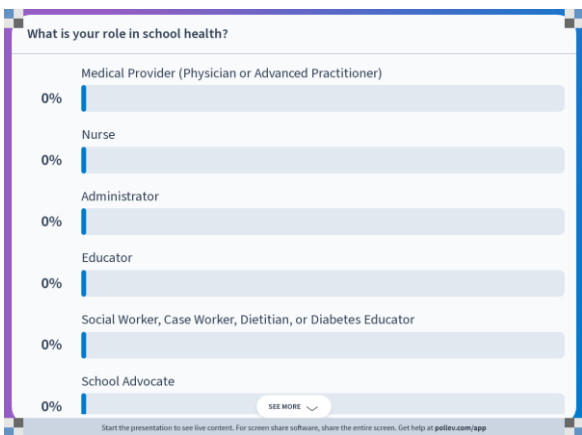
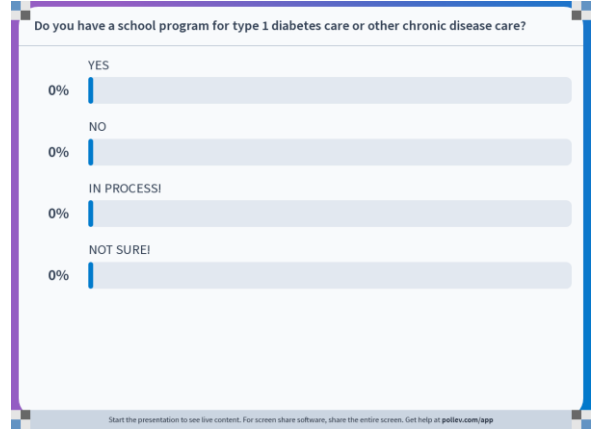
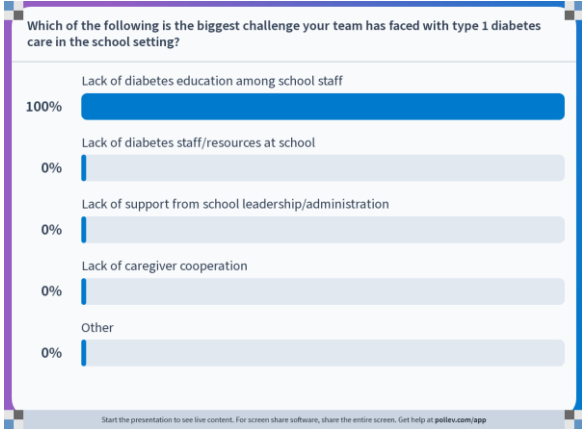


TIME FOR SOME QUESTIONS!!



What ONE word comes to mind when you think of type 1 diabetes care in the school setting?

Nobody has responded yet.
Hang tight! Responses are coming in.



Ask any questions or comments from our group today anytime during the presentation!

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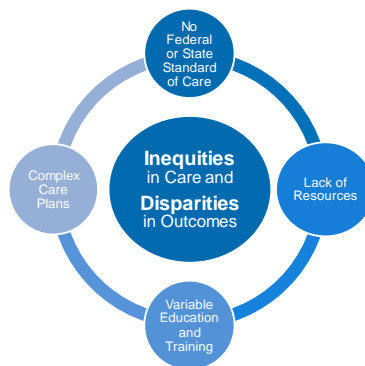
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Presentation Outline

1. Challenges of Diabetes Care in School
2. NCH Approach to Health Equity
3. DASH Program Structure
4. DASH Program Outcomes
5. How to structure a similar program



Challenges with T1D Care in Schools





“Complex patients require complex solutions”



14

Development of the NCH DASH Program



NCH Approach to Equity

Partners for Kids (PFK): Accountable care organization for patients with Medicaid

The Partners for Kids region comprises 34 counties with a population that is 73% urban and 27% rural



Care Navigation: Extension of PFK for medically complex children

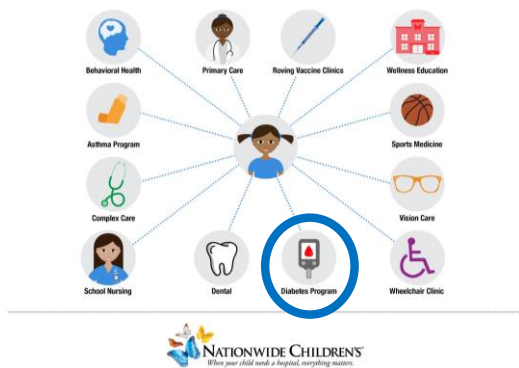


Community Wellness

- Care Connections – School Health Programs
- Healthy Neighborhoods, Healthy Families (HNHF)
- BC4 Teens, Ohio Better Birth Outcomes, Pediatric Vital Signs



NCH School Health/Whole Child Model



DASH is a community-based health equity initiative

Aims: Decrease acute care utilization and promote optimal glycemic control in school-aged children who are vulnerable to complications of type 1 diabetes

Limit unnecessary healthcare utilization and increase self-efficacy, confidence, comfort, and independence for children with diabetes management

Streamline Patient Care



- Establish pharmaceutical courier service to deliver Rx, supplies
- Care coordination & medication management
- Standardize best practices and communication

Provide Ongoing Support & Communication



- Monthly and prn 1:1 in-person appointments at school with the DASH team
- DASH staff sign orders & answer questions for school staff
- Eliminate barriers for dose adjustments and delays in treatment/acute care

Enhance Education/Advocacy

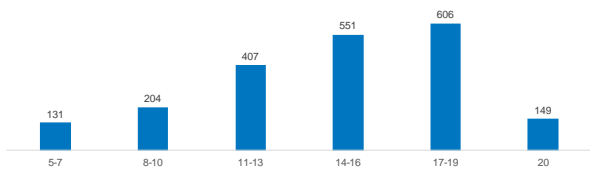


- Educate students and families on healthy decision-making
- Provide updated education as treatment plans change
- Provide knowledge to school nursing staff with formal/informal sessions
- Advocate for systemic changes

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

NCH T1D Patient Population

School Age Distribution*
n=2,048



*ages 6 to 20

Source: T1D registry patients with a composite score (current state as of 07/07/2020)

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

NCH Type 1 Diabetes Registry

Race	Total Number in Registry (% of total)	Number of Students with Low Score	% of Students with Low Score
Black or African American	344 (17%)	126	37%
Asian	40 (2%)	6	15%
Bi-racial/Multi-racial	100 (4%)	15	15%
Latino/Hispanic/Unspecified	39 (2%)	6	15%
White	1443 (70%)	186	13%
Native Hawaiian and Other Pacific Islander	3 (0.1%)	0	0%
American Indian and Alaska Native	3 (0.1%)	0	0%
Other	76 (4%)	10	13%



Patients of color are disproportionately falling into the low score, high risk category compared to their counterparts



Patients of color are facing significantly more barriers to traditional care impacting health outcomes



School health programs, which bring care to where the patient is located, have shown success in closing the gap on providing equitable care.

**Diabetes Management Composite Score comprised of:
A1C score, endo visits, ED visits/admissions, LDL value, blood pressure, CGM use, microalbumin, hypoglycemia, and diabetic complications
Low score = sub-optimal management


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

Source: T1D registry patients with a composite score (current state as of 07/07/2020)


* Indicates score <10

Monitoring Outcomes

Students



School Nurses Parents



Objective measures of diabetes care

- Hemoglobin A1C
- Diabetes Composite Score
- Utilization of diabetes technology
- Acute care utilization

Assessment tool for skill & mastery







- Subjective data for education
- Self-efficacy measures

Pre- and post-survey distribution

- Assessment of educational improvements & progress in self-care
- Assessment on confidence in diabetes management
- Assessment of School staff comfort
- Assessment of parental attitudes, concerns and assessment of child's skills



Monitoring Outcomes

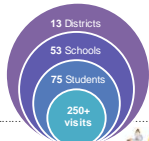
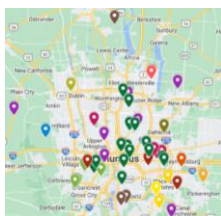
-  Healthcare utilization & medication adherence
-  Diabetes Composite Scores & HbA1c levels
-  Missed school days and admissions for diabetes complications
-  Self-efficacy & knowledge of diabetes management (graduation rate, survey results, etc.)
-  Quality of Life metrics - depression, stress & social functioning
-  US News Quality Metrics (4 or more outpatient clinic visits, DNE touchpoints, A1C values, etc.)



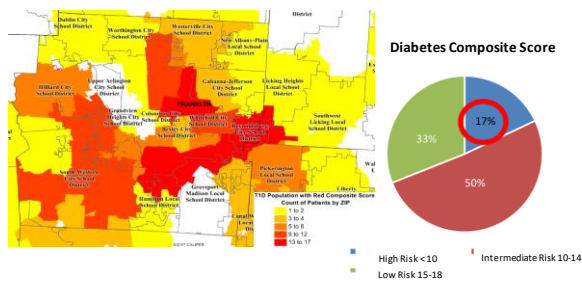
DASH Program: Initial Cohort

- Receive T1D care at Nationwide Children's Hospital
- Lives < 45 miles of main campus
- Diabetes Composite score < 10
- 50-75 students

Pilot Baseline Demographics (2021-2022)	
Total Students	56
Age Range	5-18
Ethnic minority	69%
Primary language other than English	16%
Gender Diverse	5%



Patient Distribution by Composite Score



DASH Program Impact and Outcomes



DASH Program: Improved Outcomes

- Median A1C **improved from 12.4% to 11.9%**
- Median Endocrinology Clinic appointment attendance **increased by 4.6 visits**
- Median Diabetes Composite Score values **improved from 9 to 12 indicative of decreased risk of complications** (high to intermediate risk)

Baseline Fall 2021



■ Injections ■ Pump

n = 44

Spring 2023

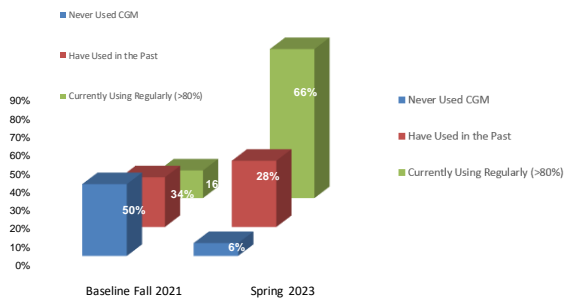


■ Injections ■ Pump

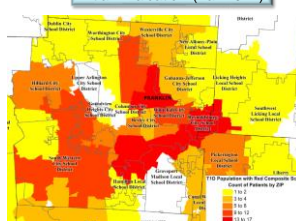
n = 82



DASH Program: Improved Outcomes

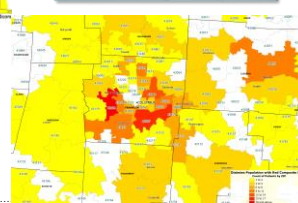


Initial Evaluation (Fall 2021)

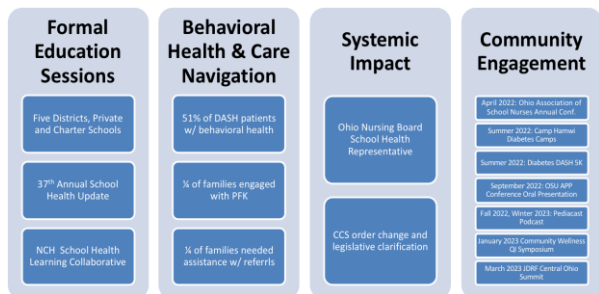


Composite Score Improvement

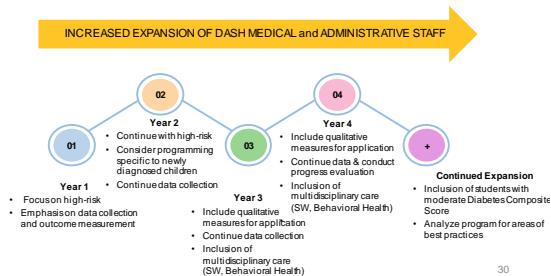
End of Pilot Year (Spring 2022)



Educational, Psychological & Systemic Outcomes

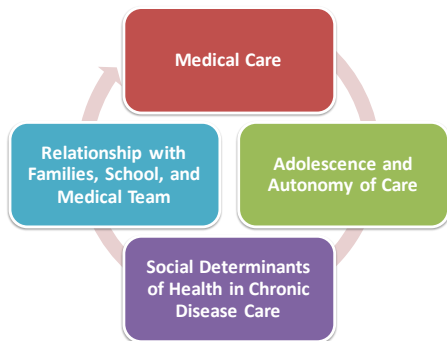


DASH Program Expansion Model



30

Complexities of Diabetes Care



Case Vignettes



Small groups will work through real challenges in T1D care in schools, DASH team will share effective strategies and lessons learned



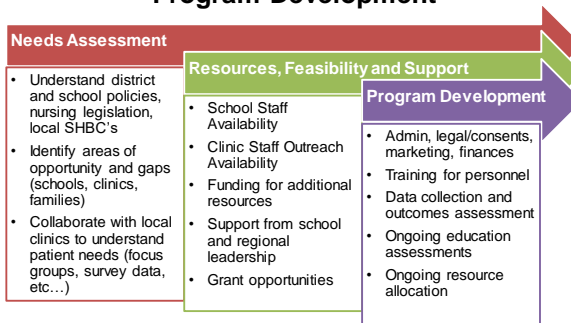
Building a chronic disease school health program



Identifying challenges, partnerships, and implementation strategies



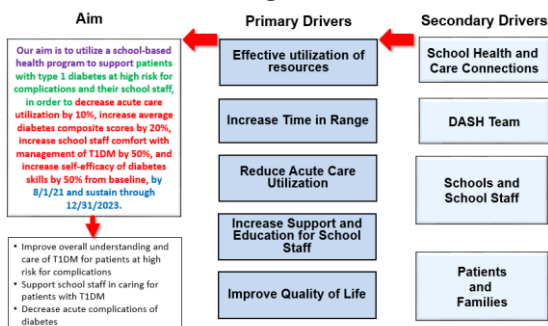
Program Development



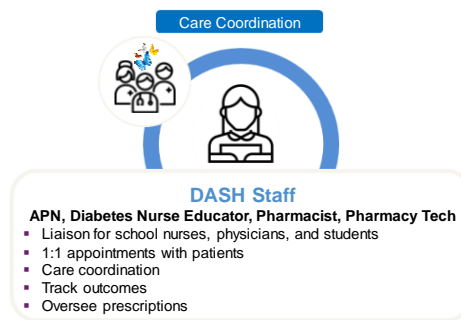
Resources:
CDC's School Health Index
CDC School Health Profiles



NCH DASH Program QI Framework



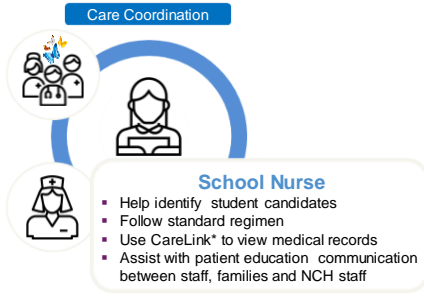
Patient Care Model



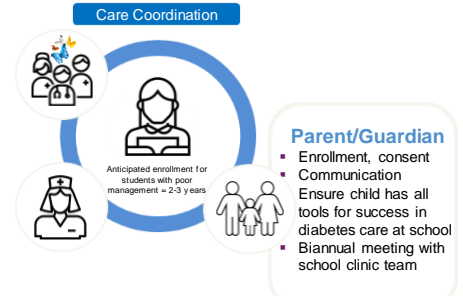
*CareLink is a tool for school nurses that provides real-time, web-only, EMR access to integrate school nurse with care team



Patient Care Model

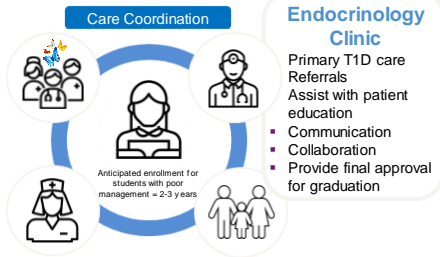


Patient Care Model



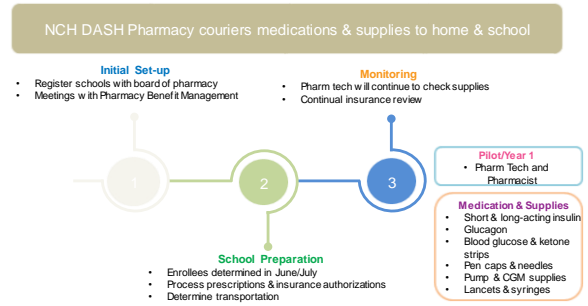
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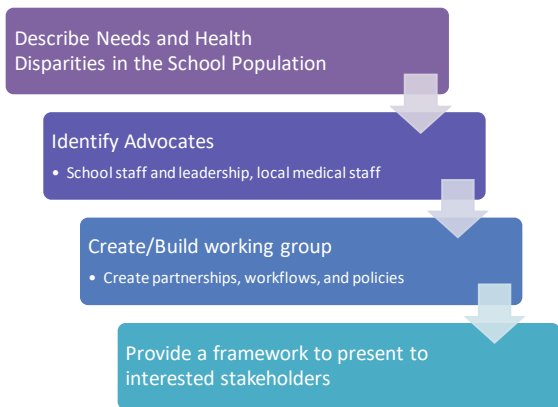
Patient Care Model



*CareLink is a tool for school nurses that provides real-time view-only EMR access to integrate school nurse with care team

DASH Pharmacy Service





Ongoing Program Evaluation



Centers for Disease Control and Prevention. Framework for program evaluation in public health. MMWR 1999;48 (No. RR-11)



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Thank You for Your Time & Attention!

Special Thanks:

Collaborating Schools and Districts, Families and Students
 Mary Kay Irwin: Senior Director, School Health
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 Dr. Aurelia Wood: DASH CO-Medical Director
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 Becca Cline, Kathryn Simms: DASH Diabetes Nurse Educators
 Terri Dachenhaus: Clinical Leader Community Wellness
 Natasha Geno: Administrative Support, Community Wellness
 Adrean Jones, Alex Swick, Ashley Braughton: DASH Pharmacy
 Marketing, Design, Legal, Risk Management Teams
 Alyssa Kramer, Cody Caudill: Decision Support Senior Analysts
 NCH Endocrinology Team



CME and CE Information

In support of improving patient care, this activity has been planned and implemented by the School-Based Health Alliance and Moses/Weitzman Health System, Inc. and its Weitzman Institute and is jointly accredited by the Accreditation Council for Continuing Medical Education (ACCME), the Accreditation Council for Pharmacy Education (ACPE), and the American Nurses Credentialing Center (ANCC), to provide continuing education for the healthcare team.

Through Joint Accreditation, credits are also available under the following bodies:

- American Academy of PAs (AAPA)
- American Dental Association's Continuing Education Recognition Program (ADA CERP)
- American Psychological Association (APA)
- Association of Social Work Boards (ASWB)
- Commission on Dietetic Registration (CDR)

4

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Resources

- ADDRESSING framework of cultural identity: <https://thinkculturalhealth.hhs.gov/>.
- Nationwide Children's Hospital: A Guide for Driving Improvement.
- Institute of Medicine (US) Committee on Comprehensive School Health Programs in Grades K-12; Allensworth D, Lawson E, Nicholson L, et al., editors. Schools & Health: Our Nation's Investment. Washington (DC): National Academies Press (US); 1997. Appendix B, Guidelines for Comprehensive School Health Programs. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK232686/>
- CDC School Health Profiles: [Profiles Overview | DASH | CDC](#)
- [Research Brief: Addressing the Needs of Students with Chronic Health Conditions: Strategies for Schools \(cdc.gov\)](#)
- [School Health Services | Healthy Schools | CDC](#)
- [Whole School, Whole Community, Whole Child \(WSCC\) | Healthy Schools | CDC](#)
- [Home – FTR](#)



Questions/Discussion

