Understanding Improvement in Glycemic Control in Primary Care Practices: Results of the Northeast Ohio Quality Improvement Hub (NEO QI Hub)

Shari D. Bolen, MD, MPH[1,2]; Jordan Fiegl, MS[1]; Olivia Neff, PhD[3]; Thomas E. Love, PhD[2]; Rebecca Fischbein, PhD[4]; Aleece Caron, PhD[1,2]; Mamta Singh, MD, MS[2,5]; Ifeolorunbode Adebambo, MD[1,2]; Chris Mundorf, PhD[6]; Douglas Einstadter, MD, MPH[1,2]; Debra R. Hrouda PhD[4]; Michael W. Konstan, MD[2,7] (on behalf of the NEO QI Hub)
[1]The MetroHealth System, Cleveland, OH; [2]Case Western Reserve University School of Medicine, Cleveland, OH; [3]Ohio Colleges of Medicine Government Resource Center, Columbus, OH; [4]Northeast Ohio Medical University, Rootstown, OH; [5]Veterans Health Administration, Cleveland, OH; [6]Better Health Partnership, Cleveland, OH; [7]University Hospitals, Cleveland, OH

Background

- Recognizing that different regions may benefit from local solutions, the Ohio Department of Medicaid established Regional Quality Improvement (QI) Hubs to improve the health of Medicaid enrollees who face higher burdens of chronic disease, such as diabetes.
- Although QI hubs have been shown to improve chronic diseases, few have focused on improving glycemic control using newer technology such as continuous glucose monitors (CGMs) and telehealth.

Learning Objectives

- To describe the Northeast Ohio (NEO) QI Hub's efforts to improve glycemic control and evaluate intervention strategies associated with improvement.

Description of Program

- 47 primary care practices (11 health systems) recruited in 2 waves to participate in a QI project to improve glycemic control (HbA1c) in adults with type 2 diabetes.
- Project kick-off followed by monthly QI coaching, data review, audit and feedback, and monthly webinars to promote peer-to-peer learning.
- A patient advisory council provides input on PDSAs.
- A community engagement team assists in developing community partnerships.
- Medicaid managed care plans address non-clinical barriers to care.
- The Ohio Colleges of Medicine Government Resource Center coordinates monthly meetings of all QI Hubs for shared learning.

Wave 1 Measures of Success

- Used cross-sectional electronic health record data to develop run and control charts of process and outcome measures for continuous QI.
- Conducted a preliminary multivariable logistic regression model for a cohort of all Wave 1 patients with diabetes (N=8,121) and at least 2 visits (1 during baseline period [7/1/2022 to 8/31/2023] and 1 during implementation period [9/1/2023 to 2/1/2026]).

Data & Results

Figure 1. Percent of People With Diabetes and A1C ≥ 9%

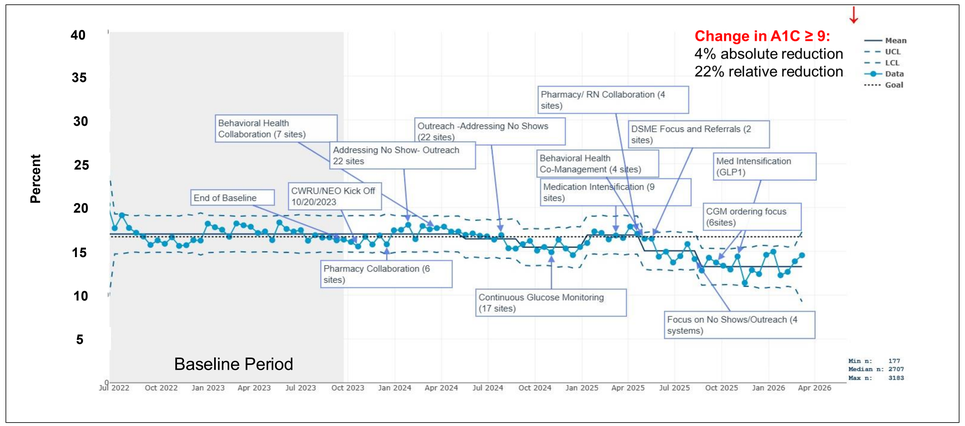


Table 1. EHR Patient Demographics (N=37,649)

Demographic	N (%)
Age, in years	
18-34	1,214 (3.2%)
35-64	17,971 (47.7%)
65+	18,464 (49.0%)
Race/Ethnicity	
Non-Hispanic White	14,221 (40.5%)
Non-Hispanic Black	16,281 (46.3%)
Hispanic/Latinx	3,429 (9.8%)
Other	1,202 (3.4%)
Insurance Type	
Commercial	9,426 (26.4%)
Medicare	16,444 (46.0%)
Medicaid	7,305 (20.4%)
Uninsured/Self-pay	2,417 (6.8%)

Figure 2. Percent of People With Diabetes and A1C ≥ 9 and Timely Follow-Up Scheduled Within 30 Days

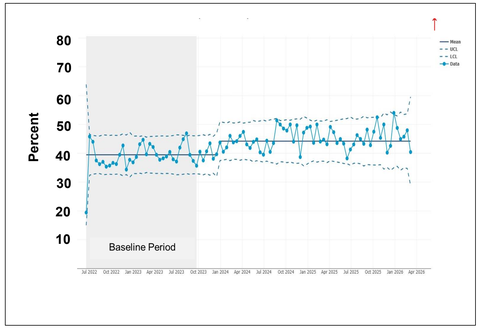


Figure 3. Percent of People With Diabetes and A1C ≥ 9 With Prescription for CGM

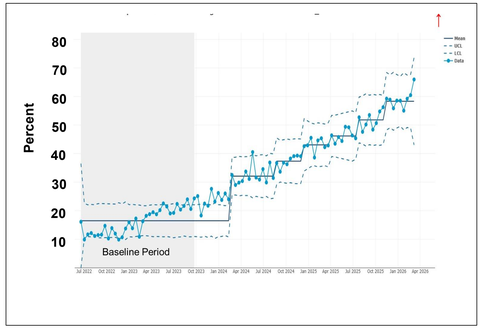
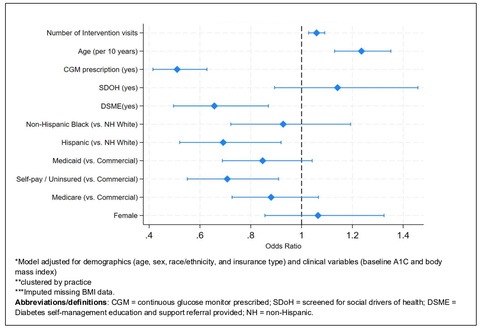


Figure 4. Factors Associated With Last A1C < 9%



*Model adjusted for demographics (age, sex, race/ethnicity, and insurance type) and clinical variables (baseline A1C and body mass index)
**clustered by practice
***Imputed missing BMI data.
Abbreviations/definitions: CGM = continuous glucose monitor prescribed; SDoH = screened for social drivers of health; DSME = Diabetes self-management education and support referral provided; NH = non-Hispanic.

Findings to Date

- Glycemic control improved by 4% (22% relative to baseline) for Wave 1.
- Intervention strategies that improved A1C in control charts included:
  - Testing and monitoring sugars using protocols.
  - Timely follow-up in team-based care (e.g., pharmacist, behavioral health, nurse, provider, dietitian, Diabetes Self-Management Education and Support [DSMES]).
  - Attention to social needs (data not shown).
- Modeling demonstrated that number of visits (a measure of timely follow-up and outreach) was associated with improved control.
- Modeling demonstrated that CGM prescription and DSMES referral were associated with worse control.
  - May be due to reverse causation: providers prescribing/referring those with worse glycemic control without sufficient patient uptake.

Challenges & Limitations

- Busy primary care practice limits time and capacity for QI.
- Modeling is preliminary (missing medication adherence/intensification, small sample sizes, missing data).
- Modeling is association not causation.

Policy & Practice Implications

- Regional QI Hubs provide a strong and effective backbone for improving the quality of care.
- Intervention strategies that focus on timely follow-up in team-based care and outreach could be spread more broadly to improve glycemic control using QI infrastructure.

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