



Leveraging Continuous Glucose Monitoring Data To Improve Type 2 Diabetes Care: Development Of A Novel Quality Improvement Metric

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01 – INTRODUCTION

- Continuous Glucose Monitoring (CGM) is a powerful tool in the management of **type 2 diabetes** (T2D), providing real-time glucose data that enhances clinical decision-making and supports patient self-management.
- To derive full clinical benefit, CGM data must be **regularly reviewed by clinicians** and integrated into individualized care plans.
- Despite growing CGM adoption, there are currently no **widely accepted, standardized quality metrics** for assessing how consistently or effectively practices review and interpret CGM data for persons with T2D.

02 – OBJECTIVES

- To develop and benchmark a novel **quality improvement metric** measuring the proportion of persons with T2D on CGM who have documented CGM interpretation by their endocrinology practice during a measurement year.
- To characterize current practice-level **workflows, barriers, and opportunities** for optimization of CGM data download and review through a **survey of 23 participating endocrinology practices**.

03 – METHODS

SETTING

The **Michigan Collaborative for Type 2 Diabetes (MCT2D)** is a statewide quality improvement (QI) initiative aimed at improving T2D care through increasing CGM use, guideline-directed medical therapy, and low carbohydrate dietary interventions.

METRIC DEVELOPMENT

Using claims data from the **Collaborative Quality Initiative (CQI) Population Health Registry**, we developed a CGM interpretation metric and benchmarked participating endocrinology practices statewide. The metric was defined as follows:

Numerator

Number of patients in the denominator with **≥1 CGM interpretation** as demonstrated by a 95251 Current Procedural Terminology (CPT) code billed during the measurement year with a 2-month grace period (01/01/2024–02/28/2025). The 2-month grace period ensured adequate time to perform at least one CGM interpretation for patients newly prescribed a CGM towards the end of the measurement year.

Denominator

Number of patients with T2D attributed to a practice who are **using CGM** as identified by ≥1 CGM device billing code as identified by a National Drug Code (NDC), Healthcare Common Procedure Coding System (HCPCS), or CPT code during the measurement year (01/01/2024–12/31/2024). A total of **46 pharmacy claims NDC Codes** and **23 HCPCS/CPT codes** were used to identify patients using CGM.

Attribution

Patients were attributed to a practice if they had **≥2 ambulatory visits** with an endocrinologist in the prior two years (most recent within **395 days**), with T2D listed as a primary or secondary diagnosis (at least one primary).

PRACTICE SURVEY

A structured survey was distributed to all 23 participating MCT2D endocrinology practice leads (07/2025–09/2025) to characterize CGM download workflows, barriers to consistent interpretation, and opportunities for process improvement.

04 – RESULTS • BENCHMARKING

Among 3,344 persons with T2D (PwT2D) attributed to an MCT2D endocrinology practice and using CGM, 2,924 (87.4%) had ≥1 documented CGM interpretation during the measurement year. Practice-level performance varied considerably, ranging from 18.1% to 98.5%. Baseline performance percentiles are shown in **Table 1** and attributes of participating practices are shown in **Table 2**.

Across MCT2D endocrinology practices, baseline performance of the CGM interpretation metric was high overall but with substantial site-level variation:

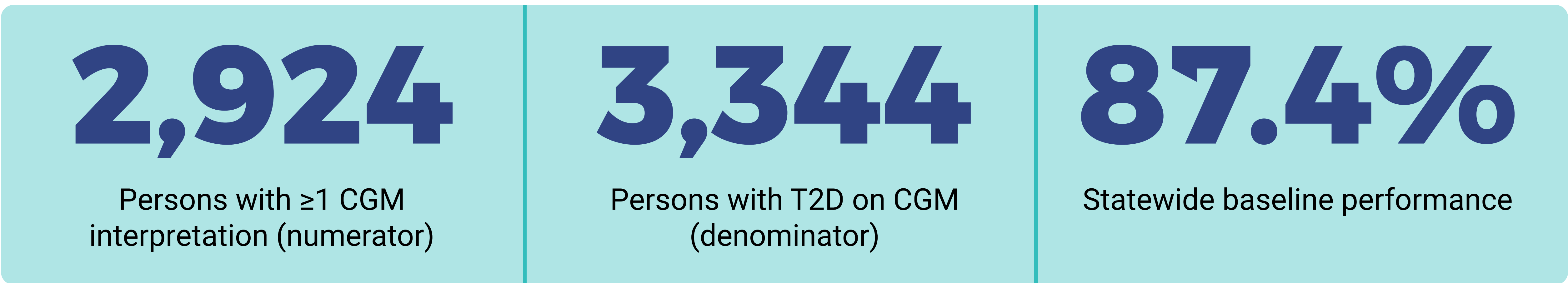


TABLE 1. **BASELINE CGM INTERPRETATION METRIC PERFORMANCE**

Practice-Level Percentiles	Baseline
50th Percentile	87.4%
75th Percentile	93.2%
90th Percentile	95.2%
95th Percentile	96.4%

TABLE 2. **PARTICIPATING PRACTICE ATTRIBUTES GROUPED BY NUMBER OF CLINICIANS**

Number of Clinicians	Total Practices	Percent Independent	Median Attributed Patients	Median Baseline Rate
1	9	22%	40 (16-83)	82.76% (18.1-96.2)
2 to 3	6	67%	166 (16-414)	94.97% (68.8-98.6)
4 to 6	4	50%	146 (85-213)	91.19% (68.8-92.2)
7+	4	50%	310 (208-545)	86.98% (85.7-92.8)

Practices stratified by number of clinicians. Single-clinician practices show widest variability in baseline performance.

05 – RESULTS • PRACTICE SURVEY RESULTS

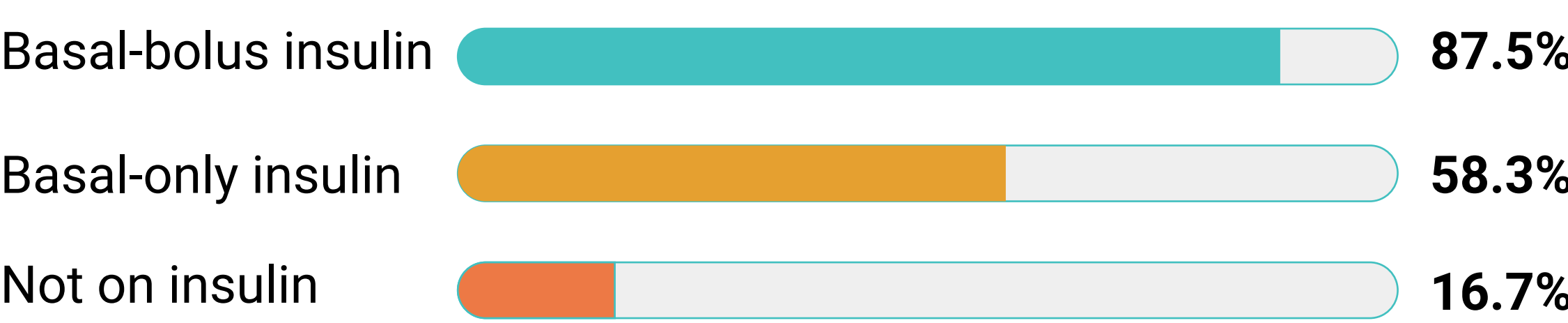
All 24 MCT2D endocrinology practices completed the survey. Nearly all practices had an established process for downloading CGM data during in-person visits, and downloads were reported as more consistent in-person than virtually. Perceived utility of CGM interpretation varied by treatment intensity, with the highest utility reported for patients using basal-bolus insulin. Most practices identified review every 3 months as the ideal frequency for patients using basal-bolus or basal-only insulin.



SUCCESSFUL CGM DOWNLOADS >75% OF THE TIME



PERCEIVED UTILITY OF CGM INTERPRETATION



Ideal review frequency: Every 3 months was selected by **95.8%** of practices for basal-bolus insulin patients and **79.2%** for basal-only insulin patients.

06 – RESULTS • BARRIERS

- The most common barriers to obtaining a CGM download were technical platform challenges, forgotten login credentials, and patients not having their receiver available.
- The largest barriers to integrating CGM interpretation as a standard part of T2D care were patient challenges with technology, patient cost concerns, platform fragmentation/lack of standardization, and staffing-related issues (**Table 3**).

TABLE 3. **LARGEST BARRIERS**

Largest barriers to integrating cgm interpretation in T2D care (n=24, select top 3)

Barrier	n (%)
1 Patient challenges with technology	17 (70.8)
2 Patient cost concerns	14 (58.3)
3 Too many platforms / lack of standardization	7 (29.2)
4 Limited staff / staff lack time	6 (25.0)
5 Staff turnover / need to train staff	5 (20.8)
6 Inadequate reimbursement	5 (20.8)
7 Patients do not understand value of CGM review	4 (16.7)
8 Lack of provider engagement/interest	2 (8.3)
9 Unclear clinical benefit in T2D	0 (0)

07 – CONCLUSION

- Endocrinology practices demonstrated strong baseline engagement in CGM interpretation though significant site-level variability exists, highlighting opportunities for targeted improvement.
- In the coming year, practices will use QI methods to share best practices, address site-specific barriers, and implement process improvements.

