

Implementation of a Continuous Glucose Monitoring Workflow in a Complex Primary Care Clinic

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Background

Continuous glucose monitors (CGM) are a cost-effective and evidenced-based method for glucose monitoring for many people with diabetes.^{1-5, 7, 9-14, 16-17} National clinical practice guidelines by the American Diabetes Association and American Association of Clinical Endocrinology support CGM in patients with insulin-treated diabetes, those experiencing frequent, severe, or nocturnal hypoglycemia, and those needing additional help to reach glycemic targets regardless of glucose-lowering therapy.^{2, 3} Personal CGM data helps patients improve chronic disease self-management and helps clinicians reduce clinical inertia through the delivery of precise diabetes care.^{1, 6} Lack of systematic integration with the electronic health record and need for structured clinic workflows are two key barriers to using CGM in ambulatory settings. Due to these and other factors, CGM technology is often underutilized in primary care settings, where most adults with diabetes are treated.¹⁵

Purpose

To implement a CGM workflow in a complex primary care clinic to increase the use of CGM data in clinical decision-making.

Methods

Patients actively using CGM were identified daily. Assigned clinic nurses (n=3; 1 RN and 2 LPNs) uploaded CGM logs as pre-charting to the visit, which were then used by clinicians during clinical encounters. When nurses were not available, providers (MD, NP) or a clinical pharmacist completed the workflow.

Retrospective Chart Review:

- (1) Clinical documentation of CGM metrics
- (2) Analysis and interpretation of CGM data by the provider
- (3) CGM-specific current procedural terminology (CPT) code

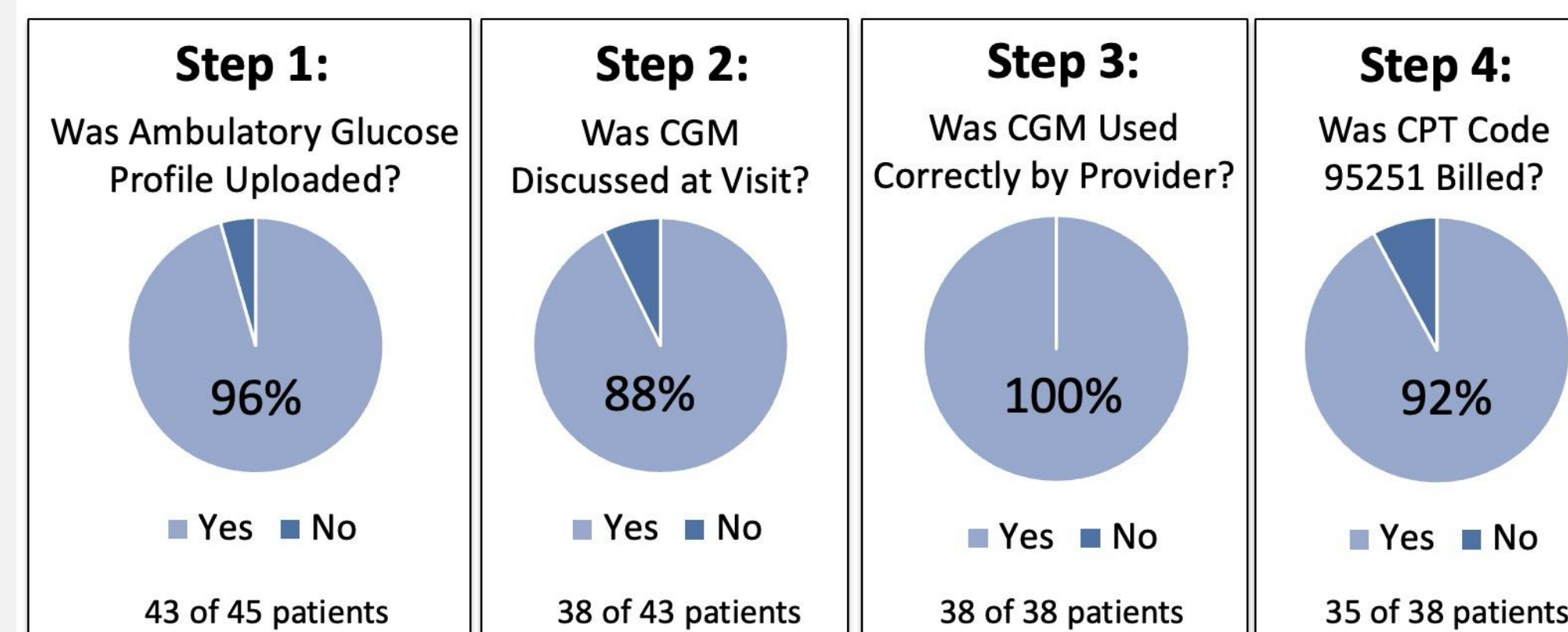
Additional Data Collected:

- (1) Type of visit
- (2) Staffing patterns for the clinic day
- (3) Time duration spent uploading CGM logs
- (4) Which team member uploaded CGM logs
- (5) Team member satisfaction with the CGM workflow process

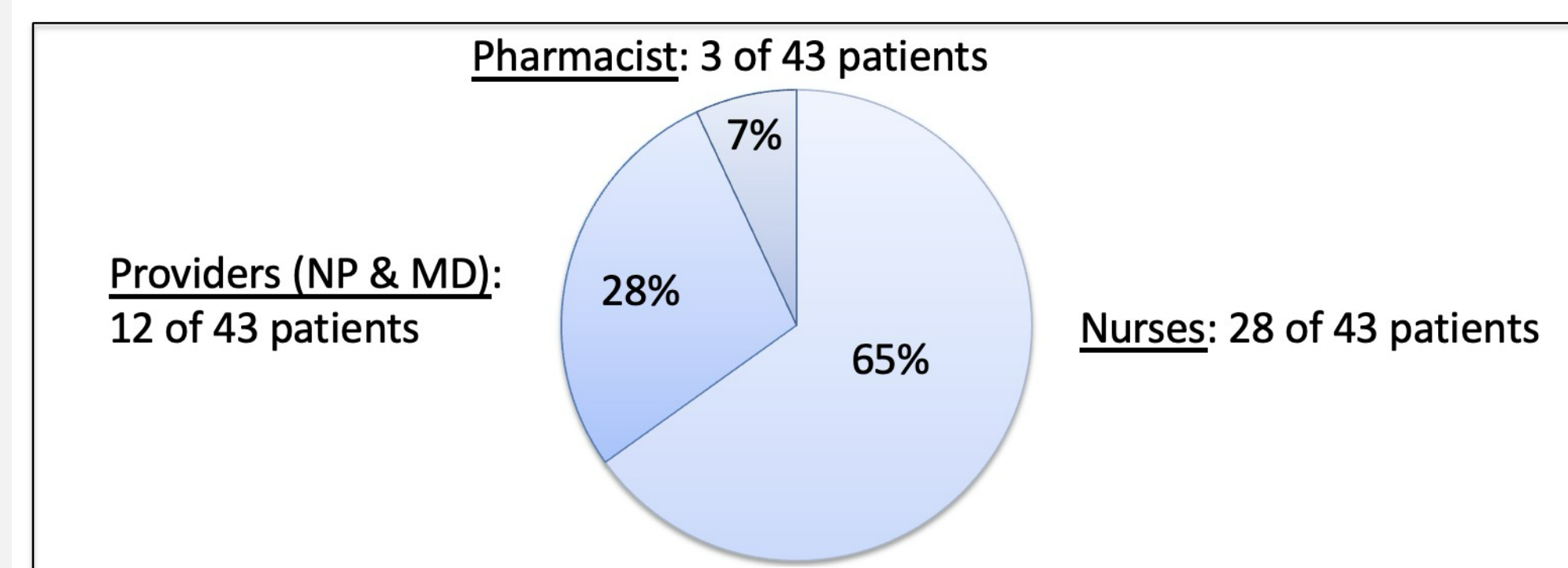
Change Process

This was a quality improvement (QI) project guided by the Institute for Healthcare Improvement's (IHI) Model for Improvement for eight weeks during Fall 2024.⁸ Workflow processes for clinic nurses, providers, and clinical pharmacists were examined and improved to support the project goals.

Cumulative Percentages of CGM Workflow (Weeks 1 – 8)



Who Uploaded CGM Logs to EHR? (Weeks 1 – 8)



Financial Analysis of CGM Workflow

	Net Profit (Reimbursement from CPT 95251 = \$35 per instance x 35 instances)	Total Cost of Investment	Salary for NP time to develop workflow process, provide initial staff training	Salary for RN "CGM Champion" to conduct additional 2-hour training sessions x 4 per year	RN salary x 1 to implement workflow	LPN salary x 2 to implement workflow
8-Week Project Timeframe	\$1225.00	\$3501.22	\$3240.00	-----	\$116.10	\$145.12
Projected Over 1 Year (visits every 2 months)	\$7350.00	\$5239.32	\$3240.00	\$432.00	\$696.60	\$870.72
Return On Investment (ROI): Net Profit / Total Cost of the Investment						
ROI for 8-Week Project Timeframe [\$1225.00/\$3501.22] x 100% = 34.9%			Projected ROI Over 1 year [\$7350.00/\$5239.32] x 100% = 140.3%			

Results

Ambulatory glucose profiles (AGP) were uploaded to pre-charting in 43 of 45 patients (96%) with active CGM. Providers discussed CGM in 38 (88%) of these cases, using it correctly 100% of the time. Billing for CPT code 95251 was completed in 35 (92%) of the applicable visits. Type of visit and staffing patterns had minimal and moderate impact on the CGM workflow process, respectively. Uploading of CGM logs took an average of 3 minutes per patient to complete (range of 1-7 minutes per patient). Nurses uploaded CGM logs in 28 (65%) patient encounters, while providers (MD, NP) uploaded 12 (28%) and the clinical pharmacist uploaded three (7%). Through informal weekly feedback sessions with the project team, nurses reported being able to easily complete the workflow on days with adequate staffing. The team agreed that the CGM workflow added value to the clinic and improved the quality of patient interactions for diabetes care.

Conclusions

Interprofessional teamwork to implement clinic workflow process improvements supports the delivery of guideline-driven diabetes care for adults using CGM. Ongoing clinic efforts to further increase CGM data uploading by nurses to 85% (currently 65%) will improve provider time and efficiency for engaging in direct patient care and will also support workflow sustainability.

Recommendations

Adopt and Adapt the Change:

- ✓ Train additional nursing staff so the workflow is less dependent on variations in daily staffing patterns.
- ✓ Recommend daily nursing staff assignments for CGM.
- ✓ Create standard operating procedures, nursing competency, and CGM toolkits for sustainability in the clinic.
- ✓ Implement CGM workflow in similar primary care clinics so more patients may benefit from incorporating CGM data into routine diabetes care.

Please scan QR code for CGM workflow resources and complete reference list

