

Continuous Glucose Monitoring for Uncontrolled Diabetic Patients

Redwood Community Health Coalition
Promising Practice

PROMISING PRACTICE OVERVIEW

In 2018, 25% of patients 18-75 years of age with diabetes had a hemoglobin A1c (HbA1c) greater than 9.0 percent. The SVCHC CQI team identified HbA1c reduction as an area of focus for population health improvement. The Committee elected to use part of its HRSA quality award dollars to fund a pilot project to reduce the number of patients with diabetes with a HbA1c \geq 9.

Born out of HRSA's recommendation to use technology to improve patient outcomes, the pilot looked at the use of continuous glucose monitors and their impact on HbA1c numbers. This pilot also addressed provider concerns about patients not routinely checking their glucose levels using traditional glucose meters.

AIM

To use continuous glucose monitoring to provide immediate feedback to the patient who could then make informed decisions about food and activities as well as provide more information for the providers to modify interventions so that 30 uncontrolled diabetic patients would be able to reduce their HbA1c to below 9.0 percent.

MEASURES

Measure

Percentage of patients 18–75 years of age with diabetes who had hemoglobin A1c (HbA1c) greater than 9.0 percent during the measurement period

Denominator Universe:

Patients 18 through 75 years of age with diabetes with a medical visit during the measurement period.

Note: Include patients who were born on or after January 1, 1944, and on or before December 31, 2000.

Numerator:

Patients whose most recent HbA1c level performed during the measurement year is greater than 9.0 percent or who had no test conducted during the measurement period.

Provider Data for SVCHC Patient's with HbA1c \geq 9

	2.28.2019	3.31.2019	4.30.2019	5.30.2019	6.30.2019
Provider 1	45.60%	23.40%	13.80%	6.00%	9.00%
Provider 2	32.80%	22.30%	13.90%	14.00%	11.00%
Provider 3	46.50%	30.70%	24.40%	25.50%	25.70%
Provider 4	36.30%	46.10%	41.10%	33.33%	37.50%
Provider 5	59.00%	39.20%	21.80%	23.50%	19.30%
Provider 6	43.70%	28.30%	23.80%	25.60%	25.20%
Provider 7	0.00%	0.00%	100.00%	100.00%	100.00%
Provider 8	55.30%	35.20%	25.90%	24.30%	26.90%
Grp Average	43.31%	29.50%	21.20%	19.90%	18.20%

RESULTS TO DATE

On average, cohort members reduced their HgA1c results by 1.87 points.

Multiple patients had significant reductions in their HgA1cs with a single patient having a 7.3 point decrease.

28 patients started the pilot with 5 patients dropping out.

ACTIONS TAKEN

The team assessed various mechanisms for reducing HgA1C numbers and concluded that continuous glucose monitoring was a highly effective strategy to employ to reduce HgA1C.

Staff worked to identify and recruit potential cohort members. Pilot providers and staff were identified and trained on how to use the devices (Free Style Libre readers and sensors) and how to interpret the data. NextGen templates were modified and specific color-coded appointment slots were added to providers schedules to be used by pilot members.

Patients were recruited and an information session held to educate potential cohort members. Patients were then enrolled in the pilot for an 8 month period with monthly CGM appointments. Patients were required to meet with pilot providers monthly and the dietician twice during the pilot period. Sensors were given at monthly appointments during which LVN case managers also provided additional coaching, education and encouragement. At the start and the conclusion of the pilot, patients labs were drawn for comparative analysis and participant were surveyed about their experience in the pilot.

WORKFLOW

Diabetes Pilot Project Visits

Initial Visit	Second Visit	Follow-Up Visits	Final Visit
<ul style="list-style-type: none"> ➤ Baseline lab work collected (CBC, CMP, Micro albumin) ➤ Patient receives prescription (which our staff picked up so that we could pay for it) ➤ Sensor application and education on how to use the CGM. 	<ul style="list-style-type: none"> ➤ Review of CGM data and reports ➤ Education regarding how the data is linked to lifestyle and medication. ➤ Review of lab results. 	<ul style="list-style-type: none"> ➤ Receipt of sensors ➤ Download and review CGM data ➤ HgA1c testing ➤ Medication adjustment (if necessary) ➤ Relevant patient education 	<ul style="list-style-type: none"> ➤ Receipt of sensors ➤ Download and review of CGM data ➤ Lab work (CBC, CMP, Micro albumin) ➤ Survey

LESSONS LEARNED

- Knowledge is power. On average, pilot participants achieved a 1.87 point decrease in their HgA1c over a relatively short period of time.
- With appropriate education, patients can use sensor data to make adjustments to diet and lifestyle to control their diabetes, but the outcome is dependent on patient motivation.
- Appointment compliance: patients who worked had difficulty attending regularly scheduled monthly appointments.
- Medication compliance: some patients needed additional financial assistance for medications, some patients needed additional coaching/education around medication utilization.
- With more detailed data, providers can find patterns and adjust medications to align with individual needs, diet, and lifestyle.
- While the results are encouraging, the cohort was small and further study is needed.