

Explore the Effectiveness of Continuous Glucose Monitoring (CGM) in Improving Patient Outcomes in a Primary Care Setting

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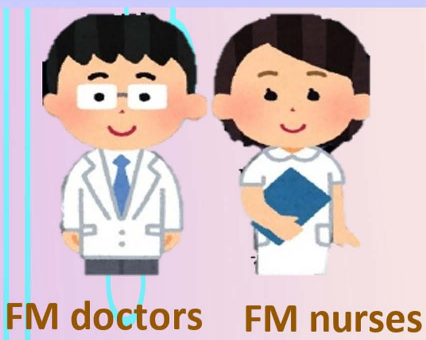
Introduction

CGM provides real-time glucose data and monitoring. By inserting a sensor, patients can get instant feedback of their glycemic patterns and make immediate, informed adjustments to diet, physical activity and medication adherence.

Methods

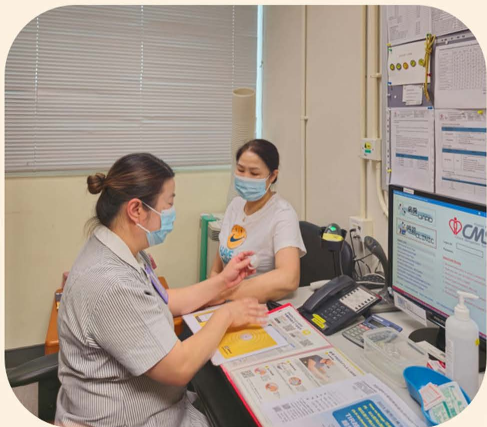
The pilot program started at Fanling Family Medicine Centre (FLFMC) in November 2023. Each recruited patient received **one free CGM device**. A **multidisciplinary team**—including FM doctors, FM nurses, and diabetes nurse consultants (DM NC)—reviewed glucose patterns, adjusted treatment plans, and provided personalized counseling. Program effectiveness was assessed through comparative HbA1c analysis (pre- vs. post-intervention) and patient satisfaction surveys.

CGM workflow in FLFMC



Patient Selection Criteria

- Patients with:
- ❖ High HbA1c but low fasting glucose
 - ❖ Discrepancy of home blood glucose and HbA1c
 - ❖ Poor glycemic control
 - ❖ Poor insight



FM nurses

CGM sessions by RAMP nurses
Face interview and Phone FU



DM NC FM nurses FM doctors

Multidisciplinary Case Discussion
Reviewed results and make FU plan

Result

13 patients were recruited from November 2023 to February 2025

All patients through the program from the post-CGM satisfaction survey (Table 1) reported enhanced understanding with better awareness of:

- Dietary choices
- Physical activity
- Medication Compliance

Also, the average level of HbA1c levels (Table 2) decreased from **9.14%** (pre-intervention) to **8.18%** (post-intervention)

Notably, **4** cases of hypoglycemia were identified, leading to earlier reviews of their medications

Table 1: The Result of Post-CGM Satisfaction Survey

	Strongly Agree		Agree		Neutral		Disagree		Strongly Disagree	
	n	%	n	%	n	%	n	%	n	%
The CGM device is easy to apply	9	69.2	3	23.0	1	7.7	0	0	0	0
This device can help me to monitoring client's glucose level	11	84.6	2	15.4	0	0	0	0	0	0
The device can enhance me the confidence in DM control	9	69.2	4	30.8	0	0	0	0	0	0
This device is not affecting my daily life	8	61.5	2	15.4	2	15.4	1	7.7	0	0
The CGM program can effectively control my glucose level	11	84.6	2	15.4	0	0	0	0	0	0
I will apply CGM at my own expense	6	46.2	2	15.4	2	15.4	3	23.0	0	0

Table 2: Analysis of HbA1c level before and after the program (n=13)

HbA1c (%)	Mean	SD
Before the CGM Program	9.14	1.76
After the CGM Program	8.18	1.69
Difference	-0.954	0.853



Result:

The CGM pilot program at FLFMC has demonstrated significant potential in improving glycemic control and patient awareness of diabetes management. The reduction in HbA1c levels and the early identification of hypoglycemic cases underscore the clinical benefits of CGM.

However, cost remains a barrier to wider adoption, and further efforts are needed to make this technology more accessible to patients.