

# REMOTE PATIENT MONITORING FOR PATIENTS WITH CHRONIC DISEASES

Should the MUHC adopt remote patient monitoring systems for patients with chronic conditions at risk of acute care utilization?

## Background

- Remote patient monitoring (RPM) uses digital tools to collect and transmit patient health data remotely, enabling clinicians to monitor, interpret, and act without in-person visits.
- It supports early detection, timely intervention, and continuity of care while reducing the burden on health systems.

### Evaluation questions:

- What is the clinical effectiveness and safety of RPM vs. standard care in patients with chronic conditions?
- What is the cost and feasibility of adopting an RPM system at the McGill University Health Centre (MUHC)?



Photo credit: Queen Margaret University

## Methods

We conducted a systematic review using the following criteria:

- Population: Adults with selected high-burden chronic conditions (e.g., heart failure, diabetes) at risk of acute care utilization.
- Intervention: RPM using patient-owned devices
- Comparator: Standard care without RPM
- Outcomes: Acute care utilization; mortality; quality of life; clinician workload; implementation costs

## Results: Evidence Summary

Diabetic patients		<b>RPM may slightly reduce HbA1c</b> 26 RCTs (4,333 participants), mean difference -0.29% (95% CI -0.46 to -0.13). Low certainty
		<b>RPM may have no clinically meaningful impact on fasting blood glucose</b> 10 RCTs (1,415 participants), mean difference -0.62 mmol/L (95% CI -1.27 to 0.04). Low certainty
		<b>RPM may slightly reduce Body mass index (BMI)</b> 12 RCTs (1,525 participants), mean difference -0.28 kg/m <sup>2</sup> (95% CI -0.55 to -0.003). Low certainty
Heart failure patients		<b>RPM probably reduces first heart failure hospitalization</b> 22 RCTs (2,015 events), risk ratio 0.87 (95% CI 0.78 to 0.97). Moderate certainty
		<b>RPM probably reduces total heart failure hospitalization</b> 12 RCTs, incidence risk ratio 0.73 (95% CI 0.59 to 0.89). Moderate certainty
		<b>RPM may reduce all-cause mortality</b> 31 RCTs (1,316 events), risk ratio 0.91 (95% CI 0.80 to 1.03). Low certainty
Pilot implementation costs		<b>Modest.</b> A pilot of RPM program at the MUHC could cost \$13,191 CAD to treat 50 patients, or \$26,382 CAD to treat 100 patients

## Recommendation: Approved for Evaluation

The balance reflects the justification for the recommendation. A pilot will collect local data to assess feasibility, user acceptability, workflow integration, and costs.

