

REIMAGINING POST-SURGICAL RECOVERY: EDMONTON ZONE VIRTUAL HOME HOSPITAL COLORECTAL SURGERY PATHWAY

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BACKGROUND

The Edmonton Zone Virtual Home Hospital (EZVHH) is an Alberta Health Services (AHS) publicly funded program located in Edmonton, Alberta, Canada. Minimally invasive colorectal surgeries such as laparoscopic bowel resection and ileostomy closure are frequently performed at the University of Alberta Hospital (UAH). Traditionally this surgery requires a length of stay of 2–4 days in-hospital, and after a typical inpatient discharge, up to 10% of patients may re-present to the emergency department or be readmitted within the first 14 days post-discharge.

The UAH care team identified that 90% of these patients did not require extensive post operative care, in addition many of these patients faced delays and cancellations due to capacity issues. UAH Colorectal surgeons partnered with EZVHH to co-design the EZVHH Colorectal pathway

PATHWAY OBJECTIVES

- To reduce inpatient length of stay
- To prevent/reduce emergency department (ED) visits and unplanned readmissions
- To enhance the patient experience by delivering acute care in the comfort of their home
- To maintain high-quality and safe post-surgical multidisciplinary care

METHODOLOGY

Patient Eligibility: patients scheduled for minimally invasive colorectal surgery, post-operatively stable, lives within 80km of Edmonton, ≥18 years old, that function independent (or with support) in a safe environment, patient/caregiver participation & engagement.

- 01 Patients that meet eligibility criteria are identified pre-operatively by the surgeon and referred via electronic medical record system (EMR)
- 02 A digital remote patient monitoring kit (dRPM) is couriered to patient's home for in home, patient-led, vitals monitoring
- 03 Day 0: Patients are discharged home and admitted to EZVHH who arrange an in-home Community Paramedic (CP) visit assessment with virtual surgeon consult
- 04 Day 1-3: Patients take vitals 2x/day, receive daily CP visits & labs, and 24/7 surgeon access
- 05 Day 4+: Care is transitioned to the EZVHH rotating physician until patient is stable for discharge

Escalation process: Rapid CP in-home deployment or outpatient surgeon in-person assessment if concerns arise

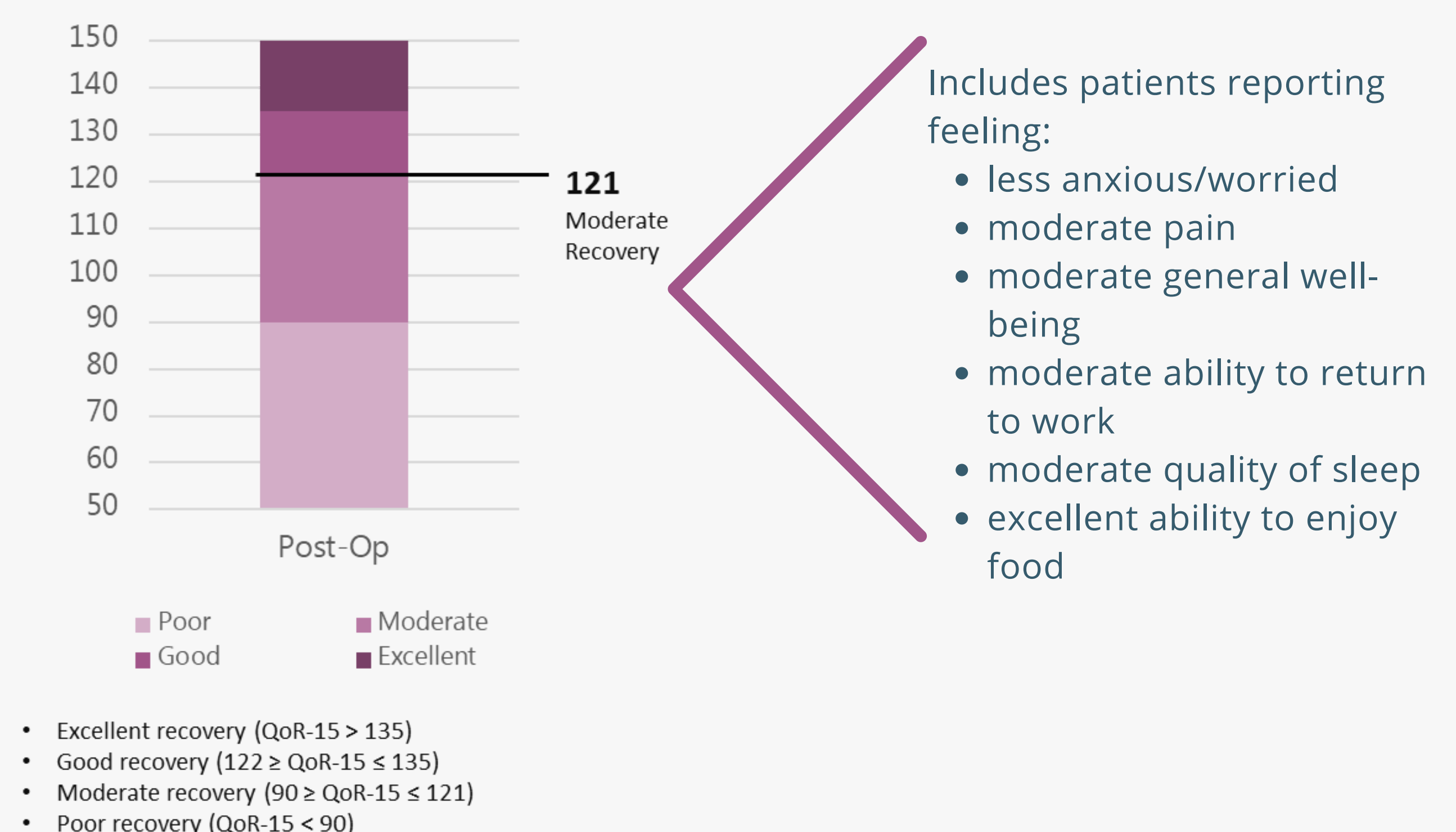
- 06 The pathway was assessed through a combination of quantitative and qualitative measures, including system impact, patients reported outcomes, and patient experience survey.

FINDINGS

Health System Impact

- ↓ 24% decrease in-hospital length of stay
- 0 Zero ED visits (30-days post-discharge)
- ↓ 59% decrease in readmission rate (30-days post-discharge)

Patient Reported Outcomes (7 days post-op)



Patient Experience Survey

- 97%** Would recommend EZVHH to friends & family
- 100%** Reported being "satisfied" or "very satisfied" with the care they received
- 97%** Felt quality of care was "same as" or "better" than in-hospital care
- 100%** Reported being treated with respect & dignity

Patient Quotes

"It was the best program, it saved me another week in the hospital. I didn't take up a bed, it was available for someone who needed care."
– EZVHH Patient (2023)

"I recommend EZVHH to everybody to have access to that type of care. It will take a lot of pressure from the hospital." – EZVHH Patient (2023)

KEY PATHWAY TAKEAWAYS

- Improves health system capacity by supporting earlier hospital discharges, preventing unnecessary ED visits, and improving bed capacity
- Improves the patient experience while maintaining high quality of care
- Requires clear post-operative care protocols and eligibility criteria
- Leverages community supports to deliver in-home interventions (e.g. community paramedics)
- Requires an investment in technology for continuity of care (dRPM & integrated EMR)
- Is a safe and scalable post-surgical recovery model currently replicated across 4 hospitals
- Needs to be co-designed with engaged surgeons and acute care operational partner

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