Program Evaluation of Telehomecare for Patients with Heart Failure or Chronic Obstructive Pulmonary Disease: TeLeCare (TLC) Study

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BACKGROUND

• Chronic Obstructive Pulmonary Disease (COPD) and Heart Failure (HF) impose a significant social and economic burden to patients, families and healthcare systems. COPD is the fourth leading cause of death in Canada. HF affects approximately 500,000 Canadians and mortality is high reaching up to 38% within 10 years. The estimated annual cost of moderate to severe COPD exacerbations varies between $564-700M in Canada.
• Telehomecare (THC) may be effective in increasing quality of life and self-management of COPD and HF patients.
• Evidence still inconclusive with the lack of cost-effectiveness research in this area.
• With the introduction of the THC program and an expected increase in recruitment rate a multi-level evaluation of the clinical and cost-effectiveness of this program is needed.

OBJECTIVES

PRIMARY OBJECTIVES
• To explore the organizational factors (facilitators and barriers) and processes, which facilitate or impede the adoption and implementation of THC across three Local Health Integration Networks (LHINs) using a multi-level framework.

SECONDARY OBJECTIVES
• To explore how various models of THC enabled patient self-management impact patient outcomes, participant’s experiences, and system costs for chronic disease management (HF or COPD) in Ontario;
• To explore among the population of patients that is enrolled, for whom, and under what conditions, does telehomecare appear to be the most effective.
• To explore how various models of THC enabled patient self-management impact patient outcomes, participant’s experiences, and system costs for chronic disease management (HF or COPD) in Ontario;

STUDY POPULATION & SETTING

LHINs: North East, Central West and Toronto Central (20 sites including hospitals and CCACs)

Participants: The study population included current or former THC patients with a documented diagnosis of COPD or HF from across the three LHINs. The participant population also included healthcare professionals, decision-makers, and administrators occupying various roles in the THC Program.

INTERVENTION

Phase 1 Phase 2 Phase 3

• Patient Enrollment

Patient Recruitment THC Nurse Home Activities

Discharge Assessment

Discharge Assessment

• Eligibility & Consent

Alerts Management

Patient Discharge

• Consent

Management

Equipment Retrieval

• Equipment Assignment

Progress Reports

Gender

• Equipment Installation

Health Coaching

Equity

• Medication Reconciliation

Discharge Process

Environment

• Home Visit

Health Coaching Sessions

Workplace

• Notification of Enrollment

Discharge Process

Patient Engagement

METHODS

OVERVIEW: The evaluation consists of three components using qualitative and quantitative research methods.

1. Qualitative Comparative Case Study

• Ethnographic Framework

• Participant observation

• Collected data in review of documentary sources

2. Quantitative Descriptive Study

• To evaluate overall patients’ use of Telehomecare

• To determine care for patients (baseline, 1, 2, 3 & 6 months post discharge)

• To assess improvement in care delivery processes

3. Quantitative EIS Data Linkages

• To evaluate involvement in telehealthcare services (such as hospital admission, admission to Long-Term Care Facility, etc.)

• To evaluate improvement in care delivery processes (such as hospital discharge)

RESULTS

<table>
<thead>
<tr>
<th>Barriers and Facilitators found across three LHINs</th>
<th>Level of Barriers and Facilitators</th>
<th>Facilitators</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technology</td>
<td>1. Program Questions are not always reflected in telehealthcare; inadequate information on site selection process</td>
<td>1. Telehealthcare in allowing technology to be more user-friendly; site selection process for telehealthcare</td>
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<tr>
<td>Patient</td>
<td>1. Unreasonable charges creep into patients’ care; patients are not always reimbursed for THC</td>
<td>1. Telehealthcare in enabling patients to use necessary care, good communication, transparency, skilled communication, knowledge, knowledge about care, convenience, etc.</td>
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<tr>
<td>Provider</td>
<td>1. Not enough consistency in providing coverage for THC and COPD patients with high needs; ambiguous care plans, etc.</td>
<td>1. Telehealthcare in enabling providers to offer care plans that are more personalized, inclusive, and consistent</td>
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<tr>
<td>Organization</td>
<td>1. High Patient Engagement in promoting program’s benefits and limitations; barriers to patients’ access; etc.</td>
<td>1. Telehealthcare in enabling organizations to offer care plans that are more personalized, inclusive, and consistent</td>
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DISCUSSION

Initial key results emerging from the Qualitative Comparative Study include common themes of high caseloads and pressure to meet enrolment targets, which were found across the three LHINs. Setbacks due to software challenges were also seen across the various sites. A strong rapport between a THC Nurse and his/her patient was found to be a common facilitator in overcoming some of the barriers. In addition to this, the role of an Engagement Lead was deemed highly critical in facilitating program implementation by increasing awareness and referring to the program.