Primary Health Care System (PHCS) Program

Evaluation of the Primary Care Virtual Ward Model
Preliminary Progress Report

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This document will provide an overview of the South East Toronto Family Health Team Primary Care Virtual Ward as well as preliminary results and next steps in the evaluation of this program.

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Please note: views expressed in this report do not necessarily reflect those of the Ontario Ministry of Health and Long-Term Care

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http://www.uwo.ca/fammed/csfm/siiren/primaryhealth/research_knowledge.html#questions

Evaluation of the Primary Care Virtual Ward Model - Progress Report

The purpose of this project is to provide information to the Ministry of Health and Long Term Care Primary Health Care Branch for planning and policy decisions. This will involve an evaluation of the virtual ward program piloted at South East Toronto Family Health Team, including: the impact of the program on patients' experience, virtual ward health providers' experience, patient attachment to a primary care physician and hospital utilization (readmission and emergency department visits) and its scalability to other family health teams (FHTs) in Ontario.

Background

Patients with complex care needs often see their primary care physician as their health care steward when they fall ill and require admission to hospital, particularly if they are elderly, without family, and struggling with cognitive decline. According to the Kings Fund in England, patients with high continuity of care with their primary care provider are less likely to be readmitted to hospital for ambulatory care sensitive conditions (Ham, 2010).

Too often the acute care, community care, and primary care sectors are fragmented and act in silos in Ontario, resulting in a lack of effective information exchange across sectors. As a result, patients with complex problems are admitted and discharged from hospital without any notification nor involvement of their family doctor after this critical event (Kripalani et al., 2007), thereby increasing the patient's risk for being readmitted again within 30 days after discharge (Goldfield, 2011).

To address this issue, virtual wards were founded in the United Kingdom, established within Primary Care Trusts in 2007. Virtual wards are helpful in identifying and targeting patients at high risk for hospitalization by providing team-based case management and involving community care; They also improve communication and information exchange between the various health care sectors, should a patient require emergency room consultation or admission (Lewis, 2010). The Virtual Ward team uses the systems, staffing and daily routine of a hospital ward to provide case management to patients in the community but without the walls of the hospital. The effectiveness of Virtual Wards in reducing hospitalizations in England is presently under investigation by the Nuffield Trust.

Virtual Ward at the South East Toronto Family Health Team

The South East Toronto Family Health Team (SETFHT) based at East York, Ontario, established a Virtual Ward program in June 2010. Patients who are admitted to the SETFHT Virtual Ward receive post-hospital discharge follow-up and interventions by a team of health care providers under the supervision of a physician. Interventions include daily phone calls to provide medical management in consultation with the family physician along with educating the patient on their specific chronic disease management and self-management. As well, there is coordination of additional health care services as required within both the SETFHT team (e.g. phone calls or visits with SETFHT

chiropodist, dietitian, social worker, nurses) and to community supports (e.g. services from Community Care Access Centre (CCAC)). The team also provides home visits to patients when needed. Electronic monitoring of vital signs using an Ontario Telehealth Network home-based telemetry machine may also be included for those with chronic obstructive pulmonary disease (COPD), congestive heart failure, or diabetes.

Admission Criteria

Criteria for admission to the Virtual Ward is based on the '**LACE**' score, identifying medical patients at high risk for readmission based on their:

- **L**ength of stay at a hospital.

- **A**cuity of admission.

- **C**omorbidities such as chronic obstructive pulmonary disease, congestive heart failure, or diabetes.

- **N**umber of emergency department visits in the last six months.

Research Questions

One of the goals of the SETFHT Virtual Ward is to improve continuity of care and reduce rates of emergency department visits and hospital readmissions for patients over 65 who, at the time of discharge, are deemed high risk for readmission. The SETFHT includes physicians who can accept new patients and would accept unattached/orphan patients along with its established patients. Self-management is important to help patients manage their chronic conditions on their own. The SETFHT Virtual Ward team provides the patients and their families with education around self-management based on the conditions.

The evaluation of the SETFHT Virtual Ward program will utilize a mixed method approach.

Quantitative approach

Questions include: is there a reduction in readmission rates to emergency departments or in-patient wards of patients admitted to the SETFHT Virtual Ward? How many of these patients are now attached to family physicians, especially with SETFHT family physicians? How many home visits do these patients receive before and after admitted to the Virtual Ward? Is there an increase in community support services (e.g. CCAC) provided to the patients after admitted to the Virtual Ward? Is there a reduction in the length of stay in hospital for these patients after they were enrolled in the Virtual Ward?

Qualitative approach

Questions include: Are patients and/or their caregivers satisfied with the Virtual Ward program? How are their experiences with the health care system before and after the

patients are enrolled in the Virtual Ward? Do they perceive an improved access to health care providers and community services? Do they perceive that critical health incidents are dealt with more quickly in the community by the Virtual Ward instead of the emergency department? What are the enablers and barriers to a successful primary care virtual ward program? What is the role of the primary care team executive director in successful implementation of a virtual ward program? What is the primary care capacity needed to form a virtual ward program, especially for other FHTs that are not as well resourced? What is the relationship between the primary care team and the hospital and CCAC, and how does this relationship impact on the success of the program? What is the perception and experience of key stakeholders such as the Virtual Ward core team members, other FHT providers, CCAC, and the hospital? How can primary care in general be more involved in the whole heath care journey? As a physician assistant is employed in the SETFHT Virtual Ward program, how can other providers substitute or complement this key role, including nurses and nurse practitioners? What is the interplay between the physician assistant and the other health care providers at SETFHT as a result of involvement in the Virtual Ward program?

Early Results

Early anecdotal evidence from key stakeholders of the SETFHT Virtual Ward program is very positive. At this point, we gathered early feedback from patients, their caregivers, physician assistant, community partner (CCAC), and physicians involved in the program.

Patients' experience

Patient H. M. is a senior with congestive heart failure who was admitted to the Virtual Ward upon discharge from the hospital. He received a home-based telemetry unit which was used by him and the Virtual Ward physician assistant in monitoring his vitals daily. He reported that:

"It has made me more conscious of my condition. By checking my vital signs for changes, I am able to affect changes in my lifestyle. The program gives me a sense of control knowing that if I miss warning signs, the health professionals will call me. My wife has been given a much better sense of security."

His wife also reported that she had peace of mind and was less anxious knowing there was follow-up on a daily basis. She stated that:

"Data feedback is very important in terms of monitoring, (sic) a sense of control especially knowing someone is on the other side, (sic) less alone and scared."

Many former Virtual Ward enrolled patients with chronic conditions such as COPD or frequent urinary tract infections with sepsis are now attached to SETFHT physicians. Some of them still call the physician assistant directly when their conditions act up. They still get advice on self-management or medical intervention, based on the teaching and self-management skills they gained from the past Virtual Ward enrolment. The direct access these high-risk patients have with the physician assistant potentially provide

valuable care, reassurance, and possibly reduction in visits to the emergency department or walk-in clinic.

Physician assistant's experience

The SETFHT physician assistant knows that her work fills a service and care gap that previously no one has filled - unattached patients whose only place of care was the hospital now can utilize a primary care team. These patients were at high risk for readmissions based on their past admission histories, but now they are being monitored closely by the Virtual Ward. One major problem the Virtual Ward patients used to have is the lack of regular follow-up or monitoring of new treatments such as the introduction of cardiac medications or warfarin. The physician assistant is able to fill the void. In addition, the FHT now has the capacity to provide home visits to homebound patients who are at risk of readmission to the hospital.

Community stakeholders' experience

According to the CCAC case manager who works with the SETFHT Virtual Ward team, the program was the most successful CCAC-affiliated program in the Toronto Central Local Health Integration Network (TC-LHIN). The case manager enjoys joining SETFHT for weekly team rounds. As she says, it is the best part of her week as the program really makes the highest impact for her quite sick and complicated patients. She also has referred some of her very complicated unattached patients to the program in addition to the regular point of entry through the hospital.

SETFHT physicians' experience

On the capacity of taking on new patients from the Virtual Ward program, one physician reported:

"I could not do this work without our dedicated physician assistant, it has allowed me and others to stretch and extend and accept many more, very complicated patients despite closed practices, and on top of that build new patient care pathways (such as the home visit program that was born after the Virtual Ward program)."

On the benefits of interprofessional work, one physician reported:

"Working with the Virtual Ward team, we really have been able to embody the integral idea of interprofessional team work in order to manage these very sick and complicated patients better than if I were a solo doctor trying to do the same - in fact, I would not have been successful managing these patients so well had I been a solo doc trying to do this."

A physician discussed the relationship with other stakeholders:

"The relationships between our FHT and CCAC have grown tremendously since we started this work together, and the same is true for our relationship with the hospital, and we continue to envision new care models building on these new relationships. The

hospital has started using some of the electronic charting we pioneered for the Virtual Ward, allowing clinical data sharing between in- and out-patient world, and many other in-patient services are copying this chart option now after we build the structure for it on the hospital electronic record."

Next steps

The research study will span nine months from April to December 2012. The interim and final reports, to be released in September and December 2012 respectively, are intended to be a resource for a number of stakeholders including the Primary Health Care Branch at the Ministry of Health and Long-Term Care, the Health Program Policy and Standards Branch Ministry of Health and Long Term Care, and can be used as a framework by Health Quality Ontario as they look at indicators of success of primary care interventions in person-centeredness and avoidable hospitalizations with the roll-out of the Excellent Care for All Act in primary care.

The principal investigator and/or team members will present the research at the Trillium Primary Health Care Research Day in 2013 which is attended by practitioners, researchers and decision makers.

The project abstract would also be provided to the Primary Health Care Branch for consideration as a follow-up presentation in the Primary Health Care Research Rounds provided during the year (original concept was presented in December 2010).

Another key goal will be to disseminate results at national and international health care conferences, and in a peer-reviewed health policy or management journal, to inform health care leaders.

There is potential that the new knowledge obtained from the evaluation may contribute, in part, to long term health policy changes in Ontario. Depending on the scalability of the current virtual ward model, it is possible that other primary care teams may implement and further develop this model, potentially leading to improved quality of care delivery for patients in Ontario with complex care needs.

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