

CANADIAN Healthcare Technology

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Evaluation demonstrates telehomecare reduces need for hospital care

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River Valley Health, in partnership with their project partners, has just completed a comprehensive evaluation of the telehomecare project called EMPcare@home.

The initiative successfully demonstrated that daily patient monitoring, combined with a consistent education program aimed at self-management, can effectively reduce hospital admissions and ER visits and improve the ability of patients to self-manage their chronic illnesses. With results that have exceeded initial expectations, this new and innovative approach to care has been strongly supported by the RVH Board of Directors.

Project Description: EMPcare@home is a disease management approach to the care of patients with a chronic disease, enabled by telehomecare. The project goal was to evaluate whether the combination of telehomecare, timely staff intervention and an enhanced patient education program produces a better quality of life for patients, is accepted by patients and health professionals, and reduces the need for hospital care.

Focusing on patients with a primary diagnosis of congestive heart

failure and/or COPD who have a history of frequent hospital admissions, the EMPcare@home was based in the Woodstock Unit of the Extra Mural Program (home care program) in River Valley Health.

Established as a provincial telehomecare demonstrator project, project support came from a diverse group of project partners including the Department of Health and Wellness (New Brunswick

Provincial Extra-Mural Program and the Office of eHealth), Atlantic Canada Opportunities Agency (ACOA), Medavie Blue Cross, Pfizer Canada, eNB.ca (Business New Brunswick) and the National Research Council (NRC), Fredericton, New Brunswick.

Telehomecare Technology: The telehomecare approach included a formal process for technology selection and devel-



An evaluation of a tele-homecare program at River Valley Health, in N.B., found substantial benefits. The initiative, called EMPcare@home, makes use of daily patient monitoring combined with a consistent education program aimed at self-management. The program resulted in reduced hospital admissions and ER visits, and improved the ability of patients to self-manage their chronic illnesses. Pictured are team leaders Janice Wilson, Valerie Hagerman, Andrea Seymour and Christine DeJong.

opment/adoption of patient educational materials. A store-and-forward, POTS based home monitoring system developed by Honeywell HomMed was selected. The technology collects a patient's weight, temperature, blood pressure, pulse, oxygen levels, and is equipped with customizable, prerecorded messages that ask the patient a series of subjective questions about their condition. In addition, the home monitor is designed to accept information from other diagnostic peripherals such as a blood glucose monitor.

Vital signs are received and stored on a central base station computer located at the EMP office in Woodstock for clinical review. The software colour codes and assesses all data collected so that EMP professionals can identify warning signs or changes in a patient's condition. This capacity is designed to provide early intervention, prevent complications requiring hospital care, and to empower patients to become more knowledgeable about their diseases and learn how to better manage themselves on a daily basis.

Evaluation Approach: An external evaluation was conducted using a program evaluation methodology endorsed by the National Treasury Board, Health Canada and the Canadian Evaluation Society.

The methods of primary data collection included a client questionnaire mailed to all clients following their three-month monitoring period, a patient focus group, two manager/administrator focus groups, physician interviews, a staff questionnaire, an EMP staff focus group, and project partner interviews. Secondary or existing data was obtained from administrative and utilization databases that provided information on emergency visits, inpatient hospital admissions, types of EMP services delivered, and EMP hours spent per client.

All RVH clients with CHF and/or

COPD from April 1, 2000 to March 31, 2005 were included in the anonymous administrative/utilization data analysis. The evaluation design for analysis of health service utilization consisted of: those in the project (Woodstock EMP); those not in the project (Woodstock EMP); and those with the same disease (CHF/COPD), not in the project and not

Six months, after the start of EMPcare@home, the study group showed an 85% reduction in hospital admissions.

in the same community as the project participants, and served by a different EMP Unit (Perth-Andover).

Target Population: One hundred and six patients (106) accessed this service during the evaluation period. A typical patient in the study was female, 77 years of age with a history of frequent hospital admissions. Prior to receiving telehomecare, the target group of clients with CHF and/or COPD had a 42 percent higher hospital admission rate and a 6 percent higher rate of emergency room visits than the other groups studied. Their average hospital length of stay was 11.57 days/admission, compared to the general client population average hospital 'length of stay' of less than seven days.

Impact on Hospital Care: Six months after the initiation of EMPcare@home for each patient, the telehomecare study group had an 85 percent reduction in hospital admissions. The study demonstrated that this telehomecare approach was 25 percent more effective in keeping clients with CHF and/or COPD out of hospital than the approach used by standard EMP services in the two comparison groups. There was a 55 percent decrease in emer-

gency visits (for any reason) in the tele-homecare study group. The study demonstrated that this telehomecare approach was 12 percent more effective in reducing emergency room visits than the approach used by standard EMP service delivery.

Patient Feedback: Despite little experience with technology among most patients, nearly all (90 percent) of patients found the home monitor easy to use. Patients also reported they received better service from the healthcare system, would definitely recommend this approach to others, and that this approach to care kept them out of hospital and emergency rooms.

"Before I used to go into a panic and off I would go to the hospitalnow I can manage on my own most times..." – Patient Focus Group

Health Professional Feedback: Staff found the software 'alerts' led to earlier interventions and pre-emptive care resulting in hospital avoidance and fewer acute exacerbations. They also reported that this telehomecare approach was tightly integrated with their homecare patient processes and complemented their practice (as opposed to an "add on" service).

For more information: The project team at River Valley Health has created a comprehensive toolkit of information that was developed to provide other jurisdictions with the means to build on this successful model. The full evaluation report is available on the telehealth section of the River Valley Health website at www.river-valleyhealth.nb.ca

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