Novel tool prevents avoidable emergency department visits by long-term care residents

The Challenge

In Ontario, more than 75,000 people aged 65 and older currently live in long-term care (LTC) facilities. During a six month period in 2005, 25 percent of LTC residents in Ontario visited an emergency department at least once. Nearly 25 percent of the initial visits were classified as potentially preventable and research indicates that up to 49 percent of the potentially avoidable hospitalizations are potentially preventable. Unfortunately, once LTC residents are transferred to an emergency department they are frequently at risk for iatrogenic (hospital acquired) complications such as delirium, pressure ulcers or falls.

Marilyn R. El Bestawi, a Senior Healthcare Executive with experience in geriatrics, hypothesized that the best way to avoid deterioration in health status among LTC residents was to avoid unnecessary hospitalizations in the first place. Armed with the evidence, her experience and the organizational support of University Health Network (UHN) in Toronto, she set out on a quality improvement journey through the Canadian Foundation for Healthcare Improvement (CFHI)’s EXTRA program.

The Improvement Project

El Bestawi developed a novel tool to help staff within the UHN long-term care facility detect health decline in their residents. Named PREVIEW-ED® (Practical Routine Elder Variants Indicate Early Warning for ED), it assists staff in the identification of early health decline related to four conditions responsible for 49 percent of the potentially avoidable hospitalizations: pneumonia, urinary tract infections, dehydration and congestive heart failure. The tool measures nine indicators and their related signs, symptoms and severity levels for these four conditions and uses an aggregate scoring system to quantify the change in a resident’s condition. Food and fluid intake and mental state are two of the indicators. Signs and symptoms for food and fluid intake include decreased appetite, refusing food and fluids and nausea. Signs and symptoms for mental state include new agitation, participates less in social activities and new confusion. The tool takes between 8-15 seconds to administer by Personal Support Workers as part of their regular duties.

“When asked if they would want the PREVIEW-ED® tool used with a loved one, the unanimous response from staff was YES!,”

– Marilyn El Bestawi, University Health Network, Toronto

Personal Support Workers were chosen to administer PREVIEW-ED®. Their role is to compare the status of the resident to how they are normally.
Since Personal Support Workers comprise more than 70 percent of the staffing in LTC facilities and provide the majority of the direct care, they are ideally positioned to notice the nuances in the health status of a resident. If the resident’s condition is normal for them, the tool score is zero. If the score is greater than zero, a registered staff member is informed. The registered staff assesses the resident and intervenes as needed, guided by an escalation path included with the tool. Family members were consulted about the proposed project in advance of implementation. PREVIEW-ED® was piloted on 66 residents (50 percent of the total population) at the UHN LTC facility for a three month period where staff provided input, feedback and recommended changes which influenced both the design and content of the tool.

**Key Results and Impact**

The LTC facility reported a 57 percent decrease in emergency department visits associated with pneumonia, urinary tract infections, dehydration and congestive heart failure for the 66 residents followed during the three month pilot period. Even more impressive, the decrease was maintained in the first three months of post-pilot sustainability and in the following three months there were no transfers from the pilot units related to the four conditions. With the introduction of the PREVIEW-ED® project, the UHN LTC facility was able to realize significant reductions in emergency department visits among its residents. It is estimated that the potential annual cost savings if the tool were implemented throughout the Toronto Central LHIN (Local Health Integration Network) would be over $500,000. This estimate is based on the projected transfer costs from the LTC facility, emergency department costs, and costs related to a hospital admission. On a provincial level the potential savings are in the order of $6.25 million. Increased targeting of early signs and symptoms of decline in health status allows the elderly in LTC to be treated at their places of residence, thereby lowering or eliminating the need for emergency department visits and in-patient stays and the potential iatrogenic complications. As a result, emergency departments become less congested.

The use of PREVIEW-ED® has continued in the original units and plans are underway to expand its use throughout the entire facility so it can continue to improve the quality of care and reduce the costs associated with emergency department visits and hospital admission.

“Personal support workers were very engaged with their responsibilities related to the tool. There was a 95.5 percent completion rate of the tool over the course of the pilot. This has actually increased during sustainability. Their feedback suggested that using the tool made them feel their work was more valued.”

— Marilyn El Bestawi, University Health Network, Toronto

A sustainability plan that includes educational material for staff training on PREVIEW-ED® along with templates and calculations for data collection has been developed. Leadership and frontline staff have expressed an interest in continuing to measure results and are looking for opportunities to have their work recognized by peer organizations.

To date El Bestawi has presented her findings at three Canadian conferences and has been invited to present to a fourth. There is also potential application of the tool to other LTC facilities and populations as well as the prospects for use in other jurisdictions nationally and internationally. To test the validity and reliability, UHN is now looking for funding.
opportunities to study the tool in a larger LTC population and welcomes the opportunity to hear from facilities that may be interested in participating.

“An important outcome was that internationally trained nurses who had English as a second language found that by using the wording on the tool and the score, they were better able to articulate a change in the health status of a resident to the physician.”

— Marilyn El Bestawi, University Health Network, Toronto

To learn more about this project, or the CFHI EXTRA program, please contact:

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Bibliography


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