Project Title: A Better Way to Care for Long Term Care (LTC) residents in Times of Medical Urgency: Improving Acute Care transfers for LTC Residents.

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Background: Prior to the pandemic, every day approximately 28 long term care (LTC) residents were transferred to an emergency department (ED) in Alberta. This was placing increasing strain on healthcare resources and potentially negatively impacting the health and wellness of residents (e.g., exposure to iatrogenic harms). Many residents' conditions could be managed within LTC if appropriate supports were provided. Poor communication between LTC and EDs can also lead to long ED lengths of stay, unnecessary resource utilization, sub-optimal health outcomes, and exposure to iatrogenic harms for LTC residents. Two INTERACT® tools (tools for early identification of acute medical issues) and a new care and referral pathway were implemented to help identify and address changes in health status among LTC residents sooner, improve communication between LTC and ED providers, and reduce unnecessary ED transfers.

Methods: Between October 2019 and April 2022, 40 LTC homes and 4 EDs within the Calgary zone implemented the standardized LTC-to-ED care and referral pathway supported by a centralized telephone advice and transfer system for healthcare providers, community paramedics, and two INTERACT® tools (Stop and Watch for healthcare aides; Change in Condition Cards for nursing). Using a randomized stepped-wedge design, the pathway was implemented within 9 cohorts of (4-5) LTC facilities every 3 months, supported by an implementation coach. Three-hour train the trainer implementation sessions were conducted in-person or online with over 325 health practitioners in the enrolled LTC homes using strategies adapted to consider local context and barriers, as well as considering pandemic-related challenges.

Evaluation Methods: Evaluation of the intervention involved both qualitative and quantitative methods. The primary study outcome is change in transfers from LTC to ED; secondary (quantitative) outcomes include hospital admissions, utilization of the centralized telephone advice and transfer system, and community paramedic visits. Analysis of these quantitative outcomes utilized negative binomial regression to estimate the incident rate with 95% confidence intervals (per 1000 residents), while adjusting for the different cohorts. The quantitative evaluation also included an economic analysis to determine potential cost savings. Interviews with healthcare providers were conducted to provide context to their experience with the intervention and ways it can be improved. These interviews will be interpreted with the involvement of members of our project resident and family advisory council.

Results: Quantitative results demonstrate a reduction in the LTC-to-ED transfer rate [1.70 (95%CI 1.61-1.79) post-intervention) vs 1.91 (95%CI 1.84-2.00) pre-intervention], along with reduction in hospital admission rates [0.94 (95%CI 0.88-1.00) vs 1.08 (95%CI 1.03-1.14)]. There was an increase in utilization of the centralized telephone advice and transfer system [0.18 (95%CI 0.16-0.22) vs. 0.13 (95%CI 0.11-0.16)], but no increase in the number of community paramedic visits [2.05 (95%CI 1.94-2.16) vs 2.50 (95%CI 2.39-2.61)]. Cost and qualitative outcome data is pending.

Advice and Lessons Learned:

1. LTC staff education and use of early warning tools for identifying a change in resident health status (INTERACT® tools) and/or utilization of a centralized telephone advice and transfer system may have played a role in reducing ED transfers. We did not observe the expected relationship between community paramedic visits and reduced LTC-to-ED transfers, possibly as a result of the pandemic-related facility outbreak restrictions.
2. Teams should tailor implementation sessions and materials to site specific needs and contexts to help address their unique barriers and facilitators.
3. Partnerships with key stakeholders across the care continuum are essential to ensure adequate support and effective uptake and sustainability of the mutli-faceted change intervention.