Evidence to Support Implementation of the MOVE Program

Why is Mobilization Important?

- Functional decline is common in older people who are admitted to hospital and this has been found to more a consequence of hospitalization than of their presenting illness [3,10-12]
- Studies show that hospitalized older adults who were ambulatory during the 2 weeks prior to admission spent a median of only 43 minutes per day standing or moving.
- In addition, one-third of older adults develop a new disability in an activity of daily living during hospitalization and half of these are unable to recover function [13]
- Without mobilization elderly patients lose 1% to 5% of muscle strength each day in hospital [12]
- Data from observations on inpatient units conducted in 2010-2011 in academic hospitals in Toronto found that less than 30% of patients were mobilized regularly in hospital (B. Liu 2011, personal communication).

What is the Evidence for Early Mobilization?

- Modest interventions can prevent some of the outcomes associated with immobility
- Early mobilization strategies (defined as assessing patients for mobility and functional status within 24 hours of admission and encouraging appropriate activity immediately) have been shown to:
    - Decrease acute care length of stay (adjusted absolute difference of 1.1 days [95% confidence interval [CI] 0.0 to 2.2 days]) [7]
    - Shorten the duration of delirium (median of 2 days [inter-quartile range 0.0 to 6.0] versus 4 days [inter-quartile range 2.0 to 8.0]) [6]
    - Improve the return to independent functional status (odds ratio [OR] 2.7 [95% CI 1.2 to 6.1])
    - Decrease the risk of depression (OR 0.14 [95% CI 0.03 to 0.61]) [5]
    - Increase rates of discharge to home (26.2% versus 2.4% at 7 days) [8.9]
    - Decrease hospital costs by $300/patient/day [4]
- Implementation of early mobilization across 14 hospitals in Ontario, Canada, found in a total of 12,490 patients [30]
    - Increase in mobilization observed post-intervention where significantly more patients were out of bed daily (intercept difference = 10.56%, 95% CI: [4.94, 16.18]; P < 0.001) post intervention compared to pre
    - Hospital median LOS was significantly shorter during the intervention period (intercept difference =-3.45 days, 95% CI: [-6.67,-0.23], P = 0.0356) compared to pre-intervention

How is the MOVE project implemented?

- MOVE KT approach is informed by the knowledge-to-action (KTA) cycle developed by Graham et al.[17]
    - KTA highlights processes relating to knowledge creation, distillation and use
    - The focus of implementation in the MOVE project is on tailoring implementation strategies to staff on participating hospital units to change early mobilization attitudes and behaviours
    - Tailored strategies are defined as strategies to improve professional practice that are planned, taking account of prospectively identified barriers to change
- The MOVE project focuses on education for health care professionals (using small group, case-based discussions) to affect behaviour change, but sites that have previously participated in MOVE have also used local opinion leaders, dissemination of educational materials and decision support (e.g. an order set, the following support the approach of the MOVE implementation:
    - A systematic review of more than 200 trials of guideline implementation strategies found that on average, any of these interventions can produce an absolute change in behaviour of approximately 10% [34]
    - Based on a high-quality systematic review (AMSTAR =8) of 32 studies evaluating educational meetings for health care professionals and found small group, interactive sessions can change behaviour.[35]
    - Findings of a systematic review of 12 trials of opinion leaders, found opinion leaders (defined as providers nominated by colleagues as being educationally influential) with or without another intervention were generally effective for improving appropriate care with medium effect sizes.
    - Eight high quality systematic reviews (AMSTAR 8 to 9) of the impact of distribution of education materials have been identified that target health care professionals [21,25,31,32,37,38]
        - Interventions include distribution of printed recommendations for clinical care that can be delivered personally or through mass mailings.
        - Printed materials were found to be generally effective with an average effect size of approximately 8%
        - These interventions are relatively inexpensive and easy to deliver and scale up
    - Several medium and high-quality systematic reviews of computerised decision support systems for health care professionals (including electronic order sets) found that these can also change behaviour [39]
- Implementation of MOVE also includes education and behaviour change support for patients and their family members
    - This approach has been supported with evidence from systematic reviews of education interventions for patients that suggest their effectiveness when used in combination with other strategies [34,39]
    - When used as part of a self-management strategy or with interventions to support behaviour change, education materials can be effective

How does MOVE align with other hospital initiatives?

- Implementation of best practices focusing on early mobilization of older patients in hospital will produce benefits in patient and system level outcomes
- MOVE strategies have the potential to reduce system pressures such as ALC days since patients are less likely to require admission to long-term care following implementation of an early mobilization strategy [4]
- It also has this intervention is cost-saving for hospitals, reducing costs by $300 per patient per hospital stay [4]

- MOVE is directly aligned with several Quality Improvement Plan dimensions including safe, effective, accessible, and patient-centered care.
    - Safety of patients can be measured through avoidance of pressure ulcers and de-conditioning which are both consequences of immobilization of hospitalized older people
    - Effectiveness can be assessed through length of stay in hospital, percent ALC days, admission to long-term care, and compliance with the mobilization strategy
    - Access to quality care for seniors is a primary focus of this program, the elderly represents a vulnerable population and implementation of the early mobilization strategy will optimize their care
    - The program is also focused on patient-centered care, ensuring that the patients' functional status is not reduced with hospitalization

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