A photograph of an elderly man with white hair, wearing a light blue short-sleeved button-down shirt and khaki pants, using a silver metal walker. He is looking towards the camera with a slight smile. To his right, a doctor with grey hair, wearing a white lab coat and a stethoscope, is looking down at the man's hands on the walker. The background is a bright, clinical hallway with white walls and doors.

**Mobilization of Vulnerable
Elders in Ontario (MOVE ON)
ARTIC Project Participant
Information Package**



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Thank you for agreeing to participate in the implementation of the CAHO Mobilization of Vulnerable Elders in Ontario (MOVE ON) ARTIC Project. MOVE ON was developed jointly by Sunnybrook Health Sciences Centre and St. Michael's Hospital. The MOVE ON Project uses an inter-professional approach that focuses on early and consistent mobilization of older patients through the hospital stay. This program promotes early mobilization to prevent further decline in older patients admitted to hospital.

This project builds on the Mobilization of Vulnerable Elders in Toronto (MOVE IT) quality improvement initiative, an early mobilization implementation and evaluation initiative currently being implemented across four hospital sites in Toronto – Sunnybrook Health Sciences Centre, St. Michael's Hospital, Mount Sinai Hospital and Baycrest Centre for Geriatric Care.

The purpose of this participant information package is to provide information to support participating hospitals in identifying project resources. Participating hospitals are asked to consider the information provided in this package to confirm which unit(s) (and/or site(s), if applicable) within their hospital will implement the CAHO MOVE ON ARTIC Project. An initial focus on inpatient general internal medicine units is recommended. Each participating hospital may identify more than one unit for participation. However, hospitals should consider whether the unit(s) selected for implementation has the appropriate patient population (e.g. patients over 65 years of age) and the in-kind resources to devote to this project (see project resources section). Hospitals are also asked to use this information to identify their Local Physician Opinion Leader and Local Education Coordinator who will provide ongoing leadership and support throughout the duration of the project. **Identification of local project leads and confirmation of participating units are requested by January 30, 2012.**

We look forward to working with you all as we implement the CAHO Mobilization of Vulnerable Elders in Ontario (MOVE ON) ARTIC Project.

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The following hospitals are participating in the CAHO MOVE ON ARTIC Project:

- Baycrest Centre for Geriatric Care
- North York General Hospital
- Hamilton Health Sciences
- The Ottawa Hospital
- Health Sciences North
- St. Joseph's Healthcare Hamilton
- Kingston General Hospital
- St. Michael's Hospital
- London Health Sciences Centre
- Sunnybrook Health Sciences Centre
- Hôpital Montfort
- Thunder Bay Regional Health Sciences Centre
- Mount Sinai Hospital
- University Health Network

Council of Academic Hospitals of Ontario

The Council of Academic Hospitals of Ontario (CAHO) is the non-profit association of Ontario's 24 academic hospitals and their research institutes. CAHO provides a focal point for strategic initiatives on behalf of these academic hospitals.

As research intensive hospitals, CAHO member hospitals are fully affiliated with a university, medical or health sciences faculty. Our hospitals provide the most complex and urgent care, teach the next generation of health care providers, and foster health care innovation through research and discovery.

Across the province, CAHO hospitals are inventing the future of health care by developing new standards of patient care, evolving models of health care education, and conducting world-class health research.



Adopting Research to Improve Care (ARTIC) Program

CAHO launched the Adopting Research to Improve Care (ARTIC) program in 2010 with the objective of moving research evidence into practice from one hospital across the CAHO community in order to drive quality improvement and benefit the health care system as a whole. The goal is to learn from this experience in order to help build a systematic and sustainable implementation pathway for evidence adoption across the province.

Collectively, the CAHO community funded and implemented two ARTIC Projects in 2010 – the first addressing wait times in the ER by making better use of our inter-professional resources and the second meeting the challenge of infection control and hand hygiene compliance.

In November 2011, CAHO approved the implementation of two new ARTIC Projects – one meeting the challenge of improving antibiotic use in intensive care units and the second helping older patients to maintain function through early mobilization.

Recognizing the power of this platform to test systematic implementation of new evidence and the ARTIC Program's alignment with the goals of the Excellent Care for All Strategy, CAHO received \$6.3 million over 3 years from the Ontario Ministry of Health and Long-Term Care to support implementation of the CAHO ARTIC Program.

What is the purpose of this project?

The objective of CAHO Mobilization of Vulnerable Elders in Ontario (MOVE ON) ARTIC project is to implement and evaluate the impact of an evidence-based strategy to promote early mobilization and prevent functional decline in older patients admitted to hospitals in Ontario.

Why is this important?

- Rates of mobilization in patients admitted to acute care hospitals are unacceptably low. 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 (Brown et al., 2009).
- Without mobilization elderly patients lose 1 to 5% of muscle strength each day in hospital (Creditor, 1993).
- 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 (Covinsky et al., 2003).
- 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?

- Modest interventions can prevent these risks
- Evaluation of early mobilization strategies (defined as assessing patients for mobility and functional status within 24 hours of admission and encouraging appropriate activity immediately) shows these strategies are effective
- Early mobilization protocols 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])
 - shorten 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])
 - improve return to independent functional status (odds ratio [OR] 2.7 [95% CI 1.2 to 6.1])
 - decrease risk of depression (OR 0.14 [95% CI 0.03 to 0.61])
 - increase rates of discharge to home (26.2% versus 2.4% at 7 days)
 - decrease hospital costs by \$300/patient/day (de Morton, 2007; Cumming, 2008; Schweickert, 2009; Mundy, 2003; Chandrasekaran, 2006; Oldmeadow, 2006)

What activities are included in this project?

Through this project, we will collectively implement an inter-professional approach across 14 CAHO hospitals that focuses on early and consistent mobilization of older patients through the hospital admission. This strategy shifts mobilization from being a designated task assigned to a single professional group to a shared team responsibility, with each team member having complementary roles.

There are three key phases throughout this project and outlined below are activities that may occur within each phase. The MOVE ON implementation team will provide an implementation toolkit and assist with implementation and the assessment of uptake.

Preparation Phase (February 2012 – October 2012)

- The MOVE ON ARTIC Project implementation team will work with local project leads to collaboratively design the implementation process for each site. For example, the team will work with local project leads to discuss the project goals and develop an implementation strategy tailored to local needs; this will require completing interviews and surveys with frontline providers and managers to determine their needs and potential barriers to implementation.
- This phase may be multicomponent and include online educational modules for health care providers; in-person small group education sessions for health care providers; an order set, mobility algorithm and care pathway (includes daily assessment of mobility and targeted exercises); and printed education materials for patients and family members. In addition, surveys and interviews will be used to identify local opinion leaders within the hospitals who may facilitate communications with affected hospital staff and support implementation. This would include introducing the project to frontline clinicians and health care managers on participating units.

- The Local Research Associate hired to support the evaluation of the impact of this project will begin to collect baseline data on patients' mobilization within the participating unit(s).
- The CAHO MOVE ON ARTIC Project Implementation team will support the development of Research Ethics Board applications for each participating site to ensure that we can capture data to appropriately assess the impact of this project.

Education Phase (October 2012 – April 2013)

- The local education coordinator will support the implementation of the early mobilization protocol by leading the education of staff and execution of the local implementation strategy developed during the preparation phase.

• The key messages for staff education will focus on actionable recommendations: at least three times a day, progressive, scaled mobilization; and mobility assessment and care pathway to be implemented within 24 hours of the decision to admit.

- While the messaging will be similar across the hospitals, their format and delivery will be modified and tailored based on the feedback obtained through the surveys and interviews conducted in the preparation phase. For example, Sunnybrook Hospital is using volunteers as part of their implementation strategy to encourage mobilization and St. Michael's Hospital is also conducting a pilot study of this intervention.

Evaluation and Analysis Phase (October 2012 – January 2014)

- Throughout the duration of the project, the Local Research Associate will collect data which captures the use of the early mobilization protocol within the unit(s) and other outcome measures of interest to assess the impact of MOVE ON (see evaluation strategy).

Resource Requirements

What resources does your organization need to invest in this project?

The following sections estimate the in-kind contributions required from each participating hospital. These estimates assume that the participating unit(s) will yield 40-50 eligible patients (aged 65 or older) per week. If the participating unit has greater or fewer beds and receives greater or fewer eligible patients, the in-kind hospital contributions will vary from the estimates presented. The size of the participating unit and the average number of eligible patients admitted to the unit per week will also impact the number of staff that requires education on the early mobilization strategy.

Estimated In-Kind Hospital Contributions
Local Education Coordinator Approximately 0.2 FTE or 4 days per month
Local Physician Opinion Leader (General Internist or Geriatrician) Approximately 0.1 FTE or 2 days/month
Data Collection Availability of data to be collected by the Implementation Team
Materials to support education Supplied by implementation team (up to \$1000)

The approximate times outlined above are averages; actual time required to support the project's implementation will vary by week.

Project Role Descriptions

Local Education Coordinator (0.2 FTE) in-kind resource

Credentials:

- A registered health professional with advanced knowledge in geriatric best practice and senior friendly hospital care
- Masters level graduate degree or higher
- Leadership experience demonstrating an advanced understanding of inter-professional practice and teamwork
- Demonstrated experience in clinical and/or academic education
- Project management skills
- Effective communication and facilitation skills

Responsibilities (working 1 day per week on the activities below)

- Serve as the change agent leading the implementation and facilitating behaviour change:
 - Engaging front-line staff in process
 - Leading educational intervention for staff and patient/family
 - Developing and leading strategies to sustain change and adherence with protocol/standards
- Provide point-of-care coaching for staff and modeling through example
- If volunteers are part of the intervention, a team leader from within the unit will need to be identified as the point of contact for inquiries, providing clinical support and guidance to volunteers as needed

Local Physician Opinion Leader (general internist or geriatrician) (0.1 FTE) in-kind resource

- Act as the project sponsor for the hospital's research ethics board application
- Provide advice on local implementation, tailoring intervention to address local contextual issues
- Support engagement of key stakeholders within organization to enable success of project
- Participate on steering committee (see below for further details)
- Provide oversight to local research associate

Local Research Associate (0.5 FTE)

- Project implementation team will work with the local team to hire someone with relevant skill sets to fill this role at each institution; if possible the research associate may be shared across 2 sites or across 2 projects if a full time research person is identified
- 0.5 FTE of a Masters level local research associate will be funded through the CAHO ARTIC Program
- Responsibilities will include, data collection, chart review, data clean up, data entry, assist with research ethics board application



Central Implementation Manager(s) (members of the CAHO MOVE ON ARTIC Project Implementation Team)

- Coordinate implementation across CAHO sites
- Assist with research ethics board applications
- Manage timelines and target deadlines for deliverables and milestones
- Track and monitor any project risk issues and escalate to steering committee
- Support the steering committee, arranging regular meetings, minute taking, ensuring action items are addressed
- Coordinate information sharing, data collection and analysis across sites
- Assist local education coordinator, opinion leader and research associates with problem solving

Steering Committee (SC)

- Each participating site will have a representative on the SC who will be the person responsible for the project implementation at that site; members of the SC will also include representation from CAHO, the project leads and the implementation manager(s)
- Monthly meetings via telephone will be held to review progress, data etc.
- An in-person launch meeting will be held with the SC in March 2012

Executive Committee (EC)

- The EC will include the project leads from Sunnybrook and St. Michael's, and the central implementation managers
- The EC will review the overall progress of the project implementation and evaluation and the day to day management of the project

What are some potential barriers to sustainability of the intervention?

Through the MOVE IT Project, the project team has completed barriers assessments at some Toronto hospitals and has identified some challenges with potential solutions. Similar assessments will be conducted with all CAHO MOVE ON ARTIC Project hospitals. Potential barriers and solutions identified to date include:

- Concern that the project is not sustainable
 - We hope to promote sustainability by using an integrated Knowledge Translation approach. The project was initiated based on needs identified by hospitals – in particular clinicians, health care managers and patient advocates have been involved and this strategy is aligned with the provincial strategy focused on senior friendly hospital care
 - We also believe that mobilization of older people is the responsibility of the entire health care team, the patient, and their caregivers/family
- Lack of provider knowledge of the impact of immobility and staff turnover
 - Education on the impact of immobility will become part of regular orientation of staff
 - Regularly scheduled education/in-service on wards focusing on the impact of immobility
- Inability to directly monitor mobility 24 hours daily. We are unable to conduct direct observations over a prolonged period of time to determine if patients are being mobilized. Some solutions include:
 - Implementation of order sets and a mobility algorithm as part of nursing assessment
 - Most importantly, building on the Senior Friendly Hospital Initiative, the hospitals have been primed for uptake of this initiative

- Performance measures for function/mobility and care pathways were lacking across hospitals as identified in the provincial survey on Senior Friendly Hospital Care
 - Performance measures and an implementation strategy will be developed

How is this aligned with other system initiatives?

The CAHO MOVE ON ARTIC project is aligned with several provincial initiatives, including:

- The MOVE ON project is aligned with the LHIN-led, provincial senior friendly hospital strategy. In the provincial report Senior Friendly Hospital (SFH) Care Across Ontario: Summary Report and Recommendations (2011, www.torontocentrallhin.on.ca), priorities are identified for hospital improvement plans. One priority is to reduce functional decline of hospitalized seniors through the implementation of interprofessional early mobilization protocols. As the LHINs move into phase 2 of the SFH strategy, hospitals will be expected to report on their improvement plans. As a partner in the CAHO MOVE ON ARTIC Project, hospitals have demonstrated their commitment to the SFH strategy. MOVE ON can serve as part of the hospitals' SFH improvement plan for this priority.
- Provincial Falls Prevention Strategy
- ED Wait times, Length of Stay
- Readmission Rates
- Patient Safety
- Excellent Care for All Strategy

We will use mixed methods to evaluate the impact of this intervention. An interrupted time series (ITS) design will be used to evaluate the impact on quantitative outcomes. There will be 24 weeks of baseline assessment. The intervention will be rolled out for 6 months and then outcomes data will be collected in the subsequent 24 weeks. The outcomes for this study are described in the table below. **The primary outcome is the proportion of patients aged 65 and older who are mobilized daily during their hospital stay.**

The quantitative data on eligible patients will be collected retrospectively by chart audit (for demographics and functional status), as well as by observation of the patient's activity level. The research associate will conduct the chart and the observational audits. Based on baseline assessments performed at Sunnybrook Health Sciences Centre and St. Michael's Hospital, we anticipate obtaining data on 40-50 patients per unit weekly.

Qualitative data will be collected through completion of semi-structured interviews with health care professionals on the involved hospital units, health care managers, patients and their family members at the study conclusion. We will explore their perceptions of the intervention, the fidelity of the intervention and suggestions for facilitating sustainability. We anticipate completing up to 12 interviews on each unit given that we will be sampling from patients, their families,

clinicians and health care managers. We will ask for volunteers from the clinical staff on the target units. We will send letters of invitation to patients/families post discharge to ask if they want to be contacted for a telephone interview.

There are several challenges to the evaluation plan, which we have attempted to overcome. First, mobility is not routinely documented in patient records and therefore we must supplement chart abstraction with direct observation. Second, functional status is routinely recorded as part of an initial nursing assessment but hospitals use different forms. We will simply record the percentage of patients in each category of ADL status. We will also use the HABAM (Hierarchical Assessment of Balance and Mobility) to extract data from the chart on the patient's mobility at baseline. Third, some of the information will be collected routinely by hospital decision support units; for example, most hospitals collect data on falls and length of stay and we will obtain this information from these units where possible to decrease the amount of time required for chart abstraction. Finally, the collection of outcome data (specifically frequency of mobilization) by the research associates will not be blinded as they may notice posters on the participating units or patient education materials. However, standardized criteria will be used for this measure and a percentage (10%) of charts will be reviewed by a second blinded assessor for reliability.



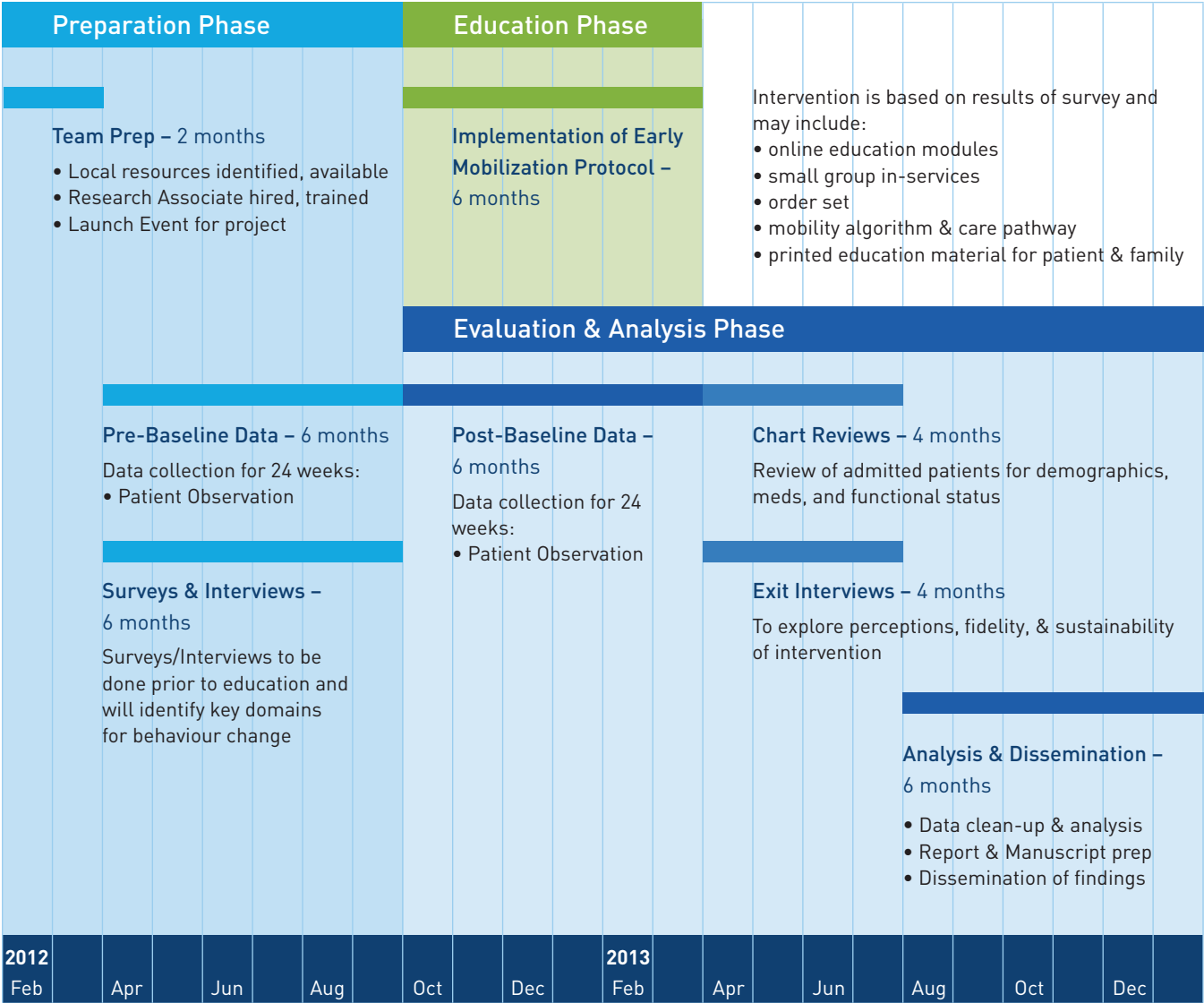
Using an integrated Knowledge Translation approach, the outcomes were selected and prioritised by the team members (including health care providers, educators, patient advocates and decision makers) to ensure that they are patient-centred and relevant to the institutions. **Length of stay was not identified as the primary outcome given that many other factors contribute to this outcome which cannot be controlled in an interrupted time series and because many stakeholders felt that patient-relevant outcomes should be the priority including mobilization and functional status.**



	Outcome	Definition	Data Source
Primary	Frequency of mobilization of patient	% of unit census documented “not in bed” during audit	Direct observation and chart abstraction
		Mean number of ambulation events within 24 hours	Chart abstraction
Secondary	Length of stay	Days	Chart abstraction or hospital decision support unit
	Functional status at admission and at discharge (ADL/IADL)	% patients in each category of ADL status	Chart abstraction
	Discharge destination	% patients discharged to location other than LTC	Chart abstraction or hospital decision support unit
	Falls	Number of incident reports filed	Chart abstraction or hospital decision support unit
	Injurious falls (fractures, subdural hematoma)	Number reported	Chart abstraction or hospital decision support unit
	Perceptions of patients, informal caregivers, family members and health care	Qualitative data	Interviews
	Rate of documentation	Change in rate of documentation of baseline and discharge function	Chart abstraction

Project Timeline

The CAHO MOVE ON ARTIC Project will be implemented in 3 phases: Preparation Phase; Education Phase; Evaluation and Analysis Phase. Prior to the formal start of the project, each institution will need to identify the Local Education Coordinator and Local Physician Opinion Leader and initiate the Research Ethics Board (REB) application.



Project Duration = 24 Months

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