Senior Friendly Hospital Indicators

Evaluation of Feasibility and Clinical Value

Report and Recommendations of the Senior Friendly Hospital Indicators Evaluation Working Group

September 2014

Senior Friendly Hospitals

RGP REGIONAL GERIATRIC PROGRAM OF TORONTO

Better health outcomes for frail seniors

Acknowledgements

Report Authors

Ken Wong, Ada Tsang, and Barbara Liu
Regional Geriatric Program of Toronto

www.seniorfriendlyhospitals.ca

Contents

EXECUTIVE SUMMARY

In 2010, the Ontario Senior Friendly Hospital (SFH) Strategy was launched under the leadership of the fourteen Local Health Integration Networks (LHINs) and supported by the Regional Geriatric Programs of Ontario. Its ongoing vision is to improve the quality of hospital care for frail older adults so that they can maintain optimal health and function while in hospital, supporting a safe and durable transition to community living.

An environmental scan of the province's hospitals identified promising practices across Ontario and also led to the identification of hospital-acquired delirium and functional decline as priority clinical areas for system-wide improvement. Further collaboration across the province led to the generation of an online toolkit (www.seniorfriendlyhospitals.ca) and the identification of the following proposed SFH indicators for the monitoring of clinical practice addressing delirium and functional decline.

Delirium Indicators (applicable to all hospital sectors):

RATE OF BASELINE DELIRIUM SCREENING	Process Indicator	Percentage of patients (65 and older) receiving delirium screening using a validated tool upon admission to hospital
RATE OF HOSPITAL ACQUIRED DELIRIUM	Outcome Indicator	Incidence of delirium in patients (65 and older) acquired over the course of hospital admission

Functional Decline Indicators (applicable to the Acute Care sector):

RATE OF ADL FUNCTION ASSESSMENT AT ADMISSION AND DISCHARGE	Process Indicator	Percentage of hospitalized patients (65 and older) receiving assessment of ADL function with a validated tool AT BOTH ADMISSION AND DISCHARGE
RATE OF NO DECLINE IN ADL FUNCTION	Outcome Indicator	Percentage of patients (65 and older) with no decline in ADL function from hospital admission to hospital discharge as measured by a validated tool

The present report describes the evaluation of the SFH indicators in a province-wide collaborative, coordinated by the Regional Geriatric Program of Toronto, involving 44 hospital organizations in 10 LHINs. This evaluation had the following objectives:

1. To determine the feasibility of implementing and sustaining the indicators (including the clinical, data collecting, and data reporting processes involved in doing so).
2. To determine the value of implementing the indicators to drive improvements in patient care processes.
3. To identify key success factors and challenges involved in the implementation of the indicators.

DELIRIUM INDICATORS

The clinical and data collection processes examined in this evaluation showed high rates of compliance, and contributed to clinical learning and activities with the potential to enhance patient care. Therefore, **both the process and outcome indicators for delirium are recommended for broader implementation**

in all hospital sectors.   The process indicator is feasible for hospitals to report and has the potential to drive improvement in clinical care. It is appropriate to use as an indicator for hospital accountability. The outcome indicator is feasible for hospitals to implement and is an important metric to track the impact of prevention strategies for delirium. It is expected that this indicator will initially identify increases in hospital-acquired delirium in the short- to medium- term, reflecting improvement in knowledge and detection of delirium across the system. In the longer term, it can be expected that these rates will stabilize as awareness of delirium becomes more embedded in knowledge and routine practice. For these reasons, this indicator should be monitored and reviewed prior to its utilization for accountability purposes. Key enablers for sustained and accurate reporting of the delirium indicators are support for electronic implementation of data collection and reporting processes, and standardized ongoing education to reinforce knowledge and practice in this complex clinical area.

FUNCTIONAL DECLINE INDICATORS (FOR THE ACUTE CARE SECTOR)

The process indicator for functional decline requires the assessment of Activities of Daily Living (ADL) function at both patient admission and discharge. In this evaluation, high rates of compliance in this indicator, requiring both of these processes, were not consistently achieved. Since calculation of the outcome indicator requires high completion rates of the process indicator, **broader implementation of the functional decline indicators is not recommended at present.** However, a number of key learnings were made. Compliance rates for ADL assessment were lower at patient discharge than at admission, and it was consequently the low rate of discharge assessment that proved to be a limiting factor. Two ADL assessment tools were utilized by hospitals in this evaluation – the Barthel Index and the Health Outcomes for Better Information and Care (HOBIC) ADL Section. Notably higher rates of ADL assessment at both admission and discharge were achieved by hospital sites utilizing the Barthel Index compared to those using the HOBIC ADL Section. In particular, the Barthel Index was favoured by front-line providers, who described it as being easy to learn and quick to administer. This was the most significant factor affecting compliance in these indicators, and is an important consideration in the acute care sector where patient turnover is high. Clinical consensus emphasizes the importance of maintaining ADL function in frail seniors while they are hospitalized, as this is linked to hospital discharge and successful transition to the community. Further study by a working group to build upon these learnings and determine alternative processes or indicators to drive these clinical practices is strongly recommended.

SUMMARY OF RECOMMENDATIONS

Delirium Indicators
1. *Both the process and outcome indicators for delirium are recommended for broader implementation in all hospital sectors.*
2. *Data for the indicators should be based on assessment results using a common clinical tool, such as the Confusion Assessment Method (CAM).*
3. *Routine screening for delirium after the initial baseline delirium screen should occur at a minimum of once per day in all hospital sectors.*
4. *Patients receiving palliative care should be included in the indicator technical definition.*

5. *For sustainability purposes, electronic implementation to provide automation of data collecting and reporting process is recommended.*

Functional Decline Indicators
1. *The indicators for functional decline are not recommended for broader implementation at present.*
2. *For the assessment of ADL function in the acute care sector, a concise ADL assessment tool should be used.*
3. *Further work to identify indicators more suitable to monitor functional status and drive early mobilization/activation processes should be undertaken.*

INTRODUCTION

The Ontario Senior Friendly Hospital (SFH) Strategy was launched in September 2010 with the aim of improving the quality of care for older adults in hospital, contributing to healthier communities across the province. Led by all fourteen Local Health Integration Networks (LHINs) in partnership with the Regional Geriatric Programs (RGPs) of Ontario, its vision is to improve the quality of hospital care for frail older adults so that they can maintain optimal health and function while in hospital, supporting a safe and durable transition to community living.

The strategy's first phase consisted of an environmental scan of all adult hospitals to determine the current state of SFH care across the system and to identify leading practices and potential areas for improvement. This environmental scan utilized a self-assessment template structured around the RGPs of Ontario SFH Framework and its five domains – Organizational Support, Processes of Care, Emotional and Behavioural Environment, Ethics in Clinical Care and Research, and Physical Environment. This facilitated an examination of the processes and structures across the entire organization that together contribute to SFH care. Senior Friendly Hospital summary reports were generated for each LHIN, and informed a provincial summary report of SFH care.[1] This report identified key priorities for system-wide quality improvement and prompted further action across the province to address the clinical issues of delirium and functional decline that occur within the hospital.

In the SFH Strategy's second phase, a key resource to support hospitals in SFH care was developed. A provincial working group identified and appraised clinical tools and resources to support hospitals in quality improvement pertaining to delirium and functional decline. These tools and resources were organized into an on-line toolkit, available at www.seniorfriendlyhospitals.ca.

The third phase of the Ontario SFH Strategy identified hospital indicators that would support organization- and system-wide monitoring of delirium and functional decline practice. A multi-disciplinary working group was convened from across the province, and participated in a Delphi-panel and consensus process to determine appropriate indicators.[2] Two indicators – one process and one outcome – were identified for each of delirium and functional decline.

---

[1] Wong K, Ryan D, and Liu B (2011). *Senior Friendly Hospital Care Across Ontario: Summary Report and Recommendations.* Toronto, ON: Ontario Local Health Integration Networks. Accessed July 8 2014 from http://seniorfriendlyhospitals.ca/files/SFH%20Provincial%20Report%20-%20FINAL_1.pdf

[2] Wong K, Tsang A, Liu B, and Schwartz R (2012). *The Ontario Senior Friendly Hospital Strategy: Delirium and Functional Decline Indicators.* Toronto, ON: Ontario Local Health Integration Networks Accessed July 8, 2014 from http://seniorfriendlyhospitals.ca/files/SFH%20Delirium%20and%20Functional%20Decline%20Indicators%20Report.pdf

Delirium Indicators (applicable to all hospital care sectors):

RATE OF BASELINE DELIRIUM SCREENING	Process Indicator	Percentage of patients (65 and older) receiving delirium screening using a validated tool upon admission to hospital
RATE OF HOSPITAL ACQUIRED DELIRIUM	Outcome Indicator	Incidence of delirium in patients (65 and older) acquired over the course of hospital admission

Functional Decline Indicators (applicable to the Acute Care sector):

RATE OF ADL FUNCTION ASSESSMENT AT ADMISSION AND DISCHARGE	Process Indicator	Percentage of hospitalized patients (65 and older) receiving assessment of ADL function with a validated tool AT BOTH ADMISSION AND DISCHARGE
RATE OF NO DECLINE IN ADL FUNCTION	Outcome Indicator	Percentage of patients (65 and older) with no decline in ADL function from hospital admission to hospital discharge as measured by a validated tool

* Full technical specifications are shown in Appendix A

The present report describes the evaluation of these indicators, which began January 2013 in 44 hospitals from 10 LHINs. The hospitals represent diverse care settings from across the province. This work was guided by a provincial working group coordinated by the RGP of Toronto with input from the LHINs (please see the SFH Indicators Evaluation Working Group section for a list of members). The objectives of this evaluation are as follows:

1. To determine the feasibility of implementing and sustaining the indicators (including the clinical, data collecting, and data reporting processes involved in doing so).

2. To determine the value of implementing the indicators to drive improvements in patient care processes.

3. To identify key success factors and challenges involved in the implementation of the indicators.

Methods

Recruitment of Volunteer Sites

In January 2013, a call for interest was circulated to Ontario hospitals asking for volunteer organizations to implement the processes required to report the proposed delirium and functional decline indicators using existing resources. Forty-four hospitals submitted applications communicating their intention to implement the process and outcome indicators for delirium and/or functional decline on an entire patient care unit. The characteristics of participating hospitals are included in Appendices B and C. The call for interest also outlined the requirement to submit at least 6 months of de-identified quantitative and qualitative data summarized below in Table 1, starting as early as April 2013. Templates for this data collection are included in Appendices D to G.

TABLE 1 – Summary of required data submissions

SOURCE OF DATA	TIME OF SUBMISSION	FORMAT/TYPE OF DATA
Implementation Action Plan	At start of project	Qualitative data
Progress Reports	Monthly	Qualitative data
Indicator Data Submissions	Monthly	Quantitative data
Surveys of Point-of-care and Non Point-of-care Staff	Three time points: pre-, mid-, and post-implementation of indicator data collection	Feedback surveys entered electronically through SurveyMonkey or by paper copy
Collaboration Webinars	Monthly from April 2013 to November 2013; every 2 months thereafter to July 2014	Qualitative data from recorded audio transcripts of webinar conversations and copied transcripts of webinar "chat room" discussions
End of Project Interview	At the conclusion of indicator data collection	Qualitative data from semi-structured telephone interviews

Quantitative Data

Each month, hospital sites completed and submitted de-identified summary data for all eligible patients who were discharged from the evaluation unit during the month.

For the delirium indicators, the data included the following:
- Rate of baseline delirium screening – the percent of discharged patients 65 and older who were screened for delirium within 48 hours of their admission to the evaluation unit.
- Frequency of routine delirium screening – the total number of delirium screens performed divided by the number of patient-days for patients 65 and older.

- Rate of hospital-acquired delirium - the percent of discharged patients 65 and older who became positive for delirium during their hospital stay whose initial baseline screen for delirium was negative.

For the functional decline indicators, the data included the following:
- Rate of Activities of Daily Living (ADL) function assessment at admission – the percent of discharged patients 65 and older who had an ADL assessment within 48 hours of admission.
- Rate of ADL function assessment at discharge – the percent of discharged patients 65 and older who had an ADL assessment within the 48 hours prior to discharge.
- Rate of ADL function assessment at both admission and discharge – the percent of discharged patients 65 and older who had an ADL assessment at both admission and discharge.
- Rate of no ADL decline – the percentage of patients 65 and older who had an ADL assessment at both admission and discharge from the unit and whose ADL score at discharge indicated no decline in ADL function

Qualitative Data

Action Plans and Progress Reports
Participating hospitals submitted an action plan prior to implementation describing their overall plan of project execution, the hospital staff involved, anticipated challenges, and proposed strategies to address those challenges. Each month thereafter, hospitals submitted a progress report that described additional patients they excluded from clinical assessment, issues experienced applying the proposed technical definitions, challenges, improvement strategies, and overall success factors.

Staff Surveys
The perceptions of point-of-care staff (front-line clinicians who administered the clinical assessments) and non point-of-care staff (project managers, educators, and data/decision support staff) were solicited using paper or electronic surveys administered at three time points: prior to the start of indicator data collection (pre-implementation), 3 months after the start of data collection (mid-implementation), and at the end of data collection (post-implementation). In total, 944 completed surveys were received from point-of-care staff, and 159 from non point-of-care personnel. Staff rated the ease of performing the required clinical screen/assessment, collecting the data, reporting the data, and the perceived value of these processes to enhance patient care. In addition, narrative survey responses captured the experience of collecting, documenting, and reporting data pertaining to the indicators. The survey also solicited staff perceptions on whether the clinical tools used for the indicators accurately reflected the health status of their patients. Staff were also asked to describe how collecting this information helped them and their teams plan or provide better patient care.

Webinars and Exit Interviews
All participating sites were invited to attend scheduled collaboration webinars throughout the implementation. The collaboration webinars featured project updates, review of common findings, knowledge exchange on implementation successes, and shared problem solving. The webinars were

recorded and chat room transcriptions were saved in order to provide additional de-identified qualitative data. At the conclusion of data submission, a telephone interview with the key contact(s) at each organization was conducted to obtain overall feedback related to the experience of implementing the indicators, success strategies, technical challenges, resource demands, and overall clinical utility.

Data Analysis

Quantitative data from organizations submitting a minimum of 3 consecutive months of indicator data were included in the analysis to assess feasibility. For the delirium implementation, the mean, lowest, and highest monthly rate of baseline delirium screening achieved over all months of data submission were summarized by site. To explore potential changes in compliance over time, the median monthly rate of baseline delirium screening for all organizations was examined. To examine the frequency of routine delirium screening after the initial baseline screen, the percent of total patient-days in which delirium screening occurred was tracked. Finally, the mean monthly rate of hospital-acquired delirium reported by all organizations in aggregate was calculated to provide a preliminary examination of the tracking of this outcome indicator.

For the functional decline indicators, analysis was separated according to the ADL assessment tool chosen for use by the organization. Quantitative data examining feasibility was included for organizations that completed a minimum of 3 consecutive months of data submission. The rates of ADL function assessment completed at admission, at discharge, and at both admission and discharge were summarized for organizations' best 3 months of compliance. To explore compliance over time, the median monthly rate of ADL assessment at both admission and discharge achieved by all organizations was determined. Finally, monthly rates of no decline in ADL function were shown for hospital sites that achieved 90% or greater compliance with ADL assessment at both admission and discharge.

Qualitative data was captured from the submitted action plans, monthly progress reports, staff surveys, collaboration webinars, and end-of-project interviews. This data was aggregated for each hospital and sorted thematically by two reviewers who worked independently and then met to reach consensus on findings related to feasibility, clinical value, and implementation successes and challenges. Where applicable, quantitative data was compared with qualitative themes to explore differences possibly related to specific characteristics of the evaluation sites. These characteristics included: use of the Barthel Index or the Health Outcomes for Better Information and Care (HOBIC) ADL Section to assess ADL function, and the hospital service provided by the evaluation unit (acute care, rehabilitation, complex continuing care) when these comparisons were relevant or possible.

DELIRIUM INDICATORS

DEFINITIONS AND DATA QUALITY

Participating hospitals found the technical specifications for both the delirium process and outcome indicators to be clear and easy to understand. For the purposes of collecting and reporting the indicator data, there were no technical challenges reported in applying the indicator definitions. However, several organizations felt that an adjustment to the exclusion criteria to include patients receiving palliative care was appropriate. Their rationale was that patients receiving palliative care should continue to be screened for delirium so that interventions could be provided for comfort and safety where appropriate.

Some concerns were expressed regarding the clinical accuracy of relying on the Confusion Assessment Method (CAM) tool, used for delirium screening by sites in this evaluation. While the CAM is documented as having strong psychometric properties, instances of delirium documented in clinical charts occasionally did not match CAM screening results reported as part of this implementation. A number of factors were suggested that may have contributed to these discrepancies, including documentation errors, insufficient communication between clinical team members, and knowledge gaps about delirium pointing to a need for additional education on the use of the CAM. In addition, certain patient populations – those with dementia, stroke, aphasia, and other communication challenges, for instance – were difficult to assess due to a clinical presentation that was difficult to distinguish from features of delirium. Psychometric studies show high sensitivity (94%) and specificity (89%) in detecting delirium when the CAM is administered as a part of a formal cognitive assessment[3], but lower accuracy when based on clinical observation during routine care.[4] In practice, sites reported feasibility concerns with performing a cognitive assessment every time CAM screening was to be administered. However, implementation sites agreed that establishing an accurate patient baseline was an important first step, and some felt it important to include a brief cognitive assessment during the initial CAM screen at patient admission. Sites also remarked on the importance of documentation and ongoing communication of patients' baseline cognitive status to ensure accurate application of the CAM. For instance, front-line staff whose window of observation is an 8-hour shift may not detect an acute change in cognition over the course of their shift, and incorrectly score the CAM as negative if they have not been informed that the patient's baseline status was indeed different from their current cognitive status. Other factors affecting the accuracy of CAM screening included: day-to-day fluctuations in patient status, assessment by different staff members whose skill level or interpretation of the CAM is different, transfer of information issues, and data transcription errors. In virtually all cases where CAM screening scores did not match documentation of delirium in physician or clinical chart notes, the clinical

---

[3] Wei LA, Fearing MA, Sternberg EJ, and Inouye SK (2008). The Confusion Assessment Method: a systematic review of current usage. *Journal of the American Geriatrics Society* 56: 823-830.

[4] Inouye SK (2003). *The Confusion Assessment Method (CAM): Training Manual and Coding Guide.* New Haven: Yale University School of Medicine. Accessed September 12 2014 at http://www.hospitalelderlifeprogram.org/pdf/TheConfusionAssessmentMethodTrainingManual.pdf

documentation was perceived to be more reliable. During webinar discussions, sites agreed that team knowledge and improved communication processes could be developed over time, and that ongoing education would improve their confidence in the accurate use of the CAM to screen for delirium.

FEASIBILITY AND IMPLEMENTATION SUCCESSES

Data Submission Rates

Thirty-three hospitals comprising thirty-four distinct data collection sites volunteered to implement the delirium indicators. Data collection took place between April 2013 and the end of April 2014. During this time, 2 sites withdrew from the study, 4 sites did not submit data, 2 sites submitted unusable data (e.g. missing fields), and 1 site submitted only one month of data. Twenty-five sites submitted 3 or more consecutive months of data. Table 2 lists the number of consecutive months of indicator data submitted by participating hospital sites during the time frame of the implementation study. The quantitative analysis that follows is based on data submitted by these 25 hospital sites.

TABLE 2 – Number of consecutive months of delirium indicator data submitted by hospitals.

MONTHS OF DATA SUBMITTED	NUMBER OF HOSPITAL SITES	PERCENT OF HOSPITAL SITES
0	6	18%
1	1	3%
3	2	6%
4	1	3%
6	16	47%
7	5	15%
8	1	3%
Unusable	2	6%
TOTAL	**34**	**100%**

Process Indicator – The Rate of Baseline Delirium Screening

Figure 1 illustrates the mean rate of baseline delirium screening achieved over the entire period of data submission by each of the 25 hospital sites included in this analysis. Ten hospital sites consistently achieved mean baseline screening rates at or near 100 percent over the course of the study. An additional six sites achieved baseline screening rates of 80 percent or greater. Five hospitals averaged baseline screening at rates between 60 and 80 percent, while four sites performed baseline delirium screening during the study at a rate below 50 percent.

FIGURE 1 – Mean rate of baseline delirium screening by hospital.

▲ Mean rate of baseline delirium screening over all months of data submission.

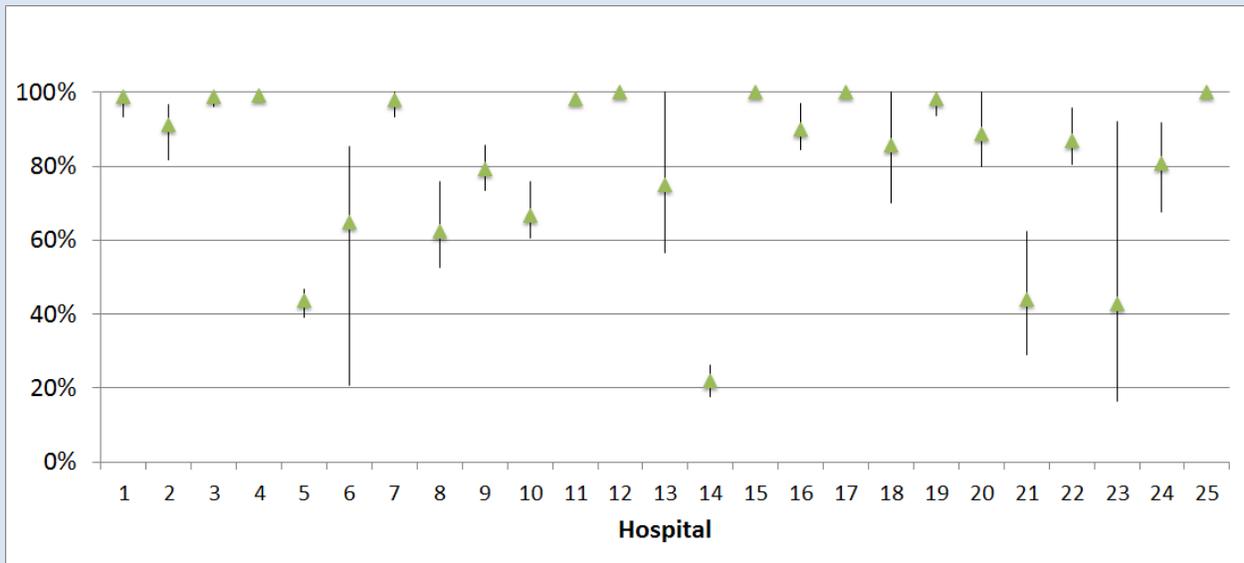─ Range of delirium screening rate (highest to lowest monthly compliance rates)

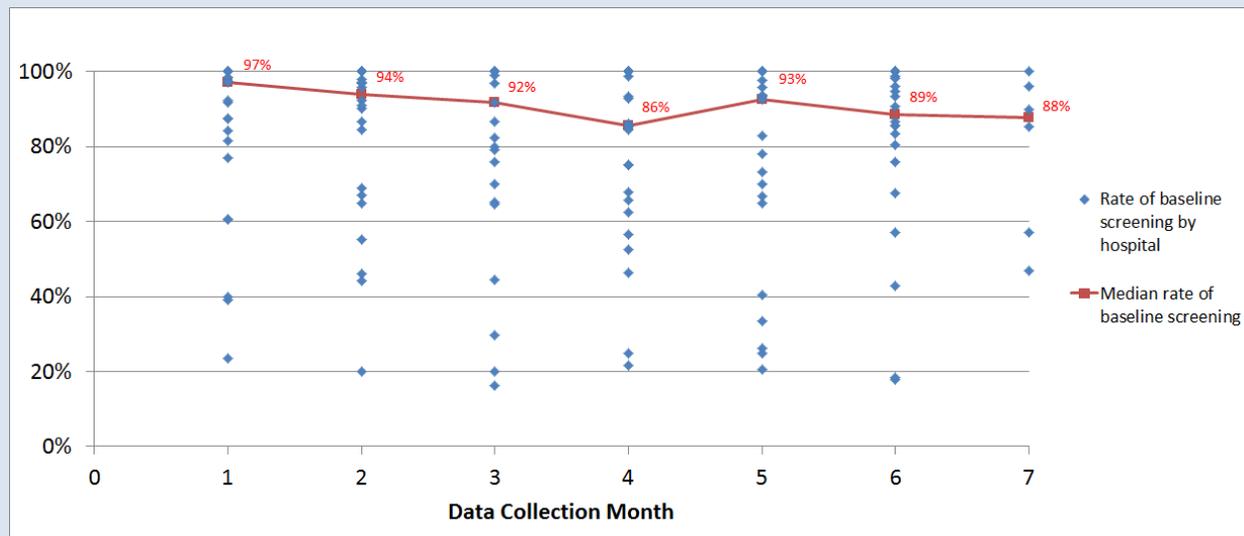**FIGURE 2 – Monthly rate of baseline delirium screening.**

Figure 2 shows the monthly compliance with baseline delirium screening for the 25 hospital sites included in the analysis. Reported rates of delirium screening remain fairly constant over time, with median rates ranging from 86 percent to 97 percent throughout 7 months of data collection.

Outcome Indicator – The Rate of Hospital Acquired Delirium

In order to calculate the rate of hospital-acquired delirium, it is necessary to screen for delirium regularly over a patient's stay. Table 3 shows the percent of total patient-days in which delirium screening occurred for the 25 hospitals reporting at least 3 consecutive months of indicator data. Eleven hospital sites conducted delirium screening in at least 80% of their patient-days. Note that according to the indicator definitions, baseline screening is to occur within 48 hours of patient admission. Therefore, values below 100% in this data set may still represent full compliance with indicator specifications in cases where baseline screening took place on day 2 of patient admission.

TABLE 3 – Percent of total patient-days in which delirium screening occurred. Data is reported by hospital sites that completed a minimum of three consecutive months of indicator data submission. (n=25)

PERCENT OF TOTAL PATIENT-DAYS WITH DELIRIUM SCREENING	NUMBER OF HOSPITAL SITES	PERCENT OF HOSPITAL SITES
100%	2 site(s)	8%
80-99%	9	36%
60-79%	2	8%
40-59%	6	24%
20-39%	3	12%
Below 20%	3	12%

The targeted frequency of routine CAM screening ranged from once-per-day to once-per-shift at acute care sites. There was a range of staff responses regarding the need and/or importance of routine daily screening. In some cases, routine screening each day (or each shift) was seen as a success factor as front-line staff perceived the workload to be equally shared.   At other acute care sites, formal screening for delirium was thought to be redundant if there was no noticeable change in patient status. On further discussion during webinars, sites recognized that this clinical observation is itself a partial screen for delirium and overall it was felt that routine and regular standardized screening is a more optimal and practical process to follow. In the rehabilitation/complex continuing care sector, one site implemented routine screening each nursing shift (3 times a day at this site), while other sites were less convinced of the need for daily or more frequent CAM screening, citing that their clinical population consists of longer stay patients who are typically more medically stable. These rehabilitation/complex continuing care sites set targets to complete formal delirium screening less frequently – from once every three days to once per week. Note that the data set in Table 3 is presented in aggregate. It includes sites which targeted more frequent delirium screening (e.g. every nursing shift), and sites in the rehabilitation or complex continuing care sector which scheduled delirium screening less than once per day (e.g. every 3 days or weekly).

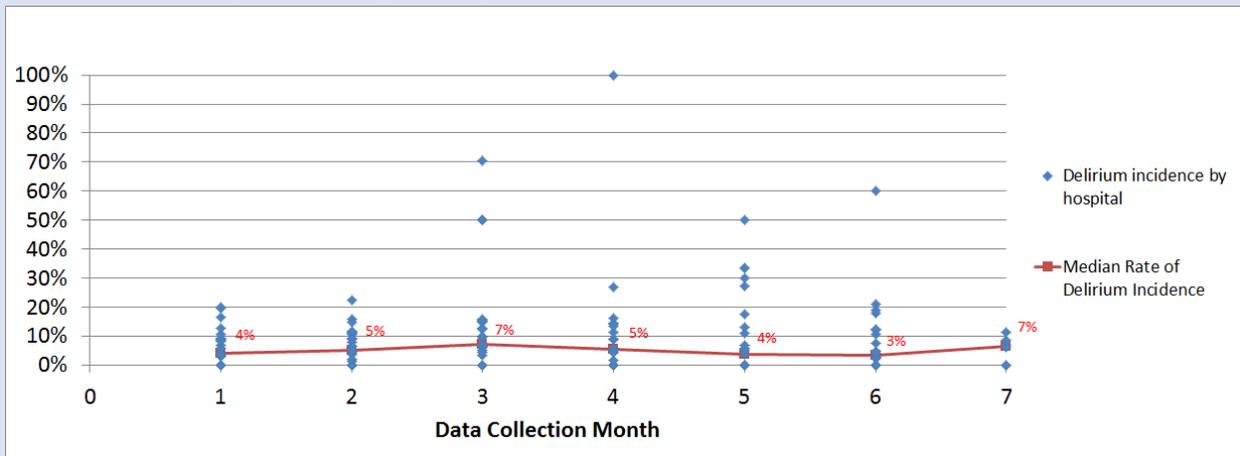**FIGURE 3 – Monthly rate of hospital-acquired delirium.**

Figure 3 shows the rate of hospital-acquired delirium reported by the 25 hospital sites. The data shows a fairly narrow range of delirium incidence that clusters at a rate of 20 percent or below. These values are comparable to rates for hospital-acquired delirium reported in the research literature.[5]

Implementation Success Factors

A number of factors were cited as contributing to successful implementation of the processes related to reporting of the delirium indicators. They clustered under the following themes:

- Senior leadership support for senior friendly hospital initiatives overall and for this specific implementation.
- A strong commitment to education to support clinicians in this complex learning.
- Front-line clinicians who are motivated to change/improve this area of clinical practice and who can see how this practice enables them to provide better patient care.
- A simple and effective clinical tool – front-line staff reported that the Confusion Assessment Method (CAM) is relatively easy to learn and can be administered quickly – their overall feedback on learning and using the CAM was positive
- Making delirium screening a routine and regular practice (e.g. occurring at a regular time each day, or regularly with each nursing shift)
- Electronic implementation and recording of delirium screening to facilitate compliance through computerized reminders, and to support data collection and reporting through the automatic generation of monthly summary reports
- Regularly engaging staff through team discussions (e.g. delirium discussions during inter-professional rounds and/or daily huddles)
- Providing regular feedback on implementation successes with staff (e.g. posting and reviewing monthly results of screening rates and incidence of delirium)

---

[5] Fann, JR (2000). The epidemiology of delirium: A review of studies and methodological issues. *Seminars in Clinical Neuropsychiatry* 5: 64-74.

VALUE IN DRIVING CLINICAL CARE

The qualitative data obtained from multiple sources support the positive impact that the process of collecting the delirium indicators had on patient care. The following themes consistently emerged throughout project action plans, progress reports, and staff survey responses and were confirmed during exit interviews:

- There was very high value in educating clinical staff about delirium and how to perform delirium/CAM screening – many sites reported increased attention to delirium, more discussion of delirium (e.g. in team rounds and daily huddles) and they further perceived that this resulted in earlier detection of delirium.
- The work involved in implementing the indicators helped make delirium part of routine knowledge among front-line providers.
- With increasing attention to delirium, teams took the initiative to develop or refine their prevention and intervention protocols (e.g. by implementing order sets, management strategies, resource binders, decision trees, and posters/pamphlets for staff, family, and patients).
- Clinicians identified challenging situations (e.g. assessing delirium in patients with dementia or aphasia) and began to ask questions and explore solutions for them. During a webinar discussion, one site reported utilizing the CAM-ICU tool, which can be administered on non-verbal patients, into delirium screening for their patients with aphasia.
- Many sites reported that providing monthly visual feedback and review of indicator results with front-line staff helped generate additional buy-in and encouraged their clinical teams to continue being attentive to clinical changes that may indicate delirium.

RECOMMENDATIONS: DELIRIUM INDICATORS

Based on the results of this study, the clinical and data collection processes pertaining to the delirium indicators, including the tracking of delirium screening within 48 hours of admission and at regular intervals throughout hospitalization to detect new cases of delirium, appear to be feasible with the potential for compliance and accuracy to improve further with time and practice.

Both the process and outcome indicators for delirium are recommended for broader implementation in all hospital sectors.
- Process indicator – this indicator is feasible for hospitals to implement and has good value in driving improvement in clinical care. It is appropriate to use as an indicator for hospital accountability purposes.
- Outcome indicator – this indicator is feasible for hospitals to implement and is an important outcome indicator to track the impact of prevention strategies for delirium. It is expected that this indicator will initially identify increases in hospital-acquired delirium in the short- to medium- term – this being a reflection of the improvement in clinical teams' abilities to accurately screen and recognize delirium. In the longer term, it is expected that these rates would stabilize as knowledge on delirium becomes embedded into routine practice and that at this point, improvements might be expected. For these reasons, this indicator should be viewed as a developmental indicator and should be monitored and reviewed prior to its utilization for accountability purposes.

Data for the indicators should be based on assessment results using a common clinical tool, such as the Confusion Assessment Method (CAM).
- The CAM is feasible for delirium assessment and was reported in the study to be quick and easy to learn and administer by point-of-care staff
- It is recognized that high levels of clinical expertise are needed for the accurate detection of delirium. These high levels of expertise are currently not the norm in front-line practice. Standardized tools are useful for clinicians at all levels of training and experience. Clinical judgement and expertise always complements the use of clinical tools and, through frequent and routine practice, the accurate detection of delirium will improve over time.
- Standardized and ongoing education for delirium and for use of the identified clinical tools is recommended.

Routine screening for delirium after the initial baseline delirium screen should occur at a minimum of once per day in all hospital sectors.
- While feedback from the rehabilitation/complex continuing care sector was mixed, the consensus for best practice was that delirium screening should be performed regularly and monitored much like a vital sign.

Patients receiving palliative care should be included in the indicator technical definition.

- It was agreed that patients receiving palliative care should be screened for delirium so that when it occurs it can be managed for safety and comfort where appropriate.

For sustainability purposes, electronic implementation to provide automation of data collecting and reporting processes is recommended.

FUNCTIONAL DECLINE INDICATORS

DEFINITIONS AND DATA QUALITY

Participating hospitals found the technical specifications for the functional decline process and outcome indicators to be clear and easy to understand. No practical issues regarding the definitions were reported during implementation.

A few minor concerns regarding data accuracy were observed throughout implementation. Sites reported infrequent occasions where patients responded differently to different health providers conducting the ADL function assessments, and occasionally front-line staff interpreted assessment results differently (both are inter-rater reliability issues). In a few reported instances, patients were more willing to perform ADL tasks on different days during their admission, casting some doubt on the accuracy of recently assessed ADL function scores. There were also occasional transfer of information issues and administrative errors causing inaccuracies during the entering or transcribing of assessment data. Overall, sites felt that these types of errors were infrequent and minor in effect.

It was also noted that the Barthel Index might have some limitations regarding its sensitivity to detect change and a potential ceiling effect. Sites who implemented the Barthel Index reported that, for the acute care population, it was useful in detecting clinically significant change and that the potential ceiling effect would not be a limitation in the acute care population where a patient achieving the highest score on the Barthel Index is very unlikely to have barriers to discharge related to their ADL functional status.

FEASIBILITY AND IMPLEMENTATION SUCCESSES

Data Submission Rates

Twenty-four hospital sites volunteered to implement the functional decline indicators. Eleven of these sites chose to use the Barthel Index as their ADL assessment tool, 10 chose the Health Outcomes for Better Information and Care (HOBIC) ADL section, and 3 chose to utilize the alphaFIM® tool. Of these sites, the 3 utilizing the alphaFIM® officially withdrew from the implementation, citing competing priorities, prohibitive licensing costs, and training requirements to implement the alphaFIM® tool. Of the 10 sites utilizing the HOBIC ADL section, 2 sites did not submit data, and 1 submitted data for only 1 month. Seven sites utilizing the HOBIC ADL assessment submitted 3 or more consecutive months of data, and were included in the analysis. Of the 11 sites utilizing the Barthel Index, 3 sites did not submit data and 1 site submitted unusable data (e.g. missing data fields). Seven hospital sites successfully submitted a minimum of 6 consecutive months of indicator data. One of these sites was excluded from the quantitative analysis because, while it had submitted 6 complete months, there was only 1 patient discharge during this time. A summary of the data submission rates for all participating organizations is shown in Table 4. The quantitative analysis that follows is based on the 7 sites using the HOBIC tool with 3 or more consecutive months of data, and the 6 sites utilizing the Barthel Index that submitted 6 or more months of data.

TABLE 4 – Number of consecutive months of functional decline indicator data submitted by hospitals.

ADL ASSESSMENT TOOL	NUMBER OF MONTHS SUBMITTED	NUMBER OF HOSPITAL SITES	PERCENT OF HOSPITAL SITES
alphaFIM®	0	3	100%
	Total	3	100%
Health Outcomes for Better Information and Care (HOBIC) ADL Section	0	2	20%
	1	1	10%
	3	1	10%
	6	5	50%
	12	1	10%
	Total	10	100%
Barthel Index	0	3	27%
	6	4*	36%
	7	1	9%
	9	1	9%
	13	1	9%
	unusable	1	9%
	Total	11	100%

* 1 site had only 1 patient discharge during data collection and was excluded from the analysis

Process Indicator – The Rate of ADL Function Assessment at Both Admission and Discharge

Compliance Rates for Sites Using the HOBIC ADL Section

Seven hospitals utilizing the HOBIC ADL Section submitted over 3 months of indicator data. The rate of ADL assessment at admission, discharge and both is shown in Table 5. No hospital was able to achieve a rate of 100% assessment of ADL function at both admission and discharge. Two sites achieved rates between 80-99% during their best 3 months of compliance.

Qualitative feedback pointed to a number of challenges in achieving high rates of compliance with these processes. Front-line providers frequently stated that the completion of the HOBIC ADL section was time consuming and they were not able to integrate it consistently into their work day. They also reported technical issues with the web-based platform causing loss of data. Further, some items on the HOBIC assessment were scored as "Activity did not occur." When this happened, admission assessments could not be compared with discharge assessments and the results were deemed incomplete. In one case, the admission and discharge assessment rates when reported separately appeared to be very high. When examined further, many of these individual assessments were then flagged as incomplete. When the completion rates were recalculated to include only the completed assessments that could be paired at both admission and discharge, actual rates of compliance were found to be below 20%.

TABLE 5 – Rate of ADL function assessment* at admission, discharge, and at both admission and discharge using the HOBIC ADL section. (n=7)

HOBIC ADL SECTION – RATE OF ADL FUNCTION ASSESSMENT:				
RATE OF ADL FUNCTION ASSESSMENT	ADMISSION	DISCHARGE	BOTH ADMISSION AND DISCHARGE	PERCENT OF HOSPITAL SITES ACHIEVING BOTH
100%	2 site(s)	0 site(s)	0 site(s)	0%
80-99%	1	3	2	29%
60-79%	3	0	0	0%
40-59%	0	2	1	14%
20-39%	1	2	2	29%
Below 20%	0	0	2	29%

*based on best 3 months of compliance

Compliance Rates for Sites Using the Barthel Index

Six hospitals implemented the functional decline indicators utilizing the Barthel Index as their ADL assessment tool, and all completed at least 6 months of consecutive data submission (Table 6). Of these sites, 4 were able to achieve rates of 100% ADL assessment at both admission and discharge in their best 3 months of practice. The other 2 sites achieved rates between 20 and 39 percent.

Survey feedback received from front-line providers conveyed mostly positive impressions about use of the Barthel Index as an assessment tool. It was described as being simple to learn, easy to understand, and quick to administer. The front-line providers who administered the Barthel Index included personal support workers, nursing staff, occupational therapists and physical therapists. Personal support workers felt that learning this skill enhanced their role, scope of practice, and boosted their confidence within the clinical team. Clinicians with more advanced physical/functional training (e.g. occupational and physical therapists) reported that the Barthel Index assessment provided information redundant to their own clinical assessments, but was sufficiently quick so as not to cause significant inconvenience to their daily work.

TABLE 6 – Rate of ADL function assessment* at admission, discharge, and at both admission and discharge using the Barthel Index. (n=6)

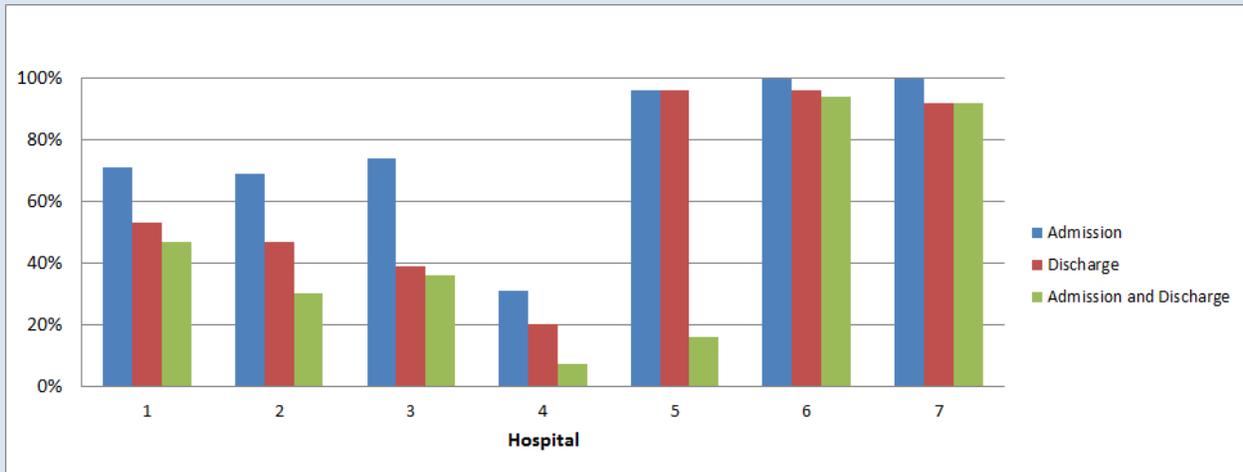| BARTHEL INDEX – RATE OF ADL FUNCTION ASSESSMENT:				
RATE OF ADL FUNCTION ASSESSMENT	**ADMISSION**	**DISCHARGE**	**BOTH ADMISSION AND DISCHARGE**	**PERCENT OF HOSPITAL SITES ACHIEVING BOTH**
100%	4 site(s)	4 site(s)	4 site(s)	67%
80-99%	1	0	0	0%
60-79%	0	0	0	0%
40-59%	0	1	0	0%
20-39%	1	1	2	33%
Below 20%	0	0	0	0%

* based on best 3 months of compliance

ADL Assessment Rates at Both Admission and Discharge

The process indicator evaluated in this study involves the completion of ADL function assessment at both admission and discharge. Regardless of whether the HOBIC ADL Section or the Barthel Index was utilized, ADL assessment at admission saw higher rates of compliance than that at discharge (Figure 4) At all sites, there were equal or lower rates of ADL assessment at discharge than at admission. The assessment rate at discharge appears to be the limiting factor for completion of this process indicator.

Qualitative feedback related to this observation centred on a small number of themes. Front-line staff in acute care hospitals cited rapid patient turnover and competing workload demands – significant amounts of mandatory documentation at patient discharge in particular – as key factors limiting their ability to complete discharge ADL assessments.

FIGURE 4 – Rate of ADL function assessment* at admission, discharge, and at both admission and discharge using (A) HOBIC ADL Section and (B) Barthel Index.

(A) HOBIC ADL Section

* data from 7 sites utilizing the HOBIC ADL Section, best 3 months of compliance

(B) Barthel Index
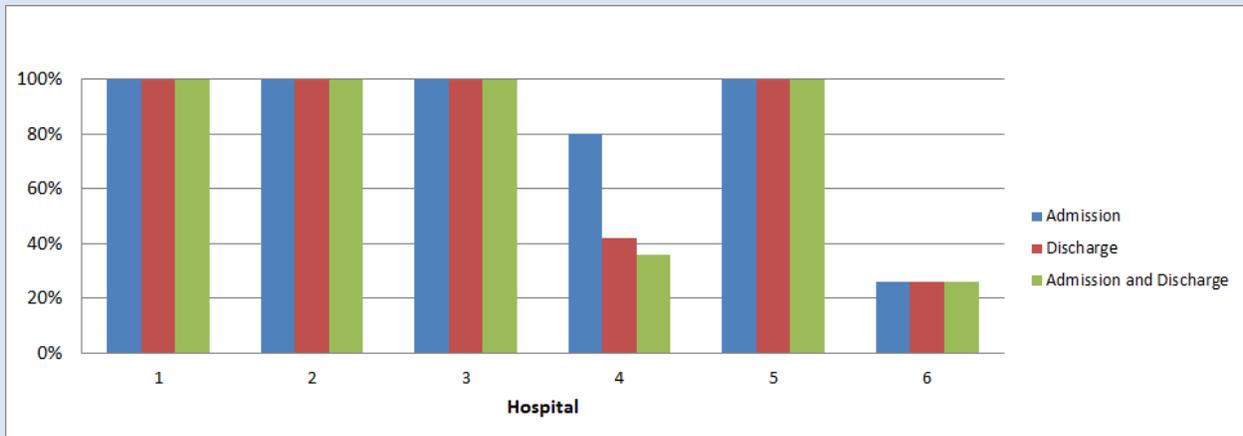
* data from 6 sites utilizing the Barthel Index, best 3 months of compliance

Figure 5 shows the monthly compliance for ADL function assessment at both admission and discharge for the 7 sites using the HOBIC ADL section and the 6 sites using the Barthel Index. Median rates of compliance remain fairly consistent over 6 months of implementation and range from 31 to 39 percent for hospital sites using the HOBIC ADL section. For hospital sites using the Barthel Index, median rates of compliance over 7 months of implementation range from 90 to 100 percent.

FIGURE 5 – Monthly rate of ADL function assessment at both admission and discharge for hospital sites using (A) HOBIC ADL Section and (B) Barthel Index.

(A) HOBIC ADL Section
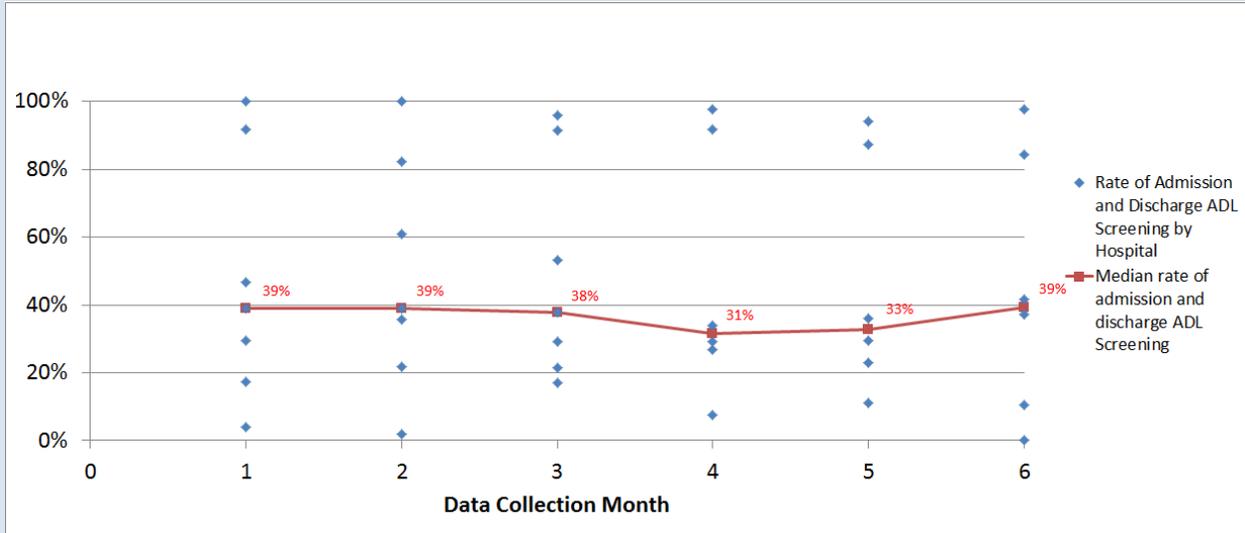
(B) Barthel Index
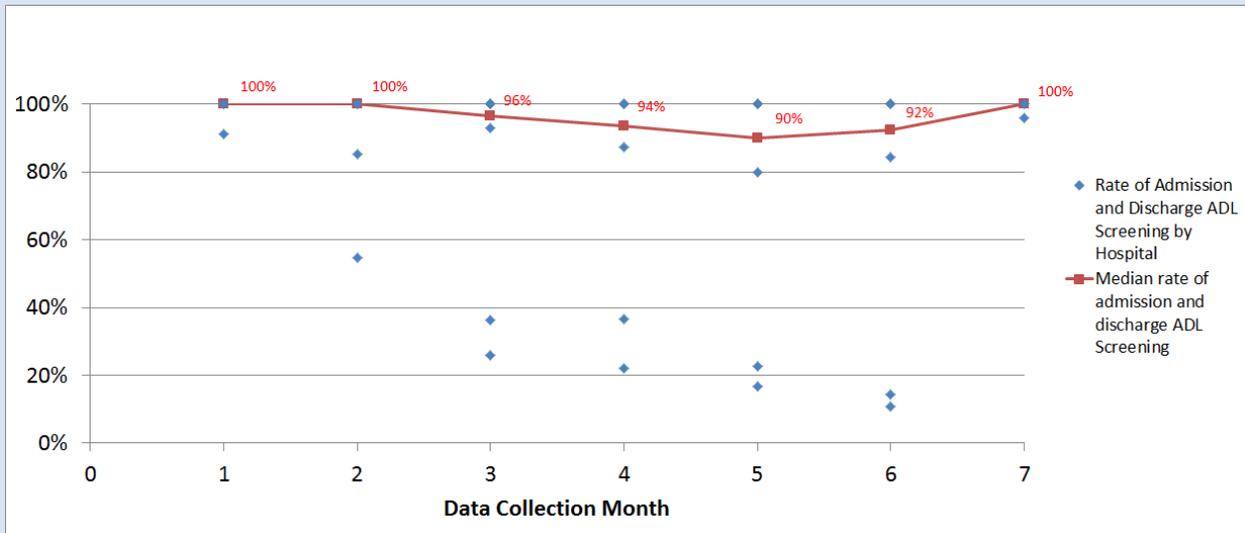
Outcome Indicator – The Rate of No Decline in ADL Function

Five hospital sites achieved sufficient rates of ADL assessment at both admission and discharge to permit examination of the rate of no decline in ADL function in their patient populations. These results are displayed in Table 7.

TABLE 7 – Monthly Rate of No Decline in ADL Function

HOSPITAL SITE	ADL ASSESSMENT TOOL USED	NUMBER OF CONSECUTIVE MONTHS OF DATA SUBMITTED	MONTHLY RATE OF NO DECLINE IN ADL FUNCTION (RANGE, n = NUMBER OF DISCHARGES)	OVERALL MEAN RATE OF NO DECLINE IN ADL FUNCTION (n = TOTAL DISCHARGES)
1	Barthel Index	9	84-93% (n=67-124)	89% (n=836)
2	Barthel Index	6	97-100% (n=13-40)	98% (n=174)
3	Barthel Index	13	67-100% (n=1-6)	95% (n=40)
4	Barthel Index	7	86-100% (n=2-12)	95% (n=59)
5	HOBIC ADL Section	6	63-91% (n=17-28)	81% (n=136)

Implementation Success Factors

Overall, the data reveals some challenges in completing ADL assessment at both admission and discharge. The completion of this process indicator is necessary for the determination of the outcome indicator – the rate of no decline in ADL function during hospitalization. In the majority of cases, the rate of ADL assessment at discharge proved to be a limiting factor and prevented sufficient levels of compliance with the process indicator to calculate meaningful outcomes.

A small number of sites were able to achieve high enough compliance rates with the process indicator to facilitate the calculation of patient functional outcomes on their clinical care units. A number of factors seem to contribute to higher success rates in this implementation, many of which were similarly reported as success factors in the delirium implementation:

- Senior leadership support for SFH initiatives overall and for this implementation
- A strong commitment to education
- Front-line clinicians motivated to address this area of clinical practice and who saw the benefit to patient care
- Strong inter-professional teamwork and communication (different health team members were assigned to the ADL assessments, including personal support workers, nurses, physical therapists, and occupational therapists)
- Regular team discussions of patient functional status (e.g. through inter-professional rounds and daily huddles)
- Posting and reviewing visual feedback of indicator results with front-line staff
- Electronic implementation and recording of ADL functional assessment to help automate the data collecting and reporting processes
- The choice of ADL assessment tool appeared to be a significant factor in this implementation, with higher rates of success when using a tool that is quick and easy to learn, understand, and administer

In this evaluation, it was observed that 4 of 6 sites utilizing the Barthel Index as their assessment tool saw 100% completion of ADL assessment at both admission and discharge. Two of the sites utilizing the

Barthel Index further suggested that more frequent assessments (e.g. monthly) for longer stay patients should be conducted in order to track clinically relevant changes in the functional status of their patients. One site is designing an initiative to support community transitions by incorporating a one month post-discharge functional assessment using the Barthel Index administered during a follow-up telephone call. The Barthel Index has been validated in the literature as being a reliable tool when utilized in this manner.[6] The results of this evaluation show that, when choosing a clinical tool for the assessment of ADL function, its ease of use appears to be a very significant factor supporting consistent and sustainable compliance. This consideration is especially important in an acute care environment with a high rate of patient turnover and transition to the community.

---

[6] Korner-Bitensky N, and Wood-Dauphinee S (1995). Barthel Index information elicited over the telephone: Is it reliable? *American Journal of Physical Medicine and Rehabilitation* 74: 9-18.

VALUE IN DRIVING CLINICAL CARE

Much of the qualitative feedback received throughout the study centred on the feasibility of achieving high compliance with ADL assessment at both patient admission and discharge.   There was also some discussion on potential impact on the planning and delivery of patient care:

- Some rehabilitation and complex continuing care units volunteered to implement the Barthel Index in addition to their existing assessment practices – they found it useful to have a quick assessment that could provide a monthly snapshot of the functional status of patients on their entire patient care unit. Rehabilitation facilities presently complete ADL assessment through the Functional Independence Measure (FIM, part of the National Rehabilitation Reporting System, NRS) and complex continuing care sites through the Resident Assessment Instrument – Minimal Data Set (RAI-MDS, part of the Complex Continuing Care Reporting System, CCRS) as a part of mandated reporting requirements submitted to the Canadian Institute of Health Information
- Acute care sites providing restorative care (such as within activation units) reported that the indicators did not drive care changes because functional activation was already an embedded philosophy of care – these sites did find value in implementing the Barthel Index to monitor unit level functional status for monitoring and feedback purposes
- Two sites utilizing the Barthel Index suggested more frequent assessment for long-stay patients would be helpful to track changes in their functional status
- Personal support workers who were trained to administer the Barthel Index reported that being empowered to perform formal assessment of ADLs motivated them professionally and helped to guide care planning by identifying specific functional activities where patients needed assistance
- Sites utilizing the HOBIC ADL tool did not have the opportunity to evaluate changes to patient care due to challenges in compliance with the assessments, decreased buy-in from front-line staff, and system issues causing a time lag to receive summary reports providing real-time unit level data

RECOMMENDATIONS: FUNCTIONAL DECLINE INDICATORS

High levels of compliance with ADL assessment at patient admission and discharge were not consistently achieved in the majority of hospital sites, although findings in this evaluation led to a number of recommendations to inform future planning:

The indicators for functional decline are not recommended for broader implementation at present.
- High levels of compliance with the process indicator – ADL assessment at both patient admission and discharge – were not consistently achieved during the evaluation
- Calculation of the outcome indicator requires high compliance levels with the process indicator

For the assessment of ADL function in the acute care sector, a concise ADL assessment tool should be used.
- In this evaluation, higher rates of compliance and positive staff buy-in were reported by sites that utilized the Barthel Index in their implementation compared to sites that utilized the HOBIC ADL section
- Compliance with ADL assessment at patient discharge was a limiting factor in this evaluation, although notably higher rates of compliance were achieved by sites utilizing the Barthel Index compared with those utilizing the HOBIC ADL section
- Point-of-care staff valued an ADL assessment tool that was easy to learn and quick to administer
- This is particularly important in acute care settings where patient turnover is high

Further work to identify indicators more suitable to monitor functional status and drive early mobilization/activation processes should be undertaken.
- The working group's consensus is that the assessment of ADL function at patient admission and discharge are both important processes for patient care
- Assessment of ADL function is more feasible at patient admission than at discharge – further examination of care planning processes that can benefit from ADL assessment on admission should be undertaken, including linking ADL assessment at admission with the assessment of patients' pre-morbid functional status to better inform care planning
- Clinical assessment of ADL function at discharge for team planning of patient discharge is an existing practice and the additional documentation of ADL function required for the indicators was perceived to be redundant – however, the purpose of the indicators is to minimize functional decline while patients are in hospital and further examination of the processes and other potential indicators to drive this practice should be undertaken

SFH INDICATORS EVALUATION WORKING GROUP

Barbara Liu (Chair)	Regional Geriatric Program of Toronto
Carol Anderson	Baycrest
Sherry Anderson	Brockville General Hospital
Emily Christoffersen	Hamilton Health Sciences
Ella Ferris	St. Michael's
Susan Franchi	Thunder Bay Regional Health Sciences Centre
Ronaye Gilsenan	Regional Geriatric Program of Eastern Ontario
Charissa Levy	Greater Toronto Area Rehab Network
Monique Lloyd	Registered Nurses' Association of Ontario
Ryan Miller	North Simcoe Muskoka Local Health Integration Network
Kelly Milne	Regional Geriatric Program of Eastern Ontario
Elaine Murphy	University Health Network
Rhonda Schwartz	Central East Seniors' Care Network
Alisha Tharani	Toronto Academic Health Sciences Network
Ada Tsang	Regional Geriatric Program of Toronto
Simmy Wan	Central Local Health Integration Network
Ken Wong	Regional Geriatric Program of Toronto

APPENDICES

A INDICATOR TECHNICAL SPECIFICATIONS

DELIRIUM INDICATORS

PROCESS	RATE OF BASELINE DELIRIUM SCREENING
Description	**Percentage of patients (65 and older) receiving delirium screening using a validated tool upon admission to hospital**
Numerator	# of patients (65 and older) receiving at least one delirium screen within 48h of admission to hospital
Denominator	# of patients (65 and older) discharged/separated from hospital
Improvement Noted As	An increase in delirium screening rates
Data Source and/or Tool	Inpatient Units: Confusion Assessment Method (CAM) Intensive/Critical Care Units: CAM-ICU or Intensive Care Screening Detection Checklist (ICSDC)
Exclusions	(1) Patients whose level of consciousness is (a) unresponsive or (b) requiring vigorous stimulation for a response (2) Patients in palliative care

OUTCOME	RATE OF HOSPITAL ACQUIRED DELIRIUM
Description	**Incidence of delirium in patients (65 and older) acquired over the course of hospital admission**
Numerator	# of discharged patients (65 and older) who screen positive for delirium at any point during hospitalization after a negative baseline screen on admission
Denominator	# of patients (65 and older) discharged/separated from hospital with a negative baseline screen for delirium on admission
Improvement Noted As	A decrease in delirium incidence
Data Source and/or Tool	Inpatient Units: Confusion Assessment Method (CAM) Intensive/Critical Care Units: CAM-ICU or Intensive Care Screening Detection Checklist (ICSDC)
Exclusions	(1) Patients whose level of consciousness is (a) unresponsive or (b) requiring vigorous stimulation for a response (2) Patients in palliative care
Considerations	Minimum frequency of screening to capture incidence – at least daily after the initial baseline screen

FUNCTIONAL DECLINE INDICATORS

PROCESS	RATE OF ADL FUNCTION ASSESSMENT AT ADMISSION AND DISCHARGE (ACUTE CARE)
Description	**Percentage of hospitalized patients (65 and older) receiving assessment of ADL function with a validated tool AT BOTH ADMISSION AND DISCHARGE**
Numerator	# of patients (65 and older) receiving assessment for ADL function AT BOTH ADMISSION AND DISCHARGE/SEPARATION using the same validated tool
Denominator	# of patients (65 and older) discharged/separated from hospital
Improvement Noted As	An increase in the rate of ADL function assessment recorded at both admission and discharge/separation
Data Source and/or Tool	Assessment Tool Options: Barthel Index (working group recommendation) Health Outcomes for Better Information in Care (HOBIC) – ADL Section Alpha-FIM Tool®
Exclusions	(1) Patients in emergency department who are not admitted to hospital (2) Patients in palliative care (3) Patients admitted for day surgery procedures (4) Patients with LOS < 48 hours
Considerations	• Admission assessment is defined as that occurring within 48hours of the decision to admit to an acute care bed • Discharge assessment is defined as that occurring at any time within a 48 hour window prior to discharge from an acute care bed (including time spent in an alternate level of care [ALC] designated bed in acute care) • For patients admitted after an elective procedure (e.g. total joint replacement) the ADMISSION ADL function assessment should be taken within 48 hours following their procedure • The same assessment tool is to be used at admission and discharge

OUTCOME	RATE OF NO DECLINE IN ADL FUNCTION (ACUTE CARE)
Description	**Percentage of patients (65 and older) with no decline in ADL function from hospital admission to hospital discharge as measured by a validated tool**
Numerator	# patients (65 and older) with an ADL function score at hospital discharge/separation that is equal to or greater than their ADL function score at admission
Denominator	# of patients (65 and older) discharged/separated from hospital
Improvement Noted As	An increase in the proportion of patients who do not decline in ADL function from admission to discharge/separation
Data Source and/or Tool	Assessment Tool Options: Barthel Index (working group recommendation) Health Outcomes for Better Information in Care (HOBIC) – ADL Section Alpha-FIM Tool®
Exclusions	(1) Patients in emergency department who are not admitted to hospital (2) Patients in palliative care (3) Patients admitted for day surgery procedures (4) Patients with LOS < 48 hours
Considerations	• Admission assessment is defined as that <u>occurring within 48 hours of the decision to admit</u> to an acute care bed • Discharge assessment is defined as that occurring <u>at any time within a 48 hour window prior to discharge</u> from an acute care bed (including time spent in an alternate level of care [ALC] designated bed in acute care) • For patients admitted after an elective procedure (e.g. total joint replacement) the ADMISSION ADL function assessment should be taken within 48 hours following their procedure • The same assessment tool is to be used at admission and discharge

B PARTICIPATING HOSPITALS

South West LHIN
Grey Bruce Health Services
St. Joseph's Health Care (London)
St. Thomas Elgin General Hospital

Hamilton Niagara Haldimand Brant LHIN
Brant Community Healthcare System
Hamilton Health Sciences
Joseph Brant Memorial Hospital
Niagara Health System
Norfolk General Hospital
St. Joseph's Healthcare (Hamilton)

Toronto Central LHIN
Baycrest
Providence Healthcare
Sunnybrook Health Sciences Centre
St. Michael's
Toronto East General Hospital
University Health Network - Toronto Western
    Hospital and Toronto Rehab Sites
West Park Healthcare Centre

Central LHIN
Markham Stouffville Hospital
North York General Hospital
Southlake Regional Health Centre
Stevenson Memorial Hospital

Champlain LHIN
Bruyère Continuing Care
Deep River District Hospital
Montfort Hospital
The Ottawa Hospital

Central East LHIN
Campbellford Memorial Hospital
Lakeridge Health
Northumberland Hills Hospital
Ontario Shores Centre for Mental Health
    Sciences
Peterborough Regional Health Centre
Ross Memorial Hospital
The Scarborough Hospital

South East LHIN
Brockville General Hospital

North East LHIN
Blind River District Health Centre
Espanola Hospital and Health Centre
Health Sciences North
Kirkland District Hospital
St. Joseph's General Hospital (Elliot Lake)
Manitoulin Health Centre
North Bay Regional Health Centre
Sensenbrenner Hospital
West Nipissing General Hospital
West Parry Sound Health Centre

North West LHIN
St. Joseph's Care Group (Thunder Bay)

Erie St. Clair LHIN
Hôtel-Dieu Grace Healthcare

C OVERVIEW OF HOSPITAL CHARACTERISTICS

LOCAL HEALTH INTEGRATION NETWORK	NUMBER OF HOSPITAL SITES (TOTAL)	DELIRIUM IMPLEMENTATION – NUMBER OF HOSPITAL SITES	FUNCTIONAL DECLINE IMPLEMENTATION – NUMBER OF HOSPITAL SITES
1 – Erie St. Clair	1	1	0
2 – South West	3	3	2
4 – Hamilton Niagara Haldimand Brant	6	5	2
7 – Toronto Central	7	6	2
8 – Central	4	3	2
9 – Central East	7	5	5
10 – South East	1	0	1
11 – Champlain	4	3	3
13 – North East	10	6	7
14 – North West	1	1	0
Total	44	33	24

HOSPITAL TYPE (OHA)	DELIRIUM IMPLEMENTATION		FUNCTIONAL DECLINE IMPLEMENTATION	
	NUMBER OF HOSPITAL SITES	TOTAL BEDS	NUMBER OF HOSPITAL SITES	TOTAL BEDS
Addictions and Mental Health	1	25	0	0
CAHO	8	385	2	69
CCC and Rehabilitation	2	56	0	0
Community	16	626	12	366
Small	5	158	8	241
CAHO CCC and Rehabilitation	1	60	2	95

DATA COLLECTION/REPORTING	NUMBER OF DELIRIUM SITES	NUMBER OF FUNCTIONAL DECLINE SITES
Electronic	13	10
Paper	11	11
Paper and electronic	9	3

EXISTING USE OF CAM TOOL	NUMBER OF HOSPITAL SITES
CAM is used regularly	16
CAM is used occasionally	4
CAM is not used at present	13

ADL FUNCTION ASSESSMENT TOOL	NUMBER OF SITES WITH PRIOR USE OF CLINICAL TOOL	NUMBER OF HOSPITAL SITES USING CLINICAL TOOL FOR IMPLEMENTATION
Barthel Index	2	11
HOBIC ADL Section	9	10
AlphaFIM®	2	3
None	11	0

D ACTION PLAN TEMPLATE

Overall action plan for the 6-month evaluation
What are your timelines and steps for implementation?
Who will be conducting the screening tools?
How will the data be collected and reported? (e.g. extraction from electronic system, collection of forms from patient charts at discharge etc.)
What changes are required to existing processes, people / roles, system?
Implementation team:
Who will be part of the clinical assessment implementation team? (e.g. Nurse educator, IT department, RN/OT/PT etc.?)
Who will be part of the data collection and reporting implementation team? (e.g. Nurse educator, IT department, RN/OT/PT etc.?)
Challenges and readiness for change
What are the challenges that you anticipate? How do you plan on addressing them? (e.g. measurement, reporting, clinical screening challenges)
Describe the unit's level of readiness for this change? (e.g. staff engagement, leadership support, champion on unit, etc.)

E PROGRESS REPORT TEMPLATE

Month	*(Insert Date)*
Indicator Definition	
Did you experience any difficulties with the exclusion criteria? If so, do you have any recommendations?	
Do you have any comments on the indicator definition? (e.g. Did you experience any problems/issues based on the existing definition?)	
Progress / Implementation Update (For Previous Month)	
What actions have you undertaken this month?	
What worked well and what were the success factors?	
What were the challenges experienced? How were they resolved or how do you plan on addressing them?	
Do you have any additional comments?	
Action Plan (For Upcoming Month)	
What actions do you plan to undertake next month? (e.g. What changes are required to existing processes, people/roles, system?)	

F STAFF SURVEYS

PRE-IMPLEMENTATION SURVEY (NON POINT-OF-CARE STAFF)

___ Delirium   ___ Functional Decline

Hospital Name or ID #: _____

Unit: _____

Role of Staff (e.g. Educator, Decision Support, etc.): _____

1. What challenges do you anticipate with collecting data for these indicators?

2. What challenges do you anticipate with reporting data for these indicators?

3. How do you anticipate making use of the data?

4. Do you have any additional comments?

PRE-IMPLEMENTATION SURVEY (POINT-OF-CARE STAFF)

___ Delirium   ___ Functional Decline

Hospital Name or ID#: _____

Unit: _____

Role of Staff (e.g. RN, PT, OT, etc.): _____

1. On a scale of 0-6 (0 = not at all, 6 = very much so), please rate your opinion of the proposed indicators:
   - I think it will be easy to administer the clinical assessment tool.
   - I think it will be easy to record the information from the clinical assessment tool onto the patient chart.
   - I think the results of the clinical assessment tool will reflect the patient's clinical condition.
   - I think tracking of this data will help me provide better patient care.

2. What challenges do you anticipate with collecting data for these indicators?

3. What challenges do you anticipate with reporting data for these indicators?

4. How do you anticipate making use of the data?

5. Do you have any additional comments?

MID-IMPLEMENTATION SURVEY (NON POINT-OF-CARE STAFF)

___ Delirium   ___ Functional Decline

Hospital Name or ID#: _____

Unit: _____

Role of Staff (e.g. Educator, Decision Support, etc.): _____

1. What is working well so far and why?

2. What are the challenges experienced? How are they being addressed or how do you think they should be addressed?

3. Do you have any additional comments?

MID-IMPLEMENTATION SURVEY (POINT-OF-CARE STAFF)

___ Delirium   ___ Functional Decline

Hospital Name or ID#: _____

Unit: _____

Role of Staff (e.g. RN, PT, OT, etc.): _____

1. On a scale of 0-6 (0 = not at all, 6 = very much so), please rate your opinion of the proposed indicators:
   - I think it is easy to administer the clinical assessment tool.
   - I think it is easy to record the information from the clinical assessment tool onto the patient chart.
   - I think the results of the clinical assessment tool reflect the patient's clinical condition.
   - I think tracking of this data is assisting me to provide better patient care.

2. What is working well so far and why?

3. What are the challenges experienced? How are they being addressed or how do you think they should be addressed?

4. Do you have any additional comments?

POST-IMPLEMENTATION SURVEY (NON POINT-OF-CARE STAFF)

___ Delirium ___ Functional Decline

Hospital Name or ID#: _____

Unit: _____

Role of Staff (e.g. Educator, Decision Support, etc.): _____

1. Overall, on a scale of 0-6 (0 = not at all, 6 = very much so), please rate your opinion of the proposed indicators:

- I think it is feasible to implement the clinical assessment tool for these indicators.
- I think it is feasible to collect data for these indicators.
- I think it is feasible to report data for these indicators.
- I think this is a valuable practice for patient care.

2. What worked well at your site and why?

3. What were the challenges experienced? How were they addressed?

4. How has the implementation of these indicators affected patient care on your unit?

5. Do you have any tips for other teams who will be implementing these indicators within their organizations?

6. Do you have any feedback regarding the existing indicator definition?

7. Do you have any additional feedback or comments?

POST-IMPLEMENTATION SURVEY (POINT-OF-CARE STAFF)

___ Delirium   ___ Functional Decline

Hospital Name or ID#: _____

Unit: _____

Role of Staff (e.g. RN, PT, OT, etc.): _____

1. On a scale of 0-6 (0 = not at all, 6 = very much so), please rate your opinion of the proposed indicators:
   - I think it was easy to administer the clinical assessment tool.
   - I think it was easy to record the information from the clinical assessment tool onto the patient chart.
   - I think the results of the clinical assessment tool reflect the patient's clinical condition.
   - I think tracking of this data helped me provide better patient care.

2. Overall, on a scale of 0-6 (0 = not at all, 6 = very much so), please rate your opinion of the proposed indicators:
   - I think it is feasible to implement the clinical assessment tool for these indicators.
   - I think it is feasible to collect data for these indicators.
   - I think it is feasible to report data for these indicators.
   - I think this is a valuable practice for patient care.

3. What worked well at your site and why?

4. What were the challenges experienced? How were they addressed?

5. How has the implementation of these indicators affected patient care on your unit?

6. Do you have any tips for other teams who will be implementing these indicators within their organizations?

7. Do you have any feedback regarding the existing indicator definition?

8. Do you have any additional feedback or comments?

G QUANTITATIVE DATA SUBMISSION TEMPLATES

DELIRIUM INDICATORS

Data Collection Month	Hospital Name	Pt #	Day of Discharge / Separation from Unit (e.g. 6-Jun-2013)	Unit	Age	Length of Stay on unit (LOS in days)	# of days with at least one CAM completed	Total # of CAMs completed	CAM+ upon admission (yes / no / not completed)	CAM+ during stay post admission assessment (yes / no / not completed)	Patient excluded from CAM assessment (planned exclusions only)? (yes/no)	If patient excluded, why?	Additional comments (optional)
		1											
		2											
		3											

FUNCTIONAL DECLINE INDICATORS

Data Collection Month	Hospital Name	Tool Used	Pt #	Day of Discharge / Separation from Unit (e.g. 6-Jun-2013)	Unit	Age	Elective or non-elective procedure?	Length of Stay on unit (LOS in days)	Score @ admission (# or n/a)	Score @ discharge from unit (# or n/a)	Functional Decline? (yes / no / incomplete data)	Patient excluded from functional assessment (planned exclusions only)? (yes/no)	If patient excluded, why?	Additional comments (optional)
			1											
			2											
			3											

H ABBREVIATIONS

ADL	Activities of Daily Living
ALC	Alternate Level of Care
CAHO	Council of Academic Hospitals of Ontario
CAM	Confusion Assessment Method
CCC	Complex Continuing Care
CCRS	Complex Continuing Care Reporting System
FIM	Functional Independence Measure
HOBIC	Health Outcomes for Better Information and Care
ICDSC	Intensive Care Delirium Screening Checklist
ICU	Intensive Care Unit
IT	Information Technology
LHIN	Local Health Integration Network
LOS	Length of Stay
NRS	National Rehabilitation Reporting System
OHA	Ontario Hospital Association
OT	Occupational Therapist
PT	Physical Therapist
RAI-MDS	Resident Assessment Instrument – Minimal Data Set
RGP	Regional Geriatric Program
RN	Registered Nurse
SFH	Senior Friendly Hospital