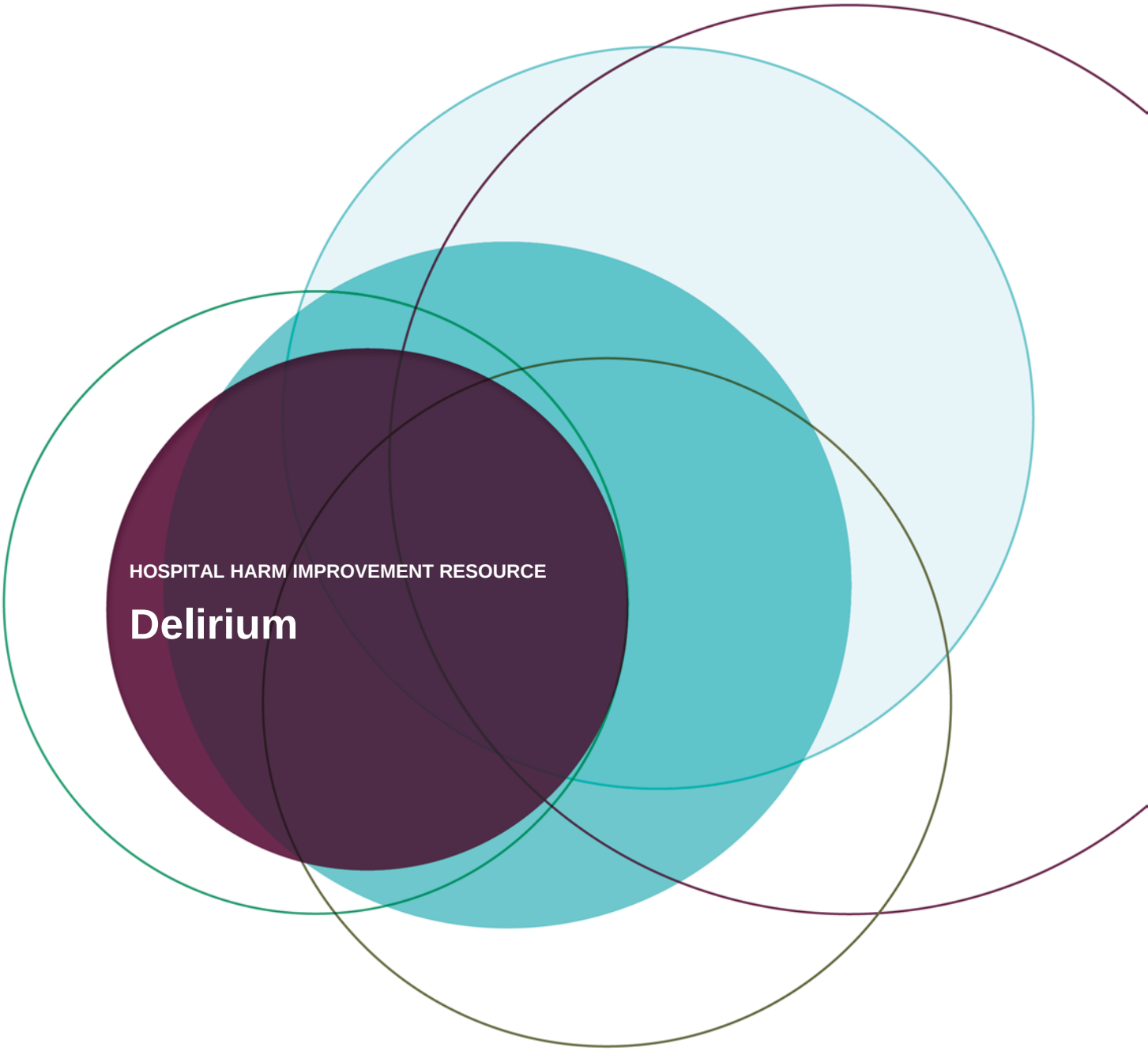

HOSPITAL HARM IMPROVEMENT RESOURCE

Delirium

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Canadian Patient Safety Institute
Institut canadien pour la sécurité des patients

ACKNOWLEDGEMENTS

The Canadian Institute for Health Information and the Canadian Patient Safety Institute have collaborated on a body of work to address gaps in measuring harm and to support patient safety improvement efforts in Canadian hospitals.

The Hospital Harm Improvement Resource was developed by the Canadian Patient Safety Institute to complement the Hospital Harm measure developed by the Canadian Institute for Health Information. It links measurement and improvement by providing evidence-informed resources that will support patient safety improvement efforts.

The Canadian Patient Safety Institute acknowledges and appreciates the key contributions of Dr. Yoanna Skrobik for the review and approval of this Improvement Resource.

DISCHARGE ABSTRACT DATABASE (DAD) CODES INCLUDED IN THIS CLINICAL CATEGORY:

A05: Delirium		
Concept	Temporary disturbance in consciousness with changes in cognition identified during a hospital stay.	
Notes	This clinical group excludes delirium associated with incorrect administration or dosage of medications (refer to A10: Medication Incidents).	
Selection criteria	F05.–	Identified as diagnosis type (2)
Exclusions	Events selected from a diagnosis cluster that is also selected for A10: Medication Incidents.	
Codes	**Code descriptions**	
F05.–	Delirium, not induced by alcohol and other psychoactive substances	

Overview

Delirium (acute confusional state) is a common condition in older people, affecting up to 30 per cent of all older patients admitted to hospital. Delirium is often not recognized by clinicians. However, early recognition allows more effective non-pharmacological intervention. Delirium may be prevented in up to one-third of older patients (*Safer Healthcare Now!* 2013), making its detection an important benchmark for a quality initiative.

Furthermore, Delirium is an under-recognized, but surprisingly common problem in hospitalized ICU patients. Up to 80 per cent of critically ill patients from various ICU populations can be identified as having Delirium or sub-syndromal Delirium according to validated screening criteria (Ouimet, Kavanagh, et al., 2007; Ouimet, Riker, et al., 2007).

The most important step in Delirium management is early prevention.

Implications

Patients who develop Delirium have high mortality, institutionalization and complication rates, and have longer lengths of stay than non-delirious patients (*Safer Healthcare Now!* 2013). Delirium is also believed to be associated with increased ventilator days, and self-removal of important devices (endotracheal tubes, central venous catheters) (*Safer Healthcare Now!* 2013).

Goal

To improve the early detection and reduce the incidence of Delirium in at risk hospitalized patients in intensive and general care units through implementation of standardized Delirium screening and prevention strategies.

Importance to Patients and Families

Delirium is frightening to family members who are often more aware of the changes in a family member's mental status than are the care providers. With the proper care, some types of delirium or disordered thinking can be prevented or minimized (IHI 2012). Family involvement, particularly in critical care, does not reduce Delirium incidence but improves psychological recovery (Black 2011).

Patient Story

(Let's Respect, 2006)

Mr. Graham was admitted to hospital with dysphagia and weight loss. He was very confused and uncooperative, believing that staff were trying to poison him. On admission, Mr. Graham's wife explained that he had Alzheimer's disease and described to staff how he usually presented and what he was able to do for himself. She also advised that he had recently been admitted in a confused state to another hospital. Mr. Graham was in fact in the early stages of dementia

and had retained good insight into his problems. To many people, he would not usually have appeared 'confused' because of his good social skills.

Unfortunately, the diagnosis of 'dementia' became dominant in his hospital notes, to the degree that this prevailed over his presenting health problems. Despite the details his wife had given, it was assumed that all of Mr. Graham's confusion was due to his dementia and that this was 'normal' and therefore did not warrant further investigation. Mrs. Graham did not feel that all her husband's confusion was due to his dementia, but staff did not seem to be listening, and so she contacted their mental health liaison nurse. The nurse's assessment revealed that Mr. Graham was suffering from anaemia and she recommended further investigation.

It was found that he had indeed been admitted to another local hospital just two months earlier with the same problem. He had received four units of blood and his delirium improved. Mr. Graham received a further blood transfusion and much of his confusion cleared, but his haemoglobin levels were not maintained and he continued to lose weight due to his difficulty with swallowing. By now, Mr. Graham had become very quiet and subdued. Further investigations eventually followed and Mr. Graham was found to have a malignant growth in his oesophagus. He died in hospital two weeks later.

Mr. Graham's case (Let's Respect, 2006) demonstrates the dangers of failing to recognise Delirium in people who have dementia and subsequently denying them the assessment and care they are entitled to.

It also shows the importance of listening to those who know the patient well. The need for improved communication and further training and education for hospital staff is also indicated by this case.

EVIDENCE-INFORMED PRACTICES

Steps for managing and preventing Delirium can be addressed through implementing the elements of the *Safer Healthcare Now!* Delirium change package (2013) that include:

1. Recognize/manage/mitigate risk factors for every patient ("universal precautions").
2. Assess for Delirium every shift and as required.
3. Develop standardized protocol for prevention and/or management of Delirium including:
    a. Identifying and treating underlying causes of Delirium.
    b. Use of non-pharmacological strategies (i.e. early mobility, optimize sleep routines, daily reassessment of sedation needs, paired with readiness to wean, provide need for communication adjuncts and reassess restraints* daily).
    c. Use of environmental strategies (i.e. visible daylight, allow visitors, display calendar and clocks in the room, avoid restraints*, etc.).
    d. Use of pharmacological strategies appropriately and only after underlying causes addressed.
    e. A plan for withdrawal of anti-psychotics if they have been administered as part of Delirium management (before transfer to ward and/or other location).
    f. Daily reassessment of sedation needs.

4. Support patients and families of patients with Delirium and integrate them in the management of Delirium (e.g. encourage adequate rest, stay positive, physical contact, bring familiar objects or pictures, glasses or hearing aids and patient reassurance).
5. Include a multidisciplinary team in planning and managing care (i.e. physician, nurse, psychiatry, pharmacy, RT/OT and social worker).
6. Create a unit culture that is sensitive to Delirium by raising awareness and improving knowledge and skill to identify and manage Delirium.
7. Manage hand-offs (communication, documentation, information within ICU, pre- and post-ICU stay).
8. Sedate critically ill adult patients who screen positive for Delirium using dexemedetomidine, rather than another sedative such as a benzodiazepine, as evidence indicates that this results in less time on the ventilator, less Delirium, and less tachycardia and hypertension. (Riker 2009). Note: For additional information regarding the efficacy of dexmedetomidine refer to Additional Resources below.

*Restraints increase adverse events and have never been shown to improve safety. Consider removal of all unnecessary catheters and tubes e.g. urinary catheters, central lines, endotracheal tubes etc. unless specifically contraindicated.

MEASURES

Vital to quality improvement is measurement, and this applies specifically to implementation of interventions. The chosen measures will help to determine whether an impact is being made (primary outcome), whether the intervention is actually being carried out (process measures), and whether any unintended consequences ensue (balancing measures).

Below are some recommended measures to use, as appropriate, to track your progress. In selecting your measures, consider the following:

- Whenever possible, use measures you are already collecting for other programs.
- Evaluate your choice of measures in terms of the usefulness of the final results and the resources required to obtain them; try to maximize the former while minimizing the latter.
- Try to include both process and outcome measures in your measurement scheme.
- You may use different measures or modify the measures described below to make them more appropriate and/or useful to your particular setting. However, be aware that modifying measures may limit the comparability of your results to others.
- Posting your measure results within your hospital is a great way to keep your teams motivated and aware of progress. Try to include measures that your team will find meaningful and exciting (IHI, 2011).

For more information on measuring for improvement refer to *Safer Healthcare Now!* Delirium Getting Started Kit (*Safer Healthcare Now!* 2015) for a listing of interventions and associated

measures (where applicable) or contact the Canadian Patient Safety Institute Central Measurement Team at measurement@cpsi-icsp.ca

Outcome Measure

1. Per cent of at Risk Patients Who Develop Delirium (IHI Improvement Map, 2012).

Process Improvement Measures

1. Percentage of Patients Screened for Delirium (*Safer Healthcare Now!* Metrics, 2015).
2. Percentage of Patients Identified with Delirium (*Safer Healthcare Now!* Metrics, 2015).
3. Per cent of Patients Monitored for Delirium Daily (IHI 2012).
4. Per cent of Patients with Delirium Managed by Protocol (IHI 2012).
5. Number of Unplanned Extubations per 1000 Mechanical Ventilation Days (*Safer Healthcare Now!* Metrics, 2015).
6. Per cent Compliance with Non-Pharmacologic Strategies (*Safer Healthcare Now!* Metrics, 2015).
    a. Early mobility.
    b. Optimize sleep routines.
    c. Daily reassessment of sedation needs, paired with readiness to wean assessment.
    d. Involve family in management of delirium.
    e. Provide need for communication adjuncts.
    f. Reassess restraints daily.

Standards and Required Organizational Practices

Accreditation Canada Standards

Critical Care Standards: require the use of a Delirium screening tool to assess clients.

Global Patient Safety Alerts

Global Patient Safety Alerts provides access and the opportunity to learn from other organizations about specific patient safety incidents including alerts, advisories, recommendations and solutions for improving care and preventing incidents. Learning from the experience of other organizations can accelerate improvement.

Recommended search terms:

- Delirium
- Confusion
- Amnesia

SUCCESS STORIES

Covenant Health

Covenant Health has implemented a data collection tool and processes to ensure 100 per cent of intensive care unit (ICU) patients are screened for Delirium. Delirium is very difficult to recognize in a critical care setting and very often goes undiagnosed. The most important step in Delirium management is early recognition. When Alberta Health Services asked its Edmonton zone to standardize and implement Delirium screening, the team at Covenant Health's Misericordia Hospital site, along with other teams in Edmonton, looked for help from the *Safer Healthcare Now!* Delirium and Medication Reconciliation Collaborative to improve care for critically ill patients.

To increase Delirium awareness for staff on the unit, Covenant Health created and put into practice a comprehensive education program. From this program came strategies to arm families of Delirium patients with support and information. The team has also developed noise reduction strategies to minimize sleep disturbance for patients in the ICU and a mobilization protocol to ensure that patients are out of bed when appropriate. A new pain assessment tool is under development for intubated patients who cannot express their pain level.

The Covenant Health team included the nurse practitioner, educator, supervisor, manager, pharmacist, respiratory therapist and two physiotherapists – all instrumental in the development of Delirium reduction strategies and making the mobilization protocol a reality. A physician group provided support in the ongoing management of appropriate medications.

"The Covenant Health team has made huge strides in implementing a significant change in practice and improved care," says Kim Scherr, Nurse Practitioner. "Our efforts to manage and prevent delirium have had a positive impact on the health and quality of life for countless ICU patients." (*Safer Healthcare Now!* One pager, 2013)

Safer Elder Care Delirium Prevention Program

Of the patients admitted to Halton Healthcare's Oakville Hospital, 65 per cent are aged 65 and over; among this group, those 85 and over represent the fastest growing age group in the Halton Region. Clinical staff at Halton Healthcare Services (HHS) recognized the unique needs of this population, and initiated an interdisciplinary Delirium prevention project in 2007 which would evolve into the Safer Elder Care program in 2009. The Safer Elder Care program encompasses three other related projects at the HHS hospital in Oakville – falls prevention, restraint prevention, and skin and wound care (Accreditation Canada, Leading Practices).

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DELIRIUM RESOURCES

Professional Associations and Helpful Websites

*(key resources recommended by Dr. Yoanna Skrobik)

- American Delirium Society. https://www.americandeliriumsociety.org/
- Australian Commission on Safety and Quality in Health Care: Delirium Clinical Care Standard. http://www.safetyandquality.gov.au/publications/delirium-clinical-care-standard/
- Canadian Coalition for Seniors' Mental Health. http://www.ccsmh.ca/projects/delirium/
- Canadian Geriatrics Society. http://canadiangeriatrics.ca/default/index.cfm/resources/family-physician/delirium/
- European Delirium Association. http://www.europeandeliriumassociation.com
- Let's Respect Campaign (UK). http://letsrespect.co.uk/

Delirium Clinical Practice Guidelines

Australian Commission on Safety and Quality in Health Care. Delirium Clinical Care Standard. Sydney: ACSQHC, 2016.

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