

12-2018

Recognizing Delirium at End of Life in the Hospice Setting: A Process Improvement Project

Latonya Roberts

University of the Incarnate Word, nursetonya11@yahoo.com

Follow this and additional works at: https://athenaeum.uiw.edu/uiw_dnp



Part of the [Geriatric Nursing Commons](#), and the [Other Nursing Commons](#)

Recommended Citation

Roberts, Latonya, "Recognizing Delirium at End of Life in the Hospice Setting: A Process Improvement Project" (2018). *Doctor of Nursing Practice*. 38.

https://athenaeum.uiw.edu/uiw_dnp/38

This Doctoral Project is brought to you for free and open access by The Athenaeum. It has been accepted for inclusion in Doctor of Nursing Practice by an authorized administrator of The Athenaeum. For more information, please contact athenaeum@uiwtx.edu.

RECOGNIZING DELIRIUM AT END OF LIFE IN THE HOSPICE SETTING:
A PROCESS IMPROVEMENT PROJECT

By

LATONYA ROBERTS

APPROVED BY DNP PROJECT ADVISOR:

Dr. Diana Beckmann-Mendez PhD, RN, FNP-BC

Copyright by
Latonya Roberts
2018

ACKNOWLEDGEMENTS

There are many people in my life to whom I owe thanks for keeping me encouraged, praying for me throughout this journey, and simply just being a listening ear. Thank you, God, because without you there is no me. Thank you to my family. My very supportive husband, children, parents, siblings, and extended family have constantly encouraged me at times when I needed it the most. Thank you to all of the instructors at the University of the Incarnate Word for your commitment to seeing us all through this educational process. Special thanks to my project advisor Dr. Diana Beckmann-Mendez for always believing in me and answering my many text messages and e-mails no matter how early or late I sent them. I could never have made it this far without your expertise and guidance. Thank you to the organization that allowed me to conduct my process improvement project. The entire staff was warm and receptive of my project goals and provided assistance whenever necessary. Special thanks to the nursing staff; you ladies are smart and compassionate. Your patients are blessed to have you all!

Latonya Roberts

TABLE OF CONTENTS

LIST OF TABLES.....	6
ABSTRACT.....	7
STATEMENT OF THE PROBLEM.....	8
BACKGROUND AND SIGNIFICANCE.....	9
ASSESSMENT.....	11
READINESS FOR CHANGE.....	12
PROJECT IDENTIFICATION.....	12
Purpose.....	12
Objectives.....	13
Anticipated Outcomes.....	13
SUMMARY AND STRENGTH OF EVIDENCE.....	13
METHODS.....	15
PROJECT INTERVENTION.....	15
EDUCATION.....	16
SAMPLE.....	16
BARRIERS AND FACILITATORS.....	17
RESULTS.....	17
Data Collection.....	17
Objective 1.....	18
Objective 2.....	18

Table of Contents—Continued

Objective 3	19
Objective 4	19
DISCUSSION.....	19
Limitations	20
Recommendations.....	21
Implications for Practice.....	21
REFERENCES	23
APPENDICES	24
Appendix A: Confusion Assessment Method.....	24
Appendix B: Treatment Guideline.....	25

LIST OF TABLES

Table

1. Demographics18

2. Staff Education Pre- and Postintervention on Delirium Recognition at End of Life...18

3. New Patients Admitted to Hospice Service Who Met Inclusion Criteria.....19

4. Change of Condition Based on Confusion Assessment Method (CAM) Results.....19

Abstract

Despite advancements in health care, hospice registered nurses, and medical professionals caring for patients at end of life lack the required knowledge effectively to care for this patient population. Educational gaps contribute to deficiencies. This process improvement project aimed to increase nurses' and medical staff's knowledge and recognition of delirium at end of life through the use of a delirium assessment tool and evidence-based treatment guideline when managing symptoms. Project implementation occurred at a small hospice company with a patient census of 180, utilizing 2 teams of registered nurses, medical doctors, and a nurse practitioner. A 2-hour educational session had participants ($N = 13$) complete a pretest with an end of life hospice care focus. The same posttest was administered at project conclusion to re-assess learned knowledge. Chart reviews were conducted pre- and post-intervention. Nurses' and medical team's knowledge increased from a cumulative score of 75% to 100%, all new patients were screened for delirium with a 0% to 100% increase, patients with a change of status were screened for delirium with a 0% to 100% increase, and 46% of patients were found to have delirium and treated according to the treatment guideline, thus the latter objective of 100% participation was unmet. Research should continue on improving nurses' and medical staff's knowledge of evidence-based end of life care by focusing on knowledge deficits, improving delivery methods, and assessing the potential increase in positive patient outcomes of symptom recognition and management at end of life.

Keywords: delirium, end of life

At end of life, confusion and agitation are common. It is estimated that between 25% and 85% of patients who are dying experience symptoms associated with delirium before death (Chand, 2013). The focus of this Doctor of Nursing Practice (DNP) project was chosen because recognizing the signs and symptoms that terminally ill patients may display at end of life ultimately determines the treatment modalities, thereby reducing further undue stress on patients and family members. The focus of each clinician involved in the care of dying patients is to comfort and to relieve any and all symptoms that are compromising that goal. Critically ill patients and their families deserve the highest level of treatment to ensure the most comfortable death possible. Much too often patients and families suffer unnecessarily at the end of life because communication regarding prognosis is lacking, clinicians do not recognize that death is near, and symptom management is insufficient (Hosie, Agar, Lobb, Davidson, & Phillips, 2017). Clinical indicators of dying may include confinement to bed or chair, inability to provide self-care, difficulty with taking in oral fluids, and artificial feeding/hydration. The patients are no longer able to take oral medication and become increasingly drowsy. This problem continues to be multifactorial. At EOL, treatments are often disease-focused rather than patient-centered, which often leads to patients receiving care that is inconsistent with preferences or prognosis (Hosie et al., 2017). This project focused on recognizing the associated signs and symptoms of delirium, and implementation of an evidenced-based delirium assessment tool and treatment guideline.

Statement of the Problem

According to the World Health Organization, access to pain and symptom control is a fundamental right to health (de Luca, Zopunyan, Burke-Shyne, Papikyan, & Amiryan, 2017). Palliative care is defined as an approach that improves the quality of life of patients and their

families facing the problems associated with a life-threatening illness (Bush, Tierney, & Lawlor, 2017). There is a misconception that health-care workers such as nurses and nurse practitioners are trained to care for dying patients. The reality is that most nurses who are at the bedside were never formally trained to care for terminally ill patients in hospice care and are not recognizing delirium at end of life. Misdiagnosing or confusing delirium is causing increased stress on patients and their family members (Bush et al., 2017). The implementation of an evidenced-based assessment tool and treatment guideline will improve patient outcomes and increase confidence among the clinical staff.

Background and Significance

Delirium presents with a sudden onset of variable confusion, inattention, and reduced awareness of the environment (Hosker & Bennett, 2016). Symptoms affect memory, orientation, language, visual-spatial ability, or perception and often include visual or tactile hallucinations and disturbances in the sleep-wake cycle (Hosker & Bennett, 2016). The *Diagnostic and Statistical Manual of Mental Disorders IV* revised diagnostic criteria states that patients must have symptoms of altered cognition or disturbances in perception that develop over hours to days with fluctuations during the course of a day, and evidence of an etiological cause, to be classified as delirious (Hosker & Bennett, 2016). There are three classifications of delirium: hyperactive, hypoactive, and mixed subtypes. Patients experiencing hyperactive delirium may experience simple restlessness to constant movement and agitation. Hypoactive delirium symptoms include slowing or lack of movement, lack of speech, and unresponsiveness. Hypoactive delirium in particular is under-diagnosed and is the most frequent subtype of delirium in palliative care settings (Hosker & Bennett, 2016). The mixed subtype manifests both hyperactive and hypoactive elements.

Delirium is extremely common in hospice patients. It becomes more frequent toward the end of life and is an independent predictor of mortality. The diagnosis is often missed, being confused with depression or dementia. Depression and delirium often co-exist and act as risk factors for each other, but their distinction is important in identifying optimal treatment. Careful history taking that focuses upon the context and character of symptoms, complemented by focused investigation, can allow for accurate diagnosis in the majority of cases. Where present, symptoms of delirium tend to dominate and take diagnostic precedence, as delirium frequently indicates serious and urgent physical morbidity (O'Sullivan, Inouye, & Meagher, 2014)

Delirium at times is reversible; there is evidence that in some patients it can be persistent and associated with longer-term cognitive problems (Hosker & Bennett, 2016). Delirium in palliative care patients is often multifactorial. When the main precipitant is irreversible, or due to other factors (patient wishes, risk or burden of the interventions), further investigation into the cause may not be pursued. Possible contributors to delirium in a palliative care patient include infection, metabolic and biochemical disorders (renal failure, hypocalcaemia, hyponatremia, dehydration, hypoxia, or hypercapnia), hepatic encephalopathy, primary or secondary cancer, leptomenigeal disease, and radiotherapy to the brain (Hosker & Bennett, 2016). Drug withdrawal and certain medications (benzodiazepines, opioids, corticosteroids, antidepressants, and anticholinergics) can induce delirium symptoms (Hosker & Bennett, 2016). Differential diagnosis for this symptom complex may include poorly controlled physical symptoms such as pain, itch, urinary retention, or fecal impaction in patients who are obtunded; akathisia, myoclonus, and other movement disorders; partial complex seizures; paraneoplastic limbic encephalitis; and Post traumatic stress disorder or other psychotic disorder (Chand, 2013).

Sedation may be the appropriate goal of treatment if distress becomes unmanageable.

Antipsychotics and benzodiazepines are currently the mainstay of therapy (Chand, 2013).

Assessment

The setting was a small hospice company in south central Texas that was owned by a large parent company. The hospice census was approximately 180 patients enrolled into hospice care. Patients resided in the home setting, nursing facilities, and general inpatient at local hospitals. The staff consisted of 1 director of operations, 2 clinical managers, 4 medical doctors (MD), 1 family nurse practitioner (FNP), 12 RN case managers, 1 RN triage, 1 RN clinical liaison, 1 licensed vocational nurse, 16 certified nursing assistants, 3 chaplains, 3 social workers, 5 hospice sales consultants, 1 volunteer coordinator, 1 medical records clerk, 2 intake coordinators, 1 scheduler, and 1 human resources clerk. Interdisciplinary team meetings occurred every 14 days to discuss each patient with the assigned team members and medical doctors. The company operated on an electronic medical record, Homecare Homebase[®] (2017). Homecare Homebase is a cloud-based home health and hospice software that streamlines scheduling, routing, patient intake, notes, approvals, billing, and payment (Homecare Homebase, n.d.). The system works in the office, and field employees are able to access the system through point care from any smart phone or tablet.

At the time of this study, there were no algorithms in place for delirium. During an informal meeting with the nursing staff, they were asked if a patient was exhibiting signs and symptoms of delirium would they be comfortable calling the doctor or nurse practitioner and reporting their assessment findings and asking for appropriate treatment. Two out of 12 nurses felt confident they would recognize the condition. The majority admitted they would not be comfortable recognizing the condition or distinguishing it from other common conditions such as

dementia. The FNP felt confident she could recommend treatment modalities, however admitted that none of the nurses had ever called her for education or clarification on that condition. She was very knowledgeable on care at end of life and willing to assist and teach. When the medical doctors were asked if they are comfortable on diagnosis and treatment of delirium, they all agreed they were, however they felt the nursing staff lacked knowledge in recognition and would benefit from education and specific protocols.

Readiness for Change

The stakeholders (director, managers, physicians, nurse practitioner, nurses, and office staff) were all very interested in the implementation of the delirium assessment tool and evidence-based treatment guideline. Everyone displayed a positive attitude and seemed to have the same goal of delivering the highest level of patient care. The director of operations was extremely supportive of the project implementation and potential outcomes. Time was allocated to discuss this project at each IDT meeting.

Project Identification

Purpose

The purpose of this DNP project was to increase nurses' and medical staff's ability to recognize delirium at end of life and to implement the use of an evidenced-based delirium assessment tool and treatment guideline. The nursing and medical staff were provided with educational material focusing on the importance of delirium recognition. The project leader conducted training classes that focused on delirium recognition and proper administration of the selected delirium assessment tool and evidenced-based treatment guideline. All registered nurses participated; the medical doctors respectfully declined.

Objectives

Project objectives included the following:

- Educate nurses and medical staff on delirium recognition and evidenced-based treatment guideline.
- By April 2018, 100% of new patients would be screened for delirium.
- By April 2018, there would be a 50% increase in the number of nurses reporting patients having a change of condition or suspicious for delirium utilizing the delirium screening tool.
- By April 2018, 100% of patients would be treated for delirium according to the evidenced-based practice guideline by the prescribing provider.

Anticipated Outcomes

Anticipated project outcomes included an increase in delirium recognition by the medical team, thus increasing the level of care for patients with delirium at end of life. The project also sought to ensure all new and existing patients who met inclusion criteria were screened for delirium and, if indicated, treated for delirium according to the evidenced-based treatment guideline, thereby reducing severe symptoms and undue stress on patients and family members, an indirect goal of the project.

Summary and Strength of Evidence

An integrated approach to management involves educating family members about the nature of the delirium syndrome and its potential treatment. Family concerns, particularly the misinterpretation of symptoms such as agitation, emotional lability, and disinhibition, must be addressed. Depending on the clinical circumstances, guarded optimism regarding reversibility can be expressed. On the basis of discussion with family members, a consensus is then reached

on the goals of care; this, in turn, will determine the desired and appropriate level of assessment and therapeutic intervention, which could be directed at identifying and treating underlying precipitants to reverse or improve delirium. The clinical setting, disease variables, and level of distress will likely influence the extent of assessment. It may therefore be appropriate in some situations to forego further assessment and focus solely on symptomatic treatment.

Regardless of the level of investigational or therapeutic aggression, symptomatic treatment is usually required for most patients. Monitoring and reassessment should be ongoing, particularly when pharmacological sedation is required initially to control symptoms. There have been several tools developed to assess delirium. The confusion assessment method (CAM) is the most widely used tool and aims to provide a standardized method for accurate and timely recognition of delirium for the nonpsychiatrically trained clinicians in both clinical and research settings (Hospital Elder Life Program, 2018). Since its development, the confusion assessment method has become the most widely used delirium detection instrument worldwide due to strong validation results and usability. The CAM instrument has been utilized in over 5,000 original articles, translated into more than 13 languages, and is available in several different formats (Hospital Elder Life Program, 2018).

The development of delirium leads to increased caregivers' anxiety. Nonpharmacological modalities have been proven helpful in managing delirium, such as providing a calm environment, reassurance, and ruling out infectious processes and medication adverse reactions (Government of Western Australia, 2011). When possible, any potentially reversible causes should be treated. When nonpharmacological modalities are not effective, prompt pharmacological treatment is required to reduce the possibility of harm for patients and distress for families (Government of Western Australia, 2011). According to treatment guidelines,

haloperidol is the drug of choice for the treatment of patients with delirium near the end of life. Low dose haloperidol (<3 mg per day) is effective in treating delirium with few adverse effects (Government of Western Australia, 2011). Sedation may be necessary to complement the effect of haloperidol, and benzodiazepines are effective in this role (Government of Western Australia, 2011). Benzodiazepines may worsen delirium if used alone in treatment.

Methods

Project Intervention

This was an evidenced-based quality improvement project where the delirium guideline was implemented in a local hospice agency. The evidenced-based treatment guideline chosen for this project was the Guideline on the Assessment and Treatment of Delirium in Older Adults at the End of Life (Appendix B). This treatment guideline was originally written and developed by the Canadian Coalition for Seniors' Mental Health. This guideline is targeted toward health care providers working with older adults with or at risk of developing delirium and approaching the end of life. Older adults refers to individuals 65 years of age and older (Brajtman et al., 2011). Approaching the end of life refers to living currently with a terminal illness and having an estimated life expectancy of 6 months or less.

The intervention chosen for this project is the confusion assessment method (CAM) short version (Appendix A). The CAM aims to provide a standardized method for accurate and timely recognition of delirium for nonpsychiatrically trained clinicians in both clinical and research settings (Hospital Elder Life Program, 2018). Since its development, the CAM has become the most widely used delirium detection instrument worldwide due to strong validation results and usability. When administered correctly, the CAM tool serves as a trusted indicator of delirium with a sensitivity of 94% and a specificity of 89% (Hospital Elder Life Program, 2018).

Education

The registered nurses and medical staff were administered a short pretest and posttest to assess their knowledge on delirium recognition at project implementation and again at project completion. The medical doctors refused all offered educational materials including the pre- and post-tests, however the FNP participated in the testing and ongoing education. Nurses were instructed on how to use the CAM assessment tool and accurately administer it through video, return demonstrations, and a training manual. Weekly meetings with the nurses were conducted, and ongoing training of the CAM assessment tool and educational information on delirium were delivered through Relias online training sessions. Relias provided comprehensive online training modules for health-care professionals and was accessible through the hospice company. Relias had several modules on delirium and end of life care. The registered nurses submitted their CAM assessments during the weekly educational meetings. Collected data were stored securely and translated into visual graphs to measure project objectives and outcomes. All patient information was stored on the company's electronic medical record (EMR), and no patient identifying information was included in the project.

Sample

All new patients admitted to hospice were administered the CAM assessment to establish a baseline. All patients experiencing a "change in condition" such as altered mental status or lethargy were administered the CAM tool as well. It was decided that patients with noted condition changes were more likely to experience symptoms associated with delirium, and careful monitoring was necessary to reduce stress on the patients and detect those conditions earlier when possible. When it was determined that patients were experiencing delirium, the

medical doctors and FNP agreed to implement the chosen evidenced-based treatment guideline when appropriate.

Barriers and Facilitators

Identified barriers included a small sample size, as the hospice company had a census of only 180 patients, of which not all met inclusion criteria. Timely and accurate administration of the CAM tool, correct translation of assessment findings to the MD or FNP, and implementation of the current treatment guideline by the prescribing medical professional were also barriers to this project.

Facilitators included the use of the EMR system to conduct chart audits, access to the online education system Relias to conduct training on delirium recognition, and allotted time in the company's biweekly interdisciplinary team meetings to discuss project status. A director who was focused on the highest level of quality service and evidenced-based care was an integral facilitator to this project.

Results

Data Collection

A chart review was conducted postproject to assess the data collected from the CAM assessments and treatment modalities, if applicable. Variables included age, demographics, diagnoses, CAM scores, and medications (Table 1). Weekly chart reviews were conducted during project implementation to ensure adherence to use of the delirium assessment tool and the implemented treatment guideline. Weekly meetings with the RNs were conducted to collect completed CAMs, and biweekly meetings were conducted to discuss project status with the stakeholders. Data were added weekly to an Excel spreadsheet that calculated final results for the project.

Table 1

Demographics

Sex	Assessments	%
Male	42	54
Female	36	46
Total	78	100

Objective 1

The first objective was to educate nursing and medical staff on delirium recognition and the evidenced-based treatment guideline. The results from those two tests were compared to determine if knowledge increased during the project timeframe. The higher scores on the posttest indicated that the nurses' and FNP's knowledge and recognition of delirium improved over the project period, enabling the team to deliver a higher standard of evidenced based care.

Table 2

Staff Education Pre- and Post-intervention on Delirium Recognition at End of Life

	Month	%
Pretest	Feb	75
Posttest	April	100

Objective 2

By April 2018, 100% of new patients would be screened for delirium. There were a total of nine new patients admitted to hospice service that met inclusion criteria during the project implementation time of 8 weeks. Those patients were administered the tool to establish a baseline and to detect delirium earlier if possible. All patients were administered the CAM tool, meeting the project objective.

Table 3

New Patients Admitted to Hospice Service Who Met Inclusion Criteria

Week	New Patients
1	2
3	3
5	1
7	3
Total: 9	

Objective 3

By April 2018, there would be a 50% increase in the number of nurses reporting patients having a change of condition, suspicious for delirium, utilizing the delirium-screening tool. Early detection of delirium led to improved outcomes and less severity of symptoms. That objective was exceeded.

Table 4

Change of Condition Based on Confusion Assessment Method Results

CAM Result	# of Patients
Positive CAM	6
Negative CAM	4
Total Patients Assessed	10

Objective 4

By April 2018, 100% of patients would be treated for delirium according to the evidenced-based practice guideline by the prescribing provider. The medical doctors’ refusal of delirium education was a direct reflection of that goal not being met. Only 48% of patients were treated according to the evidenced-based guideline.

Discussion

The registered nurses, medical staff, and project champions accepted the implementations of the chosen interventions. Although receptive of the project leader’s ideas and

recommendations, the medical doctors declined the ongoing education and did not treat all patients according to the implemented treatment guideline, a project objective. That resistance resulted in less than half of patients identified as having symptoms of delirium being treated according to the guideline. Evidenced-based assessment tools and medication guidelines improve patient outcomes (Hosker & Bennett, 2016). The RNs expressed pre-intervention that they were not confident in their assessment skills when detecting delirium. The strength of this project was at postimplementation when several nurses expressed how the use of the CAM assessment not only increased their recognition skills but also their awareness of the symptoms of that condition. Use of a validated delirium assessment tool makes early treatment possible, which may improve prognosis (Hosker & Bennett, 2016). In hospice care, nurses are expected to assess accurately and be able to translate findings to the MD or FNP to formulate the best treatment modalities. Nurses are in a particularly relevant position in the health-care system to improve detection rates, manage and provide necessary care to people with delirium, and prevent these episodes in those at high risk (Cerejeira & Mukaetova-Ladinska, 2011).

Limitations

Limitations of the project included the CAM assessment tool not being uploaded into the company's EMR. The RNs expressed that having access to the tool within their tablet would have been very convenient and less time consuming when at bedside. Although the nurses were trained on administering the delirium assessment tool, timely and accurate administration of the CAM tool, as well as correct translation of the assessment findings to the MD or FNP, remained barriers throughout the project. Upon chart review, it was determined by the project leader that not all RNs were documenting assessment findings in the EMR pertaining to assessment tool results and prescribed medication. The issue was quickly resolved during an informal meeting

with the nurses and ensured all participants were comfortable with project requirements and expectations. All nursing team members were not available at each weekly meeting, at times making data collecting difficult. Staff participation began to decline toward the end of the 8-week implementation period.

Recommendations

The overall results of the project were inspiring. The project leader recommended continued training on the project interventions by the entire health-care team. The medical doctors should be encouraged to participate in the educational opportunities, and all patients should be included if interventions were to be continued. It might be necessary formally to train a member of the nursing team to become an advanced user of the CAM assessment tool to ensure adequate training and to address any gaps in knowledge.

Implications for Practice

According to the American Association of Colleges of Nursing, advanced practice registered nurses prepared at the doctoral level encompass a combination of clinical, organizational, economic, and leadership skills that allow them the ability to critique nursing practice and implement programs of care delivery that can have a positive impact on health-care outcomes. DNPs serve as leaders, change agents, and evaluators of care. They respect the complementary roles, skills, and abilities of the interprofessional health team, while successfully collaborating with other professionals to improve the health status of patients. DNPs understand organizational and systems improvement, outcome evaluation processes, health-care policy, and leadership. They serve as effective collaborative team leaders and assume leadership of the team when appropriate.

The results of this project prove that the patient population that was being served was affected by delirium, and early recognition and treatment was integral to improved outcomes. Although delirium prevention remains the most effective strategy to improve outcomes, routine assessment of cognition can greatly improve early delirium recognition, leading to faster and more effective interventions (Rodin & Flaherty, 2017). A brief cognitive screening and astute clinical observation best accomplish recognition.

References

- Brajtman, S., Wright, D., Hogan, D. B., Allard, P., Bruto, V., Burne, D., ... Wilson, K. (2011). Developing guidelines on the assessment and treatment of delirium in older adults at the end-of-life. *Canadian Geriatrics Journal*, *14*(2), 40–50. doi:10.5770/cgj.v14i2.13
- Bush, S. H., Tierney, S., & Lawlor, P. G. (2017). Clinical assessment and management of delirium in the palliative care setting. *Drugs*, *77*(15), 1623–1643. doi:10.1007/s40265-017-0804-
- Cerejeira, J., & Mukaetova-Ladinska, E. B. (2011). A clinical update on delirium: From early recognition to effective management. *Nursing Research and Practice*, *2011*(875196), 1–12. doi:10.1155/2011/875196
- Chand, S. (2013). Dealing with the dying patient - Treatment of terminal restlessness. *The Pharmaceutical Journal*, *290*, 382. doi:10.1211/pj.2013.11119466
- de Luca, G. B., Zopunyan, V., Burke-Shyne, N., Papikyan, A., & Amiryan, D. (2017). Palliative care and human rights in patient care: An Armenia case study. *Public Health Reviews*, *38*(1), 18. doi:10.1186/s40985-017-0062-7
- Government of Western Australia. (2011). Health Networks. Retrieved December 4, 2017, from <http://www.healthnetworks.health.wa.gov.au/>
- Homecare Homebase. (n.d.). Clinical leadership. Retrieved December 9, 2017, from <https://hchb.com/index.php/who-we-serve/clinical-leaders>
- Hosie, A., Agar, M., Lobb, E., Davidson, P. M., & Phillips, J. (2017). Improving delirium recognition and assessment for people receiving inpatient palliative care: A mixed methods meta-synthesis. *International Journal of Nursing Studies*, *75*, 123–129. doi:10.1016/j.ijnurstu.2017.07.007

Hosker, C. M., & Bennett, M. I. (2016). Delirium and agitation at the end of life. *BMJ*, i3085.

doi:10.1136/bmj.i3085

Hospital Elder Life Program. (2018). Hospital elder life program for prevention of delirium.

Retrieved from <https://www.hospitalelderlifeprogram.org>

O'Sullivan, R., Inouye, S. K., & Meagher, D. (2014). Delirium and depression: Inter-relationship and overlap in elderly people. *The Lancet. Psychiatry*, 1(4), 303–311.

doi:10.1016/S2215-0366(14)70281-0

Rodin, M. B., & Flaherty, J. H. (2017). Delirium prevention: Update on multidisciplinary, non-drug prevention of delirium among hospitalized elderly. In A. T. Isik & G. T. Grossber (Eds.), *Delirium in Elderly Patients*, pp. 111–123. doi:10.1007/978-3-319-65239-9_10

Appendix A: Confusion Assessment Method (Short CAM) Worksheet

PATIENT INITIALS _____
 PATIENT DOB _____
 DATE _____

SHORT CONFUSION ASSESSMENT METHOD (SHORT CAM) WORKSHEET

Note: This worksheet can be used as an alternative to the Short CAM Questionnaire. Testing of orientation and sustained attention is recommended prior to scoring, such as digit spans, days of week, or months of year backwards. This page can only be used to identify delirium cases. Please note it cannot be used to score severity using the CAM-S scoring system.

EVALUATOR:

DATE:

I. ACUTE ONSET AND FLUCTUATING COURSE

a) Is there evidence of an acute change in mental status from the patient's baseline? No _____

b) Did the (abnormal) behavior fluctuate during the day, that is tend to come and go or increase and decrease in severity? No _____

II. INATTENTION

Did the patient have difficulty focusing attention, for example, being easily distractible or having difficulty keeping track of what was being said? No _____

III. DISORGANIZED THINKING

Was the patient's thinking disorganized or incoherent, such as rambling or irrelevant conversation, unclear or illogical flow of ideas, or unpredictable switching from subject to subject? No _____

IV. ALTERED LEVEL OF CONSCIOUSNESS

Overall, how would you rate the patient's level of consciousness?

- Alert (normal)
- Vigilant (hyperalert)
- Lethargic (drowsy, easily aroused)
- Stupor (difficult to arouse)
- Coma (unarousable)

Do any checks appear in the box above? ↑

No _____

BOX 1

Yes _____
Yes
Yes _____

BOX 2

Yes _____
Yes _____

If Inattention and at least one other item in Box 1 are checked and at least one item in Box 2 is checked a diagnosis of delirium is suggested.

Confusion Assessment Method. Copyright 1988, 2003, Hospital Elder Life Program. Not to be reproduced without permission. Adapted from: Inouye SK, et al. Ann Intern Med.1990;113:941-8.

Appendix B: Guideline on the Assessment and Treatment of Delirium in Older Adults at the End of life

The image shows the front cover of a guideline document. The cover is divided into several color-coded sections: a teal top-left corner, an orange top-middle section, a yellow top-right section, a large orange vertical band on the left, and a white central area. The title 'Guideline on the Assessment and Treatment of Delirium in Older Adults at the End of Life' is prominently displayed in teal text. Below the title, it states 'Adapted from the CCSMH National Guidelines for Seniors' Mental Health: The Assessment and Treatment of Delirium'. A photograph of two hands holding a pill is visible in the lower right. The bottom of the cover features the logos and names of the Canadian Coalition for Seniors' Mental Health and the Coalition canadienne pour le bien-être mental des personnes âgées.

February 2010

Guideline on the Assessment and Treatment of Delirium in Older Adults at the End of Life

Adapted from the CCSMH National Guidelines for Seniors' Mental Health: The Assessment and Treatment of Delirium

Canadian Coalition for Seniors' Mental Health
To promote seniors' mental health by connecting people, ideas and resources

Coalition canadienne pour le bien-être mental des personnes âgées
Promouvoir le bien-être mental des personnes âgées en reliant les personnes, les idées et les ressources

Bring solutions to light
Mettre en lumière les solutions