

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



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ABSTRACT

Background and Purpose

Delirium at the end of life is common and can have serious consequences on an older person's quality of life and death. In spite of the importance of detecting, diagnosing, and managing delirium at the end of life, comprehensive clinical practice guidelines (CPG) are lacking. Our objective was to develop CPG for the assessment and treatment of delirium that would be applicable to seniors receiving end-of-life care in diverse settings.

Methods

Using as a starting point the 2006 Canadian Coalition for Seniors' Mental Health CPG on the assessment and treatment of delirium, a team of palliative care researchers and clinicians partnered with members of the original guideline development group to adapt the guidelines for an end-of-life care context. This process was supported by an extensive literature review. The final guidelines were reviewed by external experts.

Results

Comprehensive CPG on the assessment and treatment of delirium in older adults at the end of life were developed and can be downloaded from <http://www.ccsmh.ca>.

Conclusions

Further research is needed on the implementation and evaluation of these adapted delirium guidelines for older patients receiving end-of-life care in various palliative care settings.

Keywords: Delirium, end of life, evidence-based practice, guidelines, older adults, palliative care

INTRODUCTION

Delirium is an important clinical condition affecting many older adults at the end of their lives. Nearly 90% of terminally ill patients or clients reportedly become delirious before death.⁽¹⁾ A palliative care emergency,^(2,3) it can be extremely distressing to both the dying person and his or her family.⁽⁴⁾ Delirium compromises effective communication between patients or clients and their loved ones during a critical time of impending permanent separation. It can result in painful memories that are carried forward into the bereavement process.⁽⁵⁻⁷⁾ Often not recognized, delirium at the end of life interferes with the assessment and management of other physical and psychological problems.^(8,9) It impedes the ability of patients or clients to formulate plans and make decisions.⁽¹⁰⁾ Finally, delirium can constitute a significant safety risk for the patient or client, family members, and staff.

Within palliative care programs the management of terminally ill patients or clients with a delirium is generally

subsumed under a broad symptom-control approach. General guidance might be provided by clinical practice guidelines (CPG) in palliative care,⁽¹¹⁾ but these guidelines lack the detail required to address the complex challenges associated with the assessment and management of delirium at the end of life. Delirium guidelines, on the other hand, do not explicitly address the unique needs, constraints, and trade-offs that arise in the care of patients or clients who are terminally ill.^(12–14) The need for CPG dealing specifically with delirium as experienced at the end of life was the motivation for the work described in this paper.

METHODS

In 2005 an interdisciplinary team of experts from the disciplines of geriatric medicine, geriatric psychiatry, neuropsychology, nursing, pharmacy, social work, health policy, and library science was brought together by the Canadian Coalition for Seniors' Mental Health (CCSMH). This group developed a CPG on the assessment and treatment of delirium in older adults based on a systematic review of the available literature. The literature examined included prior CPG, meta-analyses and reviews dealing with delirium (published between January 1995 and May 2005), and original research (published between January 1999 and May 2005). Based on the literature review and the expert opinion of the CPG development group, a series of consensus-derived recommendations were made. These CPG have been widely disseminated across Canada to interdisciplinary care teams, health-care professionals, administrators, and policy makers whose work focuses on the senior population. A full description of the process used to develop them can be found elsewhere.⁽¹²⁾

To address the issue of delirium in an end-of-life population, the CCSMH CPG were taken as our starting point. Though much of the approach to the assessment and management of delirium outlined in these CPG could be adopted without modification, the unique needs of the end-of-life population necessitated adapting the original recommendations in certain areas. Both the original and modified delirium guidelines were developed for older persons (65+ years of age). While the majority of deaths in our society occur among those 65+, we feel many of the resulting recommendations will be relevant to adult patients or clients of any age.

Guideline Adaptation Process

In January 2008, the Guideline Adaptation Group for the Assessment and Treatment of Delirium in Older Adults at the End of Life (from now on referred to as the Guideline Adaptation Group) was formed (see Appendix A). The Guideline Adaptation Group consisted of researchers and clinicians with expertise in palliative care and members of the original CCSMH guideline development group. The palliative care researchers were members of two New Emerging Teams in palliative care funded by the Canadian Institutes

of Health Research (CIHR): the End-of-Life Care for Seniors New Emerging Team⁽¹⁵⁾ based at the University of Ottawa and the Developing, Evaluating, and Implementing New Interventions in Palliative Care New Emerging Team based at Laval University. Clinical experts on the interdisciplinary panel represented the disciplines of palliative care medicine, geriatric medicine, geriatric psychiatry, neuropsychology, nursing, pharmacy, and social work. Working groups of two to three experts, led by a member of the Guideline Adaptation Group, were organized around six topics or issues (i.e., legal and ethical issues; prevention; detection, assessment, diagnosis, and monitoring; nonpharmacological management; pharmacological management; and education).

The Guideline Adaptation Group and additional clinicians and researchers with expertise in delirium, geriatrics, seniors' mental health, and end-of-life care attended a 2-day workshop in January 2008. Funded by CIHR, this workshop dealt with adapting the initial CCSMH delirium guidelines to the end-of-life context. Each CCSMH CPG recommendation about the detection/diagnosis, nonpharmacological management, and pharmacological management of delirium in older persons was carefully reviewed. A tentative decision was made to reject, retain, or revise (often with suggested wording) them based on the judgment of the workshop participants about their validity, applicability, and relevance to end-of-life care.

Following the workshop, computerized searches for relevant manuscripts (published between 2005 and 2009) were conducted by a librarian and/or a research associate. Several major databases (MEDLINE, CINAHL, PSYCINFO, and EMBASE) were examined. Search terms included *delirium* and its synonyms (e.g., confusion, agitation, restlessness, organic brain syndrome) and *palliative care* and its synonyms (e.g., terminal care, hospice, dying, end of life). Targeted systematic searches were done for each of the working groups. Retrieved titles and abstracts were reviewed by working group members with relevant full articles retrieved for review. Members of the working groups identified other papers for review.

Based on the literature review and the results of the invitational workshop, the working groups adapted the original guidelines in their assigned area and came up with a series of draft recommendations. The strength of a recommendation was graded A to D based on the level of evidence in support of it (see Appendix B).⁽¹⁶⁾ Please note that this is not an indication of the relative importance of the recommendation for clinical practice or quality of care. Some recommendations with little empirical support, resulting in a lower rating for strength on the scale used, are in fact critical components of the assessment and management of delirium at the end of life. In some cases, individual recommendations as they originally appeared in the CCSMH CPG were deemed to also apply to a palliative care context. However, the evidence level given in support of the recommendation sometimes required downgrading

due to the lack of research conducted specifically in an end-of-life care population. In such situations, the strength of evidence would typically be downgraded by one level (e.g., from a C to a D).

The revised recommendations of each working group were reviewed by experts external to the guideline development and revision process. Any gaps or areas requiring clarification identified were addressed by the responsible working group. In the case of the legal/ethical section, a lawyer with extensive expertise in decisional capacity and associated ethical issues reviewed the adapted guidelines.

Once each working group finalized their recommendations, the Guideline Adaptation Group met to review and approve all of the recommendations made in the adapted guidelines. Eighty percent or more of the Guideline Adaptation Group had to support a recommendation for it to be included in the final document. Table 1 provides an overview of the guideline adaptation process.

RESULTS

The complete adapted guidelines on the assessment and treatment of delirium in older adults at the end of life is available at <http://www.ccsmh.ca>. In the following sections, we will highlight a number of key issues that are discussed in the literature on delirium at the end of life and that informed the adaptation process.

Definition and Types of Delirium at the End of Life

As was the case for the original CCSMH delirium guidelines, the *Diagnostic and Statistical Manual of Mental Disorders*, fourth edition, text revision (DSM-IV-TR) criteria for delirium were used.⁽¹⁷⁾ All three of the commonly described subtypes of delirium (hyperactive–hyperalert, hypoactive–hypoalert, and mixed) occur in palliative care settings.⁽¹⁸⁾ The hypoactive–hypoalert subtype is often missed by family members and care providers in palliative care, though it can be as distressing to patients or clients as the hyperactive–hyperalert form.^(19,20) It may be misdiagnosed as fatigue or depression⁽²¹⁾ or wrongly considered part of the normal dying process. Moreover, clinicians should be aware that subsyndromal delirium (where patients or clients do not meet all of the diagnostic criteria for clinical delirium but nonetheless exhibit certain delirium-associated symptoms) can result in adverse clinical outcomes.^(2,22)

Various terms have been used to describe delirium in terminally ill patients or clients, such as terminal delirium, terminal agitation, terminal confusion, and terminal restlessness. In the adapted guidelines, *end-of-life delirium* refers to any delirium experienced by a patient or client with an estimated life expectancy of 6 months or less due to any progressive disease. It may be reversible in up to half of all cases,⁽¹⁾ particularly when adverse effects to medications or metabolic abnormalities are underlying etiologic factors.⁽²³⁾

TABLE 1.
Overview of the guideline adaptation process

Phase 1: Formation of the Guideline Adaptation Group and working groups; identification of external consultants	<p><i>Formation of the Guideline Adaptation Group</i></p> <ul style="list-style-type: none"> • Researchers from two CIHR-supported New Emerging Teams in palliative care • Members of the 2006 CCSMH delirium CPG development group <p><i>Establishment of working groups for each of the guideline sections</i></p> <ul style="list-style-type: none"> • Working group members selected from the Guideline Adaptation Group <p><i>Selection of external consultants/experts</i></p> <ul style="list-style-type: none"> • Experts with known clinical and/or research expertise in delirium and end-of-life care identified • Invited to participate in 2-day workshop and/or external review process
Phase 2: Revision process	<ul style="list-style-type: none"> • Two-day workshop to propose revisions to individual recommendations of selected guideline sections (January 2008) • Comprehensive literature review to establish best evidence in end-of-life delirium • Guidelines revised by working groups based on initial feedback from workshop participants, evidence from the literature review, and opinion of working group members • Levels of evidence and strength of recommendations developed for all recommendations contained in the revised guidelines • Drafts of revised guidelines reviewed by external experts
Phase 3: Approval of the final document (available from http://www.ccsmh.ca)	<ul style="list-style-type: none"> • Feedback from external experts reviewed and incorporated by working groups • Consensus achieved on entire content of the revised guidelines by the Guideline Adaptation Group

CCSMH = Canadian Coalition for Seniors' Mental Health; CIHR = Canadian Institutes of Health Research; CPG: clinical practice guidelines.

Younger age, less severe cognitive disturbance, and absence of organ failure are positively associated with delirium reversibility in terminally ill patients or clients.⁽²⁴⁾ *Terminal delirium* refers to delirium that occurs in the last few days or hours preceding death. It may be a consequence of the dying process and therefore not reversible, although the distinction between end-of-life and terminal delirium can be made only after the death of the patient or client. Even when delirium is not reversible, distressing symptoms should be addressed in all cases.^(25–27)

Situating Delirium Care Within a Palliative Framework

Palliative care is whole-person health care that aims at relieving suffering and improving the quality of living and dying.⁽²⁸⁾ It is an approach to care that affirms not only the potential of terminally ill patients or clients to die peacefully but also to live fully until death. Integral to palliative philosophy is a commitment to family-centered models of care, as well as integrated attention to the physical, psychological, social, and spiritual aspects of health, illness, and dying.^(29–32) Quality palliative care at the end of life is not limited to hospice or dedicated palliative care units, but rather can and should be provided wherever people are dying. Relevant settings may include residential care facilities, intensive care and acute medical/surgical units, and the home.

In a curative care context, an important clinical objective with delirium is the detection and treatment of the underlying cause.^(33,34) However, at the end of life this is often not feasible, either because delirium is due to advanced and irreversible illness processes or because palliative goals of care preclude intrusive investigations or treatments that may be required to detect or address etiologic factors.^(35,36) Goals of care for the patient or client should be established in all instances with the care provided taking them into account. These goals could be a desire to live as long as possible, to maintain functional abilities, comfort, to achieve important life objectives, or to relieve the burden on loved ones.⁽³⁷⁾ Establishing goals of care for an older adult with delirium approaching the end of life involves careful consideration of the medical, psychosocial, and cultural characteristics of the person, as well as the laws governing the determination of capacity and consent to treatment. It is not always a straightforward process. Goals can change from day to day with fluctuations in the clinical condition of the patient or client. Concurrently held goals might conflict with each other. An individualized approach to determining the appropriate intensity of investigation and treatment of delirium is essential. In order to provide compassionate, respectful, and person-centered care of the individual and his or her family at the end of life, six core recommendations were developed to underlie the adapted guidelines (see Table 2).

TABLE 2.

Core recommendations underlying the Adapted Guidelines on the Assessment and Treatment of Delirium in Older Adults at the End of Life

1. Person-centered care of the older individual with delirium at the end of life should be based on a thorough understanding of her or his life history (i.e., the psychosocial, relational, and spiritual narrative) in addition to current clinical status and prognosis.
2. There is a need to consider the patient's family: their strengths and needs, what role they may play in the care of the older individual at the end of life who is at risk for or has delirium, and how the delirium experience affects their own well-being, both pre- and post-bereavement. "Family" should be understood broadly to include all individuals who are close to the patient or client in knowledge, affection, and care, regardless of biological relationship.
3. Terminally ill individuals who are at risk for or have end-of-life delirium—and their families—should be encouraged to connect with what is sacred or spiritual in their lives, if desired and appropriate.
4. At the time of first contact with the older individual at the end of life, goals of care should be clarified with the individual (or their proxy if the older individual lacks capacity). Continuous reassessments should be ongoing and documented throughout the course of their care, and the significance of involving the family in this process should not be underestimated.
5. In caring for older adults at the end of life, the clinician is encouraged to follow accepted guidelines that are consistent with the principles and philosophies of quality end-of-life care.
6. Adequate training and education of all members of the inter-professional health-care team in how best to prevent, detect, and treat delirium, as well as how best to communicate with and support those affected by delirium, is crucial.

Adapted Guidelines: Other Important Considerations

The adapted guidelines include sections on 1) legal and ethical issues, 2) prevention, 3) detection, assessment, diagnosis, and monitoring, 4) nonpharmacological management, 5) pharmacological management, and 6) education. A selection of these recommendations is provided in Table 3 (as noted, a complete list of all of the revised recommendations can be downloaded from <http://www.ccsmh.ca>). Particularly important considerations are the following:

- Consent to treatment and the use of physical restraints: With a delirium, decisional capacity can fluctuate over hours and days. The use of restraints should be minimized. They should be applied only in exceptional circumstances.

TABLE 3.

Selected examples of recommendations and their level of evidence taken from the Adapted Guidelines on the Assessment and Treatment of Delirium in Older Adults at the End of Life (available at <http://www.ccsmh.ca>)

Prevention	<p>Although there is conflicting opinion regarding the link between delirium and hydration status in the palliative care population, depending on patient goals of care, prognosis, burden of treatment, and likelihood of efficacy it may be appropriate to facilitate oral fluid intake or to use rehydration measures such as hypodermoclysis in the older palliative patient. D (Recommendation 3.7)</p>
Detection	<p>Clinicians working with older persons should be alert to the high risk of delirium at the end of life, especially in the presence of multiorgan failure and polypharmacy (including opioids, etc). C (Recommendation 4.1)</p> <p>Delirium should be considered as a potential cause of any abrupt change in mental status, cognition, behavior, or functional ability (particularly declining mobility, impaired balance, and risk of falls) of any person approaching the end of life. Changes in the patient's mental status, level of alertness, or behaviour should be taken seriously, as they may indicate the presence of delirium or other clinically important condition. These changes are not necessarily part of the dying process. C (Recommendation 4.10)</p> <p>In keeping with the goals of care when death is imminent, extensive evaluation and invasive investigations should be avoided. However, it is imperative to relieve distressing symptoms and provide emotional support to the patient's family. D (Recommendation 4.43)</p>
Pharmacological management	<p>The clinician should strive to adequately manage the older adult's pain, as pain can cause or exacerbate delirium. This can be complicated by the observation that some of the medications used to treat pain, including co-analgesics, can also cause delirium. The treatment goal is to control the older adult's pain with the safest available intervention. D (Recommendation 6.2)</p> <p>If opioids are needed, the minimum effective dose should be used. Opioid rotation (or switch) and/or a change in the opioid administration route may be also be helpful (i.e., may favourably alter the pharmacokinetics/pharmacodynamics). C (Recommendation 6.7)</p> <p>Antipsychotics are the treatment of choice to manage the symptoms of delirium (with the exception of alcohol or benzodiazepine withdrawal delirium). C (Recommendation 6.23)</p> <p>In cases of refractory delirium (hyperactive or mixed), the clinician should reassess the diagnosis, comorbidities, and precipitating and aggravating factors, and ensure optimization of treatment. A second opinion from a colleague is recommended. If delirium continues to remain refractory, alternative strategies can be considered—for example, switching antipsychotics; combining two antipsychotics including one with a sedative profile; and combining a benzodiazepine with an antipsychotic. D (Recommendation 6.31)</p> <p>Palliative sedation is the deliberate reduction of consciousness to alleviate intolerable suffering. The practice of palliative sedation is ethically complex, and decisions involving its use need to be arrived at carefully through active involvement of the patient and family, and other members of the health-care team, and consultation with a palliative care specialist. D (Recommendation 6.32)</p>
Education	<p>All health-care team members require sustainable, ongoing educational opportunities to enhance their knowledge of specialized, evidence-based content relevant to the care of older delirious adults with end-stage cancer or chronic, non-curable end-stage disease. These educational opportunities should address the specific learning needs of the health-care team and be based on the principles of adult education. B (Recommendation 7.3)</p> <p>Opportunities should be provided for family members and older adults approaching end of life (when able) to discuss goals of care with the health-care team and to participate in decisions related to these goals. C (Recommendation 7.9)</p>

- **Detection:** This should not be based exclusively on brief cognitive tests like the Mini-Mental State Examination.^(38,39) While several screening and severity instruments for delirium have been developed, the Confusion Assessment Method (CAM) has been validated in a palliative care setting⁽⁴⁰⁾ and is the one recommended.^(41,42) Clinicians require adequate training on its administration to ensure acceptable sensitivity and specificity. The CAM for the intensive care unit^(43,44) may be helpful for those patients or clients with an impaired ability to communicate because of, for example, a decreased level of consciousness from the effects of sedatives or analgesics. Other assessment tools include the Delirium Rating Scale-Revised-98,⁽⁴⁵⁾ the Delirium Symptom Interview,⁽⁴⁶⁾ the Memorial Delirium Assessment Scale,⁽⁴⁷⁻⁴⁹⁾ and the Nursing Delirium Screening Scale.⁽⁵⁰⁾ This latter instrument uses a brief five-item scale. With it, the person's status can be assessed throughout the day (e.g., each 8-hour nursing shift). It may be less burdensome than interview-based methods, as it does not require active patient or client participation. All these tools are *only as an aid* to the diagnosis and detection of delirium. They are not recommended as the sole means of identifying delirium, which ultimately rests on the skill and judgment of the clinician.
- **Nonpharmacological strategies to prevent and manage delirium:** These typically precede pharmacological interventions and continue to be used in concert with them if and when pharmacotherapy is implemented. Examples include attention to normal body functions (e.g., bladder/bowel regulation, skin integrity, mobility) and promotion of a normal sleep-wake cycle. Clinicians should be sensitive to the patient's or client's environment and how it can be modified to help prevent delirium or minimize its severity. Several recommendations in this section of the adapted guidelines deal with communication strategies. Communication with a delirious patient or client can be very challenging. Even if the content of a delirious person's speech is not understandable, it is important to demonstrate respect for the person's lived experience. Cultural and linguistic considerations add a further layer of complexity.
- **Pharmacological therapies for symptom control:** They are an important adjunct to delirium management, becoming especially important when delirium symptoms are very severe. If delirium becomes refractory to *all possible and reasonable intervention efforts in accordance with the pre-established goals of care*, palliative sedation may be considered. Palliative sedation is the deliberate reduction of consciousness to alleviate intolerable suffering.^(51,52) Delirium is one of the most common indications for palliative sedation.⁽⁵³⁾ Specific guidelines for palliative sedation are beyond the scope of this document, though some information on it can be found in the pharmacological management section of the adapted guidelines.

DISCUSSION

Care of the delirious patient or client at the end of life necessitates consideration of the physical, psychological, social, and spiritual dimensions of the patient or client and his or her family experience. While these dimensions are often interrelated, recognition of the special aspects of each one can facilitate a more comprehensive and individualized approach. Physical care of the delirious patient or client includes judicious use of investigations to determine potentially reversible precipitating and predisposing factors, as well as the use of specific pharmacological and nonpharmacological management strategies. Psychological support for the patient or client involves addressing the cognitive changes, perceptual disturbances, and strong emotional reactions triggered by delirium. It is important to acknowledge that patients or clients are situated within a family and that family members also require information and support in coping with the delirium experience and in communicating with the dying patient or client. A person with delirium at the end of his or her life is no different from a person who does not have delirium from a spiritual perspective. They can have fears and existential distress that need attention. Of course, spiritual care of the delirious patient or client will require that communication strategies be tailored to his or her unique needs. Indeed, physical, psychological, social, and spiritual care of the delirious patient or client and his or her family requires creativity, empathy, attentiveness, patience, acceptance, and compassion.

Because delirium at the end of life is often reversible, searching for easily correctable causes is the first step in nearly all cases.⁽⁵⁴⁾ A fatalistic acceptance of delirium as an inevitable consequence of the dying process should be avoided. As stated previously, even when delirium is not reversible, distressing symptoms should be addressed in all cases. The overriding objective is to minimize the suffering experienced by patients or clients and their families. While taking into account goals of care, clinicians must ensure that they do not impose undue discomfort on patients or clients and families through overly burdensome approaches to diagnosis and management.^(55,56) Professional caregivers, together with patients or clients and families, need to weigh the relative benefits and burdens of specific interventions while also considering other dimensions of well-being that are important to a quality end-of-life experience (e.g., dignity, comfort, and communication).

Delirium is a quality-of-care issue for dying patients or clients and their families. Effective approaches to the prevention, identification, and treatment of delirium have the potential to enhance comfort, facilitate "dying well" for patients or clients, and prevent negative psychological outcomes for the family in bereavement. These guidelines on delirium at the end of life for older adults hopefully provide practical and effective advice for clinicians. Major challenges exist in translating knowledge into routine clinical

practice.⁽⁵⁷⁾ Further work is required on the implementation and evaluation of these adapted guidelines. This will inform the development of care pathways (specific care protocols) on delirium at the end of life.

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CONFLICT OF INTEREST DISCLOSURES

All authors have completed and submitted the ICMJE Form for Disclosure of Potential Conflicts of Interest, and none were reported.

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APPENDIX A

Guideline Adaptation Group for the Assessment and Treatment of Delirium in Older Adults at the End of Life

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APPENDIX B**Categories of evidence and strength of recommendations⁽¹⁶⁾**

<i>Categories of evidence for causal relationships and treatment</i>		<i>Strength of recommendation</i>	
Evidence from meta-analysis or randomized controlled trials	Ia	Directly based on category I evidence	A
Evidence from at least one randomized controlled trial	Ib		
Evidence from at least one controlled study without randomization	IIa	Directly based on category II evidence or extrapolated recommendation from category I evidence, or extrapolated A level recommendation from original guidelines.	B
Evidence from at least one other type of quasi-experimental study	IIb		
Evidence from nonexperimental descriptive studies, such as comparative studies, correlations studies, and case-control studies	III	Directly based on category III evidence or extrapolated recommendation from category I or II evidence, or extrapolated B level recommendation from original guidelines.	C
Evidence from expert committees, reports, or opinions, and/or clinical experience of respected authorities	IV	Directly based on category IV evidence or extrapolated recommendation from category I, II, or III evidence, or extrapolated C level recommendation from original guidelines.	D

APPENDIX C

Workshop participants, consultants, and external reviewers

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