Interior Health

When Depression, Delirium, and Dementia Co-Exist
Clinical Practice Recommendations

Introduction to Clinical Issues:

Much of our knowledge about the "3-D's" – Delirium, Depression, and Dementia – is based on research that has traditionally focused on identifying, distinguishing, and managing these three common geriatric mental health conditions. The ability to distinguish[*] between these three conditions is critical when the medical history of a client presenting with cognitive changes is unknown to the health team. However, in situations where there is a known diagnosis of dementia, the clinical presentation of sudden cognitive losses or deterioration should not be dismissed as part of a dementing illness. Depression and delirium are two common conditions that can co-exist with dementia, and this module addresses the need for interdisciplinary clinicians to go beyond basic differentiation and developing a clinical understanding of the relationships that exist when depression or delirium are super-imposed on dementia.

First steps: Understanding the "3-D's"

Health professionals need to have a basic working knowledge of the similarities and differences* of the "3-D's" before going on to learn about how one can co-exist with another. There are several excellent resources available to assist health professionals with understanding the clinical presentation and differentiation of delirium, depression and dementia in the elderly. The reader is referred to the following practice resources to secure this knowledge before proceeding with this module.

- Cognitive Assessment and Differentiating the 3D's (Dementia, Depression and Delirium[1])
- Screening for delirium, dementia and depression in older adults[2]
- Caregiving strategies for older adults with delirium, dementia and depression[3]

The Clinical Significance of Depression in Dementia

Depression is one of the most frequent "non-cognitive" neuropsychiatric symptoms seen in dementia[4]. The prevalence rate for depression among persons with dementia is three to four times higher than that among the non-demented elderly, yet depression is one of the least recognized, under-diagnosed and under-treated health states among people with dementia. The frequency of depressive symptomatology in dementia is estimated to reach an astounding 50% of persons with Alzheimer Disease[5,6].

The relationship between depression and dementia is ambiguous and complicated. While neuropsychiatric symptom profiles differ among dementia syndromes, depression is highly associated with all types of dementia[7,8,9] (Alzheimer Disease, Vascular, mixed dementias, Lewy Body, Parkinson's and frontotemporal), and depressive symptoms can be identified throughout all stages of advancing disease regardless of etiology. Additionally, current research has associated both early and late onset depression as possible independent risk factors for Alzheimer Disease[10,,11,12]. The high prevalence of depression in MCI[13,14] and the prospective identification of depression a few years

[*] See Appendix F for some of the characteristics that can help distinguish between delirium, dementia and depression.

before formal diagnosis of a dementia[15] suggests the use of depression with cognitive impairment as a prodromal clinical indicator for dementia, highlighting the importance of follow-up assessments over time.
There are mixed and contentious research results as to whether or not the prevalence of depression in dementia declines as disease advances, or whether its presence is just not as easily identified in the later stages due to clients' impaired abilities to communicate[16]. Regardless, the person with early phase dementia is usually able to describe their personal response to the disease, including how the disease has affected their perceptions of self[17], and questions should be directed to them in a non-threatening way.

Depression in dementia is associated with excess disability[18],[19], increased use of medical services[20,21,22] (e.g., particularly inpatient medical stays vs. outpatient medical and psychiatric visits), increased health costs[23,24,] earlier institutionalization[25,26], and early death[27]. Depression significantly contributes to the suffering of the individual, their family and caregivers, who are themselves at risk for depression[28,29], particularly caregivers for individuals who demonstrate significant behavioural and neuropsychiatric symptoms.

The Clinical Significance of Delirium in Dementia

Delirium[†] is a very serious, life-threatening mental health condition that can arise from a wide variety of etiologies, and which frequently affects older adults. Delirium in the absence of dementia is generally a reversible syndrome. The relationship between delirium and dementia is more complex and convoluted. That is, individuals with pre-existing cognitive impairment are especially vulnerable to delirium, while delirium has also been associated as a risk factor to develop permanent cognitive impairment in vulnerable individuals who did not have any prior cognitive losses[30]. While the prevalence of delirium is highest in acute care settings, research has shown that surviving acute delirium has long-term clinical consequences and sequelae for the elderly that can persist up to 12-36 months after diagnosis[31,32] resulting in clinical repercussions for care across clinical settings[33,34,35].

In the person with pre-existing dementia, delirium presents as a very serious complication and has a poor prognosis. The prevalence of co-existing delirium ranges from 22% to 89% of hospitalized and community populations of individuals with dementia who are aged 65 and older[36]. For individuals with dementia, delirium is often undetected, undiagnosed and untreated[37,38] particularly in the early to middle stages of disease progression[39] . The consequences of delirium superimposed on dementia can lead to longer hospital stays[41,] worse functional outcomes[33,35], higher risk for both hospital readmission and facility placement[40,41,] and increased rates of cognitive decline and higher rates of mortality[36,42].

Co-existence of Dementia, Depression and Delirium

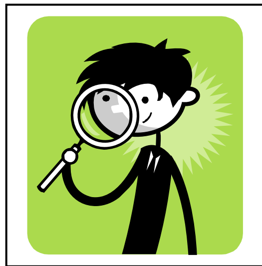
And finally, *both* depression and delirium can co-exist with dementia at the same time, contributing to an extremely complex, clinically challenging, and life threatening situation. Individuals with such a multiple presentation require specialized geriatric and psychiatric services to assess, diagnose and manage their care. In these situations, interdisciplinary providers have a significant role in monitoring and detecting subtle changes, making timely referrals, and providing supportive care for both the client and their family.

† The word delirium is derived from the Latin term meaning "off the track." This syndrome was first reported during Hippocrates' time!

The following Clinical Practice Recommendations were created as part of the IH Phased Dementia Pathway. These recommendations are evidence-informed or "best practice", and were created by the process described in the IH Dementia Care website[‡]. Clinical Practice Recommendations for the Early Dementia phase of the pathway highlight the need for interdisciplinary health professionals to recognize cognitive-related changes in the early stages, understand the clinical and ethical challenges related to early diagnosis and disclosure, and be able to meet the support needs of the client and caregiver throughout the uncertainty of this phase.

Levels of Evidence and Strength of Recommendations

The SORT research grading tool[§] emphasizes client-oriented outcomes – outcomes that matter to clients and help them live longer or better lives, including reduced morbidity, mortality or symptoms, improved quality of life and lower cost of health care services. Levels of evidence are ranked "**1, 2, 3"** based on the validity (quality) of the study design. Where existing relevant guidelines were found, they are cited as **"G"** in the level of evidence. Strengths of recommendations (**A, B, C**) are based on grading the quantity and consistency of the body of evidence. Ratings are listed following each recommendation or group of recommendations as needed.



Levels of Evidence and Strength of Recommendations Taxonomy

Levels of Evidence are ranked 1-3 based on the validity (quality) of the study design.
1 = Good quality client-oriented evidence
2 = Limited quality client-oriented evidence
3 = Other evidence

Evidence-based Recommendations are rated as follows:
A = consistent and good quality client-oriented evidence;
B = inconsistent or limited-quality client-oriented evidence;
C= evidence lacking, more research needed; based on expert consensus/usual practice

Qualitative Evidence

No comparable grading tool was found for qualitative research, however the well established criteria of *credibility, applicability (or fittingness), auditability and confirmability* are used. All four criteria must be met in order to be considered suitable evidence for practice recommendations. A designation of "Q" is given under level of evidence and source cited.

Support to Practice Needed! The following recommendations address the direct provision of care. Recommendations that address educational , organizational, (systems of care) and policy needs in relation to delirium can be found in the National Guidelines for Seniors' Mental Health: The Assessment and Treatment of Delirium (2006), which is highly recommended reading for managers, educators and health planners.

‡

§ Ebell MH, Siwek J, Weiss BD, Woolf SH, Susman J, Ewigman B, & Bowman M. Simplifying the language of evidence to improve patient care: Strength of Recommendation Taxonomy (SORT): A patient-centered approach to grading evidence in the medical literature. *The Journal of Family Practice* 2004;53(2):111-120, available in the public domain from http://www.aafp.org/afp/20040201/548.pdf

Clinical Practice Recommendations

The Dementia Clinical Practice Working Group advises the following clinical practice recommendations concerning **early recognition, screening, assessment, referral and support of persons with dementia who experience depression and/or delirium.**

Provision of Care:

Interdisciplinary professionals in all sectors are encouraged to use the following practice recommendations to guide assessment, problem-solving, decision-making and care-giving for clients diagnosed with early dementia, as well as their caregiver(s).	Level of Evidence (sources cited)	SOR**
I. Depression and Dementia		
1. Screening and Assessment of Depression in Dementia‡‡: Interdisciplinary health providers should maintain a high index of suspicion for depression in persons with dementia, and be familiar with the physical, psychological and social risk factors for depressive disorders in older adults. Risk factors that may contribute to depression and which should trigger screening for depression include but are not limited to: • recent diagnosis of dementia; • history of single or multiple cerebral vascular injury (strokes); • chronic disabling co-morbidities, especially if chronic pain is involved; • recent major physical illness (within 3 months); • recurrent or prolonged hospitalization; • bereaved individuals 3 to 6 months after the loss; • socially isolated individuals; • history of troubled familial relations, particularly when family member is caregiver.	Guidelines (2,43) Systemic Review[44]	A
Interdisciplinary health providers should screen persons with dementia for ***sudden onset*** changes (increased frequency, intensity, or persistence) in cognition, function, behaviour and/or mood based on ongoing observations of the client, concerns expressed by the client and/or caregivers, and or observations by other members of the interdisciplinary team. Some of these reported changes may include (but are not limited to):	Guidelines (2,43)	A

** Strength of Recommendation

†† Recommendations are adapted from the National Guidelines for Seniors' Mental Health: The Assessment and Treatment of Depression. The screening, assessment and referral guidelines are presented in this module. Reading of the full guidelines is highly recommended for those health professionals (social workers, mental health clinicians, etc.) who provide treatment, management and other intervention services for persons with depression. Copies of the guidelines are free.

‡‡ As identified in the National Guidelines for Seniors Mental Health: The Assessment and Treatment of Dementia, under Section 8.2, Special Populations: Dementia, p.44.

• sudden increase in confusion relative to recent cognitive abilities ("more confused than usual"); • recent onset or escalation of anxiety or agitation; • recent onset or escalation of delusions or hallucinations • recent social withdrawal; • significant or escalating somatic complaints, including pain; • persistent sleep difficulties; • refusal to eat or neglect of personal care;		

Interdisciplinary health providers should have the knowledge and skills in applying age-appropriate screening and assessment tools for depression in older adults.
• In the early stages of dementia while there is still evidence of deficit awareness, a *self-rated* instrument such as the Geriatric Depression Scale is recommended;
• As dementia progresses and deficit awareness is minimal or non-existent, an *observer–rated* instrument such as the Cornell Scale for Depression in Dementia is recommended instead of the GDS.
• Assessment of depressive symptomatology can also be captured through the use of SIGECAPS mnemonic, which is considered appropriate for early stage dementia assessment‡‡. :
  o S – sleep disturbance (insomnia, hypersomnia)
  o I – interest reduced (reduced pleasure or enjoyment)
  o G – guilt and self-blame
  o E – energy loss and fatigue;
  o C – concentration problems
  o A – appetite changes (low appetite/weightloss or increased appetite/weight gain)
  o P – psychomotor changes (retardation, agitation)
  o S – suicidal thoughts
	Guidelines [2,43]
	
	2[45]
		A

Following a positive screen for depression, interdisciplinary health providers should complete their client assessment, which should include: • identifying the type of dementia diagnosed, and timeline since diagnosis; • mental status exam and compare with last recent exam results, noting timeline for change, if any; • recent past and current level of functioning and/or disability, and the timeline for change, if any; • any personal or family past history of mood disorder; • review of medication (e.g., many drugs cause depression, consult a pharmacist) and substance use; • review of current stresses and life situation; • review of family situation, social support network and personal strengths	Guidelines [2,43,46]	C

• review of past coping styles and strategies; • risk assessment for suicide *(see details below)* Following assessment of the client, interdisciplinary health providers should refer the client for a medical diagnosis to the family physician, specialized geriatric services, specialized geriatric psychiatry services, or other members of the interdisciplinary team as indicated by the screening and assessment findings. Persons with dementia and co-existing depression are heavy and repeat users of in-patient services. In hospital settings, it is recommended that high risk elderly be routinely screened for depression upon intake or as soon as the acute condition has stablilized; In the transition of alternate housing options (e.g., supportive housing, assisted living placements, nursing homes, etc) assessment protocols should specify that screening for depressive and behavioural symptoms should occur both in the early post-admission phase and subsequently at regular intervals, as well as in response to significant change.	Guidelines [2,43] Guidelines [43] 2[20,21,22,24,26,47] Guidelines [43] 1[48]; 2[49]	A A B
2. Treatment Options for Depression in Dementia: a) Non-Pharmacological Treatment: • Clients with dementia who have mild depressive symptoms or symptoms of short duration should be treated with psychosocial supportive interventions first. • Psychosocial treatment should be part of the treatment of depression co-existing with dementia. This treatment should be flexible to account for the decline in functioning as well as multi-faceted to provide help with the diversity of problems facing the client and caregiver. It should be delivered by clinicians sensitized to the vulnerabilities and frailties of older adults with dementia. This treatment should include helping caregivers deal with the disease in a skill-oriented manner[§§]. b) Pharmacological Treatment • Pharmacological treatment is recommended for clients with dementia who have a co-existing major depression. • Pharmacological treatment for depression with dementia should be chosen for low anticholinergic properties (e.g., to reduce the chance of falls, etc). Appropriate antidepressants include citalopram, excitalopram, sertraline, moclobemide, venlafaxine, or bupropion. • For clients with dementia who have a psychotic depression, a combination of antidepressant and antipsychotic medication is usually the first choice of treatment. ECT may be used if medications are ineffective or if a rapid response is required to maintain safety.	Guidelines[43] 1[50], 3[51], Systemic Review[52,53] 1[54,55, 56,57] Guidelines	 B B B

[§§]See related IH module "*After the Diagnosis: Supporting Clients and Caregivers at Home*" for more information on caregiver skill-building interventions

3. Screening and Assessment of Suicide Risk and Death Ideation[***]	Level of Evidence (sources cited)	SOR[†††]
Introduction: Depression is the strongest risk factor for late-life suicide. The risk for suicide or expressed "wish to die" among depressed persons with dementia was estimated in one study to be 4% of dementia patients attending a memory disorders clinics with co-morbid depressive symptoms. Suicidal and death ideation has been documented for persons with Alzheimers, multi-infarct dementia, and sub-cortical vascular dementias. Significant risk factors for individuals with dementia who may be at *higher risk for suicide* includes, but is not limited to: • dysthymic symptoms that do not meet the criteria for major depression and which post-date the onset of cognitive decline, • and conversely, evidence of major depressive disorder; • early stage of disease progression; (this is also a period of potential retained ability to carry out intent); • preserved insight, especially concerning the prospect of living with dementia (although this feature is contentious in the literature); • past history of suicidal behaviour and ideation; • history or present use of alcohol or other substances; • social isolation, withdrawal or disengagement, including family discord; • recent and multiple experiences of social, physical, functional and financial losses, negative events or transitions (e.g., housing, driving, functional independence, etc); • absence of suicidal ideation and denial of suicidal symptoms *in the presence of other suicidal risk factors*[‡‡‡]	2[58] 2[(58,59)] Guidelines[60] 2[61] 2[62] 2[63]	

[***] The term "death ideation" refers to any self-reported recurrent thoughts of dying or of wishing for one's death. It may include passive wishes for death and does not include the explicit wish to end one's own life or thinking of someone else's death.
[†††] Strength of Recommendation
[‡‡‡] Research evidence shows that older adults may avoid volunteering depressive and suicidal symptoms to health professionals, but are more likely to discuss their wish to die or thought regarding suicide with family or friends. This emphasizes the need to include collateral sources of information during assessment.

Recommendations[§§§]: It is recommended that Interdisciplinary health providers should:	Guidelines	
1. assess the presence of suicide risk factors in persons with dementia and co-existing depression, and be vigilant of risk even in the absence of reported suicidality.		B
2. assess for suicide risk in a sensitive and respectful fashion, in the context of good rapport, and communicate an empathetic acceptance of the patient in order to validate an older client's feelings and encourage the honest reporting of suicidal symptoms.		B
3. acknowledge client experiences in order to encourage the accurate expression of their thoughts and feelings during assessment.		C
4. in those with identified risk factors, assess for death ideation and suicide ideation;		B
5. in those in whom these ideation(s) are present, assess for suicidal intent, presence of a suicide plan, and current or past suicidal behaviours.		A
6. consult collateral sources of client information such as other providers, family members and/or significant others for a more complete appraisal of suicide risk.		C
7. immediately refer individuals who are identified at high risk for suicide to a specialized mental health professional and/or service as a priority for further assessment, treatment, and suicide prevention strategies. Suicide intervention should only be conducted by trained mental health professionals.		A
8. reassess suicidal risk periodically throughout treatment intervention. Evidence shows that the resolution of thoughts about death is more gradual than suicidal ideation. Suicidal elderly persons with depression require special attention during depression treatment because they have a lower response rate and need a longer time to respond.	2[64]	B

[§§§] Adapted from the National Guidelines for Seniors' Mental Health: The Assessment of Suicide Risk and Prevention of Suicide (2006). The Screening, assessment and referral guidelines are presented in this module. Reading of the full guidelines is highly recommended for those health professionals (social workers, mental health clinicians, etc.) who provide treatment, risk management and intervention services for persons with self-harm behaviours. Copies of the guidelines are free.

II. Delirium and Dementia		
1. Prevention of Delirium in Dementia: Prevention of delirium is a more successful management approach than treatment. It is recommended that interdisciplinary health providers in all clinical settings should:	Guidelines[73] Systemic Review[36,74]	
• be knowledgeable of the general risk factors for delirium *(see Appendix A)*;		A
• understand that individuals with pre-existing dementia are especially vulnerable and at 2-3 times increased risk for delirium due to psychiatric co-morbidity, as compared to someone of similar age without dementia. Underlying dementia is observed in 25-50% of patients with delirium.		A
• routinely assess and identify an individual's specific risk factors for delirium;		B
• understand that the greater the number of risk factors, the greater the risk for delirium. Generally intermediate risk is considered when one or two risk factors are present, and high risk is having three or more risk factors.		B
• specifically target prevention efforts[****] to the individual's potentially modifiable risk factors, especially those who have an intermediate to high risk for developing delirium. Some of the modifiable risk factors may include, but are not limited to: *(see Appendices B & C)* o sleep deprivation; o immobility, including the use of physical restraints; o visual or hearing impairments; o dehydration; o severe pain; o poly pharmacy or inappropriate medication use (e.g., inconsistent prn vs routine analgesia); o postural hypoxemia		B
2. Detection of Delirium in Dementia: Interdisciplinary health providers should use the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition[65] (DSM-IV) criteria for delirium as the standard for recognizing the presence of a delirium. Delirium as defined by the DSM-IV criteria[††††] include the following key features:	Guidelines[(2,73)]	A

[****] See Appendix B for a suggested list of preventative intervention recommendations. For full details on prevention recommendations, see the National Guidelines for Seniors' Mental Health: The Assessment and Treatment of Delirium (2006).

[††††] The DSM-IV criteria state that the condition should not be better explained by pre-existing dementia, whereas the DSM-IV criteria for dementia states that prior delirium should be excluded. Therein lies the clinical challenge: it is critical for health professionals to ***accurately determine the pre-existing (baseline) cognitive status*** and integrate this knowledge with the nature, timing, and severity of the acute change.

[‡‡‡‡] Recommendations are adapted from the National Guidelines for Seniors' Mental Health: The Assessment and Treatment of Delirium (2006). An abbreviated overview to the prevention, detection, screening, assessment and management guidelines are presented in this module. Reading of the full guidelines is highly recommended. Copies of the guidelines are free.

[§§§§] pers.comm. Sandy daSilva, July 5th, 2006. Vernon Health Centre.

• A disturbance of consciousness (e.g., reduced awareness of surroundings) with reduced ability to focus, sustain, or shift attention; • A change in cognition (e.g., memory deficit, disorientation, language disturbances) or the development of a perceptual disturbance that is not better accounted for by a pre-existing established or evolving dementia; • The disturbance develops over a short period of time (usually hours to days) and tends to fluctuate during the course of the day.		
A "developing delirium" occurs when only one or two of the symptoms of a delirium are present but there is no progression toward meeting the full DSM-IV criteria. Such a "partial state" is termed "Sub-syndromal delirium" (SSD) and is hallmarked with subtle symptoms of change such as: • reduced ability to think or concentrate; • drowsiness; • irritability; • restlessness; • anxiety; • hypersensitivity to stimuli[66].	Guidelines 1	B
These very subtle changes require health professionals to carefully assess and compare *prior* (e.g., the last 3 to 6 months) and *current* mental, cognitive and behavioural status, and to *routinely* use reliable, collateral sources of information (health records, main caregiver, close family members, other health staff, e.g., home support worker) to verify history, observations and other data.	Guidelines[(2,73)] System Review[36,74]	A
Delirium can present in 3 sub-types: hyperactive-hyperalert, hypoactive-hypoalert or a mixed manner. • *Hyperactive-hyperalert* subtypes are restless, agitated, aggressive and suffer overt delusions or hallucinations. • The *hypoactive-hypoalert* subtype presents with lethary, drowsiness, sluggishness, apathy, may also experience delusions or hallucinations, but are generally very quiet and confused.	Guidelines[73] 2[75]	B
• For persons with dementia, there is limited evidence that the hypoactive-hypoalert variety has a worse prognosis, possibly because it is more often unrecognized (quietness is not a perceived "problem"), misunderstood as part of the dementing illness, or attributed to depression.	System Review	B

[*****] Not finding a specific cause does not indicate that a delirium is not present – many cases have no definite found cause.

Non-recognition or delayed recognition of delirium is associated with worse functional outcomes and a higher mortality rate for elderly clients. It is recommended that interdisciplinary health providers working with older persons should be aware of the following information:	1[30,31,32,33,34,35] 3[76]	
• the symptoms of delirium may be superficially similar to those of dementia and that the two conditions frequently co-exist. Clinicians should be aware of the features that can help differentiate delirium from dementia and depression. *(See Appendix F);*	Guidelines[2,73] Systemic Review[36]	A
• the presentation of delirium with co-existing dementia is very similar to the presentation of delirium without dementia, however, the severity of delirium symptoms is influenced by the severity of underlying (prior) cognitive impairments (e.g., delirium in a person with advanced dementia looks more severe than delirium in a person with early stage dementia); • while an abrupt onset of delirium is typical, an insidious onset can occur; • an intact functional status does not rule out delirium;	2[77,78,79]	B
• The fluctuating course of delirium can include periods of lucidity in which the person's mental/cognitive status appears unremarkable. Therefore, it is recommended that repeated screening and regular re-assessment to evaluate for changes is required.	Guidelines[2,73]	A
3. <u>Screening and Assessment of Delirium in Dementia‡‡‡‡:</u> Interdisciplinary health providers should maintain a high index of suspicion for delirium in persons with dementia, and be familiar with the socio-demographic, mental, physical, and environmental risk factors for delirium in older adults. Conditions or situations that may trigger screening for delirium in persons with dementia include, but are not limited to: • hospitalization for any reason (on admission and on-going); • reports or observations of abrupt changes in cognition, functional abilities and/or behaviour of an older person that presents or transitions to an ambulatory clinic, primary care, adult day centre, or long term care setting; • exacerbations of any other medical co-morbidities requiring medical attention; • any evidence suggestive of infection (infections are one of the most frequent precipitants of delirium).	Guidelines[2,73]	A
In response to observations or reports of changes in mental status/alertness from members of the clinical team, the older person or members of their family, interdisciplinary health providers caring for the older person should initiate an assessment searching for evidence of delirium.	Guidelines[2,73] System Review[36,74]	B
A comprehensive assessment of the individual at risk for delirium will include historical information *(see Appendix D)*, client screening, and clinical observations. Many older persons with a delirium will be unable to provide an accurate history. Wherever possible, corroboration should be sought from health records, medical/nursing staff, family, friends and other sources who know the client well.	Guidelines[2,73]	C

The use of a standardized screening instrument with demonstrated reliability, validity, and consistency with the DSM-IV criteria for delirium is recommended. The use of a screening tool should be targeted for individuals identified as at intermediate and high risk for developing delirium. • The tool must be appropriate to the intended population and the clinical setting in which it is used. One such tool that meets these criteria, and is appropriate for general use with older individuals with a co-existing dementia is the Confusion Assessment Method (CAM)[67]. • Interdisciplinary staff who choose to use such a tool must ensure they are knowledgeable and aware of its limitations (e.g., the CAM does not identify the causes of delirium), how to apply the tool in the clinical setting, understand that results of screening tools are not necessarily indicative of diagnostic outcome, and integrate the results of the screening tool within the context of a comprehensive assessment and clinical judgement. *(CAM Training Manual and Coding Guide)*[68] • The CAM-ICU is a modified version for use with non-verbal, cognitively impaired elderly clients in critical care settings. See the training manual for The Confusion Assessment Method – ICU[69,70] • The CAM has been validated for screening elderly cognitively impaired clients in the Emergency Room[71]. Within Interior Health, a staff training manual that integrates the Canadian Emergency Department Triage and Acuity Scale with Mental Health and Addictions has been created[§§§§]. Emergency providers are encouraged to review the delirium section of this important document. • The CAM has also been validated for telephone use[72], which may be useful for post-discharge follow-up, or when face-to-face assessment is not possible. • For a quick clinical reference guide to the use of CAM for individuals with co-existing dementia, see the John A. Hartford Institute for Geriatric Nursing document.	Guidelines[(2,73)] Other[(67,68,69,70,71,72)]	A
Any suspicion or evidence of delirium should be immediately referred to the attending physician for further evaluation of possible causes[*****] of delirium. As delirium that co-exists with dementia are complex client situations, physicians may make referrals to a geriatrician, geriatric psychiatrist or other mental health specialist as required.	Guidelines[(2,73)]	C
Successful and effective prevention and detection interventions require timely and complete documentation and communication of findings between relevant members of the clinical team.	Guidelines[(2,73)] 2[80]	B
4. Management Strategies of Delirium in Dementia: Interdisciplinary health providers can assist the management of delirium for persons with dementia by: 1. Assisting in the treatment of reversible causes: • Treatment of all potentially correctable contributing causes of delirium should be done in a timely,	 Guidelines[(3,73)]	 B

[†††††] See Dawson, Wells & Kline for an excellent resource that promotes an abilities-enhancing approach to dementia care.

effective manner (e.g., treating micronutrient deficiencies such as thiamine, associated with a history of alcoholism or malnutrition); • Environmental factors that might contribute to or compound the delirium should be identified, reduced and preferably eliminated. See Appendix C for a list of modifiable environmental factors that could potentially contribute to the occurrence and/or severity of delirium.		
2. Providing On-going Monitoring: • Close observation of the delirious older person should be provided to provide protection, and to ensure the collection of accurate information to guide care; • Close monitoring requires serial and cognitive and functional measurements that include the following (but is not limited to) indicators: o vital signs, including temperature; o oxygenation; o fluid intake/hydration; o electrolytes and glucose levels; o nutrition and elimination patterns; o fatigue and sleep-wake patterns; o activity and mobility patterns; o discomfort o behavioural symptoms, including agitation (see section on sub-types above); o the potential to harm self or others, including the availability and lethality of means for harm; . • The environment of the delirious older person with dementia should be especially monitored for safety risks; • When the care of a person with dementia and delirium is transferred to another practitioner, service or site, the receiving practitioner, service and site must be fully informed of the presence of delirium, its current status, and how it is being treated. • Because of the long-term consequences of delirium, especially for individuals with dementia, careful, routine and long-term follow-up is required. (e.g., 3-months, 6-months, 1 year, etc after delirium is diagnosed and until full resolution is evident).	Guidelines[3,73]	B
3. Providing therapeutic measures and supportive care: • Biochemical abnormalities should be promptly corrected. In consultation with medical advice, strive to establish and maintain: o cardiovascular stability; o a normal temperature;	Guidelines[3,73]	B

o adequate oxygenation; o normal fluid and electrolyte balance; o normal glucose levels; o adequate intake of nutrients.		
• Strive to maintain a normal elimination pattern: o Aim for regular voiding during the day and a bowel movement at least every two days; o Urinary retention and fecal impaction should be actively monitored and dealt with if discovered; o Continuous catheterization should be avoided if possible. Intermittent catheterization is preferable for the management of urinary retention.	Guidelines(3,73)	C
• Strive to maintain and improve the individual's self-care abilities††††† (where appropriate): o assess the individual's ability to initiate task, follow-through and complete a task appropriately (e.g., brush teeth, dress, eat); assist with any stage of task as needed, but do not take over unless unable to complete any of it. This is the basis of respectful sub-tasking and preserving function and dignity; o avoid excess disability by "doing with" rather than "doing for" – effective sub-tasking preserves client abilities, competencies and self-esteem, and encourages independence to the level that they can achieve; *(see communication notes on 1- step directions below)* o monitor mobility and activity patterns, inactivity is highly associated with dysfunction; o allow free movement within safe parameters; o intensive rehabilitation efforts that require sustained attention or learning may not be possible or appropriate for the person with pre-existing cognitive impairment or dementia, and should be avoided.	Guidelines(3,73)	C
• Strive to maintain client safety at all times: o take appropriate measures to prevent older persons with dementia and delirium from harming themselves or others (e.g., unaccompanied wandering, stairs, over-stimulating environments that produce agitation, etc.); o The least restrictive measures that are effective should be employed, (e.g., gated or locked unit that permits wandering vs physical restraints). o Attempt to create an environment that is as hazard-free as possible. Remove potentially harmful objects and unfamiliar equipment/devices as soon as possible; o Although it is often necessary to increase supervision during delirium, it is preferable if security personnel do not provide this unless it is absolutely necessary for safety reasons.	Guidelines(3,73)	B

Given the older delirious and demented person's losses in reasoning, the presence of security personnel may entrench delusional thinking and agitation. If family cannot stay with the older person and staff cannot provide the required degree of surveillance, consider the use of a private-duty nurse, personal care attendant or some type of client companion.		
o Avoid the use of physical restraints wherever possible. Physical restraints for older persons suffering from delirium should be applied only in exceptions circumstances, such as: • There is a serious risk of bodily harm to self or others, OR, • Other means for controlling behaviours leading to harm have been explored, including the use of pharmacological treatment, but were ineffective, AND; • the potential benefits outweigh the potential risks of restraints.	1 [81]	B
o The use of physical restraints to control wandering behaviour or to prevent falls is not justified;		B
o The least restrictive physical restraint that is appropriate for the situation should be attempted first;		C
o Frequent monitoring, re-evaluation and documentation are necessary to justify the continued use of physical restraints. Restraints should be applied for the least amount of time possible. Restraints should be discontinued when the harmful behaviour(s) is controlled, when there is a less restrictive alternative which becomes viable (e.g., a sitter for constant supervision), or when there are physical complications arising from the continued use of restraints.		B
• Strive to communicate empathically with the client who has both dementia and delirium: o keep instructions clear, short, simple, and slow-paced; o use one-step directions if needed. Two-step and (most commonly used) three-step directions may be more than the client can process (commonly will do the first or last and get "stuck") o repeat instructions as needed; o address all communication directly, face-to-face, maintain eye-contact; o keep mannerisms easy and relaxed, persons with dementia are very sensitive to body language; o convey an attitude of warmth, calmness and kind firmness; acknowledge the individual's emotions and encourage verbal expression; o avoid abstract language/ideas and idioms; o do not correct the person or engage in discussions that insist on the client recognizing "truth"; o discuss topics that are familiar or of interest, particularly if they do not require short-term memory for recall; Use knowledge of the person as an individual to connect meaningfully with them and to build trust and recognition. o be sensitive to existing verbal abilities. Word-searching or substitution, sentence	Guidelines[3,73]	C

fragmentation, and reverting to first languages are common language losses in dementia. o evaluate the need for language interpreters and ensure their availability if required; o routinely provide orienting information in the context of care. For example, frequently use the persons name and convey identifying information about yourself. ("My name is…. I'm your …"). Provide this even when retention is not evident, on every interaction, not just the start of a shift;. o When providing care, routinely explain what you are about to do. This may reduce the likelihood of misinterpretation. You may need to reinforce or repeat this information throughout the procedure. o Keep your hands in sight whenever possible and avoid gestures or rapid movements that might be misinterpreted as aggressive. Try to avoid touching the older person in an attempt to redirect him or her if there are signs of irritation or aggression or fear. o Where possible, strive to provide consistent caregivers to build trust and recognition.		
• Strive to effectively manage behavioural challenges: o Strategies for managing the behaviour of delirious individuals with dementia should be derived from an understanding of the neurocognitive/neurobehavioural features of both delirium *and* dementia (e.g., understand what type of dementia is involved – frontotemporal? Lewy Body?); o Do not automatically assume behavioural challenges are related to dementia (e.g., sundowning), as they may be significant flags for either delirium or depression. o Strategies for effectively managing behaviour should be derived from behavioural management principles, for example: • understand that all behaviour has meaning and changes in behaviour are "red flags" that require professional assessment and attention; • it is critical that the health provider not take client behaviour (particularly aggression) personally; understand that behavioural challenges are a neuropsychiatric symptom that may result from delirium, or the underlying dementia; it is the disorder, not the person that is acting out • assess past behavioural challenges, determining nature, frequency, known triggers and outcomes (antecedents and consequences of behaviour); • identify elements of past success in behavioural management for the individual (e.g., environment, approach, avoidance of particular triggers), and attempt to duplicate this; • attempt to manage behaviour through non-pharmacological intervention as much as possible; • where needed, use a behavioural assessment chart for a short period of time to note	Guidelines[3,73] System Review[36,74]	C

behavioural patterns. Behavioural charts are useful management strategies when: ➢ they describe a singular behaviour precisely (e.g., don't describe greater than one behaviour in one chart); ➢ charting reflects the antecedents and consequences of behaviour. ➢ all team members consistently document observations; ➢ charts should be discontinued within 24-36 hours when patterns emerge; (Charts that limp along for days and weeks with spotty and inconsistent documentation are useless); ➢ the behavioural information is assessed and used to formulate a plan of care; ➢ care plans are evaluated for effectiveness, by reinstituting the behavourial chart for a brief period of time; • Successful behavioural management does not always mean the elimination of challenging behaviours. Success is also measured by a decrease in the frequency, intensity, duration and outcomes of the behaviour (e.g., less traumatic for the individual, regains control quicker, no harm to self or others). o Avoid confrontations with the delusional individual, even when they say inaccurate or inappropriate things. Disagreements with the individual can lead to increased agitation and is not likely to be effective in altering perceptions or behaviour. *(see communication strategies above)* o Reminding the older person of their behaviour during episodes of delirium is not generally recommended. Many older people with delirium retain memories of the fear they experienced during a time of delirium. Others become embarrassed of their behaviour during delirium. Do not assume that the person with dementia does not have insight or recall into their own behaviour. It will depend on the type or stage of dementia. o Provide emotional support and recognition to the family. Public behavioural challenges are often perceived as very embarrassing or frightening by family members, and reassurance and acceptance is required. Help them to see that the behaviours are part of the delirium or dementia, and not personal in nature. o Involve the family as a care partner as much as they are able to contribute. They can help reorient, calm, assist, protect and support the individual. As well, they can help facilitate effective communication and advocate for the client. To fulfill their role in an effective manner, family members require basic education about delirium, its management, and the relationship between delirium and the underlying dementia. o In complex cases, referral to geriatric psychiatry, neuropsychology, or psychiatry for behavioural management strategies is recommended.		C

• Strive to effectively manage the environment for the person with dementia and delirium: o Avoid both sensory deprivation (e.g., windowless room) and sensory overload (e.g., too much noise and activity). The older person's room should be quiet with adequate lighting. Over stimulation is a common antecedent of agitation. o Glasses and hearing aids used by the individual should be available and worn by them. o Implement unit-wide noise-reduction strategies at night (e.g., silent pill crushers, vibrating beepers, quiet hallways) in an effort to enhance sleep; o Check if the individual wants a radio or television for familiar background stimulation and arrange for it if requested and possible. Honour the music of *their* choice. If these devices are distracting, disorienting, and/or disturbing to the individual or others in the room, they should be removed. o Ensure the presence of orientation aids in the room (watch, clock, calendar, activity schedule), and provide frequent verbal reminders of the time, day, place and upcoming events. o Attempt to keep the individual in the same surroundings. Avoid unnecessary room changes; o Obtain familiar possessions from home, particularly family pictures, sleepwear, and objects from the bedside to help orient and calm the individual; o It is generally not recommended to put older persons with delirium, especially hyperactive-hyperalert in the same room. Agitation tends to be reinforced by the presence of agitation in others. The exceptions to this would be if delirious persons are congregated in order to provide enhanced care.	Guidelines[3,73]	C
• Strive to adequately manage the person's pain: o Pain management in delirium is a challenge, as both pain and some of the medications used to treat pain (e.g., meperidine) can also cause delirium; o Choose the safest available intervention to control pain; Try non-pharmacological approaches for pain management where appropriate; o Local or regional drug therapies (e.g., local blocks) for pain that have minimal systemic effects should be considered; o For persistent severe pain, analgesics should be given on a scheduled basis , rather than administered as needed ("PRN"); o Non-narcotic analgesics should be used first for pain of mild severity, and should usually be given as adjunctive therapy to those receiving opioids in an effort to minimize the total dose of opioid analgesia required; o If opioids are used, the minimum effective dose should be used, and for the shortest appropriate time. Opioid rotation (or switch) and/or change in the opioid administration route	Guidelines[3,73]	B

may also be useful. o Avoid meperidine as it is associated with increased risk of delirium; o Health providers should always be alert to the possibility of narcotic induced confusion.		
• Strive to provide safe medication management: When medications precipitate or aggravate a delirium: o A regular medication review with physician and pharmacist should attempt to simplify medication regimen by eliminating what is not needed; o High risk mediations contributing to delirium should be eliminated; *(see Appendix E)* whenever possible; o Psychoactive medications that were recently initiated or with a dosage change are particularly suspect as inciting delirium; o When a high risk medication cannot be withdrawn, the lowest possible dose of the suspected medication(s) should be used or substitiuion with a similar, but lower risk medication should be considered; o Monitor for potential drug-disease interactions and drug-drug interactions; o Avoid the routine use of sedatives for sleep problems. Try to manage insomnia in a non-pharmacological approach and by modifying the environment to promote sleep; o Ensure that medication schedules do not interrupt sleep; o Diphenhydramine should be used with caution in older persons, and its routine use as a sleep aid should be avoided; o Use of anticholinergic medications should be kept to a minimum; o Restarting a formally consumed sedative, hypnotic, or anxiolytic should be considered for a delirium that developed during, or shortly after, a withdrawal syndrome.	Guidelines[3,73]	B
General Principles of Medication Management for the individual with dementia and delirium: o Psychotropic medications should be reserved for individuals with delirium that are in distress due to agitation or psychotic symptoms, in order to carry out essential investigations or treatment and to prevent the individual from endangering him or herself or others; o In the absence of psychotic symptoms that cause distress to the client, treatment of hypoactive delirium with psychotropic medications is not recommended at this time. Further study is needed. o The use of psychotropic medications for the specific purpose of controlling wandering in delirium is not recommended, as it increases the risk of falls. o When using psychotropic medications, physicians are encouraged to aim for monotherapy, the lowest effective dose and tapering as soon as possible (e.g., when stable). o Antipsychotics are the treatment of choice to manage the symptoms of delirium, and	Guidelines[3,73]	B

haloperidol is suggested as the antipsychotic of choice based on the best available evidence to date. However, for individuals with delirium who also have Parkinson's disease dementia, or a Lewy Body Dementia, atypical antipsychotics are preferred over typical antipsychotics. o No trials exist investigating whether antipsychotics should be given on a "PRN" basis or a scheduled basis. IF "PRN" medications are regularly required to control symptoms, it is suggested that they should be given on a scheduled basis; o If nocturnal agitation and insomnia accompany the delirium, dosing could be scheduled more toward night time. o The titration, dosage and tapering of the medication should be guided by close monitoring of the individual for evidence of efficacy of treatment and the development of adverse effects. Routine medications reviews can assist in avoiding giving mediations indefinitely.		

Appendix A: **Risk Factors for Delirium in Hospitalized Older Persons**

Reported Risk Factors for Delirium in Hospitalized Older Persons	
Socio-demographic • Advanced age • Male sex • Residence in an institution • Little contact with relatives	**Physical Status** • Fever • Hypotension • Vision and/or hearing impairment • Pre-existing functional impairments/ disability • Limited pre-morbid activity levels
Mental Status • Cognitive impairment (especially dementia) • Depression	**Laboratory Findings** • High urea/creatinine ratio • Sodium and/or potassium abnormalities • Hypoxia
Medical Illness and Medications • Severe medical illness • Medication use (e.g., narcotics, psychotropics) • Fracture on admission	**Surgery and Anaesthesia** • Noncardiac thoracic surgery • Aortic aneurysm repair • Unplanned (i.e., emergency) surgery • Immobility after surgery
Other • Alcohol abuse • Urgent admission to hospital • Frequent admissions over the previous two years	

Source: The Canadian Coalition for Senior's Mental Health (2006) National Guidelines for Senior's Mental Health – The Assessment and Treatment of Delirium. p. 26.

Appendix B: **Potential Interventions for Prevention of Delirium:**

- Discontinuation of inappropriate/unnecessary medications;
- Early detection and management of post-operative complications, including pain and hypoxia;
- Early mobilization;
- Early recognition of dehydration coupled with efforts to maintain hydration;
- Ensuring adequate nutritional intake;
- Minimizing the use of restraints;
- Regulating bowel/bladder function; avoiding indwelling catheters;
- Reorientation and/or cognitively stimulating activities[‡‡‡‡‡] as needed;
- Managing the environment to avoid excessive or inappropriate stimulation;
- Use of sensory aids (e.g., glasses, hearing aids);
- Promoting normal sleep patterns;
- Taking a standardized approach to pain control;
- Providing supplemental oxygen for hypoxia
- Timely consultations for geriatric, medical and/or mental health expertise;
- Health professional education on delirium and its prevention.

Source: Adapted from The Canadian Coalition for Senior's Mental Health (2006) National Guidelines for Senior's Mental Health – The Assessment and Treatment of Delirium. p. 27.

Appendix C: **Modifiable Environmental Factors Potentially Contributing to the Occurrence and/or Severity of Delirium**

- Sensory deprivation (e.g., windowless room, single room;
- Sensory overload (e.g., too much noise and activities);
- Isolation from family, friends and familiar objects;
- Frequent room changes;
- Absence of orienting devices (e.g., watch, clock, calendar;
- Absence of visual or hearing aids;
- Use of physical restraints

Source: The Canadian Coalition for Senior's Mental Health (2006) National Guidelines for Senior's Mental Health – The Assessment and Treatment of Delirium. p. 33.

[‡‡‡‡‡] The Hartford Institute for Geriatric Nursing. (2004). Try This: Therapeurtic Activity Kits. available for clinical use at: http://www.hartfordign.org/publications/trythis/theraAct.pdf

Appendix D: **Historical Information Required during an Initial Assessment of a Potentially Delirious Person with Dementia.**

- Known history of dementia or cognitive impairment (type, when diagnosed, last known evaluation of cognitive status, include last MMSE or MoCA results, etc. if any, recent caregiving events or challenges)
- Known medical conditions (acute and chronic);
- Full drug history, including non-prescription medications;
- Thorough history of current patterns of alcohol and other substance use;
- Functional abilities (ADL and IADL)
- Onset and course of presenting symptoms of delirium;
- Other current psychiatric disorders and symptoms;
- Psychosocial history;
- Presence of any symptoms suggestive of underlying cause/precipitating factors (e.g., infection, dehydration);
- Sensory deficits and presence/use/appropriateness of any sensory aids (e.g., hearing aids, glasses);
- Elimination patterns;
- Sleep patterns/24 hours functioning;
- Nutritional and hydration status;

**Historical interview and record search should be accompanied with a physical examination of the client, including:

- neurological examining including level of consciousness and attention (see Screen recommendations);
- hydration and neurological status;
- evidence of potential sepsis (e.g., fever, redness, swelling) and potential sources of sepsis (e.g., catheters, pneumonia, etc.) Elderly persons do not always develop overt symptoms of infection, and can present in a muted manner;
- evidence of alcohol abuse and/or withdrawal

Source: Adapted from The Canadian Coalition for Senior's Mental Health (2006) National Guidelines for Senior's Mental Health – The Assessment and Treatment of Delirium. p. 33.

Appendix E:
High Risk Medications Contributing to Delirium:

Sedative-hypnotics	➢ Benzodiazepines ➢ Barbituates ➢ Antihistamines (e.g., diphenhydramine)
Narcotics	➢ Meperidine appears to be particularly likely to precipitate delirium
Drugs with anticholinergic effects	➢ Oyybutynin ➢ Tolteridine ➢ Antinauseants (antihistamines, antipsychotics) ➢ Promotility agents ➢ Tricyclic antidepressants (especially tertiary amine tricyclic agents such as amitriptyline, imipramine and doxepin) ➢ Antipsychotics (e.g., low potency neuroleptics such as chlorpra-mazine) ➢ Cumulative effect of multiple medications with anticholinergic effects
Histamine-2 Blocking agents	➢ Cimetidine
Anticonvulsants	➢ Mysoline ➢ Phenobarbitone ➢ Phenytoin
Antiparkinsonian medications	➢ Dopamine agonists ➢ Levodopa-carbidopa ➢ Amantadine ➢ Anticholinergics ➢ Benztropine

Source: Adapted from The Canadian Coalition for Senior's Mental Health (2006) National Guidelines for Senior's Mental Health – The Assessment and Treatment of Delirium. p. 39.

Appendix F: **Differentiating Delirium, Dementia and Depression**

	Delirium	Dementia	Depression
Onset	Acute	Insidious	Variable
Duration	Hours to months, dependant on speed of diagnosis	Years (8-20)	Variable
Course	Fluctuating	Slowly progressive	Diurnal variation (worse in am improves through the day)
Thinking	Fluctuates between rational to disorganized, impaired, distorted thinking and incoherent speech	Gradual loss of cognition and ability to problem solve and function independently	Unimpaired
Memory	Inattentive, poor recent memory	Poor recent and remote memory without marked inattention	Difficulty concentrating, memory intact or minimally impaired
Sleep-wake Cycle	Disturbed (day/night reversal)	Normal to fragmented	Variable
Hallucinations & Delusions	Often of a frightening or paranoid nature	Can be present. May misperceived	Usually not present
Diagnosis	Based on rapid onset of fluctuating symptoms	Usually diagnosed 3 years after onset of symptoms.	Variable
Prognosis	Treatable and reversible with early diagnosis but can lead to permanent disability or death	Progressive can be slowed but not reversed	Variable can lead to progressive deterioration
Affect	Variable	Variable	Depressed: loss of interest and pleasure in activities

Source: The Canadian Coalition for Senior's Mental Health (2006) National Guidelines for Senior's Mental Health – The Assessment and Treatment of Delirium. p. 23.

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