



Background

The Alberta Health Services (AHS) Provincial Psychology Professional Practice Council (PPPPC) identified an opportunity to support local efforts to advance clarity of the psychologists' role and evidence based practice in health care. Each of these resources is developed independently by AHS psychologists, and reviewed by the AHS PPPPC. We are pleased to share this information to support both psychologists' practice and leaders' awareness of the quality and cost-effective impacts psychologists can bring to programs, to further quality, patient and family centred care.

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The Role of Neuro-psychologists on Seniors Health Teams

Psychologists provide:

- Clinical neuropsychologists are important team members¹ for geriatric, seniors health, and/or memory clinics because of our unique contributions in making or supporting differential diagnoses of various suspected cognitive impairments and/or dementia.
- Clinical neuropsychologists have specialized training in assessing cognitive, behavioural, and emotional functioning that are vital to diagnostic clarification.
- Neuropsychological assessment remains the clinical gold standard for differential diagnosis in dementia and other neurodegenerative diseases.
- Our unique skill set is also important for patient and family education on understanding, coping, and managing cognitive, behavioural, and emotional changes.
- As well, neuropsychologists can provide non-pharmacological treatments as needed for older adults with cognitive impairment.

Neuropsychologists

- Perform formal neuropsychological assessment to:
 - Clarify differential diagnoses of cognitive impairment (e.g., Mild Cognitive Impairment, Dementia),
 - Diagnostic clarification for various neurodegenerative disorders (e.g., Alzheimer’s disease, Dementia with Lewy Bodies, Frontal Temporal Dementia, etc.),
 - Profile the breadth and severity of cognitive impairments,
 - Profile of cognitive strengths and weaknesses,
 - Assess capacity (depending on setting and training), and
 - Assess emotional, behavioural, and social cognitive functioning.
- Provide neuropsychological and/or psychological interventions such as:
 - Management of caregiver burden or stress,
 - Memory support groups,
 - Cognitive training for compensatory strategies,
 - Cognitive-Behavioural Therapy for mood or adjustment issues,
 - Cognitive-Behavioural Therapy for sleep disorders,
 - Relaxation Training / Stress Reduction Training,
 - Early Dementia or Mild Cognitive Impairment Psychoeducation, and
 - Behavioural Management of Behavioural Psychosocial Symptoms of Dementia (BPSD).
- Work collaboratively with geriatricians, psychiatrists, and neurologists to make differential diagnosis of suspected cognitive impairment.
- Work collaboratively with geriatricians, psychiatrists, and neurologists to provide non-pharmacological treatments to support medical treatment or care planning.
- Work collaboratively with Occupational Therapists to better understand cognitive and functional changes affecting individuals with cognitive impairment and their families in managing day to day.
- Support other medical and allied health professional in understanding cognitive and behavioural change.

- Provide staff education and training.
- Support medical and allied health team members by helping to manage difficult patients and family situations.
- Support in tracking changes in behaviour and/or cognition over time due to a treatment response or for monitoring potential progression.

Seniors Health Population

- Geriatric or seniors health services are typically provided to adults over the age of 60 or 65 years. In some clinics, referral of patients 50 years or older may be accepted.
- Most referrals to neuropsychology are to determine the presence of cognitive impairment in older adults with suspected mild cognitive impairment, dementia, neurodegenerative disorders, mental health concerns, frailty, and/or complex medical comorbidity.
- However, referrals may also be received for provision of caregiver support, cognitive compensatory strategies, sleep problems, psychoeducation, management of mood and adjustment concerns, and/or assessment of mood in the context of cognitive impairment or dementia.

Cognitive Impairment in Seniors Health

- Mild Cognitive Impairment (MCI) may be considered a transitional state between normal aging and the development of dementia. Individuals with MCI often have mild problems with memory, language, and/or other thinking abilities that are greater than the changes typically associated with normal aging. However, many are able to continue to live independently.
 - MCI may increase the risk of developing Alzheimer’s disease or another dementia.
 - According to the 1991 Canadian Study of Health and Aging (CSHA), about 17% of Canadians aged 65 or older had mild impairment^{14,16}.
- Dementia refers to more significant cognitive impairment that begins to interfere with the ability to perform daily activities and live independently. Dementias typically involve to progress decline in thinking abilities and daily functioning over time.

- In 2011, 747,000 Canadians aged 65 and older – nearly 15% of the population – were living with Alzheimer's disease and other dementias. According to the Alzheimer Society of Canada, that figure could increase to 1.4 million by 2031¹⁵.
- Neurodegenerative disorders often underlie dementia. The most common is Alzheimer's disease followed by Dementia with Lewy Bodies, Frontal Temporal Dementia, Parkinson's disease, and other rarer forms of neurodegenerative processes. Vascular Dementia is another common cause of dementia. Dementia can also be caused by a mixture of neurodegenerative, vascular, and/or other medical illness affecting cognition.

Research Evidence Supporting Neuropsychologists in Seniors Health

- Neuropsychologists are in a unique position to provide valuable information to aid in the healthcare of older adults.
 - The demand for neuropsychological assessments has grown over the years, especially in the fields of seniors' health and geriatrics².
 - The utility of neuropsychological assessment in the identification of Alzheimer's disease is widely accepted, and there are various published guidelines for geriatric assessment involving neuropsychology³⁻⁶.
 - The sensitivity of neuropsychological tests can be helpful in distinguishing normal aging from pathological processes. In addition, neuropsychological tests can be useful in distinguishing mild cognitive impairment from dementia and can help with differential diagnosis of neurodegenerative disorders.
 - Neuropsychological testing can be very useful in separating relatively benign cognitive impairment associated with mood concerns (i.e., depression, anxiety, stress, adjustment) from more pathological causes (i.e., neurodegenerative process).
 - Finally, neuropsychological assessment findings can potentially provide information important for the prognosis or anticipated trajectory of the cognitive changes.
- Better understanding of the causes of cognitive concerns better informs potential treatments and/or management strategies.
 - Feedback of neuropsychological results and neuropsychological recommendations are typically well received by patients and their families as well by the referring physicians⁷⁻⁹.

Typical Neuropsychological Assessment Services in Seniors Health

- The primary service offered is typically comprehensive neuropsychological assessment for older adults with suspected cognitive concerns.
- Neuropsychological assessment offers a systematic evaluation of higher cognitive abilities such as attention, memory, executive functions (e.g., problems-solving, reasoning, complex attention), language, visual perception, complex visuospatial skills, and visual motor skills.
- A comprehensive report is typically prepared summarizing the results from the cognitive testing as well as providing the diagnostic impressions. In addition, the report typically includes recommendations for management and treatment as well as the likely consequences for an individual's daily functioning.
- A follow-up appointment is typically made to review the results and recommendations with the individual and their family.

Common reasons for neuropsychological assessment include

- Assessment of cognitive and emotional concerns for a variety of suspected neurodegenerative disorders (e.g., Alzheimer's disease, Frontal Temporal Dementia, Dementia with Lewy Bodies, Parkinson's and Parkinson's plus disorders, and Primary Progressive Aphasia).
- Assessment of cognitive and emotional concerns for a variety of medical and / or neurological concerns including possible substance abuse-related cognitive impairment, alcohol-related dementia, possible vascular dementia or cognitive impairment, medication misuse, and possible delirium.
- Aiding in distinguishing mild cognitive impairment from dementia.

- Aiding in distinguishing mood disorders, psychiatric, and/or emotional disorders from potential neurodegenerative disorders or mild cognitive impairment.
- Assisting in determining new onset of neurodegenerative disorders in individuals with previous stroke, epilepsy, brain injuries, brain tumors, Parkinson's disease, and/or chromosomal disorders
- Aiding in assessing high-functioning or highly intelligent older adults with whom cognitive screening measures may lack sensitivity in detecting cognitive compromise.
- Aiding in detecting cognitive impairment in individuals with a competent mastery of English who have learnt English as their second language, for whom cognitive screening measures may over-estimate the breadth and level of cognitive decline.
- Aiding in distinguishing normal aging from mild cognitive impairment and/or dementia.

Neuropsychological assessment contributes to clinical decision-making about

- Differential diagnosis.
- Prognosis.
- Management strategies or rehabilitation planning.
- Ability to continue to work.
- Ability to provide care for another dependent adult or child.
- Ability to function or live independently.
- Tracking of changes in cognitive abilities over time to determine response to medication or disease progression¹⁰.
- In summary, neuropsychological assessment is used to provide information about differential diagnosis, detection of cognitive impairment, treatment planning, evaluation of treatment efficacy, and measurement of change over time^{1, 10}.
- An evaluation includes face-to-face assessment of individuals, provision of feedback to the individual and their family members, and communication of findings and recommendations to referring physicians and other healthcare team members through written reports and team conferences.

Typical Neuropsychological Intervention Services in Seniors Health

- Neuropsychologists can provide group or individual training and education on lifestyle choices to support memory-healthy living and support for dealing with cognitive decline. Currently, there are no medical treatments for mild cognitive impairment and the medications for dementia have limited efficacy. Therefore, behavioural approaches and lifestyle changes to manage memory decline in mild cognitive impairment and for supporting caregivers in managing the Psychiatric and Behavioural Symptoms of Dementia are becoming increasingly important.
- There have been several memory compensatory groups or memory training groups that have been shown to be beneficial in supporting individuals with mild cognitive impairment and their caregivers¹¹⁻¹³.
- In addition, groups aimed at providing caregiver support for those coping with loved ones with cognitive impairment have been shown to be very beneficial.
- In some settings, older adults or their families can be referred for assessment of anxiety, depression, stress management, and sleep problems. Treatment may be offered for sleep, mood disorders, adjustments issues, and/or caregiver stress or burnout.
- Consultation for behavioural management of BPSD can also be provided to other staff members.

Common reasons for neuropsychology interventions include

- Assessment and management of caregiver stress and/or burden due to cognitive and behavioural changes in a loved one.
- Teach memory or cognitive compensatory strategies either to individuals or groups.
- Psychoeducation on behavioural management.
- Management of emotional or adjustment issues associated with the diagnosis of cognitive impairment or dementia.
- Education for families and patients on mild cognitive impairment, dementia, and neurodegenerative disorders.

Neuropsychological interventions contribute to clinical care by

- Providing information needed for treatment planning.
 - Providing information needed for discharge planning.
 - Supporting caregivers.
 - Decreasing anxiety regarding a chronic diagnosis.
 - Providing education or strategies to cope with cognitive changes.
- Supporting older adults in functioning or living independently for longer.
 - Tracking changes in behaviour and/or cognition over time to determine response to treatment.
 - Non-pharmacological management of sleep problems.
 - Non-pharmacological management of behavioural changes.

Resources & Guidelines

Mild Cognitive Impairment

Information sheet: Mild Cognitive Impairment, Alzheimer Society of Canada

Living with Mild Cognitive Impairment (MCI), webinar by BrainXchange.

Dementias

What is Alzheimer's disease? - brochure by the Alzheimer Society of Canada

Stages of Alzheimer's disease - learn about the progression of the disease

Shared experiences - advice from people living with Alzheimer's disease

BrainXchange webinar on Frontotemporal dementia

Visit the Frontotemporal Dementia Support Group website.

Mayo Clinic – Frontal Temporal Dementia

Rural Dementia Care - Strategies to improve the care of persons with dementia in rural areas.

BrainXchange webinar on Lewy body dementia.

Mayo Clinic – Dementia with Lewy Bodies

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