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# Understanding Dementia

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What's Next – Information about Dementia, Elder Care and Supports

Brighton, ON

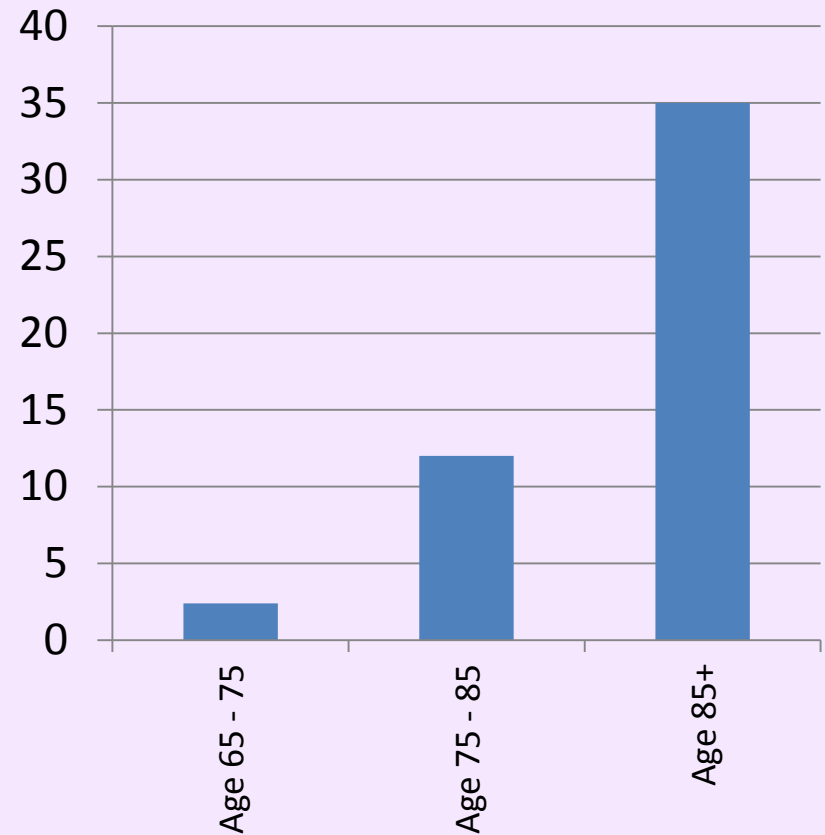


# Why is dementia important?



- Our population is aging
  - Currently 1.8 million older adults in Ontario
  - Number of adults > 65
- ↑ 13 – 25% in next 40 years

Prevalence of Dementia by Age





# How common is dementia?

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- Currently 750,000 individuals have dementia in Canada
  - Increase to ~ 1.1 million in next 30 years
- Southeast LHIN (Kingston Area):
  - Currently: 7,800 individuals with dementia
  - Increase by 18% in next 8 years



# What is dementia?

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- A decline in memory and other cognitive functions from previous levels
- Cognitive decline which impacts on day to day function, causes impairment
- Several different causes of dementia

# Dementia or age-related memory changes?



## **Age Associated Memory Changes:**

- Decline in memory and brain functions when compared to younger populations
- “Normal” cognitive aging



## **Mild Cognitive Impairment:**

- Cognitive decline noticeable by others,
- Scores lower than average for age group
- No problems with daily functioning
- Risk factor for developing dementia



## **Dementia:**

- More significant cognitive decline
- Scores lower than MCI
- Memory or other cognitive problems
- \*Impacts day to day functioning



# Dementia and Alzheimer's Disease

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- Types of dementia:
  - Alzheimer's disease (60%)
    - Early memory problems, gradual progressive decline
  - Vascular Dementia (10 – 20%)
    - Caused by a large stroke or multiple small strokes
  - Dementia with Lewy Bodies (10-20%)
    - Memory problems along with gait difficulties, tremor, other features
  - Other:
    - Mixed (Alzheimer's and vascular, Frontotemporal, Parkinson's disease)



# Things That Can Look Like Dementia

	Delirium	Dementia (Alzheimer's)	Depression
Onset	Acute	Insidious	Variable
Duration	Days to weeks	Months to years	Variable
Course	Fluctuation	Slowly progressive	Diurnal variation
Consciousness	Impaired, fluctuates	Clear until late in illness	Unimpaired
Attention & Memory	Inattentive, poor memory	Poor memory without inattention	Difficult concentrating, memory intact
Affect	Variable	Variable	Depressed, loss of interest and pleasure



# Signs of Dementia

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- Difficulties with short-term memory
  - Functional impairment in complex tasks:
    - Managing household finances, medications
  - Forgetting recent conversations, repetitive questions, missing appointments
  - May have some difficulties with word-finding, forgetting names of familiar people
  - Difficulties learning new tasks
  - Becoming disoriented in new or familiar environments





# How is dementia diagnosed?

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- History taken from person with memory complaints along with information from reliable informant
- Review of medical conditions and medications that might be cause of cognitive problems
- Physical examination
  - High blood pressure, other risk factors for stroke or heart disease
  - Look for signs of stroke or Parkinson's disease



# Evaluation of Dementia

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- Cognitive Testing:
  - Pen and paper questions, scores are compared to populations of similar age, education level
  - Examine memory function, language, orientation, executive (planning) functions
  - Mini-Mental Status Exam
  - Clock Drawing Test
  - Montreal Cognitive Assessment





# Evaluation of Dementia

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- **Bloodwork:**
  - Rule out other potential causes of cognitive problems
    - Low thyroid, kidney problems, vitamin deficiencies
- **Brain Imaging:**
  - CT scan or MRI
    - Evaluate for possible strokes or other brain changes
- **EKG (electrocardiogram):**
  - Heart rhythm (important for some dementia medications)



# Treatments for Dementia in Canada


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## Cholinesterase Inhibitors

- Donepezil (Aricept)
- Rivastigmine (Exelon)
- Galantamine (Reminyl)

## Other Medications

- Memantine (Ebixa)



# Where to Get Help

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- Family Physicians
- Geriatric Psychiatry and Medicine Services
- Alzheimer Society
- Other Community Resources



# Services for Older Adults with Dementia

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- Geriatric Psychiatry Services (Providence Care)
  - Outreach teams in Belleville, Kingston, Napanee
  - Serves older adults in their homes
  - Liaison work with 38 local nursing homes
  - Consultation service to QHC, KGH, HDH, St. Mary's
  - Inpatient services at Providence Care



# Services for Older Adults with Dementia

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- Geriatric Medicine Programs:
  - Memory Clinic (Dr. Garcia)
  - Inpatient rehabilitation program (St. Mary's)
  - Outreach teams in Kingston, Belleville
  - Day hospital program
  - Consultation service



# Dementia Research



1906-2006 ALZHEIMER DISEASE  
**100**  
YEARS OF DISCOVERY

Alzheimer Society

The Story is Changing

1906-1999 "Yesterday"

**1906** Alzheimer Disease Discovered

Dr. Alois Alzheimer, a German neurologist and psychiatrist, describes what later becomes known as Alzheimer Disease: progressive, degenerative brain disease with no known cause or cure. Through an autopsy of a patient's brain, he identifies "plaques and tangles" - the hallmark traits of Alzheimer Disease.

**1906** The Next 50 Years A "Normal Part of Aging"

**1960s** Alzheimer Disease Recognized as a Disease

The discovery of the link between cognitive decline and the numbers of plaques and tangles in the brain leads medical scientists to finally recognize Alzheimer Disease as a "disease", not normal part of aging.

Scientific interest in Alzheimer Disease is awakened

**1970s** Alzheimer Society of Canada Founded - the first organization of its kind in the world

Scientific advances bring new tools, techniques and knowledge to the exploration and understanding of the human body. The disease emerges as an area of research interest.

**1978** The Alzheimer Society is formed to help families caring for someone with the disease, and to promote research into treatments, prevention and a cure.

**1980s** Research Focuses on Plaques and Tangles

Researchers examine the complex interactions between having nerve cells in an Alzheimer-diseased brain. Scientists focus on the chemistry of the toxic proteins identified as "amyloid" in plaques and "tau" in tangles. The search leads to the gene "ApoE4" breakthrough in the 1990s.

**1990s** Giant Leaps Forward

Teams of scientists, with Canadians playing lead roles, discover genetic links to Alzheimer Disease. In turn, this leads to the creation of mice models of the disease, allowing research testing that had not been possible previously.

**1992** An Essential Piece of the Alzheimer Puzzle

The first real genetic link to the disease is discovered - a mutated gene in the majority of familial Alzheimer cases that influences a person's risk of getting the disease. Although this form is rare - roughly 7% of the Alzheimer population - this is a crucial discovery.

**1993** Major Risk Factor Identified

Once again, Canadian scientists make major advance this time identifying the role of the apolipoprotein E gene in the brain.

**1997** First Drug Treatment Approved

The first drug, a "cholinesterase inhibitor" known as Aricept, becomes available. It eases the symptoms of mild to moderate Alzheimer Disease some individuals. Two new cholinesterase inhibitors, Exelon<sup>®</sup> and Reminyl<sup>®</sup> are developed over the next five years offering treatment alternatives.

**1999** First Vaccine is Tested

The first Alzheimer Disease vaccine is developed and tested using mouse models - a significant achievement. The work on vaccines continues to show great promise.

**2000** Sophisticated Imaging of the Living Brain

Technological advances in imaging provide a new window into the living brain. Images indicate that changes may exist in the brain long before a person develops symptoms of Alzheimer Disease.

**2004** New Drug Therapy Approved

A new drug, a "NMDA receptor blocker" (Elexon<sup>®</sup>) intended to treat symptoms, people with moderate to advanced Alzheimer Disease is available. In trials, it stabilizes or slows the decline of cognitive function.

**2005** Alzheimer Society Research Funding - \$3 million

The Alzheimer Society funds leading Canadian scientists, many renowned throughout the world for their work on Alzheimer research. The vast majority of these funds come from public support.

**2006 and Beyond - "Tomorrow"**

By 2031 an estimated 750,000 Canadians will have Alzheimer Disease or a related dementia unless we can stop this disease before then. Researchers are more hopeful than ever before.

Help us write the final chapter in the fight against Alzheimer Disease.

[www.alzheimer.ca](http://www.alzheimer.ca)

**We can find the answers**

We've taken great leaps in the fight against Alzheimer Disease in just the past two decades. Breakthroughs - such as vaccines, new drugs and treatments, new diagnostic tools - are on the horizon.

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In 1970 the prevalence of the Canadian population over 65 was 21%. Twenty years later, it was 33%, and by 2030 it is estimated to be 59% of our population will be over the age of 60\*. In that time, the prevalence of Alzheimer Disease and related dementias has risen from 145,750 in 1975, to 435,000 in 2006 and is expected to grow to 750,000 by 2031.

\*Source: Health, Population Division of the Department of Statistics and Social Affairs of the United Nations Secretariat, World Population Prospects: The 2004 Revision and World Urbanization Prospects: http://www.un.org/esa/population/

# Conclusions

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- Alzheimer's disease and related forms of dementia are common among older adults
- Early detection and treatment of dementia is important
- Several services to support diagnosis and treatment of dementia in the Brighton area

# Thank you

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- Questions?

