3:30pm – 5:00pm

Bringing innovative medicines into the hands of patients with Alzheimer’s disease

Panel Organizer: Angela Bilkhu
Hoffmann-La Roche Ltd.

Health System Preparedness for a Future Alzheimer's Treatment

10th Canadian Science Policy Conference

Soeren Mattke

Nov 7, 2018

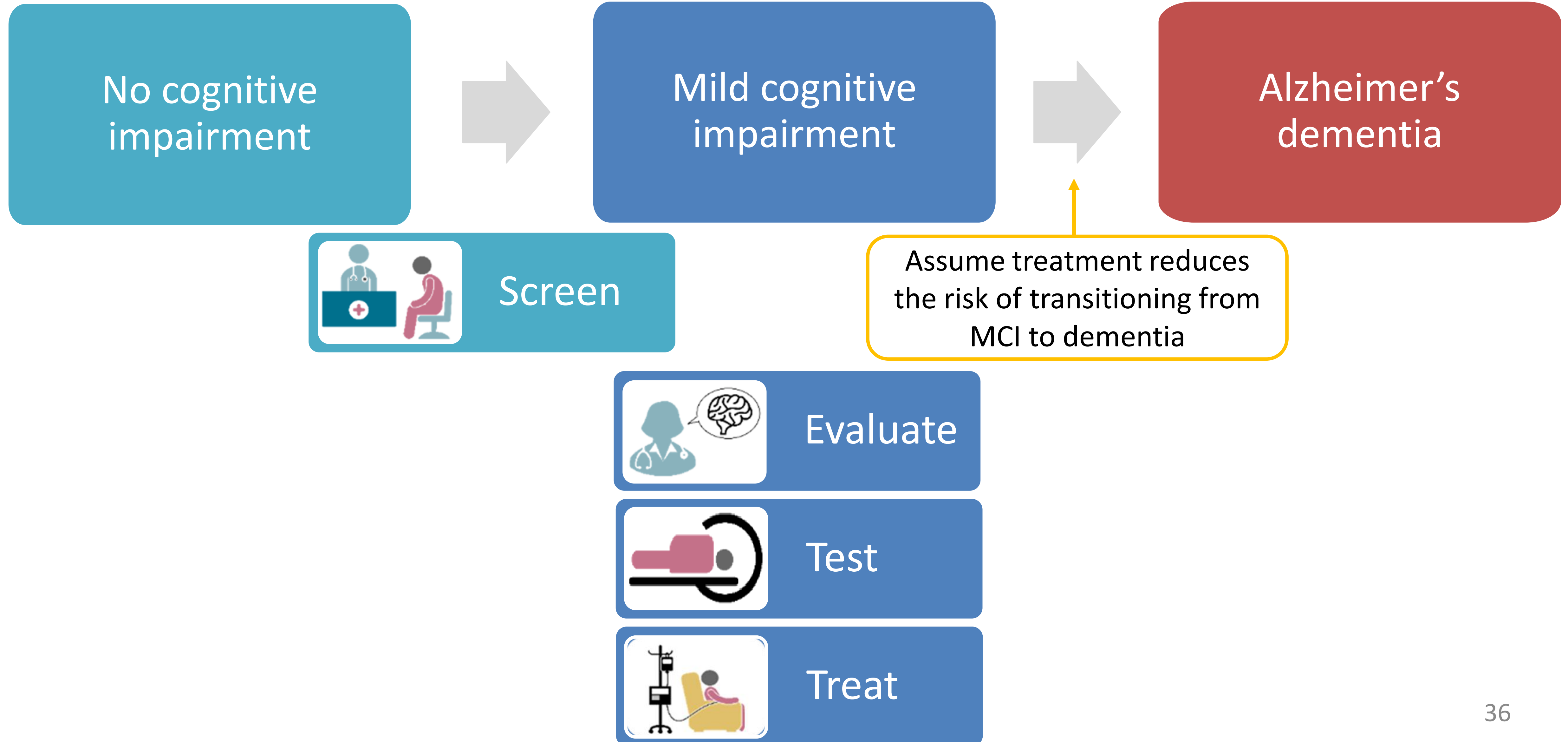
USC Dornsife
Center for Economic and Social Research

Why focus on Alzheimer's treatment now?

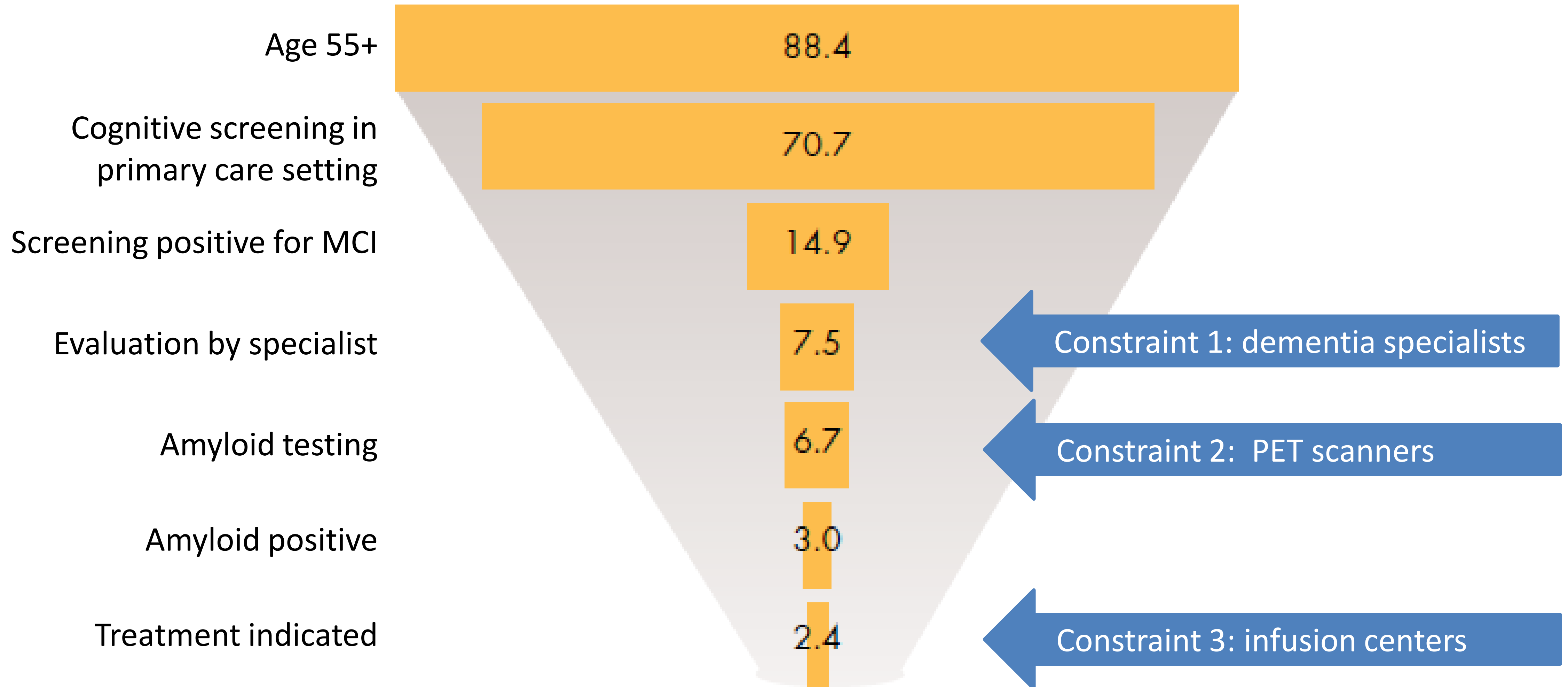
- After many failures, guarded optimism for a disease-modifying Alzheimer's drug
- Treatment paradigm is likely to halt progression from Mild Cognitive Impairment to Alzheimer's Dementia
  - Attempts to reverse the disease have repeatedly failed
- Secondary prevention paradigm implies need to screen, diagnose and treat large number of prevalent cases
- Study simulates preparedness of six EU countries (FRA, GER, ITA, ESP, SWE, GBR) to handle expected patient volume
  - Capacity for specialty visits, biomarker testing and treatment delivery

Results illustrate magnitude of the problem but may not predict actual numbers precisely

Alzheimer's disease progression and clinical pathway



Snapshot of potential patients in the U.S. in 2019 (millions)



Projected wait times are extensive

Average time delay in diagnosis or treatment (months)

Dementia specialist visit
Amyloid testing
Infusion treatment

20
18
16
14
12
10
8
6
4
2
0

2019 2020 2021 2022 2023 2024 2025 2026 2027 2028 2029 2030 2031 2032 2033 2034 2035

- **Average 14-month wait for specialists in 2019**
- **Average 11-month wait for testing in 2023**
- **Infusion waits until 2034**

- **2.1 million MCI cases could progress to Alzheimer’s dementia while on wait lists**

Summary

- Disease-modifying AD therapy would be a breakthrough
- Results suggests that U.S. healthcare system is ill-prepared to deliver a therapy to the large number of prevalent cases
  - As many as 2.1 million potentially avoidable cases could develop Alzheimer’s delays because of delays in access to care
  - Similar analysis for Canada in progress
- Increasing capacity to deliver a potential therapy would involve payment policy, regulatory requirements, workforce considerations, and capacity planning

Thank you

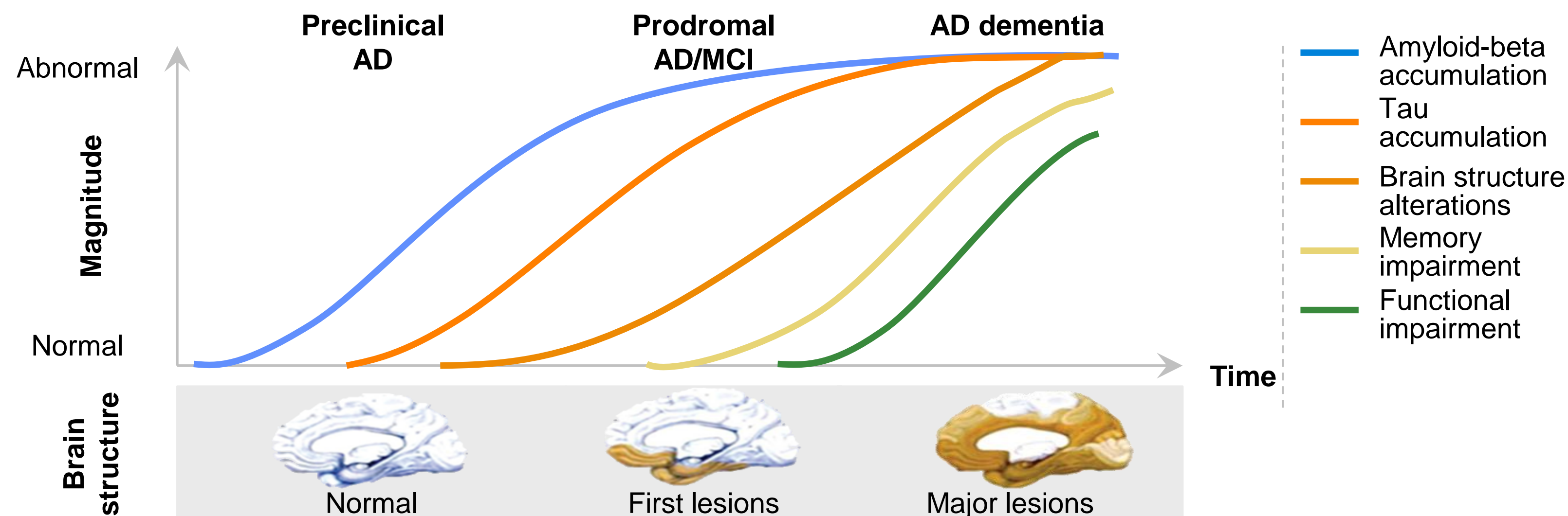
Report available at: www.rand.org/t/RR2503

Funding: Biogen

Alzheimer's Disease

Roche

- **Alzheimer's disease is a continuum:** diagnostic criteria suggest distinct phases, but the disease is characterized by pathological changes of biomarkers, leading to increasing severity of cognitive and functional deficits as well as behavior changes and ultimately death[1]
- Diagnosis requires a combination of clinical history, biomarkers, mental state examination and neurocognitive assessment[2]:
  - Imaging and lab tests are mostly used to exclude other causes for dementia
  - Historically, absolute confirmation of AD would only come through post-mortem pathological assessment of brain tissue of those previously suspected of AD



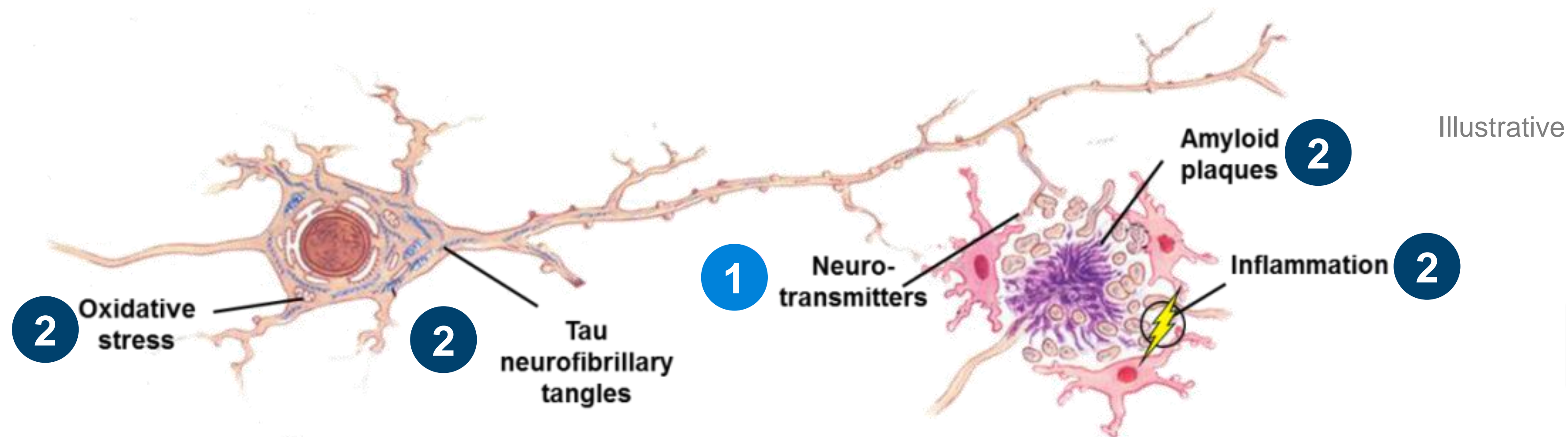
1. Jack et al: NIA-AA Research Framework: Towards a Biological Definition of Alzheimer's Disease, draft September 19 2017
2. Aisen PS, et al. Alzheimers Dement. 2010;6(3):239-46; 2. Jack CR Jr, et al. Lancet Neurol. 2010;9(1):119-28
3. Adapted from Herbert LE et al. Arch Neurol 2003, preventAD.com; Average duration per disease stage:

Available pharmacologic therapies are only treating the symptomatology of AD, but disease modifying treatments are in development

Roche

1 **Symptomatic treatments:**
Current approved pharmacologic therapies for AD target only cognitive symptoms with short term effectiveness (ACHE Inhibitors, NMDA Receptor antagonists)[1]

2 **Disease Modifying Treatments (DMT):**[2,3]
A DMT is as an intervention that produces an enduring change in the clinical progression of AD by interfering in the underlying pathophysiological mechanisms of the disease process that lead to cell death. By treating the underlying cause of the disease, the aim is to slow down disease progression and thereby of symptoms including cognitive and functional decline.



www.alz.org
Galimberti and Elio Scarpini, Ther Adv Neurol Disord. 2011 Jul; 4(4): 203–216
Cummings et al. Alzheimer's Research & Therapy 2016 8:39

Roche

Doing now what patients need next

CSPC 2018
10th Canadian Science Policy Conference
Nov. 7 - 9, 2018 | Delta Hotel, Ottawa, ON
www.sciencepolicy.ca

Kawartha Centre
REDEFINING HEALTHY AGING
ACTION | RESEARCH | CARE

Primary Care

A Sustainable System of Dementia Care

Dr. K. Jennifer Ingram MD FRCPC
Internal Medicine Geriatric Medicine
Seniors Lead Physician CE LHIN
QI Kawartha Centre ~ Redefining Healthy Aging

November 2018

Primary Care - Appropriate Work Force

- 1st to 4th CCCDTD Consensus Conferences 1989 to 2012
- All Consensus Conferences endorsed this concept of primary care being heavily involved in the diagnosis and management for Dementia Care
- Specialists anticipated to be available for support consultation clarification and more frail or more challenging patient care

CIHR Evaluation of Primary Care Memory Services in Ontario and Quebec

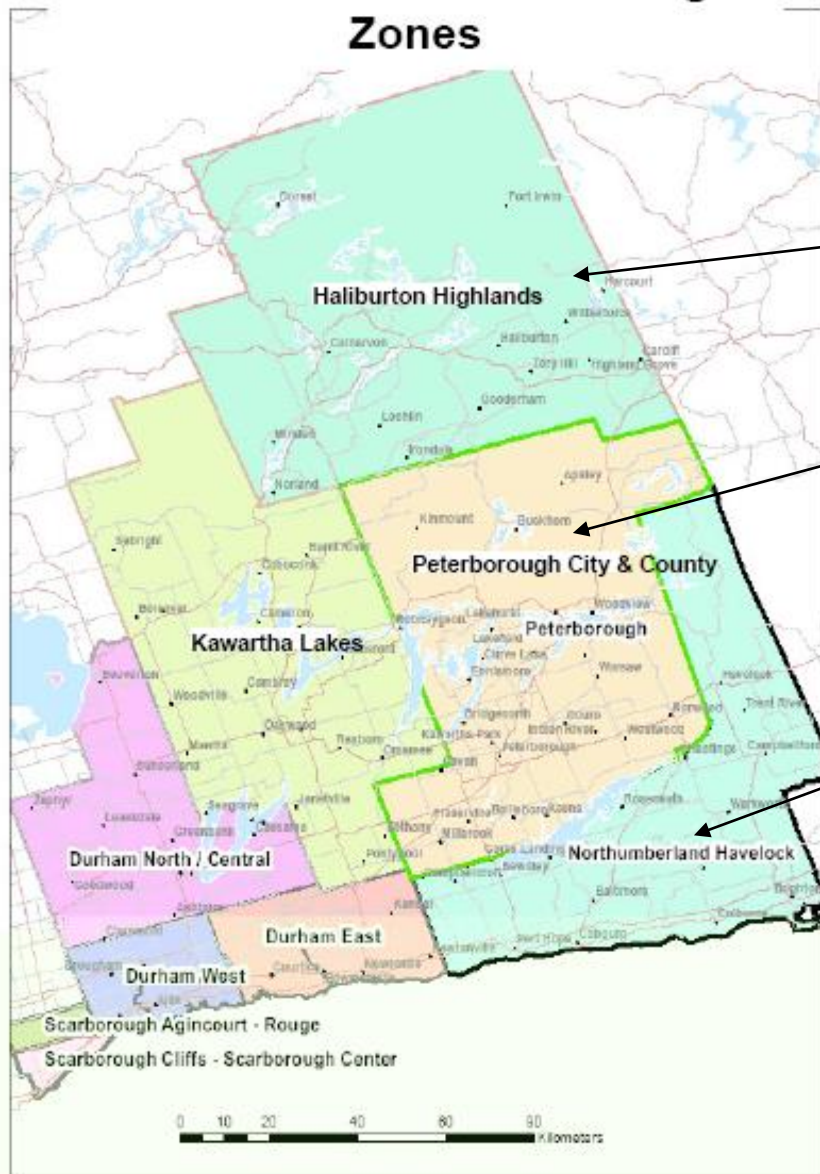
Provincial and Federal Dementia Strategies

Province	Strategy	Year
Ontario	Ontario's Strategy for Alzheimer Disease and Related Dementias – Preparing for Our Future	1999
	Ontario's Dementia Strategy (in development)	2017
Quebec	Quebec's Meeting the Challenge of Alzheimer's Disease and Related Disorders: A Vision focused on the individual, humanism, and excellence	2009
Newfoundland	Newfoundland's Provincial Strategy for Alzheimer Disease and Other Dementias	2002
Alberta	Alzheimer Disease and Other Dementias, Strategic Directions in Health Aging and Continuing Care in Alberta	2002
	Alberta Dementia Strategy and Action Plan	2017
Saskatchewan	A Strategy for Alzheimer Disease and Related Dementias in Saskatchewan	2004
British Columbia	A BC Dementia Service Framework	2007
	The Provincial Dementia Action Plan for British Columbia: Priorities and Actions for Health System Service Redesign	2012
	The Provincial Guide to Dementia Care in British Columbia: Achievements and Next Steps	2016
Manitoba	A Strategy for Alzheimer Disease and Related Dementia in Manitoba	2002
	Manitoba's Framework for Alzheimer's Disease and Other Dementias	2014
Nova Scotia	Towards Understanding: A Dementia Strategy for Nova Scotia	2015
New Brunswick	New Brunswick	Pending

A System of Assessments for Dementia Embedded in Family Health Teams

Results of a Three Year Trial in the CE LHIN Including Feedback from Involved Family Physicians

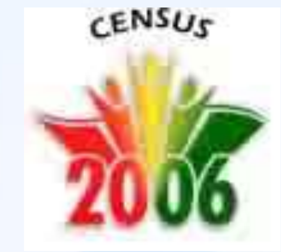
Canadian Geriatric Society Meeting - Toronto 2009



Haliburton 1st place in Canadian communities of up to 10,000

Peterborough 1st place in Ontario and 2nd place in Canada for communities of 50-100,000

Cobourg – 3rd place in Ontario in Communities of 10 – 50,000



System Needs Design
Primary Care Dementia Care

"…….. designing systems that make it hard for people to do the wrong thing and easy for people to do the right thing."

- To Err is Human, Institute of Medicine 2000

Four Step Training Program

1. Preceptorships at Kawartha Centre
2. Mentor and Trainee NCA Assessors linked for day of assessments at FHT office

   (8 patients/day)
3. NCA Assessor Trainee Solo Clinic

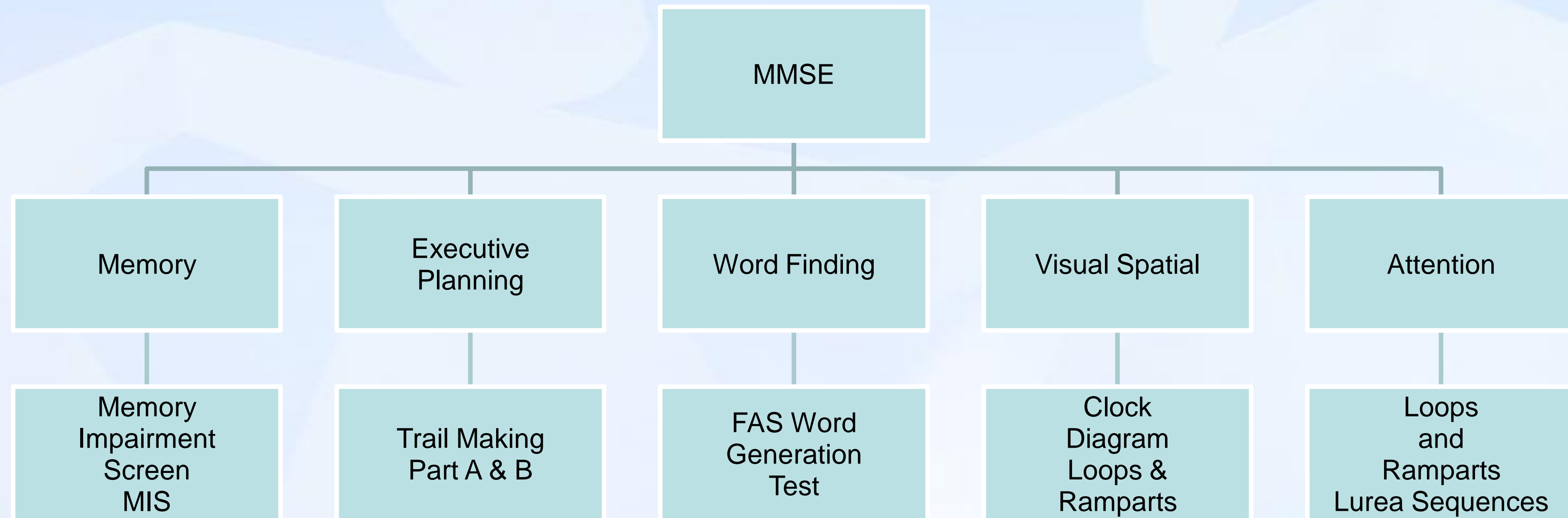
   (8 patients)
4. Family Health Team Interpretation Review

   Lunch and Learn with NCA Assessor GP's and Dr. Ingram

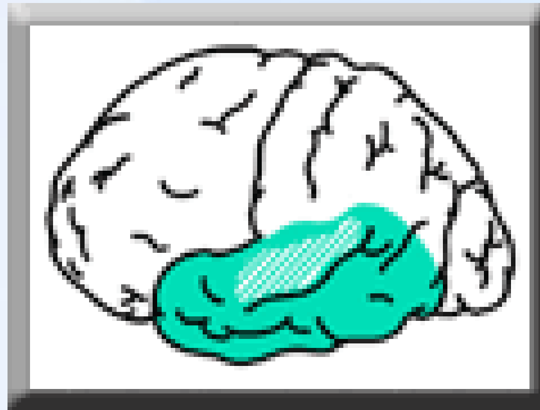
   (Review usually about 2 - 4 Sessions or as needed)

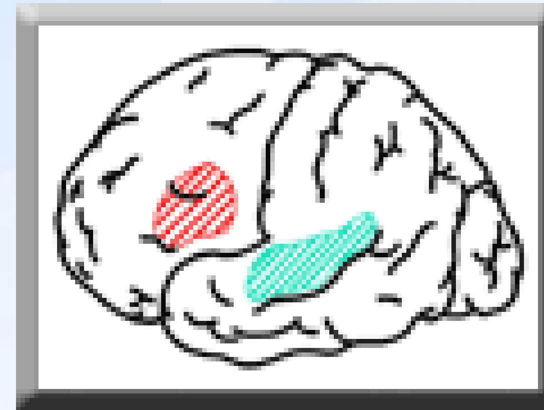
Regular Educational Case based and Group/FHT Support

Testing of Cognition



Anatomy of Mental Status



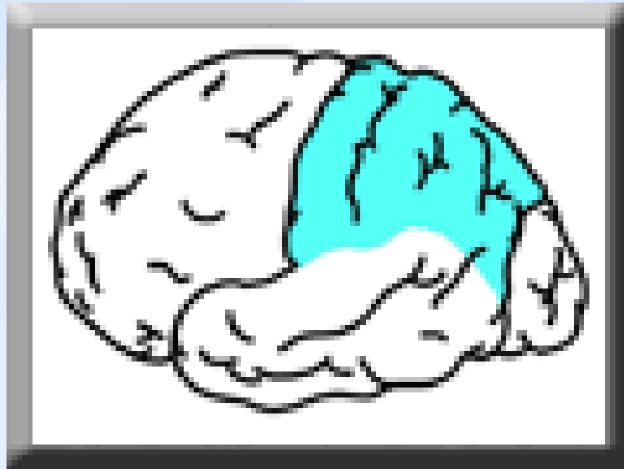


- Executive function
- Motivation
- Behaviour

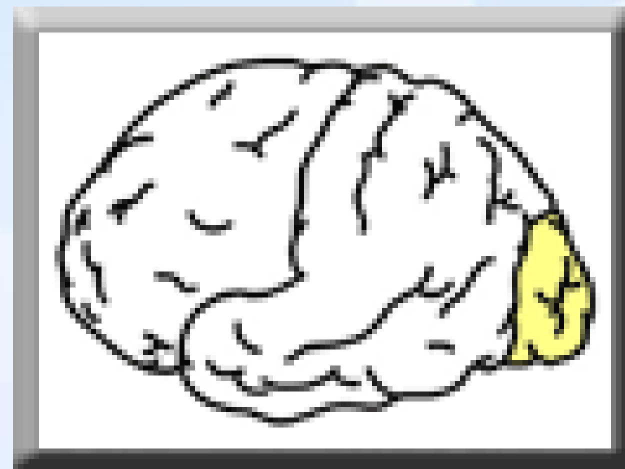
- Emotional responses
- Memory

- Expressive and receptive language
- Prosody (non-dominant)

Anatomy of Mental Status



- Visualspatial function (non-dominant)
- Praxis (dominant)



- Perception of visual information

Primary Care Assessors

Person with Memory Concern

Assessor with Protocol

Physicians at Primary Care Address Diagnosis and Care

Needs: policy directives, staff additions, clinical leader and ongoing educational support to be sustainable.
CGA and Functional evaluations needed

The Kawartha Initiative

Bancroft (1)
Bobcaygeon (2)
Bowmanville (2)
Brooklin (1)
Campbellford (1)
Courtice (1)
Haliburton (1)
Kinmount (1)
Kirkfield (1)
Lakefield (1)
Lindsay (2)
Oshawa (4)
Peterborough (5)
Port Perry (1)
Whitby (3)

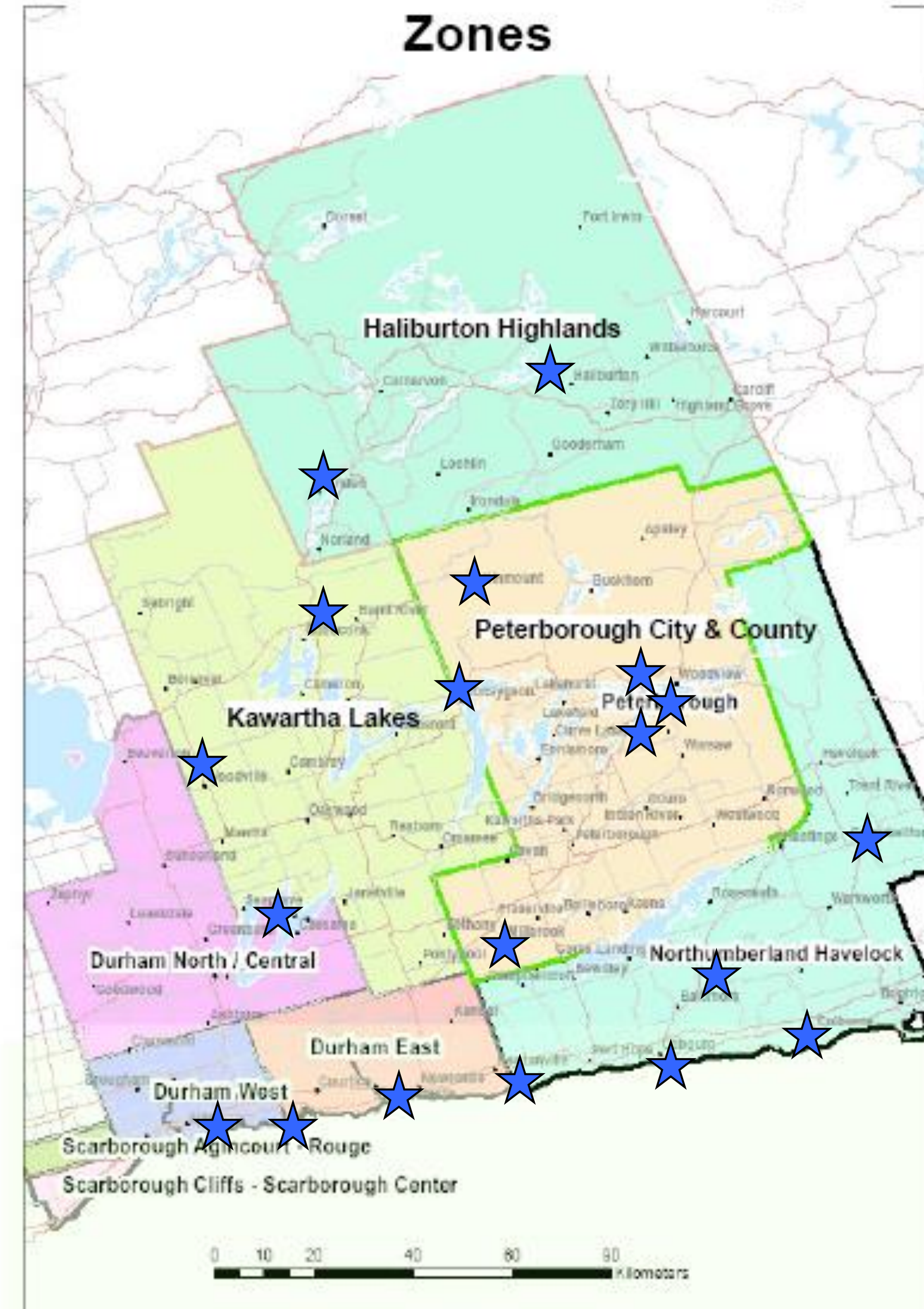
15 towns/cities

27 locations

15 locations use KRMC Staff

15 locations use staff trained in program

[Cobourg, Millbrook]

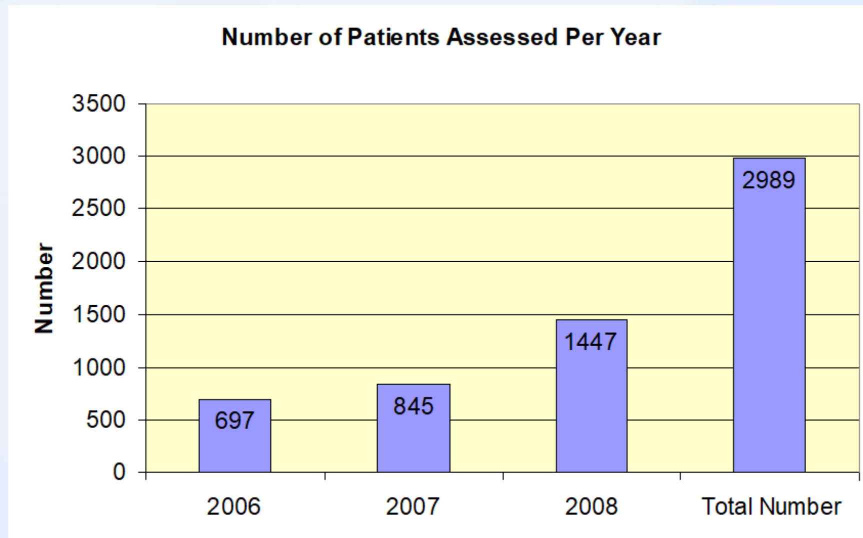


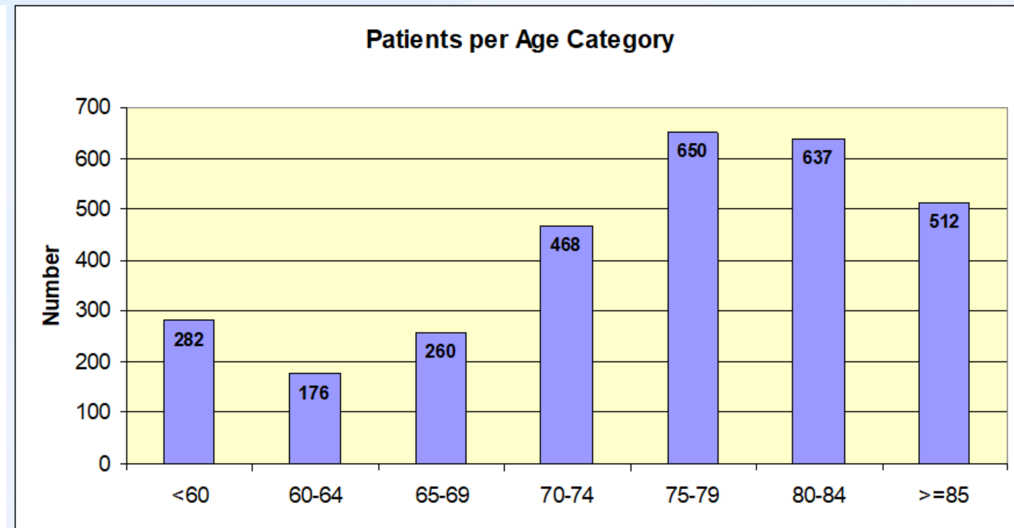
Results of First Three Years Of NCA Clinics

Referrals for Assessments

1500 patients a year

Peak Age 75-85 years





Appropriate Assessments by MMSE for Diagnosis

MMSE Scores vs Age (2006-2008)

Number

0 10 20 30 40 50 60 70 80 90

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30

<60 | 60-64 | 65-69 | 70-74 | 75-79 | 80-84 | >84

How Helpful Are the NCA Results?

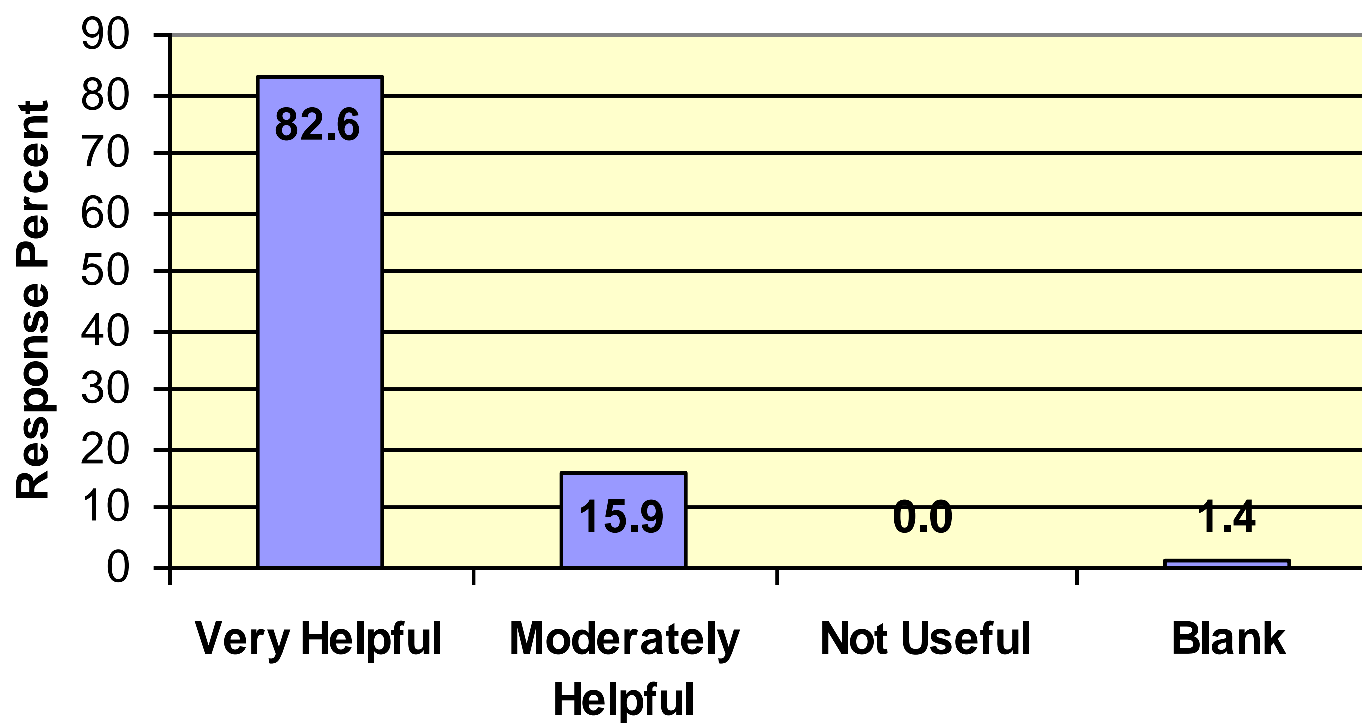
Physician Feedback

100 % of physicians felt that

observing

the NCA evaluation was

very helpful to patient and family



Guide Counseling/Information to Families
69 Physicians Responded
Response Percent
90
80
70
60
50
40
30
20
10
0
82.6
15.9
0.0
1.4
Very Helpful
Moderately Helpful
Not Useful
Blank

FEWER REFERRALS TO SPECIALISTS

Impact on Referrals to Specialists or Services Related to Cognitive Assessments

Percent of Respondants (counts in parentheses)

	%Increase	%Decrease	%No Change
Consultant Referrals	20.6 (14)	29.4 (20)	48.5 (33)
Memory Clinic Referrals	11.6 (8)	30.4 (21)	44.9 (31)
Neurology Referrals	14.3 (9)	22.2 (14)	63.5 (40)
Psychiatry Referrals	8.1 (5)	19.4 (12)	72.6 (45)

MORE REFERRALS TO IN HOME SERVICES DAY PROGRAMS & LTC

Impact on Referrals to Support Services in the Community

%Increase %Decrease %No Change

Percent of Respondants

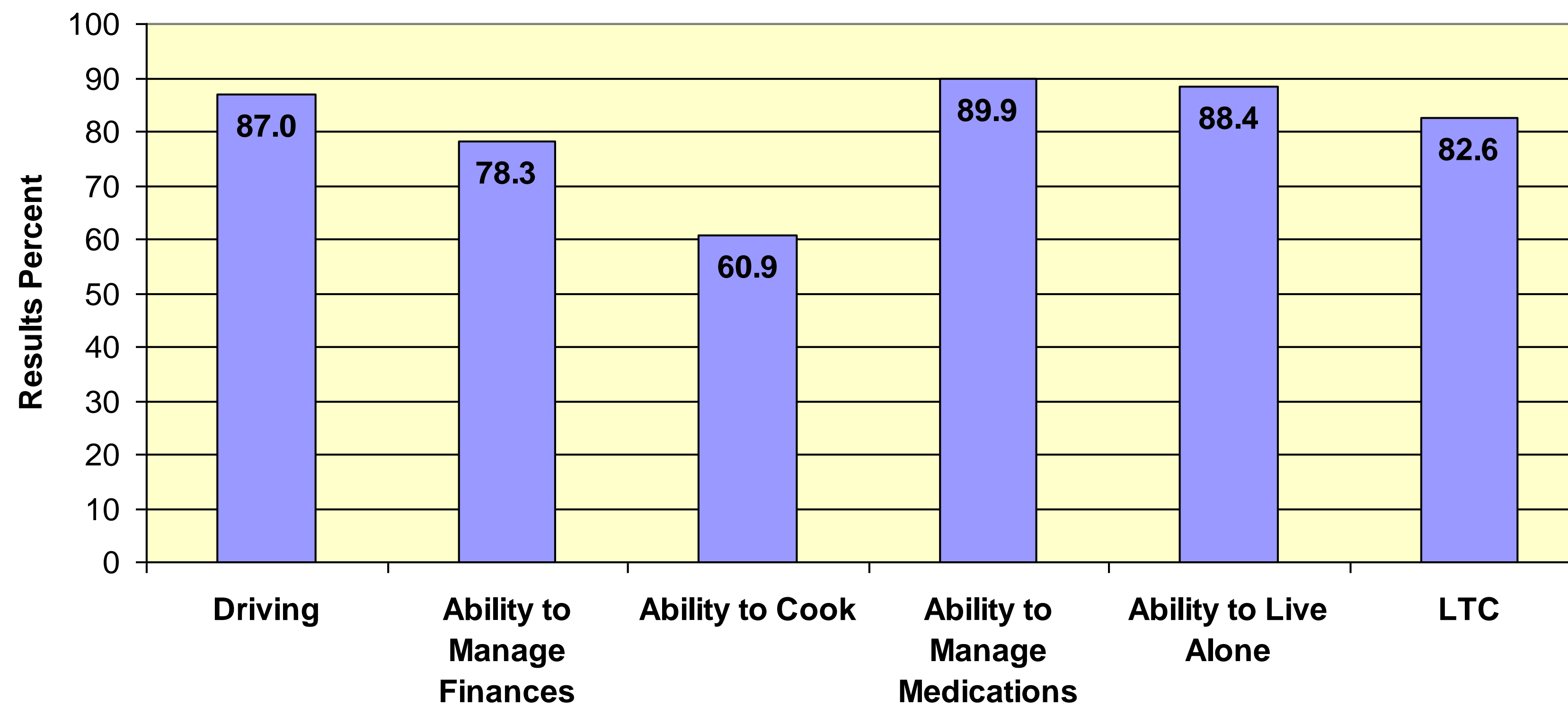
70
60
50
40
30
20
10
0

LTC Referrals: (24) 37.5 | (0) 0.0 | (40) 62.5

In-Home Referrals: (33) 50.8 | (1) 1.5 | (31) 47.7

Day Centre Referrals: (24) 34.8 | (1) 1.4 | (39) 56.5

Alzheimer Society Referrals: (41) 64.1 | (1) 1.6 | (22) 34.4


Have The Assessments Assisted in Decisions About:
Results Percent
100
90
80
70
60
50
40
30
20
10
0
87.0
78.3
60.9
89.9
88.4
82.6
Driving
Ability to Manage Finances
Ability to Cook
Ability to Manage Medications
Ability to Live Alone
LTC

Primary Care Memory Clinics 2006 -

As of September 2018, the Primary Care Memory Clinics involve:

- 107 sites, which includes 87 FHTs and 9 CHCs; the others are in non-FHT FHOs or regional sites, eg. hospitals or other sites servicing regions
- these 107 sites serve 2, 121 family physicians' practices, which have a combined family practice base of 2,391,815 patients (approximately)
- there are 2 additional sites which will be trained by end of 2018 (including one new site in North Durham FHT in Port Perry)
- more than 1/6 of Ontario family practices are now served Primary Care Memory Clinics

Dr. Linda Lee

CIHR Evaluation of Primary Care Memory Services in Ontario and Quebec

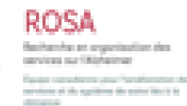
Summit on Aging: Dementia Dialogues for Healthcare Professionals
October 24-25, 2018

Assessing Care Models Implemented in Primary Health Care for Persons with Alzheimer's Disease and Related Disorders:

Ontario's preliminary results

A ROSA study

Research on organization of healthcare services for Alzheimer's



Primary Care Physicians Reaction

Dr. T. Stephenson Haliburton Highlands Family Health Team

(October 24, 2018 at **Dementia Dialogues** AFP Summit on Aging for Health Care Professionals)

"*the change in my practice from usual care to being part of a Primary Care Memory Clinic has been the pinnacle of my career in Family Practice. It has allowed me to experience a most intimate and heartwarming form of care with my patients and their families.*"