



UNIVERSITY OF TORONTO  
FACULTY OF MEDICINE

# Dementia: Cognitive and Behavioural Assessment

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TORONTO DEMENTIA RESEARCH ALLIANCE

# Outline

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- Behavioural Neurology Section
- Memory Clinics across Toronto

# Behavioural Neurology Section

- Section within U of T Division of Neurology
- Interdisciplinary group
  - Neurology
  - Geriatric Psychiatry
  - Geriatric Medicine
  - Neuropsychology
  - Neuropathology
  - Neurosurgery

# Behavioural Neurology Section (BNS)

- Main focus has been on education
- Focus expanding to areas including clinical and research collaboration
- Well-positioned to help in the success of the proposed TDRA through:
  - Unified voice with representation across divisions and departments
  - Communication network among members
  - Patient registry in dementia

# Patient Registry

- BNS has been working on a city-wide registry
- Problems arose due to several obstacles

## Solution

- Baycrest has funds to restructure registry using INCAS
- Restructured registry will be made available to all Memory Clinics in Toronto
- Funding for city-wide roll out will hopefully come from TDRA

# Memory Clinics in Toronto

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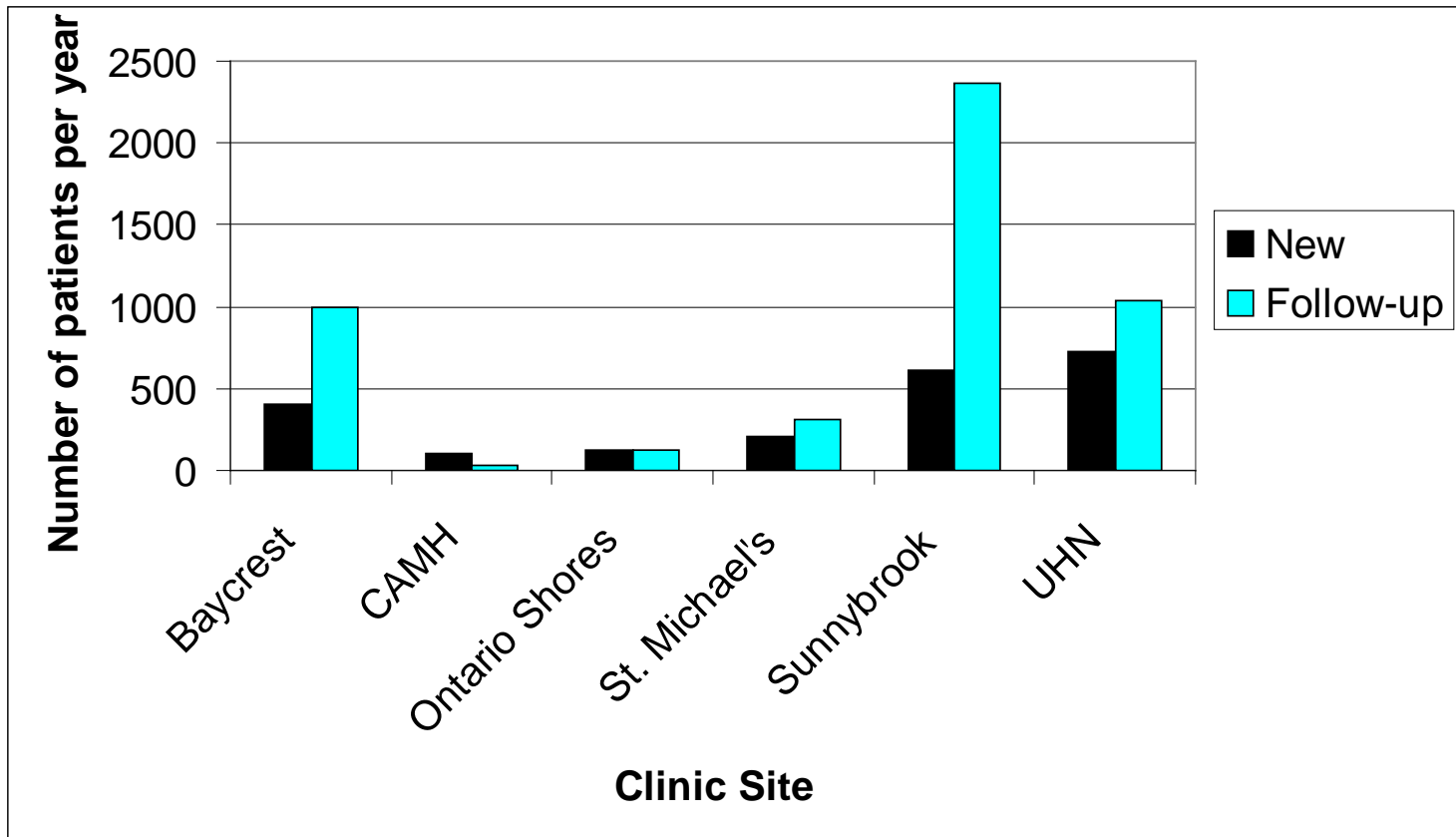
## University-Based Sites

- Baycrest (Ross Memory Clinic)
- Centre for Addiction and Mental Health
- St. Michael's Hospital
- Sunnybrook Health Sciences Centre
- University Health Network

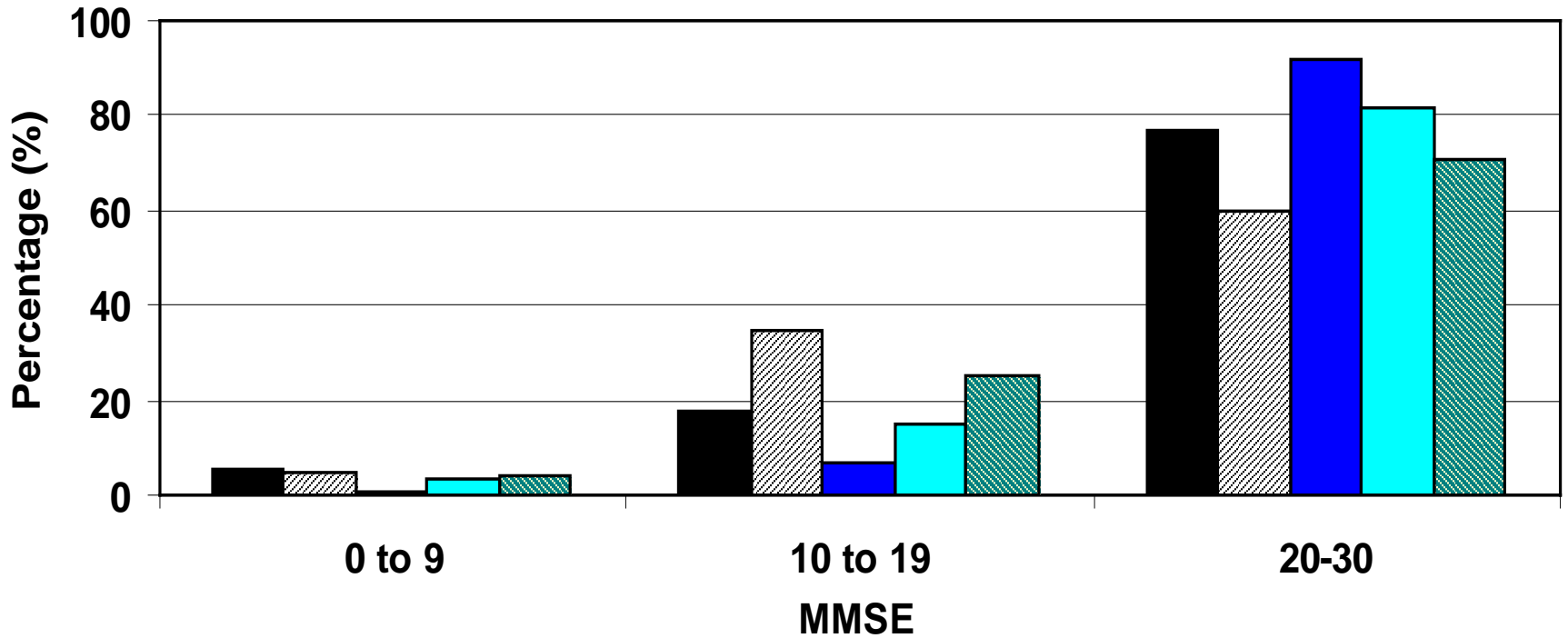
## Community-Based Site

- Toronto Memory Clinic

# Patient Volume by Clinic



# MMSE Score Distribution



■ Baycrest    ▨ CAMH    ■ St. Michael's    ■ Sunnybrook    ■ UHN

n= 431

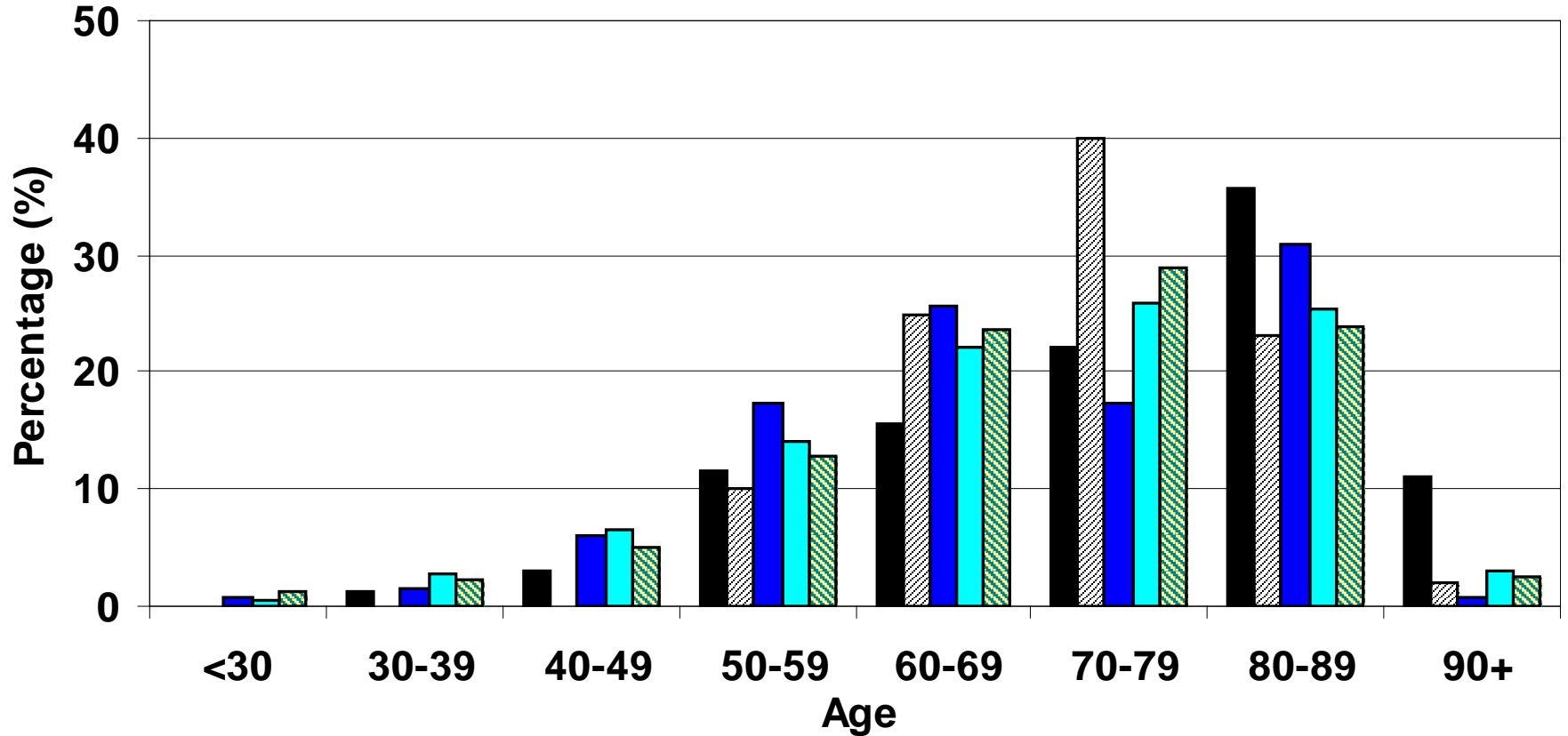
n= 99

n= 263

n= 717



# Age Distribution



■ Baycrest    ▨ CAMH    ■ St. Michael's    ■ Sunnybrook    ▨ UHN

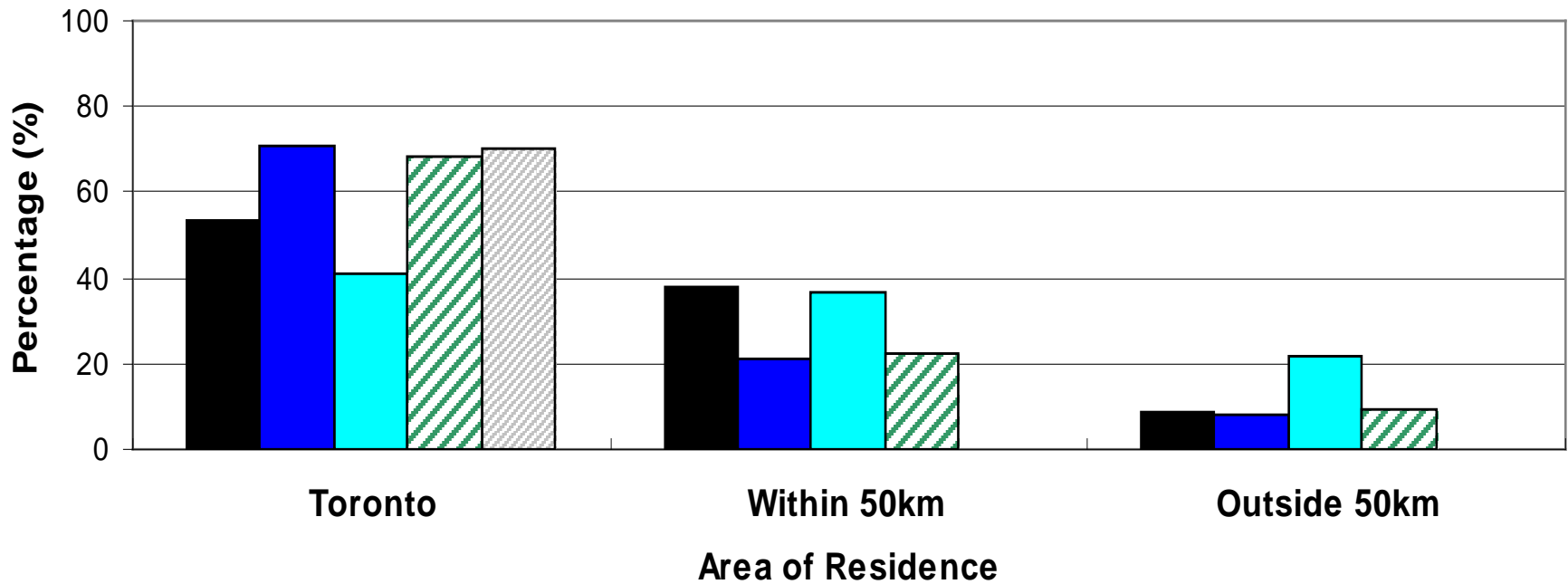
n= 581

n= 133

n= 263

n= 1082

# Location Distribution



■ Baycrest ■ St. Michael's ■ Sunnybrook ▨ UHN ▨ CAMH

n= 567

n= 133

n= 260

n= 1082

# Common Assessment Protocols

<b>Baycrest</b>	<b>CAMH</b>	<b>Ontario Shores</b>	<b>SMH</b>	<b>SHSC</b>	<b>UHN</b>
BNA MMSE MoCA	MMSE MoCA	BNA MMSE MoCA	BNA MMSE MoCA	BNA MMSE MoCA	BNA MMSE MoCA
Neuro- psych Speech Path	Neuro- psych	Neuro- psych	Speech Path	Neuro- psych Inpatient Speech Path	Neuro- psych Speech Path

ORIGINAL ARTICLE

# The Behavioural Neurology Assessment

*S. Darvesh, L. Leach, S. E. Black, E. Kaplan, M. Freedman*

**ABSTRACT:** *Background:* We present information regarding the standardization, reliability and clinical validity of two versions of the Behavioural Neurology Assessment (BNA). The BNA-Long Form consists of 24 subtests within separate domains: Attention, Memory, Language, Visuospatial Function, Executive Function, and Praxis. The BNA-Short Form consists of 13 subtests within the domains of Attention, Memory, Naming, Visuospatial Function and Executive Function. In addition to individual domain indices, a Grand Total score was calculated for both BNA versions. *Objective:* To standardize the administration and scoring and validate the BNA for detection of dementia. *Methods:* Standardized normative data were obtained on 115 healthy subjects ranging in age from 50 to 95. Test-retest stability was obtained on 19 subjects and clinical validity was investigated by administering the BNA and Mini-Mental Status Examination (MMSE) to 29 patients with dementia and 29 age-matched healthy subjects (controls). *Results:* Age had a significant effect on all but the Visuospatial and Praxis indices of the BNA-Long Form and an effect on Naming and Grand Total score of the Short-Form. Internal consistency (Cronbach's coefficient  $\alpha$ ) was .87 and .67 for the Long and Short Forms (.95 and .96 for dementia and control groups combined). Test-retest stability was acceptable. Grand Total indices of both BNA versions showed significant, positive correlations with the MMSE. Both BNA versions had superior sensitivity to dementia relative to the MMSE (.93 versus .79). Specificity was equivalent to the MMSE (.93 versus .97). *Conclusions:* Positive predictive values of the BNA and MMSE are equivalent but the BNA provides superior negative predictive value.

# Clinics where diagnosis for research are made by consensus

- Baycrest
- CAMH
- Ontario Shores
- St. Michael's
- Sunnybrook
- UHN (multidisciplinary Clinic)

# Sites involved in Clinical Trials

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- ▣ Ontario Shores
- ▣ Sunnybrook
- ▣ University Health Network

# Key Summary Points

- Behavioural Neurology Section is a major strength for success of TDRA through:
  - 1) Representation across Divisions and Departments
  - 2) Well-established communication network
  - 3) Patient registry in dementia

# Key Summary Points

- Memory Clinics across Toronto are:
  - 1) Well-established
  - 2) All directed by physicians who are part of the Behavioural Neurology Section
  - 2) Well-positioned for cross-institutional integration and collaboration in clinical research