The International Context of interRAI to Deliver Quality Aged Care: Big Ideas for Strengthening Care in New Zealand

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NZACA Conference 2018 ***Embrace the New Normal***

Tuesday September 11 2018

Disclosures

- Associate Fellow of interRAI and collaborator within interRAI Canada and the interRAI Network of Excellence in Acute Care (iNEAC)
- Schlegel Research Chair in Workforce Development for Seniors Care (Schlegel/University of Waterloo)
- Canadian Gerontological Nurses Association
- Funding from NSERC, CIHR, HSFO, CFN and the Alzheimer's Society of Canada

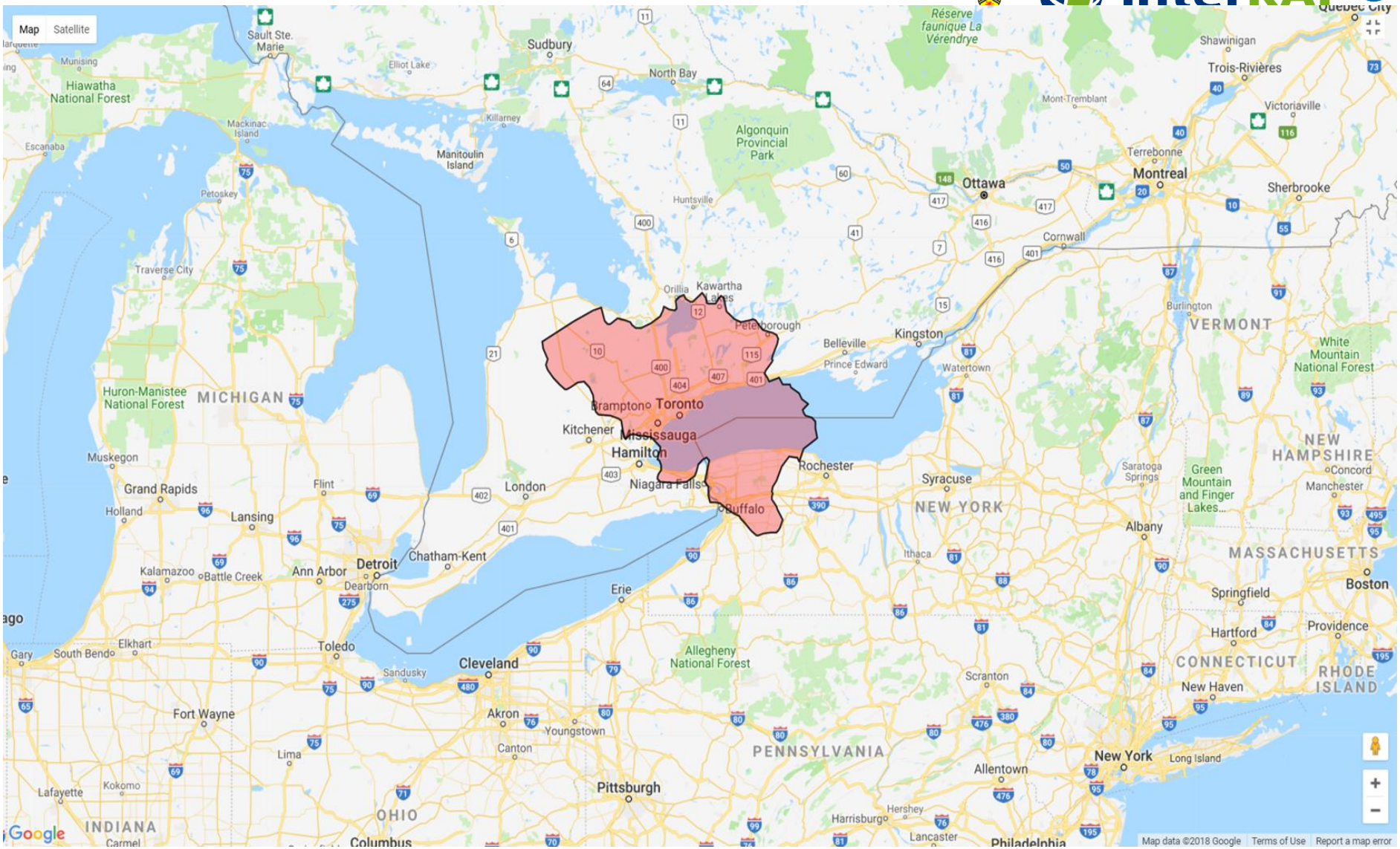
- Canada (9,984,670 km²) is 37 times as big as New Zealand (268,021 km²).

- Canada's population: 36,708,083

- In July 2017, one out of six Canadians was at least 65 years of age.

- Aboriginal Peoples: First Nations, Metis and Inuit

Source: Statistics Canada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Satellite
Sault Ste. Marie
Sudbury
North Bay
Elliot Lake
Hiawatha National Forest
Munising
Mackinac Island
Escanaba
Killarney
Manitoulin Island
Algonquin Provincial Park
Réserve faunique La Vérendrye
Shawinigan
Trois-Rivières
Mont-Tremblant
Victoriaville
Terrebonne
Montreal
Ottawa
Sherbrooke
Petoskey
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Cornwall
Orillia
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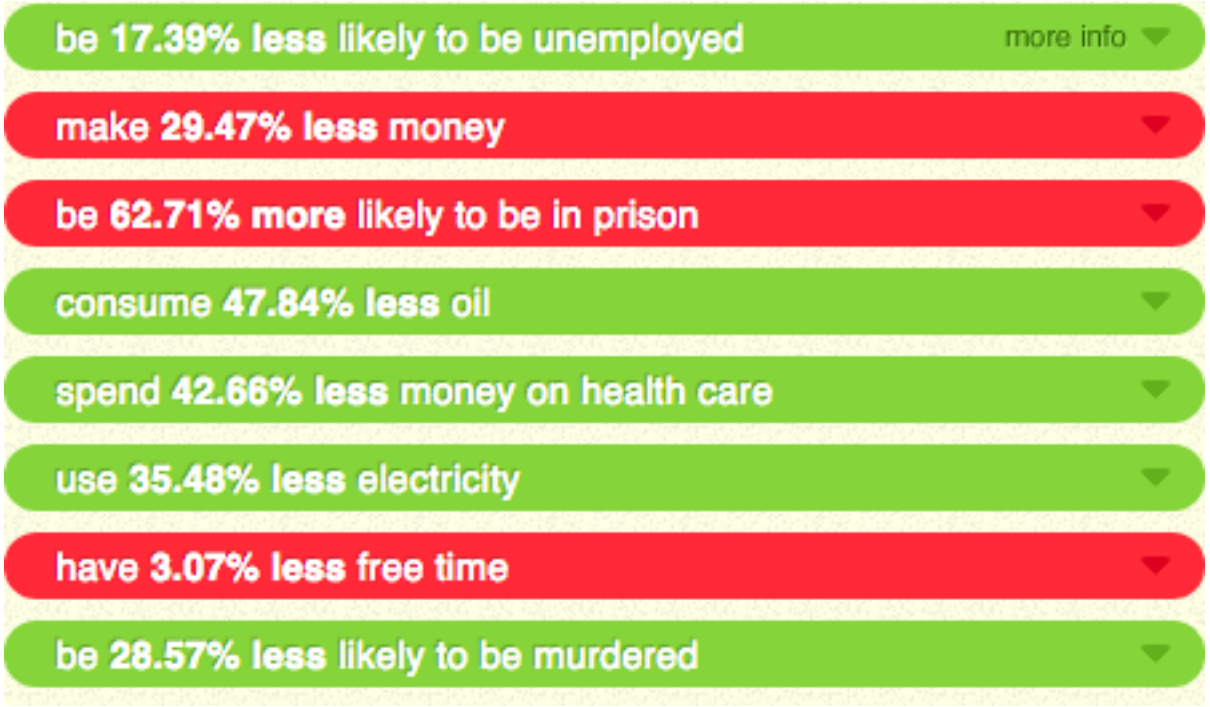
If New Zealand is your home instead of Canada you …



New Zealand

Canada

Health Care System - Canada

- Driven through thirteen provinces and territorial systems.
- Publicly funded.
- Canada Health Act of 1984.
- Health card.
- Primary care based model – family physician/family health team.
- Fee for service/salaries are negotiated on annual basis between government and professional organization.

Health Care System - Canada

- Cost-effective because of the administrative simplicity.
- In each province, each doctor/team office handles the insurance claim against the provincial insurer.
- There is no need for the person who accesses healthcare to be involved in billing and reclaim costs.
- No deductibles or co-payments.

Primary Care

- Routine care
- Care for urgent but minor or common health problems
- Mental health care
- Maternal and child care
- Psychosocial services
- Liaison with home care
- Health promotion and disease prevention
- End-of-life care

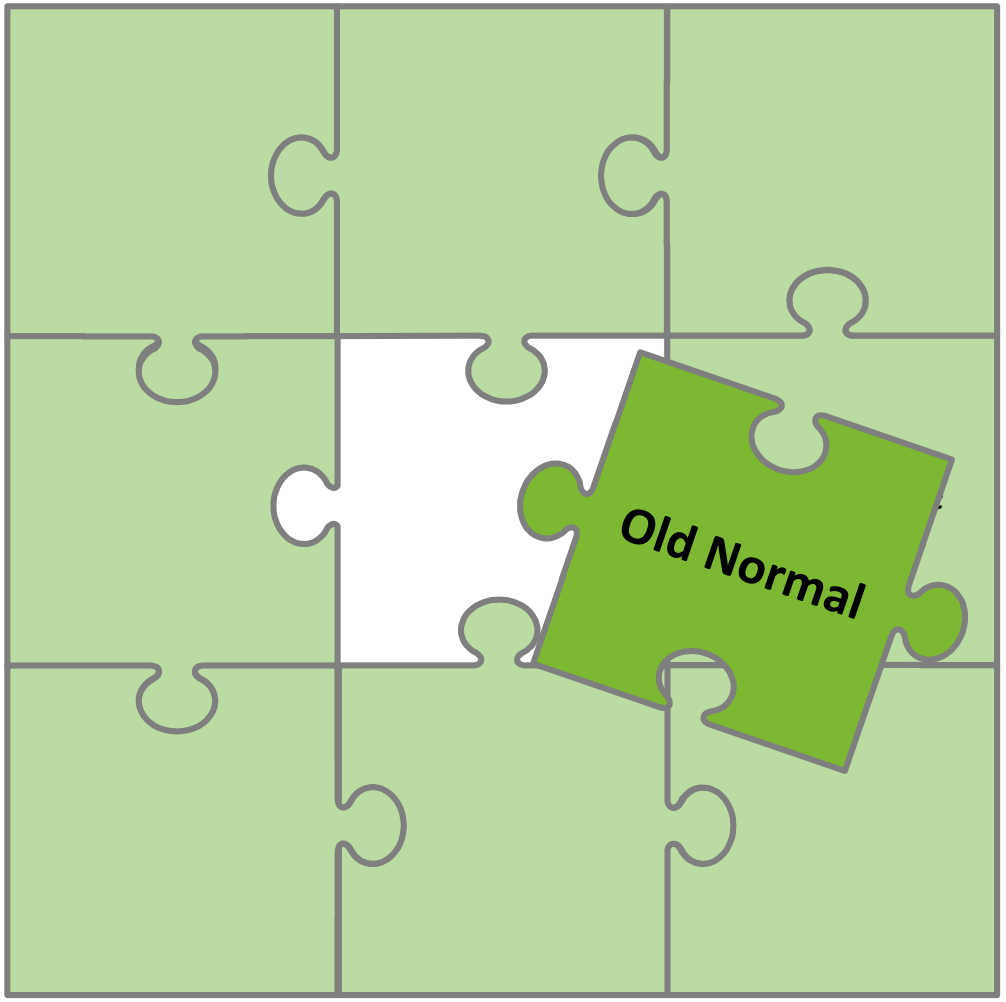
Some Challenges

- Complexity and diversity (geographically)
- Best practices – evidence informed care?
- “Siloed care” across the system
- Setting instead of person and/or situation care
- Limited resources, crisis resource allocation
- Measurement challenges
- Limited economic modeling separated from trends

A New Normal

- Chronic illness management and end-of-life care
- Pay Equity Case
- Workforce, recruitment and retention (education)
- Compliance creep or optimization?
- Standardized measurement and Quality Initiatives
- Policies and legislation
- Culture change in aging


New Normal


Old Normal

interRAI

Who ?

- International, not-for-profit network of ~60 researchers and health/social service professionals

What?

- Comprehensive assessment of strengths, preferences, and needs for vulnerable populations

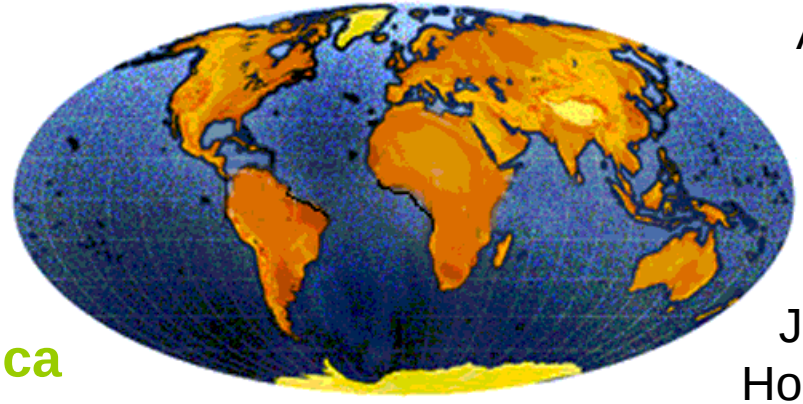
How?

- Multinational collaborative research to develop, implement and evaluate instruments and their related applications

interRAI Countries

North America
Canada
US
Mexico

Europe
Iceland, Norway, Sweden, Denmark, Finland, Netherlands, France, Germany, Switzerland, UK, Italy, Spain, Czech Republic, Poland, Estonia, Belgium, Lithuania, Austria, Portugal, Russia



Central/ South America
Belize,
Cuba, Brazil,
Chile, Peru

Middle East/ South Asia
Israel, India

Pacific Rim
Japan, China, Taiwan, Hong Kong, South Korea, Australia, New Zealand, Singapore

The interRAI Assessment System

- Reliable assessment items developed by clinicians
- Scales validated against gold standards
- Automated triggering mechanisms for problem lists, screening and risk profiling
- Part of an integrated system of instruments
- Electronic application

What do interRAI assessments offer?

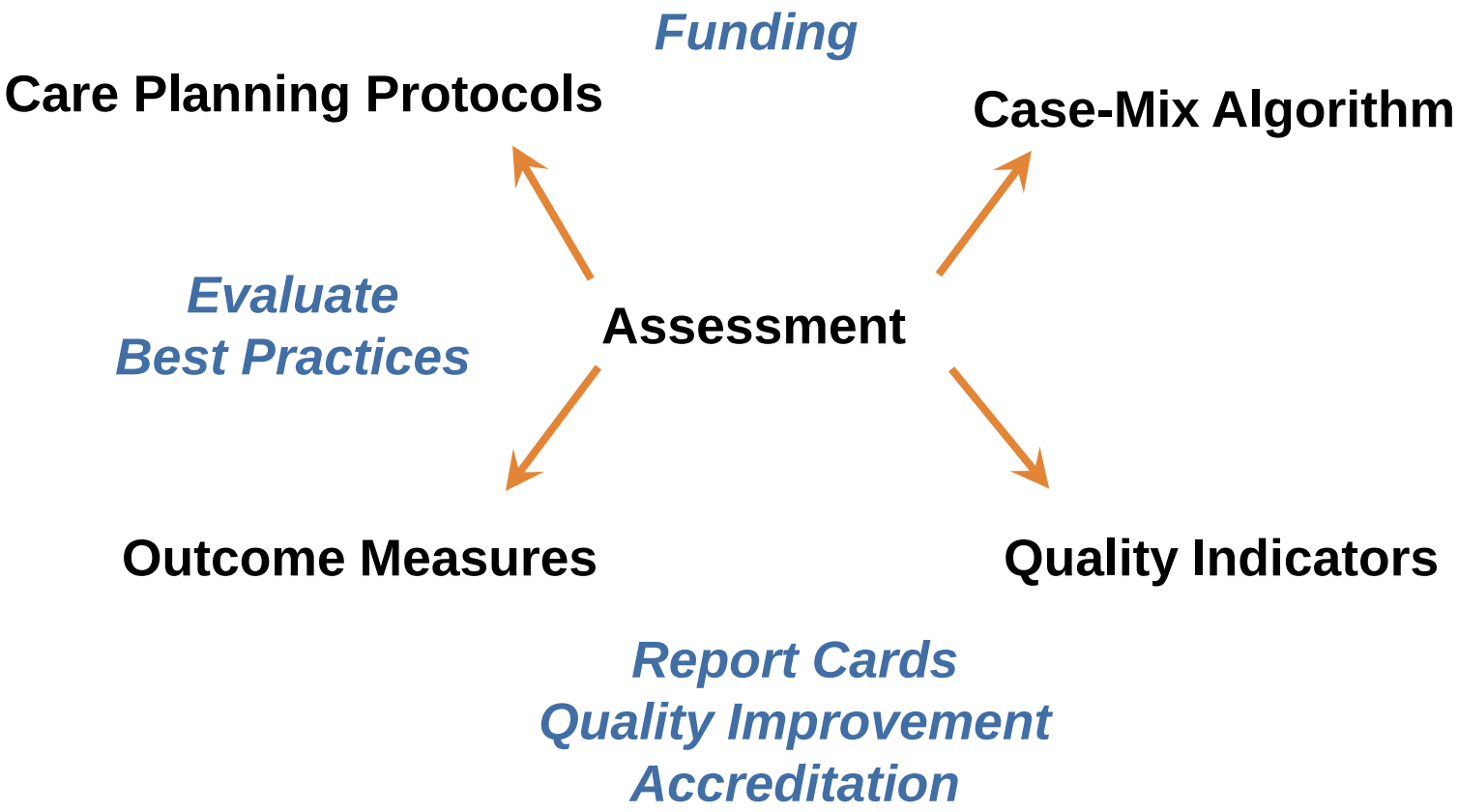
- Common language
  - ***Home Care → Emergency Department***
  - ***Acute Care → Post Acute Setting (Rehab) → Home or Aged Care***
  - ***Home Care + Community Support Services***
- Common theoretical/conceptual basis
- Common clinical emphasis
- Common core elements
- Common assessment methods

The interRAI Family of Instruments
Ontario's Health and Social Services Sector

- Home Care (RAI-HC)
  - + Contact Assessment (interRAI CA)
- Complex Continuing Care (MDS 2.0)
- Long Term Care (MDS 2.0)
- Community Health Assessment
  - AL supplement
  - Functional supplement
  - MH supplement
  - Deafblind supplement
- Mental Health
  - Inpatient (RAI-MH)
  - Community (RAI-CMH)
  - Emergency Screener
  - Correctional Facilities (interRAI Forensic Supplement to the interRAI MH and CMH)
  - Child and Youth Mental Health (ChYMH)
  - interRAI Brief Mental Health Screener (BMHS)
- Palliative Care (interRAI PC)
- Post-Acute Care-Rehabilitation
- Intellectual Disability (interRAI ID)
- interRAI Preliminary Screener for Primary Care and Community Care Settings
- Acute Care (interRAI AC)
  - + ED Screener
  - + AC screener
  - + AC comprehensive assessment
- Quality of Life (interRAI QoL)
  - LTC
  - Home and Community Care,
  - Family Survey on Nursing Home Quality of Life,
  - Mental Health

Mandated | Voluntary | Pilot Stage

Applications of interRAI Instruments



All Applications Informed by the Assessment Information

Person-level

Care Plan (CAPs)
Personalized care
What does the resident need?

interRAI LTCF Assessment

interRAI LTCF assessment
Point of Care

LTC Facilities use the interRAI LTCF assessment to:

•Identify the care needs

•Explore the services that will best meet the resident's needs and situation

•Gather information about who can provide these services and when these services need to be provided (right care, right time)

•Develop the care plan

Adapted from: http://www.health.gov.on.ca

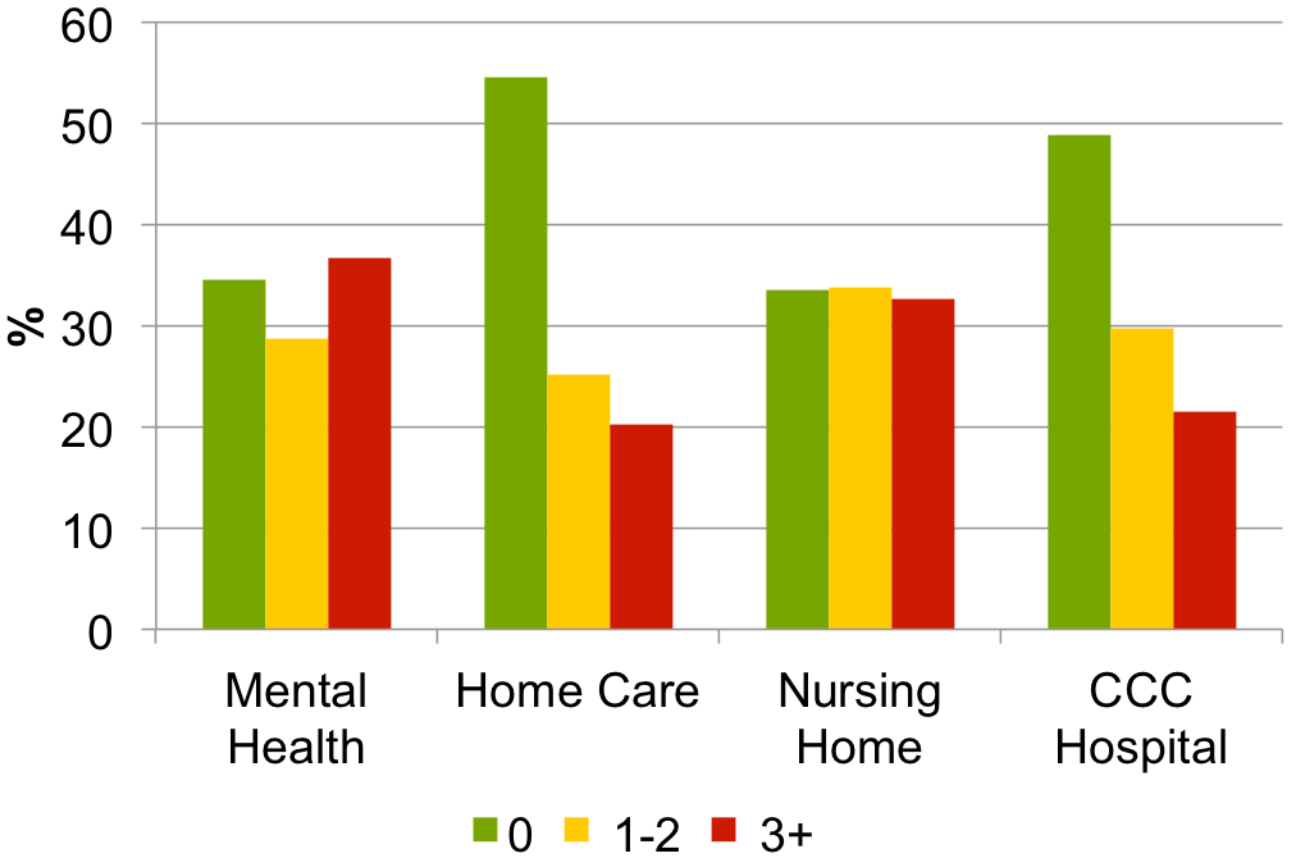
interRAI LTCF assessment
Point of Care

Health care professionals (nurses) assess residents and capture information **electronically at the point of care to develop care plans**

The assessment includes information on:

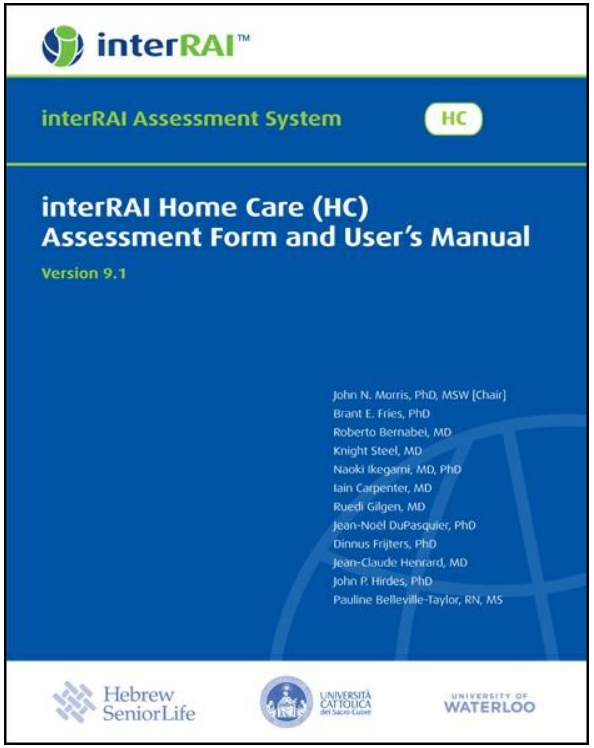
- Health, functional and cognitive status
- Nutrition, continence and skin condition
- Mood, behaviour and communication
- Social supports, spirituality and well-being
- Treatments, procedures and medications

Depression Rating Scale by Sector, Ontario, Canada

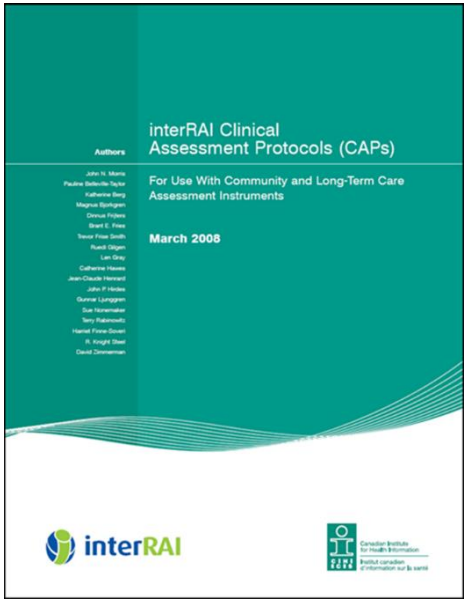


Courtesy of Dr. J. Hirdes

interRAI Assessment Items **TRIGGER** Clinical Assessment Protocols (CAPs)



Clinical Assessment Protocols



- specific clinical characteristics are used to identify residents who could benefit from further evaluation of specific problems either because they are:
  - ***at risk for decline***

  or
  - ***show potential for improvement***
- each CAP is linked to a series of best practices

CAP Content

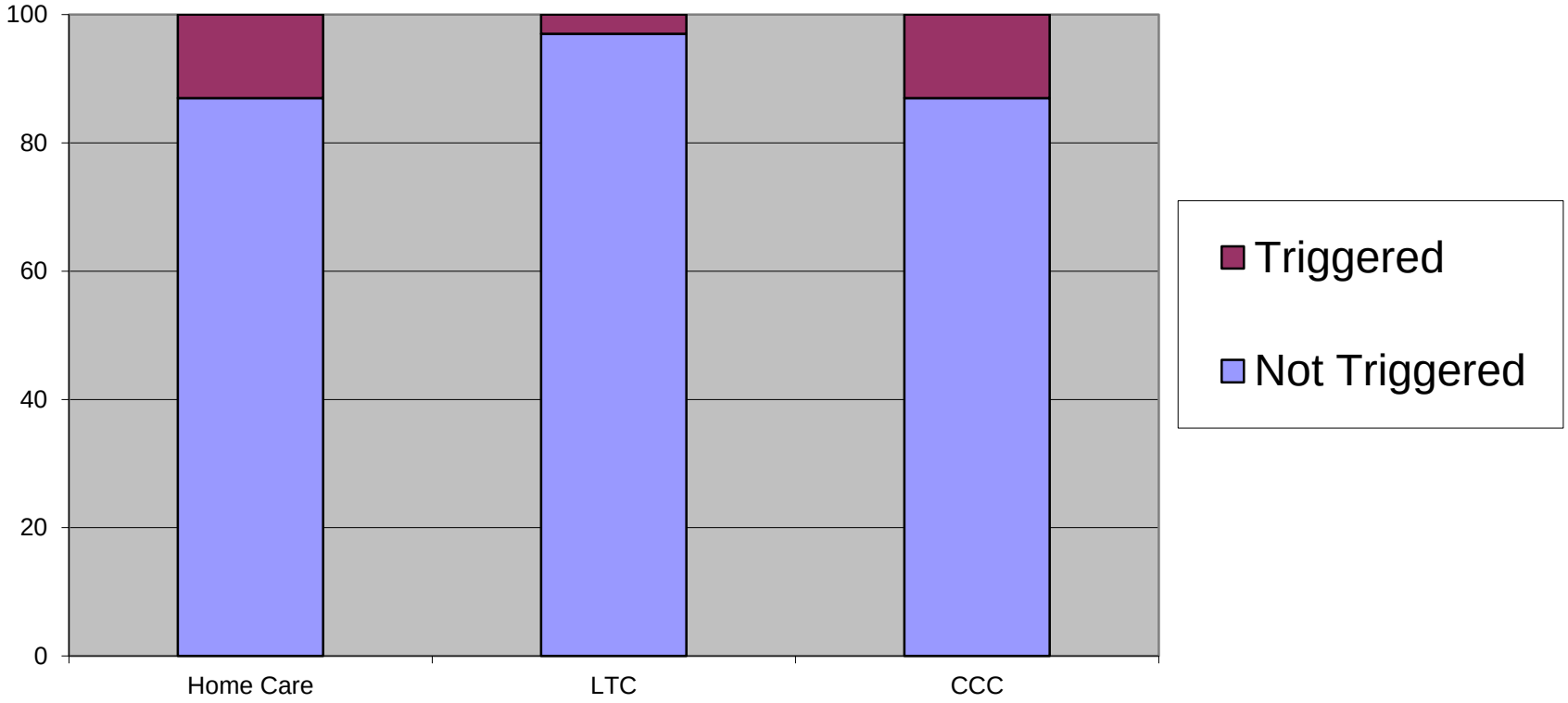
- Problem statement
- Goals of care
- Description of CAP triggers
- Clinical guidelines
  - Risk appraisal
  - Identification of contributing factors
  - Interventions and monitoring
- Additional resources

interRAI Care Planning Protocols

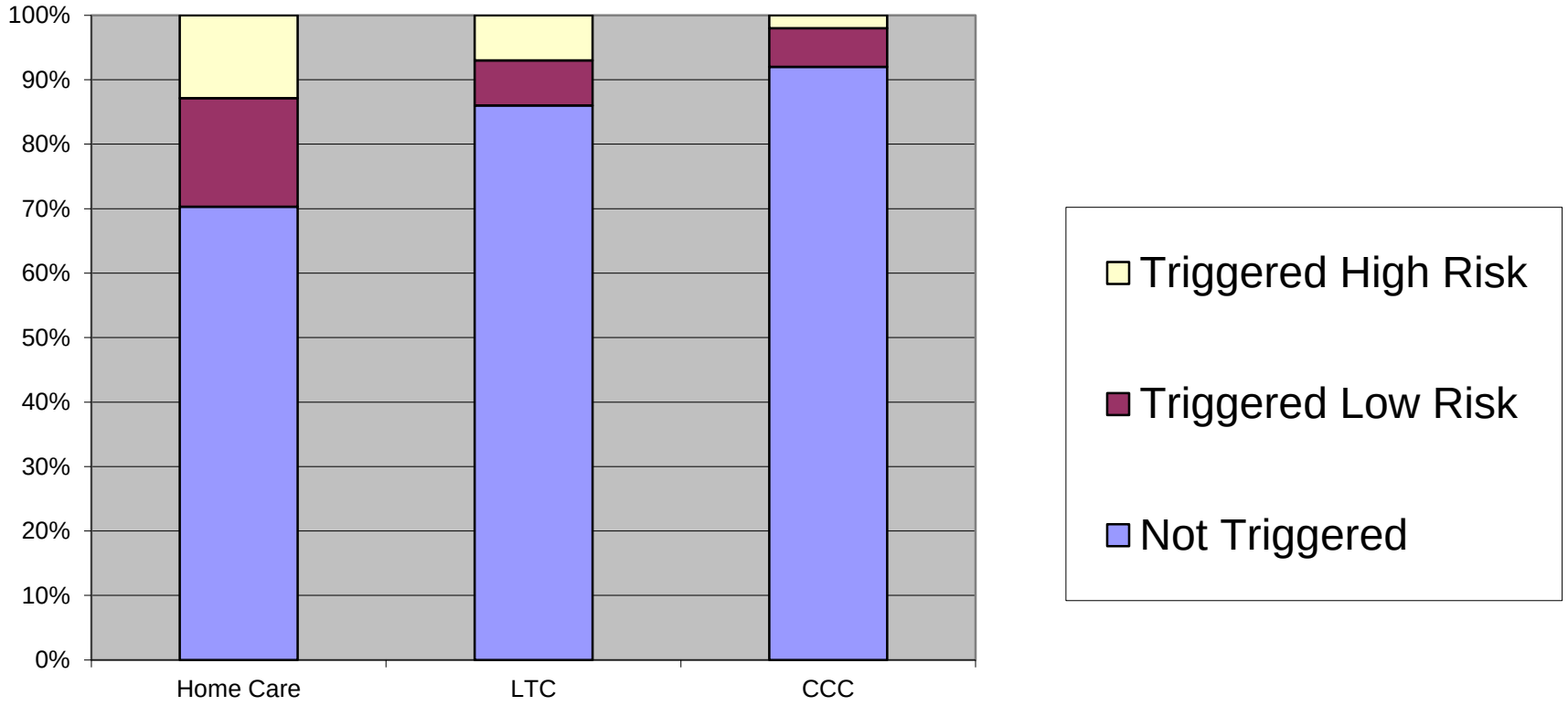
Clinical Issues

- Falls
- Pain
- Pressure Ulcer
- Cardio-Respiratory
- Undernutrition
- Dehydration
- Feeding Tube
- Prevention
- Appropriate Medications
- Tobacco and Alcohol Use
- Urinary Incontinence
- Bowel Conditions

Appropriate Medication CAP



Falls CAP


100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
Home Care
LTC
CCC
Triggered High Risk
Triggered Low Risk
Not Triggered

All Applications Informed by the Assessment Information

Assessment

Outcome Measures

Is care making a difference?
How well is the resident doing?

interRAI Outcome Measures (Scales)

- **Functions of embedded scales:**
  - Evaluate current status of a resident
  - Track outcomes of care
  - Aggregated comparisons for quality benchmarking

- **Available outcome measures**
  - Cognitive Performance Scale (CPS)
  - Depression Rating Scale (DRS)
  - IADL Involvement Scale
  - Changes in Health, End-stage Signs and Symptoms (CHESS)
  - Pain Scale
  - ADL Self-Performance Hierarchy Scale
  - Aggressive Behavioural Scale
  - Pressure Ulcer Resource Scale
  - Communication Scale
  - MAPLe
  - DIVERT

Validation of some interRAI Outcome Measures with other recognized assessments

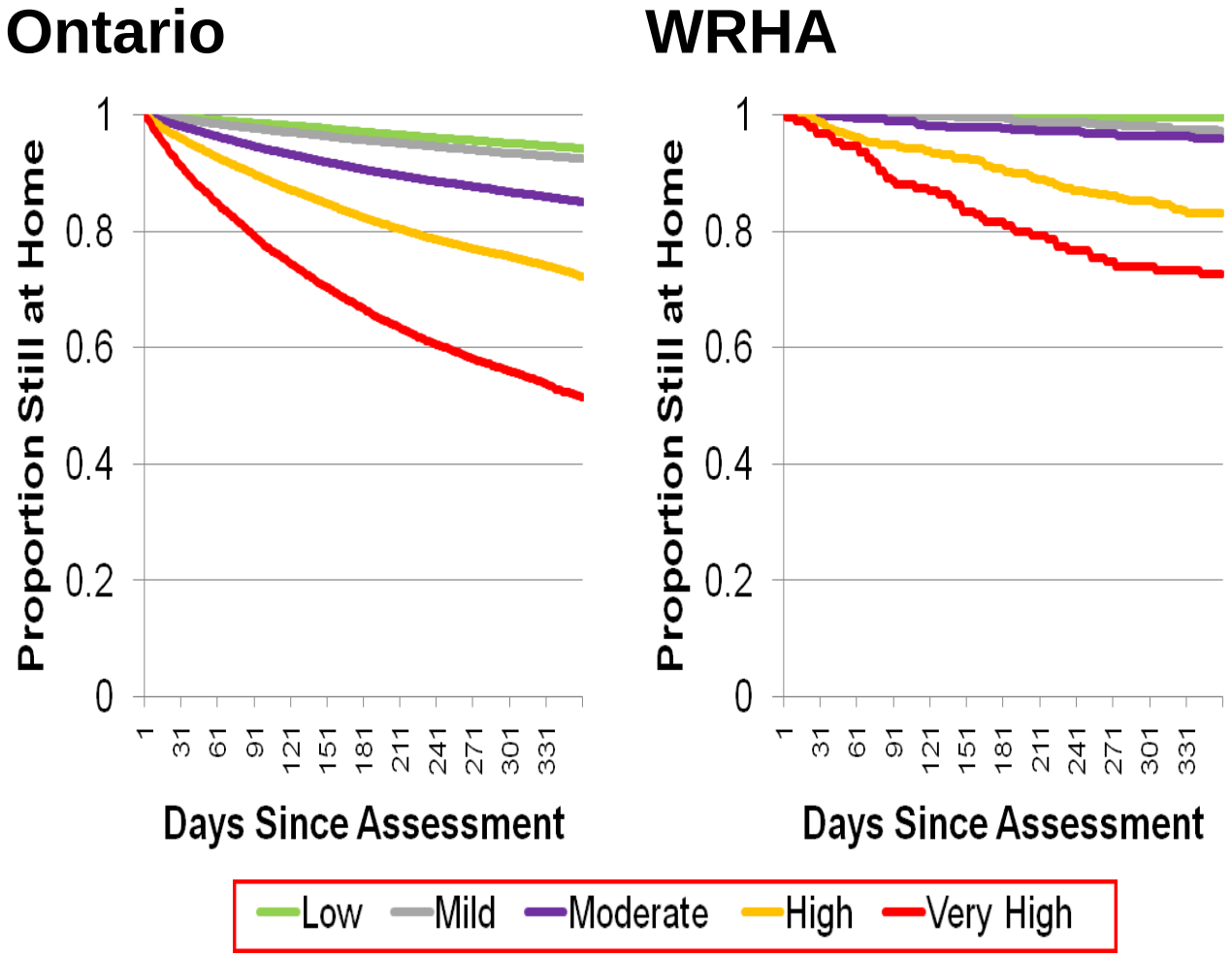
interRAI Scale	Industry Gold Standard
Cognitive Performance Scale	MMSE
Depression Rating Scale	Hamilton Depression Rating Scale & the Cornell Scale for Depression
Pain Scale	Visual Analogue Scale
Aggressive Behavior Scale	Cohen-Mansfield Agitation Inventory
interRAI Pressure Ulcer Risk Scale	Braden Scale for Predicting Pressure Sore Risk

MAPLe

- Method for Assigning Priority Levels
- interRAI Canada developed MAPLe at request of MoHLTC to provide **evidence base to inform LTC placement** when bed supply was increased
- Calculation of MAPLe includes items on: behaviors, cognition, changes in decision making, falls, ADL etc.
- Scores range from 1 to 5

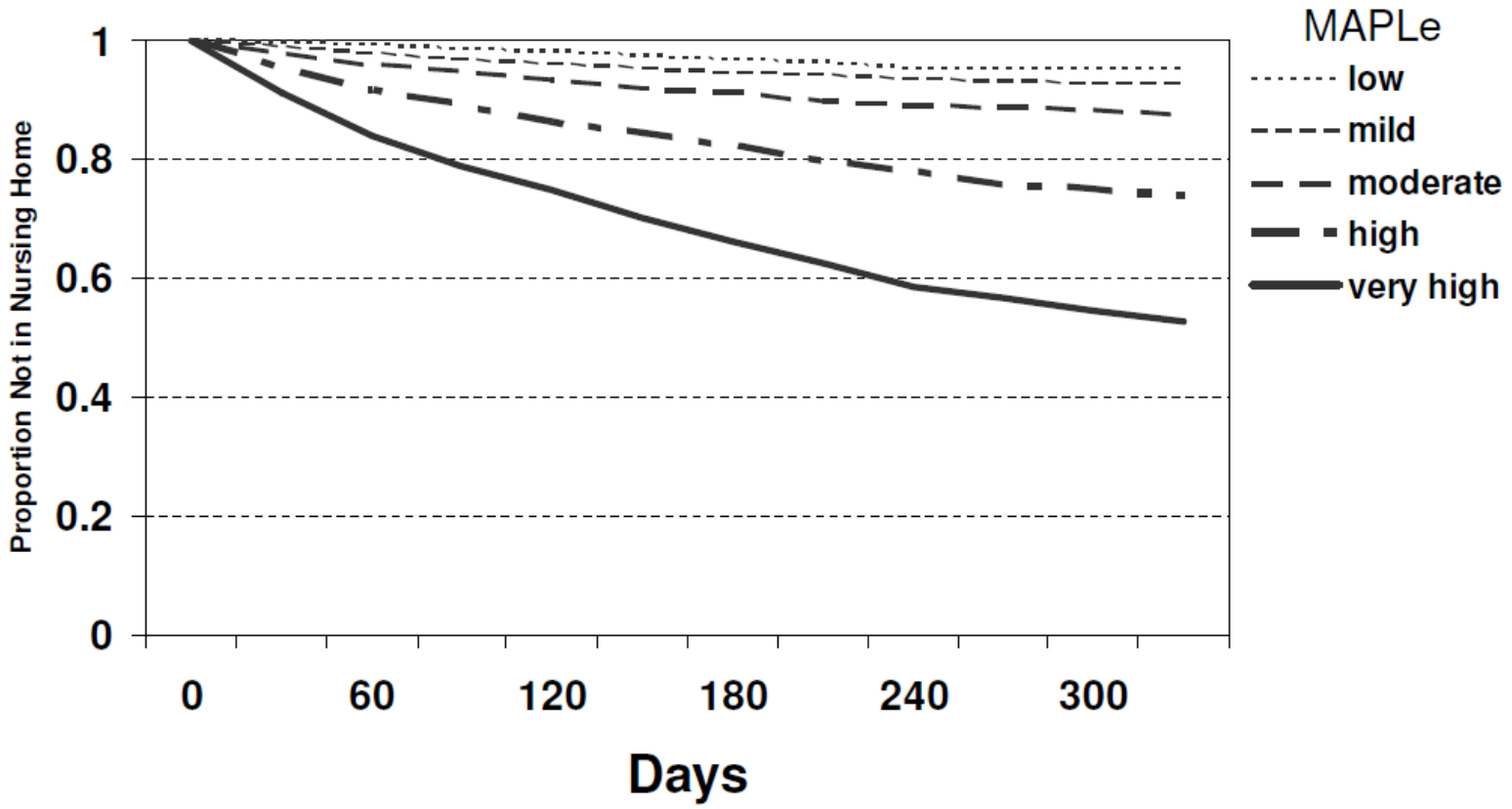
- MAPLe predicts three outcomes
  - LTC admission
  - ratings person “better off elsewhere”
  - Caregiver distress

LTC Home Placement Among Home Care Clients by MAPLe Level



Courtesy of Dr. John Hirdes

Survival plot of time to nursing home admission by MAPLe priority level, Ontario



Hirdes et al. 2012

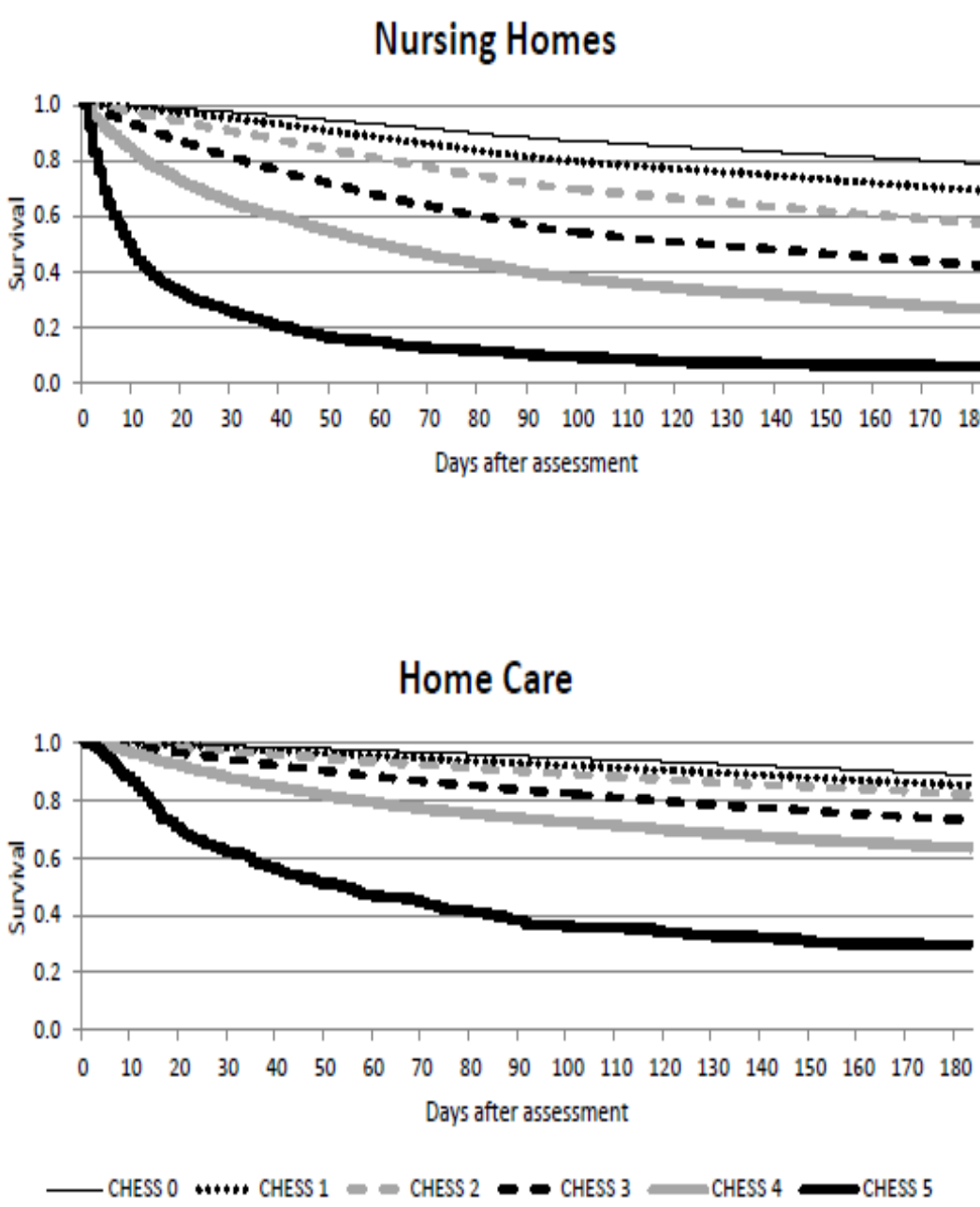
CHESS Scale

- Changes in Health
- End-stage Disease
- Signs and Symptoms of Medical Problems

- Scores range from:
  - 0 → No instability in health
  - 5 → Highly unstable

- Predictive algorithm
  - 1 point each for declines in ADL (H3) and Cognition (B2b)
  - 1 point for end-stage disease (K8e)
  - Up to 2 points for count of signs and symptoms
    - Insufficient fluids (L2c), Edema (K3d), Shortness of breath (K3e), Vomiting (K2e), Weight loss (L1a), Decrease in food eaten (L2b)

CHESS and mortality for Persons with Neurological Conditions



All Applications Informed by the Assessment Information

Assessment

Quality Indicators (QI)

Is care making a difference?
How does my organization compare to others?

Hutchinson et al. BMC Health Services Research 2010, 10:166
http://www.biomedcentral.com/1472-6963/10/166

BMC Health Services Research

RESEARCH ARTICLE Open Access

The Resident Assessment Instrument-Minimum Data Set 2.0 quality indicators: a systematic review

Alison M Hutchinson*[1], Doris L Milke[2], Suzanne Maisey[3], Cynthia Johnson[4], Janet E Squires[5], Gary Teare[6] and Carole A Estabrooks[5]

Abstract

Background: The Resident Assessment Instrument-Minimum Data Set (RAI-MDS) 2.0 is designed to collect the minimum amount of data to guide care planning and monitoring for residents in long-term care settings. These data

The Gerontologist
Vol. 44, No. 5, 665–679

Home Care Quality Indicators (HCQIs) Based on the MDS-HC

John P. Hirdes, PhD,[1] Brant E. Fries, PhD,[2] John N. Morris, PhD,[3] Naoki Ikegami, MD, PhD,[4] David Zimmerman, PhD,[5] Dawn M. Dalby, MSc,[1] Pablo Aliaga, MA,[6] Suzanne Hammer, MA,[7] and Richard Jones, PhD[3]

Purpose: This study aimed to develop home care quality indicators (HCQIs) to be used by a variety of audiences including consumers, agencies, regulators, and policy makers to support evidence-based decision making related to the quality of home care services. ***Design and Methods:*** Data from 3,041

quality improvement for home care. These indicators can provide high-quality evidence on performance at the agency level and on a regional basis.

Key Words: Inter-RAI, MDS–HC, Quality of care, Home care, Risk adjustment

Brand et al. BMC Health Services Research 2011, 11:281
http://www.biomedcentral.com/1472-6963/11/281

BMC Health Services Research

STUDY PROTOCOL Open Access

Development of quality indicators for monitoring outcomes of frail elderly hospitalised in acute care health settings: Study Protocol

Caroline A Brand[1,2,3], Melinda Martin-Khan[4*], Olivia Wright[5], Richard N Jones[6,7], John N Morris[7], Catherine M Travers[4], Joannne Tropea[1] and Leonard C Gray[4]

Abstract

Background: Frail older people admitted to acute care hospitals are at risk of a range of adverse outcomes, including geriatric syndromes, although targeted care strategies can improve health outcomes for these patients. It

Morris et al. BMC Geriatrics 2013, 13:127
http://www.biomedcentral.com/1471-2318/13/127

BMC Geriatrics

RESEARCH ARTICLE Open Access

interRAI home care quality indicators

John N Morris[1*], Brant E Fries[2,3], Dinnus Frijters[4], John P Hirdes[5] and R Knight Steel[6]

Abstract

Background: This paper describe the development of interRAI's second-generation home care quality indicators (HC-QIs). They are derived from two of interRAI's widely used community assessments: the Community Health Assessment and the Home Care Assessment. In this work the form in which the quality problem is specified has been refined, the covariate structure updated, and two summary scales introduced.

Methods: Two data sets were used: at the client and home-care site levels. Client-level data were employed to identify HC-QI covariates. This sample consisted of 335,544 clients from Europe, Canada, and the United States. Program level analyses, where client level data were aggregated at the site level, were also based on the clients from the samples from Europe, Canada, and the United States. There were 1,654 program-based observations – 22% from Europe, 23% from the US, and 55% from Canada.
The first task was to identify potential HC-QIs, including both change and prevalence measures. Next, they were reviewed by industry representatives and members of the interRAI network. A two-step process adjustment was followed to identify the most appropriate covariance structure for each HC-QI. Finally, a factor analytic strategy was used to identify HC-QIs that cluster together and thus are candidates for summary scales.

Results: The set of risk adjusted HC-QIs are multi-dimensional in scope, including measures of function, clinical complexity, social life, distress, and service use. Two factors were identified. The first includes a set of eleven measures that revolve around the absence of decline. This scale talks about functional independence and engagement. The second factor, anchored on nine functional improvement HC-QIs, referenced positively, this scale indicates a return to clinical balance.

Canadian Institute of Health Information

Explore your care system

https://yourhealthsystem.cihi.ca/hsp/indepth?lang=en#/

Quality indicators: Examples in Long Term Care

Safety:

- Falls in last 30 days
- Worsened pressure ulcer

Appropriateness and Effectiveness

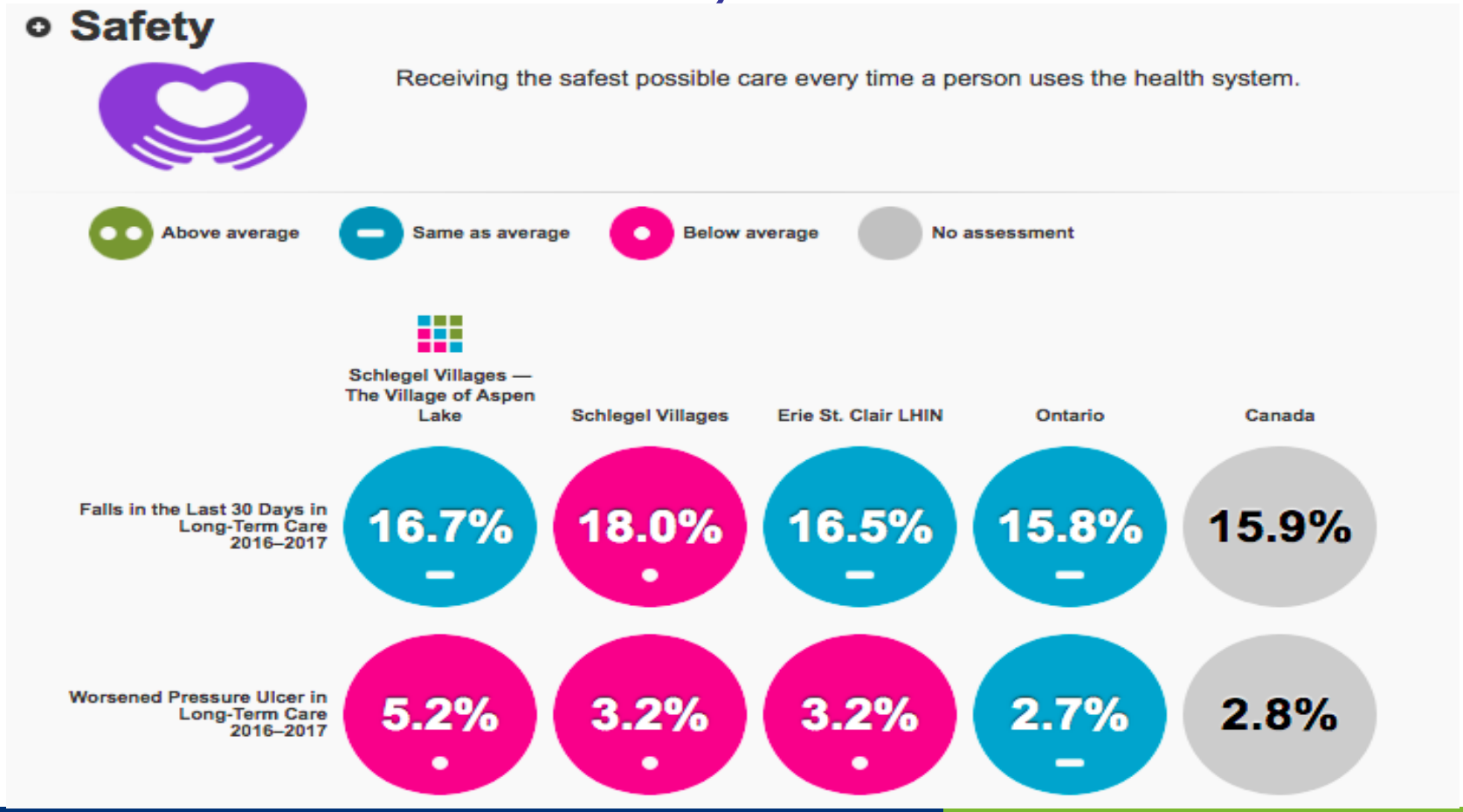
- Potentially inappropriate use of antipsychotics
- Restraint use

Quality indicators: Examples in Long Term Care

Health Status

- Improved physical functioning
- Worsened physical functioning
- Worsened depressive mood
- Experiencing pain
- Experiencing worsened pain

Example: Schlegel Villages, Aspen Lake, Ontario, Canada



Appropriateness and Effectiveness

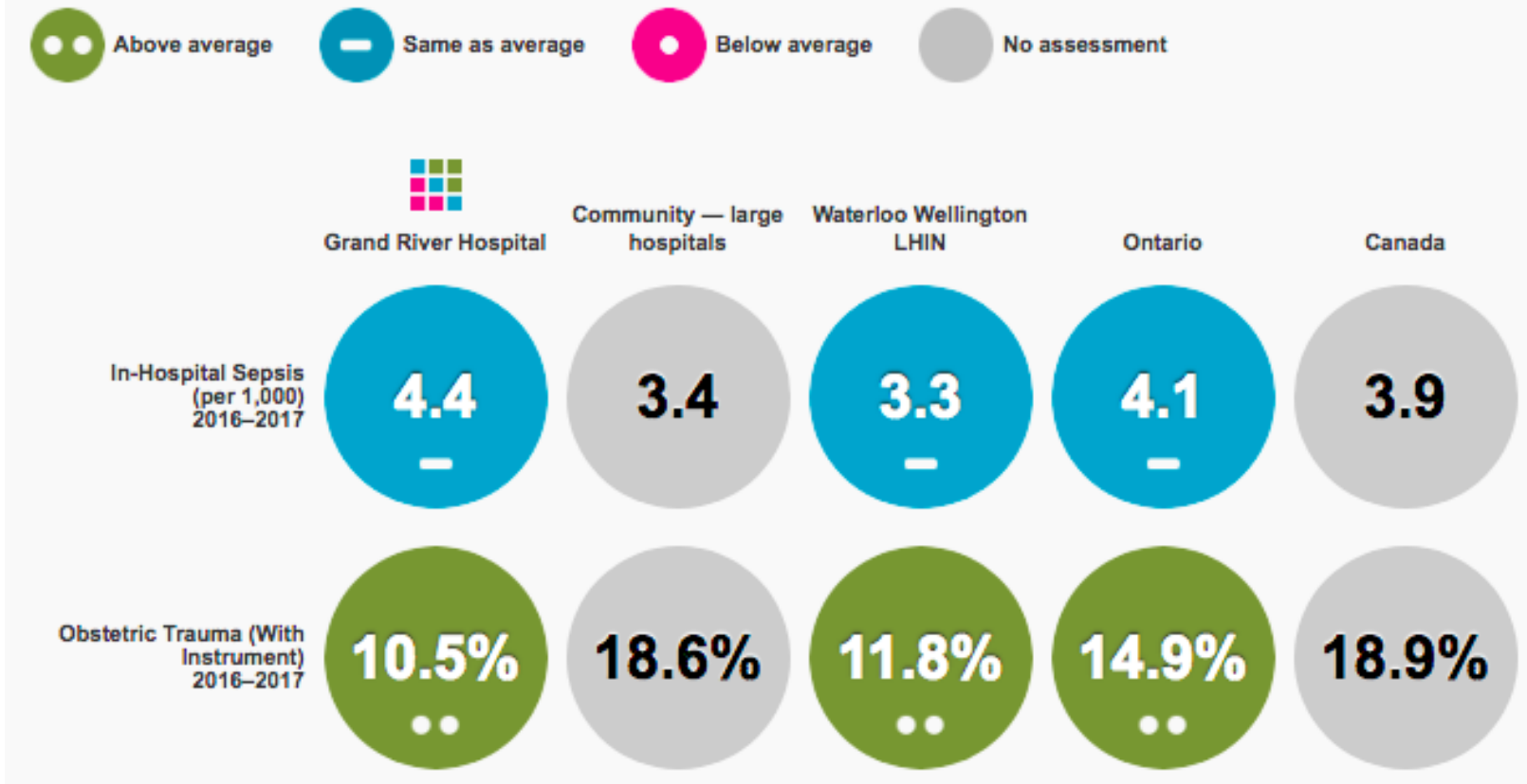
Providing care to only those who could benefit; this reduces the incidence, duration, intensity and consequences of health problems.

Above average | Same as average | Below average | No assessment

	Schlegel Villages — The Village of Aspen Lake	Schlegel Villages	Erie St. Clair LHIN	Ontario	Canada
Potentially Inappropriate Use of Antipsychotics in Long-Term Care 2016–2017	13.9% ••	19.8% ••	23.0% •	20.4% ••	21.9%
Restraint Use in Long-Term Care 2016–2017	4.8% –	2.9% ••	5.5% ••	5.1% ••	6.5%

Safety

Receiving the safest possible care every time a person uses the health system.



Appropriateness and Effectiveness

Providing care to only those who could benefit; this reduces the incidence, duration, intensity and consequences of health problems.

Above average | Same as average | Below average | No assessment

	Grand River Hospital	Community — large hospitals	Waterloo Wellington LHIN	Ontario	Canada
All Patients Readmitted to Hospital 2016–2017	9.4%	8.7%	8.9%	9.2%	9.1%
Medical Patients Readmitted to Hospital 2016–2017	13.8%	13.2%	13.5%	13.8%	13.7%
Surgical Patients Readmitted to Hospital 2016–2017	7.7%	6.6%	7.3%	7.1%	6.9%

Health Status

The health system's contribution to Canadians' physical, mental and social health and well-being.

Above average — Same as average — Below average — No assessment

	Schlegel Villages — The Village of Aspen Lake	Schlegel Villages	Erie St. Clair LHIN	Ontario	Canada
Improved Physical Functioning in Long-Term Care 2016–2017	35.8% —	31.8% —	30.8% —	30.0% •	31.4%
Worsened Physical Functioning in Long-Term Care 2016–2017	38.0% •	32.8% —	34.9% •	34.7% •	33.1%
Worsened Depressive Mood in Long-Term Care 2016–2017	38.4% •	27.9% •	22.7% •	23.5% •	21.7%
Experiencing Pain in Long-Term Care 2016–2017	4.2% ••	5.5% ••	7.5% —	5.6% ••	7.9%
Experiencing Worsened Pain in Long-Term Care 2016–2017	3.9% ••	7.5% ••	10.2% —	10.0% ••	10.2%

All Applications Informed by the Assessment Information

Assessment

Organization-level

Resource Allocation (e.g., RUG)

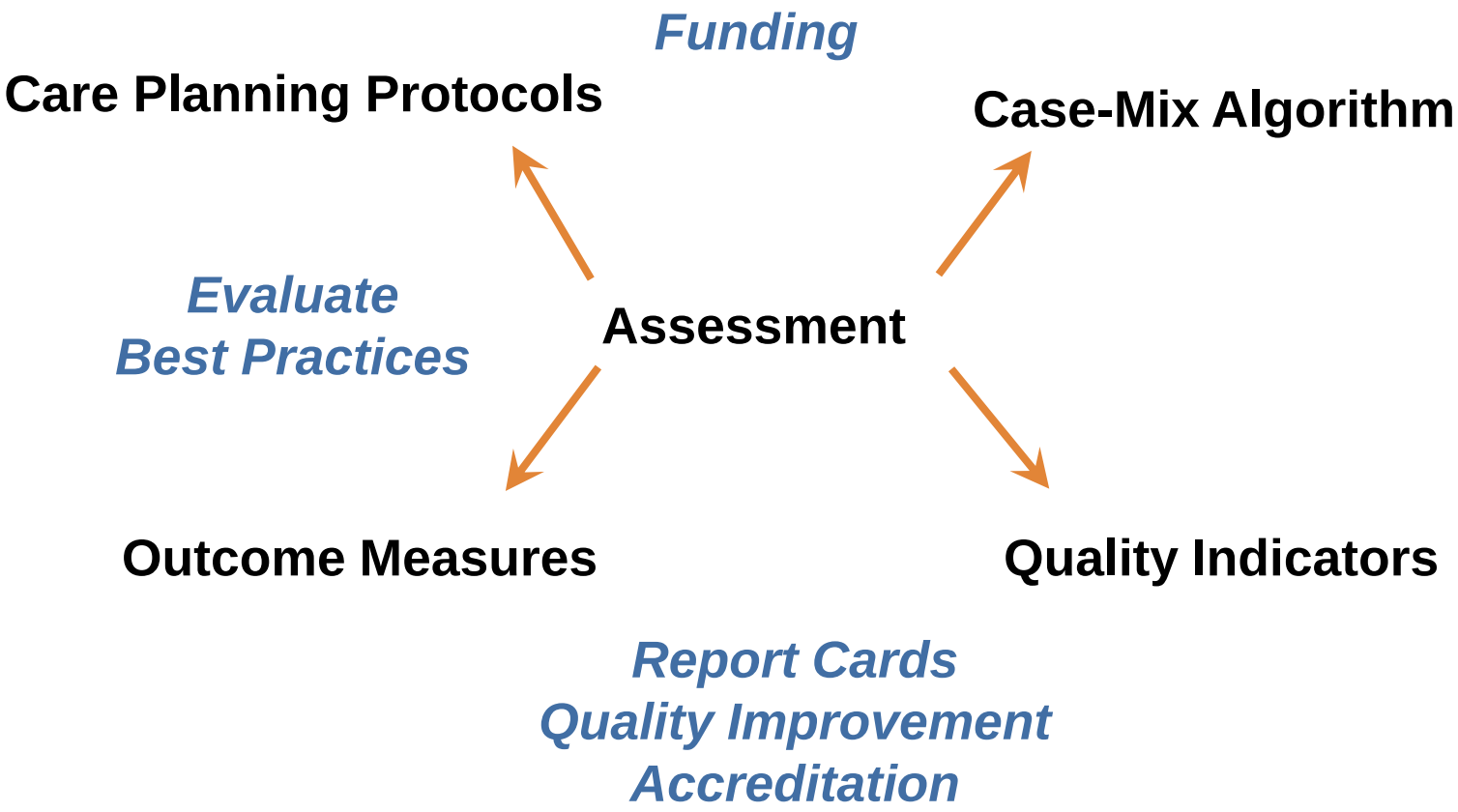
What resources do my residents need?

Resource Utilization Groups

RUGs describes relative resource use of different types of residents based on clinical characteristics:

- Cognitive impairment
- ADL assistance
- Medical complexity
- Behaviour disturbance
- Psychiatric treatments
- Specialized treatments
- Rehabilitation

Applications of interRAI Instruments



And does interRAI work too?

Italian MDS HC RCT

Landi et al JAGS 2001

- 187 community-dwelling frail seniors
- All eligible for regional geriatric program
  - Assessed by nurse case manager
  - Care plan: MD, nurse, therapy, home support
- Randomized to
  - MDS HC
  - Barthel, Lawton-Brody, MMSE, and other tools as assessed by case manager

Table 1. Baseline Characteristics of Subjects in the Intervention and Control Groups

Characteristics	Intervention (n = 88)	Control (n = 88)	*P*-value
Age (years), mean ± SD	77.4 ± 9.1	77.1 ± 9.5	.83
Women (%)	68.2	67.0	.5
Marital status (%)			.08
Never married	21.6	10.3	
Married	28.4	38.6	
Widowed	50.0	51.1	
Living alone (%)	19.5	18.2	.2
ADL—Barthel Index*, mean ± SD	43.1 ± 33.75	41.1 ± 32.2	.69
IADL—Lawton Index†, mean ± SD	24.7 ± 5.6	23.4 ± 6.4	.17
MMSE scale‡, mean ± SD	16.8 ± 10.4	18.1 ± 11.5	.45
Number of medical conditions, mean ± SD	4.0 ± 2.5	3.6 ± 1.6	.14
Number of medications, mean ± SD	4.7 ± 3.1	4.0 ± 2.6	.09

Note: Quantitative variables are expressed as mean ± SD.

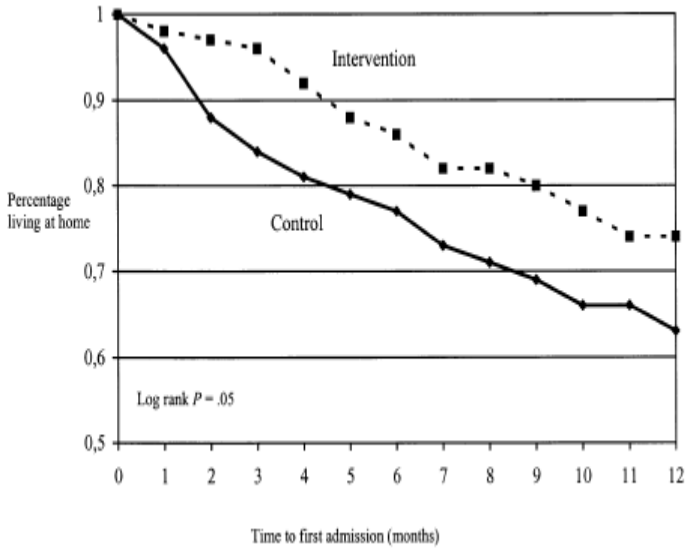
*Activities of Daily Living (ADL) Barthel Index score: range 0–100. Higher number indicates less impairment.

†Instrumental Activities of Daily Living (IADL) Lawton Index score: range 0–29. Higher number indicates greater impairment.

‡Mini-Mental State Examination (MMSE) score: range 0–30. Higher numbers indicate less impairment.

Table 2. Functional Outcomes After 1-Year Follow-Up in the Intervention and Control Groups

	Intervention (n = 61)	Control (n = 62)	
	Adjusted Mean* (±SD)		*P*-value
ADL—Barthel Index	51.7 ± 36.1	46.3 ± 33.7	0.05
IADL—Lawton Index	23.5 ± 5.9	21.9 ± 6.6	0.4
MMSE scale	19.9 ± 8.9	19.2 ± 10.7	0.03



- 21% reduction in overall costs
- *The difference was the use of the standardized assessment*

Uptake Challenges

- Inter-what?
- Implementation burden on front-line staff
  - Need to evaluate assessment redundancy and streamline
- Purchasers are administrative: tool seen as imposed rather than clinical
  - Need user friendly software
- Tyranny of the tool
  - My tool is better than your tool
  - Tools used as substitutes for clinical judgement
- Professional inertia:
  - EDUCATION support required
- *Issues not specific to interRAI instruments*

Why does this matter?

- The information gathered using these instruments is useful to help with care planning
- Implementation widespread: Standardized use would reduce documentation burden for patients/residents, caregivers, and staff
- Promotes system integration, seamless care transitions, and rational planning, and ultimately better data driving better outcomes

Opportunities for New Zealand

- Standardized use of interRAI
- Care planning, outcome measures, QIs and case mix algorithms
- Right care, right time, right place, right care provider
- Institute of Health Information
- Policies and legislation
- Decision making and funding levels
- Education and training

Need More Information?

http://www.interrai.org/

Thank you

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