Resident Assessment

Instruments

Outcome Measures, MAPLe, RUGs, QIs
Applications

- Care Plan
- Outcome Measures
- Quality Indicators
- Report Cards
- Prevent Gaming
- Funding
- Case-Mix Algorithm
- Accreditations

Evaluate Best Practices
Development Time Line for interRAI Instruments

Year | Development
--- | ---
1990 | RAI 1.0
1995 | RAI-HC 1.0
1996 | RAI-AC 1.0
1997 | RAI-MH 1.0
1998 | RAI-PAC 1.0
1999 | RAI-AL 1.0
2000 | RAI-PC 1.0
2001 | RAI-MH 2.0
2002 | RAI-HC 2.0
2003 | RAI 2.0
2004 | interRAI/LTCF
2005 | interRAI/HC
2006 | interRAI/AC
2007 | interRAI/MH
2008 | interRAI/PAC
2009 | interRAI/CHA
2009 | interRAI/PC
2009 | interRAI/AL
2009 | interRAI/CMH
2009 | interRAI/ID
2009 | interRAI/ESP
2009 | interRAI/CHIP
Implementation and Testing of interRAI Instruments

Solid symbols – mandated or recommended by govt; Hollow symbols – research/evaluation underway
MAPLe

- Method for Assigning Priority Levels
- Using items in the RAI-HC, seek to identify the highest priority home care recipients
- Identify those most likely to have caregiver burnout and client institutionalization
Derivation of MAPLe

- **Dependent variables from RAI-HIP data**
  1. Actual long term care facility admission
  2. Caregiver stress
  3. Better off elsewhere

- **Independent variables chosen through**
  - Expert panel input
  - Review of literature
  - Crosswalk to existing Ontario eligibility
Derivation of MAPLe: Data

- Derivation sample
  - Ontario CCAC clients

- Validation samples
  - Canada
    - Nova Scotia home care clients
    - Manitoba home care clients
    - British Columbia MDS-HC study sample
    - Newfoundland FANS study sample
      - Preventive home visits RCT
  - US (courtesy interRAI)
    - Michigan home care clients
    - Georgia home care clients
  - International (courtesy interRAI)
Relationship between MAPLe and admission to long term care facilities in Ontario

% to LTC in 90 days.....

MAPLe Priority Level

Low         Mild         Moderate     High         Very High
Relationship between MAPLe and signs of caregiver stress in selected Canadian Provinces

MAPLe Priority Level

% caregiver stress

Ontario
British Columbia
Nova Scotia
Manitoba

Low  Mild  Moderate  High  Very High

Ontario  British Columbia  Nova Scotia  Manitoba
Case Presentation

- Demonstrate RAI-HC measures and scales against a backdrop of policy change and client characteristics over time
- Policy Change: reduction in homemaking for home care clients: 2001
- Waterloo CCAC data: 2000 – 2005
MAPLe distribution, Waterloo
CCAC: 2000 – 2005
Survival Plot: CHESS and death in 8 Ontario CCAC’s
Depressive Symptoms & Physical Activity
(days out of the house in a week)

* Ontario year 2004 RAI-HC, 42 CCAC's, n=123,647
Case Mix: RUGI11/HC
Case Mix Classification

- Wish to model or predict variation in cost for a health service
- Construct rules that allow cases with similar resource utilization to be grouped together
- Expected resource intensity can be calculated for each group
- The resulting system is used to estimate the expected resource utilization of a “mix of cases”
- Useful in comparing agencies or providers to each other or over time
RUG III (long term care)

- Hierarchical categorization
- Assigned first to one of 7 groups:
  1. Special Rehabilitation
  2. Extensive Services
  3. Special Care
  4. Clinically Complex
  5. Impaired Cognition
  6. Behavioural Problems
  7. Reduced Physical Function
- Secondary splits primarily based on: services received, depression, and ADL
RUG-III/HC

- Designed *a priori* to be compatible with RUG III for long term care
- Designed for long term home care clients
- Instrument and performance issues required some departures from RUG III
- IADL impairment used as additional splitting variable

(1) Rehabilitation

- Requirement: 120 minutes or more of therapy (physical, occupational, or speech-language) in the last 7 days
- 3 sub-categories based on ADL and IADL
(2) Extensive Services

- Minimum ADL impairment AND at least 1 of:
  - Tracheostomy
  - Respirator
  - Other respiratory treatment

- Assignment based on receipt of 1, 2 or 3 of the above treatments
(3) Special Care

- Minimum ADL impairment and one or more of the following:
  - Stage 3 or 4 Pressure Ulcer
  - Received enteral tube feeding
  - Diagnosis of MS
  - Treatment for burns
  - Radiation treatment
  - Receiving intravenous treatment
  - Treatment for fever and one or more of:
    - Dehydrated
    - Diagnosis of pneumonia
    - Vomiting
    - Unintended weight loss
(4) Complex Care

- Any of the following:
  - dehydrated
  - any stasis ulcer
  - end-stage disease
  - chemotherapy
  - blood transfusion
  - skin problem
  - diagnosis of cerebral palsy (ICD code)
  - diagnosis of urinary tract infection
  - diagnosis of hemiplegia
  - dialysis treatment
  - diagnosis of pneumonia
  - one or more of the 7 criteria under Special Care
  - one or more of the 3 criteria under Extensive Services

- Split on ADL, and for lowest ADL splits on IADL
(5) Cognitively Impaired

- Cognitive Performance Scale 3 or more
- Split on ADL, and for lowest ADL splits on IADL
(6) Behaviour Problem

One or more of:

- Wandering
- Verbally abusive
- Physically abusive
- Socially inappropriate
- Hallucinations

Split on ADL, and for lowest ADL splits on IADL
(7) Reduced Physical Function

- Split on ADL, and for lowest ADL splits on IADL
Michigan & Ontario CMI's: Formal & Informal Cost
Development of Home Care Quality Indicators (HCQIs)

- interRAI HCQI Committee
  - Members from Canada, USA and Japan
- Working groups in Canada and Michigan
- Total of 22 HCQIs developed (19 have risk adjustment)
- HCQIs all developed from items within RAI-Home Care (RAI-HC) instrument

References:
Sample of some HCQI's

<table>
<thead>
<tr>
<th>Prevalence (exclude newly on service)</th>
<th>Incidence (require current and previous assessment)</th>
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<tbody>
<tr>
<td>Prevalence of inadequate meals</td>
<td>Failure to improve/incidence of bladder incontinence</td>
</tr>
<tr>
<td>Prevalence of weight loss</td>
<td>Failure to improve/incidence of skin ulcers</td>
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<tr>
<td>Prevalence of dehydration</td>
<td>Failure to improve/incidence of decline on ADL long form</td>
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<tr>
<td>Prevalence of not receiving med review</td>
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<tr>
<td>Prevalence of ADL/rehab potential and no therapies</td>
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