Demonstration of the clinical utility of the RAI-MH on a forensic unit at the Douglas Mental Health University Institute (DMHUI)
Montreal - Canada

2016 WORLD interRAI CONFERENCE
TORONTO - Canada

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April 11th, 2016
1. February 2013: Creation of a working group

2. Strategic Plan of the DMHUI*
   - Item 10. v, “Implementation of a standardized assessment procedure for all patients”.
   - Item 14. ii, “Implementation of a system for comparing the performance of the DMHUI to other institutions in mental health in Quebec and Canada.”

3. DMHUI: non-standardized data in various databases (Clinibase, eClinibase, SIURGE, GESPHARx8).

4. An important issue for clinical settings in mental health is the quality of clinical data collected at the patient level. The quality of care provided by clinicians and the managerial accountability for such care for managers becomes difficult to measure and to ensure in the absence of standardized clinical data (Hirdes et al., 2002).

CONTEXT

* A constituent of the Montreal West Island Integrated University Health and Social Services Center (MWI IUHSSC)
If the RAI-MH proves relevant for conducting standardized assessments in psychiatric service for adults, is it feasible for the DMHUI to implement it as a pilot project?
Dimension 1: Scientific Literature Review

Q1: RAI-MH deployment in Canada and internationally.
Q2: Psychometric properties of the RAI-MH.
Q3: Relevance for clinical assessment in psychiatry.

Dimension 2: Technological and contextual analysis

Q4: Integration with the computer system of the DMHUI.
Q5: Preparation required by clinical settings.

Dimension 3: Regulatory Analysis

Q6: Acts 21, 90 and 133 on professional practice.
Q7: InterRAI consortium rights and licenses.
Q8: Legislation applicable to the transmission of data to CIHI.

E V A L U A T I O N  Q U E S T I O N S
Dimension 4 : Budget Analysis

Q9 : Costs of a pilot project on an inpatient unit.
Q10 : Projected costs of an extended deployment.

Dimension 5 : Feasibility Analysis

Q11 : Demonstration project of the clinical utility of RAI-MH.
Q12 : Pros and Cons (macro, meso, micro) in terms of relevance, coherence, effectiveness, efficiency, impact and sustainability.

Project duration : 18 months (May 2014 - September 2015)
Nb of patients : 70
Nb of clinicians : 12
Project cost : $ 65,000
Dimension 1: Narrative review of the scientific literature

Dimension 2: Comparative analysis of the software solution
   Narrative review of the scientific literature

Dimension 3: Analysis of legislation and applicable regulations

Dimension 4: Budget analysis

Dimension 5: Lean Six Sigma Implementation Methodologies
LOGIC MODEL OF THE RAI-MH PROJECT
Question 1, 2 and 3: Narrative reviews of the scientific literature

1. Well established relevance and validity of the RAI–MH.
   (Casten et al., 1998; Gambassi et al., 1998; Hawes et al., 1995b; Hawes et al., 1997; Lawton et al., 1998; Morris et al., 1997; Phillips et al., 1997; Poss et al., 2008; Sgadari et al., 1997)

2. Widespread use in the world and particularly in Canada.

3. Need for further studies of validity of the RAI -MH or its components
   (Anderson et al., 2003; Casten et al., 1998; Cohen-Mansfield et al., 2003; Engle et al., 2001; Ouslander, 1997; Parmelee et al., 2009; Teresi et al., 2001)

4. Data collection that is somewhat distant from the Recovery philosophy.

RESULTS (Literature reviews)
RESULTS (Technological analysis)
Question 6 : Analysis of laws and regulations

Bill 90 : Nurses’ Act

- RAI-MH compatible with the professional obligation to evaluate patients’ physical and mental condition.

Bill 21 : Act to amend the Professional Code

- None of the thirteen reserved evaluation acts impinge on clinicians’ use of the RAI-MH.

Bill 133 : Informational Resources Management Act

- Facility can continue using the local rented server.
Question 7 : Analysis of legislation and regulations

Intellectual Property RAI –MH

- Jointly shared by the interRAI consortium, interRAI Canada and the Ontario Ministry of Health and Long-Term Care.
- CIHI is the distributor of the material and accredits software providers.
- Copyright paid to software providers, who in turn pay royalties to interRAI.

Selected vendor : Acutenet Inc.

- Exportable local BD, Bilingualism, HL7, Personalization
- Calculation of OS + CAPS, QI (MHAQI), Intervention Plan as a .docx

RESULTS (Regulatory analysis)
SECTION I. HEALTH CONDITIONS AND POSSIBLE MEDICATION SIDE EFFECTS

1. SIGNS AND SYMPTOMS

Code for all problems present in the last 3 days

- **a.** Headache
- **b.** Dizziness/vertigo or light-headedness
- **c.** Shortness of breath
- **d.** Chest pain/pressure
- **e.** Blurred vision
- **f.** Dry mouth
- **g.** Increase or decrease in normal appetite
- **h.** Difficulty urinating
- **i.** Nausea
- **j.** Vomiting
- **k.** Constipation
- **l.** Diarrhea
- **m.** Daytime drowsiness/sedation
- **n.** Fatigue/weakness
- **o.** Fatigue/weakness
- **p.** Emergent conditions (e.g., itching, fever, rash)
- **q.** Edema

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<tr>
<th>Outcome (14)</th>
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<tr>
<td>Aggressive Behaviour Scale</td>
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<td>Cognitive Performance Scale</td>
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<tr>
<td>Pain Scale</td>
<td>1 out of 2</td>
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<tr>
<td>Current Violence</td>
<td>1 out of 2</td>
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<tr>
<td>History of Violence</td>
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<tr>
<td>Violence Sum</td>
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<tr>
<td>Positive Symptoms Scale</td>
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<td>Mania Scale</td>
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<tr>
<td>Depressive Severity Index</td>
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<tr>
<td>Activity of Daily Living Hierarchy Scale</td>
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<td>Severity of Self-Harm Scale</td>
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<tr>
<td>Self-Care Index</td>
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<tr>
<td>Violence Level</td>
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<td>Risk of Harm to Others Scale</td>
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<td>Exercise</td>
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<tr>
<td>Pain</td>
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<td>Control interventions</td>
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SOFTWARE GRAPHIC INTERFACE
### Quality Indicators

#### Prevalence of Physical Restraint Use
- **Result:** 100.00%

#### Prevalence of Chemical Restraint Use
- **Result:** 100.00%

#### Decline or Failure to Improve in Capacity to Manage Medications
- **Result:** 100.00%

#### Improvement in Capacity to Manage Medications
- **Result:** 0.00%

#### Decline or Failure to Improve in Capacity to Manage Finances
- **Result:** 100.00%

#### Improvement in Capacity to Manage Finances
- **Result:** 0.00%

#### Prevalence of Self-Injury (non-suicidal)
- **Result:** 50.00%
SOFTWARE GRAPHIC INTERFACE
Question 8: Text analysis of legislation and regulations

Transmission of information to CIHI
- None during the demonstration project

Mental Health and Addiction Quality Initiative (MHAQI)
- Complexity of issues
- Clinical outcomes
- Patient safety

RESULTS (Regulatory analysis)
Question 9 and 10: Budget analysis

Demonstration project
- Planned budget respected: $65,000.

Expanded deployment
- Confidential not to interfere in the decisional and commercial process.
Question 11: Clinical utility demonstration project

Perry Pavillon: Unit 2A

- Intensive rehabilitation and risk management unit (patient under legal measures - revoir).
- 16 beds (with up to 15 patients followed in the community).
- Average Length of Stay (ALS): 18 months.

Training

- Provided by CIHI x 2 days: March 5\textsuperscript{th} and 6\textsuperscript{th}, 2014.
- Kaizen Workshop x 3 days: March 17\textsuperscript{th}, 18\textsuperscript{th}, 19\textsuperscript{th} 2014.
Processus d’élaboration du plan d’intervention sur l’unité Perry 2A

Trajectoire clinique : phase 1

Équipe de projet Lean Perry 2A – mises à jour le 1er octobre 2014

**ÉTAPE 1**
1.1 Ouvrir le RAI-MH dans l’application
1.2 Évaluer le patient section par section
1.3 Valider la cotation en mini-équipe
1.4 Fermer le RAI-MH

Jours 1 à 15 environ

**DÉBUT**
Assignation à une mini-équipe

Accueil du patient par la mini-équipe


Sections BB, C, D, E, G, J, O, P

Validation et fermeture du RAI-MH

**ÉTAPE 2**
2.1 Analyser les résultats des GAD et des ÉC
2.2 Rédiger le plan d’intervention
2.3 Discuter du plan d’intervention avec le patient
2.4 Modifier au besoin

Jours 15 à 20 environ

PI v.1 présenté au patient

Résultats du RAI-MH

Rédaction PI v.1

Modifications PI v.2

Signatures

Accepté

Modifications demandées

Dépôt du PI au dossier

Saisie dans clinibase [FIN]

**ÉTAPE 3**
3.1 Obtenir les signatures requises
3.2 Déposer le plan d’intervention au dossier médical
3.3 Saisir le Plan d’Intervention dans Clinibase

Au plus tard le 28e jour

Careplan Flowchart Process
Nb de patients arrivés (admissions/transferts) durant le mois

Nbre RAI-MH complétés durant le mois

Nb of pts admitted and completed evaluations per month from May 2014 to October 2015
Nb of pts in the last days of the month and completed CP from May 2014 to October 2015
Anonymous questionnaire on the appropriation of the RAI –MH (perceived clinical utility)

Nb of respondents : 10 out of 11

- 8 out of 10 : Familiar or very familiar with the RAI -MH and the software application.
- 8 out of 10 : RAI- MH is integrated or very well integrated into routine practice.
- 8 out of 10 : The project is a success that contributed to clinical and administrative operations.
- 6 out of 10 : RAI- MH is useful or very useful in planning care.
- 8 out of 10 : RAI- MH should be deployed elsewhere.
- 7 out of 10 : The benefits are worth the investment required.
- 6 out of 10 : Maintain the RAI -MH assessment procedure in Perry 2A.

Focus Group Results
Recommendation 1

Establish a provincial ministerial working group in the context of the Mental Health Action Plan 2015-2020 MSSS (MSSS, 2015).

- Par. 7.2.1 : “The assessment of compliance with corporate standards.”
- Par. 7.2.2 : “The documentation of good practices in performance environments and the development of a culture of continuous improvement.”

Recommendation 2

Constitute a second working group whose mandate would be to ensure the methodological and clinical leadership to coordinate the expanded deployment.

Recommendation 3

Establish research integrated into clinical activities on the RAI-MH in one or more facilities of the MWI-IUHSSC.
Recommendation 4
Adopt a five-year plan for widespread deployment of the RAI-MH assessment on all inpatient units for adult psychiatric patients, to start in 2016-2017.

Recommendation 5
Provide the necessary funding from the 2017-2018 year, since the current contract with the supplier AcuteNet ends at the end of the year 2016-2017 by submitting this progress report to the Quebec Ministry of Health and Human Social Services.

Recommendation 6
Seek the support of the National Institute for Excellence in Health and Social Services for the methodological support in the widespread deployment phase.


THANK YOU!

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R E F E R E N C E S