Measuring Functional Outcomes in Outpatient/Ambulatory Rehabilitative Care using the interRAI Community Rehabilitation Assessment

Phase II Pilot Report

February 2020

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Introduction

Standardized data collection for outpatient/ambulatory rehabilitative care has been identified as a priority to support funding and planning decisions and ensure patient access to services[1, 2]. The absence of and the need for standardized data collection in outpatient/ambulatory rehab has been highlighted by five of the Quality Based Procedure Clinical Handbooks published by Health Quality Ontario (Chronic Obstructive Pulmonary Disease[3], Congestive Heart Failure[4], Hip Fracture[5], Stroke[6] and Total Joint Replacement[7]). In addition, in the 2013 report on rehabilitation hospitals, the Auditor General of Ontario indicated that to ensure patients have timely access to required outpatient services, hospitals should collect information regarding the efficiency and effectiveness of outpatient resources such as "information on the change in patient functionality between when outpatients start and when they complete outpatient rehabilitation"[1]

As health service providers implement bundled care, the focus on outpatient rehabilitative care continues to grow. Standardized data collection for outpatient/ambulatory-based rehabilitative care has been identified as a priority to support patient access to services and patient outcomes. A better understanding of outpatient rehab resource utilization, balanced against patient outcomes, will support efficient use of healthcare resources and inform planning, resource allocation and performance management.

In 2016, the Rehabilitative Care Alliance (RCA) completed a successful first phase of a pilot for a minimum data set (MDS) for outpatient rehabilitation. Twenty-six hospital and community-based programs tested three data collection tools – a patient reported experience measure (the WatLX[TM]), a data collection tool for service utilization of ambulatory rehabilitative care (NACRS Clinic Lite) and a measure of functional outcome, the *Community Rehab Assessment (CRA)*. Based on feedback from the RCA's initial pilot of the community rehab assessment tool in 2016, the RCA conducted a phase II pilot of the revised tool in 2018. Based on the results of the 2016 pilot, the CRA, which assesses patients on a wide variety of functional domains, was shortened and streamlined to reduce the data entry time for

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[1] Office of the Auditor General of Ontario, *2013 Annual Report* (2013), http://www.auditor.on.ca/en/content/annualreports/arreports/en13/2013ar_en_web.pdf

[2] Ontario Physiotherapy Association, Ontario Society of Occupational Therapists, Ontario Bone and Joint Health Network and the Ontario Orthopedic Expert Panel, *Current State Review of Outpatient Rehabilitation Services Available at Ontario Acute and Rehabilitation Hospitals and Recommendations to Optimize the System*, (2011).

[3] Health Quality Ontario; Ministry of Health and Long-Term Care. Quality-based procedures: Clinical handbook for chronic obstructive pulmonary disease (acute and post acute). February 2015. 88p. Available from:http://www.hqontario.ca/evidence/evidence-process/episodes-of-care#community-copd

[4] Health Quality Ontario; Ministry of Health and Long-Term Care. Quality-based procedures: clinical handbook for heart failure (acute and post acute). Toronto: Health Quality Ontario; 2015 February. 78p. Available from: http://www.hqontario.ca/evidence/evidence-process/episodes-of-care#community-chf.

[5] Health Quality Ontario; Ministry of Health and Long-Term Care. Quality-Based Procedures: Clinical Handbook for Hip Fracture. Toronto, ON: Health Quality Ontario; 2013 May. 97 p. Available from: http://www.hqontario.ca/evidence/publications-and-ohtac-recommendations/clinical-handbooks.

[6] Health Quality Ontario; Ministry of Health and Long-Term Care. Quality-based procedures: clinical handbook for stroke (acute and post acute). Toronto: Health Quality Ontario; 2016 December. 132 p. Available from: http://www.hqontario.ca/evidence/evidence-process/episodes-of-care#community-stroke

[7] Health Quality Ontario; Ministry of Health and Long-Term Care. Quality-based procedures: Clinical handbook for primary hip and knee replacement. Toronto: Health Quality Ontario; 2013 November. 95 p. Available from: http://www.hqontario.ca/evidence/publications-and -ohtac -recommendations/clinical-handbooks.

clinicians and to better integrate the tool with current processes for admission and discharge assessments.

Where the initial pilot was a focused on demonstrating the efficacy of the CRA, the phase II pilot had the following objectives:

- Demonstrate how the CRA can be used to measure functional change across patient populations.

- Demonstrate how the CRA can be used to describe sociodemographic and clinical characteristics of outpatient/ambulatory rehabilitation populations.

- Refine the CRA by engaging in a qualitative appraisal process with users (clinicians, administrators).

- Identify clinic processes that support adoption and administration of the CRA.

About the interRAI Community Rehab Assessment

The interRAI Community Rehab Assessment (CRA) is a new assessment instrument based on existing validated interRAI items and consists of an in-clinic assessment and a patient self-report tool. The CRA assesses patients on a wide number of functional domains including capacity to complete Activities of Daily Living (ADLs) and Instrumental Activities of Daily Living (IADLs), gait speed, cognition, pain, communication and wellbeing. Similar to other interRAI assessments, the CRA collects essential health status information to develop a comprehensive care plan to respond to each patient's individual needs. By dividing the assessment into two parts, patients have an opportunity to communicate their needs with members of their rehabilitation team while simultaneously reducing clinician assessment burden. The self-report is designed to be completed prior to the appointment with the clinician and integrated into the initial and final assessments through clinician review of the responses with the patient.

The CRA is administered at both the start and the end of the episode of outpatient rehabilitative care, allowing it to be used to measure functional gain achieved through participation in an outpatient rehabilitation therapy program. Finally, recognizing the importance of a patient-centred approach to rehabilitative care, the CRA assessment serves as a patient-reported outcome measure of functional change and attainment of rehabilitative goals of care.

Methods

Publicly funded hospital-based outpatient rehab programs and community-based clinics across Ontario were invited to participate on a voluntary basis, with the understanding that the benefits of participating would include:

- Access to valuable data for evaluation and planning: Most outpatient rehabilitation clinics struggle to gather and report meaningful patient data for use in evaluation and planning. The pilot provided sites with data to demonstrate the value of outpatient rehabilitation to senior leaders in their organization and in the health care system. Because the patient data is

standardized and comparable, sites also received a comparison of outcomes to those of participating sites across the province and these data are able to go beyond the process indicators that are commonly used for evaluation.

- Opportunity to play a leadership role: Standardized, comparable data is critical at a system level to improve understanding of the role of outpatient rehabilitation in an integrated, efficient system. By participating, sites had the opportunity to shape a tool that could be used province-wide in the future.

In order to ensure high quality data from the qualitative appraisal process and to better identify practices that support clinical administration of the tool, for this nine-month pilot, the secretariat required participating sites to capture data (completed admission and discharge assessments) on a minimum of 15 patients. The secretariat also asked sites to focus on enrolling patients receiving outpatient rehabilitation for specific conditions (acquired brain injury, total joint replacement (TJR), neurological issues, stroke, or an orthopedic need other than TJR or hip fracture) so the resulting data set would have sufficient statistical power to allow comparison across these rehabilitation population groups.

The RCA provided start-up training and support for all sites participating that included:

- an overview webinar for training on the processes and tools,
- optional site-specific training for front line staff on the clinical and data collection aspects of the CRA
- data entry and analysis.

Sites used paper copies of the CRA to document the data in the tool which were then submitted to the secretariat for data entry. Unique patient identifiers were used to track the reports and no personal health information (PHI) was submitted to the secretariat. All quantitative analysis from the data collected on the tools themselves (both in-clinic and self-report assessments) was conducted by Dr. Luke Turcotte from the University of Waterloo. Each site received their own results from the CRA via a report that summarized:

- Site demographics; admission vs. discharge population description
- Description of the patient population at admission
- Functional change (discharge to admission comparison across interRAI scales) for all patients with a completed discharge assessment, as well as a summary comparison of site patients to full provincial patient population

Provincial data analysis was also conducted across the full sample set and included:

- Full sample set demographics
- Description of the patient population at admission, including clinical description of complexity at admission and a comparison of complexity at admission across rehab populations
- Functional change (discharge to admission comparison across interRAI scales) for all patients with a completed discharge assessment, as well as a between rehab populations
- Where possible, quantitative identification of opportunities for skip logic based on rehab population or patient complexity

- Patients' perspective meeting or progressing on their goals

In addition to this quantitative data analysis, a qualitative appraisal process was conducted jointly by the secretariat and Dr. Katherine Berg, University of Toronto, along with clinicians and administrators, to gather feedback related to the validity of the instrument and identify practices that integrate the tool into patient care workflow. Feedback was collected from a variety of sources:

- **Interviews**. The RCA and Dr. Berg conducted informal interviews of clinical and frontline staff during the optional site-specific training sessions noted above. These interviews took place early in the pilot process, after clinicians had completed a few assessments. Discussion was facilitated regarding enablers that aided integration into clinical practice, potential barriers, idea generation for future integration of the tool and clinical feedback of the tool itself.
- **Email.** Many sites provided ongoing feedback throughout the duration of the pilot via email.
- **Survey.** A clinician evaluation was distributed following the close of the pilot via electronic survey. Several reminders were sent and the survey remained open for over 1 month to ensure that all sites had the opportunity to respond.

The RCA acted as a central lead for obtaining privacy approval and research ethics board exemption for this Phase II pilot. Many sites used this centralized process in place of site-specific privacy approval and ethics exemption. Some sites used their own local privacy and ethics review processes, but these processes were expedited by sharing the results from the centralized review.

Results

The phase II pilot collected CRA tools from 709 patients across twenty-five outpatient and ambulatory rehabilitation programs in Ontario. Across participating organizations, four sites submitted 50 or more assessments, and an additional nine sites submitted 20-49 assessments. A wide range of patient conditions were represented in the sample, including patients receiving rehabilitation following knee replacement (n = 127), hip replacement (n = 82), stroke (n = 84), acquired brain injury (n = 32), spinal cord injury (n = 26), other orthopedic (n = 97) and neurological (n = 26) conditions. Unfortunately, nearly 25% of the in-clinic admission assessments did not indicate a primary diagnosis, despite including 'debility/frailty" and "other" in the diagnosis pick-list, thus limiting analysis of the data by rehab population.

Of the twenty-five programs that submitted quantitative data for this pilot, twenty-two participated in the qualitative appraisal process. All 22 sites submitted feedback through the end-of-pilot survey and of these 22, an additional 15 also provided feedback during interviews and through email. In total, 68 detailed survey responses were received from health care professionals at the 22 sites who completed the online survey post-pilot. The method of survey completion varied by site, with some submitting one survey on behalf of the whole site, while in other cases, each individual clinician who worked with the CRA completed the survey separately. Healthcare professionals completing the survey included occupational therapy, physiotherapy, speech and language pathology, nursing and administration.

Detailed findings from the pilot were compiled and presented to the RCA Outpatient/Ambulatory Advisory Group and are [available on the RCA website](). Provided here is a summary of key observations from the pilot.

List of Participating Sites

Advanced Rehabilitation Centres - Tecumseh

Bruyere Continuing Care

CBI Health - Brantford

Gerladton District Hospital

Grand Bend Area Community Health Centre

Hamilton Health Sciences

Health Sciences North

Hotel Dieu Shaver Health & Rehabilitation Centre

Hotel-Dieu Grace Healthcare

Middlesex Hospital Alliance

N'Mnineoyaa Aboriginal Health Access Centre

Pembroke Regional Hospital

Perth and Smiths Falls District Hospital

Providence Care Hospital

Providence Healthcare

Royal Victoria Regional Health Centre

Sinai Health System

St. Joseph's Care Group, Thunder Bay

St. Joseph's Healthcare Guelph

Sunnybrook Health Science Center

The Arthritis Society

The Ottawa Hospital - Rehab Centre

Timmins District Hospital

University Health Network

West Park Healthcare

Woodstock Hospital

Work-Fit Total Therapy

Describing outpatient/ambulatory rehabilitation populations and measuring functional change across patient populations

Patient Reported Goal Attainment

- The most frequently reported goals of rehabilitative care, as indicated by patients, was to improve mobility (28% of patients), reduce pain (20%), improve arm function (10%), improve independence in self-care (9%), and improve stamina (8%).

- At discharge, 30% of patients reported that they had achieved all rehabilitation goals and an additional 50% of patients reported they had made progress in all areas.

Activities of Daily Living

- At admission, only 11% of patients were able to complete all IADLs (i.e., meal preparation, ordinary housework, finances, medications, phone use, shopping, and transportation) without difficulty. At the time of discharge, 42% of patients were independent in all IADLs.

- Patients improved by an average of 2.8 points ($p < 0.0001$) on the IADL Difficulty Scale (range 0-14 points), which represents a large effect size (Cohen's d = 0.9).

- At admission, 72% of patients were independent in all ADLs (i.e., mobility in bed, transfers, locomotion, dressing, eating, toilet use, personal hygiene). At the time of discharge, 91% of patients were independent in all ADLs.

- Patients improved by an average of 0.8 points ($p < 0.0001$) on the ADL Long Form scale (range = 0-28 points), which represents a small effect size (Cohen's d = 0.3).

Mobility

- At admission, 57% of patients required an assistive device (e.g., walker, wheelchair) to ambulate indoors. At the time of discharge, only 24% of patients required an assistive device indoors.

- At admission, only 17% of patients were capable of walking one or more kilometres without stopping. At the time of discharge, this improved to 38% of patients.

- Between admission and discharge, patients walked an average of 3.2 seconds faster on the timed 4-meter walk test. This amount of improvement represents a medium effect size (Cohen's d = 0.6)

- At admission, 75% of patients completed the timed four-meter walk test at a speed slower than 0.8 m/s. **This threshold is commonly identified as a risk factor for sarcopenia (loss of muscle tissue) and frailty.** Among patients with slow gait speed at admission, 36% were able to walk faster than 0.8 m/s at discharge.

- A composite indicator was created to measure the number of domains of locomotion (e.g., walking independence, walking speed, self-reported stair difficulty, self-reported maximum distanced walked, use of assistive device indoors and outdoors) where patients achieved improvement through rehabilitation. Among patients whose primary goal was to improve mobility, 53% improved in three or more domains. Among the entire sample, only 8% of patients failed to show improvement in at least one domain of locomotion.

Pain

- At admission, only 20% of patients reported that they did not experience daily pain. At discharge, this improved to 34% of patients.

- Patients improved by an average of 0.5 points (p < 0.0001) on the Pain Scale (range 0-4 points), which represents a medium effect size (Cohen's d = 0.5).

- At admission, 69% of patients reported that pain interfered with their ability to complete their usual activities. At the time of discharge, this improved to 40% of patients.

Memory and Cognition

- 72% of patients indicated on the self-report assessment that they completed this assessment without assistance from others; however, through consultation with participating sites, it was learned that some patients received assistance to complete the form.

- Clinicians reported that at admission, 83% of patients had cognitive skills that allowed them to make decisions regarding tasks of daily life independently.

- For patients receiving rehabilitation for stroke, 39% were found to have short-term memory difficulty at admission. This percentage improved to 20% at discharge.

Well-being

- The patient self-report assessment includes four items related to wellbeing to identify patients with potential mood disturbance issues. These items ask patients to indicate the frequency at which they experience the following symptoms:

- Little interest or pleasure

- Anxiousness, restlessness, or uneasiness

- Sadness, depression, hopelessness

- Anger with self or others

- Across items, between 33% and 41% of patients reported that they had experienced these feelings recently. Among patients that reported an issue, between 67% and 73% reported a decrease in the frequency of these feelings at discharge.

Qualitative results from clinician interviews, surveys and emails on the proposed refinements required and identified practices that support administration of the tool.

Clinician feedback: Administration of the Community Rehab Assessment

- The CRA tool was administered using an interdisciplinary team approach, including the patient and family. Members of the team included PT, OT, SLP, Rehab Assistants, Nursing, Social Work, Administration, Reception and Volunteers.

- 83.6% of clinician respondents indicated that a team member was required to assist with the completion of the self-report by providing clarification of questions. This assistance was provided despite, as noted above, 72% of patients indicated that they completed the self-report without assistance from others. Assisting the patient with the completion of the self-report was the most cited reason for the extended assessment time. Sites that asked patients to complete the self-report prior to attending the clinic, asked patients to come to the appointment early to complete the self-report, and/or used aides or other clinic staff in assisting the patient with completion prior to meeting with the therapist, as designed, were most successful.

- During the course of the pilot, clinicians found that completion of close to 4 assessments was needed to feel competent in administration of this tool. On average, clinicians completed approximately 8 assessments in total.

- Recall, the intended implementation process for the CRA is for patients to first complete the CRA, then during assessment with the therapist the self-report is used and the clinician completes the clinician-assessment. This information together was intended to provide clinicians with a full assessment of the patient and initiate discussion on goals. In the end-of-pilot survey, nearly 60% of clinician respondents found it helpful to review the self-report with patients and their families during the assessment.

  - Those who indicated it was not helpful, where comments were provided, indicated as such because either they didn't have time to review the self-report in advance, would have asked the same questions in the assessment anyway and so the measure didn't capture any new information, or

  - Those who found it helpful did review the self-report as part of their assessment of the patient and indicated that it allowed them to dive deeper into any issues the patient was

having and quickly see where there were not problems. It was also indicated that the self-report review flagged whether referrals were needed to other services or health professionals and supported care planning.

- The majority of clinicians (92% of respondents) found that incorporating the CRA into the admission assessment extended the overall time for the admission assessment; however, most were able to complete the assessment within one visit. Also noted by one team, because this exercise was a pilot, sites completed the CRA alongside measures and documentation methods that are currently in place, with the CRA duplicating many of these.

Clinician feedback: Clinical Application

- The majority (79% of respondents) were confident in the information provided in the Community Rehab Assessment and 61.5% of respondents used the information to inform clinical decisions at the point of assessment.

- When asked if the CRA provided value in the initial assessment and history taking part of the clinician assessment, clinicians noted that while they found the information obtained with the CRA valuable, they noted in their comments that they felt that their own history taking processes were more efficient.

- Healthcare providers used the self-report in a variety of ways to inform clinical decision-making. Goal setting, directing further assessment and identifying patient reported limitations were the most commonly cited uses. Eleven respondents did not find the self-report useful or were unable to implement due to time constraints.

Clinician feedback: Integration of the CRA into Clinic Processes

- The Community Rehab Assessment was predominantly implemented in addition to existing assessments and outcome measures. Not surprisingly, most clinicians cited that a strategy for integration of the CRA was to allot additional assessment time, including additional therapy sessions.

- Other strategies utilized were application of the CRA to functional goal setting, mailing the self-report to patients prior to the first session, having a tracking form to ensure all parts of the CRA was completed and assigning roles for completion in interprofessional teams.

- Other ideas suggested during the clinical trainings were SLP-assisted completion of the self-report for clients with aphasia and having a 'cheat sheet' for clinicians or rubric for scoring on hand to ensure consistency.

Clinician feedback: Enablers and Barriers to Implementation

- Clinicians cited several instrumental factors in the implementation of the CRA.

  o Several sites felt that a coordinator was necessary to ensure that paperwork and office supplies were readily available, that the division of responsibility flowed smoothly and there was adherence to completion timelines. Although this role was cited as necessary to enable implementation, sites utilized different team members, such as the goal

coordinator, the manager, the receptionist or the nurse. Teamwork, including with the client and their family, was part of the successful completion of the CRA.

- o Ensuring that team members understood their roles and responsibilities enabled completion. One role that was specifically highlighted was to have a team member who was dedicated to assist with the completion of the self-report.

- The most cited barrier to implementation was the length of time required for completion. In many sites, patients were requested to arrive 30 minutes prior to their appointment time; however, if the patient was late, the clinic was unable to absorb the time required to complete the self-report.

  - – Additionally, some clinicians reported that a few patients reported to have difficulty participating due to the length of the assessment, fatigue and pain.

  - – Accommodating the assessment into clinic processes was reported to require significant process logistics, since for example, ensuring both clinic documentation and CRA completion.

- Other patient-specific factors reported were language, social and cultural barriers. If a family member was not in attendance when one of these barriers were present, sites reported that they were unable to complete the CRA. Similarly, if confusion was present, patients were reported to have difficulty completing the self-report. Although, in these examples, family members were necessary to complete the self-report, clinicians also reported discrepancies between caregiver and client answers.

- Finally, despite demonstrating the validity and sensitivity of the CRA in the Phase I pilot, clinicians had the feeling that the CRA may not be sensitive to incremental improvements for higher functioning clients.

Clinician feedback: Recommendations on improvements for the application/implementation of the CRA

Clinicians provided some suggested recommendations on what they see as being improvements to the CRA to support further implementation of this outcome tool:

- Completion of the CRA pre-operatively for elective total joint replacement surgery

- An electronic format of the tool with alerts for clinicians, such as falls risk or depression, as are available with all other interRAI tools (but due to funding restrictions, weren't made available in this pilot)

- Population specific modules of the CRA, that would, ideally, reduce the overall length of the survey but include some population specific questions, for example

  - – Addition of questions regarding: level of frustration, community re-integration, caregiver burden and self-management

  - – Total Joint Replacement, stroke and ABI, cognitive impairment and aphasia-friendly modules, that would allow the skipping of non-related items on the tool

Conclusions and Recommendations

Through the provincial phase II CRA pilot, the interRAI CRA has demonstrated utility as an instrument that is capable of assessing clinical need across numerous domains of health and wellbeing for patients seeking care in outpatient/ambulatory rehabilitation programs. As a patient-reported outcome measure, the CRA collects important information from the patient's perspective at the beginning and end of treatment.

As demonstrated by this provincial pilot study, the CRA can also be used to measure functional change achieved through rehabilitation using both patient and clinician-reported measures. Given that the CRA is based on validated interRAI items that are used in hospital, community, and long-term care settings across Ontario, the CRA may be used to guide patient care planning and measure change in health status as patients transition through health service settings. Lastly, the CRA enables patient outcomes to be measured across population groups at the organizational level, providing program stakeholders and funders with the necessary information to evaluate the effectiveness of outpatient/ambulatory rehabilitative care.

Key Learnings and Recommendations:

- **The CRA is a sensitive and robust tool that can provide standardized clinician and patient reported outcome data across multiple rehab patient populations.**

  The CRA includes a patient reported outcome tool that is partnered with a clinician assessment so that both perspectives are included in one tool. The tool can provide the necessary standardization to allow comparison of outcomes across multiple populations, where current impairment-level tools are only useable only within a specific patient population.

  The CRA was able to show improvements in patients across diagnostic groups in response to treatment and even among those patients for which no diagnostic group was assigned.

  Despite clinician perception that the tool was not sensitive enough for some populations or that certain questions were not necessary, the CRA measured changes in the populations across all domains – though there was a higher effect of rehab on mobility domains among orthopedic patients. In this way, information from the CRA augments the clinician's assessment and can be shared with members of the interdisciplinary team to improve continuity of care.

- **Implementation challenges remain for the Community Rehab Assessment**

  Results from the phase II CRA pilot are consistent with those of Phase I: the CRA is effective at detecting changes in functional impairment across populations and in high- and low-functioning patients. However, clinicians continued to find completion of the CRA duplicative to their current practices and cited implementation issues that would need to be addressed.

  In fact, once these implementation issues were addressed, the duplication may suggest that the CRA could replace current, disparate assessment tools. Clinicians also noted that collecting this data added time to appointments, which, given the noted duplications would be expected with

any new tool/process. Particularly as this was a pilot, duplication was necessary as clinicians documented in both the CRA and in the tools currently used in the clinic (including standard written documentation).

Though, completion rate for the self-report was very high - potentially due to the support patients and families were given during completion – clinicians did identify difficulty, due to the length of the tool, for some patients to complete the self-report. Meta-analysis of other patient reported outcomes or experience tools have cited varying completion rates across tools, though whether that is because of length of the tool is still uncertain. One systematic review found a weak association between questionnaire length and completion rate: "*Given the weak support for an association between questionnaire length and response burden, decisions on the choice of instrument are best based on the quality of the content from the patient's point of view rather than the length per se.*"[8]

Through the learnings from this pilot and with additional training, the study team anticipates that barriers to implementation could be addressed and processes established to streamline data collection. For example, using electronic recording of data including 'alerts' to areas that need attention and ensuring clinicians saw the patient self-report prior to treatment to reduce clinician assessment time.

- **Consistent reporting of patient outcomes is needed to complement patient experience and utilization data.**

  As the Ministry of Health continues to move forward with implementation of integrated care models across Ontario, there will be greater need to demonstrate the role and value of outpatient rehab as an effective and efficient aspect of the care pathway. It will be important for health service providers to use standardized tools to measure patient improvement and outcomes in order to complement service utilization and patient experience data. Being able to report standardized outcome data across multiple patient populations for ambulatory rehab is important, not only to ensure quality client care, but also to support the system objective to optimize efficiency and inform system planning.

The CRA is a robust tool with demonstrated success in detecting change in patient function across a broad range of patient populations. However, broader uptake and implementation cannot proceed until the noted barriers are addressed. For example, future roll-outs would need to be offered electronically, with clinician alerts or integration so that self-reports are available to be read prior to an assessment appointment and for data warehousing. Where possible, the survey questions should include skip-logic

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[8] Rolstad, S., Adler, J., Ryden A. "Response Burden and Questionnaire Length: Is Shorter Better? A Review and Meta-analysis". Value in Health, Volume 14, Iss. 8. December 2011. Pages 1101-1108. https://www.sciencedirect.com/science/article/pii/S1098301511015245

for ease of administration; however, this should be balanced against collecting relevant clinical data. A comprehensive training and communication plan is also recommended to ease clinicians through process changes related to introduction of a new tool, including phasing out of other duplicative measures or practices, where possible. Consultation with teams who have rolled out provincial measures in the past would be beneficial as the clinician perceptions of the CRA were not all supported by the data. Changing the perceptions of this 'new tool' among clinicians as part of a change management strategy would be an important part of the implementation strategy, as with any new tool or process.

Finally, efforts to advance this work would benefit from a recommendation or direction from the Ministry of Health to include a standardized functional outcome tool for outpatient/ambulatory rehab programs.

Implementation of any new tool, comes with adoption challenges. At the provincial level, there is broad understanding that patient reported outcome measures are a necessary part of the fulsome health care data set, to balance out already collected data on financial and service utilization reporting. Ideally, this data collection would need to be integrated into other tools, like utilization and experience data collection. In order to demonstrate commitment to a system perspective of performance, outcome data should be collected alongside utilization and patient experience data through an integrated strategic approach.

Community Rehab Assessment Pilot Tools/Resources

- *Overview of Provincial Phase II CRA Pilot of the interRAI Community Rehab Assessment (data slides)*

- *Rehabilitative Care Alliance Outpatient Ambulatory Provincial Proof of Concept - Phase I Report*

- *FAQ - Community Rehab Assessment Tool - Phase II Pilot*

- Revised Community Rehab Assessment Tools for the Phase II Pilot (February 2018)

  - *Clinician Assessment*

  - *Self Report for Admission*

  - *Self Report for Discharge*