

The Client-Centred Rehabilitation Questionnaire: Development and Pilot Testing

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Development of the Pilot CCRQ

- Came out of work done in partnership with the Ontario Ministry of Health, Rehabilitation Reform Policy Branch

Objectives of Client-Centred Rehabilitation Research Program

- **What is client-centred rehabilitation?**
- **How will we know it when we see it?**
- **How will we measure it?**

1. Literature review and focus groups to define Client Centred Rehabilitation

- Focus groups – adult clients with chronic physical disability**

What Is Client-Centred Rehabilitation?

- **A philosophy or approach to the delivery of rehabilitation services that reflects the needs of individuals and groups of clients.**

Client level components

- **Client participation in decision-making and goal setting**
- **Client centred education**
- **Evaluation of outcomes from the clients perspective**
- **Effective communication**

Client level components

- **Family involvement**
- **Emotional support**
- **Flexibility**
- **Coordination and continuity**

How do we measure it?

2. Literature Review

- No single well established tool in the public domain
- Picker Institute Surveys
- Wascana
- Measure of Processes of Care

3. Advisory Panel

- Part of Hospital Report Preliminary Studies: Rehabilitation (Gibson et al., 2001)
- 8 panel members reviewed initial indicators from Client Centred Rehabilitation Report (Cott et al., 2000)

4. Development of items to tap the 8 domains

- CCRQ Working Group Panel feedback on wording and response options (40 draft items)
 - Clinicians and researchers from Toronto Rehab, St. John's Rehab, The Arthritis Society
 - Reviewed existing scales and measures
 - Developed new items
 - Preliminary questionnaire consisted of approx. 5 items for each of the 8 domains

5. Pre-pilot for comprehension and relevance

■ Cognitive interviews

- 20 clients
- 5 different rehab programs at Toronto Rehab, St. John's Rehab and The Arthritis Society
 - In program > 2 weeks; cognitively able; English speaking
- Result: Revised 3 items
- dropped 2 → 38 items
- Added “Not Applicable” response option

Draft CCRQ for Pilot Test

- 38 items
- 8 domains of client-centredness
- Scored on 5-point Likert response scale
 - 1=Strongly Agree ... 5 = Strongly Disagree
 - “Not Applicable” response option
- Questions elicit agreement/disagreement with statements about client’s experience in rehab

6. Large Scale Pilot Test

■ Goals

– Feasibility

- Response rate (overall and by rehab program)
- Response completeness/missing data
- Use of CCRQ for inpatient and community samples

– Scale development and psychometrics

- Reliability: Internal (alpha) and test-retest
- Item analysis
- Item reduction

■ This presentation reports only results based on discharged hospital inpatient sample

CCRQ Pilot Test: Methods

- Survey mailed in July (Wave 1) to 1560 patients discharged between Dec '01 and May '02 from Toronto Rehab, St. John's Rehab
- Second copy of survey mailed (Wave 2) in August to non-respondents by that time (3-4 weeks after Wave 1 mailing)
- Linked to Study ID in research data base are:
 - rehab program clients were discharged from
 - Age, gender

CCRQ Pilot Test: Methods

■ Test-retest

- 219 Toronto Rehab Wave 1 respondents were sent a second test-retest copy
- They received this 1-2 weeks after we received their first completed survey
 - Therefore: test-retest completed by respondents at least 2 weeks after the Wave 1 response.
- Reliability calculated using intra-class correlation coefficient

CCRQ Pilot Test: Methods

- Scale development and item reduction
 - Exploratory factor analysis
 - Scale internal reliability (Cohen's alpha coefficient)

CCRQ Pilot: Results

■ Response rate

- Mailed to 1560 discharged inpatients
- Received 95 “return to sender” – moved, etc
- Received 1004 usable surveys
- Overall response rate: $1004/1560 = 64.4\%$
- Analysis of program-specific response rate not complete

CCRQ Pilot: Results

Demographics: Total Sample vs. Respondents

Gender	% of Total Sample (n=1560)	% of Responses (n=1004)
Male	40.2	38.3
Female	59.8	61.7

CCRQ Pilot: Results

Demographics: Total Sample vs. Respondents

Age Group	% of Total Sample (n=1560)	% of Responses (n=1004)
16-39	5.7	4.1
40-49	4.7	3.4
50-59	13	12.7
60-64	8.6	9.1
65-69	13	14
70-74	19.6	20.7
75-79	17.4	18.5
80-84	10.4	10.3
85-89	5.9	5.6
90+	1.7	1.4

CCRQ Pilot: Results

Item Analysis

Number of CCRQ Items by Level of "Missing" Responses

% Missing or N/A responses	Number of CCRQ items
Less than 10%	22
10 to 15%	8
Over 15%	8

CCRQ Pilot: Results

■ Item Analysis

- Most ‘positively worded’ items had > 80% of valid responses scored as “Strongly Agree” or “Agree”
- Slightly more spread in response levels seen in the ‘negatively worded’ items
- Items with most missing or N/A responses;
 - family involvement items
 - items related to info about services in community
 - Spiritual/cultural needs
 - Help to bathroom

CCRQ Pilot: Results

■ Scale Development and Item Reduction

– Exploratory factor analysis

- Principal Axis Factoring extraction

- 3 to 5 factors with orthogonal (varimax) rotation

 - Greater than half of variance explanation in first factor

- 2 factors with oblique rotations

 - Positive-worded items & negative worded items

- Conclusions:

1. The items seem to be tapping a generalized patient perception of their “rehabilitation experience” - did not yield highly differentiated scales for the “client-centredness domains”
2. Negative worded items seem to tap a distinct construct (‘negativeness’ of the experience)

CCRQ Pilot: Results

- Scale Development and Item Reduction
 - Although designed “domain-based” scales were not strongly supported in the factor analysis, grouping of items for scoring was deemed valuable for utility and application
 - Based on orthogonal factor loadings – items were grouped to form scales for 6 of the original 8 “domains”
 - Too few items remained to create a full scale for “Coordination/Continuity” domain
 - “Flexibility” domain dropped as its items loaded within other domains (mostly Participation)

CCRQ Pilot: Results

- Scale Development and Item Reduction
 - Dropped 5 items
 - 3 had > 20% missing or N/A responses
 - 1 had 18% missing or N/A
 - 1 was duplicative of another item in same scale

CCRQ Pilot: Results

- “Scales” of CCRQ for Hospital Report Patient Perceptions of Rehabilitation Questionnaire 2003
 - Patient participation in decision-making/goal setting
 - Client-centred education
 - Outcomes from client perspective
 - Family involvement in rehabilitation
 - Emotional support
 - Physical comfort
 - *Coordination and continuity

CCRQ Pilot: Results

■ Test-retest reliability

- Response rate in test-retest sample: $137/219 = 63\%$
 - Plus 4 “fortuitous” dual responses to Waves 1 and 2
- Average **item-level** test-retest reliability = **0.66**
(for the 33 retained items)

CCRQ Pilot: Results

Reliability of CCRQ Scales

CCRQ scale	No. of items	Internal reliability (alpha)	Test-retest reliability (ICC)
Participation	6	0.87	0.78
Education	7*	0.82	0.82
Outcomes	4	0.82	0.85
Family	5	0.88	0.83
Emot. Support	4	0.84	0.77
Comfort	4	0.78	0.84

All CCRQ scales are strongly intercorrelated (r 0.63 – 0.81)

CCRQ Pilot: Discussion

- Excellent response rate despite:
 - non-ideal sample time-frame
(discharges up to 7 mo prior to survey)
 - Summer survey mail out
- Factor analysis and item analysis
 - reduced questionnaire to 33 items
 - Suggestive of a single “experience of rehab” factor
 - 6 CCRQ “scales” derived for utility
 - Based on item relationships in factor analysis
 - Scales are highly inter-related
 - Scales have excellent reliability

Summary

■ Client-centred Rehabilitation

– Defining what it is

■ Literature search, focus groups

– Determining how we can measure it

■ Literature review, Advisory Panel

■ Item composition and pre-pilot → CCRQ

■ Large scale pilot