iCAHE Outcome Calculators

Introduction

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• Unique clinician-developed programs that assist clinicians to provide evidence of treatment outcomes

• Provide clinicians with
  – A choice of psychometrically sound outcome instruments for musculoskeletal & neurological conditions, incontinence and chronic disease management
  – A choice of general instruments to describe patient characteristics
  – User-friendly software that quantifies and charts change in patient health outcomes treatment-by-treatment
1. Musculoskeletal Version
2. Incontinence Version
3. Neurological Version
4. Chronic Disease Management Version
5. Peripheral Joint Version
(due for release in June 08)
Why do we charge AUD$110 (incl GST)?

- To cover CD burning, postage and handling around the world
- To assist with some of the ongoing software design and upgrade costs
- To support individual trouble-shooting for software problems

All calculators are provided for this price whether you want all or one, as our development costs remain the same
Background to the iCAHE Outcome Calculator development
The iCAHE Outcomes Calculator concept was born in 2002 to provide clinicians with a user-friendly mechanism to collect prospective information on patient outcomes, on which to base:

- Future treatment decisions
- Decisions to close an episode of care
- Responses to referrers and insurers
- Discussions with patients regarding effectiveness of treatment
- Quality improvement activities
Evidence-based medicine:

‘the conscientious, explicit and judicious use of current best evidence in making decisions about the care of individual patients’

Many iCAHE researchers have contributed hours of work to the calculator development process since 2002 (mostly unpaid hours too!!!!):

- Identifying relevant outcome instruments
- Calculating the metrics behind the instruments
- Seeking developer permission to use the outcome instruments in the calculator
- Drafting, editing and updating the calculator manuals
- Developing and testing the software
- Organising distribution of the software
- Evaluating the software
- Promoting the process and the product
• Provide quantifiable information on patient health outcome over an episode of care
• Allow discussion on treatment value for money
• Provide a platform for discussion of treatment plans and outcomes between stakeholders
• Allow access to outcome measures with strong psychometric properties
• Provide documented prospective evidence of outcome change over time
Evidence-based clinical practice assumes that clinicians:

- Record treatment by treatment activities appropriately
  - what did you do each time you see your patient
- Record outcome measures at least twice (baseline and post intervention as appropriate)
  - As measures of ‘effectiveness’
- Record relevant risk factors for poor outcome
- Determine the need for every treatment in an episode of care
- Evaluate whether the episode outcomes could be improved upon
  - Compliance with clinical guidelines, benchmarks or expected outcomes

The iCAHE Outcomes Calculator can assist with some of these aspects of quality care
Outcome measures

• There are thousands of outcome measures relevant to allied health patients
  – Objective (interval measures such as range of movement, time etc)
  – Subjective (indices built on patient perspectives)

• The iCAHE Outcomes Calculators mostly use subjective outcome measures with
  – Strong psychometric properties (validity, reliability, sensitivity to change)
  – Sound clinical utility (number of items, wording, ease of administration, protocols for calculation of scores)

• The iCAHE Outcomes Calculators use freely available instruments for which we have obtained developer permission
When do you stop treating?

This clinical decision is made from multiple sources of information, one of which could be the pattern of change in outcome measure(s) over an episode of care.

This can be provided by the iCAHE Outcomes Calculator.
**Episode of care**

- A number of treatment sessions linked by time and intent, provided to one patient for one presentation of a health condition

- Treatment may be provided by one allied health clinician, several clinicians from the same discipline, or clinicians from different disciplines, who work towards agreed treatment goals

- The episode ceases when clinician and patient determine that there is no further need for, or impact from, treatment
Episode of care

Change in VAS pain score over episode

Treatment might reasonably cease
Episode of care

Change in VAS pain score over episode

Treatment might reasonably cease
Episode of care

Change in VAS pain score over episode

At which point might treatment reasonably cease?
Establishing evidence of good outcome from clinical data
Good clinical outcomes are not:

- The number of treatments provided to patients
- The number of minutes spent on direct / indirect time
- Patient through-put for a department
- The number of new patients treated over a set time period
- The cost of treatment
- Salary costs vs numbers of patients treated
- Recommendations or advice provided to patients
- Equipment provided to patients
If you are interested in using the calculator, but are not certain what it offers you

- Download one of the calculator manuals
- Look at the measures of outcome contained in each calculator manual and the psychometric properties of each measure
- Decide whether you could regularly use the calculator in your clinical practice, and how?
- Look at the following screen captures of the calculator
Using the musculoskeletal calculator as an example...
Select:

• The patient
  – New patient (needs demographic details)
  – Existing patient
• The therapist providing the treatment (may be different each treatment)
• The funding source (the payer)
• The start date of the episode…
Then select:

- The condition / body part / reason for treatment (specific to the calculator….)
- Potential risk factors for poor outcome
  - For example, the Musculoskeletal calculator
General outcome measures

- Three of the iCAHE Outcomes Calculators contain a set of general measures to assess:
  - Yellow flags
  - Anxiety
  - Depression
  - Fear of movement
  - Pain
  - Self-efficacy
  - Activity levels
  - Participation levels
### Available Outcome Measures

<table>
<thead>
<tr>
<th>Body Area</th>
<th>Outcomes Measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>General</td>
<td>Generic Patient-Specific Scale</td>
</tr>
<tr>
<td>General</td>
<td>Glasgow Pain Questionnaire</td>
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<tr>
<td>General</td>
<td>Graded Chronic Pain Scale</td>
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<tr>
<td>General</td>
<td>Pain Frequency</td>
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<tr>
<td>General</td>
<td>Pain Intensity</td>
</tr>
<tr>
<td>General</td>
<td>Timed Up and Go Test</td>
</tr>
<tr>
<td>General</td>
<td>Work-Related Disability (WL-36)</td>
</tr>
<tr>
<td>General</td>
<td>Fear-Avoidance Beliefs Questionnaire</td>
</tr>
<tr>
<td>General</td>
<td>Resumption of Activities of Daily Living Scale</td>
</tr>
<tr>
<td>General</td>
<td>Tampa Scale of Kinesiophobia [TSK-11]</td>
</tr>
<tr>
<td>General</td>
<td>Centre for Epidemiologic Studies Depression Scale</td>
</tr>
<tr>
<td>General</td>
<td>Modified Somatic Perceptions Questionnaire</td>
</tr>
<tr>
<td>General</td>
<td>Kessler Psychological Distress Scale [K10]</td>
</tr>
<tr>
<td>General</td>
<td>Pain Self-Efficacy Questionnaire</td>
</tr>
<tr>
<td>General</td>
<td>Patient Satisfaction Subscales</td>
</tr>
<tr>
<td>General</td>
<td>Shortform McGill Pain Questionnaire</td>
</tr>
</tbody>
</table>

### Selected Outcome Measures

<table>
<thead>
<tr>
<th>Body Area</th>
<th>Outcomes Measure</th>
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<tbody>
<tr>
<td></td>
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</tbody>
</table>

[Image of a software interface showing outcomes calculator v2]
Select

• Outcome measures of interest for the body part or condition you are treating:
  
  – You can select as many outcome measures as you want!!!!
  – The calculator can handle multiple entries for the one treatment
These are the outcome measures in the Musculoskeletal Outcome Calculator for neck and/or low back pain as an example.
Selecting outcome measures:

- After becoming familiar with the iCAHE Outcome Measures manuals
  - You might choose favourite outcome measures that you use with every patient every treatment
  - You might identify outcome measures for specific types of patients
  - You might establish practice-specific measures that everyone uses regardless of patient type/condition
  - Eg: Oswestry Disability Index
- This is an example of a screen that you would get if you selected this measure for one treatment date
Recording outcomes

- Establish baseline measures for each patient using the chosen outcome measure(s) on the first treatment
- Then
  - Decide how often during the episode of care you wish to record outcomes
  - Enter new outcome data for the patient at each chosen treatment date
  - Examine the growing chart of change in treatment outcomes to support your clinical reasoning regarding treatment options throughout the episode of care
Consider these episode of care examples of outcome
Oswestry Disability Index (Low Back)
07/Sep/2005 - 11/Sep/2005

Recorded Scores: 5
Baseline Score: 78.0
Latest Score: 26.0
Previous Score: 68.0
Latest vs Baseline: 34.2%
Latest vs Previous: 39.4%
Troubleshooting

- Perhaps as a result of good response to treatment in Rx 1-3, the therapist suggested
  - Returning to work
  - Increasing exercises
  - Increasing activities

- Perhaps as a result of poor response on 4th Rx, the therapist suggested
  - Strategies to assist with remaining at work
  - Modifying exercises or activities
  - Providing additional treatment or a referral to another practitioner
Oswestry Disability Index (Low Back)  
07/Sep/2005 - 11/Sep/2005

Recorded Scores (#): 5
Baseline Score: 89.3
Latest Score: 92.0
Previous Score: 90.3
Latest Vs Baseline: 104.5%
Latest Vs Previous: 102.2%
Troubleshooting

- Treatment by this therapist for this patient appears not to be effective:
  - Should the patient be reassessed in terms of risk factors for poor outcome?
  - Should the treatment regime be reassessed in the light of failure to progress to date?
  - Should the patient be referred elsewhere?
Benchmarking and performance indicators:

• Use of the iCAHE Outcomes Calculator allows you to compare with expected outcomes

• Based on best available evidence (research &/or clinical)
Oswestry Disability Index (Low Back)
07/Sep/2005 - 11/Sep/2005

Recorded Scores (x): 5
Baseline Score: 88.0
Latest Score: 92.0
Previous Score: 90.0
Latest vs Baseline: 104.5%
Latest vs Previous: 102.2%
The data export function:
The new exciting feature
The data export function

- Allows therapists to export data from
  - Specific patient groups
  - Specific time periods
  - Specific outcome measures

- Into text or MSExcel forms
  - For site-specific analysis
  - For benchmarking against evidence-based practice expectations of quality care
If you believe that the iCAHE Outcomes Calculators have something to offer you:

- Register online for the software CD
- You can email, fax or post the iCAHE OC Order Form in (details included on page 2 of the form)
- Organise payment as indicated on the iCAHE OC Order Form
- Olivia Thorpe will complete payment and post you the iCAHE OC CD
- For more information contact Olivia.Thorpe@unisa.edu.au
- If you have any software problems please let us know
Please note

• This calculator will not work if installed on a networked system. You can install the CD directly on to the PC hard drive, but the iCAHE OC software does not allow for the program to be networked to multiple computers from a networked system.

• Networked computers pose issues with security of data that we are not funded to deal with

• If you wish to install the calculator multiple times on stand alone PCs please do so

• This calculator will not operate on a MAC operating system
iCAHE Assistance

• iCAHE can provide site-specific assistance, for a negotiated consultancy fee, on
  – Education about outcome measures
  – Education about using the calculator for quality improvement, or safety and quality purposes
  – Benchmarking
  – Data analysis using exported data

• Contact Karen Grimmer-Somers for further details
  – karen.grimmer-somers@unisa.edu.au