Practical measures for evaluating outcomes: Australian Therapy Outcome Measures (AusTOMs)

• Jemma Skeat Evaluation and Analysis Coordinator
• Royal Children’s Hospital, Melbourne
• Professor Alison Perry
• Professor Meg Morris
• Associate Professor Carolyn Unsworth
Background and development of the AusTOMs

How AusTOMs has been applied

Considerations when implementing outcome measures
Background and development

UK TOMs (Enderby)
Speech-Language Therapy
1992-1997

Physiotherapy and Occupational Therapy
1998

AusTOMs
2001-2003
Background and development

- Funded by Commonwealth Department of Health and Ageing
- Carried out at La Trobe University in Melbourne
- Developed with input from clinicians across Australia
- Study data from 14 health care sites across Victoria
Background and development

4 stage process

1. Examination of the UK TOM scales in the Australian clinical context.
2. Development of scale descriptors
3. Training clinicians in the use of the scales
4. Data collection and analysis

+ Dissemination and further development
What is an outcome measure?

**Outcome measures** tell us about

- “*Patients’/clients levels of health, function, disability and quality of life after an episode of care. Outcome measures can provide an indication of the amount of recovery or decline in these variables*” (Morris, 2005)

- To measure **OUTCOME**, it is preferable to have an “initial” measure of performance, prior to commencement of the episode of care, and a “final” measure of performance at the end of the episode of care.
What is needed from an allied health outcome measure?

- Reflect the goals of therapy
- Take into account the perspective of the patient
- Measure changes on more than just an impairment level
- Be easily communicated with other professionals.
- Contain good psychometric properties.
- Be quick and easy to administer.
TOMs CONSTRUCT:
Outcomes need to reflect goals of PT, OT, SP to:

1. Improve, Remediate Impairment
2. Alleviate Emotional Distress
3. Extend Functional Performance
4. Improve Social Integration
Stage 1: Examining the UK TOM scales

- Update to ICF terminology
- Update scale headings to reflect Australian context
- Develop a ‘core scale’ to work from for all disciplines
  - Impairment, Activity limitation, Participation restriction, Wellbeing/Distress
  - Ordinal scale (0-5) where 0 = most severe, 5 = no difficulties.
Core AusTOMS Scale

- Impairment
- Activity Limitation
- Participation Restriction
- Well-being, Distress
Core Scale: Impairment of Body Structure or Body Function

Impairments are problems in body structure (anatomical) or function (physiological) expressed as a deviation or loss.

- **0** The most severe presentation of impairment
- **1** Severe presentation of this impairment
- **2** Moderate/severe presentation
- **3** Moderate presentation
- **4** Mild presentation
- **5** No impairment of structure or function

From “AusTOMS for Physiotherapy”  
Morris, Dodd & Taylor 2004 p 35
Core Scale: Activity Limitations

Activity limitation results from the difficulty in the performance of an activity. Activity is the execution of a task by the individual.

0 Complete difficulty
1 Severe difficulty
2 Moderate / severe difficulty
3 Moderate difficulty
4 Mild difficulty
5 No difficulty

From “AusTOMS for Physiotherapy”
Morris, Dodd & Taylor 2004 p 35
Participation restrictions are difficulties the individual may have in the manner or extent of involvement in their life situation. Clinicians should ask themselves: “given their problem, is the individual experiencing disadvantage”?

0. **Unable** to fulfil social, work, educational or family roles. No social integration. No involvement in decision making. No control over environment. Unable to reach potential in any situation.

1. **Severe difficulties** in fulfilling social, work, educational or family roles. Very limited social integration. Very limited involvement in decision making. Very little control over environment. Can only rarely reach potential with maximum assistance.

2. **Moderately severe** difficulties in fulfilling social, work, educational or family roles. Limited social integration. Limited involvement in decision making. Control over environment in 1 setting only. usually reaches potential with maximum assistance.
Core Scale: Participation Restriction

3 **Moderate** difficulties in fulfilling social, work, educational or family roles. Relies on moderate assistance for social integration. Limited involvement in decision making. Control over environment in more than 1 setting. Always reaches potential with maximum assistance and sometimes reaches potential without assistance.

4 **Mild** difficulties in fulfilling social, work, educational or family roles. Needs little assistance for social integration and decision making. Control over environment in more than 1 setting. Reaches potential with little assistance.

5 **No** difficulties in fulfilling social, work, educational or family roles. No assistance for social integration or decision making. Control over environment in all settings. Reaches potential with no assistance.

From “AusTOMS for Physiotherapy” Morris, Dodd & Taylor 2004 p 35
Core Scale: Distress / Wellbeing

The level of concern experienced by the individual. Concern may be evidenced by anger, frustration, apathy, depression etc

0 High and consistent levels of distress or concern
1 Severe concern, becomes distressed or concerned easily
2 Moderately severe concern. Frequent emotional encouragement and reassurance needed
3 Moderate concern. May be able to manage emotions at times, although requires some encouragement
4 Mild concern. May be able to manage emotions in most situations. Occasional emotional support or encouragement needed
5 Able to cope with most situations. Accepts and understands own limitations.
Selecting Points For Each Scale

- \(0\) = complete disability, no function, poor health
- \(5\) = no disability, normal function, normal health

Decide on a rating according to ‘best fit’- no patient will match every one of the descriptors.

Use half points only when absolutely necessary to discriminate performance between descriptors.
Stage 2: Development of descriptors

- Focus groups of expert clinicians in Victoria
- Modified ‘Delphi’ survey of clinicians across Australia
- Consumer feedback
- Clinician feedback (following training)
Stage 3: Training clinicians in the use of the scales

- 14 sites across Victoria recruited for data collection
- Training of each clinician
  - 3-4 hours
  - Practice ratings
  - Reliability ratings
- Follow up session
  - Reliability ratings
Stage 4: Data collection and analysis

- Data collection from 14 acute, subacute and community health care sites
- 6 months = 300 cases per profession
- Analysis of the validity of the AusTOMs tool
Reliability

- Varied agreement - most above 70% for inter and intra rater reliability

- Follow-up studies:
  - Rubos (2005, unpublished honours thesis) -
    - Inter-rater reliability 99.0 (ICC) for distress/wellbeing
    - No difference b/w novice and expert rating
  - Scott et al. (In press) - OT Self-Care scale
    - Inter-rater .79 (AL, PR, DW), .70 (I),
    - Intra rater >.80 for all domains except impairment (.74)
Validity

- Face and content validity assessed in initial study
  - Focus groups
  - Delphi survey
- Construct (convergent) validity also assessed
  - Comparison with EQ-5D
- Further studies have examined sensitivity of the tool to detect change over time (Unsworth, 2005)
- Future work on other aspects of validity (e.g., predicting discharge from assessment status)
Feedback from clinicians

- Following data collection:
  - Quick-
    - approx 5 mins once used to the tool
  - Easy-
    - practical difficulties in some settings- e.g., acute (high turnover, visiting wards)
    - Easier to use over time once used to the definitions
  - User friendly-
    - ? Applicability in some settings (e.g., acute)
    - useful tool for clarifying and targeting patient-therapist goals
    - legitimised working within the domains of participation and well-being distress
Example data

- Qu 1: Is there a difference in the profile of change for clients seen in acute and subacute settings?
  - Expect more impairment level change in acute, and more activity/wellbeing change in subacute

- Qu 2: Is there a difference in the profile of change for clients with progressive vs acquired neurological conditions?
  - Expect less improvement for progressive
Acute vs Subacute

Improvement in swallowing in acute vs subacute settings (% of cases)
Acquired vs Progressive neuro

Improvement in swallowing in acquired vs progressive neurological disorders (% of cases)
AusTOMs in practice…

- Around 300 of each scale sets have been sold and in use across Australia
- Some international interest, including Canada, NZ, UK, Brazil (!)
- Several ongoing studies (LTU and clinical)
For patients who have had a stroke:

- Is there a difference in Speech Pathology outcome for patients seen as inpatients within the hospital, and patients who receive rehabilitation in the home?
- Is there an association between the amount of therapy input received and the Speech Pathology outcome?
- Is there an association between the age of the client (e.g., ‘young’ versus ‘aged’) and the Speech Pathology outcome?
Results to date indicate that there is greater change in participation and wellbeing for patients seen at home, greater in impairment for inpatients.
Results to date indicate no relationship between patient attributable time and change in impairment rating.
Considerations for implementation

Different roles for outcome measurement

- Measuring individual client (e.g., progress over time)
- Measuring and comparing change in groups (e.g., benchmarking)
- Outcomes research (e.g., effectiveness studies)
Individual patient measurement

- Show change in individual patients over time
- Monitor progress towards individual goals (e.g., improved communication)
- Encourage clinical reflection (is this client making progress?)
  - Professional development/ mentoring
  - Job satisfaction
Measurement of groups

- Evaluating services
- Comparing services (benchmarking)
- Useful for managers (e.g., for accreditation, clinical governance)
- Useful for the profession— with large enough groups, can make links between process (e.g., therapy types) and outcomes
Measurement in research

- Outcomes in research
  - Effectiveness studies in clinical practice
    - Wellbeing/QoL of patients with cancer who are referred to Social Work, versus those who are not
    - Functional independence of children seen in an inpatient rehab program vs those discharged home for community follow-up following traumatic injury
    - Outcome of patients who have swallowing assessed/monitored using FEES, vs those who have traditional ‘bedside’ examination/monitoring.
  - Efficacy studies (RCT or similar).
Considerations for implementation

- What is the role (e.g. individual patient measurement vs group?)
  - Consider the specific question, if any, that you want to answer
- Is there a need for this role?
  - Role + Need = Value!
- Does your current environment support outcome measurement in this role
  - e.g., if group measurement, do you have a database, admin help, stats knowledge?
- Does the tool suit the role?
- If not, what can change?
Some strengths of AusTOMs

- By therapists, for therapists
- Addresses differences across each profession
- Common language in ICF terms
- Framework for considering ‘whole’ of client difficulties and progress
- Can be aggregated for data analysis across groups
Some weaknesses

- Further analysis/development of scales (e.g., further reliability studies) – in process
- Training needs- included in pack (but relying on users to do practice ratings, etc)
- ‘Snapshot’ overview of patient-not a detailed assessment
AusTOMs

- Provides one way of evaluating the benefits of service provision
- Enables therapists to monitor change across health domains
- Allows benchmarking of outcomes for comparable service providers
- Supports feedback for therapists, managers and clients
Thanks!

For further info, please visit

www.latrobe.edu.au/austoms

Any questions?