The use and value of health status & HRQOL measurement

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The use and value of health status & HRQOL measurement

Abstract
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Keywords
health, hrqol, measurement, value, status

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The Use and Value of Health Status & HRQOL Measurement

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University of Wollongong
Health Outcomes – focus on use of HRQOL and health status measurement for

- population health surveys
- to evaluate the effects of health interventions and to monitor patient outcomes at the clinical level and
- for pharmaceutical registration and reimbursement (PBS)
National Health Survey


- Surveys also contain items on health conditions, service use, health behaviours, socio-demographic aspects

- Value seen in identifying disease profiles for self reported health conditions, and for across disease comparisons. Provides useful normative data

- Not much analysis of health related actions/service use in relation to SF-36 in 1995

- Other later, related, projects confirmed previous associations of SF-36 with survival, future health, health utilization/expenditures etc.
Instruments Used: Major Health Surveys

- SF-36V1 (*PSM 1995, NHS 95, WHA, CCHOP, State Surveys*)
- SF-12, GHQ12, Kessler 10, CIDI (*NMHWBS 1997*)
- EQ-5D (*NSW 1998 – note recent UK developments*)
- SF-36V2 (*SAHOS 2004*)

A major value has been the provision of normative data supporting clinical research and the use of surveys to trial some instruments for proposed HO research and monitoring initiatives.
SF-36 Subscale Scores by Depression (NHS ‘95)

No Depression

Depression

score

physical function
role physical
bodily pain
general health
vitality
social function
role emotional
mental health
Women’s Health Australia

- 20-year longitudinal cohort study of the health and well-being of Australian women, Newcastle & Queensland Unis
- Commenced 1996 and continuing
- Funded by Commonwealth Dept. of Health & Ageing
- Postal surveys and linkage to Medicare database
- Social view of health:
  - physical health and symptoms, emotional well-being
  - health service use, access and satisfaction, demographics
  - health behaviours, time use, life events

Web site is at www.newcastle.edu.au/centre/wha
Goal

★ to determine social, psychological, physical and environmental factors which determine health among in women throughout adult life

★ to contribute to the development of policy and practice in key areas for women’s health
  ★ National Health Priority Areas - diabetes, asthma …
  ★ Health Targets e.g. Ageing Well, Continence, Quality Use of Medicines, National Tobacco Strategy, Watching Australia’s Weight, Active Australia …

★ Cohorts = Young (18-25) Mid (45-50) Older (70-75) at commencement (1996). Cohorts 12,500 – 14,000 with high retention rates, follow up 3 - 5 years….longitudinal ‘snapshots’
Stiff or Painful Joints and Change in SF-36 Physical Health: Mid and Older Women

NB: change scores are adjusted for Survey 1 scores
Health Service Delivery: Coordinated Care Trials

- Trials which examined ‘fund pooling’ models to provide coordinated care for elderly with chronic conditions vs. usual GP care
- Hypothesized to improve outcomes… or maintain / slow rate of decline – given nature of trial population?
- SF-36 used to monitor outcomes of all comparison/control groups; disease specific measures and patient satisfaction were unique to each particular trial
- Few SF-36 differences detected – no surprise given subtle nature of intervention - access to services ? and timeframe ??
- Conclusions reflect poor understanding of HRQOL assessment?
Clinical Monitoring: Mental Health

- Review of consumer outcome measures – Andrews et al, 1994
- Small trial of potential consumer measures (BASIS, MHI, SF-36) and provider measures (HoNOS, LSP, RFS)
- Development of MH Classification and Service Costs Project MH-CASC (HoNOS, LSP, RUGS-ADL).
- Routine Implementation – HoNOS, LSP for all inpatients plus chosen consumer measure (K-10, BASIS, MHI) - latter also used for outpatients
Clinical Monitoring

- Benchmarking of service comparisons – outcomes results adjusted for patient mix - Casemix Adjusted Relative Mean Improvement (CARMi)…..but some issues
- ? HoNOS - assumed predictor of cost also a good predictor of outcome
- Is a clinician severity rating measure a good measure for monitoring patient outcomes over time?
- Australian Rehabilitation Outcomes Centre (AROC) - Similar benchmarking initiatives in rehabilitation (FIM) → web enabling
- Issues of real time feedback are critical for clinical use, static databases are not the answer
The Continuum of Care and Health Outcomes Project

- A longitudinal study of 7154 inpatients including both retrospective and prospective data (1995-96)
- Develop profiles on health outcomes, care, service use and financial costs
- Compare various patient and population groups in their service use and health outcomes
- Use the findings to help clinicians and administrators improve their decision making - implement and develop outcomes management model
Mean Pain Scores (SF-36) for Surgical and Medical Patients

- **Day only Surgical** (n=1167)
- **Other Surgical** (n=1611)
- **ACT Population**
- **Medical** (n=4163)
CCHOP to DiscoverQuick

- Need to streamline system for use in routine care and research settings
- DiscoverQuick is a web enabled intelligent knowledge management system for outcomes management - providing real time feedback to clinicians
- Allows recruitment to RCTs and HSR studies while providing support for patient care
- Integrates EBM knowledge bases, guidelines, in developing decision support algorithms
- Includes HRQOL data with settings which can be linked to instrument review repositories and provide feedback to these
Discover Quick

Overwhelmingly enthusiastic response

Neonatology
Pain management
Gastroenterology
Orthopaedics/Cardiology
Diabetes Educators Association
CLP Project
Arthritis ACT, SA, Qld, Tas
Academic medicine unit
Endometriosis (gynaecology)
Respiratory and Sleep Medicine
Mental health (working towards a start)
Rheumatology (under discussion)
Registrar training (under discussion)
Anaesthetics (under discussion)
HRQOL: Needs Assessment

- Community and Primary Care - Initial Needs Assessment, Ongoing Needs Assessment, Health and Community Care Screening, Aged Care Assessment, Provision of Appliances for Disabled Persons
- Tiered approaches, screening and follow up assessment to determine needs and assign services
- Use of ADL and IADL functional skills profiles (Modified Barthel, FIM, Lawton’s IADL)
- Mainly needs assessment but also for outcomes monitoring in some projects
Aged Care Assessment

- Desire to standardise aged care assessments nationally – great goals - given the diversity of these assessments
- Screening and follow up assessments
- Ensure all clients receive a cognitive assessment
- Desire for valid and reliable assessment……but do committee choices really reflect this aspect?
## Summary of Ratings for Cognitive Assessment Instruments

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Weight</th>
<th>MMMSE (3MS)</th>
<th>SMMSE</th>
<th>RUDAS&lt;sup&gt;a&lt;/sup&gt;</th>
<th>KICA-COG</th>
<th>KICA-CARER</th>
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<td>Theoretical/empirical basis</td>
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<td>Length/feasibility of instrument for inclusion in battery</td>
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<td>Complexity of administration/cognitive burden</td>
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<td>Sensitivity</td>
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<td>Reliability evidence</td>
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<td>2.5&lt;sup&gt;b&lt;/sup&gt;</td>
<td>2&lt;sup&gt;b&lt;/sup&gt;</td>
<td>2&lt;sup&gt;b&lt;/sup&gt;</td>
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<td>Cost of the instrument</td>
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Based on the DOMs review in 2008 – this review needs to be updated

* Scored as 2 or 2.5 because of there being limited evidence/publications or independent publications but what there is indicates good sensitivity, validity and/or reliability.

* Rated as 2 vs. 1 as the costs are minimal and estimated at 12 cents per use

SAHOS: User Pays Survey

- 3000 sample community survey used by researchers and government
- 2004 survey compared utility measures EQ5D, AQOL, HUI3, SF-6DV2, 15D in relation to incontinence items and also deriving interim norms for SF-36V2
- Also reflects earlier government interest in developing outcome measurement suites (e.g. dementia, continence)…standardizing use of measures/items…for clinical applications
Effect of urinary incontinence on HRQoL by gender

Males

Females

Level of urinary incontinence problem (UDI)

Mean utility (95% CIs)

None     Slight    Moderate   Problem

None     Slight    Moderate   Problem   Major

AQoL    EQ5D     HUI3     15D     SF6D
Regulatory Aspects: PBS

- Pharmaceutical Benefit Scheme (PBS) 1992 – required to conduct economic evaluation (with a focus on outcomes including HRQOL) for drug registration to attract government subsidy
- Subsidised medicine prices capped with a patient co-payment @ $5.60 healthcare card, others $34.20
- Reference Pricing … a ‘me too’ drug price will be set at the price of the lowest comparable drug (CMA). To gain a higher price for a new drug one must show relative benefit per $ over existing drugs…CEA, CUA analyses
- HRQOL data particularly relevant for submissions for chronic conditions and need to justify psychometric properties of selected instruments (PBAC Guidelines)
### Types of Economic Evaluation

The diagram illustrates the distribution of economic evaluation types over various years from 1993 to 2002. The data is as follows:

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</table>

The data is from Wilson 2004.
Pharmaceutical Benefits Scheme

- Quality of economic evaluations - 67% had some methodological flaw (Hill et al, 2000 … analysis, interpretation, est. comparative clinical efficacy, modeling)

- More recent revisions of PBAC guidelines… but need for greater expertise and greater ‘genuine’ transparency?

- Despite these issues – a very effective scheme for pricing

- See www.health.gov.au/pbs
Some Issues

- Plenty of use but sometimes not gaining as much value – reflects lack of familiarity with assessment and interpretation of HRQOL data (e.g. reliability and validity rhetoric vs. reality)
- Instrument selection issues … need to relate to purpose of assessment, develop more wisdom concerning the use of measures
- Convenient/routine follow up assessment points may not always be the most informative
- Easier to collect data than to use it to inform practice
- HRQOL assessment issues may need more thought and the development of greater expertise
Future Directions

- Becoming more sophisticated – and an increasing recognition of HRQOL measurement issues
- A number of national (large scale) initiatives (e.g. 45 and up study, WHA) and increasing implementation in clinical practice
- A focus on improving technology to facilitate outcomes monitoring and service comparisons for practice improvement
**Risk Assessments and Diagnoses**

- Breast Cancer
- Early unilateral single primary invas. BC

**Setting**
- In Patient

**Status**
- Follow up phase

**Patient progress**
- Vitality by time

**Average Vitality Levels (+/- SD) over time comparing Patient against Group**
Distribution of HRQoL utility scores by instrument

- **AQoL:**
  - Nice even distribution

- **HUI3:**
  - Nice even distribution

- **SF6D:**
  - Most cases 0.80-1.00
  - Almost none <0.40

- **EQ5D:**
  - Inconsistent distribution

- **15D:**
  - 74% cases >0.90
  - Almost none <0.50