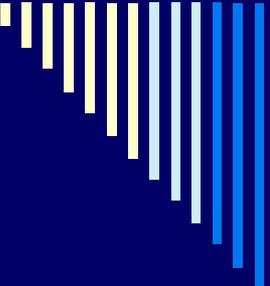


Evaluating the *impact* of electronic databases in health care

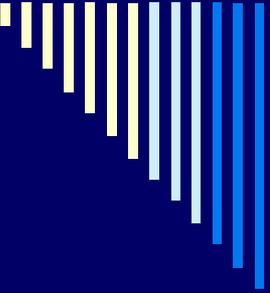
*Experiences from the OTseeker
evidence database*

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Division of Occupational Therapy
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Aims

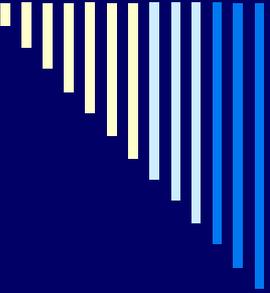
- Background to evaluation of information services
 - Evaluating impact
 - Evaluating the impact of electronic databases: the example of the OTseeker database
-



Why evaluate?

Purpose for evaluating information services:

- *‘justifying the library’s existence and providing evidence of cost benefit to the organisation.’*
 - *‘to improve the service’*
 - *‘to determine the effectiveness of services for facilitating learning and decision making.’*
-



Evaluation of Impact

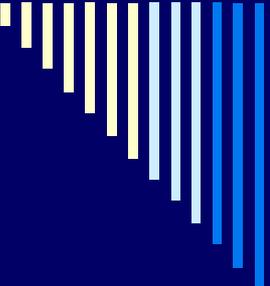
- The ability of a service to make a difference in behaviour or outcome

(Marshall, 2007)

- Impact = 'making a difference'

(Cullen & Esson, 2007)

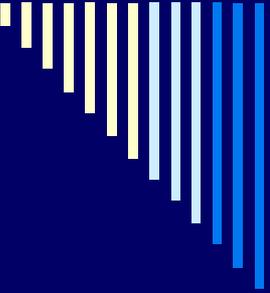




Evaluating the impact of electronic databases in the health sector

- Assumption: Provision of information in electronic databases makes a difference
- Need to consider: Difference to whom?
- Difference to what?





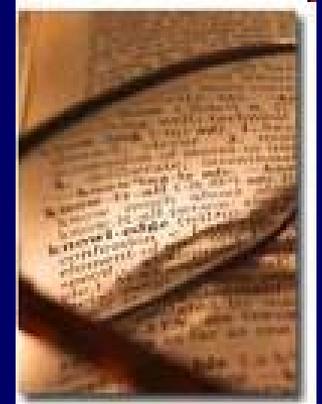
Difference to whom?

- Users:
 - Students
 - Health professionals
 - Health systems
 - Researchers

 - Patients



Difference to what?



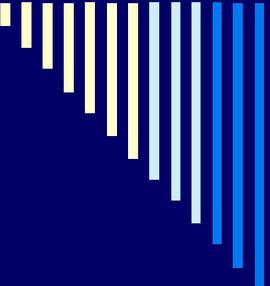
- Efficiency
 - Cost effectiveness
 - Satisfaction
 - Knowledge
 - Confidence
 - Behaviours
 - **Patient health outcomes** (morbidity, mortality)
-

How to measure differences?

- Web log analysis
- Surveys
- Qualitative research
- Randomised controlled trials



Poor	<input type="checkbox"/>
Satisfactory	<input type="checkbox"/>
Good	<input type="checkbox"/>
Excellent	<input checked="" type="checkbox"/>



The route from research information to patient health outcomes

Databases *Access ?*



Clinician's use of database *Time & Skills?*



Research Information *Quality?*



Clinician's interpretation of information *Time & Skills?*



Clinician's use of information *Applicable? Resources?*



Patient's behaviour *Values? Context?*

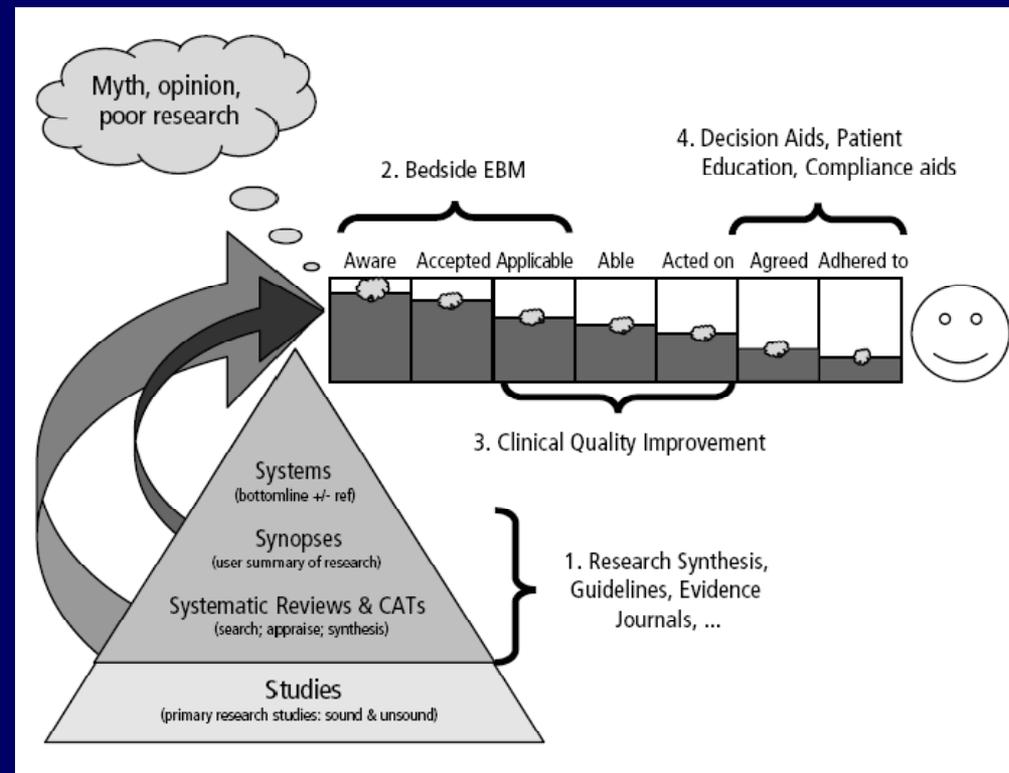


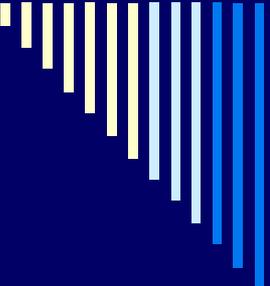
Patient outcomes !!

Impact of research information on health outcomes

Often patients only get 10% of the benefit from research findings because of “leakage along the information pipeline”

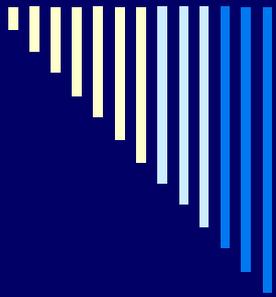
(Glasziou & Haynes, 2005)





Some Solutions...

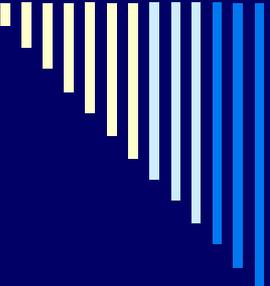
- Address accessibility of databases
 - Filter the research results before they are passed on to health professionals
 - Databases of pre-appraised quality research
-



Example: OTseeker

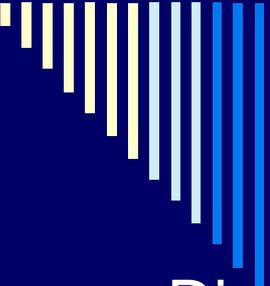
Occupational Therapy Systematic Evaluation of Evidence

- Bibliographic database of over 6000 randomised controlled trials and systematic reviews relevant to occupational therapy
- Free access www.otseeker.com
- Since 2003: Over 1 million visits in 100+ countries



Aim of OTseeker

To support evidence based-practice by reducing the time it takes to locate and critically appraise research relevant to the effectiveness of occupational therapy interventions



Features of OTseeker

1. Discipline specific collection of RCTs and SRS relevant to occupational therapy sourced from over 900 journals
2. Each RCT is critically appraised for internal validity and inclusion of clinically useful statistical information
3. Entries coded according to intervention and diagnostic categories relevant to occupational therapy
4. OTseeker contains associated resources and tutorials for evidence-based practice

5. Free access via the Internet.



Welcome to OTseeker

OTseeker is a database that contains abstracts of systematic reviews and randomised controlled trials relevant to occupational therapy. Trials have been critically appraised and rated to assist you to evaluate their validity and interpretability. These ratings will help you to judge the quality and usefulness of trials for informing clinical interventions. In one database, OTseeker provides you with fast and easy access to trials from a wide range of sources.

Search	Search the database. On the search page you will have the choice of doing a keyword and/or category search.
About	Read about the origin and development of the OTseeker database.
Questions	Find answers to questions such as 'How are the trials rated?' and 'How were the trials located?'
Resources	Learn about evidence-based practice and access power-point presentations, articles, and other resources.
Acknowledgments	See who has supported the development of OTseeker.
Contact	Find out how to contact us .
Links	Discover links to other sites about evidence - based practice.

OTseeker Updates

[OTseeker brochure](#)
[Newsletter: Evidence Insider](#)
[OTseeker powerpoint tutorial](#)
[Register for OTseeker email updates](#)

Featured Resources

[Injury Management Resources](#) - This resource contains research and resources about injury management for people who have sustained injuries.

Did You Know?

Early mobilisation may reduce post stroke depression
[read more...](#)

Function-centered rehab increases work days
[read more...](#)



Search

To perform a search, fill in the "Keywords" and/or other search criteria below, then select "Search". [Help with searching.](#)

Note: Not all search boxes need to be filled out.

Keywords:

Hint: Try using synonyms combined with OR to find more articles (eg. leisure OR recreation).

Author / Association:

Title:

Journal Title:

Intervention:

Diagnosis / Subdiscipline: [More Information](#)

Method:

Year published:

Internal Validity Score:

Statistical Reporting Score:

Age Group:

Articles to display per page:

Options:

5499 articles in database (last updated)

Complementary therapies

Computers / Internet

Consumer education

Counselling

Creative therapies

Developmental therapy

Ergonomics

Exercise / strength training

Hand therapy

Health promotion / risk assessment

Home modification / access

Instrumental activities of daily living

Leisure / recreation

Movement training

Other

Perception

Physical modalities / orthotics / splinting

Play

Positioning

Psychosocial techniques

[More Information](#)

[More Information](#)

[Rating Guidelines](#)

[Rating Sheet](#)

[What's this?](#)

Detailed Search Results

[Return to Search Page](#)

This trial has been rated according to reported aspects of its internal validity and interpretability. To make decisions about the application of the trial to clinical practice it is necessary to obtain and read the full article.

Home-based occupational therapy: stroke patients' satisfaction with occupational performance and service provision

L. Gilbertson and P. Langhorne (2000)

Journal Title: British Journal of Occupational Therapy

Volume 63; Issue 10; Pages 464-8

Method: Clinical trial

Internal Validity Score: 5/8

Statistical Reporting Score: 2/2

- Random allocation: Yes
- Concealed allocation: Yes
- Baseline comparability: No
- Blind assessors: Yes
- Blind subjects: No
- blind therapists: No
- Adequate follow-up: Yes
- Intention-to-treat analysis: Yes
- Between-group comparisons: Yes
- Point estimates and variability: Yes

Eligibility Criteria Specified: Yes

Rating Status: This rating has been confirmed.

Abstract

This study evaluated a short post-discharge home-based occupational therapy service for stroke patients, including an assessment of the patients' satisfaction with occupational performance and service provision. A single-site, blind randomised controlled trial was conducted. One hundred and thirty-eight patients were randomly allocated to either a conventional outpatient follow-up or conventional services plus 6 weeks of home-based occupational therapy. The data were collected before discharge and at 7 weeks and 6 months after discharge using the Canadian Occupational Performance Measure (COPM), the Dartmouth COOP Charts, the London Handicap Scale and a patient satisfaction questionnaire. At 7 weeks the intervention group reported significantly greater changes in performance and satisfaction on the COPM, better emotional scores (Dartmouth COOP Charts) and improved work and leisure activity scores (London Handicap Scale). No other differences in subjective health status were described. By 6 months, the intervention group was more satisfied with several aspects of service provision but no other differences in subjective health experience were reported. A 6-week post-discharge home-based occupational therapy service can improve patients' perceptions of their occupational performance and satisfaction with services but may not have a long-term effect on subjective health outcomes.

This abstract is kindly reproduced with the permission of the British Journal of Occupational Therapy.

If this record is indexed on MEDLINE you may be able to obtain the full text of this article by visiting the [PubMed](#) web site.

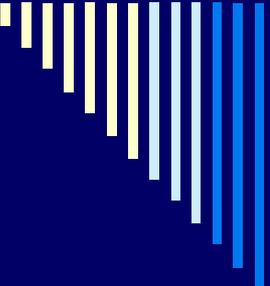
Email format: Web Page (as shown above)

Tagged text format (suitable for importing into EndNote, etc)

Instructions for importing search results into reference management systems:

[Web page](#) (new window) or [Download Microsoft Word document](#)

Email address to send results to:

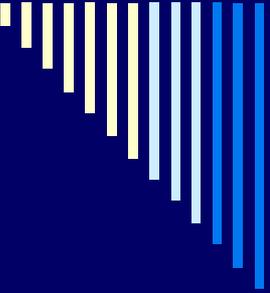


Evaluation of OTseeker: Online survey

- Aim: To investigate:
 - search practices of database users
 - views on its functionality
 - reported impact, if any, on their practice from using OTseeker.

 - Sample: Potential participants were occupational therapists with access to the Internet. A total of 953 people from over 40 countries completed the survey

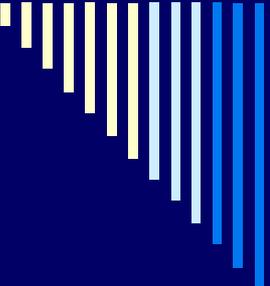
 - Analysis: Data analysed from 498 participants who had used the database more than once
-



Online survey results N=498

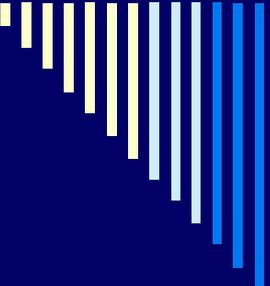
Main reasons for using the database were for:

- ❑ Education needs (31%)
 - ❑ Locating clinical information (27%)
 - ❑ Research or research synthesis (26%)
 - ❑ Professional development (7%)
 - ❑ Teaching/training (6%)
-



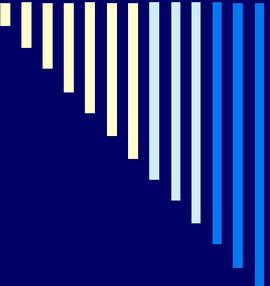
Results of online survey N=498

- 62% believed OTseeker improved their ability to locate research evidence
 - 19% agreed that the information had contributed to a change in their practice
 - Those who had not changed practice agreed use of OTseeker had:
 - improved their knowledge generally (38%)
 - helped confirm their practice (15%)
 - or that there was not enough research relevant to their topic of interest (19%)
-



Features of OTseeker associated with improved ability to locate research evidence:

- Discipline-specific content
 - Provision of critical appraisal ratings of randomized controlled trials
 - Ranking presentation of search results by methodological quality
-



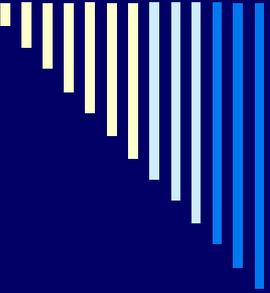
Comments from open question in online survey:

“More likely to look up information as it is quick way to find references with already appraised research articles”

“Because OTSeeker is directly relevant to occupational therapy, it is a very efficient source for information”

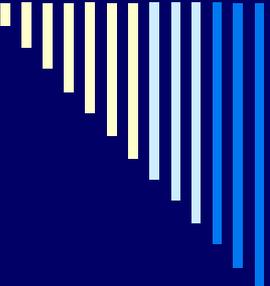
“Has helped focus and prioritise client goals and structure treatment sessions / programs via providing evidence-based research on effectiveness of treatments etc.”

“I have become more confident in practice”



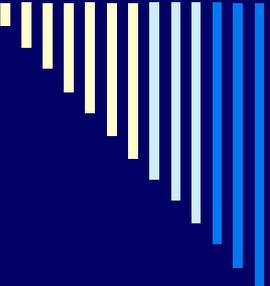
Further evaluation of OTseeker

- Content analysis & web log analysis
 - Postal survey
 - Qualitative study
 - Independent evaluation (KPMG)
-



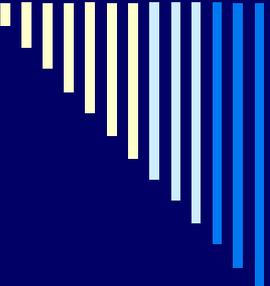
Difficulties evaluating electronic databases

- Need to be realistic about the degree to which we can determine the impact of information from databases on patient outcomes
 - Actual behaviour change also hard to measure - easier to measure users reports of behaviour change
 - Survey methods limited by low response rates and type of data they can gather
-



Recommendations

- Surveys and web log analyses useful for basic evaluation but should be complemented with other study designs
 - Consider qualitative research designs to understand perceptions of end-users
 - Consider use of RCT designs for evaluating effects of electronic databases even though very difficult to implement
 - When evaluating impact, clarify:
 - Purpose of the evaluation?
 - Who you are interested in making a difference to?
 - What the database is aimed at making a difference to?
-



References

- Bennett, S, McKenna, K, Hoffmann, T, Tooth, L, McCluskey, A & Strong, J (2007) The value of an evidence database for occupational therapists: An international online survey. *International Journal of Medical Informatics*, 76 (7): 507-513.
 - Cullen, R & Esson, R.(2007). Assessing the impacts of information services in the health sector. *Health Info Libr J* 24 (Suppl 1)1-3.
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 - Marsh, all, J (2007). Measuring the value and impact of health library and information services: past reflections, future possibilities. *Health Info Libr J* 24(Suppl1), 4-17.
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