



## COT/ BAOT Briefings

### Accessing the evidence base

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#### Introduction

Occupational therapy personnel working in the UK are required by their *Code of ethics and professional conduct* (College of Occupational Therapists 2005, p. 16) to 'be accountable for the quality of their work and base this on current guidance, research, reasoning and the best available evidence'. In order to comply with this requirement, occupational therapists have to know what is the best available evidence and where to find it.

**Evidence-based practice** is the process of systematically searching for relevant research findings, critically appraising those findings for their relevance and quality and using them as the basis for making clinical decisions.

**Evidence-based medicine** has been defined as (Bandolier 22/09/08):

The conscientious, explicit and judicious use of current best evidence in making decisions about the care of individual patients. The practice of evidence-based medicine means integrating individual clinical expertise with the best available external clinical evidence from systematic research. Evidence-based medicine does **not** mean "cook-book" medicine, or the unthinking use of guidelines. It **does** imply that evidence should be reasonably readily available in an easily understood and useable form.

**Evidence based health care** 'takes place when decisions that affect the care of patients are taken with due weight accorded to all valid, relevant information' (Hicks, cited in Bandolier 22/09/08).

The process of evidence-based practice has five components, or stages (Bannigan 2007):

- Formulating a clear, clinical question;
- Finding the best evidence in the literature to answer the question;
- Critically appraising that evidence for its clinical usefulness and validity;
- Implementing useful findings in practice;
- Evaluating the effectiveness of the new way of working.

This briefing addresses the first three components of evidence-based practice, in which the evidence is found and appraised, but not the implementation and evaluation components.

#### Formulating a clinical question

The starting point for finding relevant research evidence is the formulation of specific questions that are directly relevant to the client group and that guide the literature search towards relevant publications. A good question will include the client or problem under consideration,



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the intervention, a comparison intervention (if appropriate) and the outcomes of intervention.  
For example:

In a medium secure unit, is the number of incidents on the ward reduced if male detained patients are engaged in a five-day programme of structured activities on and off the ward in addition to having regular individual and group talking therapies, compared with talking therapies alone?

A well-formulated question should make clear what kind of research would provide the best answers. For example, the above question would be best answered by randomised controlled trials (RCTs) in which the impact of talking therapies on the number of incidents on a men's medium secure ward is compared with the impact of talking therapies combined with a structured activity programme.

### **Finding the best evidence**

The main sources of research evidence are: systematic reviews or meta-analyses, and literature searches.

A **systematic review** 'applies rigorous procedures to track down all previous studies relevant to a defined question, and to assess their quality. Data is extracted from the original research studies and analysed' (Bury & Mead 1998, p. 146). A **meta-analysis** is 'a statistical method to synthesise the findings of multiple quantitative studies on a specific topic' (Doordan 1998, p. 80). Internet sites where systematic reviews and meta-analyses can be found are listed below under 'Sources of evidence'.

The findings of systematic reviews and meta-analyses should be evaluated for their relevance to the review question, for the quality of the review and for their applicability to the local situation. Guidance on how to critically appraise a systematic review can be found on the website of the Centre for Evidence-Based Medicine at [www.cebm.net/index.aspx?o=1025](http://www.cebm.net/index.aspx?o=1025) (accessed 29/09/08).

It may not be possible to find a systematic review or meta-analysis of research in a specialist area of occupational therapy practice, in which case it will be necessary to carry out a literature search, following the five stages described here.

### **1. Identify search terms**

Search terms include the patient group or problem, the intervention and the outcomes. For example, search terms for the question given about the number of incidents in a medium secure unit could be: medium secure unit AND male patients AND structured activities AND talking therapies AND incidents.

In order to find the widest range of literature on the topic, alternative terms should be suggested for each of these concepts. For example, alternatives to *medium secure* could be secure unit OR forensic patients OR detained patients OR special hospital. Most librarians will be able to offer help with identifying and combining search terms.

### **2. Search databases**

Search terms are used to interrogate a database or databases. Some databases are free to the Internet user, such as PUBMED and the Cochrane database. Others, which can only be accessed by subscribers, include Allied and Complementary Medicine (AMED), Cumulative Index to Nursing and Allied Health Literature (CINAHL), PsycINFO and Social Policy and Practice. OTDBASE is a specialist subscription database of abstracts from occupational therapy journals.



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An NHS or university librarian will advise on what databases are available. To carry out an exhaustive search, it is necessary to search as many databases as possible.

### 3. Select papers and obtain the literature

A database search may bring up thousands of references so it is important to have clear criteria for selecting papers to review. These criteria will include the relevance of the paper to the question, the type of research and the quality of the research. For example, the decision may be taken to include only reports of RCTs or systematic reviews that include at least one RCT. Exclusion criteria can also be used to narrow the focus of the review. For example, if the clinical question is about male detained patients, exclusion criteria will include female patients and informal patients.

Some databases give online access to full text journal articles while others provide only an abstract. Selected papers can be obtained from a specialist library or via interlibrary loans. A librarian will advise.

### 4. Critically appraise the evidence

When copies of research papers have been obtained, they must be critically appraised for their relevance to the topic and for the quality of the research. The idea that practitioners should find and use the *best evidence* implies that some types of evidence are better than others. A hierarchy of evidence has been suggested (Bury 1998):

1. At least one systematic review or meta-analysis of well-designed RCTs;
2. At least one well-designed RCT of appropriate size;
3. At least one well-designed, non-randomised experimental study, such as a cohort study or single group pre-test post-test;
4. Well-designed non-experimental studies from more than one centre;
5. Expert opinion.

Guidelines for critically appraising different types of research are available on several websites or in books, such as:

- British Medical Journal – [www.bmj.com/collections/read.dtl](http://www.bmj.com/collections/read.dtl)
- Centre for Evidence-based Medicine – [www.cebm.net/index.aspx?o=1025](http://www.cebm.net/index.aspx?o=1025)
- Public Health Resource Unit – [www.phru.nhs.uk/index.htm](http://www.phru.nhs.uk/index.htm)
- Sheffield University School of Health and Related Research (ScHarr) – [www.shf.ac.uk/scharr/ir/units/critapp/index.htm](http://www.shf.ac.uk/scharr/ir/units/critapp/index.htm)
- Greenhalgh T (2006) *How to read a paper*. 3rd ed. London: BMJ Books.

### 5. Draw out key messages and implications

The final stage of the literature search involves asking if the findings answer the clinical question and using clinical judgement to decide if they are likely to be clinically important. For example, if the search finds only one study of the impact of activity programmes in a forensic unit, and the only outcomes measured are patient and staff satisfaction, then the findings will not answer a question about the impact of structured activity on the number of incidents on a ward.

### Sources of evidence

Bandolier ([www.medicines.ox.ac.uk/bandolier/](http://www.medicines.ox.ac.uk/bandolier/)) – an electronic journal of evidence-based healthcare.

BMJ Clinical Evidence (<http://clinicalevidence.bmj.com/cweb/index.jsp>) – an electronic journal of systematic reviews. Free to users in Wales and Scotland.

Centre for Reviews and Dissemination ([www.york.ac.uk/inst/crd/](http://www.york.ac.uk/inst/crd/)) gives access to three databases:



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- Database of Abstracts of Reviews of Effects (DARE)
  - Health Technology Assessment Database
  - NHS Economic Evaluation Database

Cochrane Library (can be accessed free via the National Library for Health) - includes five databases:

- Cochrane Database of Systematic Reviews
- Database of Abstracts of Reviews of Effects (DARE)
- Cochrane Register of Controlled Trials
- Health Technology Assessment Database
- NHS Economic Evaluation Database

DIALOG ([www.dialog.com](http://www.dialog.com)) - gateway to 600 databases on a wide range of topics.

National Library for Health ([www.library.nhs.uk](http://www.library.nhs.uk)) – users need an Athens password to access full text articles. Gives access to a variety of resources including:

- The Cochrane Library
- Database of Abstracts of Reviews of Effects (DARE)
- Bandolier.

Otseeker ([www.otseeker.com](http://www.otseeker.com)) - critically reviewed abstracts of systematic reviews and randomised controlled trials relevant to occupational therapy.

Trip Database ([www.tripdatabase.com/index.html](http://www.tripdatabase.com/index.html)) - gateway to evidence-based healthcare resources, updated monthly.

### Where to get help

College of Occupational Therapists' library

NHS libraries

University libraries

### References

Bandolier [www.medicines.ox.ac.uk/bandolier/](http://www.medicines.ox.ac.uk/bandolier/)

Bury T (1998) Evidence-based healthcare explained. In: T Bury, J Mead (eds) *Evidence-based healthcare*. Oxford: Butterworth Heinemann. 3-25.

Centre for Evidence-based Medicine [www.cebm.net/index.aspx?o=1025](http://www.cebm.net/index.aspx?o=1025)

College of Occupational Therapists (2005) *College of Occupational Therapists Code of Ethics and Professional Conduct*. London: College of Occupational Therapists.

Doordan AM (1998) *Research survival guide*. Philadelphia: Lippincott.