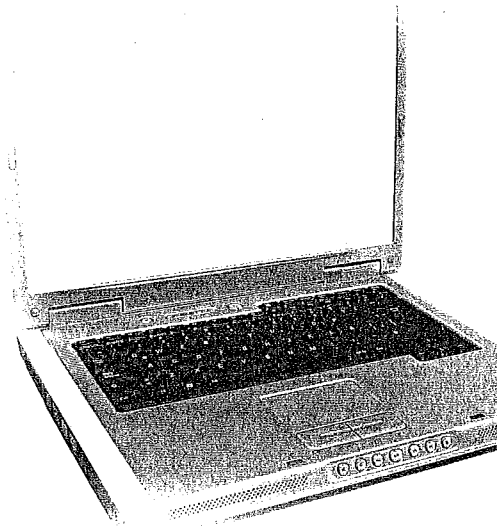


Information systems manager at the RCM library Catherine Ebenezer provides a detailed overview of free online tutorials for finding and using evidence-based health information.

Information: finding the evidence base



'Many midwives are inclined to be negative about the notion of practice having to be 'evidence based', associating it with overly-prescriptive clinical guidelines and a medicalised approach.'

One of the issues arising from the recent RCM library survey was the need to point members toward resources for helping them locate and use evidence-based midwifery information. This article and its parallel web page have been produced in response (see: www.rcm.org.uk/info/pages/library.php?id=24).

There is a range of specific issues involved in finding and using evidence-based practice information. Although there is some overlap, I have classified these resources into tutorials on literature searching, guides to bibliographic databases, search tutorials, evidence-based practice guides and resources for critical appraisal. The evidence-based *Maternity care resource guide* from *Childbirth connection* (see: <http://digbig.com/4tgew>) is a comprehensive guide to resources for all these areas.

General tutorials on literature searching

Information exploration: becoming a savvy scholar is an online course from the Massachusetts Institute of Technology designed for first-year undergraduates in scientific disciplines (see: <http://digbig.com/4tgh>). It explores the scientific publication cycle, including the role of primary and secondary literature as well as online and in-print bibliographic databases. It includes material on how to search, evaluate and cite information, indexing and abstracting, using 'grey literature' (technical reports and conference proceedings), conducting web searches and constructing literature reviews. The tutorial is downloadable as a zip file and uses Flash animations, so a file compression utility such as *WinZip*, and *Flash player* (the latter is a free download from: www.adobe.com) needs to be installed on your computer.

The excellent presentation, *How to do a literature search* (see: <http://digbig.com/4tgf>) by Andrew Booth and Mary Dixon-Woods of the School of Health and Related Research (SchARR) uses midwifery and social sciences case studies. It explains the conceptual basis of effective literature searching, including Boolean operators (the use of the AND, OR and NOT in search queries) and the use of controlled vocabularies (thesauri).

My own presentation, *Literature searching for research* (see: <http://digbig.com/4tgfm>) gives a current overview of the main sources of evidence in midwifery and maternity services, as well as a brief look at search techniques.

The website *NHS Scotland e-learning environment for information literacy skills* (see: www.infoskills.scot.nhs.uk) covers the process of formulating questions, identifying information sources, developing search strategies, filtering and evaluating what is retrieved, then synthesising, communicating and applying the information in practice. However, the main content is ATHENS-authenticated and hence restricted to those working in Scotland. Another article on literature searching using bibliographic databases is *Using the internet for literature searching* by Paula Younger (see: <http://digbig.com/4tggg>).

Guides to bibliographic databases

In identifying suitable sources of help for searching the main bibliographic databases for health sciences, it is important to distinguish between the database content itself and the platform on which it is made available. *Maternity and infant care* (the MIDIRS bibliographic database) is available to individual subscribers via MIDIRS' own interface (see: www.midirs.org) and is also available to institutional subscribers on the WebSPIRS and OVID interfaces. They look different and have different search functionality, but the content is the same. Many databases (such as MEDLINE) are available via a wide variety of interfaces. An institution can purchase a whole variety of bibliographic databases and provide access to them via a platform such as OVID. It is important to find out which interface your library is offering and select tutorials that relate specifically to it.

England's NHS National Core Content working group has produced an interactive learning guide and documentation for Dialog DataStar, MEDLINE, CINAHL, British Nursing Index and others (see: <http://digbig.com/4tgfp>). Dialog DataStar is the interface available in the RCM library. The NHS Scotland e-Library also has a range of guides to its databases (see: www.elib.scot.nhs.uk/elibraryhelp/Index.html) as has HONNI (Health on the Net Northern Ireland) (see: www.honni.qub.ac.uk/ResourceGuides/DatabaseGuides). The guides are freely available, although access to the database content is restricted. PubMed Help at the National Library of Medicine has produced a tutorial on searching PubMed MEDLINE (see: <http://digbig.com/4tgga>). A PubMed tutorial is

The DigBig service

A number of website addresses in this article have www.digbig.com as the domain. DigBig is a service that shortens a long website address and provides forwarding.

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available on HONNI (see above). Generic tutorials are available on the WebSPIRS and OVID gateways. These are useful for Maternity and infant care (the MIDIRS bibliographic database, see: <http://digbig.com/4tggb>). Use the link WebSPIRS (for WebSPIRS) and: <http://digbig.com/4tggf> (for OVID). Wiley, the publishers of the Cochrane Library have produced a Cochrane Library online help manual and other training resources (see: <http://digbig.com/4tggc>).

Finding information on the web

Since the early 1990s, the internet has become a ubiquitous publication platform. However, searching it effectively for good quality health information is not a straightforward process. Existing search tools cannot effectively retrieve all relevant information and unlike traditional publication processes, there is no quality filtering.

An established web-searching tutorial has recently been revised: *Internet for nursing, midwifery and health visiting* (Intute). As with other Intute tutorials, it includes four components: a tour of relevant sites, guidance on conducting effective web searches, evaluating web resources and case studies illustrating the use of the web. It also has a facility for creating your own collection of resources (see: www.vts.intute.ac.uk/he/tutorial/nurse).

The Pandia Goalgetter web search tutorial is described as: 'A short and easy guide to web searching, search engines and directories.' It takes around 30 minutes to work through (see: www.pandia.com/goalgetter/index.html).

Another long-established and thorough tutorial that covers all things internet is *Netskills TONIC* (see: <http://digbig.com/4tggh>). It also remembers how far you have got each time you visit the site.

If you must use Google, it is well worth acquainting yourself with its advanced search functions, which include phrase searching, Boolean OR, word stem and synonym searching and extensive limit features (see: www.google.co.uk/intl/en/help/refinesearch.html).

Evidence-based practice

Many midwives are inclined to be negative about the notion of practice having to be 'evidence based', associating it with overly-prescriptive clinical guidelines and a medicalised approach. The issue however, is about the type of evidence that is considered. Evidence-based medicine has tended to focus on quantitative research, in particular the results of randomised controlled trials, thereby excluding much mid-

wifery knowledge. For this reason I have specifically included in the following sections resources on finding and appraising qualitative research for evidence-based practice (EBP).

One of the first in the field with EBP training was the Critical Appraisal Skills Programme, part of the Public Health Research Unit in Oxford, which produced *An introduction to evidence-based practice* (see: www.caspinternational.org/ebp/).

An interactive learning package (also needs Flash) from the University of Leicester, *Evidence wheel* (see: <http://digbig.com/4tggj>) covers National Library for Health and National Core Content resources.

EBM Tools, from the Centre for Evidence-Based Medicine at the University of Oxford (see: <http://digbig.com/4tggk>) deals with focused clinical questions, finding evidence, study designs, critical appraisal and evidence levels – a glossary is included. Do not be put off by 'EBM' in the title, the content is applicable to other health professions.

SCHARR's guide to evidence-based practice on the internet, *Netting the evidence* (see: www.shf.ac.uk/scharr/ir/netting/) is a comprehensive guide to EBP resources. The *Introduction to evidence-based medicine* from the University of North Carolina at Chapel Hill (see: www.hsl.unc.edu/services/tutorials/ebm/index.htm) is an online tutorial that takes the user through the steps of formulating a clinical question and translating it into a literature search. Also from this university is: *Searching the medical literature for the best evidence* (see: <http://digbig.com/4tggm>) – a tutorial on selecting and searching resources for evidence.

An excellent set of learning objects on formulating clinical questions, searching for, appraising and applying evidence in practice is provided at the website *Practising evidence-based medicine*. The site is produced by the Centre for Evidence-Based Medicine at the University of Toronto (see: www.cebm.utoronto.ca/practise/).

The *Users' guides to evidence-based practice* produced by the Centre for Health Evidence are extremely detailed. Originally published in the *Journal of the American Medical Association* these are not for the faint-hearted (see: www.cche.net/usersguides/main.asp). *Becoming ADEPT: applying diagnosis, (a)etiology, prognosis and therapy methodological filters to retrieving the evidence* (see: www.shf.ac.uk/scharr/ir/adept/) is a distance learning course from SCHARR corresponding closely to the *Users' guides*.

In 2001, the RCOG produced *Searching for evi-*

dence (see: <http://digbig.com/4tggf>). Some of the sources cited are out of date, but it provides a useful overview of searching for evidence for guideline development in obstetrics and gynaecology.

Critical appraisal

Many of the tutorials above include sections on critical appraisal. The following sites are devoted specifically to this.

- *Critical appraisal and using the literature*, an online course from SCHARR (see: <http://digbig.com/4tggp>)
- *Critical appraisal skills workshop*, a presentation from the Aggressive Research Intelligence Facility at the University of Birmingham (see: www.arif.bham.ac.uk/casp/caspslides.pdf)
- *How to read a paper: articles from the BMJ* by Trisha Greenhalgh (see: <http://digbig.com/4tggq>)
- The Critical Appraisal Skills Programme has a variety of tools for appraising different types of article (see: <http://digbig.com/4tggf>)
- The University of Salford Health Care Practice Research and Development Unit produce guides to critical appraisal of qualitative, quantitative and mixed research designs (see: <http://digbig.com/4tggk>)
- Evidence-based practice checklists from the University of Glasgow. These are to help with asking appropriate questions of different types of research (see: <http://digbig.com/4tggg>).

Although not a tutorial, I must mention Mary Dixon-Woods' et al's important report for the National Institute for Health and Clinical Excellence, *Integrative approaches to qualitative and quantitative evidence*, which reviews the literature in this area (see: <http://digbig.com/4tggk>). The report seeks to answer the following questions:

- What is the role of qualitative approaches in traditional trials and experimental studies?
- At what point in the development of a field of knowledge is it appropriate to pull qualitative and quantitative learning together?
- What constitutes good evidence from qualitative studies?
- Are there hierarchies of evidence within the different types of qualitative investigation?
- How may the findings of qualitative and quantitative research be synthesised?

Dixon-Woods' *Critical interpretive synthesis: a brief introduction* is also worth looking at: <http://digbig.com/4tggk>, as is Andrew Booth's 2001 presentation, *Cochrane or cock-eyed? How should we conduct systematic reviews of qualitative research?* (see: <http://digbig.com/4tggkw>).