

EVIDENCE-BASED MEDICINE

(3) WHERE TO FIND EVIDENCE

By Claire Jones, DipPresSci, MRPharmS

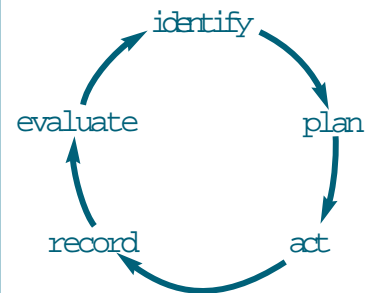
It is essential that pharmacists keep up to date with the latest evidence base in medicine, but this can be time consuming and pharmacists need to know how best to spend the little time they have. This article follows on from two previous articles about evidence-based medicine and highlights reliable sources of evidence



identify gaps in your knowledge

1. Which are the gold standard medical journals?
2. Where can you find good quality, independent reviews of evidence?
3. Which websites will keep you up to date with the latest evidence base?

This article relates to the Royal Pharmaceutical Society's core competencies of "information systems and sources of information" and "decision making in relation to drug therapy" (see "Medicines, ethics and practice — a guide for pharmacists", number 26, July 2002, pp105–6). You should consider how it will be of value to your practice.



Practising evidence-based medicine is now a key philosophy of the National Health Service. All pharmacists have a crucial role to play by keeping up to date with the latest evidence base in medicine and actively disseminating this evidence to other health care professionals and patients. The two previous articles in this series^{1,2} described various trials and how to develop the skills to appraise critically randomised controlled trials, but first of all you need to know where to find the evidence.

FINDING THE EVIDENCE

A vast amount of new evidence emerges daily and in my opinion there are three key questions to ask when planning the most effective use of your time:

1. Which journals should I be reading regularly to keep abreast of major drug trials?
1. Where can I look to find the latest independent review of the evidence?
1. How can I generally keep myself up to date?

The most efficient way to keep up to date and access original papers and reviews is to use the internet. It allows quick access to the evidence base and ensures that you get the latest information. Many websites offer an e-mail alert service that allows you to register your details so that the contents page of the journal can be e-mailed to you. This means that you are regularly prompted to look at whether or not any major drug trials have been published.

If a site is password protected you may only be able to access abstracts, unless you are willing to pay to subscribe. Alternatives would be to contact the postgraduate library at your local teaching hospital or regional medicines information centre (contact details

can be found at www.druginfozone.org/). The Royal Pharmaceutical Society's library offers a photocopying service for a fee. Otherwise you could also try university libraries but bear in mind that each library will have its own rules as to whether or not you will be allowed access.

ORIGINAL PAPERS

Table 1 (p678) lists the gold standard peer-reviewed journals where the majority of major drug trials are published and which, in my opinion, are essential reading.

INDEPENDENT REVIEWS OF THE EVIDENCE BASE

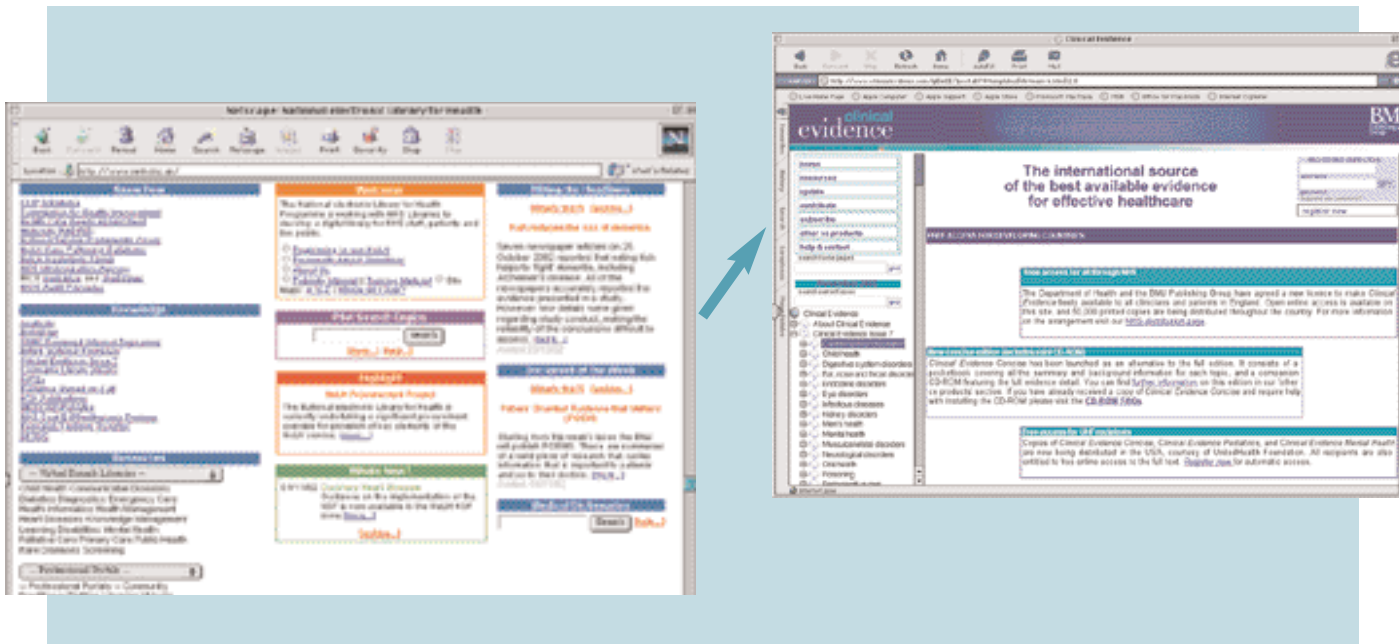
Although it is important to be able to appraise critically original papers, it is less time consuming to look at appraisals and summaries that have already been done for you. Listed below are some key sources for pharmacists wishing to access good quality independent reviews regularly. This list is not exhaustive but highlights the best of the sources.

Drugs and Therapeutics Bulletin *Drugs and Therapeutics Bulletin* is published monthly by the Consumers' Association. It is a well respected and established source of independent drug evaluations aimed at doctors and pharmacists. However, its website (www.which.net/health/dtb/) only provides an index of articles and the conclusions of the most recent issue (full access to bulletins requires subscription). Recent key reviews include:

1. Oral antihistamines for allergic disorders (2002;40:62–64)
1. Is Yasmin a "truly different" pill? (2002;40:59–62)

MeReC Bulletin, MeReC Briefing and MeReC Extra Published by the National Prescribing Centre, the *MeReC Bulletin* is published six times a year, and the *MeReC Briefing* and *MeReC Extra* four times a year. Again, MeReC is a well respected and established source of independent evaluation of drugs (www.npc.co.uk/merec.htm). Recent key reviews include:

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The National Electronic Library is an excellent source of information, providing access to publications like Clinical Evidence

- 1 When and how should patients with diabetes mellitus test blood glucose. MeReC Bulletin 2002(13)
- 1 Asthma and COPD. MeReC Briefing 2002(18)
- 1 Heart protection study/Women's health initiative study. MeReC Extra 2002(6)

Clinical Evidence *Clinical Evidence* is published by the BMJ Publishing Group and provides an excellent six-monthly updated guide to evidence on the effectiveness of care. It is particularly useful because it provides quick key messages at the beginning of each section.

Clinical Evidence is available free to NHS staff, patients and the public in England through the National Electronic Library for Health (www.nelh.nhs.uk/clinical_evidence.asp). Updated topics for the October 2002 edition include anal fissure, ocular herpes simplex and non-steroidal anti-inflammatory drugs.

The Cochrane Library *The Cochrane Library* is published quarterly and consists of a regularly updated collection of evidence-based medicine databases. These include *The Cochrane Database of Systematic Reviews* which are evidence-based systematic reviews of RCTs prepared by the international Cochrane Collaboration. Cochrane reviews are considered gold standard.

The Cochrane Library is freely available to NHS staff, patients and the public in England through the National Electronic Library for Health (www.nelh.nhs.uk/cochrane.asp). Recent key reviews include:

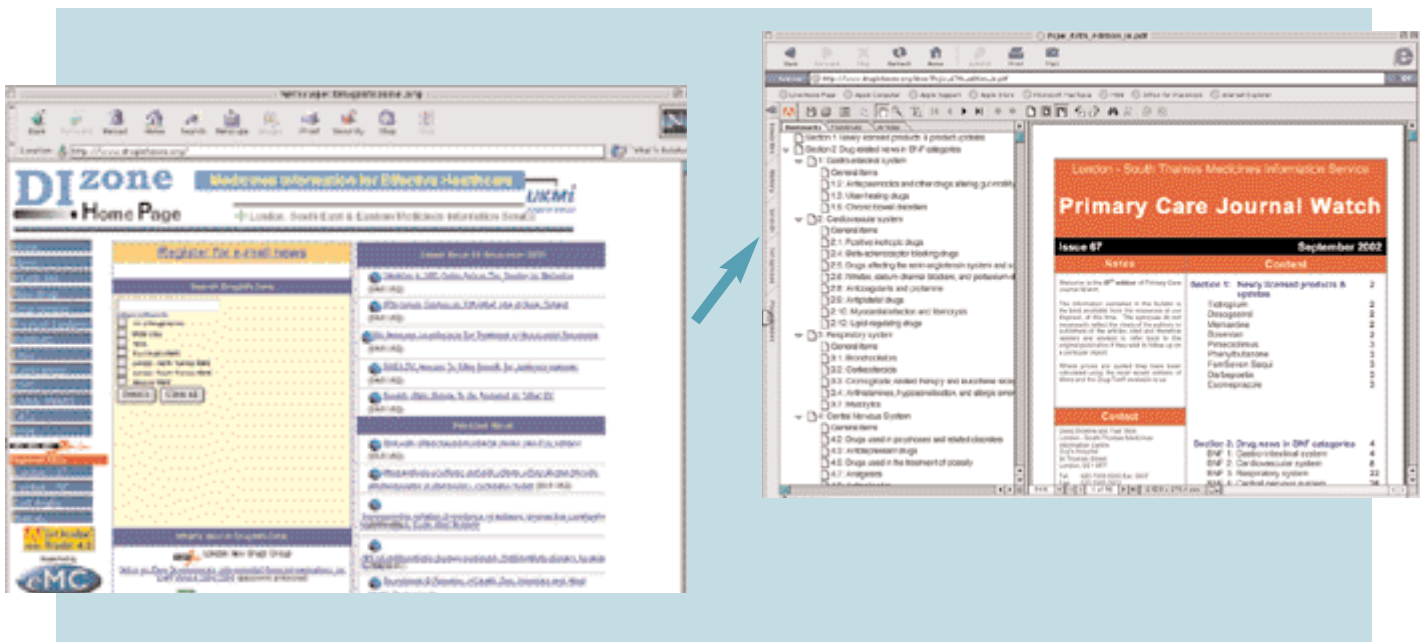
- 1 Bonaiuti D *et al.* Exercise for preventing and treating osteoporosis in postmenopausal women (2002; Issue 4)
- 1 Blumenaier B *et al.* Infliximab for the treatment of rheumatoid arthritis (2002; Issue 4)
- 1 Secker-Walker RH *et al.* Community interventions for reducing smoking among adults (2002; Issue 4)

Health Technology Assessments Health Technology Assessment is a national programme of research established and funded by the Department of Health. The programme assesses new and existing health care interventions to ensure that high quality research information on the cost, effectiveness and impact of interventions is widely available. HTAs can be found at www.hta.nhsweb.nhs.uk/hta/pubs.htm and are also considered a gold standard. Recent key reviews include:

- 1 Zermansky AG *et al.* Clinical medication review by a pharmacist of patients on repeat prescriptions in general practice: a RCT. (2002;6:20)

TABLE 1: GOLD STANDARD PEER REVIEWED JOURNALS

| Journal | Internet address | Examples of recent papers | E-mail alert available? | Password protected? |
|---|--|--|-------------------------|---------------------|
| BMJ | www.bmj.com/ | Deeks JJ <i>et al.</i> Efficacy, tolerability and upper gastrointestinal safety of celecoxib for treatment of osteoarthritis and rheumatoid arthritis: systematic review of RCTs (2002;325:619-23) | Yes | No |
| The Lancet | www.thelancet.com/ | MASCOT pneumonia study group. Clinical efficacy of three days v five days of oral amoxicillin for treatment of childhood pneumonia: a multicentre double-blind trial (2002;360:835-45) | No | Yes |
| Annals of Internal Medicine | www.annals.org/ | Rea TD <i>et al.</i> Smoking status and risk for recurrent coronary events after myocardial infarction (2002;137:494-500) | Yes | Yes |
| Journal of the American Medical Association | www.jama.ama-assn.org/ | Weinberger M <i>et al.</i> Effectiveness of pharmacist care for patients with reactive airways disease: a RCT (2002;288:1594-602) | Yes | Yes |
| New England Journal of Medicine | http://content.nejm.org/ | Manson JE <i>et al.</i> Walking compared with vigorous exercise for the prevention of cardiovascular events in women (2002;347:716-25) | Yes | Yes |



DrugInfoZone provides a list of the latest news as well as providing Primary Care Journal Watch

- 1 Woolacott NF *et al.* The clinical effectiveness and cost-effectiveness of bupropion and nicotine replacement therapy for smoking cessation: a systematic review and economic evaluation. (2002;6:16)
- 1 Peters J *et al.* The clinical effectiveness and cost-effectiveness of inhaler devices used in the routine management of chronic asthma in older children: a systematic review and economic evaluation. (2002;6:5)
- 1 Lowe, J. Estrogen plus progestin increased coronary heart disease and breast cancer events in postmenopausal women (2002;137:41)
- 1 Schwartz M. Review: proton pump inhibitors alleviate symptoms of non-ulcer dyspepsia but may not be better than H₂-antagonists (2002;137: 54)
- 1 Montori VM. A lifestyle intervention or metformin prevented or delayed the onset of type 2 diabetes in persons at risk (2002;137:55)

Effective Health Care *Effective Health Care* (www.york.ac.uk/inst/ecd/) is a bimonthly bulletin produced by the NHS Centre for Reviews and Dissemination. EHC bulletins are systematic reviews of research on the clinical effectiveness, cost-effectiveness and acceptability of health service interventions. The bulletin is subject to extensive and rigorous peer review. Recent key reviews include:

- 1 Interventions for the management of chronic fatigue syndrome (2002;7:4)
- 1 Homoeopathy (2001;7:2)
- 1 Effectiveness of laxatives in adults (2001;7:1)

American College of Physicians Journal Club *American College of Physicians Journal Club* (www.acpj.org/index.html) is a bimonthly publication produced by the American College of Physicians-American Society of Internal Medicine. The content is selected from over 100 clinical journals. Only journal articles that meet explicit quality criteria are chosen. Each abstract contains an assessment of relevance to medical practice by a clinical expert. Recent key reviews include:

action : practice points

1. If you lack confidence in using the internet, make some time to sit with a colleague and practise.
2. Explore the key websites listed in this article. Would it be valuable to set up an email alert?
3. Try to access one of the reviews listed in this article. Choose one with relevance to your practice and write down what you have gained from reading the review.

evaluate

How could your learning have been more effective?
What will you do now and how will this be achieved?

KEEPING UP TO DATE

The network of regional medicines information centres provides an excellent support for keeping up to date. A previous *Pharmaceutical Journal* article described the tools available on the centres' websites in more detail.³ Some websites provide daily news updates and offer e-mail alerts. DrugInfoZone (www.druginfozone.org/) features a monthly Primary Care Journal Watch, which summarises the key trials in the main medical, pharmaceutical and health service journals. West Midlands and Trent Regional Drug Information Centre (www.ukmicentral.nhs.uk/) features drug evaluations such as UKMI stage 4 (appraises newly marketed medicines) and MTRAC Product Recommendations (indicates appropriateness of prescribing products in primary care).

There are many more good quality independent sources of evidence. If you are interested in discovering more, the links on regional drug information websites are an excellent place to start. It is outside the scope of this article to discuss sources of guidelines, but key sites include SIGN (www.sign.ac.uk/) and PRODIGY (www.prodigy.nhs.uk/).

This may all still seem like a huge amount of literature. As a basic minimum, I recommend that pharmacists aim regularly to access the *BMJ* (for original papers), MeReC publications, *Drugs and Therapeutics Bulletin* and *Clinical Evidence* (for sources of review), and DrugInfoZone News Update, DrugInfoZone Primary Care Journal Watch and the news pages of the *PJ* (to keep up to date).

REFERENCES

1. Jones C. Research methods. *Pharm J* 2002;268:839-41.
2. Jones C. How to appraise a clinical paper critically. *Pharm J* 2002;268:875-7.
3. Johnson M. Where to start to look for medicines information on the internet. *Pharm J* 2001;267:167-9.