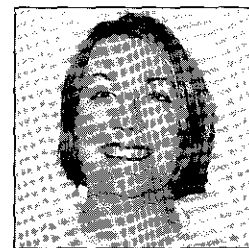


## Medical Resources for Australian Law Librarians

Anne Fricker

Library, Institute of Medical and Veterinary Science,  
Adelaide



### Introduction

When I was first approached to write a guide to medical sources of information, the concept seemed an easy one. After all, I spend many hours each week explaining the intricacies of searching MEDLINE or locating other medical information. The reality of writing the article has proved more formidable than I anticipated, as I realised that each health librarian's experiences are unique and each has a different perspective on the usefulness or otherwise of various sources of information. To add to the difficulty, I have never worked in a legal environment and apart from the occasional request from a law librarian colleague for assistance, feel quite unqualified to know the requirement for medical information in a law library.

### Health libraries

Perhaps the logical place to start looking at medical information and literature is in health libraries. Most health libraries, in common with other libraries, contain a mixed collection of books, journals, audiovisual materials and electronic versions of book and journal information. It is difficult to say how many of Australia's estimated 14,000 libraries could be classified as *health libraries* (which is now preferred over the older *medical library* nomenclature) but, to give some indication, the Gratis network of health libraries, with members in all states and territories except Western Australia, has several hundred members. They include libraries at pharmaceutical companies, public and private hospitals, research organisations, sports institutes and one university. There is no specialised Australia-wide directory for health libraries (ALIA's Health Libraries Section in South Australia publishes a directory for South Australia only) but as they are mostly a sub-specialty of special libraries, the latest edition of ALIA's *Directory of Special Libraries in Australia* can be consulted for details. In addition, all universities with a medical faculty have a comprehensive health library collection, which may or may not be housed separately from the main collection. State libraries and public libraries must not be overlooked with their collections and electronic networked services specifically slanted towards lay readership and consumer health information.

There is no universal approach to cataloguing and classification in health libraries. Dewey, UDC or the more specialised NLM (National Library of Medicine) classification systems may be used for classification and subject headings may be

MeSH (Medical Subject Headings) or Library of Congress. Since most health libraries of all sizes have automated catalogues, access to the collection is user-friendly and it is not essential to know the correct subject headings. Free-text or keyword searches can successfully retrieve relevant titles. Any health collection as part of a university or state library collection will, of course, conform to the rest of the collection with regard to classification and subject headings.

### Reference tools

Reference tools are essential for any library and a health library is no exception. The first reference tool to consult when confronted with an unknown medical term is a medical dictionary. A number of medical terms have different British and American spelling - such as haematology (hematology), foetus (fetus) and tumour (tumor) and while Australians use the British spelling, any reader must consider the different spellings. There are a number of reputable and long established English language medical dictionaries and they are mostly priced under \$100.00. Look out for *Stedman's medical dictionary* and *Dorland's illustrated medical dictionary*, both published in America, *Butterworth's medical dictionary*, the smaller *Heinemann medical dictionary* and *Oxford's Concise medical dictionary* of British origin. Most health libraries will also stock a selection of foreign language medical dictionaries. *Elsevier's medical dictionary : in five languages* covers English and American English, French, Italian, Spanish, and German. A recent useful addition is the *Medical dictionary in six languages* compiled by Bert Spilker and published by Raven Press which also includes Japanese. I have avoided stating editions, since most reputable medical texts are updated in a new edition every few years and the information on editions is quickly dated. Many of the titles mentioned have been published for many years and have more than 20 editions.

Most health library reference collections also contain books listing eponyms and syndromes as it has long been medical practice to name certain conditions after distinguished medical practitioners. Such titles are also useful as biographical sources of information. There are several titles available, such as Magalini's *Dictionary of medical syndromes* published by Lippincott and *Dictionary of medical eponyms* by B G Firkin and J A. Whitworth published by the Parthenon Publishing Group.

### Directories

Also in the reference area, the *Medical directory of Australia* published by the Australian Medical Publishing Company is the definitive list of registered medical practitioners in Australia. A note of caution, the information is not authenticated and is supplied by the medical practitioner. If necessary, the information can be corroborated with the Medical Board in each state. It includes sections titled *Hospitals and Other Facilities*, and *Associations and Organisations* which are useful.

Encyclopaedias are not generally a feature in health collections although some useful encyclopaedias are being published in specific subject areas eg *Encyclopedia of immunology* edited by Ivan M Roitt and published by Academic Press.

Not generally included in the reference collection per se, but perhaps in a NOT FOR LOAN or RESERVE section of the book collection, are some useful and highly regarded publications which are a good starting point for several pages of current information on just about every medical topic. *Harrison's principles of internal medicine* published by McGraw-Hill is intended for medical staff and an understanding of medical terminology is no doubt preferable, but it is perhaps the closest thing to being an encyclopaedia without actually being one and is useful for lay readers. Each section includes diagrams, illustrations where appropriate, references and the indexing is excellent. It is published in one or two volumes and a new edition is published every few years. *Harrison's* is available on CD-ROM, a format that is proving popular among the younger medical staff at those hospitals where it is available. Once again, it is important with medical information that the latest edition is consulted. In a similar vein, the *Oxford textbook of medicine* published by Oxford University Press in three volumes is very comprehensive. Other useful titles are the Cecil textbook of medicine and *Cecil essentials of medicine* both published by WB Saunders.

Health libraries' collections invariably almost exclusively contain material at the tertiary or post-graduate level but state libraries and some public libraries do collect medical information intended for a lay readership covering *popular medicine*. A selection of medical dictionaries and other reference texts are generally also held. The State Library of South Australia has recently networked several databases to South Australian public libraries through its PLAIN system. These include *MDX health digest* which indexes popular and medical literature designed for the public and *Personal medical advisor* which includes seven books in full text.

### **Journal collections**

Where health libraries differ from most other special libraries is in the emphasis given to the journal collection. Health journals are expensive and the average Australian public hospital library would be expected to have several hundred current journal titles. Journals are important to health workers because of their currency and their specificity. Books, by virtue of the long publishing process, are generally about two years behind journals in their currency. There are some journals which are almost mandatory for inclusion in the collection, such titles as *The medical journal of Australia*, *The Lancet*, *British medical journal* and *New England journal of medicine* which include reports of original research, reviews, letters to the editor and editorial comment. Other titles are entirely devoted to either literature reviews or original research.

Review publications such as the Year Book series published by Mosby e.g. *Year book of medicine* and *Year book of surgery* provide editorial comment on the year's major research in each of 46 fields. Similarly, the Clinics series eg *Clinics in laboratory medicine* published quarterly by W.B. Saunders covering a number of specialties, have issues dedicated to specific topics, eg Genetic Testing. These titles are generally shelved with journal titles.

Each year a number of new journal titles are released, usually of increasing specificity and a number of other titles cease publication. The number of journal titles rises inexorably at an ever-increasing rate. Some titles are published both with print and electronic versions and some newer titles are only available electronically. Generally, however, libraries and individuals subscribe to the print versions. I believe electronic journals are here to stay but it will be many years before they overtake print publications.

### ***Bibliographic databases***

Access to the journal literature is by means of indexing services, once available only in print but now made infinitely more accessible by a myriad of titles available online through the Internet or other telecommunications systems, on stand-alone CD-ROM, networked CD-ROM, and magnetic networks. To simplify matters, I will refer to online and CD-ROM only. The indexing services I will discuss in some detail are MEDLINE, EMBASE, CINAHL and briefly I will mention a few of the other many databases available.

### ***MEDLINE***

By far the best known (and dare I say loved) medical bibliographic database is MEDLINE. I estimate that over 95% of the medical bibliographic database searching that is done in Australia is on the MEDLINE database. It is always the first bibliographic database that is purchased and is known by all health workers and students alike. It is so universally accepted that it often behoves the librarian to explain that MEDLINE is not the only medical database and that other databases may be more suited to the need in hand.

Why is MEDLINE so much in demand? Firstly, because for years we had very cheap access in Australia from the National Library of Australia (NLA). Secondly, it has extremely good coverage of the medical literature, both clinical and research, and indexes about 3,700 journals.

MEDLINE is produced by the National Library of Medicine (NLM) in the USA and it is worth relating a brief history of this great library. The NLM evolved from the Library of the Army Surgeon General's Office and can be traced back to 1836. The NLM was transferred from the Defence Department to the Health Department in 1956 and it now occupies two buildings in Bethesda, Maryland: the NLM building and the Lister Hill Centre Building. Many of the great British medical libraries have longer histories, but the NLM has a collection of 3.5 million books, a fine historical collection, and has developed MEDLINE.

A monthly printed index, *Index Medicus*, to the medical literature was produced (under several changes of name) by the NLM. It provided access to the journal literature through author and subject searching only and searching was, of course, fairly laborious. Some of the longer established Australian health libraries do have extensive back runs of *Cumulated Index Medicus* which is still being published. In the 1960s computers were used to compile the index but it wasn't until the 1970s that computerised searching became available in the USA and in the late 1970s, the National Library of Australia (NLA) mounted a copy of the database in Canberra. For the first time, Australian librarians were able to interrogate the MEDLINE database directly. In the USA, librarians initially required six months training to become MEDLINE analysts but this was soon reduced to weeks and then one week. The NLA also provided a week long training course. There were two main reasons for the length of the course. The first was because of the difficult searching language (ELHILL which is still in use at the NLM) and the second because of the complexity of the database, particularly the thesaurus (MeSH) structure.

Librarians welcomed the advent of CD-ROMs with their friendlier interfaces and usage of the NLA MEDLINE dropped drastically until it was no longer economically viable and the service ceased in 1993. The NLA will again provide a MEDLINE service with the advent of WORLD 1 late in 1996, but with the same user-friendly interface that will be used for searching all WORLD 1's databases.

MEDLINE is now available from all the major online vendors and CD-ROM versions are available from SilverPlatter, Ovid, EBSCO, DIALOG and others. Direct access to MEDLINE and other databases at the NLM is possible through NLA and the Internet but is not particularly desirable.

MEDLINE training for librarians is now only provided by software vendors and specialised private training companies, such as MPH Infolink in Adelaide. Within their organisations, librarians are generally responsible for training other staff. Practically every medical/health institution in the country has a version of MEDLINE available in their library and the service is often networked to local area or wide area networks to enable all staff to do their own searching.

Law librarians wishing to access MEDLINE have several alternatives. It can be accessed online through vendors such as DIALOG and Ovid. A library with a CD-ROM system installed may permit visitors to use the system. Finally, ascertain which, if any, local health or state libraries will provide searching for a fee or contact a commercial information provider.

### ***Hints on MEDLINE searching***

MEDLINE is a large database of over seven million records. On some systems the database is available in smaller subsets covering the most recent years. Not all libraries that subscribe to MEDLINE hold the full database, 1966 to the present, but may instead only subscribe to the last six years. There are abridged versions available from some vendors, such as SilverPlatter's MEDLINE Professional which indexes 320 journals.

Computerised searching has widened access from author and subject access only, to free text searching. This may be seen as a blessing in disguise since it also encourages end users to do some very rough and ready searching. Most of the time and cost in producing MEDLINE goes into the addition of indexing terms (MeSH) to every record. Each record in MEDLINE consists of one journal article broken down into a number of fields. Fields include authors (with no authority checking), source (citation), title, abstract and MeSH.

The thesaurus used to compile MEDLINE is MeSH, the Medical Subject Headings, a hierarchical thesaurus established by the NLM over many years. All MeSH terms are in American spelling and MEDLINE does not include see references from English spelling but the authors' work (eg the title and abstract) will be the original spelling. Specialised subject indexers add several *major* subject headings to each record and a number of "minor" subject headings and checktags. Thus, once the major subject concept of a search is identified, the search can be narrowed to the most relevant articles only by narrowing the search to the major MeSH terms. Generally, it is worth putting more effort into carefully defining the search strategy rather than ploughing through hundreds of retrieved records. It is best to prepare the search strategy before accessing online services but on CD-ROM services it is easier to access the thesaurus on the computer. The online and CD-ROM versions of MEDLINE have the MeSH terms available electronically and some versions of MEDLINE will *map* natural language to the preferred subject term e.g. Heart Attack to Myocardial Infarction.

Most libraries hold printed versions of the three volumes of MeSH. The MeSH terms are hierarchically arranged in the volume titled *Tree structures*. For example under the subject heading Antibiotics there are more specific headings such as Antibiotics, Antifungal and under that subject heading the specific antibiotics are named. Related terms such as these, can be searched as one group by *exploding* the term. There are many thousands of subject headings listed and new headings are released in annual new editions of the three volumes of MeSH.

There are approximately 80 subheadings available which can be assigned to subject headings to more narrowly define a search and specify the aspect needed. For example, Administration and Dosage is a subheading which is appropriately applied to a large number of subject headings relating to drugs. Another subheading is Drug Therapy which may be appropriately attached to any number of subject headings describing various pathological conditions. In this way the search concept can be clearly defined.

Once the search results are retrieved, there are also some easy ways to place limitations on the results so that the result is even more specific. As mentioned above, by narrowing to the major MeSH terms, a large proportion of less relevant papers will be eliminated. Other useful limits are English language, human (eliminates experimental work on animals) review articles, publication date and by subset. If only a few easily obtainable references are required, by limiting to subset AIM (Abridged Index Medicus) the most important clinical journals will be retrieved. All these journals would be easily obtainable locally in any Australian capital city. The method of placing the limits depends on the software interface and varies considerably between vendors.

## EMBASE

The other major medical bibliographic database is EMBASE which is the electronic version of the 15 *Excerpta Medica* series of indexing publications. *Excerpta Medica* was founded in 1947 by a group of physicians in the Netherlands. EMBASE has an extensive coverage of the international drug and biomedical literature and indexes 3,500 journals from 110 countries and has records back to 1974. Records are added to the database 15 days after journal receipt and since 1994, 75% of the records include abstracts.

EMBASE is available through DataStar, DIALOG, and Ovid online systems and on SilverPlatter and Ovid Technology CD-ROM products. The CD-ROM versions are available in a number of subsets of the EMBASE database, such as *Drugs and Pharmacology*, *Gastroenterology and Pathology*. Like MEDLINE it has its own thesaurus, EMTREE, and similarly search results can be limited to publication years, human or animal, language, review and priority (the one-third of the journals considered the most important). The indexing terms are also major A or minor B terms. EMBASE claims to be on average two journal issues ahead of MEDLINE.

The main drawback to EMBASE and the reason for its lack of universal acceptance is cost. The producer is Elsevier Science and the cost of using the database, in whatever format, is considerably more than MEDLINE. However, for a totally comprehensive health literature search this database must be included.

## Australian Medical Index

The Australian Medical Index is intended to be a complementary database to MEDLINE and the producer, the NLA, indexes Australian journals not indexed by MEDLINE. It is available online at the NLA in the OZLINE group of databases, and is also included on the Commonwealth Department of Health and Family Services product HealthROM.

HealthROM also includes several other bibliographic databases and full text documents and journals. The product includes a lot of useful Australian health information despite many librarians' reservations over the software interface.

## CINAHL

CINAHL, the online version of the printed index *Cumulated index to nursing and allied health* is produced by CINAHL Information Systems, a division of Western Adventist Health Services in Glendale, California and is widely available online and in CD-ROM format. CINAHL is a bibliographic and full-text database indexing journals, dissertations, conference proceedings, software, audiovisual materials and selected nursing standards in full-text covering the period 1982 to the present. The origins of the database date back to the 1940s at White Memorial Hospital, Los Angeles, but the first published volume covered 1956 - 1960. Seventeen allied health disciplines are included, such as nutrition and dietetics, podiatry and occupational therapy.

One useful feature is the inclusion of the references cited for journal articles where included. CINAHL uses MeSH terms as standard vocabulary for diseases and drugs but has some 8,000 unique indexing terms specific to nursing and allied health. Searchers familiar with MEDLINE will have no difficulty with CINAHL and most of the subheadings are the same as on MEDLINE. The operators available for searching depend on the vendor and system being accessed with CINAHL available through OVID, SilverPlatter, ARIES, EBSCO and DataStar in both CD-ROM and online versions.

### ***Other databases***

The National Library of Medicine publishes a plethora of MEDLARS databases apart from its famous MEDLINE. Other useful databases are available either directly from the NLM via the Internet or from commercial publishers. They include CANCERLIT, which covers all aspects of experimental and clinical cancer therapy, CATLINE, SERLINE, TOXLINE, CHEMLINE and AVLINE. HealthSTAR (Health Services, Technology, Administration and Research), formed by a recent merger of the Healthplan and Hstar databases, includes 2.5 million citations from journals, monographs, book chapters and, interestingly, newspaper articles.

*Science Citation Index* and its equivalent electronic version SCISEARCH, with its unique feature of recording citations, is a very comprehensive science database. *Current contents - life sciences* is also useful particularly for current awareness and for the law librarian, would be useful in tracking and confirming recent publications. *Science citation index* and *Current contents* are both produced by the Institute of Scientific Information in the USA and are available online and on CD-ROM.

There are many other published bibliographic databases too numerous to mention here. Contact the online and CD-ROM vendors if you wish to obtain catalogues or more information.

### ***Conclusion***

Apart from database searching, some health libraries are offering a comprehensive range of charged services. Contact your local ALIA Health Libraries Section to enquire about the possibilities. The specialised medical booksellers often have many years of subject experience and are another useful source of information.

This paper is intended as a brief overview of health libraries and information. If I have not covered enough for your needs, my best advice is to seek assistance from your nearest friendly health librarian!

### ***Bibliography***

Morton, LT and Godbolt, S (ed)  
*Information sources in the medical sciences* (4th ed, Bowker-Saur, London, 1992.)