

GAINING ACCESS TO HEALTH SCIENCES LITERATURE

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Abstract: The need for both researcher and the practitioner to keep abreast of current development necessitated using libraries and being conversant with the health information and literature. The scope of health sciences librarianship has expanded in various directions in the last two decades. The resources in medical libraries that are available to the health care community have also shown a corresponding increase. Not only has the output of information about health increased but the forms in which information is generated have produced a variety of information carriers. Besides traditional carriers of information such as books and journals, audio-visual and computer generated products have been developed and improved, and there is now access to databases related to health sciences via telecommunication networks.

This paper examines the ways and means of accessing world's health literature and information, using material resources such as periodicals, fugitive literature, commercial information services, computerized data bases etc.

New information storage and distribution technologies of microforms, on-line and off-line searches of Medlars and Medlars on CD-ROM have also been evaluated. This paper further discusses resource-sharing in health sciences libraries which will facilitate improved access to health literature.

Introduction

The present period is marked by rapid change in the manner in which information is created, stored, retrieved and transmitted. Access to current health sciences literature plays an important role in ensuring that health professionals at all levels are able to maintain high standards of health care delivery. Knowledge of new therapies or new epidemics is primarily transmitted through the periodical literature.

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On the contrary, the present day health professionals at all level require more information than ever before. Medical education and training have increased in complexity and are followed by specialization and possibly also health systems research (HSR). The need for both researcher and the practitioner to keep abreast of current developments necessitated using libraries and being conversant with the health information and literature.

The scope of health sciences librarianship has expanded in various directions in the last two decades. The resources in medical libraries that are available to the health care community have also shown corresponding increases. Not only has the output of information about health increased but the forms in which information is generated have produced a variety of information carriers.

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Health Literature and Library Services

Health literature and library services are an important link or they are the intermediaries between producers of information and library readers. They collect relevant materials and make it available to the readers. One can see that no researcher can hope to meet all his information needs solely by his own efforts and initiative. He needs health literature and library services to enable his personal efforts to bear fruits. Without a support of such a service, it is no longer possible for any individual to identify, locate and obtain within an acceptable time, the information he/she needs.

From the beginning of the 19th century scientific progress has been accelerating, particularly in health sciences, and there has been a dramatic increase in the volume of literature. For the health professional and the librarian the 'information explosion' in an ever present reality.

Until the 1950s most of those working in medicine, both clinicians and research staff, kept up to date by scanning a few key periodicals and through professional contacts, but this is no longer possible even in the narrowest specialities.

Assistance in coping with the information explosion is one of the most valuable service that the health sciences librarian can offer. Far much clinical and research work success depends upon knowledge of previously published results, so frequent and through search of the literature, which a librarian can best undertake, are necessary.

According to Holmstrom (1948) "The problem is a formidable one. We have heard estimates of how anything upto a million or more scientific papers a year are poured like rain over the scientific world and of how formidable are difficulties of ensuring current awareness, by scientific men, of the new publications which may concern them in the particular fields of research which these publications serve to irrigate; ... these torrents and revers of current literature pur themselves into libraries adding, without cease, to what is already there ..."

The results of health research are published in order that the information may be communicated to the health professional as speedily as possible. It is essential that the health researcher be informed of the latest developments in his subject field of interest. In early days this was done by personal correspondence and it proved a satisfactory method, at that time, since researchers were few and the volumes of research is small. Periodicals became the vehicle of communication of the findings of research.

It has been estimated that literature in various natural sciences is doubling itself between five to ten years. With the increase in the number of periodicals, it became more and more difficult to keep pace with what has been published. The acute problem of increasing amount of health literature was first felt by both clinicians and researchers, who used health libraries and information centres.

The growth of scientific literature can be estimated when we consider the fact that since the first scientific periodical was published in 1665, the doubling period has been approx. 15 yrs. Today there are over 20,000 periodical titles in the sciences, and it has been estimated that in the medical and related sciences along some 6000 titles are being published every year.

Source of Information

Primary Sources

Primary sources of information are the first published records of original research and development or description of new application or new interpretation of an old theme or idea. These constitute the latest available information. The primary sources of information aid the researcher to:

- keep up to date of new developments
- avoid duplication in research
- help others to build further work and thus generate more information.

Primary sources are published in a variety of forms such as: Periodicals, Research Reports, patents, standards, thesis and dissertation and fugitive forms of literature etc.

Secondary Sources

Deriving from this primary sources of information, we get the digested literature in the forms of indexing and abstracting periodicals and bibliographies.

It is difficult to find information form primary sources directly. Hence, one should consult the secondary sources in the first instance, which will lead one to specific primary sources in order to obtain current and relevant information required by health professional.

It is necessary to store both types of literature in an manner that they can be retrieved effectively. Primary literature must reach the desired clientele early. Digested literature must also be readily retrivable and its existence known to the user. The library user must know how to find both types of literature and until he is able to do so, he is not a competent library user. Unless reliable and effective methods are employed to store and retrieve this literature, some important information can easily slip the reseasch worker which might lead to duplication of what has already been done with the consequent waste of valuable time and money.

The conventional guide to the published literature like the indexing and abstracting periodicals, bibliographies, indexes and catalogues etc., are still very useful today and form important sources for retrieval of health information. The need for guides to the literature was felt very early with the increase in the number of periodicals. The first abstracting and indexing journals were published in the 1830's and ever since then their numbers have been increasing. This increase in the number of guides finally led to the publication of guides to the various abstracting and indexing services. The growth of scientifc literature has reached such phenomenal proportion that the indexing and abstracting services have also become proportionately larger.

The existence of so many abstracting and indexing publications may, at first sight, seem an unnecessary duplication of labour and funds. But this is not quite so. With over specialization and sub-division of subjects to narrower and narrower subject fields, the general indexes are no longer able to be comprehensive enough to satisfy the needs of every research worker. If we compare the "Current Content; Life Sciences" with "Index Medicus" one can find that not all that is in "Index Medicus" can be found in "Current Content; Life Sciences."

If we examine the smaller abstracting and indexing journals, we find that nearly always they give access to some papers in their field which cannot be found in the larger guides. It is no longer enough to refer to a general guide in medicine like "Index Medicus" and hope to find everything on a certain subject.

If a health researcher wants to find every pertinent reference he must look in at least two of the major guides and one or more of the minor ones as well. It will thus be seen that the conventional methods of finding references by using indexing and abstracting publications, are not simple. It is true that these guides reduce the time of the searcher considerably, in fact enormously, in comparison to the task of finding them by directly referring to the periodicals or other publications, but nevertheless, manual literature search has become a time consuming task.

Although there are many indexes to health literature, because of the large number of journals, the general indexes must be highly selective in what they index and hence do not give access to all the resources of the world's health literature. If we consider the Index, it has chosen approximately 3,200 journals from some 20,000 titles currently received in the National Library of Medicine. An analysis by the WHO Library of the titles indexed in 1983 shows that out of 2,709 periodical titles from 71 countries, only 6% were from developing countries. This means the greater part of locally relevant information is practically unknown to health personnel in the developing countries. Hence, bringing the health sciences periodicals published in the developing countries under bibliographic control is an important area which needs serious attention, in order to make available these resources to the rest of the world.

Recognizing this constraint WHO took the lead in the preparation of regional medical indexes. WHO Regional Office for South East Asia produced the Index Medicus for WHO South-East Asia Region (IMSEAR) through a cooperative project of the network of about 185 libraries in the region. The Index Medicus Latino Americano (IMLA), which commenced publication in 1979 and in 1983 covered more than 200 periodicals published in 18 Latin American countries. There are plans to produce similar indexes in the other WHO regions.

Non-documentary sources

Non-documentary sources of information from a substantial part of communication in the field of health sciences. These sources provide information which other sources do not. There are two types of sources:

- Formal
- Informal

Formal sources include research organizations, societies, government departments, University Medical Schools, Medical experts etc.

Informal sources include conversation with colleagues, visitors, participating in seminars and congress etc. Very often, seminars and discussions would point out

primary or secondary documentary sources. Informal sources are live sources, which are extremely important in the process of communication. Very often, if a health professional working on an research project needs some data, he would turn to his colleague working in the same institute rather than consult a printed page. Informal sources tend to be more convenient sources because it is certainly easier to have a dialogue with an expert than use a bibliography or index.

De Solla Price (1963) identified existence of 'invisible colleges': informal groupings of 100-200 scientists, active in research who communicate verbally with each other at Conferences, Colloquia, Summer Schools and by long-distance telephone calls has been identified.

Computerized Sources of Information Retrieval

On-line information retrieval has become a large and rapidly changing field, and that part of it which relates to biomedical information is no exception.

There are two major computer based information retrieval systems in operation related to biomedical literature, Viz., MEDLARS and the EXCERPTA Medica.

MEDLARS

Medical Literature Analysis and Retrieval System (or Medlars on Line) is a data base maintained by National Library of Medicine in Bethesda (Md.), U.S.A., containing references to more than 4 million citations from more than 3200 journals published in over 70 countries amounting to 250,000 citations each year.

MEDLARS covers the whole field of biomedicine from 1964 on-wards. It is designed to help health professionals to find out easily and quickly what has been published recently on any specific biomedical subject.

Medlars off-line search services are provided free of charge to the clientele of the Health Literature, Library and Information Service Network. This service is available to any researcher in any part of the world. The request should be made to the closest MEDLARS centre and it is best channelled through the local health sciences library. A prescribed form is available for this and correct 'Medical Subject Headings' must be assigned to the request, if a successful search is to be carried out.

EXCERPTA MEDICA (EMBASE)

This is the automated storage and retrieval programme of biomedical information of the Excerpta Medica Foundation in Amsterdam. This computer database which

is used for the production of the Excerpta Medica's 43 English-language abstract journals and two drug-related literature indexes covers the whole field of biomedicine apart from nursing, psychology, dentistry, veterinary medicine and the paramedical fields. A total of 3500 biomedical journals are screened for the abstract journals. As well as original articles, Excerpta Medica also covers editorials, conference proceedings and letters to the editor, where these are substantive.

CD-ROM in Health

The entry of CD-ROMs into the field of health informatics has revolutionized the storage and retrieval of large information databases. The CD-ROM offers easy, efficient access to health databases at a reasonable cost. This technology is boon to health personnel, scientists and researchers, and ultimately to the people under their care. A variety of useful medical databases are already available on CDs.

The use of a non-erasable storage medium such as the CD-ROM, accessed by small personal computers independent of communication facilities, seemed a promising way of accessing relevant and current health information required by health professionals.

CD-ROM stands for compact disc-read only memory. Each CD-ROM disk, about the size of computer floppy disk, is able to hold more than 550 megabytes of data. This is equivalent to the data found in 1000 books of 200 pages each. A small CD-ROM reader attached to a personal computer makes available all the information contained in a disk.

There are many CD-ROM databases available related to health sciences. They include general medical reference works such as MEDLINE, BiblioMed, and Occupational Health and Safety databases such as the CCINFODISC, NIOSHTIC, HSELINE, and TOXLINE.

One of the main advantages of the CD is that it provides easy and rapid access to large amount of information.

Resource Sharing/Networking

Library resource sharing, which has been in operation in the developed countries for well over two decades, has been making a meaningful impact in the Third World only in the last decade. Networking as concept is easily grasped by Librarians. An information network is a system of information agencies such as libraries, information centres which are interlinked by a communication media for the purpose of implementing a common programme. By networking, the resources of

a participating library become accessible to other libraries in the network. Theoretically the resources accessible to a nodal point in network is equivalent to the sum total or the resources of all the participating libraries. Effectiveness of the resources could be improved by avoiding duplication with the help of a rationalization schemes. The information agencies having realized that they cannot satisfy most of the information requirements of the users solely depending on their own resources. The purpose of a health library network is to ensure easy access to relevant information for all health personnel and other potential users, and its objectives as "to make better use of existing literature resources in the country ... in other countries in the Region ... (and) in other regions".

Conclusion

Health professionals at all level require information to take timely decisions. Timely access to health sciences literature and information can be a crucial element in eradicating diseases, changing attitudes to public health problems and saving lives etc.

There is an urgent need to identify, access and utilize the extensive world health literature resources in providing better health facilities to the community. Without library resource sharing/networking no library can have access to the world's resources in health sciences field in catering to the information needs of their clientele. The advantages of the Information Technology must be applied to improve technical facilities of users and avoid unnecessary duplication. The entry of CD-ROM into the field of health informatics has revolutionized the storage and retrieval of large information databases. CD-ROM offers easy, efficient access to current and relevant health information to health professionals.

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