

Indian MEDLARS Centre: Internet and biomedical information for the Indian Medical Professional

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Abstract

The Indian medical professional is dependent for current information on his institutional library, which may or may not have Internet facilities. The Indian MEDLARS Centre (IMC) set was up in 1986 with the objective to meet the ever-increasing information needs of the medical professionals. The professionals, who earlier had to look up printed resources available in their libraries could avail the services of IMC, which opened up vistas of information access for these professionals by providing information from National Library of Medicine's (NLM) MEDLARS databases. With the Internet making inroads, information became freely available at the click of the mouse. At this stage IMC shifted its focus from "content providers" to "content generators" and developed services, accessible over the Internet, for the Indian medical professionals. A bibliographic database of 75 peer reviewed Indian biomedical periodicals was developed, which included journals not covered by any other international database. This database, **IndMED**, is accessible free of cost from IMC's website, <http://indmed.nic.in> to the professionals within and outside the country. Simple and advanced search modes have enabled comprehensive information retrieval by professionals. With indexing of journals being done using Medical Subject Headings (MeSH) this database has been designed on the same format as NLM's MEDLINE database. IMC has also developed a Union Catalogue of Indian Biomedical Periodicals, which provides the holdings data of 188 biomedical libraries in the country and this is accessible free of cost from <http://uncat.nic.in>. This database can be searched by journal names or library names and provides details of the availability of the journals in these libraries. The Centre is in the process of developing an online full-text database of Indian biomedical periodicals covering the 75 journals indexed in IndMED. This database, **medIND** (<http://medind.nic.in>) would also be accessible free of any charge to the medical professionals and would serve as the one-point access to all peer reviewed Indian biomedical literature. The Centre's website, in addition to providing access to the Indian biomedical literature, also serves as a portal to biomedical websites and e-journals. This includes links to NLM databases and other sites, which are of relevance not only to the professional but also to the consumer, medical library professionals and nursing professionals. IMC conducts training programmes in information retrieval techniques that make the medical professionals more proficient in searching the biomedical resources available over the NET; the training material can be downloaded from IMC's website with a CD version also being made available. In this manner the Indian MEDLARS Centre continues to serve the needs of the medical professionals as well other health care professionals using the Internet as the medium for information dissemination. IMC's multi-faceted services have made available Indian as well as international biomedical information available at the click of a mouse thereby saving the time of the busy professionals. This has directly or indirectly had an impact on health care services not just in major cities but also in remote areas of the country.

Background

National Informatics Centre (NIC), Department of Information Technology, Ministry of Communications and Information Technology, a premier IT organisation in India is committed to provide state-of-the-art solutions for the IT needs of the Government of India at all levels. NIC carries the distinction of being the largest IT organisation in the country and has set up a satellite based nation-wide computer communication network called NICNET having over 1400 nodes connecting the National Capital, the State Capitals and the District Headquarters to one another. The IT services of NIC range from consultancy, software design & development, office automation and networking services to training, video conferencing, CAD, EDI, multimedia and internet services including web site development and hosting. NIC has a nation-wide presence with its offices spread all across the Country, from Leh in the north to Andaman & Nicobar Islands in the Bay of Bengal in the southeast.

Indian MEDLARS Centre (IMC) was set up, in 1986, as a collaborative project between Indian Council of Medical Research (ICMR), New Delhi and National Informatics Centre (NIC), to provide biomedical information services from the MEDLARS databases of National Library of Medicine (NLM), USA. The Medical Literature Analysis and Retrieval Systems (MEDLARS) have over 40 biomedical/health related databases amongst which MEDLINE (MEDLARS Online) is the largest and the most commonly used bibliographic database in the field of medicine. This Centre was recognized as the 17th International MEDLARS Centre and came to be more popularly known as the Indian MEDLARS Centre (IMC).

Introduction

The main aim of setting up Indian MEDLARS Centre was to provide access to relevant biomedical information, in the shortest possible time, to the medical professionals. In the beginning information needs of the users were catered from MEDLINE CDROM database and to some extent from Online searching of the database, directly from NLM. These services were expanded to include information services from Internet resources and CDROM databases as well as support services like providing of full-text of journal articles, training programmes and user-awareness programmes.

IMC developed a database of peer reviewed Indian biomedical journals and it was developed keeping in view the poor coverage of Indian journals in international databases. At present, this database information from 76 journals from 1986 onwards. This **IndMED** database is a bibliographic database developed on the lines of the MEDLINE database using the concepts of both keyword as well free-text searching. A user-friendly search engine has been designed enabling the users to access the database using "Simple" or "Advanced" search modes.

IMC's webpage

The Centre launched its webpage in August 2000 (<http://indmed.nic.in>), to specifically cater to the information needs of the medical professionals in India. There are innumerable webpages/portals that are targeting to the needs of the medical practitioner

or the consumer. IMC's page thus has been developed keeping in mind the needs of the professional (researcher, students, health practitioner) in India. Since its launch in 2000, the page has crossed 96,000 hits and links to the webpage feature in international sites like the Public Health Library, University of Berkeley, University of Portsmouth's Online Information Service and University Hospital Benjamin Franklin Medical Library (University of Berlin). The Google Directory has ranked the site amongst the top 5 Indian health websites. The Indian MEDLARS Centre's website has also received a lot of recognition from international associations and has received over 100 awards for its content as well as for its design

IMC's webpage provides an easy access to biomedical/health information available from the Centre and from other biomedical Internet resources. The main features of the webpage are:

- Access to IndMED database.
- Access to medIND database
- Access to Union Catalogue of Biomedical Periodicals
- Links to Internet biomedical / health resources / e-journals (both for the professional and the consumer, nursing professionals, health librarians). This includes links to NLM's resources.
- Lectures by medical specialists.
- Details of IMC's services (CDROM databases, training, etc).
- Downloadable Training Manual (PDF).
- Search Request forms (which can be submitted directly from the webpage) as well as a feedback form.
- Links to Internet resources on diseases that are prevalent in the country (Malaria, Japanese Encephalitis, Hepatitis, Cholera and Typhoid).

IndMED

Based on the poor coverage of Indian biomedical literature in international resources, the Indian MEDLARS Centre took up the onus of filling this gap by developing an indigenous database with bibliographic details taken from 75 Indian peer reviewed biomedical journals, since 1985 onwards. When the database was developed, only non-MEDLINE journals were covered. However, over the years some of these journals got included in MEDLINE, but these continued to be indexed in IndMED, keeping in mind NLM's changing policies. IndMED has been designed and developed on similar format used by NLM's MEDLINE database using Medical Subject Headings (MeSH) for indexing purposes. It has been named as IndMED to reflect its scope of covering Indian biomedical literature. The aim of this database is to provide exposure to articles published in learned biomedical journals from India.

The database can be searched using simple and advanced search engines and is free-text searchable plus keyword searchable. This is searchable free of cost from the webpage (<http://indmed.nic.in>) to users in India, as well as those outside India. Its Web interface provides three levels of searching and three levels of display of the search results. The display of references also provides hypertext links in case source journal is available on the Internet.

medIND

Having achieved the target of making bibliographic details from Indian biomedical journals, the Centre took up a challenging project of making available the full-text of select Indian journals. An Online database of full-text of the IndMED journals was designed and successfully launched in August 2003. Hosted from an independent site, medIND (<http://medind.nic.in>) presently has current issues of 22 IndMED journals. Consent of the participating journals' editors has been taken to include the full-text of the contents in the database with the copyright remaining with the editors and ownership of the database with the Centre. The database is accessible free of cost to the medical professionals within and outside India. The articles in the database can be accessed by:

1. Browsing: A navigational aid has been provided wherein the user can browse from alphabetical or subject wise list of journals. Such hyperlinked lists would lead to pages giving details of selected journals such editors, instructions to authors contact address, parent body, etc. This would lead to listing of issues of the journal, years / volume wise. Clicking on an individual issue would lead to the table of contents of that issue. The content page would have links to the individual articles.
2. Searching:—Users would have the option of searching the database for a specific article/articles in a search box provided on the homepage. Searching options would also be provided through the bibliographic database IndMED with each record having a link to the full-text of the article.
3. Display: Articles would be displayed in PDF format and the users would have two options for viewing/downloading depending on the Internet speed available.

Union Catalogue of Biomedical Periodicals

Using the concept of resource sharing and making available information on the availability of journals in biomedical libraries in India, IMC took up the project of preparing a database of the holdings of these libraries. This task was voluminous as well challenging as nearly 200 biomedical libraries had to be contacted to collect the data for compilation of the union catalogue of biomedical periodicals. In addition, to compiling of the holdings data, the hosting and updating were also involved. At present this union catalogue comprises of holdings of 188 medical institutions, colleges, and R&D institutions, since 1990 onwards. This database contains details like library address, details of journals including available volume(s) / issue(s) and missing volume(s) / issue(s) helping the medical professionals and medical librarians locate journals in these 188 libraries across India. This Catalogue is accessible free of cost from <http://uncat.nic.in>

Support services

Training programmes are conducted in “Online Searching of Biomedical Information” for medical professionals as well as for the NIC State Centres and District Centres Staff. These 5-day programmes include lectures as well as hands-on practice sessions and aim at helping the participants in effective searching of the MEDLINE database. A web-enabled training tutorial is available which facilitates the NIC staff to go through the easy to learn information retrieval techniques and cater to the information needs of the medical professionals in their states/districts. They can also download the complete training manual from the webpage. An interactive self-assessment exercise has been designed for the participants and made available from IMC’ site. A CD version of the manuals was also released for distribution amongst the participants. IMC webpage has also provided links to NLM’s web-enabled training manuals.

IMC conducts special 2-3 days workshops on “Biomedical Resources and Internet” for medical professionals as well as medical library professionals. During these workshops the participants are trained in effectively searching the information that is available on the Internet. The lectures include topics like “Internet and Medicine” and Biomedical, “Biomedical Resources” and “Search Engines/Tools”. Medical experts are invited to deliver lectures during these programmes. These workshops have been conducted at NIC offices in New Delhi, Bangalore, Pune, Bhubaneswar and Port Blair. Extensive hands-on practice session forms an integral part of the training programmes enabling the participants familiarize themselves with the various resources and tools of searching.

One to two days User Awareness Programmes are also conducted at medical colleges/institutions in India, which serve as a medium of creating an awareness of the services offered by IMC.

Conclusion

With the launching of the webpage, IMC has been able to reach out to the users in the remotest areas of the country. Doctors, medical students and professionals can logon to the website and get the information they need right from their homes, offices or NIC State/District Centres. Easy navigation has been provided thus enabling them to effectively utilize the resources available over the Internet. The Centre started as a content provider since the resources available for the Indian medical professionals were very limited. Over the years with the advent of information technology and resources being available free over the Internet, it became imperative for the Centre to shift focus of the services provided. Hence, the focus moved to content generation and the IndMED, medIND and Union Catalogue databases emerged. These three databases serve as important information tools. Easy-to-use search engines lead to a simplified web interface, hence benefiting the Indian medical professionals and saving “research/study time”. Availability of timely information leads to better research practices and improved health care for their patients.

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