10-15-1983

Online Information in the Health Sciences

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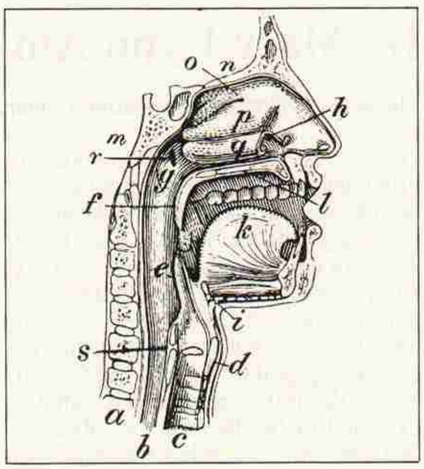
By Carol Tenopir

THE HEALTH SCIENCES have long been innovators in online information retrieval, particularly since the beginnings of MEDLINE in the late 1960's. Medical librarians and practitioners are now accustomed to online access to much of the information they need. Several new developments illustrate that innovation is still the dominant feature of health sciences information services in 1983.

BRS/Colleague

The first of several "colleague" systems from BRS, each planned for direct access by the end user, is the medical BRS/Colleague. Health sciences practitioners search through a menu driven system that groups biomedical databases. After logging on to BRS/Colleague, users see a menu listing groups of databases (called "libraries") that are available for searching. The BRS bibliographic databases in biomedical subjects (e.g. MEDLINE, Health Planning and Administration, and PRE-MED) are grouped in such a library, as are the biomedical full text databases. Colleague users can gain access to other BRS databases through an "other" category library. When a library is selected, the system lists all of the databases available for searching with the label that must be entered to select the database. Questions and prompts lead the Colleague user through the search and display process. The system defaults to the "adj" operator when a blank is entered between search terms. As in the BRS/After Dark service, the menu system is simply a front-end interface to help novice users do their own database searching easily. Databases available and search characteristics are still those of BRS. A micro/mini version of Colleague will include features that allow users to scroll up and down to browse articles and to select search terms to be highlighted in context.

Especially innovative is the BRS/Colleague future plan to make illustrations, photographs, and other graphics from the print counterparts of the full text databases available through a videodisc attachment. Currently, most graphics from the full text journal and textbook databases can only be described in the online file. Captions have had to substitute for the actual illustration in online databases. Obviously this has been major drawback that makes the growing number of full text databases imperfect substitutes for their print versions. When BRS/Colleague is



fully developed, users will be able to get videodiscs containing complete illustrations from BRS. Function keys will allow users to go back and forth from illustrations to text as desired. The videodisc versions of full text databases combined with the end user search software of BRS/Colleague should change the way these databases are used. Videodisc versions come close to being electronic journals or books that can be used for browsing and reading, rather than being used primarily as search systems to find specific information or articles on a particular topic.

The videodisc enhancement is targeted for availability by the end of 1983. The Biomedical Bibliographic Library and Biomedical Complete Text Library on Medical Colleague are available on an annual or monthly subscription basis. Subscribers can access other BRS databases for the regular per hour connect charge. A Business Colleague system and Education Colleague system are under development by BRS.

Full Text Biomedical Databases

The BRS/Colleague system offers access to biomedical bibliographic databases, but its real power is with the increasing number of full text versions of journals and reference books. Of special interest to the health sciences professional are several full text databases made available on BRS in 1983. The Critical Care Medical Library (CCML) contains the full text of approximately 30 major medical textbooks that cover emergency room and critical care medicine. Publication dates of these textbooks (published by W.B. Saunders, Churchill-Livingstone, J.B. Lippincott, and others) range from 1970 through 1983 with most published since 1981. Some of the many textbooks included in CCML include: *Birch's Emergencies in Medical Practice, Emergencies in Obstetrics and Gynecology, Instructions for Patients, Triage Manual Bluebook Series, Gray's Anatomy, Current Therapy, Textbook of Surgery 12th. ed., Principles and Practices of Emergency Medicine*. The collection of titles included is not static—BRS will regularly review and update these online textbook offerings.

The full text versions of several important medical journals will also be available in the Biomedical Complete Text Library of BRS/Colleague. Those currently being loaded are *The New England Journal of Medicine, Lancet, The Annals of Internal Medicine,* and the *British Medical Association Journal*. Other journals will be coming.

The International Research Communications System (IRCS) Medical Science database from Elsevier Science Publishers includes the full text of research articles from 32 biomedical and medical specialist publications going back to January 1982. Publications include: *The Eye, Cancer, The Bone,* etc.

IRCS is the first database to be transmitted to BRS via satellite from Europe at the same time the print products are created. The timely articles in these journals tend to be concise (approximately 1000 words) with a mini-

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mum amount of discussion, a trait that should increase precision in searching the full text. Since no abstracts or controlled vocabulary fields are added to help precision, full text databases with wordy articles may have a problem with low precision.

The text portion of each record in the IRCS database on BRS is separated into three fields: introduction, materials and methods, and results. These fields can be searched together or separately to aid search formulation. References can also be searched. IRCS will be updated semi-monthly and begin with approximately 1000 articles.

Also of interest to health sciences professionals is the American Chemical Society Primary Journal database on BRS. This full text database includes some 30,000 articles in 18 ACS chemistry journals, including: *Biochemistry, Environmental Science and Technology, Inorganic Chemistry, Journal of Agricultural and Food Chemistry, Journal of Organic Chemistry,* and *Journal of the American Chemical Society.* Abstracts, references, footnotes, and captions of illustrations are all available for searching in addition to the standard bibliographic fields, registry numbers, and full text.

Together with the many bibliographic databases that provide references to the medical, pharmaceutical, biomedical, and chemical literature, these full text journals and textbooks provide an extensive information system for the health sciences professional.

BIOSIS B-I-T-S

The BIOSIS Information Transfer System (B-I-T-S) is a new end user service for the biochemist. Subscribers submit a subject profile to BIOSIS, pay BIOSIS to help them to develop a profile or to select one from several standard profiles. The profiles are searched monthly with each BIOSIS update. Unlike other SDI services, B-I-T-S search results are sent to users on disks or tapes, so the users have citations to create a personalized inhouse database. Subscribers can delete unwanted references, add information (such as local call numbers or personal abstracts) to the records, and/or merge each monthly file and reuse the records for future searches.

Subscribers can choose between a Micro/BITS or Macro/BITS service depending on their local hardware. The Micro/BITS option comes on an eight-inch single density, single side floppy disk in CP/M format. For an additional conversion fee, 5¼-inch floppies are available that will be compatible with either CP/M or MS-DOS. A minimum memory of 64k is required. Most microcomputers will be able to accommodate one of these options.

According to BIOSIS, the eight-inch floppies will hold approximately 400 references without abstracts or 120 references, 70 of which have abstracts. The 5¼-inch floppies will hold approximately 150 records or 45 references if 25 have abstracts. Costs are calculated based on the number of records retrieved by the profile, with a minimum subscription charge of approximately $100 (the charge for 500 records per year.) For up to 10,000 references per year, the charge is 40 cents per record with abstract or 20 cents per record with the reference only. The Macro/BITS option is priced the same, but supplies records on magnetic tape. For multiple users or sites within an organization, an additional $50 per user or site is charged.

BIOSIS is currently preparing an evaluative list of microcomputer software packages suitable for search and retrieval of an in-house B-I-T-S database. Software packages BIOSIS has already identified that offer bibliographic retrieval include the following:

BIBLIOTEK (APPLE), Scientific Software Products, Inc., 3171 Donald Ave., Indianapolis, IN 46224.

BIO-EDIT and BIO-FIND (CP/M), c/o John Blair, Medical Sciences Library, Texas A&M University, College Station, TX 77843.

BITTERN-EAGLE (CP/M), c/o Anthony Kent, the Old Stud Farm House, Ossington Lane, Sutton-on-Trent, Newark, Notts., England.

CARDBOX (CP/M), Caxton Software, 10-14 Bedford Street, Covent Garden, London WC2E 9HE England.

CARDFILE (CP/M), from Digital Marketing, 2670 Cherry Lane, Walnut Creek, CA 94596.

CITATION (CP/M), Eagle Enterprises, 2375 Bush Street, San Francisco, CA 94115.

GOLDEN RETRIEVER (CP/M or TRSDOS), CLASS (California Library Authority for Systems and Services), 1415 Koll Circle, Suite 101, San Jose, CA 95112.

LIBRARIAN (APPLE), Geosystems, Inc., 802 E. Grand River, Williamston, MI 48895.

PULSAR (TRSDOS), Litindex, Inc., P.O. Box 2274, West Lafayette, IN 47906.

QUICK-SEARCH LIBRARIAN (APPLE), Interactive Microware, Inc., P.O. Box 771, State College, PA 16801.

SUPERFILE (CP/M), FYI, Inc., P.O. Box 10998, Austin TX 78766.

BIOSuperfile (an updated version of Superfile), from FYI, Inc., can be purchased by B-I-T-S subscribers from BIOSIS for about $100, but other software packages will work also.

B-I-T-S is an intelligent answer to unauthorized downloading from the database producer, and it represents an attractive option for the bioscientist for private database building.

End user searching

Will the health sciences practitioner make extensive use of these databases and services? BRS and BIOSIS believe so, as these new services show. In March, DIALOG added all of the MEDLINE backfiles to Knowledge Index, the DIALOG home computer service. International Pharmaceutical Abstracts is also available on Knowledge Index. One of DIALOG's specialty-area marketing tools is a biomedical information brochure. It emphasizes the benefits of online searching to the health sciences professional and the wealth of biomedical information available from such databases as MEDLINE, Excerpta Medica, Health Planning and Administration, International Pharmaceutical Abstracts, Pharmaceutical News Index, BIOSIS Previews, PsycInfo, Telegen, Life Sciences Collection, CA Search, and Sci Search.

Experienced searchers and those training end users disagree as to the extent of potential use, but indications of interest are beginning to emerge. C.J. Glodek, Director of the Research Library at the Michigan Cancer Foundation in Detroit, wrote to describe the Research Library's questionnaire study to determine the amount of interest in training for online searching among the professional research staff (end users): "In our study," he said, " the survey population consisted of Ph.D. and Master's level scientists and medical researchers spanning the disciplines of Biochemistry, Cell Physiology, Pathology, Immunology Experimental Therapy, Tumor Biology, Organic Synthesis, Biostatistics, and Medicine. Of 60 questionnaires distributed, 26 were completed and returned. In response to the question, 'Would you be interested in learning how to perform your own computer searches for cancer databases should these be made available to you?,' we received 24 'yes' responses. Only one 'no' response was given by a +20 year professional scientist.

"Even assuming the worst-case condition where all non-responders were 'No' responders simply refusing to bother with filling out the questionnaire, we still find an impressive number out of the total examined population interested in end user training.

"When sign-ups for training sessions begin this fall, we will of course have another more concrete indicator of interest along with actual attendance figures. I believe [that] in the long-term . . . a more meaningful measure of end user interest should be actual end user usage data after training and such data probably will not be flushed out for another ten years.

"In any event, librarians will have the choice of either tending to the end user support process or abdicating this area to another professional group."