NATIONAL LIBRARY OF MEDICINE

LIBRARY NETWORK/MEDLARS
technical bulletin

1970

JANUARY through DECEMBER

NUMBERS 9-20

Issued by The

Office of the Associate Director for Library Operations

National Library of Medicine

INDEX TO LIBRARY NETWORK/MEDLARS TECHNICAL BULLETIN
January - December 1970, Nos. 9-20

LIBRARY NETWORK/ MEDLARS
technical bulletin

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and suggestions

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November 1970
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RML Grants

The operations and services of the Kentucky-Ohio-Michigan RML were recently
reviewed by an evaluation team on a visit to Wayne State University. An
evaluation is usually scheduled approximately 15 to 18 months after an RML
becomes operational, and KOM is the fifth region to be evaluated.

Network Planning

The Third RML Directors' Meeting was held in Detroit on November 5th and 6th.
These meetings, convened semi-annually, enable RML directors and NLM staff to
review activities and plan future operations of the Network. Dr. Vern Pings,
Director of the Kentucky-Ohio-Michigan RML, and his staff hosted the meeting.
A copy of the agenda follows.

Agenda for RML Directors' Meeting
Detroit, November 5-6, 1970

Chairman: Dr. Joseph Leiter

Welcome and discussion of arrangements for
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Act: purpose, legal basis, NLM plans for   Dr. Leroy Langley
phasing-in, administration   Dr. Joseph Leiter

Chairman: Dr. Leroy Langley

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index   Mr. Samuel Waters

Telecommunications linkage to Federal systems:
government permissions and technical problems   Mr. Gerald Oppenheimer

Status of Williams & Wilkins suit; other copy-
right considerations   Mr. Samuel Waters

General discussion

Discussion and Definition of Problems for
next Meeting

Training

MAR Workshop

1. Approximately 20 persons attended a workshop on hospital library service for Mid-Atlantic Region library personnel which was held at the National Library of Medicine on November 16. Staff members of the Reference Section of NLM planned and hosted the training session. Attendees were mainly from hospitals in the Washington, D.C. area and nearby Maryland counties.

2. Speakers included guests from the Bowman Gray School of Medicine (Winston-Salem, North Carolina), the Veterans Administration Central Office Library, the Sinai Hospital Library (Baltimore), the Metropolitan Washington Regional Medical Program, and staff members of various divisions of NLM. Among topics discussed were medical terminology, the basic hospital library, reference activities, local, regional, and national sources of assistance, interlibrary loan, and citation verification.

Veterans Administration Librarians Visit NLM

A group of 25 senior medical librarians from Veterans Administration hospitals throughout the United States visited NLM on November 20, 1970. The librarians were briefed by NLM staff members on procedures for processing MEDLARS searches

and interlibrary loan requests, and were given a presentation on training programs developed at the Library. Procedures for machine searching using the experimental AIM-TWX were also demonstrated.

Reminder

When reporting quarterly interlibrary loan statistics, please include quotas established for determining the number of loans from requesting libraries reimbursable from RML funds. The quota unit should be defined to indicate if it is based on the number of requests, the number of loans filled, or the number of exposures made.

Developing Sampling Techniques

Libraries interested in developing sampling techniques and procedures for random sampling for use in statistical reporting may wish to secure a copy of a report prepared by Dr. Nick Thomopoulos for the Midwest Regional Medical Library. The paper, entitled "Selecting the Sample Size When Estimating Proportions," explains a method for determining the size of a sample which guarantees a 95% confidence level with a precision of plus or minus 5%. A chart, based on a Midwest RML quarterly report, could be applied directly to the ILL Quarterly Statistical Report form, matching the size of the population to the estimated proportion of the population for each item, and providing the sample size. The study has been issued by the Midwest Regional Medical Library as Special Report MRML - SR-2.

NLM and RML-Funded ILL Activity Summary
July - September 1970

	NLM	HARVARD	COLLEGE OF PHYS	MID-ATLANTIC	WAYNE	EMORY	CRERAR	NEBRASKA	DALLAS	SEATTLE	UCLA
Total Requests Received	19,650	12,554	11,577[3]	9,196	16,269	10,873	5,580	2,844	3,273	5,149	9,506
% Accepted of Requests Received [1]	93%	96%	98%	94%	98%	99%	100%	99%	99%	98%	99%
% Filled of Requests Accepted	90%	84%	84%	86%	77%	77%	65%	86%	83%	92%	80%
% Filled Within 1 day of Receipt [2]	67%	47%	99%	82%	87%	83%	22%	54%	94%	53%	64%
% Filled Within 3 Days of Receipt [2]	86%	86%	100%	96%	97%	95%	50%	79%	98%	65%	93%

1. Statistics for decentralized regions include referrals.
2. Throughput time for decentralized regions includes only in-house time for the institution which actually filled the loan.
3. Does not include 2,789 "walk-in" requests.

(Statistics from New York-Northern New Jersey RML not yet received)

MEDLARS ORIENTATION PROGRAMS

Date	Presented at	Attendees	Presented by
11/4	University of Washington, Seattle--Nursing Students and Faculty	23	N. Blase
11/5	University of Washington, Seattle--Nursing Students and Faculty	46	N. Blase
11/6	University of Miami--Health Professional Users and Librarians	49	F. Johnson K. Jones
11/18	Hines Veterans Administration Research Institute, Hines, Illinois--Health Professional Users	--	M. Doherty
11/18	University of Connecticut Health Sciences Library, Hartford--Health Professional Users	--	M. Ford S. Woodford
11/19	University of Connecticut Health Sciences Library, Hartford--Health Professional Librarians	--	F. Solomon S. Woodford
11/20	University of North Dakota, Grand Forks --Health Professional Users and Librarians	15	M. Doherty C. Green
11/21	University of North Dakota, Grand Forks --Health Professional Users	75	M. Doherty C. Green
--	Memorial University, St. John's, Newfoundland--Health Professional Librarians and Users	--	A. Nevill
--	Dalhousie University, Halifax, Nova Scotia--Health Professional Librarians and Users	--	A. Nevill
--	Acadia University, Wolfville, Nova Scotia--Health Professional Librarians and Users	--	A. Nevill
--	State University of New York at Albany--Library School Students	--	M. Ford
--	Area III California RMP (Part of PSRML workshop)--Health Professional Users	25	P. Hanson

Date	Presented at	Attendees	Presented by
--	Area III California RMP (Part of PSRML workshop)--Health Professional Users	46	P. Hanson
--	City of Hope Hospital, Duarte, California-- Health Professional Users and Librarians	30	B. Beamish
--	U.S. Naval Hospital, Long Beach--Health Professional Users	30	B. Beamish
--	University of Southern California, Los Angeles--Library School Students	50	A. Durso B. Beamish

REQUESTS FOR EXCEPTIONS TO ESTABLISHED QUOTAS
Albert M. Berkowitz
Acting Deputy Associate Director for Library Operations, NLM

A number of regions have established limits on interlibrary loan service to libraries in their region. The question has been raised concerning exceptions to such quotas for interlibrary loans, whether in the original or by photocopy, in support of contracts, including contracts with the Federal Government.

It must be presumed that such contracts include funds for purchasing the material necessary for satisfying contract demands. NLM does not intend that exceptions should be considered for providing material for this purpose above established quotas, supported by RML funds. In order to avoid subsequent misunderstanding, as contractors who require material in support of contracts are identified, RMLs may wish to notify them that an exception to established quotas for free interlibrary loan service cannot be entertained.

STATISTICAL SUMMARY FOR MEDLARS CENTERS FOR NOVEMBER 1970
Constantine J. Gillespie
MEDLARS Management Section, NLM

The table below, which includes only a few important items from each center's monthly report, gives a summary of the searching performance at each of the MEDLARS centers around the world:

MEDLARS DEMAND SEARCHING FOR NOVEMBER 1970
Period: 10/30 - 11/26/70

Center	Searches Rejected	Searches Released Excluding RDS's	Recurring Demand Searches Released	Citations Retrieved Per Search Month	Percentage Searches Released By Calendar Days	
					0-15 days	0-20 days
UNITED STATES						
Alabama	9	119	6	NA	56.3	75.6
Colorado	1	80	30	4.9	84.0	100.0
Crerar	5	39	1	5.5	12.8	25.6
Harvard	16	72	16	7.9	10.0	21.0
Michigan	4	113	24	4.5	23.9	68.9
New York	4	33	0	5.4	3.0	15.0
NIH	2	42	0	4.0	48.0	72.0
NLM-MARML	11	151	5	5.1	37.7	62.9
NLM-MMS	9	87	18	4.0	43.0	67.0
Ohio	10	213	119	5.1	93.9	100.0
Philadelphia	1	42	8	8.5	9.5	40.4
PMA	1	46	232	9.8	49.9	100.0
Texas	13	170	13	6.4	100.0	---
UCLA	20	140	0	5.5	10.7	30.0
Washington	3	76	1	7.3	---	50.0
FOREIGN						
Australia	0	78	0	4.8	91.0	100.0
Canada	4	36	0	9.5	11.1	38.9
England	2	164	130	NA	82.1	86.2
France (INSERM)	2	154	0	3.7	28.0	70.0
Germany (DIMDI)	NA	NA	NA	NA	NA	NA
Japan (JICST)	NA	NA	NA	NA	NA	NA
Sweden	--	132	1187	7.4	9.1	18.2

Computer requirements for year-end processing resulted in increased through-put times for searches processed at NLM. (Although 18 percent fewer searches were processed by NLM during November than during October, the number still represents an increase of 17 percent over those processed during September.) Since mid-November, when Texas assumed part of NLM's processing load, the situation has begun to improve; the swing to more acceptable through-put will be completed when NLM's year-end processing has been accomplished.

THE AUSTRALIAN MEDLARS SERVICE
John Vaughan
Director, Australian MEDLARS Service

The Australian MEDLARS Service, established at the National Library of Australia under an agreement made with the National Library of Medicine in 1969, began operations at the beginning of 1970 with an introductory, pilot year. During this experimental period, the searches have been processed on an IBM 7040 at the Basser Computing Department, University of Sydney. Sydney is four hours by car and five days by mail to the northeast of Canberra, the national capital, where we are located. The Service will become fully operational during 1971, when the Commonwealth Department of Health, also here in Canberra, assumes responsibility for the MEDLARS computing operations; the Department has two IBM 360/65's.

Initially, we had two search analysts, Irene Sills and John Vaughan; another, Robin Chivers, underwent training at the National Library of Medicine between February and July this year, and we are currently three. In addition to our search activities, we have an indexing commitment; we began with the Australian and New Zealand journals, and will shortly begin indexing those from India and South Africa.

The pilot year was introduced in January with a two and-a-half day seminar for 16 biomedical librarians, representing medical schools, medical societies, and Health Department libraries and coming from each State and the Australian Capital Territory. The seminar was developed around the user orientation slides supplied by the National Library of Medicine. The librarians had been nominated by the Australian Advisory Council on Bibliographical Services, and were to act as filters for all MEDLARS demand search requests during the pilot period.

Although the majority of requests have come from the universities, we have had a number from drug companies, private practitioners, and foreigners. It is of interest that we have had requests from South Africa, Mexico, Argentina, New Zealand, New Guinea, and New Caledonia, and several enquiries from Europe, including one from a lunatic asylum--inmate, not staff. Where else would he go?

Bedevilled by more problems and setbacks in the early stages than I thought possible, the Service has now settled down and we are aiming for, and achieving, a 7-10 day turnaround time. We have processed and released almost 400 retrospective searches, and user reaction has been generally favourable.

A particular difficulty in our environment has been the lack of knowledge of demand potential, and we have deliberately allowed the Service to become gradually known rather than publicizing it widely. Next year we are to extend service to New Zealand and will follow a similar pattern, i.e., a pilot year preceded by a two-day seminar for the medical librarians. We make no charge for the service and have no intention of doing so, although we may have eventually to introduce a cost-recovery charge for search requests from overseas.

I shouldn't finish without a brief description of the National Library itself. It is in Canberra, an artificially created seat of a Federal government, with a population of 130,000 increasing at about ten percent a year. The building is brand-new, remarkably handsome, marble-clad, columned as a latter-day Parthenon, of splendid proportions, and situated by a lake. My particular drive to work each day is ten miles and fifteen minutes, skirting the lake and a nature reserve past the signs "Kangaroos next 2 miles." How about that?

USE OF ON-LINE REMOTE ACCESS INFORMATION RETRIEVAL SYSTEMS
Joy Dancis Stiller
MEDLARS Management Section, BSD, NLM

During the two years that the National Library of Medicine (NLM) has been ex-
perimenting in extending its computerized information services by use of shared
direct-access telecommunication facilities, library personnel have had a unique
experience in the use of these systems within the environment of the larger but
slower batch-mode serial search computer system of MEDLARS I and more conventional
reference activities. The experiment has given searchers and trainees at NLM an
understanding of the comparative capabilities and uses of all of them which will
be of increasing interest as on-line systems become more widely available.

In short, we find that searching the MEDLARS files (Index Medicus citations) by
the remote access systems we are now using is as different from computerized
retrieval in the current batch mode as it is from "manual" reference methods.
Each type of searching the literature offers advantages not possible with the
other. Each method by itself has limitations, and can, therefore, profit from
supplementation by the other. An appreciation of the relative values of each
is of importance to the information specialist, so that both can be used most
effectively. This review of recent activities at NLM is intended to highlight
some of the advantages and disadvantages of the systems in use, though it should
be appreciated that the existing systems have the potential for extension to
other functions and content.

Though on-line systems possess the attractive delight of a new gadget, with the
reinforcing satisfactions of rapid response, practical individuals ask for more
substantial rewards than acquisition of a reputation for being sufficiently
modern to adopt them. The contents of the data bases contained in each system,
what elements of the record are searchable, what output, and what is required
of the user to access the records or print results--all are large factors in
determination of satisfaction. A comparison of the two remote-access systems
containing MEDLARS records currently in use at NLM (SUNY and AIM-TWX) will ex-
emplify this.

The State University of New York (SUNY) bibliographic retrieval system contains
MEDLARS citations from January 1968 to the present, searchable in segments of
about 90,000 citations, or approximately four months' Index Medicus input. (Ci-
tations from 1964 through 1967 are available for off-line output.) It also has
50,000 monographic citations from the NLM Current Catalog from 1967 through 1970,
and a file of 16,000 monographic citations from the SUNY union catalog. Since
monographs are not searchable in MEDLARS at this time, the added references are
an obvious advantage. (The searcher will, however, realize that the differences
between indexing and cataloging will temper search logic as well as probable re-
trieval.)

The AIM-TWX system, developed by Systems Development Corporation under contract
to NLM's Lister Hill National Center for Biomedical Communications, contains a-
bout 150,000 citations from the 100 English-language journals judged to be of

key clinical importance for Abridged Index Medicus. Since MEDLARS covers more
than 20 times as many journals, this is abbreviated information indeed. Unlike
the four-month segments searched by SUNY, this system covers citations from
January 1966 through the present at a single pass, while scanning a bit less
than twice as many citations.

These differences in the content of the data bases mean that because of frag-
mentation of the data in SUNY, in order to cover the same file segment that
MEDLARS provides, it is necessary to repeat the same search statement seven
times. A simple repeat command makes this relatively easy to do, but it is
time-consuming. Though average response times of five to ten minutes per search
do not seem excessive, when added to the typing time of input and output, the
obvious advantage of "immediacy" of response will be tempered by consideration
of this multiplication of waiting time required to cover the entire span. On
the AIM-TWX, of course, though only one search is necessary, and response time
is much faster, it is not possible to search the entire MEDLARS files at all.

The fragmentation of the files is, however, often a positive good! It readily
supplies a few good citations to that group of people for whom a more copious
bibliography would be overwhelming. Though selection of journals covered by the
AIM-TWX programs limits the user population, it is often more satisfactory than
a single segment of the wider SUNY base. Obviously, however, a searcher wanting
completeness of recall and extended file searching will prefer to use MEDLARS.
The requester who needs such a bibliography is usually content to wait for batch
mode processing, since his needs are usually not immediate. A combination of
on-line output and later extended MEDLARS searching can best satisfy those re-
questers whose needs are immediately pressing, but who also want as complete a
search as possible.

Design of shared access systems assumes that teletype output will be limited,
and programs initiating output differ in flexibility and ease of use. The SUNY
system provides a maximum of ten citations from those retrieved by a single search.
It is possible to retrieve additional citations on-line, but this requires re-
keying of the entire search statement, with an added statement indicating range
of citation numbers to be scanned, different from that which yielded the initial
results. It is not possible to abort a bad search before all ten citations are
printed, though the first few may indicate that the results are not wanted.

The AIM-TWX dialog is friendlier in this regard. After printing five citations,
the program asks "Any more? (Yes/No)." This enables a step-by-step extension
or limitation of retrieval in segments of five citations. It is plain that these
systems can perform well under conditions in which a few citations will satisfy
information needs; if extensive bibliographies are required, off-line output is
easier and more economical.

Both systems will print all fields contained in the bibliographic record and can
be directed to select those desired. Only AIM-TWX, however, contains tracings.

In addition to their ability to search and print large numbers of citations, com-
puters are useful in handling large numbers of concepts and their interrelations.

It is here that the nature of the search strategy permissible in remote access systems differs widely from MEDLARS I. Though such systems permit the use of essentially the same Boolean operators, restriction of the number of terms which can be used, the number of statements combining them, and the fields of the record which are directly searchable sharply limit the complexity of manipulation possible. Both systems restrict the number of search statements and search elements which can be employed. Both essentially require only OR's or only AND's to be grouped in one statement. Parentheses are implied by substitution of the symbol for a line of ORed elements in a later ANDed statement. This simplification makes collection of elements tedious. Since indexing practice at NLM requires use of the most specific term possible, with no redundancy of the more generic term, it behooves the searcher to use entire categories of terms (trees). As in other information systems, one must consider, in addition, other related terms. To search completely, then, though using the restricted MeSH terminology, we are obliged very often to use multiple terms, and interrelate them differently according to the given problem. Explosion of trees is not operational in SUNY, though it is in AIM-TWX. This confines the usefulness of SUNY to subjects where a few good unambiguous terms can be assembled to represent the information wanted. AIM-TWX also can distinguish print from non-print terms for search, retrieval, and tallying, which SUNY cannot.

Further awkwardness in querying the SUNY journal files derives from the need to search on keywords only. One cannot search for author, publication date, journal title, or language, except as a qualification of that which was retrieved on a keyword. Though these fields are directly queryable in AIM-TWX, that system does not permit use of subheadings as if they were keywords; one may use subheads only as qualifiers of mainheadings. Nor can the user of AIM-TWX sum mainheads or subheads to attach in coordinate linkages as in the MEDLARS X-elements. The ease of linkage of mainheads and subheads (such as CARCINOMA/drug therapy) in AIM-TWX represents a considerable advance over the jerry-built technique one is forced to use to achieve the same result in SUNY. The resultant tallies from mainhead-subhead linkage, and from mixed field logic (such as articles on pesticides written by Goldfinger) are not available from SUNY.

Both on-line systems have the ability to search truncated portions of terms, which gives a partial ability to search multiple terms without actually entering each one. Since MeSH is constructed with many inverted terms, this is particularly useful. It even crosses categories, which MEDLARS I cannot do. For example: search of "psych" will give terms meaning types of psychological or psychiatric disciplines such as PSYCHOLOGY, CLINICAL or PSYCHIATRIC NURSING, but also PSYCHOLOGICAL TESTS and the psychoses, such as PSYCHOSES, SENILE. SCHIZO-PHRENIA, however, which would have been swept into the group by explosion of the tree on PSYCHOSES would not appear, of course. Truncation also allows the searcher to enter parts of words, the spelling, or the plural or singular form of which he may be uncertain.

Essentially, the logic used in on-line queries will be less complex than statements made in MEDLARS. The two types of query will relate to one another the way a telegram might to a letter. The style of the former is more compressed.

I have been emphasizing the disadvantages of these systems in order to counter the enthusiasm for the immediacy of response, which is, nevertheless, a very positive value. There are times when clinicians want information without delay. A recent request for references to treatment of acute psychoses in drug abuse is a case in point. Partial output from an on-line search can be used as an intermediate product while waiting for receipt of MEDLARS I output.

The immediacy of response gives MEDLARS searchers a powerful tool in formulation. An on-line trial will give a sample of references which can be retrieved, as well as a quantification of probable size of the bibliography which can be generated. This will offer some indication of the best strategy to adopt. It may also be used to redefine the request by pointing up ambiguities contained within a general inquiry. For instance, a request was made to search for references to adult epilepsy. Accordingly, a search was run on SUNY, as follows:

Term	Tally
L1 epilepsy	204
L2 epilepsy & child(not)	144
L3 epilepsy & adult	80

This showed that 2/5 of the citations relating to epilepsy were indexed for adults, and since this result from a 3-month store indicates a probable tally of $\pm$ 640 from the entire file, the oversimple ploy seemed undesirable. Moreover, on viewing sample titles, the requester added the information that what he really wanted was delayed-onset epilepsy, which first appears in adulthood, not references to all epileptics who happen to be adults. He added that it was also called "latent epilepsy" or "epilepsia tardive."

The example above demonstrates another advantage of on-line searching: that is, obtaining statistical results for each search statement enables the user to predict the probable output for his total strategy. AIM-TWX is more helpful than SUNY in this regard, since the feedback from each statement is immediate. Although SUNY will give statistics on each line of statement, it only does so after the entire formulation is devised. Citations output by SUNY result automatically from the last line of the formulation. This puts the onus on the searcher to plan strategy beforehand; he can further profit from the results by reformulating in a later search, if necessary. AIM-TWX gives statistics from each line as it is entered, so that information can be used to plan ploys as one goes from one step to another. It will print citations which result from any line, at any time.

The MEDLARS searcher can use the printout of descriptors attached to each citation from AIM-TWX to good advantage to find added related terminology. It is particularly helpful when one is uncertain how to search for concepts not covered by MeSH terms. One simply finds a relevant citation containing the terms in the title by browsing Index Medicus and, if it is in the AIM-TWX data base, search it by author and journal title code and exploit the tracings.

SUNY is also useful to test search strategy after retrieval of results from MEDLARS I. When those results are less copious or relevant than one could wish, simple alteration of strategy performed on-line will often supplement the bibliography, obviating the delay of waiting for reformulation in the batch-mode. For example, a searcher who was looking for citations relating to voluntary control of a unit set of motor neurons realized, after review of the descriptors attached to a MEDLARS I bibliography, that she had failed to use a key term PSYCHOPHYSIOLOGY. Accordingly, a SUNY search on that term AND MOTOR NEURONS was run, retrieving added pertinent citations.

PSYCHOPHYSIOLOGY AND MOTOR NEURONS

RESULTS:
- (1) VISCERAL LEARNING AND OTHER ADDITIONAL FACTS POTENTIALLY APPLICABLE TO PSYCHOTHERAPY.

- (2) PSYCHOPHYSICAL EVALUATION OF FEEDBACK PHENOMENA AS RELATED TO PRECISION OF FORCE EMISSION.

Still another SUNY formulation was tried by ANDing the missing term with terms for MOTOR SKILLS or PHYSICAL MEDICINE. The results from this set, though not numerous, did not seem relevant, so they were discarded.

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L1  =  PSYCHOPHYSIOLOGY AND MOTOR SKILLS
L2  =  PSYCHOPHYSIOLOGY AND PHYSICAL MEDICINE
L3  =  L1 OR L2
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RESULTS:

- (1) TIME RELATIONS OF THE EFFECTS OF ALCOHOL COMPARED TO PLACEBO. DOSE RESPONSE CURVES - - -

- (2) COMPARATIVE PSYCHOLOGICAL STUDIES OF NEGROES AND WHITES IN THE U.S. 1950 - 1965

The ready availability of samples of retrieval and statistical analysis are of special importance in the training of MEDLARS searchers. Errors of omission or commission can easily be demonstrated, obviating the necessity for authoritative, seemingly arbitrary suggestions and preventing poor batch-run retrieval and re-run.

Finally, SUNY-MEDLARS has a powerful added capability lacking in MEDLARS I, in that titles of citations retrieved in keyword searching can be scanned for words or parts of words whose terminology is lacking in MeSH. This technique was used for the late onset epilepsy search mentioned previously. By searching on epilepsy, then scanning titles for "latent," "late onset," or "tardiv," a very relevant bibliography of nine citations was generated, which would not have been possible in MEDLARS I or from AIM-TWX.

A recent case history will serve to illustrate the differences in search methods and output from MEDLARS I and SUNY. The requester wanted references to "visual deprivation." The request, made on Wednesday, said results were needed for Friday, but the requester was unavailable for clarification and/or elaboration. There is no MeSH term covering this concept. Accordingly, an attempt was made to get further nuances of meaning by searching on a group of terms meaning light, darkness, vision, or blindness, and scanning the resultant titles for "light deprivation" or "visual deprivation." Though the titles retrieved did not cast further light on the scope of the question, about 14 very relevant citations were retrieved in about two hours' sitting before a teletype. An added search on SENSORY DEPRIVATION AND (VISION OR LIGHT OR DARKNESS) showed that the bibliography this strategy generated would not have a high degree of relevancy, but would not be copious, and could, therefore, be used.

        L1   = SENSORY DEPRIVATION
        L2   = LIGHT OR DARKNESS OR VISION
        L3   = L1 AND L2

    RESULT:

        3 CITATIONS FROM JANUARY THROUGH AUGUST 1970

SAMPLE REFERENCES

THE EFFECT OF VISUAL DEPRIVATION ON CANINE SECRETION SENSORY DEPRIVATION, A
    SPECIAL FORM OF BEHAVIORAL RESEARCH.

AUDITORY OR VISUAL DEAFFERENTATION AND CEREBRAL EPILEPTOGENICITY.

After consultation with the requester, the added information was elicited that situations in which a blind child whose cataract removal gave restored sight was a clinical example of the subject he was seeking; he thought that there would be no more than 40 citations on the subject, but wanted MEDLARS searched completely (1964 through 1970 files). A complex search statement was devised incorporating all these ideas. Keypunching and editing were rushed through that afternoon, and the computer run that night included this special request. Output was very noisy, but edit, by scanning titles and descriptors, yielded 80 references of probable relevance and an added 50 of peripheral interest, of over 300 retrieved.

It can be readily seen that these on-line systems are very useful, although with limitations, but it should be remembered that the very factors which seem deficits to the sophisticated searcher may be advantageous to the user who does not have the time or interest to learn either the vagaries of Index Medicus indexing or the complexities of MEDLARS. If a few simple terms are all he thinks to use, and a few pertinent citations all he wants to get, on-line systems may do that job for him simply, quickly, and directly. A non-MEDLARS-trained reference librarian can thus have limited access to computerized information retrieval.

It is the MEDLARS analyst in conjunction with the requester who will, however, be able to use these systems most profitably for "ready reference."

For the information specialist, although these systems cannot replace the slower but more intricate and more comprehensive one exemplified by MEDLARS I, they do offer valuable adjuncts to MEDLARS sampling, statistical analysis, and training. They enable the searcher to give quicker and better service and, in some cases, to provide service not readily possible in other ways. And, finally, by use of intermediate output and evaluation of resultant citations, communication between the requester and the searcher can be improved so that either on-line or off-line bibliographies may be made more complete and more precise.

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NETWORK ACTIVITIES
October 1970
Sheldon Kotzin, Network Management Staff, NLM

Union Lists

Below is a status report of on-going and completed Union List projects. Institutions not using the Union Catalog of Medical Periodicals format have not been included.

Regional Union Lists of Medical Periodicals

	File Already Finished	File Will Be Completed
RML's		
Active		
Mid-Eastern		9/71
KOM		9/71
Southeastern	X	
Midcontinental	X	
South Central	X	
Pacific Northwest		9/71
Developing		
Midwest	Partial	1972
New York/N. New Jersey	Partial	Can be ready in 8 months after funding is provided
Non-RML's		
VINCKY (Virginia, N.C., Kentucky)	X	
Wisconsin RMP		9/71
Virginia	X	
NLM		3/71 (live titles only)

NOTE: Countway and UCLA have individual library holdings in mechanized form which are not yet compatible with Union Catalog of Medical Periodicals format.

MEDLARS Searches

The number of demand searches released by domestic MEDLARS Centers in October was 1,650. Searches released for Fiscal Year 1971 total 5,686. This represents an increase of 24% when compared to searches released during the same period last year.

TWX Changes

There are now two TWX (Telex) machines at NLM. They are to be used as follows:

    a. 710-824-9616 - MEDLARS and administrative messages
    b. 710-824-9615 - ILL requests only

TWX 710-824-9619 is no longer to be used.

Note: Please do not use 710-824-9616 for interlibrary loan requests; use 710-824-9615. If 9615 is busy, the line will be automatically switched to 9616.

Reminders

1. Provision for reimbursement of foreign requests. After reviewing the quarterly statistical report recently submitted, it appears necessary to remind all RML directors that interlibrary loan requests originating in Canada or other foreign countries are not to be provided from RML funds. These requests should not be included in the RML reports.

2. Variations to ILL Quarterly Statistical Report Form. All changes in the wording or intent of headings should be explained if the alterations reflect any difference in the information being reported. The category "other" referring to Requests Received should specify the exact manner of receipt for all requests.

MEDLARS ORIENTATION PROGRAMS

Date	Presented at	Attendees	Presented by
10/6	Food & Drug Directorate, Dept. of National Health & Welfare Ottawa-- Health Professional Users & Librarians	20	A. Nevill
10/8	Francis A. Countway Library, Boston-- Health Professional Users		M. Ford S. Woodford
10/9	University of Alabama Optometry School, Birmingham--Faculty Members & Librarians	10	F. Johnson
10/12	University of Florida, Gainesville-- Health Professional Users & Librarians	44	F. Johnson
10/13	Washington State University, Pullman-- Faculty Members and Librarians		D. DesChene
10/14	Cincinnati Medical Librarians-- Health Professional Librarians	20	L. Osborn E. Wei

Date	Presented at	Attendees	Presented by
10/19	Purdue University Veterinary School, Lafayette--Faculty Members and Students		M. Kralicek M. Doherty
10/20	Ohio State University, Seminar on Legal Medicine, Columbus--Faculty Members and Students	20	L. Osborn
10/20	Indiana University Medical School, Indianapolis--Health Professional Users		M. Kralicek M. Doherty
10/24	Associate Committee on Medical School Libraries, Winnepeg--Health Professional Librarians	50	A. Nevill
10/26	Bowman Gray Memorial Hospital, Winston-Salem--Health Professional Users	40	R. Halegua G. Nowak
10/27	University of North Carolina, Chapel Hill--Health Professional Users	20	R. Halegua G. Nowak
10/27	University of Michigan, Graduate School of Nursing, Ann Arbor--Health Professional Users		L. Hirschfeld
10/27	University of Michigan, Graduate Students in Behavioral Science	15	R. Lawrence
10/28	Duke University Medical School Library, Durham--Health Professional Users and Librarians	30	R. Halegua G. Nowak
10/29	Environmental Health Sciences Library, Research Triangle Park--Health Professional Users and Librarians	40	R. Halegua G. Nowak
10/5	Sacramento General Hospital, Sacramento -- Health Professional Users	30	B. Beamish P. Hanson
10/6	Letterman General Hospital, San Francisco -- Health Professional Users and Librarians	50	B. Beamish P. Hanson
10/14	University of Southern California, School of Nursing--Health Professional Users	120	P. Hanson A. Durso
10/22 & 10/27	University of California, Los Angeles-- Librarians	20	B. Beamish

According to statistics submitted to the Network Management Office, 33 MEDLARS User Orientation Programs have been given July through October 1970. Except for Regions 2 and 3, orientations were presented in all RML's and in Canada.

We are encouraged by the number of attendees at recent orientation programs. Inclusion of these figures in the MEDLARS monthly reports would be appreciated.

Errata

The Interlibrary Loan Activity Summary published in the September Library Network/ MEDLARS Technical Bulletin inadvertently placed the "January 1970-" date in the Region V column. It should have applied to Region IX.

MEDLARS SERVICES IN REGIONAL MEDICAL LIBRARIES

In several regions MEDLARS centers were operating, under contract, prior to the establishment of the grant-funded Regional Medical Library in those areas. At present, some MEDLARS operations are still based at centers geographically separate from the RML -- specifically, in Regions 5, 6, 8, and 9.

It is important to remember, however, that MEDLARS demand searches, like other NLM-supported Regional Medical Library services, are available to users in every region. This is true whether the RML itself or a center remote from it houses both search formulation and computer-processing, or either.

We recommend that RML directors and administrators maintain continuing close relations with their MEDLARS staff counterparts, especially when they are not at the same institution. This requires, of course, that there be full, regular two-way communication. In addition, it is suggested that the director or administrator of a MEDLARS center separate from its RML be asked to serve as a member of the RML Advisory Committee.

STATISTICAL SUMMARY FOR MEDLARS CENTERS FOR OCTOBER 1970
Constantine J. Gillespie
MEDLARS Management Section, NLM

The table below, which includes only a few important items from each center's
monthly report, gives a summary of the searching performance at each of the
MEDLARS centers around the world:

MEDLARS DEMAND SEARCHING FOR OCTOBER 1970
Period: 9/25/70 - 10/29/70

Center	Searches Rejected	Searches Released Excluding RDS's	Recurring Demand Searches Released	Citations Retrieved Per Search Month	Percentage Searches Released By Calendar Days	
					0-15 Days	0-20 Days
UNITED STATES						
Alabama	11	118	6	--	61.0	83.9
Colorado	3	106	19	3.4	95.0	100.0
Crerar	4	36	0	8.8	0	38.9
Harvard	13	89	2	8.0	13.0	50.0
Michigan	2	148	59	8.4	44.6	67.0
New York	1	62	4	4.9	30.0	59.0
NIH	3	97	62	8.5	91.7	97.9
NLM-MAR	19	200	32	6.1	72.0	85.0
NLM-MMS	19	106	5	8.0	60.0	85.0
Ohio	18	140	89	7.0	98.6	100.0
Philadelphia	4	68	0	7.7	48.5	72.0
PMA	0	64	214	10.0	93.8	95.3
Texas	7	221	8	6.2	100.0	--
UCLA	24	115	20	6.0	29.6	69.6
Washington	2	80	1	8.9	37.0	71.0
FOREIGN						
Australia	NA	NA	NA	NA	NA	NA
Canada	4	43	0	9.7	9.3	23.3
England	2	455	229	--	83.4	92.6
France (INSERM) *	2	166	145	3.5	27.0	52.0
Germany (DIMDI)	NA	NA	NA	NA	NA	NA
Japan (JICST)	NA	NA	NA	NA	NA	NA
Sweden	0	194	1148	12.8	2.6	15.5

* Figures are for September 1970.

DIRECT RELEASE OF SEARCHES
Carol Herring, Senior MEDLARS Analyst
New York Academy of Medicine

In the summer of 1970, MEDLARS Management suggested that we, the New York and
Northern New Jersey MEDLARS Center, begin to release our searches directly from
processing at the National Library of Medicine. We were reluctant to do this
at first as we felt that searches released before being reviewed by the search
analyst might result in confusion on the part of the requester.

However, we agreed to try the direct release and turned our attention to finding
the most efficient procedure for this office and MEDLARS Management to follow
while causing the minimum amount of confusion to the requester.

The following three-part procedure has worked very well for us.

Part I

A release packet with all forms completed except for date of release and
and citations retrieved is prepared at this center for each request
while the search is being keypunched.

The packet consists of these forms:

1. A transmittal form to be returned to this center upon receipt
   of the bibliography by the requester. This is the topmost form
   of the release packet and contains the full address of the re-
   quester to be used by MEDLARS Management in mailing the search.

2. The second form is the release letter printed on New York and
   Northern New Jersey MEDLARS Office letterhead. It is the stan-
   dard release letter with one addition .. the following explana-
   tory paragraph appears at the bottom of the page beneath the
   searcher's signature.

   "In order that you receive your bibliography as quickly
   as possible, your search has been released directly from
   processing. This means that I have not reviewed the re-
   sults of the bibliography before you receive them. I
   will, however, receive a copy of the search the same time
   you do and will review it carefully then. I will contact
   you if I feel that anything is out of order, but please
   do not hesitate to call if you have any questions."

The release letter we use has the original and one noncarbon duplicate.
The original copy is sent in the release packet and the duplicate is
retained for our files.

3. The standard evaluation form.

4. The guide to understanding the search.

5. A copy of the demand search formulation record.

The release packets for each batch of searches are mailed to MEDLARS Management at the same time the keypunched deck for the batch is mailed.

Part II

Once the search has been processed, the MEDLARS Management staff fills in the date of release and the citations retrieved on the appropriate release forms, and the completed packet is enclosed and mailed with the original copy of the bibliography to the requester.

At the same time the requesters' copies are mailed, the file copies and copies of the DSFR's with citations retrieved are mailed to this center. The transmittal form accompanying the shipment tells the date the searches were released to the requester.

Part III

When the file copies are received at this center, each search is carefully reviewed by the search analyst. In cases where an explanation is necessary, the requester is called, the situation is explained, and the supplements or reformulations are initiated whenever necessary.

The duplicate copies of the release letter and DSFR are marked for citations retrieved and date of release. They are then combined with the search requests to form a transaction record of the searches and are placed in the office files according to search number.

We had originally thought that the requester might wonder whether future searches should be sent to the National Library of Medicine since his last search was released from there. This has not proved to be a problem. The explanatory note on the release letter and the fact that all forms and communication with the requester stem from this office have been sufficient to avoid this type of confusion.

Since we receive a copy of the bibliography the same time the requester does, we are able to make phone calls to explain problems promptly. We have found this to work as well as, or better than, the previous method of a note on the release form. Also, since the release form is filled out by the search analyst, explanations of difficulties with vocabulary and other problems that are expected in formulating the search can still be explained on the release letter as it is prepared for the release packet.

We have also found that the encouragement to ask questions in the explanatory note of the release letter has resulted in more calls from requesters who are satisfied with their bibliographies but who would like to know more about the system.

The most significant advantage of the direct release is the improvement in throughput time. Since the search does not have to be mailed here first and reviewed before being mailed again, it means the requester is getting his bibliography approximately four days faster than he did by indirect search release.

We have found that our original fears of confusing the requester were groundless and that the direct release of searches has improved our service to the requester.

COMPARISON OF CURRENT SERIAL TITLES IN NLM
AND THE UNION CATALOG OF MEDICAL PERIODICALS
Cecile C. Quintal
Serial Records and Binding Section, TSD, NLM

The National Library of Medicine contracted with the Medical Library Center of New York to generate machine-readable records for the current serial titles listed in the NLM serial record. At the completion of the initial phase of the project, the Medical Library Center of New York reported that of the 18,000 NLM titles, only 8,503 titles were already in the Union Catalog of Medical Periodicals (UCMP). Apparently a large number of live (open entry) titles were held by UCMP, but not by NLM.* Since this seemed unlikely, the NLM Serial Records and Binding Section did a sampling** of 300 live titles from the latest (1970) published UCMP. This sampling was extrapolated to a total universe of 15,000 live titles in the UCMP data base.

NLM located a number of factors which might account for the large number of apparent non-matches (6,500) between the two files. First, there are a significant number of titles out-of-scope for NLM in the UCMP data base, in part because UCMP carries titles from some non-medical libraries such as the New York Botanical Garden and the Rutgers Science Collection. In a number of other cases, NLM has a title in UCMP under a different entry. For example, NLM records one title as Roche Report: Frontiers of Hospital Psychiatry, which UCMP lists as Frontiers of Hospital Psychiatry. UCMP also carries some titles as live which have, in fact, definitely ceased publication, e.g., Cahiers de l'Hôtel Dieu de Québec 1, 1946-17, 1962. In addition, UCMP carries as live titles some which NLM considers inactive (no pieces received since early 60's), such as Revista Medica, LaPaz. 1, 1956*--. NLM inactive titles were not furnished to UCMP, since they are not carried in the NLM current serial files, but in the NLM name catalog.

A table of sampling results is attached. From the sample results extrapolated to 15,000 titles, NLM concluded that UCMP holds no more than 550 live, substantive, medical periodicals in the UCMP file which are not held by NLM.

As a follow-up to this study, NLM has purchased the machine listing of the UCMP file and will review all titles not marked as held by NLM, selecting the live, in-scope, non-NLM titles for searching and ordering as soon as possible.

As a by-product of this effort, NLM will supply UCMP with information on approximately 700 titles for which NLM entries differ from those in UCMP. NLM will also be able to supply UCMP with information on approximately 550 titles that have died which UCMP shows as live. Another by-product will be data on about 400 titles that NLM had cataloged, but which are not in the NLM serial record. NLM will not include inactive titles, congresses, or college catalogs

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* It apparently also meant that a large number of live titles were held by NLM but not by UCMP.

** For the sampling, the last open entry on every 4th even-numbered page was used.

in the present contract effort.

When the searching of the live in-scope titles from the UCMP machine listing is completed, orders will be placed for all titles NLM lacks, and UCMP will be notified of cases in which the two files are not in agreement.

	Sample 171	Extrapolated figures 8550
TITLES FOUND IN THE NLM CURRENT SERIAL CHECK-IN FILES:		
TITLES FOUND IN THE NLM CURRENT SERIAL CHECK-IN FILES BUT WITH TITLE VARIATIONS AND OTHER DIFFERENCES :	014	700
Point of entry differs..................................09--450		
NLM has as book in parts................................01--050		
Preliminary entry (not yet cataloged)...................01--050		
Title change...02--100		
Supplement checked in w/parent.........................01--050		
TITLES NOT FOUND IN THE NLM CURRENT SERIAL CHECK-IN FILES BUT FOUND IN THE NLM DEAD FILE (closed entry) :	011	550
TITLES NOT FOUND IN THE NLM CURRENT SERIAL CHECK-IN FILES BUT FOUND IN THE NLM NAME CATALOG :	027	1350
Active titles..08--400		
Inactive titles (since NLM does not carry inactive titles in its current files, UCMP did not have a film copy for these titles)*....14--700		
Inactive titles, noted to indicate NLM uncertainty about continuation of publication.......02--100		
Congress...02--100		
College Catalog..01--050		
TITLES OUT-OF-SCOPE FOR NLM :	058	2900
TITLES UCMP UNCERTAIN ABOUT CONTINUATION OF PUB NLM DOES NOT HAVE :	008	400
IN-SCOPE, LIVE TITLES NLM DOES NOT HAVE :	011	550
TOTAL :	300	15000**

* UCMP generated machine-readable records solely
    from a film copy of NLM's current files.
** UCMP reported 16,000 as the highest probable figure for live titles;
    sample indicates the number shown as live in
    UCMP files is more like 15,000.

PERSONNEL

Mr. Samuel T. Waters, Deputy Associate Director for Library Operations, NLM, will transfer on November 27 to the National Agricultural Library, where he will hold the position of Deputy Director for Resource Development. Mr. Albert Berkowitz, Deputy Chief, Reference Services Division, has been temporarily detailed to Mr. Waters' position.

Dr. Charles Floyd Bridgman, a former faculty member of the University of California at San Diego, has been named Director of the National Library of Medicine's National Medical Audiovisual Center in Atlanta, Georgia, effective November 1, 1970.

Dr. Ruth M. Davis, Director of the Lister Hill National Center for Biomedical Communications and Associate Director for Research and Development, left NLM on November 6 to become Director of the Center for Computer Sciences and Technology, National Bureau of Standards, in Gaithersburg, Maryland.

Mr. George F. Russell, Jr., NLM Executive Officer, will transfer on November 27 to the National Institute of Child Health and Human Development, NIH, where he will hold the corresponding position.

On January 2, 1971, **Mrs. Lillian Washington** will leave NLM to become Project Manager for the development and operational testing of a library data management system at the University of Chicago Library. Mrs. Washington has been detailed for some months from her position as Head of the MEDLARS Management Section to assist Mr. Ralph Simmons in implementing MEDLARS II.

ROSTER OF FEDERAL LIBRARIES

A **Roster of Federal Libraries** has been compiled by Biological Sciences Communication Project of the George Washington University Medical Center. It identifies more than 1,900 individual libraries serving the many departments, committees, agencies, courts, and other formal organization entities in the Federal Government.

The roster is presented in three parts. Part I is arranged alphabetically, within the designated branches of the Government, then by country, state, and city. Part II provides a geographic arrangement, first by country alphabetically, then by state, city, department,and bureau. Part III is a listing, alphabetically, by general subject category or type of library. Within the subjects the libraries are arranged by country, state, city, department, and bureau.

Preparation of this roster was supported by the Federal Library Committee. Copies may be obtained, without cost, from:

Secretary
Federal Library Committee
Library of Congress
Washington, D.C.   20540

1970 CUMULATED INDEX MEDICUS
Clifford A. Bachrach, M.D.
Chief, Bibliographic Services Division, NLM

The 1970 Cumulated Index Medicus contains 210,000 citations and will again be issued in eight volumes. However, because the 1970 CIM contains 14,000 fewer citations than did the 1969 issue, each volume will be somewhat smaller than the eight volumes of the 1969 CIM.

The decrease in the total number of citations in the 1970 CIM does not represent a reduced coverage of journals. The lower figure is explained by the fact that the 1969 CIM was artificially swollen because of a backlog in inputting and indexing. In 1970, while we are still catching up with our indexing backlog, we started and ended without an inputting backlog.

STANDARDIZATION OF JOURNAL TITLE ABBREVIATIONS
Thelma Charen, Index Section, NLM

The title abbreviations for the 1971 List of Journals Indexed in Index Medicus have been modified to conform to the American National Standard for the Abbreviation of Titles of Periodicals approved in 1969 by the American National Standards Institute. Since the rules used by the National Library of Medicine formed a base for the formulation of the American standard in 1963, few changes were required with regard to the form of the abbreviation of the journal title.

Greater change is reflected in the abbreviation of the individual words of the titles. These have been modified to conform to the International List of Periodical Title Word Abbreviations published in 1970 by the American National Standards Institute Standards Committee Z39. The major change lies in the abbreviation of all -ology words (in all inflections in all languages), consistently truncated to -ol. The resultant abbreviations for 1971 are more consistent than in our previous editions and have the great advantage of following an Anglo-American standard which in turn has wide international acceptance.

CHECKLIST OF PUBLICATIONS AND INFORMATIONAL MATERIAL FOR USE IN 1970
(ISSUED SINCE MARCH 1970)

The following publications have been distributed, as appropriate, to MEDLARS Centers and Regional Medical Libraries. Many titles are followed by the date (in parentheses) of issuance.

I. MeSH Items

3rd Quarter
  Supplemental List of Provisional Headings (memo 4/1/70), S1,S2,S3,S4,S5 5p.
  Supplemental List of Provisional Headings 1970-SUPPLEMENT TO TREE STRUCTURE, 2p.
  ERRATA #2 and #3 - Medical Subject Headings 1970, 2p.

4th Quarter - July 1970
  New Provisional Headings for July 1970 with scope notes, 83p. and memo 7/1/70, 1p.
  Supplemental List of Provisional Headings 1970, SUPPLEMENT TO TREE STRUC-TURE, 1p.

II. Index Items

EPONYMOUS SYNDROMES - MEDLARS Indexing Instructions, 132p.
TUMOR MANUAL - MEDLARS Indexing Instructions, 1970

III. Other items

CCF CITATION NUMBERS & COMPUTER ENTRY DATES,4p , April through December 1970
USING ABRIDGED INDEX MEDICUS, 2p, 4 sides - for information - may be included in later Abridged Index Medicus issues
INDEX TO 1969 LIBRARY NETWORK/MEDLARS TECHNICAL BULLETIN, Numbers 1-8, May - December 1969
TITLE PAGE FOR 1969 LIBRARY NETWORK/MEDLARS TECHNICAL BULLETIN
LITERATURE SEARCHES L.S. 10-69, 11-69, 70-1 through 70-46 (Printing and distribution of these were resumed in May 1970)
NEOPLASMS C2 - memo 5/18/70 from P. E. Pothier and T. Charen to Search Train-ing Class, with copies of C2 Category as it appeared in MeSH prior to 1968 (memo with 7p)
MONTHLY STATISTICS form for MEDLARS Centers to report to NLM, MEDLARS Manage-ment Section (Rev. 7/1/70) and memo of instructions, 3p
GUIDE TO MEDLARS SERVICES, PHS 1694 (Rev. 7/70)
Memo from MMS to all MEDLARS Centers; subject: "NLM TWX Number Change and Revisions to Telephone Numbers in Guide to MEDLARS Services (7/70)" (9/18/70)

Request for additional copies or further information should be addressed to:

Mr. C. J. Gillespie
MEDLARS Management Section
Bibliographic Services Division
National Library of Medicine
8600 Rockville Pike
Bethesda, Maryland 20014

CHECKLIST OF PUBLICATIONS AND INFORMATIONAL MATERIAL FOR USE IN 1971

The following publications have been distributed, as appropriate, to MEDLARS Centers and Regional Medical Libraries. Many titles are followed by the date (in parentheses) of issuance. Indexers have received this material from the Index Section. Searchers will receive this material early in December 1970 to hold until MEDLARS Management Section notifies them when the material may be used.

"MEDICAL SUBJECT HEADINGS ALPHABETIC LIST - 1971," 312p - MeSH 1971 contains:
    Main Headings, Provisionals, Geographics, Non MeSH, T.O. of 1, Dates and Tallies
    (Indexers have been sent copies by Index Section; searchers will receive a copy
    of this early in December)

"MEDICAL SUBJECT HEADINGS - TREE STRUCTURES - 1971," (Trees) 299p, contains:
    Main Headings, Provisionals, Geographics   (Indexers have been sent copies by
    Index Section; searchers will receive a copy of this early in December)

"PROVISIONAL HEADING LIST BY SUBCATEGORIES - 1971," Memo from MeSH, 12p (11/1/69)

"NEW MEDICAL SUBJECT HEADINGS - 1971," 4p (New Headings; Major Headings under which
    material on the Subject Appeared Formerly)

"Errata to MeSH Alphabetic List and Tree Structure 1971," (11/3/70)

Request for additional copies or further information should be addressed to:

                    Mr. C. J. Gillespie
                    MEDLARS Management Section
                    Bibliographic Services Division
                    National Library of Medicine
                    8600 Rockville Pike
                    Bethesda, Maryland 20014

INDEX TO NLM LITERATURE SEARCHES (NOS. 1-69 -- 70-43)

Miss Angeline Durso, Search Analyst at the UCLA MEDLARS Center, has prepared
an "Index to NLM Literature Searches (Nos. 1-69 -- 70-43)." This index is
in a KWIC format, with entries under each major word in the title of the
literature search.

Copies of this seven-page index are available upon request from:

                    Mr. C. J. Gillespie
                    (see address above)

NATIONAL LIBRARY OF MEDICINE

LIBRARY NETWORK/ MEDLARS
technical bulletin

No. 18 October 1970

TABLE OF CONTENTS

We welcome comments
and suggestions

NETWORK ACTIVITIES
September 1970
Sheldon Kotzin, Network Management Staff, NLM

Mid-Atlantic Region

There was a meeting at NLM of staff members of the University of Virginia
School of Medicine Library, the Tompkins-McCaw Library of the Medical College
of Virginia, and representatives of NLM. Subjects discussed included:
1) a grant by the Regional Medical Program to the two institutions to sup-
port the Virginia Medical Information System; 2) services supplied to Medi-
cal Libraries by these two schools, under the grant; and 3) ways in which
further cooperation between the two institutions and NLM might be effected.

AIM-TWX Evaluation Project

It has been difficult to obtain meaningful data for this project from some of
the cooperating centers because controlled experimental conditions are neces-
sary to minimize the many variables. For this purpose, a standard protocol
is being developed. It is expected that about 100 searches will be generated
before the end of December for this evaluation.

Basic Hospital Library

Plans are under way to display the BHL at the Association of American Medical
Colleges meeting in Los Angeles in October, 1970, in cooperation with the
Pacific Southwest RML. Mrs. Phyllis Mirsky will be responsible for obtaining
part of the textbooks in the collection, as well as setting up and monitoring
the display. Although this exhibit is in great demand, its size and complexity
make shipping costs and manpower rates high when displayed at locations dis-
tant from NLM. Its future use will probably be restricted to the Mid-Atlantic
Region.

Audiovisual Instructional Packages

1. Tape-slide units of the MEDLARS overview presentation were requested by the
Pacific Northwest RML and Pacific Southwest RML. The package has been used once
in a presentation for about 25 health professionals and medical librarians at
Montana State Unicersity.

2. "MEDLARS, What it is, What it Does," the revised version of the MEDLARS over-
view, is ready for production.

MEDLARS Demand Searches

Reports from domestic MEDLARS Centers indicate that 4,036 demand searches were released in the first quarter of FY 1971. Included in this total are 1,140 searches released in September.

Personnel Changes

Both Lee Tanen and Alice Mackov, formerly of the MEDLARS Center, College of Physicians of Philadelphia, have accepted new positions elsewhere.

The Center will be administered on a part-time, temporary basis by Mrs. Catherine Orner, effective October 15, 1970.

MEDLARS Orientation Programs

1. A presentation on this topic was given to the MEDLARS Trainees completing their training this month. After a brief history and description of the variety of possible approaches, it was pointed out that the original scripts, written to outline specific points to be put across to users and librarians, are outdated and are being revised. They may still be useful as a starting point for each "presenter" to prepare his or her own lecture. They provide a structure and an approach. More up-to-date, and containing most of the information presented in these programs is the NLM publication, "Principles of MEDLARS," which follows closely the format of the orientation programs. Trained analysts should have the latest indexing and searching policies and techniques at their fingertips and should be able to incorporate this knowledge into their presentations.

Another point discussed was how to focus presentations more on what the audience needs and wants to learn in order to become better users of MEDLARS products and services. It seems best to minimize the emphasis on computer processing, the use of internal forms, and other technical matters.

2. A recent quarterly MEDLARS report submitted by Dr. Frank Rogers of the University of Colorado contained an interesting exploratory analysis of MEDLARS orientation costs in the Midcontinental Region. The total direct costs of the programs (transportation, per diem expenses, and instruction time) were figured. Planning, preparation, and practice session costs, which were considerable, were not included. Dr. Rogers divided the direct costs by the number of persons attending the sessions, thereby determining the amount for orienting each person. Then he hypothesized that each person attending would submit four searches during the coming year and divided the training cost per person by this number to determine the additional cost per search of the training effort.

At Colorado this would raise the cost per search by 3.3%. Measured in terms of its benefit to the requester, if the quality of search output is improved by more than 3.3%, then the training will have been beneficial. This, as Dr. Rogers notes, is a crude measurement. However, it is interesting to see this analysis of cost benefits of orientations.

We wonder if the same type of analysis could be useful in examining other RML training activities as well. We would like to hear from any other RML's or MEDLARS Centers which have done similar analyses.

MEDLARS ORIENTATION PROGRAMS

Date:	Presented at:	Presented by:
September 16	U. of Missouri, Columbia -- Health Professional Librarians	Dr. Rogers
September 17	U. of Kansas, Kansas City -- Health Professional Librarians	Mrs. Davis
September 18	U. of Nebraska, Omaha -- Health Professional Librarians	Mrs. Davis
September 21	St. Elizabeth's Hospital, D.C. -- Health Professional Users	Dr. Halegua
September 23	Toronto, Canada -- Medical Librarians	Mrs. Nevill
September 24	U. of Utah, Salt Lake City -- Health Professional Librarians	Dr. Rogers
September 25	Pacific Northwest Medical Library Association -- Medical Librarians	Mrs. Des Chene Miss Blase
September 30	Northwestern U. School of Dentistry, Chicago -- Health Professional Users	Dr. Halegua Miss Doherty
September 30	Presbyterian Hospital, Denver -- Health Professional Librarians	Miss Wolf

Eleven orientations were presented during the first quarter FY 1971. The MEDLARS Center at the University of Colorado offered six of these programs in the Midcontinental Region.

STATISTICAL SUMMARY FOR MEDLARS CENTERS FOR SEPTEMBER 1970
Constantine J. Gillespie
MEDLARS Management Section, NLM

The table below, which includes only a few important items from each center's monthly report, gives a summary of the searching performance at each of the MEDLARS centers around the world:

MEDLARS DEMAND SEARCHING FOR SEPTEMBER 1970
Period: 8/28 - 9/24/70

Center	Searches Rejected	Searches Released Excluding RDS's	Recurring Demand Searches Released	Citations Retrieved Per Search Month	Percentage Searches Released By Calendar Days	
					0-15 Days	0-20 Days
Alabama	4	103	6	3.58	92.2	100.0
Canada	0	10	0	14.06	0	20.0
Colorado	1	63	0	3.91	91.0	99.0
Crerar	4	47	1	5.02	0	8.5
England	1	262	201	-----	84.7	95.6
Harvard	14	54	6	6.91	30.0	60.0
INSERM (Paris)	2	166	145	3.5	27.0	52.0
Michigan	1	78	78	7.0	43.6	73.0
New York	1	43	0	3.23	35.0	77.0
NIH	1	75	45	16.6	94.0	100
NLM-MAR	9	199	13	5.8	70.4	94.5
NLM-MMS	21	97	19	5.0	68.9	84.3
Ohio	9	78	2	6.2	94.9	100
Philadelphia	4	29	6	4.3	69.0	97.0
PMA	0	20	205	17.1	40.0	75.0
Sweden	0	158	1230	12.6	0	0.5
Texas	1	116	7	5.37	100.0	-----
UCLA	20	96	20	6.1	28.4	71.9
Washington	8	42	0	6.6	43.0	91.0

INTERLIBRARY LOAN THROUGHPUT TIME STATISTICS

At least one Regional Medical Library Director has expressed concern over the
definition of the "day of receipt" as it relates to interlibrary loan requests
received. It was contended that afternoon mail deliveries result in an unfair
increase in throughput time, since not all late-arriving requests can be filled
on the date they are received. Libraries with morning delivery only would tend
to have a better "day of receipt" completion rate. Therefore it was suggested
by the RML Director that the "day of receipt" be defined as ending before the
afternoon mail delivery. (Presumably, loans completed after that mail delivery
would be counted as filled on the succeeding day, to be consistent in applying
the proposed definition of the word "day".)

It would be unfair to allow one RML to utilize this definition unless all RMLs
with afternoon mail deliveries could do so. Applying this definition through-
out the network, however, would result in dissimilar periods of measurement be-
ing used by different RML's, and even by different resource libraries within a
decentralized region. To introduce such differences without strong justifica-
tion is not desirable. At this point it has not been demonstrated that using
the simple, literal definition for "day of receipt" creates any significant re-
gional differences in throughput time for loans filled. Therefore, we wish all
RML's to continue to count all requests received during a work day in that same
day's receipt statistics. We welcome comments and questions on this or other
statistical matters.

ANNOUNCING CUMULATED ABRIDGED INDEX MEDICUS

The National Library of Medicine will publish an annual Cumulated Abridged Index
Medicus (C-AIM). The cumulation for 1970 will appear early in 1971 as a single
hard-covered volume. No price has been set as yet. C-AIM will contain all the
citations that were included in the twelve monthly issues of AIM. Like AIM, the
cumulation will include both a Subject Section and an Author Section. Because
the number of citations under each subject heading will be much greater than in
the monthly AIM, subheadings will be used to further subdivide the entries.

For the reader who wishes to keep up, month by month, with what is being published
on certain topics, the monthly index provides currency. For the reader who wishes
to look back to see what has been published on a given topic, the annual cumula-
tion provides convenience by substituting one look-up for twelve. The reader who
has both types of need is best served by subscribing to both the monthly and cumu-
lated indexes. When each annual cumulation is received, the subscriber can dis-
card the twelve issues for the months that have been cumulated.

As soon as the price of C-AIM has been established, order forms will be bound
into copies of the monthly AIM, and will also be available upon request from the
Office of Public Information, National Library of Medicine, 8600 Rockville Pike,
Bethesda, Maryland 20014.

DISCONTINUANCE OF MEDLARS ANALYST CERTIFICATES
Clifford A. Bachrach, M.D.
Chief, Bibliographic Services Division, NLM

The practice of issuing certificates to trainees upon completion of MEDLARS training has been discontinued.

It has become apparent that some alert persons have become proficient search- ers with less training than could reasonably be made a minimum basis for the award of a certificate for most trainees. It would be difficult to award certificates equitably on the basis of individual attainment, without requir- ing the successful completion of a fixed curriculum, because our measures of success are still necessarily subjective.

There is, moreover, an unfortunate tendency for a certificate to be regarded as permanent evidence of qualification. We have reason to suspect that a searcher's effectiveness may decrease rapidly, with a few years of disuse. As time goes on, there is an increasing number of ex-MEDLARS Analysts with nicely framed certificates - and atrophic skills.

In the medical profession, there is a growing feeling that continued licensure should depend upon evidence that the practitioner is making continued efforts to maintain and up-date his skills. The personnel of the various centers, and of BSD, are in a position to attest to the qualification of present and former MEDLARS Analysts when testimonials are required. This is a more important and meaningful testimonial than the possession of a certificate.

DENTAL SCIENCE HANDBOOK
Robert S. Snyder, Jr., D.D.S.
American Dental Association Research Associate

The Dental Science Handbook, a joint project of the American Dental Associa- tion and the National Institute of Dental Research, is available from the Superintendent of Documents, U. S. Government Printing Office, Washington, D. C. 20402 - Price $2.75. The 311-page Dental Science Handbook, edited by Dr. Lon W. Morrey and Dr. Robert J. Nelsen, is "A Manual of Information about Dental Science and Dental Practice Prepared Primarily for Those in Vocations Other than Dentistry". It has proven to be of value for indexing and search- ing at NLM. MEDLARS Analysts elsewhere may wish to purchase this handbook for their use.

HEALTH SCIENCES LIBRARY DIRECTORY PUBLISHED

The American Medical Association and the Medical Library Association, after completion of the first comprehensive survey of health sciences libraries, announce publication of the Directory of Health Sciences Libraries in the United States (first edition). The Directory was compiled from a survey of 14,145 health-related organizations, including educational institutions and programs, professional organizations, foundations, and health care institutions such as hospitals, research organizations, and industrial organizations which maintain health sciences collections. A total of 3,155 libraries were identified which satisfied at least two of the following requirements: 500 bound volumes, 25 current serial subscriptions, and some personnel.

Publication was supported by a research grant from the National Library of Medicine, and is part of a program for continuing statistical surveys of health sciences libraries in the United States. Susan Crawford, Ph.D., and Frank Schick, Ph.D., Principal Investigators, directed the surveys, which were the joint effort of many organizations, among them Case Western Reserve University, the University of Texas (San Antonio), and the American Hospital Association.

The Directory is arranged in three parts. The introduction gives an overview of previous surveys of health sciences libraries, outlines objectives and methodology, and provides summary data on the universe surveyed. The body of the Directory is a list of libraries and collections arranged alphabetically by city and state. Name of chief librarian, location, telephone number, type of library, resources, staff, and classes of users are indicated for each entry. Finally, there is an index by name of institution.

The publication is addressed to educators, researchers, and librarians in the health sciences, as well as others concerned with the delivery of health care services. Prepaid orders may be sent to the Medical Library Association, 919 North Michigan Avenue, Chicago, Illinois, 60611, at $3.00 per copy.

NEW NLM SERVICE TO THE NATIONAL NAVAL MEDICAL CENTER
Sheldon Kotzin
Network Management Staff, NLM

NLM has provided the Stitt Library of the National Naval Medical Center, Bethesda, Maryland, with cataloging data in a book format for their 1966 - 69 titles included in the NLM data base. The four years of citations are integrated into one alphabet in the NNMC book catalogs. In addition, NLM supplied the Library with the first issue of a successively cumulating monthly catalog for 1970 holdings. The project will be extended into 1971.

The project was initiated because for some time the Stitt Library had been able to add only main entry cards to its catalog. It did not have the means to produce a complete set of cards for its new acquisitions. Now it appears that a practical solution to the problem has been developed. Using the NLM Semiweekly Proof Sheets as a selection and acquisition tool, the library circles those citations for which cataloging data is desired. NLM searches its data base for the corresponding catalog entries and produces the book catalogs. These photo-composed catalogs have name and subject sections similar to the Current Catalog, and contain approximately 4,000 citations through August 1970.

The Stitt Library plans to make copies of the catalogs available to other libraries at the Naval Medical Center, and to other naval medical libraries in the Washington, D.C. area. Thus they not only have improved cataloging access to a large portion of their current collection, but are making access available to other libraries in their system. NLM has also benefited, using the project to determine the nature and extent of problems which might arise if a quinquennial cumulation of the Current Catalog is produced.

MEDLARS INDEXING TRAINING CLASS OF OCTOBER 1970

The following people attended the October indexing training lectures:

Miss Lourdes Antiga	National Medical Audiovisual Center, Atlanta
* Miss June Bandemer	University of Pittsburgh
Mrs. Lois Blaine	Franklin Institute, Philadelphia
* Miss Kathleen Burr	UCLA MEDLARS
Dr. Hildegard Hansen	Deutsches Institut für Medizinische Dokumentation und Information, Cologne
Miss Margaret Johnson	National Medical Audiovisual Center, Atlanta
Mrs. Vera Junger	Franklin Institute, Philadelphia
* Mrs. Esther Lawrence	Bibliographic Services Division, NLM
Mr. Arthur McGovern	Scientific Literature, Inc., Philadelphia
* Mrs. Charlotte Moulton	Reference Services Division, NLM
Mrs. Marsha Slavin	Division of Biological Standards, NIH
* Mrs. Ellen Todd	University of Alabama MEDLARS
Miss Barbara Wennersten	Franklin Institute, Philadelphia

* These people will also take the MEDLARS Search Training Course.

1971 INDEXING
Thelma Charen, Index Section, NLM

The MEDLARS training class of October 1970 was given instruction in indexing us-
ing the 1971 MeSH Alphabetical List. As stated by Dr. Norman Shumway in his
article in the August 1970 Library Network/MEDLARS Technical Bulletin, the in-
house MeSH Alphabetic List contains 64 new main headings, 1971 Provisional Head-
ing, Geographic Headings, together with - new for Indexers - non-MeSH terms, tag
overrides, dates of entry into the system, tallies of heading use, and tree num-
bers.

Although the 1971 Tree Structures were passed out to the October class and although
I devoted the same time to instructing students in the use of trees that I had for-
merly alloted to the use of categories, I decided immediately thereafter to em-
phasize the use of categories in the remaining two weeks of training. The Chief
of the Bibliographic Services Division and the Head of the Index Section have ap-
proved the continued use of categories not only by the October trainees but also
by the regular NLM and off-site Indexers. The continued use of categories, I
feel, is reasonable since the present 4-level trees do not give the degree of
specificity that can be achieved by the use of categories, and since, moreover,
the public MeSH will contain the usual category format for 1971. In relation to
category-vs-tree specificity, the parts of the brain, for instance, are in more
exact anatomical relationship in Category A8 than they are in the A8 Tree for 1971,
where all parts of the brain are arranged in alphabetical order under BRAIN. This
is also true in many other instances. Of course, these relationships are not
available at this writing nor at this teaching, so to speak. To the future belong
the stars and the 7-level trees. Until then, Indexers will continue to use the
categories.

The 64 new MeSH headings will present no hardship to the Indexers; all are easily
memorizable and many are already familiar as 1970 Provisionals.

In keeping with the spirit of the Index Section in maintaining maximum continuity
in reasonable indexing policy, we have instituted no policy changes for 1971.

Change, however, in the shape of things must come: the training class and the
Indexers soon to follow them will meet 1971 with a lovely new peach-colored data
form to be called officially the Indexed Citation Form. It is shown in its in-
terim form on the next page. Most of its features are familiar to all of you and
none presents a problem. Only one annoyance exists: that of having to check
Field 15 routinely every time an Indexer indexes an English article. In Field 19,
only items A through D are in use in 1971 and policy on their use has not changed.
In Field 20, there is no change regarding check tags and their use. Item 1 in
Field 20, ENGLISH ABSTRACT will continue to be checked by Indexers.

The Indexing Manual was modified and amplified for MEDLARS II. I wrote 178 new
pages to cover the new Indexed Citation Form and the new MEDLARS II MeSH. Since
there is a delay in the programming, the 178 pages, though already printed, are
being withheld. No copies have been distributed to date.

JTA

APTICLES   INDEXER   ⑩ PAG.

⑩ and ⑪ AUTHOR DATA

⑫ AUTHOR AFFILIATE

⑬ TITLE (English or Translation)

⑭ TITLE (Vernacular or Transliteration)

㉑ SUBJECT TERMS

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COMMENTS:

✓ ENG. ABST.

⑨ AUTHOR TYPE

A ☐ Anonymous
E ☐ Editor
C ☐ Compiler

⑮ LANGUAGE

ENG _____

⑯ Abstract _____

⑰ Refs.

⑱ SPECIAL LIST

D ☐ Dental

N ☐ Nursing

⑲ CITATION TYPE

A ☐ HISTORICAL ARTICLE
B ☐ HISTORICAL BIOGRAPHY
C ☐ CURRENT BIOG-OBIT.
D ☐ REVIEW
E ☐ SYMPOSIUM
F ☐ PROCEEDINGS
G ☐ TECHNICAL REPORT
H ☐ MONOGRAPH

⑳ CHECK TAGS

A ☐ PREGNANCY
B ☐ INFANT, NEWBORN (to 1 mo)
C ☐ INFANT (1-23 mo)
D ☐ CHILD, PRESCHOOL (2-5 yr)
E ☐ CHILD (6-12 yr)
F ☐ ADOLESCENCE (13-18 yr)
G ☐ ADULT (19-44 yr)
H ☐ MIDDLE AGE (45-64 yr)
I ☐ AGED (65- yr)

J ☐ CATS
K ☐ CATTLE
L ☐ CHICK EMBRYO
M ☐ DOGS
N ☐ FROGS
O ☐ GUINEA PIGS
P ☐ HAMSTERS
Q ☐ MICE
R ☐ MONKEYS
S ☐ RABBITS
T ☐ RATS

U ☐ ANIMAL EXPERIMENTS
V ☐ HUMAN
W ☐ MALE
X ☐ FEMALE
Y ☐ IN VITRO
Z ☐ CASE REPORT
a ☐ CLINICAL RESEARCH
b ☐ COMPARATIVE STUDY

c ☐ ANCIENT
d ☐ MEDIEVAL
e ☐ MODERN
f ☐ 15th CENTURY
g ☐ 16th CENTURY
h ☐ 17th CENTURY
I ☐ 18th CENTURY
j ☐ 19th CENTURY
k ☐ 20th CENTURY

I ☐ ENGLISH ABSTRACT

NIH-1416
Rev. 8-70   INDEXED CITATION FORM

LIBRARY NETWORK/ MEDLARS
technical bulletin

TABLE OF CONTENTS

We welcome comments
and suggestions

NETWORK ACTIVITIES
August 1970
Sheldon Kotzin, Network Management Staff, NLM

Regional Medical Library Grants

1. The Midwest Regional Medical Library has been awarded a grant of $75,000
for the period from September 1, 1970, to February 28, 1971. This continua-
tion is intended to permit an orderly "phase-in" of the contract mechansim
for future support of the Regional Medical Libraries.

2. Libraries in Region VIII have been informed that, beginning September 1,
1970, a full range of regional services are available from the Midcontinental
Regional Medical Library (headquartered at the University of Nebraska) and
participating resource libraries.

3. The South Central Region is benefiting from close cooperation among
resource libraries. Working from a preliminary regional union list of
serials, these institutions have been able to effect considerable savings
by reducing the duplication of holdings of little-used journals, while
retaining regional capability to fill ILL requests for these materials.

Health Sciences Bibliography Clearinghouse

The second pilot issue of the Bibliography of Medical Bibliographies, is
planned for late September or early October 1970. The format of the bib-
liography will be improved, with larger type, and upper- and lower-case
letters. Distribution, for the purpose of obtaining evaluations of the
publication, will be limited.

Union Lists

A meeting was held with Mrs. Jacqueline Felter and Mr. Spencer Marsh, of
the Medical Library Center of New York (MLCNY), to confer on the state of
NLM's contract to input the Library's serial records information into the
UCMP format. Also discussed was the possibility of interaction with MLCNY
to produce a national index to regional union lists.

Audiovisual Instructional Packages

1. <u>MEDLARS Overview</u> - Most Regional Medical Libraries and MEDLARS centers are carrying out extensive MEDLARS orientation programs for health science personnel and librarians. Although the number of persons who benefit from these presentations is rather large, the size of potential audiences who cannot be reached with a classroom approach alone is even larger. As a result, work is being done to prepare audiovisual self-instructional packages which can be widely disseminated.

The first package, a "MEDLARS Overview," is being distributed to Regional Medical Libraries mainly for evaluation of the content, while the unit is being revised with a new visual approach. A comprehensive story board for the revised version (complete narration and rough visuals) is near completion. Once finished, the new package is to be used as a model for future tape-slide instructional units.

2. <u>How to Use Index Medicus</u> - The rough story board (preliminary script with indications of illustrations) of a program designed to instruct medical students, physicians, and hospital library personnel in the use of <u>Index Medicus</u> has been completed. The draft has been reviewed by Dr. Shumway and will be circulated to other technical personnel for comments and critique.

3. <u>Basic Principles of Hospital Library Service</u> - A detailed outline is being prepared for an audiovisual program designed to impart to hospital library personnel with no academic training some practical principles for managing a small library collection, and for providing library services in community hospitals.

Core Medical Library Evaluation

The utilization of a small, well-selected collection of textbooks and journals and its impact on patient care and continuing education of health science personnel will be evaluated, under an agreement being negotiated between NLM and the Rockland County Health Complex, Pomona, New York.

Basic Hospital Library and AIM-TWX Exhibits

The Basic Hospital Library will be displayed in Houston next month at the annual meeting of the American Hospital Association. The journals will be provided by the Houston Academy of Medicine Library. AIM-TWX on-line searching will also be demonstrated at the convention, with the assistance of the Texas MEDLARS Center analysts.

NLM and RML-Funded ILL Activity Summary
July 1969 - June 1970

	NLM[1]	I	II Feb. 70-	III	IV	V[2] Jan. 70-	VI Jan. 70-	IX	X	XI Sept. 69-
Total Requests Received	79374	47975	3990	58650	48542	57016	8211	5335	22768	28335
TWX Requests	17992	7173	275	831	2117	915	1378	931	883	3549
% Accepted of Requests Rec'd	86%	97%	99%	98%	94%	98%	97%	98%	98%	99%
% Filled of Requests Accepted	91%	84%	49%	88%	85%	77%	73%	80%	91%	80%
% of Filled Requests Completed Within 3 days after Receipt (Apr-July 1970)	83%	73%	98%	100%	86%	97%	92%	98%	84%	82%

1. Excludes Mid-Atlantic requests separately reported as Region IV.
2. Region V statistics for this Fiscal Year report loans provided, whether reimbursable by the grant or not. They are not consistent with the remainder of the figures.

(Reports from Regions VII and VIII not received).

MEDLARS Demand Searches

MEDLARS Centers released 1,345 searches in August. The number of searches released during the summer (June-August) 1970 increased over the 1969 figure by approximately 300 searches per month. The reason for this upward trend may be an indication of the success of MEDLARS publicity and educational efforts. It may also reflect belt-tightening by research programs that have been forced to conserve the staff time formerly spent in compiling bibliographies by other methods.

Two centers have recently changed their telephone numbers. The new number in Houston is (713) 529-0762. The Ohio State Center has two numbers -- (614) 422-6374, and 6375, as well as the Library number (422-8916) previously used.

AIM-TWX Evaluation Project

The Library is carrying out a project to evaluate the AIM-TWX experimental service. The evaluation will be conducted at three levels simultaneously. Data for the minimum level evaluation will be gathered on-line, and the Lister Hill National Center for Biomedical Communications will tabulate it.

F.W. Lancaster will perform the intermediate and maximum level evaluation with materials provided by MEDLARS analysts at each designated location.

MEDLARS ORIENTATION PROGRAMS

Date	Presented At	Presented By
August 6	University of Colorado Medical Center, Department of Radiology-- Health Professional Users	F. B. Rogers
August 28	Texas MEDLARS Center, Houston-- Health Professional Librarians and Users	C. Green

STATISTICAL SUMMARY FOR MEDLARS CENTERS FOR AUGUST 1970
Constantine J. Gillespie
MEDLARS Management Section, NLM

The table below, which includes only a few important items from each center's monthly report, gives a summary of the searching performance at each of the MEDLARS centers around the world:

MEDLARS DEMAND SEARCHING FOR AUGUST 1970
Period: 7/31-8/27/70

Center	Searches rejected	Searches released excluding RDS's	Recurring demand searches released	Citations retrieved per search month	Percentage searches released by calendar days	
					0-10 days	0-20 days
Alabama	5	108	6	2.6	85.5	100
Colorado	2	70	9	4.8	66.0	99.0
Crerar	1	36	1	5.0	0	27.7
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Harvard	8	81	6	9.4	3.0	30.0
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NIH	0	95	45	7.2	24.0	99.0
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Ohio	8	93	94	9.1	89.2	100
Philadelphia	4	60	6	6.6	30.0	98.0
PMA	0	30	200	10.5	63.0	90.0
Sweden	0	142	1,199	15.0	0	0
Texas	3	125	0	3.9	100	--
UCLA	12	130	20	7.1	0	80.5
Washington	1	50	1	8.0	10.0	86.0

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Crerar ✓	1	36	1	5.0	0	27.7
England	0	313	359	--	71.8	95.1
Harvard ✓	8	81	6	9.4	3.0	30.0
INSERM (Paris)	0	103	141	4.2	0	5.0
Michigan ✓	2	99	79	7.9	0	89.9
New York ✓	4	50	1	5.4	0	10.0
NIH	0	95	45	7.2	24.0	99.0
NLM-MAR ✓	14	201	17	8.5	26.4	93.1
NLM-MMS	15	117	21	7.2	18.8	76.0
Ohio ✓	8	93	94	9.1	89.2	100
Philadelphia ✓	4	60	6	6.6	30.0	98.0
PMA	0	30	200	10.5	63.0	90.0
Sweden	0	142	1,199	15.0	0	0
Texas ✓	3	125	0	3.9	100	--
UCLA ✓	12	130	20	7.1	0	80.5
Washington ✓	1	50	1	8.0	10.0	86.0

MEDLARS WORKSHOP NOTES
William H. Caldwell
Deputy Chief, Bibliographic Services Division, NLM

As indicated in an earlier issue of the Technical Bulletin (Number 11, March 1970), we had hoped to conduct a workshop on MEDLARS II during the past summer, or, at the latest, by this fall.

Although significant progress has been made in advanced systems design, file conversion, etc., the new demand search and MeSH vocabulary capabilities have not been finalized. We believe that it would be premature to conduct a workshop before these programs have been completed and have undergone acceptance testing.

Once again, therefore, we must announce a postponement of the MEDLARS II Workshop.

CANADIAN UNION LIST FOR IM JOURNALS

The Health Sciences Resource Centre of the National Science Library of Canada has published the first edition of "Canadian Locations of Journals Indexed in Index Medicus."

The 173 page index lists all the titles covered by Index Medicus in June 1970. Forthcoming editions, in June of each year, will be updated versions of this volume and will include new journals added to the initial list, cross-references to changes in titles, and journals which have ceased publication or which are no longer indexed.

An important feature of this index is that it provides continuous service to its subscribers. Between full editions in June, there will be sent out irregularly, and without additional cost, supplements of new Index Medicus titles with appended lists of Canadian holdings. Such supplements will be produced when the number of new titles exceeds fifteen.

Price of the volume with supplements is $5.00. Orders (with references to NRC-11502) should be addressed to:

> Health Sciences Resource Centre
> National Science Library
> National Research Council of Canada
> 100 Sussex Drive
> Ottawa 7, Ontario, Canada

THE UNIVERSITY OF WASHINGTON MEDLARS CENTER
Dorice Des Chene, Search Analyst
University of Washington MEDLARS Center

The University of Washington MEDLARS Center, which serves users in the states of Alaska, Idaho, Montana, Oregon, and Washington, has been operational since April 1969. The area of Region 10, the Pacific Northwest, is large (982,268 square miles or 27% of the U.S.); however, our potential user population is small.

The number of active non-Federal physicians is 8,200, 3.1% of the total number in the U.S. 4,270 of these physicians are in the state of Washington, 2,505 in Oregon. Of the 8,200 total, only 1,625 (1,550 in Washington and Oregon) are full-time researchers, faculty members, administrators, or hospital-based personnel such as residents or staff physicians. From our experience, physicians engaged in these activities are likely MEDLARS users. The number of these physicians in other regions varies from 4,275 to 15,185, while the total number of active non-Federal physicians in other regions ranges from 14,795 to 45,450. If Federal physicians were included, the Pacific Northwest percentage would tend to be even lower, since Federal installations are concentrated in the north central and south-eastern United States.

There are two medical schools in Region Ten, with about 700 students, approximately 2% of all U.S. medical students. Other regions have from 2,300 to over 6,000 students, with eight to eleven medical schools in each region.

There are 300 hospitals with 24,150 beds, 5% of U.S. hospitals with 3% of the hospital beds. Over one-half of these beds are located in the 66 hospitals of the Seattle-Tacoma, Spokane, and Portland areas. In contrast, Region Seven has 894 hospitals with 120,230 beds.

Of the search requests we accepted from July 1969 through June 1970, 79% came from patrons in the state of Washington. 53% were from the University of Washington. We received 12% of our requests from the state of Oregon. 7% of the total originated at the University of Oregon. The number of requests from Idaho, Montana, and Alaska was low: 8% of our total came from these three states together. Although this region does not have a large number of Federal institutions, we received about 7% of our requests from VA hospitals, base hospitals and various Federal research centers. We received requests from a number of universities besides the Universities of Washington and Oregon: Washington State University, Oregon State University, Portland State University, Pacific University, Idaho State University. Requests from universities totalled 64% of all requests. 25% of our users were practitioners, although some of these were residents, mostly at University of Washington-connected hospitals.

From the statistics which have been published in this Bulletin, the University of Washington MEDLARS Center appears to be receiving about 3.5% of all

U.S. demand search requests. It is clear that our present base is the research-oriented personnel of the universities of our area. We feel that they are giving a very good response to the offering of MEDLARS services at this Center. Graduate students in the health-related sciences, in particular, have been using MEDLARS in increasing numbers. What is not so obvious is how, or even whether, we can interest physicians and others scattered over great distances in the remote sections of our region in the use of MEDLARS.

References:
Haug, J.N. and G.A. Roback. Distribution of Physicians, Hospitals and
   Hospital Beds in the U.S. 1967. American Medical Association, 1968.
AAMC Directory, 1967-70 ed.   Association of American Medical Colleges, 1970.

CANADIAN MEDLARS CENTER ESTABLISHED

In accordance with a recent agreement between the National Science Library, Ottawa, and the U.S. National Library of Medicine, the NSL has been designated to serve as the Canadian MEDLARS Centre. MEDLARS services will form an integral part of the Health Sciences Resource Centre of the Library, and will also function cooperatively with the CAN/SDI system.

Pending the availability of MEDLARS II programs which can be run on the NSL's computer facilities, both retrospective and current awareness searches will be formulated in Ottawa, but run on the computer at Ohio State University in Columbus. It is anticipated that searches will be released within four weeks of receipt.

During this interim period pending the processing of MEDLARS II tapes at the NSL, retrospective searches will be provided free of charge. A system of charges, to be applied beginning January 1971, will be announced at a later date. The current awareness aspect of MEDLARS services will be operated as part of the CAN/SDI system and charges will be based on the current rate of $100.00 per year.

In the case of the retrospective searches, the Center asks users to help it monitor the service by carefully completing the evaluation form which will accompany each completed MEDLARS bibliography.

Further information may be obtained from:

                    Mrs. Ann D. Nevill
                    Canadian MEDLARS Service
                    Health Sciences Resource Centre
                    National Science Library
                    100 Sussex Drive
                    Ottawa 7, Ontario, Canada

EVALUATION STUDIES IN HELSINKI *
Mariam Ginman, Riitta Kontinen, Pirjo Suutarinen
CML, Helsinki, Finland

In order to analyze the MEDLARS system, the Division for Documentation of
the Central Medical Library, Helsinki, Finland, has made evaluation studies
by choosing at random and analyzing a number of searches. The material
(12 searches analyzed) is too small to be representative of the system as a
whole, but the object was to analyze what was good or bad in these particular
cases. The number of relevant, irrelevant, or partly relevant references
was noted, and the precision percentage calculated. The same searches were
made manually, using Index Medicus and Excerpta Medica. For the twelve
searches analyzed, the sum of the manually found references is less than
the arithmetic sum of the MEDLARS searches. In addition, the number of
references from the MEDLARS list that could not be found manually, and the
number of manual citations missed by MEDLARS, were analyzed. Finally, the
recall percentage was calculated. The recall and precision calculations
are based solely on the relevant references. The requesters' opinions of
their searches were also solicited.

Of the searches studied, only three were cases where the same number of
references, or more, were found manually. The main reason for the superiority
of the MEDLARS searches was the possibility of using numerous terms as well
as the non-print keywords. Most of the irrelevant citations were caused by
use of big categories. For example, in the search concerning "behaviour of
laryngectomized patients", the entire category "PSYCHOLOGY" was included in
the search formulation. This category contains the term "SPEECH", which
provided a lot of irrelevant material concerning speech rehabilitation of
such patients.

To find out requesters' opinion of MEDLARS, inquiry cards were sent to them
with the result of their requests. The cards were made as simple as possible.
It was only necessary to mark one of the alternatives, very good, good,
satisfactory, bad, or very bad for the MEDLARS search as a whole. Space was
left for remarks. About 43 per cent of the cards were returned and the re-
sult was most encouraging, but it did not provide much information about the
searches, as most requesters had just marked the alternatives, without com-
menting on good or bad points.

A new questionnaire was drawn up on which every reference is mentioned
separately, and can be judged on a 5-point scale: relevant and unknown to
the subscriber, relevant but already known, partially relevant, relevance
impossible to decide, and irrelevant. An appraisal of the search as a whole
is also requested: too broad, appropriate, or too restricted formulation,
and whether the references are adequately up-to-date or too old. There is
also space for comments.

This questionnaire was mainly sent to subscribers with recurring questions,
but also to some with retrospective ones. It is clear that most of the
requesters consider the search formulation appropriate and the references
adequately up to date.

LIBRARY NETWORK/ MEDLARS
technical bulletin

(formerly MEDLARS/Network Technical Bulletin)

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We welcome comments
and suggestions

NETWORK ACTIVITIES
July 1970
Sheldon Kotzin, Network Management Staff, NLM

RML GRANTS

Beginning July 1, 1970, the New York Academy of Medicine Library has been
designated Administrative Center for the New York-Northern New Jersey region.
Contracts have been signed between the New York Academy and three cooperating
institutions (the Upstate Medical Center Library at Syracuse, the Medical
Research Library of Brooklyn, and the New Jersey College of Medicine and
Dentistry at Newark) to provide up to three hundred free interlibrary loans to
health science institutions in the region each year.

The New York Academy will continue to serve as backstop to the region, accept-
ing requests which are referred to it by the three cooperating libraries. It
will receive direct requests from libraries in the region which find it the
most likely in-region source for material requested. The Administrative
Center will also refer unfilled requests to the National Library of Medicine
and other RML's. The MEDLARS Search Center for this region will remain at the
RML.

NETWORK PLANNING

An experimental project is being investigated in which NLM will supply
cataloging data in book format to the Stitt Library of the National Naval
Medicine Center. NLM has been asked to provide the Stitt Library with a
catalog of their 1966-69 titles which are in the NLM data base. Monthly
cumulated catalogs for 1970 citations are also being considered.

BASIC HOSPITAL LIBRARY

The reference materials in the "Basic Hospital Library" collection have been revised recently.

A brochure entitled "List of Materials in the Basic Hospital Library" has been developed, comprising the article by Dr. Norman Stearns (which contains the list of textbooks and journals on which the exhibit is based), and a six-page handout in three sections: 1) list of journals according to specialty fields of medical practice; 2) list of textbooks and journals in allied health fields, and 3) list of reference materials.

TRAINING PACKAGES

1. Audiovisual Projects

   a. MEDLARS Overview

      A twelve-minute synchronized tape-slide unit has been prepared for use as a self-instruction program by medical librarians and library users. The full package consists of a reel-to-reel stereo tape, 42 slides, a script keyed to the slides, and an evaluation form; it will be sent out for testing shortly.

      Valuable comments have been received from Region 11 on the script distributed at the RML Directors' meeting. Their suggestions will be incorporated into a revision of the script tailored especially for library users.

   b. How to Use _Index Medicus_

      The first draft of this script was distributed in New Orleans for criticism. The script has been reviewed and refined, incorporating valuable comments from the Pacific Southwest RML. Two separate packages will be prepared for the following target audiences:

      1. Librarians, library science students, and non-graduate medical library personnel;

      2. Library users: physicians, medical students, medical educators and other health science practitioners.

2. Clearinghouse of Training Materials

   A number of packages have been received from Regions 1, 3, 9, 10 and 11. They include original instructional materials that the RML's and other institutions are using for educational or informative purposes. A detailed list of these materials appears in this issue of the _Technical Bulletin_.

MIDDLE ATLANTIC REGION

1. Advisory Group Meeting

The group held its first meeting at NLM, with participants representing a broad spectrum of health-science professionals and medical librarians from each state in the region and the District of Columbia. After opening remarks by NLM Director Martin M. Cummings, M.D., Library personnel gave four brief presentations on interlibrary loans, MEDLARS services and orientations, reference services, and training, orientation, and consultation services. The talks provided an overview of the National Library of Medicine in its role as a Regional Medical Library. Following each presentation, participants were encouraged to offer comments, criticisms, and suggestions.

MEDLARS ORIENTATION PROGRAMS

Date	Presented at	Presented by
July 15	The John Crerar Library, Chicago - Library School students from the University of Wisconsin at Milwaukee	C. Green
July 29	University of Washington - Health science professionals	D. Des Chene

STATISTICAL SUMMARY FOR MEDLARS CENTERS FOR JULY 1970
Constantine J. Gillespie
MEDLARS Management Section, NLM

The table below, which includes only a few important items from each center's monthly report, gives a summary of the searching performance at each of the MEDLARS centers around the world:

MEDLARS DEMAND SEARCHING FOR JULY 1970
Period: 6/26-7/30/70

Center	Searches rejected	Searches released excluding RDS's	Recurring demand searches released	Citations retrieved per search month	Percentage searches released by calendar days	
					* 0-10 days	* 0-20 days
Alabama ✓	7	125	1	3.96	89.6	99.2
Colorado ✓	0	83	18	3.12	43.0	83.0
Crerar ✓	4	37	1	4.93	0	0
Emory ✓	2	23	4	3.07	13.0	100
England	0	414	261	--	73.7	97.9
Harvard ✓	17	100	2	8.25	3.0	52.0
INSERM (Paris)	1	248	138	3.7	13.0	92.0
Michigan ✓	3	107	71	7.1	0	71.0
New York ✓	2	52	0	6.33	2.0	24.0
NIH	0	57	45	13.6	12.0	91.0
NLM-MAR ✓	12	229	17	6.1	31.9	95.6
NLM-MMS	23	94	23	7.04	26.6	88.3
Ohio ✓	8	134	176	7.8	80.6	100
Philadelphia ✓	5	77	6	5.1	39.0	100
PMA	1	59	194	9.7	47.7	93.0
Sweden	0	108	1,180	10.0	0	0
Texas ✓	4	152	1	3.56	100	--
UCLA ✓	16	178	20	4.5	8.4	80.8
Washington ✓	4	44	1	10.3	4.5	86.0

* In previous months, statistics have been reported for 0-15 days and 0-30 days. Since our throughput times have improved to the point where virtually all searches are released within 30 days, we have changed the reporting dates to be 0-10 days and 0-20 days in order to provide more meaningful data.

COMMENTS ON THE "ILL STATISTICAL SUMMARY,
JULY 1969 THROUGH MARCH 1970"
Louise Darling, Librarian, Biomedical Library,
UCLA Center for the Health Sciences

*...PSRMLS did not begin ILL service until September 1, 1969, so its figures
are for seven months, not nine, but there was no indication of this. Second,
there was no note about PSRMLS figures not including transactions for any of
the University of California health science libraries because the University
carries this expense. The UC figures for this period were 4,531 requests
received, 4,269 filled. In addition, there were 1,028 requests received and
950 filled and paid for by the UCLA RMP core fund September-December 1969,
at which time funding ceased until such time as the approved operational
grant is funded. Combined, this means that we received an additional 5,559
loans and filled 5,219, an increase of over 25% of what the table shows.
These additions are quite legitimate RML loans; we are just fortunate in
having other funding available. The RML ILL activity for the region is not
accurately reflected if these figures are not indicated in some way. (We
have still another category /Other/ which are neither PSRMLS or Intercampus
Loans and totaled 3,598 received for the fiscal year. This, of course, we
do not expect to be taken into account, although it includes over-quota
PSRMLS loans. We do not have figures for San Francisco for this category,
but undoubtedly they also have ILLs of this type.)...

In reality, the Statistical Summary as it stands reflects not RML ILL
activity, but RML-funded ILL activity. If this is the way it is to be, the
table should be so labeled.... Comparing figures for the regions is a com-
paring of quite unlike units. Tables of this kind always carry implications
on performance, willy-nilly, yet one could just as easily look at this par-
ticular table in the light of the philosophy in the brochure on the RML
program and conclude that the lowest figures show the best true back-stop
performance. The Library Network/MEDLARS Technical Bulletin is limited in
distribution, I assume, to readers who are familiar with all the complica-
tions of the RML program and thus know how to interpret most of the figures,
but it would be really unfortunate if information in this form without
adequate explanation found its way into the general medical library litera-
ture.

* Excerpted from a letter, with the author's permission.

Editors' note: ILL statistical tables in the Technical Bulletin are meant
to show only RML-funded interlibrary loan activity, and we will label them
more specifically in the future. Full data on biomedical ILL traffic is
not available for all regions, and, therefore, it cannot be tabulated. We
welcome, however, any supplementary information on non-RML-funded ILL
activity, believing it useful for putting RML data in context.

Miss Darling's note provides precise, constructive criticism; the editors
welcome such communications.

1971 MESH FOR INDEXING, CATALOGING, AND SEARCHING
Dr. Norman P. Shumway
Head, Medical Subject Headings Section, BSD, NLM

The new issue of Medical Subject Headings that will be available for indexing
the January 1971 issue of Index Medicus, together with the tree structures
(in the MEDLARS I, 4-level, structure), will be published in early September.
It will be used as an interim issue until the MEDLARS II vocabulary is made
available.

The addition of the 64 new subject headings is the only change from the 1970
MeSH. These terms, with their scope notes, will be listed separately.

The new issue is primarily an in-house desk-top tool, to be used by the indexers,
catalogers, and searchers. It also lists the non-MeSH terms and the "tag over-
ride of one" terms with their dates and tallies. As at present, the non-MeSH
and "tag override of one" terms will not be available as indexing or cataloging
descriptors, but will be used by searchers only. It has the format familiar
chiefly to searchers, since tree numbers are substituted for the subcategory
numbers.

The tree numbers provide direct access to the hierarchic structure of the
vocabulary and permit rapid determination of the broader terms and more specific
term relationships that are displayed in the tree structures. It is expected
that the eventual MEDLARS II desk-top reference vocabulary will be in this form.
The categorized list as such will not be continued, but will be replaced by the
expanded tree structure permitted by the new system. The new system allows for
seven levels (indentions) of hierarchic structure, and a term may appear in an
unlimited number of subcategories.

The MeSH which would ordinarily be published as part II of the January 1971
issue of Index Medicus is being delayed to permit incorporation of the revisions
being provided by MEDLARS II. That issue of MeSH is expected to be distributed
in the spring of 1971, when full instructions for its application will be
provided. Until that time, the public will continue to use the 1970 "black book"
or "published" MeSH, and indexers, catalogers, and searchers will use the new
interim MeSH.

CANADIAN MEDLARS CENTER

An agreement was signed (as we were going to press) for the establishment of a
Canadian MEDLARS Center. Full information will be published in a later issue
of the Bulletin. However, effective immediately, any Canadians may request
demand searches from:

Canadian MEDLARS Center
National Science Library
National Research Council of Canada
Ottawa 7, Ontario
Canada

INTERLIBRARY LOAN VERIFICATIONS

The editors of the Technical Bulletin requested in the May issue that the Regional Medical Libraries submit data on their ILL verifications. We have received a reply so far only from Region 11 (Pacific Southwest RMLS).

They report a total of 1,221 RML-funded ILL verifications for the months from September 1969 through April 1970 (including only those done at UCLA, none for San Francisco). Thus, the average per month for that period was 152.6, for the PSWRMLS at Los Angeles.

Since ILL verifications seem to be a problem of increasing concern, NLM would find it helpful to receive further data on the extent of the problem in all regions. Regional Medical Libraries are therefore asked to report any readily obtainable data on their RML-funded ILL verifications, includ- ing any special limiting or qualifying factors.

PERSONNEL NOTICES

Harold M. Schoolman, M.D. has been appointed Assistant to the Director for Medical Program Development and Evaluation, effective July 27. He will provide continuing professional evaluation of NLM program responsibilities, based on the Library's relationship to the overall national medical needs.

Dr. Schoolman has also been delegated full-line authority and responsibility for the coordination and management of the Regional Medical Library Program. He will be working directly with the senior officials of the Extramural Program and Library Operations who are concerned with this program activity.

Dr. Schoolman was in charge of all training and education activities of the Department of Medicine and Surgery, Veterans Administration, including phy- sicians, paramedical and administrative trainees, since May 1967. Recipient of B.S. and M.D. degrees from the University of Illinois, Dr. Schoolman held academic posts at the University of Illinois Department of Medicine during the years from 1952 to 1967.

He is a member of numerous professional organizations, including the Ameri- can Federation for Clinical Research, the Society for Experimental Biology and Medicine, the American College of Physicians (Fellow), and the Central Society for Clinical Research.

Miss Marcia Klinger, UCLA search analyst, resigned in July to join the Peace Corps. She will be a librarian and a teacher at Dagaya Teachers College, Kota Kinabalu, Sabah (formerly North Borneo).

Alison E. Flynn, Search Analyst from Emory University, has resigned to get married. She and her husband will live in Norway.

Until such time as a replacement is found for Miss Flynn, searches which ordinarily would be done at Emory will now be done at the Alabama MEDLARS Center.

THE NEW MEDICAL LIBRARY RESOURCE GRANT PROGRAM
Arthur Broering, Acting Chief, and
Willerma Frazier, Library Resources Assistant,
Resources Division, Extramural Programs, NLM

The Resource Grant Program, one of seven programs included in the Medical Library Assistance Act of 1965, authorized grant awards to public or private non-profit institutions for the purpose of expanding and improving the resources and services of their health science libraries. The Medical Library Assistance Extension Act of 1970 has modified the Resource Grant Program by permitting a more flexible mechanism for determining grant amounts, and by specifying authority to establish new libraries.

Institutions may apply for two types of grants:

1. A one-year non-renewable Resource Improvement Grant of $3,000, to be used for acquisitions, is available to institutions with health science libraries whose resources are inadequate for their library service needs and user population, or to institutions which wish to establish a health science library.

2. A Resource Project Grant for a period of up to three years is available to those institutions whose libraries meet minimal standards in terms of staff, collection, and institutional support. The applicant must demonstrate the capability to successfully carry out the project and the proposal must be relevant to the institution's library needs. The scope and purpose of the proposal and the applicant's capability to carry out such a proposal would determine the amount of the request.

Applicants who wish to apply for either of these grants must make a detailed assessment of their needs and show an awareness of and coordination with other local and regional medical library service programs. For further information contact:

Chief, Resources Division
Extramural Programs
National Library of Medicine
8600 Rockville Pike
Bethesda, Maryland 20014

SECOND MEDLARS EUROPEAN WORKSHOP
Stockholm, May 25-27, 1970
(Summary of a report by
Carl-Eric Elwin, M.D.)

The second MEDLARS European Workshop was held May 25-27, 1970, at Hasselby
Slott, outside Stockholm; staff members of the Biomedical Documentation Center
(BMDC), Karolinska Institutet, served as hosts. Nearly 50 people were present,
over 30 of them from countries other than Sweden, namely Denmark, Finland,
France, Germany, Great Britain, the Netherlands, Norway, and the United States.

Sune Bergström, Rektor of Karolinska Institutet, and Chairman of the Board of
BMDC, opened the meeting, after which C.-E. Elwin, C. Olivecrona, and A. Kallner
presented an account of BMDC activities and developments. The second session
of the morning was devoted to a review of present computer operations and trans-
fer of the MEDLARS system to IBM 360/50 by systems analysts and programmers of
BMDC.

A panel on "European MEDLARS Centers--Status Reports and Future Plans" was
moderated that afternoon by Dr. Elwin, with Dr. A. J. Harley (Great Britain)
speaking on NLL activities and on-line experiments; Dr. J. Zeraffa (France) on
INSERM activities, and Dr. R. Fritz (Germany) on DIMDI activities. The after-
noon's second session comprised reports on "Search Formulation Centers"; the
panel, chaired by Dr. Christina Olivecrona, included a report on UK liaison
officers and reports from medical or university libraries in which MEDLARS
search formulation centers are located, in the Netherlands, Gothenburg, Copen-
hagen, Turku, and Helsinki, and on the Oslo Research Council.

Dr. Joseph Leiter, National Library of Medicine (US) closed the afternoon with
a presentation on "The MEDLARS Network and Specialized Information Centers."

The second day's sessions opened with a symposium on "Evaluation Projects and
Studies," moderated by Dr. Leiter. Participants included C. Olivecrona, and
B. Aschberg, who spoke on MEDLARS retrospective service at BMDC; R. Sjoblom,
A. Nilsson, and U. Aminoff, on MEDLARS SDI service at BMDC, and M. Ginman,
whose topic was "MEDLARS Retrospective and SDI Service--Helsinki CML Study."

The latter half of the morning was devoted to a "Comparison between Manual and
Machine Searching," by Mr. P. O. Raf, and an account of "Chemical Abstracts
Service at BMDC" by Dr. A. Kallner, Mr. K. Markusson, and Mr. A. Johansson.

Participants in the afternoon's panel discussion on "MEDLARS User Experience,"
moderated by Dr. Elwin, included E. Arrhenius, B. Westerholm, and S. Wiedling.
J. van de Kamp then spoke on "Indexing of Chemicals in MEDLARS."

MEDLARS User Population in Scandinavia

With about 26,000 physicians in Scandinavia in 1970, a 5% demand for retro-
spective searches would result in about 1,300 searches per year (with only
one search per requestor). The total demand for MEDLARS retrospective ser-
vice in Scandinavia during 1968 was about 1,000, and in 1969 amounted to
about 1,200 demand searches. About 10% of the requests came from users
other than physicians, and about 10% of all requestors asked for more than
one search during this period; this means that only 3.5-4% of Scandinavian
physicians actually made use of the MEDLARS service. It is obvious that
the upper limit for the usage of the system is not yet reached. Rather, it
can be considered very encouraging that, in spite of charging, and in spite
of periods with over-long throughput times, the demand has been rather
stable for almost a year.

Guidelines for a realistic estimate of the potential maximum usage of a
system like MEDLARS are hard to establish. A 5% level may be a reasonable
estimate, however, within the present system. (Demands in the future, with
direct user interaction with on-line facilities, will probably give much
higher figures.) With an added 10% of other user categories and a 10%
level of users with more than one search per year, hypothetical figures for
Scandinavia today would amount to about 1,450 users and about 1,600 retro-
spective searches per year. The recurring service has a larger proportion
of drug industries and government agencies (about 30%) among its users than
the retrospective service. Physicians interested in the SDI service mainly
represent research workers. With about 4% of Scandinavian physicians active
in biomedical research, basic as well as clinical, and hypothesizing that
50% of these are using the SDI service, the total demand for MEDLARS SDI
in Scandinavia might therefore be estimated to be about 750 monthly re-
curring searches.

Evaluation of Retrospective MEDLARS Searches at BMDC

During the initial period in 1966-67 of MEDLARS operations in Stockholm,
an effort was made to conduct a regular follow-up of the results of the
searches. Feedback, however, was very irregular and scanty, and manpower
resources did not allow more time for evaluation purposes.

In March 1970, it was decided to undertake an evaluation project with the
goal of obtaining some quantitative data concerning the usefulness of the
service as judged by the users. No attempt will be made in this study to
evaluate the effectiveness of the system as such. A questionnaire has
been constructed, in which users are asked to annotate the number of rel-
evant citations already known, as well as the number of references which,
from the bibliographical data available on the printout, look interesting
enough to warrant further exploration of the full document. Missed cita-
tions also are asked for, but no recall base will be constructed (apart
from the list of known relevant citations which were submitted at the time

of the request). A free text section is left for the user to give his com-
ments on the usefulness or the failure of the search, from his point of view.

The questionnaire also includes several other questions not directly related
to the MEDLARS search. These questions aim at getting a more complete pic-
ture of the documentation habits of the user, i.e., the number of journals
which are regularly read or scanned, and the number and sources of secondary
publications normally used for literature control purposes. The users'
familiarity with the problem as presented in the search request is also
explored by questions relating to the time the user has been involved with
it and the number of references he already has collected concerning this
topic.

As the project has been running for only about two months, with barely 15%
feedback so far, no results can be presented at this time. Practical re-
sults from this kind of evaluation study could be expected to follow from
a better knowledge of the documentation habits of Swedish MEDLARS users.
Failure analysis also will offer better possibilities of compensating for
inefficiencies in user interaction at the time of search formulation, or
for errors in search strategy. Users are encouraged to have a second
search free, in proved instances of failure, and this policy is expected
to lead to better overall quality control of the service.

MEADOW'S PANACEA FOR PODIUM PITFALLS
William H. Caldwell
Deputy Chief, Bibliographic Services Division, NLM

The following excerpts are from an article in The Lancet.[1] Its author, in three short pages, has included every pitfall into which a speaker may stumble, and he has done so (included, not stumbled) in a most entertaining and instructive manner. My request to the publisher for permission to reprint the article in full has been denied, so I may only entice you with a few quotes.

> "Starting a talk with 'This work was done in 1968 with Drs. J.N.F. Berncastle and A.L. Funglewoozle, junior, with the help of a grant from — etc., etc.,' will lose the attention of the audience almost before it has been caught."

> "The other lectern hazard is the one in a new lecture hall which has been designed by an enthusiastic medical-illustration-department tycoon. There will be a terrifying spaceship-type of control panel bearing thirty remote control switches...". Dr. Meadow cautions against touching these switches, else "...you will find yourself grappling with a berserk lecture room in which...trap-doors open and projectors rise out of the earth."

> "Some visual mannerisms are very distracting. There are many varieties of the perpetual mover: the simple wriggler, the rocker, the long-distance walker, and the greyhound who strains back and forth as if in a starting-box."

> "Slides take time to show--at least they should. At an international meeting this summer, sixty-seven slides were shown in a twelve-minute presentation."

> "If you can communicate your enjoyment and interest in the subject, the audience will soon share that enjoyment."

I strongly recommend that every MEDLARS analyst conducting user orientations read Dr. Meadow's excellent article.

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[1] Meadow, R.: Speaking at Medical Meetings. The Lancet 2:631-3, 20 Sep 1969.

INSTRUCTIONAL MATERIALS USED IN THE REGIONAL MEDICAL LIBRARIES
Raquel Halegua, D.D.S.
Special Assistant to the Associate Director for Library Operations, NLM

The National Library of Medicine has received the following materials prepared for workshops, courses, etc., from the various regions. (This supplements the brief list in the Technical Bulletin, November 1969.) A number of items do not appear in this list, because, although they are used in conjunction with such workshops, they are not known to have been prepared specifically for that purpose.

REGION I

1. Medical Terminology Related to the Core Library Collection; a Workbook for Library Supervisors. Comp. by W.W. Ratcliff, L. Nicolls, R.N., and N.S. Stearns, M.D., for the second PMI-NERMLS Training Institute for Library Supervisors (65 pp.)

2. Rabkin, S.N. A Manual for the Use of the Core Library. Boston, PMI Training Institute, 1970 - descriptions of core library reference tools, and index to core library reference tools (30 pp.)

3. Stearns, N.S. The Core Library; the Collection and Services. Adapted from a paper presented at the second PMI-NERMLS Library Supervisory Training Institute, September 15, 1969 (15 pp.)

4. Lorenzi, N.M. A Manual on Interlibrary Loan for Hospital Librarians. Revised for the NERMLS-PMI Library Training Institute, September 14-19, 1969, by R.A. Palmer (39 pp.)

5. May, A. Introduction to Index Medicus, Hospital Literature Index, and International Nursing Index -- lecture notes (34 pp.)

6. Colby, C.C. The Library's Place in Relation to Overall Medical Care -- lecture notes (20 pp.)

7. Scougall, J. Place of the Library in the Hospital -- lecture notes (25 pp.)

8. Colby, J. Elements of the Library Catalog -- lecture notes (18 pp.)

9. Scougall, J. Circulation and Staffing (Part I); Library Policy and Procedure Manual (Part II); and Staffing the Library (Part III) -- lecture notes (16 pp.)

10. Robeson, C.A. Maintenance of the Collection -- lecture notes (13 pp.)

11. Stearns, N.S. Audiovisuals in Hospitals -- lecture notes (3 pp.)

12. MEDLARS and SYMBIOSIS -- definitions and summary of services (3 pp.)
     Guide to MEDLARS Services attached.

13. Dralle, D. Selection, Acquisition, and Care of Printed Materials --
     lecture notes (31 pp.)

14. New England Regional Medical Library Service (NERMLS) and Postgraduage
     Medical Institute (PMI) Library Training Institute Program, April 13-17,
     1970 - list of faculty and staff, and schedule of classes and meetings
     (8 pp.)

REGION 3

  1. Holloway, L.M. Elements of the Card Catalog. A six-page outline to
      introduce medical cataloging to these with no formal training in library
      science (7 pp.)

  2. Winter, M.M. List of Indexes and Reference Works for Basic Medical
      Reference (8 pp.)

  3. The "Core Library": what it's about and how it will circulate -- a
      short description including address for requests (1 p.)

REGION 4

A. Prepared by the Tompkins-McCaw Library, Medical College of Virginia

    1. Workshop Manual, Hospital Library Personnel.
        Community and State Services. March, 1968.

    2. Procedures Manual, Hospital Library. Compiled by J. Minnerath,
        Virginia Medical Information System (VAMIS) for a workshop for
        hospital librarians, May 6-7, 1970.

    3. Serials Workshop Kit, for Community and State Services Serials
        Workshop, Feb. 5-6, 1969. Includes program outline and lecture
        notes on specific topics.

    4. Hospital Library Workshop Cataloging and Classification Samples,
        1968.

B. Prepared by Mid-Atlantic Regional Medical Library/National Library of
    Medicine.

    1. MEDLARS Overview: a test unit consisting of a 12-minute reel-to-reel
        stereo tape synchronized to 42 slides; a script keyed to the slides;
        and an evaluation form, to be used in medical school libraries, and
        hospital libraries for self-instruction by health science practitioners
        and library personnel.

2. List of materials in the "Basic Hospital Library" exhibit:

    a. Journals listed according to specialty fields of medical
        practice (including 100 journals in Abridged Index Medicus).
    b. Textbooks and journals in allied health fields.
    c. Reference tools (reference tools; tools to aid hospital library
        personnel; book and journal lists).
    d. Textbooks on clinical medicine as listed by Stearns, N.S. and
        Ratcliff, W.W. Op. cit., Reg. 3, II.B.2. List appended.

REGION 6 (Prepared by the Georgia Regional Medical Program)

1. Program of Institute on Hospital Libraries, including biographical data
    on instructors, list of reference tools, and outline on interlibrary
    loans under the Georgia RMP (6 pp.)

2. Organizing the Collection -- lecture notes (50 pp.)

3. Building the Collection -- lecture notes (36 pp.)

REGION 8 (Prepared by the Kansas Regional Medical Program)

1. Kansas Regional Medical Program, "Basic Medical Librarianship" Manual --
    a student workbook containing a detailed outline of a workshop program,
    book lists, and lecture notes on specific topics presented during the
    workshop.

REGION 9 (Prepared by the Texas Council of Health Science Libraries)

1. Report of the Preconference Workshop for Hospital Librarians sponsored
    by the Texas Hospital Association and conducted by the Texas Council of
    Health Science Libraries; appendices of schedule, faculty, geographical
    distribution, and evaluation questionnaire. (11 pp.)

REGION 11

1. Colaianni, L.A. and Mirsky, P.S. Manual for librarians in small hospi-
    tals. Los Angeles. 1970. (74 pp.)

LIBRARY NETWORK/ MEDLARS
technical bulletin

(formerly MEDLARS/Network Technical Bulletin)

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We welcome comments
and suggestions

NLM RESUMES FOREIGN INTERLIBRARY LOAN AND AUDIOVISUAL LOAN SERVICES

In September 1969, as a result of personnel and budgetary limitations, the
National Library of Medicine was forced to discontinue all foreign service
except to those countries included in the U.S. Agency for International
Development--National Library of Medicine Agreement.

Additional staff is now being made available to the Library to restore
foreign interlibrary loan and audiovisual film loan services for a fee based
on costs for handling and air postage. As of July 1970, an interlibrary loan
will be provided for $2 and a film loan for $10. Interlibrary loan requests
should be submitted to the National Library of Medicine, 8600 Rockville Pike,
Bethesda, Maryland 20014; and film loan requests to the National Medical
Audiovisual Center (Annex), Station K, Atlanta, Georgia 30324.

A voucher will be included with the material sent to the requester, and
payment is to be made in U.S. currency to the order of Treasurer of the
United States. The billing form will carry full instructions for remitting
payment.

The National Library of Medicine will continue to enforce the provisions of
its interlibrary loan policy pertaining to limitations on photocopying. The
Library limits service to the provision of a single copy of a journal article
when it is to be used for research or educational purposes. In addition, as
in the past, it is expected that requesting libraries first will utilize the
major library resources which may be available to them before sending inter-
library loan requests to the National Library of Medicine.

In addition to the film loan service, films and filmstrips produced by the
National Medical Audiovisual Center are available for sale from the General
Services Administration, National Archives and Records Sales, Washington, D.C.
20409, Attention: Government Film Sales.

NETWORK MANAGEMENT STAFF
Narrative Report
June   1970

RML GRANT EVALUATION AND PROGRAM REVIEW

The Board of Regents has recommended the approval of a renewal grant to the John Crerar Library.

The grant to the University of Nebraska Medical Center was increased so that the number of interlibrary loan requests reimbursed can be expanded. A supplemental award was made to the Southwestern Medical School at Dallas for the purpose of developing a statistical reporting system for the South Central Region.

Wayne State University's grant was revised to include funding for a regional director and additional activities. The Board of Regents recommended approval for supplemental grants to the New York Academy of Medicine for partial support of union list activities, and to UCLA, primarily for expansion of interlibrary loan service to Region 11.

UNION LISTS

A modification to the contract with the Medical Library Center of New York (MLCNY) was signed during the month.

The modification stipulates that during the period June 30, 1970 - June 30, 1971, the MLCNY shall generate machine-readable records containing new bibliographic and holdings information for approximately 3,000 titles of national importance which are new to the UCMP data base. The new titles may be submitted by NLM or any UCMP system user, with MLCNY being the authority for differentiating between titles of national or local importance.

It is anticipated that non-NLM libraries which supply new titles will continue to pay the established amounts for the addition of holdings information, or for lookup to identify sequence number, that is, $2.11 and $1.00 respectively.

MID-ATLANTIC REGION

Mr. Albert Berkowitz, Deputy Chief, RSD, has been detailed part-time to the Office of Associate Director for Library Operations, to coordinate service to the Mid-Atlantic Region.

NETWORK SERVICES PROVIDED BY RML's

BASIC HOSPITAL LIBRARY EXHIBIT

The exhibit, along with the AIM-TWX experiment, was displayed at the American Medical Association convention in Chicago.

MEDLARS USER ORIENTATION PROGRAMS

Presentations by RML Personnel

Regions 2 and 11 presented four orientations during the month. Two programs were given by personnel in region 7, one each in regions 3 and 5.

Programs were presented to 33 groups in the fourth quarter of FY 1970. Regions 6 and 11 were most active with six presentations each.

MEDLARS USER ORIENTATION PROGRAMS

Date	Presented at	Presented by
June 9,11	UCLA Center for Information Services - Librarians	B. Beamish
June 10	Minneapolis-St. Paul - Health Professional Librarians and Users	M. Doherty and C. Green
June 11	Mayo Clinic - Health Professional Users and Researchers	M. Doherty and C. Green
June 22	Emory University, School of Nursing - Health Professional Users	A. Flynn
June 24	University of California, Santa Barbara - Health Professional Users	B. Beamish
	UCLA Biomedical Library - Library Interns	B. Beamish
	University of Pittsburgh - Graduate Library School Students	L. Tanen
June 24, 25	Albany Medical College--Medical and Hospital faculty, staff, students, and librarians	C. Herring

MEDLARS ACTIVITIES

The June statistics indicated 1,252 searches were released by domestic MEDLARS Centers. 3,796 searches were completed in the fourth quarter, FY 1970. The total number of searches released for the full FY were 14,287.

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We welcome comments
and suggestions.

SUPPORT FOR NEW TITLES ADDED TO THE UNION CATALOG OF MEDICAL PERIODICALS
Elizabeth Sawyers, Special Assistant
to the Associate Director for Library Operations, NLM

Early in the current calendar year, the Medical Library Center of New York
instituted a system of unit charges for the work they were doing for various
users of the Union Catalog of Medical Periodicals System. These charges are
currently as follows:

    Establishment of new title $5.11
    Problem titles   3.98
    Addition of holdings only   2.11
    Look up for ID number   1.00

With such charges in effect, it became obvious that the users with the fastest
acquisition mechanisms would be submitting new titles first and have to pay
the fee for establishment of the bibliographic information on the file, thus
in effect penalizing themselves for their speed.

In an attempt to eliminate this inequity, the National Library of Medicine
plans to assume the funding for the actual establishment of bibliographic
information on the file for all titles falling within the national scope of
the list, no matter which library submits them to the Center. For titles of
purely local interest, either due to their subject scope or type, the contri-
buting library is still to pay for the establishment of the bibliographic
information.

As the amount of $5.11 covers both the establishment of the title on the file
plus the addition of holdings information, the amount which will be funded
by NLM will be $3.00. Thus the participating libraries will be left with the
regular charge of either $2.11 for the addition of their holdings or $1.00
for identifying the ID number of the title.

PROCEDURE FOR INTERLIBRARY LOAN REQUEST REFERRALS
Donald D. Dennis, Chief, Reference Services Division, NLM

The first draft of the following procedure was discussed at the meeting of
Regional Medical Libraries in New Orleans. A second draft incorporating the
comments and suggested changes was mailed to each RML Director, and further
comments and suggestions were requested. The procedure below reflects these
additional comments. This procedure is now in effect.

I. PROCEDURE FOR DIRECT REFERRAL OF ILL REQUESTS FROM REGIONAL MEDICAL
   LIBRARIES AND DESIGNATED LIBRARIES OUTSIDE THE MID-ATLANTIC REGION TO NLM

The following procedure is written with these assumptions in mind:

A. Only material reasonably presumed not to be available within their region
may be requested from the National Library of Medicine by libraries outside the
Mid-Atlantic Region. These requests must be properly verified.

B. Certain libraries within a region may be designated by the RML to refer
requests directly to NLM. These designated libraries are assumed to have the
bibliographic capabilities necessary to verify citations and to determine which
materials are not available within the region. All libraries in decentralized
regions contracting with grantee to provide ILL service are automatically
included.

C. It is expected that referrals to NLM will include:

   1. Requests by health professionals for titles in the biomedical fields.

   2. Requests by professionals in fields outside the health sciences for
      biomedical materials needed in the course of their work. An archi-
      tect designing a hospital, for example, should be able to obtain
      material through referral to NLM.

      It is expected, however, that material in non-health science journals
      and monographs required by a health professional in the course of his
      work would be acquired at reasonable cost locally, or from the most
      appropriate source by the most expeditious means, rather than by
      referral to NLM.

Procedure
After being assured that the requested item is not held within a region, and
depending on whether the referral to NLM is to be by U.S. mail (using standard
ALA forms) or by TWX, a Referring Library should follow either of the two
following procedures.*

---

*It should be noted that these same procedures apply whether the Designated
Library is referring its own request to NLM or referring another library's
request to NLM.

a. By mail, using standard ALA forms

Referring Library
1. affixes a standard referral overlay with regional identifier (to be issued by the Regional Medical Library) over the bottom portion of copy A of the interlibrary loan request form,

2. enters date of referral on overlay,

3. checks in the "report" section the appropriate reason for inability to fill the request,

4. mails original (copy A) together with two additional carbons (copies B and C).

INTERLIBRARY LOAN REQUEST
According to the A. L. A. Interlibrary Loan Code

SAMPLE

REQUEST A

Date of request: Remarks:

Borrowing Library ➡

Fill in left half of form; send sheets A, B and C to Lending library; and enclose shipping label.
For use of_____Status_____Dept._____

Fold ➡   Author (or Periodical title, vol. and year)

Call-No.   Title (with author & pages for periodical articles) (Incl. edition, place & date)

☐ Any edition

Verified in (or Source of reference)

If non-circulating, please send cost estimate for ☐ microfilm ☐ photoprint

REPORTS: Checked by_____

SENT BY: ☐ BOOK RATE ☐ Express Collect

☐_____Insured for $_____
        Other

Date sent_____Charges $_____

DATE DUE_____
            (or period of loan)
☐ For use in library only

NOT SENT BECAUSE: ⬅ Fold
☐ Not owned by library
☐ Non-circulating   ☐ Hold placed
☐ In use   ☐ Request again
☐ Other:
☐ Suggest you request of:

Estimated Cost of: Microfilm_____
                Photoprint_____

RECORDS: (Borrowing library fills in)

Lending Library

Fill in pertinent items under REPORTS; return sheets B and C to Borrowing library

**INTERLIBRARY LOAN SERVICE
NATIONAL LIBRARY OF MEDICINE
8600 WISCONSIN AVENUE
BETHESDA, MARYLAND 20014**

KENTUCKY, OHIO, MICHIGAN
Regional Medical Library
Item requested not available for reason given in REPORTS. Forwarded to library named at left under the Regional Medical Library program on _____

REPORT:
____In use   ____Reference not
                                  identifiable
____In bindery   ____Other

b. By TWX

      Referring Library
            1. transmits request to NLM, using the following format for
      ILL referral.

DNLM BETHESDA

* 5A RMLA REFERRAL 113 5/DEC/69

BATTELLE MEMØRIAL INSTITUTE
505 KING AVENUE
COLUMBUS, ØHIØ 43201

DR. A. B. SEE / STAFF / ØBGYN

NEW ZEALAND MEDICAL JØURNAL 59   (DEC) 1960

LILEY, A. W.: TECHNIQUES AND CØMPLICATIØNS ØF
      AMINØCENTESIS   581-586
VER: CIM 2:A-844, 1961
AUTHR: J. K. ELL, EXTENSIØN LIBRARIAN

** REMARKS: ØRIG CØDE BAT MEM INST   RQ 32 4/DEC/69

END 5A RMLA REFERRAL 113
ØSU MAIN LIB

END

---

* RMLA REFERRAL is the abbreviation for Regional Medical Library Authorized
  Referral. This abbreviation was suggested by Mr. Warren Bird, author of
  the manual, Teletypewriter Exchange System for Interlibrary Communication.
  The number 5 preceding the abbreviation designates the region from which
  the referral is made, in this case, the Kentucky-Ohio-Michigan Region.
  The letter A indicates the Designated Library. Letter codes may be
  assigned by each RML to the Designated Libraries in its Region.

** If a referring library, in the case of messages received by TWX, feels it
  is advantageous to include the code of the originating library and the
  serial number of the original request, Mr. Bird has suggested that, to avoid
  confusion, this information be included under REMARKS.

II. PROCEDURE TO BE FOLLOWED AT NLM TO NOTIFY REQUESTING LIBRARIES AND RMLS
     OF THE NON-AVAILABILITY OF REFERRED REQUESTS

Since many regional libraries have assumed the responsibility for contacting
resources outside their regions when material is not available either in
their region or at NLM, the National Library of Medicine has begun the
practice of notifying the appropriate Regional Medical Library, as well as
the Originating Library, about requests which are not available at the
National Library of Medicine. Because of the difficulty involved in the
National Library of Medicine contacting directly a large number of designated
libraries, and because many regional medical libraries feel a broader responsi-
bility for further searching, it is the RML rather than the referring Designated
Library that is notified about non-availables.

Procedure
This procedure applies regardless of whether the non-available request was
referred by mail on the standard ALA ILL request form, or by means of TWX, from
either a Regional Medical Library or from a Designated Library directly to NLM.

    NLM

        1. staples a "NLM Report of non-availability" directly on the top
            copy of the request,

INTERLIBRARY LOAN REQUEST   REQUEST A
According to the A. L. A. Interlibrary Loan Code

Date of request: Remarks: REPORTS: Checked by_____

**Borrowing
Library** ➤➤➤   SENT BY: ☐ BOOK RATE ☐ Express Collect

*Fill in left
half of form;   ☐_____Insured for $_____
send sheets   Other
A, B and C*   Date sent_____Charges $_____

NLM REPORT OF NON-AVAILABILITY   _____19___

____   SHORT TERM NON-AVAILABLE: The item you have requested is temporarily
        non-available (for the reasons cited below), but should be available
        within 2 weeks. If you wish us to attempt to process this request,
        please return the request form to NLM together with this report
        stapled to it.

____   LONG TERM NON-AVAILABLE: The item you have requested cannot be supplied
        (for the reasons cited below), or cannot be supplied within a 2-week
        period. We suggest that you attempt to locate this item elsewhere.
****

____   Title not in Library   ____ On loan   ____ Exceeds page limit *
                                                              (item non-circulating)

____   Issue not received   ____ At bindery
                                                       ____ Exceeds copy limits
____   Title or issue missing ____ In processing   (1 article per issue
                                                              3 articles per volume)

____   Non-circulating   ____ Not identified

___* Please check here if price quotation for special paid photographic service is
     desired and return to NLM.

2. dates the form,

3. places check marks in the appropriate places to indicate whether
the non-availability of the request is felt to be short term (available
in two weeks) or long term (not available within two weeks) and to
indicate why the item is not available,

4. mails top copy of request with form attached to Requesting Library.

Also once each day

1. gathers second copies of the requests received from a given region
which are considered to be long term non-availables   (although originating
libraries would be notified about both short term and long term non-
availables, the RML would only be notified about long term non-availables),

2. places the requests in an envelope together with a copy of the
following cover notice,

NOTIFICATION OF LONG TERM NON-AVAILABLE ILL REQUESTS

The enclosed requests referred to us from your region
are not available from the National Library of Medicine.
We have notified the originating libraries of non-
availability, and we are informing you in the event you
wish to continue a search for the items elsewhere.

---

3. mails to appropriate Regional Medical Library.

It should be understood that identification of designated libraries has up to
now been on an ad hoc and interim basis. At the present time, a committee is
working to establish network-wide criteria for making such designations. These
criteria are expected to be available soon and a more formal designation of
libraries will be made.

NETWORK ACTIVITIES
May 1970

NLM/RML Director's Meeting

A productive two-day session marked by fruitful exchange of ideas on a variety
of subjects of mutual interest was held May 22 and 23 in New Orleans. NLM
staff spent much of the month preparing presentations and coordinating activi-
ties for the meeting. Upon returning to NLM, they began preparing a summary
of the meeting, and taking action to follow up on a number of matters dis-
cussed at the meeting.

RML Grant Proposals

No new proposals were received this month. Several proposals received earlier
in the year from UCLA, the New York Academy, and the John Crerar Libraries
underwent review by NLM staff. They will be forwarded to the Board of Regents
in June for recommendations.

Union Lists

1. An extension of the original contract between NLM and the Medical Library
Center of New York (MLCNY) was signed during the month. Under the terms of
the extension, the contractor will input the remainder of NLM titles currently
received into the Union Catalog of Medical Periodicals (UCMP).

2. Modification to the MLCNY contract is being prepared to cover support by
NLM of work with the establishment of bibliographic information for biomedical
serial titles of national interest, not now in the UCMP file, regardless of
the source of the information.

3. Negotiations for the purchase of the UCMP programs between the MLCNY and
developer of the program package were completed and a purchase price agreed
upon. Future users of the system will only have to pay a $25.00 per program
service charge to the Center.

4. A meeting of UCMP users was held in New Orleans during the MLA convention.
The group was informed of the matters noted above. There was extensive dis-
cussion concerning both the need for changes to the UCMP system and the pro-
posed annual fee.

Health Sciences Bibliographic Clearinghouse

A pilot issue of the Bibliography of Medical Bibliographies was distributed to
a limited number of medical librarians for suggestions and comments.

Orientation and Training

1. Orientation Materials
Outline-scripts for orientation programs on "Understanding Interlibrary Loans,"

"How and When to Use Index Medicus," and "An Introduction to MEDLARS " were
distributed to the RML directors to be critiqued. A draft outline of points
to be covered in a more extensive interlibrary loan program was also pre-
sented for review.

2. Basic Hospital Library
The exhibit, including AIM journals and supplemental materials in the allied
health sciences, was displayed at the MLA convention in New Orleans and the
Tenth International Cancer Conference in Houston.

ILL STATISTICAL SUMMARY
July 1969 through March 1970

	NLM*	I	II**	III	IV	V***	VII	IX ***	X	XI
Total Requests Received	59,582	34,451	1,001	45,119	39,131	42,515	13,709	2,143	16,695	20,180
TWX Requests	12,597	4,823	71	479	1,435	439	1,250	467	405	2,190
% Accepted of quests Rec .ved	84%	97%	86%	98%	94%	99%	99%	97%	99%	99%
% Filled of Requests Accepted	90%	84%	50%	89%	85%	76%	70%	67%	91%	80%
% of Filled Requests Completed Within 3 Days After Receipt (Jan-Mar 1970)	66%	64%	95%	100%	84%	91%	90%	88%	81%	78%

  *Excludes Mid-Atlantic requests, separately reported as Region 4
 **Began operations in February 1970
***Region V statistics for these 3 quarters report loans provided, whether reimbursable by
    the grant or not. They are not consistent with the remainder of the figures, and are
    not included in totals.
****Began operations in March 1970

MEDLARS ORIENTATION PROGRAMS

Date	Presented at:	Presented by:
May 1-2	Joint Meeting of the Medical Library Groups of California and Arizona - Librarians.	Mrs. Beamish
May 6	Virginia Commonwealth University, Richmond, Virginia. Hospital librarians.	Mr. Caldwell
May 7	Brooklyn V.A. Hospital, Brooklyn, N.Y. - Medical librarians from the Brooklyn Queens area.	Miss Herring
May 8	University of Washington, Seattle, Washington - Physicians, researchers, and librarians.	Mrs. Des Chene
May 12	University of Illinois, Urbana - Hospital librarians and Library school students.	Miss Doherty and Miss Green
May 15	Minneapolis, Upper Midwest Hospital Conference - Hospital librarians.	Miss Doherty
May 22	Boston, Massachusetts. American Gastroenterological Society meeting.	Mr. Caldwell
May 27	Francis A. Countway Library of Medicine, Boston, Mass. Health professional users, librarians.	Mrs. Ford, Mr. Moore and Miss Woodford

In addition to the above, MEDLARS overview programs were given for two groups of graduate library school students who visited NLM.

MEDLARS TRAINING CLASS OF JUNE 1970

Listed below are the people attending the MEDLARS training course which began on June 1. Lectures on indexing are under the direction of Mrs. Thelma G. Charen, Index Section, BSD, and those on search/under Dr. Linn Kelner, MEDLARS Management Section, BSD.

Miss Angeline Durso	UCLA MEDLARS
Miss Barbara Greehey	NLM Library Associate
Dr. Peter Heelein	DIMDI, Cologne, Germany
Miss Mary Kralicek	John Crerar Library, Chicago
Mrs. Dianne Magidson	NIH Library
Dr. Sylvaine Malinge	INSERM, Paris
Miss Ruth Marcolina	New York Academy of Medicine
Miss Marilyn Miller	University of Alabama MEDLARS
Mr. Atsutake Nozoe	Keio University, Tokyo
Miss Frances Solomon	Harvard MEDLARS, Boston
Mrs. Ruth Stander	NLM, Index Section
Mrs. Mary Herner	Herner & Co., Washington
Mr. James Loizou	" " "
Miss Lynn Ockerman	" " "
Mr. Roman Kos	Franklin Institute Research Lab., Phila.
Mr. Andrew Ojeda	" " " " "
Mr. Hans Janecka	Scientific Literature Corp., Phila.
Miss Judy John	" " " "
Mr. S. Zdziechowski	" " " "

SEARCHING ON PLACE OF PUBLICATION

Staff at the Colorado MEDLARS Center included the following question in their April report:

"In a recent search formulation we attempted to subsort on articles in journals published in the United States using the Q symbol in the RED list for U.S. exploded. The sort was very unsatisfactory. It left behind 24 journals published in the United States, including such journals as Wisconsin Medicine, Rocky Mountain Medical Journal, Illinois Medicine, Michigan Medicine, American Journal of Psychiatry, American Journal of Nursing, Journal of the American Medical Women's Association, Journal of the American College Health Association, American Journal of Obstetrics-Gynecology, Journal of the American Geriatric Society and so on. Is there any effective and easy way to limit MEDLARS bibliographies to articles published in the United States?"

In his letter to Colorado, Mr. Constantine Gillespie, Head, MMS, gave the following information:

Explosions are not allowed in searching on place of publication. In the search that brought up this question, the searcher wanted to search on all journals published in the United States and consequently entered United States as a Q element with the explosion symbol. The place of publication is located in the first 17 bits of the first data word of the CCF record and contains the 6-digit octal code for the geographic heading as listed on the MEDLARS Dictionary Tape. This code is picked up from the Journal Record File on the MDT and transferred to its first-word position in the CCF record when the citation is first input to the system.

In the case of American journals, only the codes for the individual states of the United States or the code for United States itself (in about four or five cases) are used to indicate place of publication. City codes (Boston, Chicago, New York City, etc.) are never used as place of publication indicators. Since only the code is given in the place of publication field, with no hierarchical relationship, you cannot explode any Q element. The computer programs will not indicate any such explosion as an error; it will only search on the term itself.

Thus, to search on all journals published in the United States would require the listing of the geographic headings for all 50 states as well as for "United States." The same practice would have to be followed in searching on all journals published in other large geographic areas; e.g., to search on all journals published in Europe would require the listing of all countries in Europe as Q elements.

SATELLITE COMMUNICATIONS EXPERIMENTS
Dr. Ruth M. Davis, Director,
Lister Hill National Center for Biomedical Communications,
National Library of Medicine

Experimental satellite communications were recently established between the
University of Alaska in Fairbanks, the University of Wisconsin, Stanford
University and the Lister Hill Center at the National Library of Medicine
in Bethesda, Maryland. This was the first group communication via satellite
between four medical centers.

The purpose of the experimental series of voice communications is to demon-
strate the potential of satellite communication in assisting practicing
physicians in remote areas. The equipment used by the Lister Hill Center
is inexpensive and easy to install. For example, it cost less than ham
radios currently being used by health aides in the villages of Alaska. The
transceiver loaned to the Lister Hill Center for Biomedical Communications
by NASA costs about $700.00. The antenna costs $78.00.

In May 1970, EKG signals were successfully transmitted between the Univer-
sity of Wisconsin and Stanford University using the NASA ATS-3 satellite.
Human subjects had their EKG signals recorded at the point of origin and
then transmitted via satellite. The recording was made at the receiving end
and was compared with the original recording. Preliminary analysis showed
no detectable signal degradation due to satellite transmission.

Of great interest to NLM and the Lister Hill Center AIM-TWX Experiment was
the connection via satellite of eight remotely located teletype terminals
to the time-sharing computer system at Stanford University. In the tests,
eight Model 33 teletype terminals were connected by phone patch to the
satellite VHF transceiver. The time-sharing computer was similarly con-
nected to the satellite transceiver.

Elementary school students, accustomed to using the computer terminals to
access a computer-assisted-instruction package in the computer, used the
Model 33 terminals to access the computer as usual. The student's messages
were transmitted via telephone line to the satellite terminal and then to the
satellite; the satellite converted the signals and beamed them back to the
Stanford satellite terminal. The received signals were transmitted by
telephone line to the computer. Signals from the computer reached the
students over a reverse path. The satellite communications link functioned
effectively and produced a quality of communications that was as good as the
ground communications normally used for this purpose.

Finally, the Lister Hill Center arranged for transmission of color photographs
via the NASA ATS-3 satellite using a color photo facsimile send-receive unit.

Color photographs were successfully transmitted via NASA's ATS-3 satellite
using a color photo facsimile send-receive unit. The tests were conducted

at Stanford University which has the only known U.S. unit of the color fac-
simile equipment. A color photograph was inserted into the facsimile trans-
mission equipment; the satellite converted the signals and relayed them back
to the Stanford terminal which fed them into the facsimile receiving unit.
The signals produced an image which was captured on color film by a Polaroid
camera. The entire process took about six minutes to complete. Preliminary
analysis shows very little loss of quality or resolution in the transmission
segment.

The Lister Hill Center will soon participate with Stanford in this experiment.

STATISTICAL SUMMARY FOR MEDLARS CENTERS FOR MAY 1970
Constantine J. Gillespie,
MEDLARS Management Section, NLM

The table below, which includes only a few important items from each center's
monthly report, gives a summary of the searching performance at each of the
MEDLARS centers around the world:

MEDLARS DEMAND SEARCHING FOR MAY 1970
Period: 5/1 - 5/28/70

Center	Searches rejected	Searches released excluding RDS's	Recurring demand searches released	Citations retrieved per search month	Percentage searches released by calendar days	
					0-15 days	0-30 days
Alabama ✓	3	69	5	4.38	98.6	100
Colorado ✓	0	83	18	4.1	88.0	100
Crerar ✓	4	30	0	9.9	0	46.7
Emory	0	16	3	4.9	100	-
England	0	536	86	-	50.2	90.9
Harvard	11	63	0	6.27	22.0	78.0
*INSERM (Paris)	6	83	113	-	0	0
Michigan	3	46	66	5.6	13.0	91.3
New York	4	44	0	4.36	5.0	74.0
NIH	1	20	80	4.8	95.0	100
NLM-MAR	10	146	28	6.1	80.8	100
NLM-MMS	15	122	22	6.51	86.1	99.2
Ohio	2	66	87	7.6	90.9	100
Philadelphia	3	55	0	3.7	80.1	92.9
PMA	0	50	173	13.1	92.0	100
*Sweden	0	224	934	9.9	0.5	4.0
Texas	4	82	0	2.73	100	-
UCLA	11	100	26	5.6	2.0	96.0
Washington	0	45	1	6.0	23.0	98.0

*. ͜ures are for April 1970

MEDLARS II PROJECT REPORT
Lillian H. Washington
MEDLARS II Task Force Coordinator

The Detailed Procedural Design for the MEDLARS II INITIAL System, consisting of four volumes arranged in eight sections and three appendices, has been submitted to the National Library of Medicine. This design will serve as the framework, or road map, for the implementation of MEDLARS II in a batch processing mode. The INITIAL System is now scheduled for operational acceptance in October 1970.

The INITIAL System will be implemented on an IBM 360/50 computer. Input will be accepted from either the Keymatic 1093 Encoder (magnetic tape) or the IBM 029 Keypunch (cards). Output will be from the High Speed Printer, the PHOTON 713-100, or the Linotron 1010 which is part of the Government Printing Office photocomposing system.

The Detailed Procedural Design is undergoing intensive review by NLM staff. Meanwhile, detailed PERT schedules are being revised and consolidated into a master schedule. This schedule is to serve as a check list to assist in ensuring that all necessary actions have been accounted for so that the INITIAL System can be accepted as completely operational by the target date.

The first two sections of the Detailed Procedural Design include the purpose of the document, the organization of the document, and a summary of each subsequent section. Section III references the Functional Requirements as set forth in the Overall Design Specifications and defines the requirements that will not be implemented until the EXTENDED, or on-line, System.

Section IV, the Design Description for the INITIAL System, includes flows, procedures, and computer processing requirements necessary to establish the capabilities of the MEDLARS II INITIAL System. The flows are segmented into the four functional modules that will be directly supported by the INITIAL System:
. Receiving and Routing
. Cataloging and Indexing
. Vocabulary Control
. Information Retrieval and Publication

Section V and Appendix A describe the file design for the files identified for MEDLARS II. Among the 11 files, the principal ones include: Indexed Citation Files, Item Files, Vocabulary Files, Name Authority Files, Query Files, and Format Files.

Section VI, Input Requirements, specifies the methods for data presentation to the INITIAL System. Included are recommended general procedures for use of the input devices, and input forms (including instructions for their use). The forms and procedures are now being reviewed by Library Operations staff.

Each form is also undergoing an actual usage test with data supplied by
indexers, vocabulary specialists, etc. That data is then converted to
machine-readable form, using the designated input device.

Section VII and Appendix C specify the output processing requirements for
the INITIAL System, such as devices to be supported, output items to be
supported by specific devices, general format requirements, and the detailed
format specifications for the following types of output:

> Standard Publications, e.g., Index Medicus, Current Catalog, Medical
>   Subject Headings, List of Journals Indexed
> Recurring Bibliographies
> Literature Searches
> Demand Searches
> Desk-top Tools
> Standard System Output Listings
> Statistical Output Data

Section VIII, Performance Requirements for the INITIAL System, sets forth the
timing estimates based on projected workloads for fiscal year 1971, and the
processing characteristics of the system. This section is incomplete, since,
to date, the publication activity has not been described.

Appendix B, MEDLARS II Vocabulary, includes a conceptual design for the
MEDLARS II vocabulary, together with implementation information specific to
the INITIAL System. The vocabulary concept for MEDLARS II is one of the
major changes to be included in the new system. This concept will be written
up in a future issue of the Library Network/MEDLARS Technical Bulletin.

It is recognized that we have not included here specific areas of interest,
as expressed at the recent meeting in New Orleans of the Directors of the
Regional Medical Libraries. These too will be addressed in subsequent issues
of the Technical Bulletin.

MeSH TALLIES BY TREE LEVEL
Constantine J. Gillespie
MEDLARS Management Section, NLM

Ohio State University has produced a new printout which gives the tallies for usage of MeSH terms according to their classification numbers in the MeSH Tree Structures. The tallies in this printout represent usage from January 1967 through May 1970. The previous printout covered the period from January 1967 through October 1969. In the period from October 1969 to May 1970 the total usage for all categories rose from 5,188,244 to 6,880,302, a total of 1,692,058 additional usages of MeSH terms.

The list gives tallies for each level of the tree structure, for each sub-category, and for each category. If you are exploding a term, you can now find out, from this printout, exactly how many citations have been indexed with those terms. Seeing the size of some of these tallies might also discourage you from exploding in some cases or of specifying an explosion at a more specific level.

The following list gives the total tallies by category and subcategory for the entire tree structure. Note the extremely high usages for the subcategories B2, C2, D1, D2, D10, E1, E5, G1, H, and M.

A1	36,958	C1	113,936	D1	265,492	G1	873,803
A2	64,391	C2	191,414	D2	291,904	G2	65,525
A3	78,640	C3	58,486	D3	70,902	G3	66,809
A4	17,904	C4	102,537	D4	20,053	Total	1,006,137
A5	53,105	C5	69,390	D5	94,845		
A6	29,729	C6	78,014	D6	67,125	H	288,273
A7	87,772	C7	34,401	D7	41,016		
A8	87,080	C8	120,237	D8	112,184	I	75,011
A9	23,281	C9	44,005	D9	103,072		
A10	61,460	C10	90,591	D10	208,445	J	41,062
A11	92,269	C11	37,673	D11	130,162		
A12	25,198	C12	32,279	D12	79,233	K	26,140
A13	10,934	C13	55,521	D13	69,889		
Total	668,721	C14	79,348	Total	1,554,322	L	24,836
		C15	17,760				
B1	23,765	C16	38,522	E1	266,133	M	328,762
B2	208,003	C17	100,994	E2	82,682		
B3	116,059	Total	1,265,108	E3	12,671	N1	61,548
B4	25,670			E4	113,277	N2	58,239
B5	15,880			E5	186,950	N3	32,645
B6	13,087			E6	26,654	N4	21,906
Total	402,464			Total	688,367	Total	174,338
TOTAL ALL CATEGORIES:				F1	127,393	Z1	106,722
				F2	68,556		
6,880,302				F3	34,090		
				Total	230,039		

CHANGES IN COVERAGE OF MEDLARS SEARCH FILES
Constantine J. Gillespie
MEDLARS Management Section, NLM

Effective July 1, 1970, the MEDLARS Search file will be divided into two
portions for computer processing:

        CURRENT FILE -- January 1968 to date
        BACK FILE   -- January 1964 through December 1967

All computer processing centers will have the July 1970 CCF in their search
files before July 1, 1970. Thus, the first current-file search batch that
is processed on or after July 1, 1970, will cover a period of 31 search
months, from January 1968 through July 1970.

Since all back-file searches are processed at NLM, the first back-file batch
processed after July 1, 1970, will cover a period of 48 search months, from
January 1964 through December 1967.

These changes in search files require no modifications in formulation. The
new current file remains uniform and one formulation will work for all of it.
The back-file is already being formulated two ways to allow for the differ-
ences in indexing in 1964-65 and in 1966 and later. This same practice must
be followed now that the back-file covers the years 1964 through 1967.

New copies of Master MeSH will be prepared containing the usage tallies for
January 1964 through December 1967, and for January 1968 through the current
month of the CCF. These copies will be distributed as soon as possible in
July.

MEDLARS SEARCH APPRAISAL FORM CHANGES
Grace T. Jenkins, Quality Control, NLM

Starting in July 1970, MEDLARS searches will be conducted on that part of
the computer files input since January 1968. Therefore, the MEDLARS Analyst
must be sure that the following changes have been made on the MEDLARS Search
Appraisal form before it is sent to the requester:

Appraisal Form	Change
Item 4	"Of all the relevant articles that you know to have been published from January 1967 . . ." should be changed to: ". . . January 1968 . . ."
Item 4	"Please give citations for any relevant articles (published from January 1967 . . ." should be changed to: ". . . January 1968 . . ."

The MEDLARS Search Appraisal Form will be modified to include the above
changes and several other minor changes. If you have suggestions for improv-
ing the present form, please send them to: Grace T. Jenkins, Quality Control,
BSD, NLM.

STATISTICS ON JANUARY-JUNE 1970 CCF
Constantine J. Gillespie
MEDLARS Management Section, NLM

Total number of citations on January-June 1970 CCF: 104,950

 Number of English-language citations: 58,929
 Number of foreign-language citations: 46,021

 High-volume foreign-language citations by language:

	Russian	11,440
	German	9,705
	French	6,321
	Italian	4,598
	Japanese	4,222
	Polish	2,253
		38,539

 Percentage of English-language citations: 56.1
 Percentage of foreign-language citations: 43.9
                              100.0

 Percentage of foreign-language citations represented by
  6 high-volume foreign languages listed above: 83.7
 Percentage of all other foreign-language citations: 16.3
                              100.0

 IM headings used with 104,950 citations: 270,938
NIM headings used with 104,950 citations: 777,443
Total headings used with 104,950 citations: 1,048,381

 Average number of IM headings per article: 2.58
 Average number of NIM headings per article: 7.41
 Average number of total headings per article: 9.99

DEMAND SEARCH FORMULATION FOR PLANT TISSUE CULTURE
Helen Cesvet, Tissue Culture Association

The formulation below will retrieve most of the plant tissue culture literature
input into MEDLARS. If a user is willing to tolerate a considerable amount of
noise, additional relevant citations may be retrieved by asking for PLANTS
(exploded) and (RNA or DNA), remembering the caution to negate PLANTS/pharmaco-
dynamics. However, because of the high retrieval of non-relevant articles,
this strategy is not generally recommended.

M1			Cytopathogenic Effect, Viral
M2			Cell Transformation, Neoplastic
M3			Cell Line
M4			Organ Culture
M5			Tissue Culture
M6			Virus Cultivation
M7	e	B6.	Plants (Use B6 only, as lower forms of plant life are not considered tissue culture material.)
M8			Plant Tumors (This may bring some noise, but most articles will have at least peripheral relevance.)
M9			Cell Differentiation
M10			Cell Division
M11			Cell Nucleolus
M12			Cell Nucleus
M13			Cell Wall
M14			Cytoplasm
M15			Mitosis
S1			pharmacodynamics
S2			drug effects
S3			cytology

SECT. 7 3-	ELEM. SYMBOL 11-14	33-36	37-40	41-44	45-48	49-56	7 3-	11-14	33-36	37-40	41-44	45-48	49-56
ELEMENTS A, J I, N, Y, X, AND SUMMATIONS													
	M20	Sum	M1	M6									
	M21	Sum	M9	M15									
	S5	Sum	S2	S3									
	X1	M7	S1										
	X2	M7	S5										

7	ELEM. SYMBOL 9-10	REQUEST STATEMENTS 11-80 COLUMNS	FOUND
4	01	M7 * M20 *- X1 + M8 + X2 * M21.	

NATIONAL LIBRARY OF MEDICINE

LIBRARY NETWORK/ MEDLARS
technical bulletin
(formerly MEDLARS/Network Technical Bulletin)

No. 13   May 1970

TABLE OF CONTENTS

We welcome comments
and suggestions.

NETWORK REPORT - APRIL 1970
NLM Actions

RML Grant Proposals Received

An application for renewal of the John Crerar Library RML Grant was received.

The proposal for continuation of the New York-Northern New Jersey RML grant was the subject of NLM review. A supplemental grant application for the preparation of a Union List in this region was also received and reviewed.

Training

1. IM Program

The script for an audio-visual package on "How to Use <u>Index</u> <u>Medicus</u>" is nearing completion. It is expected that the presentation will take about half an hour and will be illustrated with some 50 slides.

2. Introduction to MEDLARS

A tape recording has been prepared from a script based on the overview module of the MEDLARS User Orientation Programs. The tape is to be synchronized with the 38 slides in the overview.

3. "Principles of MEDLARS"

NLM has published an illustrated booklet with the title, "Principles of MEDLARS" -- designed primarily for users of MEDLARS search services and published bibliographies -- describing indexing procedures, vocabulary, search strategies, products, and services of MEDLARS. A small supply of these booklets have been sent to each MEDLARS Center. Additional copies may be purchased from the Superintendent of Documents, U. S. Government Printing Office, Washington, D.C. 20402 - Price: $.75.

4. Exhibit Planned

Two components of the NLM exhibit to be displayed at the Medical Library Association meeting in New Orleans (the Basic Hospital Library with supplemental literature on allied health sciences, and the AIM-TWX experiment) will also be displayed at the 10th International Cancer Congress in Houston, Texas.

Union Lists

1. A proposed contract between the Medical Library Center of New York and the Midcontinent RML to produce an updated and augmented union list was received and reviewed.

2. A proposed contract between a commercial firm and the Southeastern RML for photocomposition of this region's union list was reviewed.

3. A printout and magnetic tape containing approximately 2,300 non-Index Medicus serial titles was received from the Medical Library Center of New York. The receipt of this material essentially completed the work of the initial contract with the Center.

Health Sciences Bibliography Clearinghouse

A computer-produced index to clearinghouse bibliographies to be published quarterly is being formulated by the NLM Reference Section. A "pilot" issue of the index will be displayed at MLA.

Network Planning

1. The final agenda for the NLM/RML Directors Meeting in New Orleans was submitted for approval to the Director, NLM, and the Associate Directors for Library Operations and Extramural Programs. Following approval, the agenda was distributed to the RML Directors on April 15.

2. Recent performance budgets from most of the RML's were reviewed to determine the percentage of its grant each region allocates to the various services performed, as well as the distribution of total RML program expenditures. This survey should assist Network personnel in noting areas of neglect or overemphasis.

3. Complying with a Departmental directive, NLM established objectives and operational plans for FY 1971. Among NLM objectives is the provision of 70,000 additional ILL's to be supplied by NLM and the RML's.

4. Plans have been finalized to have MLA publish NLM's Current Catalog proof sheets twice weekly beginning July 1, 1970. Sample issues of the semiweekly will be available at the MLA Convention from the Central Office Booth of MLA.

Network Services Provided

ILL Activities

1. Reports from several regions indicate that the number of ILL requests which need further verification is a problem of growing concern. National Library of Medicine Staff would be interested in determining the extent of this problem. Therefore, if those RML's which are obtaining data on verifications required, or which could do so without difficulty, would report these figures, it would be appreciated. Such figures might be incorporated with remarks in the next quarterly report.

2. RMP funding of ILL activities seems to be diminishing, resulting in decreased total amounts available to support ILL services regionally and locally. NLM would like to be kept informed of any changes in RMP support within each region.

MEDLARS ORIENTATION PROGRAMS

Regions 4 and 5 each presented four orientation programs during the month. Other programs were given by personnel in Regions 2, 6, 7, 9, and 11. There was no MEDLARS training activity in Region 1, 3, 8, and 10.

Programs were presented to 44 groups in the third quarter of FY 1970. Region 11 was most active, with 11 presentations.

Date	Presented at:	Presented by:
April 7	Ohio State University - Graduate Students in Allied Health Sciences	L. Osborn
April 7-9	Ohio State University - Library Users	S. Davis, E. Wei, and L. Osborn
April 15	Marquette School of Medicine, Milwaukee - Physicians, Researchers, Librarians	M. Doherty C. Green
April 16	University of Wisconsin Medical Library, Madison - Physicians and Librarians	M. Doherty C. Green
April 17-18	University of Texas, Austin - Graduate Library Science Students	C. Green and R. Halegua
April 20	Vanderbilt University, Nashville, Tenn. - Librarians and Users	F. Johnson
April 21	University of California at Davis - Health Professional Users	B. Beamish
April 23	Long Island - Health Professional Users	C. Herring
April 27-28	Wake Forest University - Health Professional Users at Bowman Gray School of Medicine	W. Caldwell and A. Robinson
April 28	New Jersey - Health Professional Users	C. Herring
April 29	University of North Carolina - Health Professional Users	W. Caldwell and A. Robinson
April 30	Duke University - Health Professional Users	W. Caldwell and A. Robinson

STATISTICAL SUMMARY FOR MEDLARS CENTERS FOR APRIL 1970
Constantine J. Gillespie
MEDLARS Management Section, NLM

The table below, which includes only a few important items from each center's
monthly report, gives a summary of the searching performance at each of the
MEDLARS centers around the world:

MEDLARS DEMAND SEARCHING FOR APRIL 1970
Period: 3/27 - 4/30/70

Center	Searches rejected	Searches released excluding RDS's	Recurring demand searches released	Citations retrieved per search month	Percentage searches released, by calendar days	
					0-15 days	0-30 days
Alabama	5	100	8	5.85	96.8	98.6
Colorado	1	73	18	3.87	91.0	100
Crerar	5	41	0	6.18	0	80.5
Emory	0	17	0	11.17	53.0	100
England	0	420	0	--	58.9	74.1
Harvard	22	114	0	8.17	18.0	79.0
*INSERM (Paris)	10	89	104	--	0	0
Michigan	1	120	66	6.1	25.0	92.5
New York	3	28	0	3.0	0	93.0
NIH	3	56	0	4.23	60.0	96.0
NLM-MAR	5	227	7	5.9	69.2	99.6
NLM-MMS	18	183	5	5.37	76.0	100
Ohio	7	134	88	7.6	92.5	100
Philadelphia	7	87	6	4.1	67.0	100
PMA	2	32	0	6.9	93.8	100
*Sweden	0	280	784	11.2	0	6.8
Texas	5	141	0	2.91	100	-
UCLA	12	155	--	--	1.3	75.7
Washington	2	67	1	6.3	33.0	94.0

*Statistics are for March 1970

MEDLARS Activities

3,705 searches were released from domestic MEDLARS Centers in the third quarter
of FY 1970. Analysts began activity at Emory University and the New York
Academy of Medicine became operational this quarter. Both have already begun
to release searches. The July 1969 - March 1970 cumulation of released searches
is 11,998.

RECURRING DEMAND SEARCHES
Clifford A. Bachrach, M.D., Chief
Bibliographic Services Division, NLM

Shortly after its establishment, MEDLARS began providing monthly outputs to a limited number of users. For much of this time, this service was limited to specialized information centers, government agencies with program needs, or groups which would further disseminate the bibliographic material /in some form/ to a wider audience.

With the growth of the decentralized MEDLARS network, responsibility for the acceptance of "recurring demand search" requests has been left to the judgment of MEDLARS analysts at the MEDLARS centers. Search analysts are free to accept requests for this service, or to suggest the availability of this service, whenever in their judgment provision of this service would be a good use of MEDLARS.

Because our facilities for providing such service are limited, NLM has never publicized it. The Library is not in a position to handle a great many recurring demand searches in order to satisfy the needs of individuals. Because of the need to give preference to group use, each request is considered individually.

One of our centers (University of Colorado) assesses a nominal charge to defray the computer-time costs for the outside computer on which their recurring demand searches are processed. The MEDLARS Center of the Pharmaceutical Manufacturers Association also charges its members for service provided through their organization. Other domestic centers provide services without cost to the user. The overseas MEDLARS centers in Sweden and the United Kingdom charge for current awareness searches and publicize this service. Although it is not generally construed as a current awareness type of service, our MEDLARS centers will update an earlier search if the user so requests.

The policy regarding recurring demand searches can be summarized as follows: "MEDLARS Centers will accept limited numbers of requests for monthly 'current awareness' searches. Preference is given to requests from specialized information centers, governmental units having program needs, and other organizations which will use the output to provide service to a wider group. Requests for further information about such service may be directed to any MEDLARS Center."

NEW MEDICAL INFORMATION SERVICE IN VIRGINIA

The Virginia Medical Information System (VAMIS), a State-wide biomedical library service, was established on February 1, 1970, with funds from the Virginia Regional Medical Program. The purpose of the Information System is the organization of a network for interchange of biomedical information among medical centers, community hospitals, and practicing health professionals in the State. Accordingly, the resources of the two major medical libraries* are being made available to health professionals in Virginia with a view to improving the access of practitioners to timely scientific information and lending additional support to health care throughout the State.

*Medical College of Virginia, Richmond, and University of Virginia School of Medicine, Charlottesville.

INSECTS (B1)

INSECTS
        ANTS
        BEDBUGS   (cross-reference from Cimex)
        BEES
        BEETLES
        DIPTERA   (cross-reference from Flies)
            CULICOIDES
            DROSOPHILA
            HOUSEFLIES
            MOSQUITOES
                AEDES
                ANOPHELES
                CULEX
            PHLEBOTOMUS   (cross-reference from Sandflies)
            TSETSE FLIES   (cross-reference from Glossina)
        FLEAS
        INSECT VECTORS
        LICE (cross-reference from Pediculi)
        SILKWORMS   (cross-reference from Bombyx)
        TRIATOMINAE (Provisional)

        METAMORPHOSIS, BIOLOGICAL   (G1)
            LARVA (B1 Provisional)
            PUPA   (B1 Provisional)

NOTE: BOOKWORMS is a term from Category L. It is to be indexed as
      BOOKWORMS in most cases. If the taxonomic name is given, it
      can be located in Neave under the genus name and indexed
      accordingly. Bookworms are the larvae of mostly BEETLES,
      but some moths (INSECTS).

                INSECTS: Indexing Instructions

The common names of insects are supplied in the second
column. When a common name exists as a main heading in
MeSH, it is typed in capital letters to distinguish it
from common names which do not appear in MeSH.

INSECTS: Indexing Instructions (continued)

ORDER	COMMON NAMES	MeSH HEADING
Anoplura (a suborder of Phthiraptera)	sucking lice	LICE
Coleoptera	BEETLES, ladybugs, fireflies, weevils, mealworms, whirligigs	INSECTS
Collembola	springtails	INSECTS
Dermaptera	earwigs	INSECTS
Dictyoptera	cockroaches, mantids	INSECTS
Diplura	- -	INSECTS
Diptera	flies, HOUSEFLIES, fruit flies (DROSOPHILA), horseflies, sandflies (PHLEBOTOMUS), bluebottles, daddy long-legs, gnats, midges, MOSQUITOES	DIPTERA
Embioptera	webspinners	INSECTS
Ephemoptera	mayflies	INSECTS
Grylloblattodea	- -	INSECTS
Hemiptera	true bugs	INSECTS
Homoptera (a suborder of Hemiptera)	cicadas, aphids, leafhoppers	INSECTS
Heteroptera (a suborder of Hemiptera)	BEDBUGS, chinch bugs, backswimmers	INSECTS
Hymenoptera	ANTS, BEES, wasps, hornets, ichneumons	INSECTS
Isoptera	termites	INSECTS
Lepidoptera	butterflies, moths, SILKWORMS	INSECTS
Mallophaga (a suborder of Phthiraptera)	biting lice	LICE
Mecoptera	scorpion flies	INSECTS
Megaloptera (a suborder of Neuroptera)	alder flies, snake flies	INSECTS
Megasecoptera	- -	INSECTS
Neuroptera	lacewings, doodlebugs	INSECTS
Odonata	dragon flies	INSECTS
Orthoptera	grasshoppers, crickets, locusts	INSECTS
Palaeodictyoptera	- -	INSECTS
Phasmida	stick insects	INSECTS
Phthiraptera	LICE	LICE
Plecoptera	stone flies	INSECTS
Protorthoptera	- -	INSECTS
Protura	- -	INSECTS
Psocoptera	book lice	INSECTS
Siphonaptera	FLEAS	FLEAS
Strepsiptera	stylopids	INSECTS
Thysanoptera	thrips	INSECTS
Thysanura	bristle-tails, silverfish	INSECTS
Trichoptera	caddis flies	INSECTS
Zeugloptera	- -	INSECTS
Zoraptera	- -	INSECTS
Zygoptera (a suborder of Odonata)	damselflies	INSECTS

Now for some notes given rather as a matter of interest than for indexing exper-
tise. They are more etymological than entomological.

Insects are so named from the Latin because their bodies are segmented or "cut
into" (in + sect-). The corresponding Greek is entomon, exactly the same as
the Latin, en (for in) + tom- (for sect-). From this we get "entomology."
The Greek taxonomic name for the Insecta is the Class term Hexapoda, six-legged.
Obviously, the common use of "insect" to refer to anything that crawls, tying
the creatures up as "bugs" with spiders, scorpions, mites, and ticks is
anatomically and etymologically inexact, because these four are neither sected
nor six-legged. On the basis of number of legs, millipedes and centipedes are
not insects, either.

The taxonomic names are generally related to a description of the insect wing:
Lepidoptera, scale-winged; Diptera, two-winged; Coleoptera, sheath-winged;
Orthoptera, straight-winged, etc. The Greek word for wing, pteros, has a
charming story behind it. When man was developing language, the simplest con-
cepts were the easiest to devise and those easiest to devise were the sights
and sounds about him. The early root, long lost in antiquity, for feather (or
then, by extension, wing) was *pet- or *pt- for this was the sound man heard
when a feather dropped, floating in the breeze: pt, pt, pt.

The common names for insects, embedded in folklore, are more vivid than the
Latin or Greek, of course: bedbug, dragonfly, bluebottle, earwig.

The word bug is of uncertain origin. It seems to be related to the bug of bug-
bear or bogey, and meant a goblin.

The Latin for ant is formica. The acid secreted by ants is formic acid. For-
mication is the sensation of having ants crawling over one. (Persons working
crossword puzzles often find emmet a filler for ant. This is from amete or
emete, literally a- (off) + meizan or maitan (cut): thus, the ant is a "cutter-
off.") The Greek for ant is myrmex. You know this word as Myrmidons, the
troops who followed Achilles and as a common noun for persons who carry out
orders without protest, like indexers. The original Myrmidons were created by
Zeus out of ants.

Bee appears to be from a hypothetical root *bhi, meaning to tremble, as if the
bee were the "quivering insect." Vespa is a genus of hornets; Vespula (little
Vespa) is a genus of wasps. The etymological relationship of vespa to wasp is
clear; the name of the Italian motor scooter Vespa is also clear.

The Latin for flea is pulex. It is from this word, through the French, that
we get the color name, puce, i.e., flea-colored.

Cockroach is from the Spanish cucaracha, meaning this loathsome insect. This
led to the Creole coquerache, their pronunciation of the Spanish word. Our
"cockroach" is our mispronunciation of the Creole, and so has nothing to do with
either cock (a rooster) or roach (a fish). The conversion is a common linguistic

phenomenon. We have done it with crayfish - to cite one of many such examples. Crayfish is merely our mispronunciation of écrevisse, the French for that particular crustacean. The name of one genus of cockroach, Periplaneta, well describes its_activity: peri (about) + planet-(wanderer) /our planets wander about the sun/.

Culex is the Latin for gnat or midge. It is from this entomologically indeterminate designation that our Culex, Culicidae, Culicinae, Culicini, Culicoides, etc., all came, divided zoologically among mosquitoes and flies.

The Greek word for gnat or mosquito is konops, literally "cone-faced" in reference to an insect with a cone-shaped head. The word for a couch or a bed with a mosquito net on it was konopion, from which we get canopy and the French form of the same, canapé (certainly a tiny piece of covered bread).

The word mosquito is a Spanish and Portuguese diminutive of the Latin musca, "little fly." The word midge is also related to musca.

Our word butterfly seems to have a questionable origin. Some say it was named for its color, the yellow of butter, for a common species of butterfly is yellow. Thus, it would be the "yellow fly." The Greek word for butterfly is psyche, the same psyche we know as the soul or spirit or mind. The imagery of the soul as a butterfly or moth or shadowy thing, or the butterfly as a soul, is not lost to my fancy. The Latin for butterfly and moth is papilio. It came to mean, even in Roman times, a large tent, either itself spreading out like the wings of a butterfly or the flaps winging like the insect. In any event, this papilion- became our word pavilion, in reference to the form. Moth ties up with the Old English matha, a worm or maggot: in fact, maggot is "little moth" by the same linguistic rule whereby Pierrot is little Pierre or Margot is little Margaret. Caterpillar is from the Latin cattus (cat) and pilus (hair). When it is curled up, doesn't it look like a tiny furry kitten curled up?

The beetle is also a diminutive: "little biter" (beet-bite).

Ichneumons or ichneumon flies are parasites on the larvae of other insects. Mongooses are ichneumons. This word comes from the Greek word for footprint or tracks, because the little mongoose was a tracker of crocodile eggs upon which it fed. I have not been able to track down whether the ichneumon fly is so called because of the tracking concept in that it seeks out larvae to parasitize. In point of fact, I recall having seen the word only once in my life and I do not know whether it was then used as the fly or the mongoose. It was in 1936 in a poem by Ogden Nash:

> *   Ichneumons are fond of little ichneumons
>   And lions of little lions,
>   But I am not fond of little humans;
>   I do not believe in scions.

* From SOME OF MY BEST FRIENDS ARE CHILDREN by Ogden Nash.
  Reprinted by permission.

NERVOUS SYSTEM DISEASES TREE (C10)
Maria A. Mannarino, M.D.
MeSH Section, NLM

The tree structures of the NERVOUS SYSTEM DISEASES category (C10) have been re-
arranged according to the new capabilities of MEDLARS II to have more than four
indentations in the tree levels. At the present time, the hierarchical relation-
ships shown below can be used as a searching aid.

NERVOUS SYSTEM DISEASES
            AUTONOMIC NERVOUS SYSTEM DISEASES
                    AUTONOMIC DYSFUNCTION
                    *BARRE-LIEOU SYNDROME
                    BLADDER, NEUROGENIC
                    *FREY'S SYNDROME
                    HORNER'S SYNDROME
                    REFLEX SYMPATHETIC DYSTROPHY
            CENTRAL NERVOUS SYSTEM DISEASES
                    BRAIN DISEASES
                            AGNOSIA
                                    APRAXIA
                                    GERSTMANN'S SYNDROME
                                    PHANTOM LIMB
                            APHASIA
                                    AGRAPHIA
                                    ALEXIA
                            BRAIN DAMAGE, CHRONIC
                                    KERNICTERUS
                                    MINIMAL BRAIN DYSFUNCTION
                            BRAIN DISEASES, METABOLIC
                                    ABETALIPOPROTEINEMIA
                                  **CARNOSINEMIA
                                   *GAUCHER'S DISEASE
                                   *HAND-SCHUELLER-CHRISTIAN SYNDROME
                                    HARTNUP DISEASE
                                    HEPATOLENTICULAR DEGENERATION
                                    HOMOCYSTINURIA
                                   *LIPOCHONDRODYSTROPHY
                                    MAPLE SYRUP URINE DISEASE
                                    NIEMANN-PICK DISEASE
                                    PHENYLKETONURIA
                                    WERNICKE'S ENCEPHALOPATHY
                            BRAIN EDEMA
                                    PSEUDOTUMOR CEREBRI
                            CEREBRAL PALSY
                            ENCEPHALOMALACIA
                            HYDROCEPHALUS

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*Moved from another category
**New Provisional

NERVOUS SYSTEM DISEASES (continued)
         CENTRAL NERVOUS SYSTEM DISEASES (continued)
            BRAIN DISEASES (continued)
                MEMORY DISORDERS
                    AMNESIA
                    DEMENTIA, PRESENILE
                    KORSAKOFF'S SYNDROME
              SLEEP DISORDERS
                    INSOMNIA
                    NARCOLEPSY
                    SOMNAMBULISM
       CENTRAL NERVOUS SYSTEM DEGENERATION (NON MESH)
            AMYOTROPHIC LATERAL SCLEROSIS
          *CREUTZFELDT-JAKOB DISEASE
           CHOREA, HEREDITARY
           DEMENTIA, PRESENILE
           DEMYELINATION
                AMYOTONIA CONGENITA
                CEREBRAL SCLEROSIS, DIFFUSE
                        ENCEPHALITIS PERIAXIALIS
                ENCEPHALOMYELITIS, ALLERGIC
                MULTIPLE SCLEROSIS
                SCRAPIE
              *SWAYBACK
           DYSTONIA MUSCULORUM DEFORMANS
           FRIEDREICH'S ATAXIA
          *HALLERVORDEN-SPATZ SYNDROME
           KURU
           LAURENCE-MOON-BIEDL SYNDROME
           SYRINGOMYELIA
           TUBEROUS SCLEROSIS
      CENTRAL NERVOUS SYSTEM INFECTIONS (NON MESH)
           BRAIN ABSCESS
           ENCEPHALITIS
                ENCEPHALITIS, EPIDEMIC
                ENCEPHALITIS, JAPANESE
                ENCEPHALITIS, ST. LOUIS
                ENCEPHALITIS, TICK-BORNE
                ENCEPHALOMYELITIS
                      ENCEPHALOMYELITIS, EQUINE
           MENINGITIS
                ARACHNOIDITIS
                LYMPHOCYTIC CHORIOMENINGITIS
                MENINGITIS, HEMOPHILUS
                MENINGITIS, LISTERIA
                MENINGITIS, MENINGOCOCCIC
                MENINGITIS, PNEUMOCOCCAL
                MENINGITIS, VIRAL
                TUBERCULOSIS, MENINGEAL
                UVEOMENINGOENCEPHALITIS

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*Moved from another category

NERVOUS SYSTEM DISEASES (continued)
    CENTRAL NERVOUS SYSTEM DISEASES (continued)
        CENTRAL NERVOUS SYSTEM INFECTIONS (NON MESH) (continued)
            MENINGOENCEPHALITIS
            MYELITIS
            NEUROSYPHILIS
                PARESIS
                TABES DORSALIS
            POLIOMYELITIS
                POLIOMYELITIS, BULBAR
          *RABIES
            TETANUS
                TRISMUS
          *TOXOPLASMOSIS, CONGENITAL
        CEREBELLAR DISEASES
            CEREBELLAR ATAXIA
                ARNOLD-CHIARI DEFORMITY
                ATAXIA TELEANGIECTASIA
                FRIEDREICH'S ATAXIA
                HARTNUP'S DISEASE
        CEREBROVASCULAR DISORDERS
            ANGIOMATOSIS
            CAROTID ARTERY DISEASES
                CAROTID ARTERY THROMBOSIS
            CEREBRAL ANOXIA
            CEREBRAL ARTERIOSCLEROSIS
            CEREBRAL ARTERY DISEASES
                CEREBRAL ANEURYSM
            CEREBRAL EMBOLISM AND THROMBOSIS
                CAROTID ARTERY THROMBOSIS
                SINUS THROMBOSIS
                *WALLENBERG'S SYNDROME
            CEREBRAL HEMORRHAGE
                HEMATOMA, EPIDURAL
                HEMATOMA, SUBDURAL
                SUBARACHNOID HEMORRHAGE
            CEREBRAL ISCHEMIA, TRANSIENT
            MIGRAINE
            SUBCLAVIAN STEAL SYNDROME
          *VASCULAR HEADACHE
        CONVULSIVE DISORDERS (NON MESH)
            CONVULSIONS
            EPILEPSY
                EPILEPSY, GRAND MAL
                EPILEPSY, PETIT MAL
                EPILEPSY, TEMPORAL LOBE
                EPILEPSY, TRAUMATIC
                HYPSARRYTHMIA
                JACKSONIAN SEIZURES

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*Moved from another category

NERVOUS SYSTEM DISEASES (continued)
     CENTRAL NERVOUS SYSTEM DISEASES (continued)
        CONVULSIVE DISORDERS (NON MESH) (continued)
          MYOCLONUS
            PARAMYOCLONUS MULTIPLEX
       CRANIAL NERVE DISEASES
         FACIAL NEURALGIA
         FACIAL PARALYSIS
         *FREY'S SYNDROME
         MELKERSSON-ROSENTHAL SYNDROME
         OCULOMOTOR PARALYSIS
         OPTIC ATROPHY
         OPTIC NEURITIS
         TRIGEMINAL NEURALGIA
         VOCAL CORD PARALYSIS
      DECEREBRATE STATE
      MENTAL RETARDATION
        AMAUROTIC FAMILIAL IDIOCY
         CARNOSINEMIA
        CRANIOSYNOSTOSIS
        CRYING CAT SYNDROME
        DE LANGE'S SYNDROME
        GAUGHER'S DISEASE
        *HALLERVORDEN-SPATZ SYNDROME
        HARTNUP DISEASE
        HOMOCYSTINURIA
        IDIOCY
        KERNICTERUS
        LAURENCE-MOON-BIEDL SYNDROME
        LIPOCHONDRODYSTROPHY
        MAPLE SYRUP URINE DISEASE
        MONGOLISM
        NEUROFIBROMATOSIS
        NIEMANN-PICK DISEASE
        OROFACIODIGITAL SYNDROME
        PHENYLKETONURIA
        TUBEROUS SCLEROSIS
     MOVEMENT DISORDERS
       ATAXIA
        CEREBELLAR ATAXIA
           ARNOLD-CHIARI DEFORMITY
           ATAXIA TELEANGIECTASIA
           FRIEDREICH'S ATAXIA
           HARTNUP'S DISEASE
       ATHETOSIS
       CATALEPSY

*Moved from another category

NERVOUS SYSTEM DISEASES (continued)
       CENTRAL NERVOUS SYSTEM DISEASES (continued)
          MOVEMENT DISORDERS (continued)
            CHOREA
              CHOREA, HEREDITARY
            DYSTONIA MUSCULORUM DEFORMANS
            *HALLERVORDEN-SPATZ SYNDROME
            HEPATOLENTICULAR DEGENERATION
            KURU
            PARKINSONISM
              PARKINSONISM, POSTENCEPHALITIC
            TIC
              GILLES DE LA TOURETTE DISEASE
            TORTICOLLIS
            TREMOR
       NEUROLOGIC MANIFESTATIONS
          CONVULSIONS
          DELIRIUM
          DIABETIC NEUROPATHIES
          HALLUCINATIONS
          *HEMIANOPSIA
          MENINGISM
          REFLEX, ABNORMAL
          SENSATION DISORDERS (NON MESH)
            ANALGESIA, CONGENITAL
            HYPERESTHESIA
            HYPESTHESIA
            PARESTHESIA
            PHANTOM LIMB
         SPASM
         UNCONSCIOUSNESS
          COMA
              DIABETIC COMA
              HEPATIC COMA
           INERT GAS NARCOSIS
          VERTIGO
            MENIERE'S DISEASE
      PARALYSIS
         FACIAL PARALYSIS
         HEMIPLEGIA
         *MILL'S SYNDROME
         OCULOMOTOR PARALYSIS
         PARALYSIS, BULBAR
         PARALYSIS, OBSTETRIC
         PARALYSIS, SPASTIC
         PARAPLEGIA
         QUADRIPLEGIA
         *RESPIRATORY PARALYSIS
         VOCAL CORD PARALYSIS

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*Moved from another category

NERVOUS SYSTEM DISEASES (continued)
         CENTRAL NERVOUS SYSTEM DISEASES (continued)
            PERIPHERAL NERVE DISEASES
               ACRODYNIA
               DIABETIC NEUROPATHIES
             *FREY'S SYNDROME
              NERVE COMPRESSION
                  CARPAL TUNNEL SYNDROME
                  *TARSAL TUNNEL SYNDROME
              NEURALGIA
                  CERVICOBRACHIAL NEURALGIA
                  FACIAL NEURALGIA
                  TRIGEMINAL NEURALGIA
              NEURITIS
                  POLYNEURITIS
            *REFSUM'S SYNDROME
             SCALENUS ANTICUS SYNDROME
             SCIATICA
             SPINAL CORD DISEASES
                  AMYOTROPHIC LATERAL SCLEROSIS
                  MUSCULAR ATROPHY
                  MYELITIS
                  POLIOMYELITIS
                      POLIOMYELITIS, BULBAR
                  POLYRADICULITIS
                  SPINAL CORD COMPRESSION
                      BLADDER, NEUROGENIC
                  TABES DORSALIS

*Moved from another category

LIBRARY NETWORK/ MEDLARS
technical bulletin
(formerly MEDLARS/Network Technical Bulletin)

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We welcome comments
and suggestions.

NEW ASSOCIATE DIRECTOR FOR EXTRAMURAL PROGRAMS
Frances E. Hasemeier, Regional Medical Library Program, NLM

Dr. Leroy L. Langley became Associate Director for Extramural Programs of the
National Library of Medicine on March 22, 1970. He replaces David F. Kefauver
who became Deputy Assistant Director for Extramural Programs and Behavioral
Sciences for the National Institute of Mental Health.

Dr. Langley came to NLM from the National Heart Institute where he served
as Chief of the Training Grants and Awards Branch of the Institute's Extra-
mural Programs. He received his bachelor's degree in physiology from UCLA
in 1938, an M.A. from Stanford University, a Ph.D. in 1942 from Yale Uni-
versity, and a law degree from the Birmingham School of Law in Alabama in
1954.

Prior to his assignment at the National Heart Institute, Dr. Langley for
fifteen years was professor of physiology at the University of Alabama
School of Dentistry and the Medical College of Alabama.

MEDLARS SERVICES FOR GEORGIA
Constantine J. Gillespie, MEDLARS Management Section, NLM

As an extension of the MEDLARS Center in Birmingham, Alabama, the Southeastern
Regional Medical Library at Emory University now offers MEDLARS search formulation
service for the state of Georgia. Miss Alison Flynn, who recently completed her
search analyst training at the National Library of Medicine, will formulate re-
quests received from Georgia. Computer processing of these searches will be
handled through the computer facilities of the University of Alabama in Birming-
ham. Alabama will continue to formulate requests originating from the other
states in the southeastern region.

The address to which all Georgia requesters should send their MEDLARS search
requests, and to which Georgia requests received at other centers should be
forwarded, is:

                Southeastern Regional Medical Library
                A. W. Calhoun Medical Library
                Woodruff Research Building
                Emory University
                Atlanta, Georgia 30322

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SEARCH TIMELINESS AND THROUGHPUT TIMES
Clifford A. Bachrach, M.D., Chief,
Bibliographic Services Division, NLM

All who have participated in MEDLARS have had a real concern for the quality
of their work - the quality of indexing, of response to demand search requests,
and the organization of printed bibliographies, etc. There seems to have
been less general concern for timeliness, perhaps due to a subconscious
feeling that quality is more important than speed, and inversely related to it.
But looked at another way, timeliness is a component of quality and an important
one. A bibliography that includes the most recent literature is more valuable
than one that does not. For most users, a response to a call for bibliographic
assistance loses much of its value if it is not reasonably prompt.

How are we doing in these respects? Much better than we did at many times in
the past, but not so well that we can afford to be smug.

On the indexing side, we are still slowly gaining ground on the large indexing
backlogs that we developed a few years ago. Whereas two years ago our indexing
backlog was equal to five months of indexing effort, it now equals just two
and a half months.

In looking at indexing throughput times, it would probably be most appropriate
to observe the time from distribution of the primary medical journal until
distribution of the Index Medicus issue in which it is cited. Because of the
difficulty of learning the actual date that a journal issue is released by the
publisher, we have to pick another starting time. In the following tabulation,
we have chosen to load the dice against ourselves by taking the issue date on
the journal. If an issue is dated June, but actually put in the mails the
following November, as sometimes happens, our throughput times include these five
months.

Most of the contents of our April 1970 issue of Index Medicus was indexed during
February. (The first ten days of March were needed to complete inputting,
proofreading, etc., and the rest of March for printing and binding.) Of those
April CCF articles from the 100 top priority journals that are used for
Abridged Index Medicus (AIM), 80% bear 1970 issue dates (Fig. 1), and were
therefore indexed within no more than one to two months of publication.

Fig. 1. CURRENCY OF MEDLARS CITATIONS
Percent of Citations from Journals
Having Current Year Issue Date

	APRIL	
	1969	1970
A.I.M. Articles	81%	80%
English Language Articles	36%	47%
All I.M. Articles	18%	26%

About half (47%) of all English language articles on the April CCF (Compressed Citation File) were published in journals bearing 1970 publication dates. About a quarter (26%) of all April articles were 1970 articles. We feel that our priority structure is reasonable, and that the material that is most current is that which is of importance to most users.

Comparison with the 1969 figures shows some improvement in the currency of our foreign language content, and of material from "non-AIM" English-language journals. We hope that the expanding activities of a number of our overseas indexing centers will soon make possible greater currency of the literature for which they have responsibility, and which is of particular importance to users in their respective areas.

Fig. 2. DEMAND SEARCH THROUGHPUT TIMES
ALL U.S. MEDLARS CENTERS

Time From Receipt of Query to Release

	15 days	20 days	30 days
January 1970	34%	50%	78%
February	58%	77%	98%
March	60%	76%	94%

A comparison of demand search throughput times in January, February and March shows some noteworthy improvement. The searches released in January included many that were delayed by MEDLARS analysts' Christmas vacations and by some processing delays attributable to the priority given to the production of Cumulated Index Medicus and other year-end publications at NLM. But the improvement from January to February is less of a reflection of removal of these negative factors than it is of the effect of certain positive steps that were taken. Where formerly there were many weeks when NLM processed demand searches only on weekends, new arrangements have assured processing three times a week. Our expanded weekend capacity has made it possible to start each week now with no unprocessed searches carried over. Better scheduling has reduced the time loss in key punching. More attention to a first-in/first-out handling of requests has reduced the number of waifs and strays.

All of these factors had their greatest impact on searches formulated and processed at NLM, and a major effect on those processed at NLM but formulated elsewhere (Fig. 3). By March, the proportion of NLM formulated searches released within 20 and 30 days was as great as at other centers having their own processing facilities. While centers dependent on NLM for processing enjoyed the benefits of the improvement in NLM processing, their throughput times are still longer - partly because of the time required for the mails to carry the formulation forward and to return the output to the center. Some individual centers still have prolonged throughputs attributable to local causes, including a reluctance to forward some searches to other centers for formulation when backlogs begin to develop.

Fig. 3. DEMAND SEARCH THROUGHPUT TIMES
From Receipt of Query to Release
All U.S. MEDLARS Centers

Formulated at:	Percent Released Within:		
	15 days	20 days	30 days
January 1970			
NLM	12%	35%	76%
Other processing centers	75%	94%	97%
Non-processing centers	16%	27%	66%
February 1970			
NLM	59%	80%	97%
Other processing centers	91%	99%	100%
Non-processing centers	33%	60%	96%
March 1970			
NLM	80%	92%	97%
Other processing centers	92%	95%	95%
Non-processing centers	27%	54%	90%

We hope and expect that all centers doing their own processing can regularly dispatch 90% of searches within 15 calendar days of receipt of the query. We hope that centers that do not do their own processing can approach this level within 20 days.

It should be borne in mind that when we compute throughput times from receipt to dispatch, we are not looking at the full problem from the user's point of view. He has to wait from the day he submits the request until he receives the bibliography. Since this often involves the time required for his request to be delivered to the center and for the output to reach him, there may be another week of waiting time from his viewpoint. For this reason, consideration has been given, from time to time, to the possibility of dispatching output to the user directly from the computing center, after a cursory inspection for gross mechanical failure. The duplicate output would be dispatched simultaneously to the responsible searcher, who could promptly follow up with any supplementary explanations or suggestions. While this procedure may present some problems, these will continue to be weighed against the week or so that may be saved for many users. In the meantime, all search centers should use first class mail for sending search output to the user.

While the mails and computer schedules affect throughput times in an important manner, the factor most essential to the maintenance of adequate throughputs is a sense of urgency, on the part of each individual, to accomplish the tasks for which he is responsible as promptly as possible. At times, delays will occur in parts of the system over which one has no direct control. The occurrence of such delays should be a stimulus to move searches through other steps at an accelerated rate, rather than a justification for a general slowdown.

STATISTICAL SUMMARY FOR MEDLARS CENTERS FOR MARCH 1970
Constantine J. Gillespie
MEDLARS Management Section, NLM

The table below, which includes only a few important items from each center's monthly report, gives a summary of the searching performance at each of the MEDLARS centers around the world:

MEDLARS DEMAND SEARCHING FOR MARCH 1970
Period: 2/27 - 3/26/70

Center	Searches rejected	Searches released excluding RDS's	Recurring demand searches released	Citations retrieved per search month	Percentage searches released by calendar days	
					0-15 days	0-30 days
Alabama	3	98	5	5.39	73.5	83.7
Colorado	0	66	34	4.8	95.0	100
Crerar	2	41	0	3.8	9.7	82.9
England	0	621	0	--	34.7	92.1
Harvard	20	78	0	6.0	6.0	80.0
INSERM (Paris)	10	89	104	--	0	0
Michigan	1	115	50	6.3	45.3	99.1
New York	0	14	0	1.9	0	100
NIH	0	44	45	6.6	50.0	95.0
NLM-MAR	19	171	25	4.9	85.9	100
NLM-MMS	16	117	38	12.7	73.5	97.3
Ohio	6	88	81	7.3	98.9	100
Philadelphia	6	42	6	4.7	30.0	100
PMA	0	37	352	12.6	91.9	97.3
* Sweden	0	175	1,329	13.8	0	4.6
Texas	2	91	0	2.13	100	--
UCLA	23	116	20	8.6	4.3	78.5
Washington	3	34	0	11.0	0	85.0

* Statistics are for February 1970

SEARCHING PROVISIONAL HEADING: CLOFIBRATE
Gertrude Fox, MEDLARS Search Analyst, NLM

The provisional CLOFIBRATE (12/3/69) is often called ethyl chlorophenoxy-isobutyrate.* Prior to the entry of the term into the system, it was often indexed to BUTYRATES as well as ANTICHOLESTEREMIC AGENTS. Indexing instructions now state that the drug is to be indexed to PROPIONATES and ANTI-CHOLESTEREMIC AGENTS. Therefore, searchers must search for articles on CLOFIBRATE under the provisional as well as under ANTICHOLESTEREMIC AGENTS coordinated with both BUTYRATES or PROPIONATES to cover the retrospective literature.

* Merck Index, p. 270

SEARCHING PRECISE TOPICS
Sharon A. Davis, MEDLARS Search Analyst, Colorado

The nature of medical research is such that we often receive requests for exhaustive bibliographies on the most obscure topics. For instance, quick perusal of Index Medicus will reveal that literature on the subjects of hemispherectomy, contingent negative variation, or Karwinskia humboldtiana poisoning exists, but that it is buried in a solid mass of irrelevancy.

The center serving a clientele whose local libraries are variously equipped, at different levels of bibliographical expertise and sophistication, may not wish to turn down these requests. The local library simply may not have either the staff or the indexing and abstracting apparatus to allow compilation of the indicated manual search. In such circumstances, the conscientious MEDLARS analyst may try to find an alternate method of approach.

Take, for example, a search request for the literature on snoring. Snoring is not a MeSH term; as a matter of fact, it is not even listed in Dorland. In Webster's New International Dictionary /second edition/ we discover that snoring means, "1. To snort... 2. To breathe during sleep with a rough, hoarse noise, due to vibration of the uvula and the soft palate...." The use of MeSH terms vibration and palate or uvula in a search retrieved one irrelevant citation. Citations about snoring are most often located in Index Medicus under sleep and respiration.

A good search on snoring may be prepared in three steps. First, look through a reference tool which has an open, uncontrolled indexing vocabulary, such as Excerpta Medica, noting references found. Second, trace a classic citation, or one or two of seeming major significance, or perhaps the only one found, through Science Citation Index. Compile a list of the authors writing about snoring, using end references in the articles found, when appropriate (and when publication dates fall within a reasonable span).

The third step is to devise a computer search formulation to retrieve material in the appropriate general subject area. This maneuver is necessary to keep the number of citations retrieved in high speed search within reasonable bounds; to escape direct searching on authors as the significant element, which is prohibitively expensive in terms of computer time required; to avoid retrieval of articles on unwanted subjects by the same authors; and to pick up additional relevant citations, which may have been more recently indexed, and not found during manual search. In the case of snoring, the 4 search equation strategy would be sleep and respiration.

There is then the necessity to subsort on the author list, and, last but not least, to specify a report generator cut-off figure just somewhat higher than the number of known authors, in order to permit retrieval and printing of additional articles by them, and in order to save the computer time which would otherwise be spent in sorting, formatting, and printing unwanted material.

The tragicomic subject of snoring is chosen for its presumed reader interest; actually, we can discover only two articles on this subject in the 1967-69 corpus (one is a highly important review article, a Presidential address before the Royal Society of Medicine). But would you believe search results of 78 articles on contingent negative variation and 51 articles on hemispherectomy and even 2 on Karwinskia humboldtiana poisoning?

FOREIGN MEDLARS TAPE USERS BRIEFING
Lillian H. Washington, NLM

The second of a series of briefings on MEDLARS II for users of MEDLARS tapes
was held at the National Library of Medicine on February 24 and 25, 1970.
Attendees were representatives from the foreign organizations that now use
MEDLARS I tapes.

The first day of the session was opened with introductory remarks by the
Deputy Associate Director, Dr. G. Burroughs Mider. His remarks were followed
by an introduction to MEDLARS II by Mr. W. Luebke, Senior Technical Member
of the MEDLARS staff of Computer Sciences Corporation. Next, Mr. Ralph A.
Simmons, the MEDLARS II Project Manager for the Library, gave a status report
on the development of MEDLARS II. Dr. Joseph Leiter, Associate Director for
Library Operations, NLM, introduced the staff of Computer Sciences Corporation,
who made the presentations for the rest of the day. These presentations
included hardware and software concepts and design; applications design for the
INITIAL phase of MEDLARS II (batch processing oriented, scheduled to be opera-
tional September 1970); and projected support to present MEDLARS tape users.
In addition, Mr. Davis McCarn, Deputy Director, Lister Hill National Center
for Biomedical Communications, NLM, gave a presentation highlighting on-going
network activities and their relationship to the development of MEDLARS II.

The agenda for the foreign tape users was basically the same as that for the
domestic tape users* except that the development of the design had advanced to
the point that a presentation was given about the details of the file design,
especially the Indexed Citation File and the Vocabulary File. It was also
possible to give at this time a formal presentation of the implementation of
the vocabulary concept as developed by Dr. Harley and Mr. Lancaster.

Representatives of the various organizations discussed their present use of
the MEDLARS I tapes and their future computer acquisition plans. Most of the
users view the demand search service as part of a larger documentation service
and as such have written their own programs. Only one center is completely
dependent upon NLM for the computer programs to perform demand searches.

The attendees remained at the Library several additional days after the close
of the formal briefing, thus giving the Library staff an opportunity to learn
more about their systems and permitting continued discussions concerning the
details of MEDLARS II. It was found that the main problem of the foreign tape
users is not necessarily always the computer configuration but what it will
take to modify their present computer programs to take advantage of the capa-
bilities of MEDLARS II. As with the domestic users, the possibility of coopera-
tive development of the necessary computer programs was discussed since the
economic savings could be substantial. Consideration was given to conducting such a
joint effort at NLM. Programmers, representing each of the foreign users, could

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* See "MEDLARS Tape User Briefing," Library Network/MEDLARS Technical Bulletin
  No. 10, pp. 8,9.

be provided direction and assistance by representatives of the Computer
Sciences Corporation. No definite decision was made, but the matter is
under consideration.

Representatives from the foreign organizations were:

Mr. Price, National Lending Library for Science and Technology, Great Britain
Mr. Le Minor, INSERM (Institut National de la Santé et de la Recherche
                    Médicale), France
Mr. Garrow (Scientific Attache, Australian Embassy), National Library of
                    Australia
Mr. Trebelijahr, World Health Organization (WHO), Switzerland
Dr. Fritz, DIMDI (Deutsches Institut für Medizinische Dokumentation und
                    Information), West Germany
Mr. Kurzwelly, "
Mr. Theisel,   "
Mr. Kimura, JICST (Japanese Information Center for Science and Technology)
                    Japan

PROOF SHEETS OF CATALOGING DATA
Sheldon Kotzin, Network Management Staff, NLM

Approximately one year ago, NLM began experimental publication twice a week
of proof sheets containing complete cataloging data for current English
language materials received by NLM, the Francis A. Countway Library at
Harvard, and the Upstate Medical Center Library at Syracuse. A small number
of libraries received the semiweekly proof sheets and provided NLM with
statistical evaluations of the usefulness and timeliness of this publication.
These libraries found that the proof sheets were of considerable value to
them in acquiring and cataloging recent biomedical titles.

NLM will continue to publish the semiweekly on an experimental basis from now
until the end of June. Beginning July 1, 1970, the Medical Library Associa-
tion (MLA) will publish the proof sheets. The cataloging and editorial work
will continue to be done at NLM. The items included in the proof sheets will
receive priority treatment by NLM so that they will be cataloged and in a
format ready for printing within a few days after their arrival at the Library.
MLA will be responsible for printing and distribution.

The subscription price for 104 issues has been established at between $17-$25
per year, less than 25¢ an issue. Definite information on subscription costs
will be available within the next month or two from the Medical Library
Association, 919 N. Michigan Avenue, Suite 1601, Chicago, Illinois, 60611.

INSTRUCTIONS FOR RAPID RECOGNITION AND
INDEXING PLANT TISSUE CULTURE LITERATURE*

1. <u>Title</u> The title of many articles concerned with plant tissue culture
will indicate the nature of the material. The term, <u>in vitro</u>,
often appears as part of the title in plant tissue culture
papers. Therefore, the term, <u>in vitro</u>, coupled with the name
of a plant tissue or organ indicates that the article deals with
plant tissue culture.

Examples:

"<u>In vitro</u> culture of the shoot tips of Psilotum nudum."

"Effect of Lupinus growth factor on the <u>in vitro</u> growth
of embryos of various plants and carrot root tissue."

"A typical growth of plants II. Growth <u>in vitro</u> of virus
tumors of Rumex in relation to temperature pH, and various
sources of nitrogen, carbon, and sulfur."

"Proliferation of excised juice vesicles of lemon <u>in
vitro</u>."

Culture is also a term which appears frequently in the titles of
plant tissue culture literature (also sterile culture, tissue
culture).

Examples:

"Phytostat for continuous <u>culture</u> and automatic sampling
of plant-cell suspensions."

"The rooting of flowers in sterile <u>culture</u>."

"Phase-cinematographic observations on <u>cultured</u> cells.
I. formation of transvacuolar strands in Euphorbia
marginata."

"Studies on the survival of very small barley embryos in
<u>culture</u>."

The term <u>excised</u> is sometimes a clue to the tissue culture nature
of papers.

_____

* The above article was prepared by Drs. Donald Dougall, Knut Norstag, and
Trevor Thorpe of the Plant Section, Tissue Culture Association. As promised
in the January 1970 <u>Bulletin</u>, a plant tissue culture hedge will appear in a
future issue.

Examples:

"Mitosis and cell enlargement without cell division
in excised tobacco pith tissue."

"Growth of excised tissues from the stem of Cryptostegia
grandiflora."

Callus is a term which indicates the plant tissue culture nature
of a paper when used in conjunction with some of the terms above.

Example:

"In vitro culture of somatic wheat callus tissue."

Other terms appearing in the title which also may be indicative
of plant tissue culture are:

Suspension culture
Plant cells
Cultured cells
In liquid media
Continuous culture
Submerged tissues
Cell proliferation
Tissue proliferation

2. **Abstract**

The abstract will generally give all the information necessary
for classifying an article as tissue culture.

Usually the author will name the culture medium. The designation
White's medium, Mursahige-Skoog medium, Linsmeier-Skoog medium,
nutrient medium, synthetic medium, yeast extract medium, coconut
milk medium is a sure tip off. Generally speaking we consider that
plant tissue cultures are those cultures which are subculturable.
This is or may be alluded to or it may be stated that the tissues
or cells proliferate.

In addition to the terms listed above in 1, the identification
of the tissue source is often given. Such names as carrot, spruce,
pea, tobacco pith, anther, root, shoot tip, shoot apex, stem apex,
embryo, endosperm. By far the most common cultures are those of
tobacco and carrot.

3. **Illustrations**

Plant tissue culture articles often include illustrations of the
tissue in culture tubes. These are rounded masses of tissue, often

without much discernable structure. Sometimes small buds and
roots are pictured growing out of the tissue mass.

4. Bibliography

In addition to the inclusion of titles which are recognizable
as plant tissue culture, the names of P. R. White, Skoog,
Murashige and Skoog, Gautheret, Hildebrandt usually appear
since they are associated with the development of popular
culture media.

MEDLARS ORIENTATION PROGRAMS

Date	Presented at:	Presented by:
March 5 and 6	Texas Medical Center Library, Houston, Texas - Health Science librarians.	Mrs. Green and Miss Johnson
March 10	New York Academy - New Fellows of N.Y. Academy.	Miss Herring
March 11 and 12	University of Iowa Medical Library, Iowa City, Iowa - Dentists and physicians.	Miss Doherty and Miss Green
March 11-13	University of Hawaii, Hawaii Medical Library - Health professional users.	Mrs. Beamish and Miss Klinger
March 17	University of California at San Diego - Health professional users.	Mrs. Beamish
March 23	University of Michigan, Institute for Study of Mental Retardation - Faculty and research associates.	Mrs. Hirschfeld and Mr. Lawrence
March 24	New York Academy of Science - Medical librarians representing N. Y. Academy.	Miss Herring
March 24	NLM - Graduate library students and NLM Associates.	Dr. Halegua and Mr. Caldwell

Note: All MEDLARS Centers giving MEDLARS Orientation Programs are requested
to include the necessary information, in the format above, in their monthly
narrative report to the MEDLARS Management Section, NLM. Other items of
interest, such as personnel changes, center activities, etc. should also be
included in the narrative report.

PLANT FOODS, FOOD PLANTS, AND FOOD
Thelma Charen, Index Section, NLM

The present MeSH terms in botany reflect the evolution of botany as pharma-
cognosy throughout our indexing history from the late nineteenth century to
the present. In medical literature today we see little need for extensive
botanical coverage and MeSH contains only the skeletal remains in this field
in such terms as TREES, SEEDS, HERBS and a few specifics. As Dr. Shumway
has pointed out in a personal communication, we are not a botanical index and
the MEDLARS analysts' approach to botany should be one of common sense. Such
headings as ROSA and GERANIUM are charming relics of another age, the presence
of which lends a redolence to MeSH and does no bibliographical harm.

MeSH headings for plants used as food are found largely in Subcategory B6;
others are in Category J and some are in both. The identity of the category
in this relation is of little moment since the indexers are called upon
relatively infrequently to mate these terms with subheadings. Some of the
subheadings available to each of the categories are irrelevant in most cases
when the MeSH plant/food headings are required for food and nutrition.

Most of the headings for foods, plants and plant foods are self-explanatory.
Several fall into a shadowy area which requires illumination for the indexers
and searchers. The Indexing Manual discusses the subject of food in 27.2,
27.3 and 27.4 but none of this is new. Nor is the discussion on the differen-
tiation of plants and edible plants new. Here the indexer is instructed
basically and simply to distinguish between a plant as tissue and the same
plant as food. There is no need to reproduce the manual instructions here
for the examples on plant tissue and plant foods are clear enough.

The heading FRUIT requires more elaboration than any of the other terms in
this array. Fruit is defined botanically as the "matured carpel-base (ovary)
of an angiosperm" (an angiosperm "bears seeds enclosed by inrolled sporophylls -
also called carpels"). In the interests of preserving your good humor it might
be wise to stop the definitions at this point. From the cross-references in
MeSH to FRUIT (APPLES see under FRUIT; likewise, APRICOT, BANANA, BERRIES and
MELON see under FRUIT), one can deduce that MeSH is willing to accept the
customary, nay even lay concept of fruit. Thus, FRUIT and VEGETABLES are used
by indexers in the conventional sense of the words as "table items" (MeSH
communication) and leaves the differentiation between a fruit and a vegetable
up to the good sense of the indexer and the commonly accepted American usage.
MeSH leaves the differentiation of the fruit and vegetable headings as "table
items" from plant tissue articles up to the good judgment of the indexer and
the intent of the author.

By this reasonable approach, a rutabaga is a vegetable, as are other turnips,
potatoes, peas, squash, pumpkin and tomatoes. Although botanically some of
these vegetables are tubers, some roots, some legumes, some fruits, MeSH at
this time has felt no impulsion to make structural distinctions. Were it so
impelled they would have added to our present collection of SEEDS, FRUIT,

VEGETABLES, HERBS, WOOD, TREES also "LEAVES," "FLOWERS," "STEMS," "ROOTS" -
morphological elements - as well as "BRYOPHYTA," "TRACHEOPHYTA," "PTEROPSIDA"
and other taxonomic representatives.

Most articles on fruits and vegetables concern their nutritional value and
nutrient analysis. The familiar North and South American and European edibles
will give no trouble to the indexer. Less familiar and more exotic Asiatic
and African fruits and vegetables will require help from the author. If the
author does not specify the identity of the plant as fruit, vegetable, seed,
herb, nut, etc., it is likely that the MeSH heading PLANTS, EDIBLE will be
correct.

Just as fruit is botanically the ovary, as defined with dignity above, and
just as the seed is the ovule, so the nut is the "hard, one-seeded fruit
developed from a compound ovary." By this definition MeSH's PEANUTS is hardly
a "nut" since it is a legume, but for all practical purposes they included it
among nuts and this act did not incite indexers to rebellion.

MeSH has both GRAIN and CEREALS: a variety of botanical texts define one in
terms of the other as "grain - a cereal; those grasses cultivated as food" or
"cereals - those grains used as food." The indexer takes the easy way out:
he uses the term of the author. If the author uses both interchangeably, the
indexer makes this distinction: he indexes as CEREALS if the author refers
to processed grains (cereals?) as Cornflakes, Rice Crispies, Wheaties, etc.,
and my favorite Grapenuts which are certainly neither the MeSH GRAPES nor NUTS!

In indexing SEEDS, the indexer should coordinate with the name of the plant if
it is in MeSH. If the plant name is not available, SEEDS alone is correct
indexing. Do not coordinate with PLANTS since this gains nothing toward
specificity; PLANTS, EDIBLE or a specific plant heading as a coordinate is
correct when applicable.

HERBS are basically plants "that die at the end of a growing season" and as
such they do not figure much in MeSH or in indexing. Here we meet them as
plants for their pharmacologic, aromatic or culinary qualities. We index under
the heading HERBS if we do not have the specific herb in MeSH (see the MeSH
tree at B6.81.21 for the arrangement of specific herbs). As usual, we rely
on the author's terminology and the use of the plant in question as an herb in
indexing under this term.

TREES as trees is seldom met in indexing. It presents no special medical
problems. See the MeSH trees at B6.81.43 for the MeSH presentation of their
botanical TREES headings.

GRASSES will be used in reference to the plants classed taxonomically as
grasses. They generally figure in articles in veterinary medicine or animal
husbandry as food for grazing animals. For animals, MeSH has given us ANIMAL
FEED and SILAGE (Silage is a provisional heading).

By this discussion one can see that the indexers feel no pressing need for
an amplification of MeSH coverage in botany: the coverage is manageable for
a medical index and for indexing in an area which does not figure spectacu-
larly in the journals on our present list. Those indexing Russian literature
have greater call for plant terms because of the relative status of pharma-
cognosy in that country as compared with ours. In countries where the drug
industry is not very active, there is obviously greater use of native medica-
ments of which the plants are the most common.

A morsel or two on food should be given. FOOD to indexers is the broadest
possible definition whether its intake is for nutrition or pleasure. By this
definition, beverages are food. The discussion here omits animal intake of
edible plants and is restricted to human consumption only.

The Indexing Manual covers the heading MEAT in 27.8. Basically the indexer
should specify the source of the meat by coordination (CATTLE, SWINE, etc.).
POULTRY PRODUCTS are given in the tree below and indexing instructions are in
27.8 also. SHELLFISH is not to be indexed as FISH PRODUCTS even though it is
so categorized by MeSH in Category J. SHELLFISH should be coordinated with
CRUSTACEA (for crabs, for example) or MOLLUSCA (for oysters, scallops, for
example).

YEASTS is a group of fungi with characteristic features. In the future, MeSH
is indenting under it CANDIDA, CRYPTOCOCCUS, SACCHAROMYCES and TORULOPSIS.
YEAST, DRIED is the correct term for what an author called "dried yeast."
Do not confuse this with baker's yeast and brewer's yeast for which MeSH gives
cross-references to SACCHAROMYCES. (Saccharomyces cerevisiae was aptly named
since cerevisia (cervesia, cerevesia) is the Latin-from-the-Gallic for beer.)

The FOOD tree below is classified very arbitrarily. Many arrangements are
possible: by utility, by manufacture or processing, by botanical source, by
alphabet. The one below is motley. The terms in parentheses were inserted as
rubrics and are not MeSH terms.

Category J
FOOD

If a heading below appears in another category exclusively or in addition to
J, the category is typed after the MeSH term. Rubrics devised only for this
array are in parentheses.

FOOD
   (Animal Products)
      FISH PRODUCTS
      MEAT
      POULTRY PRODUCTS
         EGGS
            EGG WHITE
            EGG YOLK
   * SHELLFISH

   (Bakery Products)
      BREAD
      FLOUR
         CEREALS
            CORN (B6)
            GRAIN (B6)
            RICE (B6)
            WHEAT (B6)
      YEASTS (B5)
         YEAST, DRIED (D11)

   (Basic Nutrients)
      DIETARY CARBOHYDRATES (D11)
      DIETARY FATS (D11)
         BUTTER (D11)
         OILS (D11)
            COTTONSEED (D11)
            SESAME OIL (D11)
      DIETARY PROTEINS (D10)

BEVERAGES
   ALCOHOLIC BEVERAGES
      BEER
      WINE
** CACAO (B6)
   COFFEE (B6)
   MILK (A13)
   MINERAL WATERS
   TEA (B6)

CONDIMENTS
   HERBS (B6)
      CAPSICUM (B6)
      CLOVE (B6)
      GARLIC (B6)
      MUSTARD (B6)
      THYME (B6)

(Confections)
   CANDY
***   CACAO (B6)
   CHEWING GUM
   HONEY
   MOLASSES

DAIRY PRODUCTS
   BUTTER
   CHEESE
   ICE CREAM
   MILK (A13)

FOOD, FORTIFIED (Prov)
INFANT FOODS (Prov)
   CAROB FLOUR (Prov) (B6,D13)

(Produce)
   PLANTS, EDIBLE (B6)
      CEREALS
         CORN (B6)
         GRAIN (B6)
         MALT
         RICE (B6)
         WHEAT (B6)
      FRUIT
         CITRUS FRUITS
         GRAPES
      HERBS (B6)
      NUTS
         CACAO (B6)
         COCONUT
         PEANUTS
      VEGETABLES
         CASSAVA (B6)
         RHUBARB (B6)
         SOY BEANS

---

  * SHELLFISH is coordinated with MOLLUSCA or CRUSTACEA for specificity.

 ** CACAO is coordinated with BEVERAGES for chocolate drinks.

*** CACAO is coordinated with CANDY for chocolate candy.

LIBRARY NETWORK/MEDLARS
technical bulletin

1969

MAY through DECEMBER

NUMBERS 1-8

(Numbers 1-6 issued as MEDLARS/Network Technical Bulletin)

Issued by The

Office of the Associate Director for Library Operations

National Library of Medicine

INDEX TO LIBRARY NETWORK/MEDLARS TECHNICAL BULLETIN*
* May-December 1969, Numbers 1-8

*Nos. 1-4 issued as MEDLARS/Network Technical Bulletin

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LIBRARY NETWORK / MEDLARS
technical bulletin

(formerly MEDLARS/Network Technical Bulletin)

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We welcome comments
and suggestions.

POSTPONEMENT OF MEDLARS WORKSHOP
William H. Caldwell
Deputy Chief, BSD

The MEDLARS Workshop for the Spring of 1970 has been postponed. May, the month
during which the workshops have been traditionally held, will be a particularly
busy time in the development of MEDLARS II. Furthermore, it was expected that
much of the agenda for the next workshop would be devoted to a discussion of
MEDLARS II, and May will be too early for any definitive information. Therefore,
it is hoped that the next workshop will be held at NLM some time during the
summer. We will keep you posted.

PREPARATION OF ARTICLES FOR THE LIBRARY NETWORK/MEDLARS TECHNICAL BULLETIN

In order to facilitate the editing of articles, please submit all manuscripts in
duplicate, double-spaced. Include the title of the article, the author, and the
author's title and/or organization in the manuscript. Please remember that manu-
scripts should be at NLM by the 10th of the month.

The Editors

ERRATUM TO LIBRARY NETWORK/MEDLARS TECHNICAL BULLETIN

<u>Library</u> <u>Network</u>/<u>MEDLARS</u> <u>Technical</u> <u>Bulletin</u>, No. 10, page 15: "Current Status of
the Regional Medical Library Network." States comprising RML region 8 are Nebraska,
Missouri, Kansas, South Dakota, Wyoming, Colorado, and Utah. Region 8 does <u>not</u>
include Wisconsin.

SEARCHING AIDS, HEDGES, AND TREES

Several MEDLARS Analysts, including Miss Colville-Stewart, Miss Pothier and
Mrs. Cesvet, have suggested that "hedges" and "trees" be completely separated
from other material in the <u>Library</u> <u>Network</u>/<u>MEDLARS</u> <u>Technical</u> <u>Bulletin</u> so that
they can be removed without destroying other articles and without requiring
xeroxing of the hedge or tree.

Therefore, beginning with this issue, all hedges, trees, and other searching
aids will be positioned for convenient separation.

AN ATTEMPT TO DEFINE A SEARCH FORMULATION "MACROVOCABULARY"
M. Michel Le Minor, Computer Analyst, INSERM

At INSERM (Institut National de la Santé et de la Recherche Médicale), we have tried to reduce effort in formulating searches by creating "macrovocabularies." Below we describe how a macrovocabulary can be used to define elements entering into formulations, and how these solutions are retained for INSERM's input programs. It is probable that some of these solutions are already being used in other MEDLARS centers. It is also conceivable that the introduction of MEDLARS II will make it necessary to reexamine these problems.

The computer was originally introduced into various documentary systems because of its ability to manipulate and process rapidly large volumes of information. It is now beginning to be used for more complex documentary problems, and, in particular, as an aid to formulation. Conversational interrogatory systems are already functional. The development and subsequent availability of MEDLARS II will permit users to utilize those facilities. It will certainly provide its own solutions to some of the problems raised here.

While awaiting the generalization of conversational systems, formulation remains the province of experts. As Mr. Lancaster[1] has pointed out, a good adaptation of a formulation language has its own exigencies that depend, in fact, on the quality of the responses obtained.

The present formulation language is an already well developed tool; its syntax permits the expression of several types of relationships:
- logical relationships (AND, OR, AND NOT, OR NOT)
- an associative relation (Main Heading/Sub Heading)
- a comparative relationship (greater than, equal, less than).

Its present vocabulary is composed of and can be accessed by:
- indexing terms
- classification names

The indexing terms are theoretically sufficient to describe all concepts entering into a formulation. In practice, they are poorly adapted for the description of certain generic notions. That is why the notion of classification has been introduced.

The classifications are, as a matter of fact, macroelements of tree-like structures defined on the basis of indexing terms. Is it possible to go further in this direction, and do the problems posed by the formulation justify the creation of macroelements having a more complex structure than those of the classification?

After a rapid examination of this question and the description of the solutions retained for the question entry program, the problems raised by the creation and utilization of a formulation macrovocabulary will be considered.

The concepts entering into the formulation may be schematically divided into two groups: specific and generic.

Lancaster, F.W. Evaluation of the MEDLARS Demand Search Service. January 1968.

The former relates to the precise object of the question, whereas the latter serves to isolate its different aspects, aspects which are often implicit for the user.

The specificity rule of indexing requires that the actual vocabulary suffice for the description of most of the specific notions. There exist cases, nevertheless, where the formulator must "fabricate" this description with the aid of indexing terms and logical relations; that is to say he must, in fact, create a macroelement.

For the description of generic concepts, the creation of macroelements will be necessary each time that neither existent indexing terms nor a classification is capable of covering it.

To recapitulate, a formulation vocabulary should:
- include the indexing lexicon in order to conserve the maximum level of finesse
- include a number of "synthesis" tools which permit the creation of macroelements that can be defined with the aid of logical relations on the basis of indexing terms, or even eventually on the basis of other macroelements.
- allow the labeling of the new elements thus created so that they may be used as predefined terms in later formulations.

The formulators will thus be able to use the indexing vocabulary interchangeably with the macrovocabulary. Nothing prevents each formulator from enriching and incorporating the macroelements which he has himself defined.

In the interest of maintaining compatibility between the different levels of formulation language, the solutions retained have been elaborated on the basis of an actual language.

These solutions essentially permit:
- the use in the definition list of those elements (RED LIST) of the logical operators: AND, OR, AND NOT, OR NOT, thus permitting the definition of macroelements.
- the extension of the notion of sum.
- the labeling of macroelements; that is to say, their incorporation under a conventional name into the local MEDLARS files.

Because the existing system of classification is sufficient, the possibility of creating macroelements of a tree-like structure was abandoned.

Example of construction and computer-storage of a macroelement:

```
M1    HUMAN
C1    B1
C2    B2
I1    LE66/1/1

V1  C  M1 OR I1 AND NOT (C1 OR C2).
    N  ALL FILE HUMAN
```

The macroelement defined by the logical statement expressed in V1, is computer-stored under the name "ALL FILE HUMAN." For later formulations, we can designate this macroelement directly under that name.

In the following example, we use the macroelement "ALL FILE HUMAN," and we construct, in V4, a macroelement the use of which is limited to this particular formulation.

M1		LIVER
M2		TISSUE CULTURE
M3		CLONE CELLS
M4		CELL-FREE SYSTEM
M5		M2-M4
V4	+	M1 AND M5 (+ in this position corresponds to "sum.")
V2	P	ALL FILE HUMAN
R1		V4 AND V2.

The notion of sum now includes four types of sums:
- the implicit homogeneous sum   (M5 + M1-M4)
- the implicit hybrid sum   (V1 + M1-L4)
- the explicit homogeneous sum   (M5 + M1, M2, M4)
- the explicit hybrid sum   (V1 + M1, I1, T3)

The first two types of sums are already familiar to most formulators. The other two types have already been defined in a more formal fashion in the report presented to the MEDLARS seminar*, and we have restricted ourselves here to simply illustrating these sums by examples in which also figure the procedures of creation, cataloging and use of macroelements.

Of course, as is the case with any language approached under aspects as synchronistic as diachronistic, the creation, utilization and evolution of a macrolanguage raises a number of problems.

At the outset, it implies an effort at normalization: an anarchic proliferation of macroelements would render these useless. The creation of efficient procedures necessitates normalization. But this need not be total. Indeed, an adaptation of a macrolanguage under local conditions would allow us to respect the originality and interests of each center. One would thus achieve a very great flexibility because, as an extreme, nothing prevents a formulator from creating a vocabulary adapted to his personal methods of working.

Nevertheless, one should approach this extreme measure with caution, for at the level of formulation it could lead to the suppression of the direct use of indexing terms. The indexing terms remain, in fact, the basis of the system and should be used, whenever possible, preferentially to the macroelements which, in fact, have but a conventional existence. In addition, these macroelements, which are located on an upper conceptual level, introduce a new semantic distortion into the documentary terms.

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*Report on the MEDLARS activities at the biomedical documentation center in Paris WORKSHOP of November 1969.

On the other hand, the synthetic character of the macrovocabulary makes it possible to increase the specificity of the indexing terms without precipitating an explosion in the volume of the list of elements figuring in the formulation.

As a result of the labeling of macroelements, the evolution of the indexing language will be integrated automatically at the level of formulation by simply updating the macroelement file. In this way, it is possible to envisage that the incorporation of new key words can be ignored by some formulators.

In a similar manner, the simplification of formulation, and above all of the strategies, will reduce the risk of error. It will also make it possible to entrust the relatively simple formulations to non-specialists who have had a reduced training period.

The result thus will be an accrued efficiency in the functioning of the centers and a "decongesting" in the formulation services.

COMMENTS ON INSERM'S "MACROVOCABULARY"
Norman P. Shumway, M.D., Head
Medical Subject Headings Group

The proposal by Mr. Le Minor of the development of a "Macrovocabulary" is an interesting expansion of the pragmatic experience that many search analysts have had with MEDLARS I. Whether this has led to the generation of what has been called "hedges" which reside in the file drawers of individuals, or the logic required to retrieve certain concepts as taught in the Search classes, the purpose to be served is essentially the same, that is, an expansion of the search vocabulary into a variety of forms with which one can address the citation file. The difficulty in the past has been to formalize a method of accessing the experience of many individuals for the benefit of all.

An approach which is being incorporated into MEDLARS II is the development in the Search Module of a "Query fragment" file which is basically the "macrovocabulary" proposed in Mr. Le Minor's paper. This will provide a method of identification and storage of successful search fragments with logical relationships which can be used as a whole, or amended after on-line display, as a search element. The control of this file will be maintained in the National Library of Medicine by Search Analysts whose responsibility will include file maintenance as changes are made in the vocabulary, and review of those "query fragments" that are proposed for this file by search analysts throughout the system. While it is devoutly to be hoped that "automatic updating" of a file may some day be performed by a computer, this process cannot be ignored by those formulators responsible for the intellectual structuring of the vocabulary.

MEDLARS OPERATIONS AT THE MIDWEST REGIONAL MEDICAL LIBRARY
Marianne E. Doherty
The John Crerar Library, Chicago, Illinois

The Midwest Regional Medical Library, established in November 1968, serves six states in the upper Midwest: Indiana, Illinois, Wisconsin, Minnesota, Iowa and North Dakota. MRMLS is located in the John Crerar Library on the South side of Chicago. (Crerar Library, which is well known for its collection of materials in the fields of science, medicine and technology, was relocated in a new building on the Illinois Institute of Technology (IIT) campus in 1963 and incorporated the IIT library into the building also.) Hence, MRML is unique in that it is the only RML not located in a library devoted solely to biomedicine.

The MEDLARS Center is an integral part of MRML, sharing the same office space and personnel. There are two MEDLARS searchers in the Center--Carolyn Green and Marianne Doherty--who are supposed to devote about fifty percent of their time to MEDLARS activities and the rest of the time working for MRML in other capacities (Carolyn Green as Reference Librarian and Marianne Doherty as Program Supervisor). (In actuality we have been working on MEDLARS activities 60%-75% of the time since the Center started operations in September 1969 and the MEDLARS orientation programs have been scheduled.) About two to three hours a day, a MRML typist does some of the correspondence typing and keypunching of our search decks. The punched cards are run off an IBM 1004 here on campus for a listing (which is one advantage of being on a campus with computer facilities) before they are wrapped and mailed to Ohio for processing. We hope to have another person on the MRML staff go to Washington for MEDLARS training this year, so that we will then have three half-time searchers.

Our activities have steadily increased since we started full-scale operations in December 1969--both in formulating searches and in giving orientations. The bulk of the requests received so far have come through the libraries of the large medical school complexes, particularly the four states of Indiana, Wisconsin, Iowa, and Minnesota. Many of our Illinois requests have come directly from the requesters or hospital libraries rather than through the large universities (but this reflects the typical pattern of flow of interlibrary operations in this state generally, since Illinois has tended to be more independent and decentralized than most of its neighbors). One interesting note is that we have not been flooded by requests from our own Chicago area, as might have been expected. (As we give more orientations, this pattern may change.) We have already given three orientations here in Chicago, one in Indianapolis, and two in Iowa City; five more are scheduled between now and June in Minnesota, Wisconsin, and downstate Illinois. All of these are day-long sessions, and there will be one two-hour session at the Upper Midwest Hospital Conference in Minneapolis. Yet all of this just scratches the surface, and in the fall we hope to start shorter sessions.

To determine how best to serve the libraries in the area with MEDLARS, the Center sent out a questionnaire in January 1970 to the 350 libraries in the directory compiled by MRML, explaining what MEDLARS is and asking how these libraries handled procedures and inquiries on MEDLARS requests from their patrons, and if they would

be interested in having orientation sessions for their patrons and staff. From the more than two hundred replies, perhaps a few general statements can be made. First, we were pleased with the response (knowing how swamped librarians are with questionnaires!), and surprised at the lack of knowledge many librarians have about MEDLARS, considering that MEDLARS has been in operation for six years and is well publicized. Ninety-six replied that their libraries had had inquiries about MEDLARS services. By far the majority of the libraries that handle MEDLARS requests usually interview the requester and help to interpret the request before sending it to the MEDLARS Center, although some do occasionally send in the request exactly as the requester submitted it; also, the libraries prefer to have the printouts mailed to them rather than directly to the user, by and large. (This was expected, but some of the reasons given were rather unexpected: e.g., one library likes to use the printouts as a basis for journal selection policy.)

Thirty libraries replied that some member of their staff had already attended a MEDLARS session, but that more were eager to come, and many wanted to host future orientations for their staff and the people in the area. There was no great demand for all-day as opposed to half-day or one-hour lectures; most of them said they wanted any or all! One result of this questionnaire is that we can see the demand for MEDLARS orientations in hospital and medical libraries; the next step will be exploring the various medical schools and and medical societies.

GUIDE TO MEDLARS SERVICES
Constantine J. Gillespie
MEDLARS Management Section, NLM

The Guide to MEDLARS Services, published by NLM, is a readily available means of disseminating information on demand searches to the biomedical community. Sufficient copies of the Guide are distributed to each MEDLARS center to allow the center to send them out freely in response to requests for information on the MEDLARS system. All centers are urged to use the Guide for disseminating this information, rather than preparing separate information sheets. The cost of these Guides is nominal, and the National Library of Medicine encourages their widespread use. Requests for additional supplies of the Guide should be sent to the MEDLARS Management Section.

To facilitate the receipt of search requests in each region, centers may wish to use a stamp or label on the cover of these Guides, to show the address, phone number and hours of operation of the MEDLARS center.

ON-LINE SEARCHING OF SUNY-MEDLARS
Joy Dancis Stiller
MEDLARS Management Section, NLM

For the gadgeteer, any new equipment is like beauty, its own excuse for being.
But for practical souls, who would ask whether use of the on-line system is easier,
faster, or more efficient than the one we have, we must give a qualified judgment
based on the very considerable advantages and limitations of the SUNY-MEDLARS program
for direct user interaction with the computer.

The obvious advantage of "immediacy" of response, compared to the delay involved
in batch mode searching, is tempered by the restriction of terms usable in a
search statement, fractionation of the MEDLARS data base searched, inability to
use trees, absence of tracings in output, and the automatic cutoff of output to
ten citations. While delays of up to five minutes per search for response to a
search query do not seem excessive, when one considers the need to run 8 searches
to cover the 1967 through 1969 files, and adds the time involved to type the
request formulation and to receive the teletyped citation, the tedium and time-
consuming nature of the process can be appreciated. Many searchers find the added
frustrations inherent in frequent system breakdowns greater than the uses their
imaginations can put it to and dismiss it, but others find it a delightful tool.

The SUNY system can do some things that the present MEDLARS program cannot. For
example, one can search current catalog files from January 1967 through 1969 as
well as a State University of New York network monograph file. This is a helpful
addendum for those MEDLARS search requests which ask for "books or journal articles."
Reference Services, which routinely provides this information for users, can not
only do coordinate searching quickly in this manner, but can provide neat copies
of the needed citations. The nature of fields to be printed and the order in which
they should appear can be specified for output from these (and other) files. The
monographic files contain call numbers of the copies held in network libraries or
NLM, in addition to other information not carried in journal files.

In searching the journal literature, analysis of statistics, as well as critique
of the substance contained in titles and journal names gleaned from one three-month
segment of MEDLARS, can be very useful in predicting results from the whole file,
or judging the validity of strategy used.

For example, in searching for citations on pregnancy in adolescence, a skilled
searcher is aware of the great potential for noise retrievable by use of pregnancy
terms "anded" with adolescence terms. The decision as to how best to deal with
this problem can be aided by search statements which present alternative strategies
and analysis of statistics thus generated. SUNY statistics give the logical result
from each line of the search statement, so, unlike the Honeywell-generated statistics,
the searcher gets additional information from fragments of the search formulated as
well as final results. In this example, the following strategy was devised:

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	KMEDLROI	HMEDLROI
M1 Adolescence	4322	7695
M2 Adolescent psychology or adolescent psychiatry	29	65
M3 Pregnancy	1749	3589
M4 Prenatal care or maternal welfare	48	106
M5 M1 * M4	6	12
M6 M2 * M3	0	2
M7 M5 + M6	6	14·

The statistics generated from two data base segments have been tabulated for convenience in comparison.

These results show that restriction to the adolescent psychology or maternal welfare will retrieve only 6 of a potential 1749 (or 14 of 3589) citations indexed for PREGNANCY - which is not numerically high. Most of the titles are equivocal as to whether it is the adolescent who is pregnant. One title: "Teenage pregnancy. Is abortion the answer?" suggests possible related terms which might be productive - namely, ABORTION, especially legal or illegal. One wonders whether added references could be gleaned by use of these terms. One also wonders how many citations could be retrieved from all pregnancy or abortion terms "anded" with all adolescence terms, since the more specific logic yielded so little. So another formulation is devised as follows:

	KMEDLROI
M1 Adolescen ($)	4322
M2 Pregnancy ($)	1749
M3 Abortion, legal or abortion, criminal	68
M4 Pregnancy or abortion, legal or abortion, criminal	1762
M5 M1 * M4	157
M6 M1 * M3	15

It can be noted that M4 contains 13 citations more than M2. These citations were indexed for abortion and not for pregnancy. The statistics show that adolescence * abortion (legal or illegal) will yield 15 citations for a three-month portion of MEDLARS, many which were not printed by strategy of the prior search. (Searchers realize that ABORTION, THERAPEUTIC is another appropriate term which might have been used in this example.)

All pregnancy terms ANDED with adolescence terms yielded 157 citations in the same time span. Multiplied by 9, this means that the 1967-1970 file being searched at NLM would yield about 1400 citations by the extended strategy. The latter ploy then seems ill advised except where high recall is desirable and high tallies acceptable.

Another SUNY convenience is the ability to search on truncated portions of words, thereby searching many terms at a time. ($) is the truncation symbol. In the example above, ADOLESCEN ($) will search the ADOLESCENCE tag as well as the main headings ADOLESCENT PSYCHOLOGY or ADOLESCENT PSYCHIATRY. In this case, the advantage of truncation is minimal but PREGNANCY ($) gives the tag, precoordinated terms like PREGNANCY, MULTIPLE and all the terms starting with PREGNANCY COMPLICATIONS. This crosses categories and is a quick type of "hedge"-ing.

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Though statistics, sampling, and time of response are the greatest values of this system, added use comes from the ability to scan titles for words which are not MeSH terms. Though low in recall value, it has the great virtue of high relevance. For example, searching for an antineoplastic agent such as bleomycin, one can search on the keywords ANTINEOPLASTIC AGENTS or ANTIBIOTICS, ANTINEOPLASTIC and scan the resultant titles for "bleomycin." The resultant bibliography will be very incomplete as well as relevant but the search will take far less time or effort than scanning large numbers of titles in the usual manner.

Another use of the system is as an adjunct to training. When used to demonstrate the outcome of strategy which, for either lack of completeness or specificity, seems unproductive, it enables the senior analyst to produce examples of results quickly without the necessity of arbitrary or authoritative revision recommendations.

Finally, SUNY can be used as a prototype for direct user-computer interaction such as may be possible in MEDLARS II. Though it is expected that the latter should have greater sophistication, the initial mode of searching will be batch mode and until its final implementation, MEDLARS will be more directly available to the user through SUNY's network.

MEDLARS SEARCH ANALYSTS AND THE LIBRARY
Dorice Des Chene
University of Washington

From time to time, we may all have wondered how MEDLARS personnel are related to the libraries with which they are connected. With the kind cooperation of the analysts, I have assembled some information on this subject.

Of ten centers participating, two reported that searchers only search; in addition, one other center has one searcher out of three who does nothing else. Search analysts at two centers help out occasionally with reference work only when there is a need. At the other six centers, searchers may do reference work for 5-13 hours/week (four centers), some help with ILL (one center occasionally, one center 14 hours/week) and some have significant administrative or committee duties (two centers). One center has a searcher who indexes half time.

Almost all of the centers report that continuing education is permitted. Sometimes time is not given but a rebate on tuition is allowed. Most of the searchers are able to scan major journals and current books, although some do not have much time to do it. Most centers may be able to conduct some research into the MEDLARS System, but here again time is a factor, as it is to an even greater extent in regard to other research projects.

STATISTICAL SUMMARY FOR MEDLARS CENTERS FOR FEBRUARY 1970
Constantine J. Gillespie

The table below, which includes only a few important items from each center's monthly report, gives a summary of the searching performance at each of the MEDLARS centers around the world:

MEDLARS DEMAND SEARCHING
FOR FEBRUARY 1970
Period: 1/30-2/26/70

Center	Searches rejected	Searches released excluding RDS's	Recurring demand searches released	Citations retrieved per search month	Percentage searches released by calendar days	
					0-20 days	0-30 days
Alabama	2	87	5	4.5	95.4	100.0
Colorado	2	76	0	6.32	100.0	--
Crerar	15	36	0	4.42	26.7	91.7
England -	0	190	0	--	12.6	67.3
Harvard	14	62	0	5.16	25.0	81.0
*INSERM (Paris)_	8	39	0	NA	7.7	15.4
Michigan	1	107	44	5.61	84.1	100.0
New York	3	0	0	--	--	--
NIH	0	51	45	5.0	76.0	98.0
NLM-MAR	11	172	19	5.7	80.8	95.3
NLM-MMS	21	149	25	6.13	79.2	98.7
Ohio	6	111	143	6.6	100.0	--
Philadelphia	6	45	4	6.7	93.0	97.4
PMA	0	48	175	10.2	91.7	100.0
*Sweden -	0	99	624	15.2	--	2.0
Texas	4	107	0	4.36	100.0	--
UCLA	13	146	38	6.9	39.7	98.6
Washington	2	26	3	8.0	58.0	100.0

*Statistics are for January 1970

CHECKLIST OF PUBLICATIONS AND INFORMATIONAL MATERIAL FOR USE IN 1970

The following publications have been distributed, as appropriate, to MEDLARS Centers and Regional Medical Libraries. Supplies of forms used by MEDLARS Centers are listed under "Other Items." Many titles are followed by the date (in parentheses) of issuance.

I. MeSH Items

TABLE OF SUBHEADING CHRONOLOGY, from MeSH, 4 pgs. (10/1/69)

NLM, MEDICAL SUBJECT HEADINGS, 1970, NEW MAIN HEADINGS, 18 pgs. (definitions)

MEDICAL SUBJECT HEADINGS 1970, Provisional Headings, 71 pgs.
    (Superseded by January 1, 1970 issue of 76 pgs.) (10/1/69)

PROVISIONAL HEADINGS BY SUBCATEGORIES, memo from MeSH, 11 pgs. (10/15/69)

NEW MEDICAL SUBJECT HEADINGS 1963-1970, memo w/visual index, 89 pgs. (11/1/69)

LIST OF HEADINGS DELETED, memo from MeSH, 7 pgs. (12/1/69)
    (This replaces in its entirety the memo 10/15/69 with 7 pages, same title,
    not sent to searchers but some indexers may have received this item.)

MEDICAL SUBJECT HEADINGS 1970, Vol. 11, Number 1, Part 2
    JANUARY 1970, Index Medicus, 422 pgs.

MEDICAL SUBJECT HEADINGS, 1970, SEARCH COPY, 306 pgs.
    MEDICAL SUBJECT HEADINGS (includes provisionals & geographic headings)
    9/4/69, 1970 #1 and 12/19/69, 1970 #2 and the following items pertaining
    to 1970 terms:
        3d Quarter 69 Index to Supplemental Listings, 1 pg.
        Supplemental List of Provisional Headings, 3d Quarter, Sept. 69,
            S-7, S-8, S-9, 3 pgs.
        Supplemental List of Provisional Headings 1969, SUPPLEMENT TO
            TREE STRUCTURES, Sept. 69, 3d Quarter, 1 pg.
Note: The above were distributed to indexers but not to searchers. All of
    this information pertaining to 1970 terms was included in the Search
    Copy of MeSH. Searchers will receive future MeSH quarterly supplements
    with which to update their Search Copy of MeSH.

MEDICAL SUBJECT HEADINGS, TREE STRUCTURES 1970, 293 pages.

MEDICAL SUBJECT HEADINGS 1970, Provisional Headings. (1/1/70)

NEW PROVISIONAL TERMS ADDED SINCE OCTOBER 1, 1969, 1 pg.

Supplemental List of Provisional Headings 1970, SUPPLEMENTAL TO TREE STRUCTURE,
    2d Quarter, 1 pg.

MEDICAL SUBJECT HEADINGS 1970, ERRATA #1 to List of Provisional Headings 1970,
    2d Quarter, 1 pg.

II. Index Items

1970 ORIENTATION, memo from Index Section, 3 pgs. (9/22/69)

SUBHEADINGS excerpts by Index Sec., 5 pgs. (definitions) (9/22/69)

MAIN HEADINGS: 1970 ADDITIONS TO MESH, from Index Sec., 5 pgs.
    (Note: by categories)

MESH HEADINGS AND CORRESPONDING DATA FORM ABBREVIATIONS (underlined terms
    are 1970 Provisional Headings), Data Form 4 & 5, 2 pgs.
    (use with Indexing Manual)

INDEX MEDICUS SUBHEADINGS - 1970 - Alphabetical List of 60 Subheadings,
    Fig. 12.1, Subheadings 2, 11, 12, 12a, and 13, 5 sheets.

MEDLARS INDEXING MANUAL - ADDENDA NO. 4, Sept. 1969, 47 pages

MEDLARS INDEXING MANUAL - ADDENDA NO. 5, Oct. 1969, 13 pages

O: Category C - 29, 1 pg. (file with Indexing Manual Addenda #4)

NOVEMBER 1969 TECHNICAL NOTES, Index Sec., 8 pgs.

FEBRUARY 1970 TECHNICAL NOTES, Index Sec., 12 pgs.
    Note: There were no December 1969 nor January 1970 TECHNICAL NOTES.

HINTS FOR INDEX MEDICUS USERS, 4 pages, from Index Section.

INDEX MEDICUS SUBHEADINGS 1970, 3 pages (by Categories)

DENTISTRY-MEDLARS Glossary and Indexing Instructions, 45 pgs.

MAIN HEADING/SUBHEADING COMBINATIONS - MEDLARS Indexing Instructions 1970 -
    by Keiji Goto, Keio University, Tokyo, Japan.

III. Other Items

CCF CITATION NUMBERS & COMPUTER ENTRY DATES RENUMBERED JAN. 1969 (12/4/69)
    (NEW CITATIONS NUMBERS BEGIN WITH JULY 1969 CCF)
    Note: Changes have been made on all pages - please destroy any previous
          copies of any or all of the four pages - page 4 will be reissued
          each month with current information. Page 4, January, February
          and March 1970 have been issued.

LIST OF JOURNALS INDEXED IN INDEX MEDICUS - 1970, 99 pages.

III. Other Items (continued)

MEDLARS SEARCH REQUEST FORMS, NIH-1393-4 (Rev. 10-68)

MEDLARS APPRAISAL FORMS, NIH-1393-3 (Rev. 9-69) (Please discard appraisal
    forms NIH-1393-3 and use the revised form only)

Announcements of the "ABRIDGED INDEX MEDICUS" including mail order form to
    send to Supt. of Documents, U.S. Government Printing Office, Washington,
    D.C. 20402 - Quantities were sent to each Center to be included with
    search output when released to requester.

1970 MEDICAL SUBJECT HEADINGS additions - 139 Tub File Cards (punched cards)
    (sent to U.S. Centers)

Listings for the 139 New Terms (3 pgs.)

Memo from MMS to all U.S. MEDLARS Centers; subject: "Formulating Searches
    with 1970 MeSH Terms" (1/13/70)

Materials for MEDLARS User Orientations:
    Slides (including replacements of several of the slides) covering
        Overview, Index, Search, MEDLARS in Context, and Capabilities &
        Limitations.

Memo from Dr. Halegua, Office of the Associate Director for Library Operations,
    on new Evaluation of MEDLARS User Orientation form. (1/23/70)   —

EVALUATION OF MEDLARS USER ORIENTATION (Rev. 1/70) forms

Extra copies of: (for MEDLARS User Orientations)
    MEDICAL SUBJECT HEADINGS 1970, Vol. 11, Number 1, Part 2
        JANUARY 1970, Index Medicus, 422 pgs.
    MEDICAL SUBJECT HEADINGS, TREE STRUCTURES 1970, 293 pages
    HINTS FOR INDEX MEDICUS USERS, 4 pgs., from Index Section
    INDEX MEDICUS SUBHEADINGS 1970, 3 pages (by Categories)

Request for additional copies or further information should be addressed to:
Mr. C. J. Gillespie, MEDLARS Management Section, BSD, National Library of Medicine,
8600 Rockville Pike, Bethesda, Maryland 20014.

THE MEDICAL LIBRARY ASSISTANCE EXTENSION ACT OF 1970:
SUMMARY OF NEW LEGISLATION
Ann A. Kaufman, Ph.D., and
Robert A. Walkington
Extramural Programs, NLM

On February 25, 1970, the Conference Report on H.R. 11702 for the Extension of
the Medical Library Assistance Act was issued. On the following day, both the
House and the Senate voted to approve the report of the conferees.*

Compared with the Medical Library Assistance Act of 1965, there are a number of
significant changes. The new Act provides a three-year authority as opposed to
the five-year authority of the current legislation; the total maximum authoriza-
tion provided by the Act is $23.5, $25.5, and $27.5 million for the first, second,
and third years respectively, compared to $21 million per year under the current
law.

Other significant changes include a deletion of the formula for resource grants;
the addition of demonstration project authority for research grants; contract as
well as grant authority for the Regional Library Program; and a provision for
planning grants for regional libraries. A limited transfer of funds within the
various grant appropriations is authorized by this Act.

Tables I and II (below) summarize major features of "The Medical Library Assistance
Extension Act of 1970." Table I summarizes provisions which affect all programs
and Table II cites the seven grant programs established by the Medical Library
Assistance Act and continued under the extension bill. (Administration of the
program to construct medical library facilities has been transferred, as of
December 1968, to the Bureau of Health Professions Education and Manpower Training
of the National Institutes of Health, which will implement changes proposed for
this program.)

Certain of the facilitating amendments noted in Table II will require the revision
of information and policy statements and related application and review materials.
With the expectation that this bill may soon become law, staff of the NLM has
already begun to develop plans for implementing necessary changes.

To summarize, the value of the Medical Library Assistance Act of 1965 has been
endorsed by the Administration and given careful and favorable consideration by
the Congress. Four bills were introduced to extend this statute; while individual
provisions differed widely, all agreed that the objectives of the Act are good and
should not be changed or abolished. The bill which has now been passed by Congress
and awaits the consideration of the President would extend these programs for three
years, with minor modifications, including modest increases in the maximum level of
funding authorized for medical library construction, manpower development, medical
library resource grants, and the regional medical library programs.

* Signed into law by the President on March 13.

COMPARISON OF MEDICAL LIBRARY ASSISTANCE ACT
AND
EXTENSION BILL PASSED BY CONGRESS*

Table I. General Provisions

PROVISIONS OF MEDICAL LIBRARY ASSISTANCE ACT	PROVISIONS OF EXTENSION BILL PASSED BY CONGRESS FEBRUARY 1970
Title: "Medical Library Assistance Act of 1965" Public Law 89-291	"Medical Library Assistance Extension Act of 1970" (H.R.11702 as passed)

Period of Authorization:

October 22, 1965 through June 30, 1970	July 1, 1970 through June 30, 1973

Funds Authorized:

$11 million first year $21 million each year thereafter (Authorizes two-year availability of funds appropriated)	$23.5 million first year (FY 1971) $25.5 million second year (FY 1972) $27.5 million third year (FY 1973) (Continues two-year availability authorization)

Transfer of funds among programs:

Not authorized	Authorizes limited transferability of appropriated funds among programs

Delegation of authorities:

Refers to authority of the Surgeon General, U.S. Public Health Service	Cites authority of Secretary, USDHEW, to become effective as of date of enactment. (All other provisions effective July 1, 1970.)

*Prepared March 9, 1970.

Table II. Provisions for Each Program

PROVISIONS OF MEDICAL LIBRARY ASSISTANCE ACT	PROGRAM	PROVISIONS OF EXTENSION BILL PASSED BY CONGRESS FEBRUARY 1970
	CONSTRUCTION:	
$10 million per year authorized		$11 million first year (FY 1971)
Permits awards in absence of matching funds		$12 million second year
Requires priority consideration where "need is greatest" for construction of medical library facilities		$13 million third year Deletes authority for award in absence of matching funds Deletes priority requirement of "need"
	TRAINING GRANTS AND FELLOWSHIPS:	
$1 million per year authorized for predoctoral and postdoctoral training for service and research in health communication fields		$1.5 million first year (FY 1971) $1.75 million second year $2.0 million third year
	SPECIAL SCIENTIFIC PROJECTS:	
$500,000 per year authorized for "special fellowships" to qualified individuals for outstanding scholarly writing projects		Continues present $ authorization Renumbers sections to combine section for special scientific projects with section for research and development Changes "fellowships" to "grants" Authorizes awards to institutions as well as to individuals
	RESEARCH AND DEVELOPMENT:	
$3 million per year authorized for grants to support projects of research and development in health information needs, behavior, tools, and technology for information storage and retrieval		Continues present $ authorization Authorizes support of demonstration projects Combines R&D section with section for special scientific projects (above)
	MEDICAL LIBRARY RESOURCE GRANTS:	
$3 million per year authorized for grants to improve and expand basic resources of health libraries, to improve services Limits award to percentage of library's budget and requires decreasing support for each year after the first		$3.5 million first year (FY 1971) $4.0 million second year $4.5 million third year Authorizes establishment of basic resources Substitutes requirement for continuing non-Federal support in place of formula for award limitation and provision for decreasing award levels after first year

Table II continued.

VISIONS OF MEDICAL LIBRARY ASSISTANCE ACT	PROGRAM	PROVISIONS OF EXTENSION BILL PASSED BY CONGRESS FEBRUARY 1970

REGIONAL MEDICAL LIBRARY PROGRAM:

$2.5 million per year authorized to support grants for a system of regional library programs to help to optimize availability to health information services to remote users

Requires priority for award based upon "the need of such library"

$3.0 million first year (FY 1971)
$3.25 million second year
$3.5 million third year
Adds authority to permit support of planning activities and data gathering
Adds authority to permit use of contract mechanism under the same limitations as provided for grants under this section
Deletes requirement of priority based upon "need of such library"

BIOMEDICAL PUBLICATIONS:

$1 million per year authorized for grants for support of scientific health publications and writing projects, including critical reviews, handbooks, atlases, compendia, '¹rectories, and serial publications of a ²condary nature such as abstracting, indexing, and related information tools

Limits support of periodical publications to three years

Continues present $ authorization
Permits exceptions to three-year limitation on periodical publication support as determined by the Secretary, USDHEW

BRAIN TREE: A SEARCHING AID
Thelma Charen, Index Section, NLM

Under MEDLARS I, computer restrictions allow only four indention levels in trees. This restriction precludes a minute breakdown of BRAIN (A8.30.13).

To show a hierarchical relationship more minute than the MeSH tree, you will find the display below, which shows more indentions than the alphabetical arrangement of BRAIN headings in Tree A8.30.13 shows.

The hierarchy below was contrived from the indentions in Category A8. Addenda are indicated by an asterisk. The authority for these indentions is Gray's Anatomy.

```
Brain (A8)
  Brain Stem
    Medulla Oblongata
      Olivary Nucleus
      Respiratory Center (prov.)
    Pons
      Cerebellopontile Angle
        Vestibular Nuclei
    Reticular Formation
      Respiratory Center (prov.)
  Cerebellum
    Cerebellar Cortex
    Cerebellopontile Angle
  * Purkinje Cells (Gray's Anat., p. 825)
  Diencephalon
    Hypothalamus
      Hypothalamo-Hypophyseal System
      Optic Chiasm
    * Pineal Body (Gray's Anat., p. 837)
    Thalamus
      Geniculate Bodies
  Mesencephalon
    Corpora Quadrigemina
      Optic Lobe
    Red Nucleus
    * Reticular Formation (Gray's Anat., p. 830)
    Substantia Nigra
  Telencephalon
    Cerebral Cortex
      Corpus Callosum
      Frontal Lobe
        Gyrus Cinguli
      Occipital Lobe
        Visual Cortex
      Parietal Lobe
      Temporal Lobe
        Auditory Cortex
        Hippocampus
          Amygdaloid Body
        Limbic System
    Cerebral Ventricles
      Choroid Plexus
      Cisterna Magna
      Ependyma
      Hippocampus
        Amygdaloid Body
    * Ganglia, Basal (Gray's Anat., p. 854)
      Amygdaloid Body
      Caudate Nucleus
      Globus Pallidus
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NATIONAL LIBRARY OF MEDICINE

LIBRARY NETWORK/ MEDLARS
technical bulletin

(formerly MEDLARS/Network Technical Bulletin)

No. 10   February 1970

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We welcome comments
and suggestions.

U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
Public Health Service
National Institutes of Health

MEDLARS II PROJECT REPORT
Ralph A. Simmons

The immediate goal of the project effort is the completion of the appli-
cation design of the INITIAL system, the "batch" phase of MEDLARS II.
There were many related subordinate tasks defined and initiated, with
some completed, during the development of the design. Some of the major
tasks included:

MEDLARS II File Design - Primary and secondary files were identified,
and major files were defined. This documentation, currently under
review, includes detailed information of the data elements contained
within each file and the interrelationships of all the files. Corres-
ponding software applications were also defined. The INITIAL system
provides for approximately 200 unique data elements in the file design.

Vocabulary Design - The vocabulary concept for MEDLARS II was prepared
by Dr. A. J. Harley and Mr. F. Wilfrid Lancaster under subcontract to
the Computer Sciences Corporation. Documentation for implementation
within the framework of the INITIAL system is presently under review
by Library personnel.

INITIAL Software

The software for MEDLARS II is developed in two packages, namely the
Library Program Set (LPS) and the Computer System for Medical Information
Services (COSMIS). LPS is a series of computer programs which permits
non-programmers to utilize the system easily with an English-like
language. COSMIS is a programming system designed to handle problems
encountered in the data management applications of MEDLARS II. It
includes the capabilities of file generation and maintenance, data
retrieval, data manipulation and report generation. Integrated testing
was initiated between portions of the COSMIS elements, specifically,
the Data Base Manager (DBM), Executive, and the Data Management Operations
(DMOPS) Language and Interpreter. The DBM is a set of routines which
controls all access to the MEDLARS II data base, performs data validation
and mass storage allocation as required. The Executive is a control
program utilized in conjunction with IBM's Operating System controls,
the operation of COSMIS, and associated tasks. DMOPS is a set of instruc-
tions designed to facilitate field record and directory processing.
The Interpreter is that portion of COSMIS involved to execute DMOPS
instructions.

2

Input Device Selection

Based on the recommendation received from the contractor (CSC), NLM initiated a Letter of Intent for the leasing of the Keymatic Encoders (Model 1093). This recommendation was the result of an exhaustive study and analysis of input devices for use in the INITIAL system. Two devices were installed at NLM to develop the operational procedures for the placement of this device within the environment of the INITIAL system. Additional devices will be delivered later in the year on a phased schedule. Some of the more significant characteristics of the Keymatic devices are:

- direct magnetic tape output compatible to IBM 360

- ease of adaptability to the INITIAL system design (function codes, forms, etc.)

- recommended 175 character set capability provided by single keystrokes and capable of further expansion

- speed and accuracy of operations, and

- relative ease of operator training

In conjunction with this effort, CSC is conducting a survey of the capabilities of cathode-ray tube (CRT) devices from several manufacturers for the EXTENDED system.

Training

A Training Coordinating Committee was established, composed of representatives of the various NLM divisions. The final version of the Training Plan was submitted by CSC and is currently under review. As stated by contract, all training must be completed prior to the INITIAL system being declared operational.

Data Base Conversion

Program specifications were completed for conversion of major MEDLARS I files into the MEDLARS II data base. The conversion effort is scheduled for completion during this quarter.

Related Events

MEDLARS II briefings were presented in November to the MEDLARS Workshop and the Board of Regents. The more recent presentation to the MEDLARS Tape Users is discussed as a separate article in this issue. Project slippage has developed in certain critical areas and the operational date for the INITIAL system has been delayed to the latter part of the summer. In spite of this, the project is judged to be progressing well.

THE NEW ENGLAND REGIONAL MEDICAL LIBRARY SERVICE
T. Mark Hodges

The Regional Medical Library (RML) for New England is the Francis A. Countway Library of Medicine at Harvard Medical School, Boston, Massachusetts. Opened in June 1965, the Countway Library houses the combined collections of the Harvard Medical Library (founded 1782) and the Boston Medical Library (founded 1875). These collections exceed 430,000 volumes. There are 5,300 current journal subscriptions.

Designation and funding of the Regional Medical Library for the six New England states came in June 1967, when NLM awarded a grant of $104,872 under the Medical Library Assistance Act. This allowed the Countway Library to plan, develop and commence operating on a limited scale. The selection of the Countway Library as the home of the New England Regional Medical Library Service (NERMLS) was based in part on the collections and the physical plant. But, more important, the selection was based on the tradition of regional service long associated with the Harvard and Boston Medical Libraries, a tradition well recognized by the community.

The MEDLARS New England Regional Search Center had been established a year earlier (1966) and, until 1969, operated as a separately funded unit. The MEDLARS Search Center is now one of the services provided by the New England RML.

NERMLS began operations in October 1967. Service during the first year consisted principally of document delivery (interlibrary loan) and a limited amount of reference work. Since NERMLS began, the Countway Library has received between three and four thousand requests each month. On the average, it accepts 97 percent for processing and, of these, an average of 85 percent are filled from the library's own collections. Of those that are not filled, the great majority are referred to other libraries, mainly to NLM.

The Countway's two-volume list of periodical holdings has been distributed throughout the region. A monthly Newsletter and List of Acquisitions is distributed widely and a quarterly newsletter devoted solely to NERMLS matters (NERMLS News) is scheduled for publication in 1970.

Proposals for the second and third years (1968/69 and 1969/70) called for additional services, principally the provision of advice and consultation on medical library programs and problems, and education in aspects of medical librarianship. Expanded and improved Reference Service and Document Delivery Service were also called for. To enable these proposals to be followed through, and to house the increased staff, new office space was created. Teletype (TWX), Wide Area Telephone Service (WATS) and, just recently, Code-a-Phones have been installed.

Great emphasis has been placed upon the role of the community hospital as a center for continuing education, and toward this end the strengthening and assisting of hospital medical libraries has been regarded as essential. This aspect of service plays a dominant role in NERMLS planning. For example, it was discovered that the Postgraduate Medical Institute (PMI) of Boston had made a survey of New England hospitals and found that their medical library situation was very poor indeed. Thus, an alliance was formed to try to remedy the situation. NERMLS and PMI have

taken several steps since the alliance was formed in April 1968. First was the creation of a small physician-selected core library of books and journals designed as a means of continuing self-education by the physician in the community hospital, and to form a minimum standard collection for a local hospital library. (The Core List is described by Stearns and Ratcliff in New England Journal of Medicine, 280: 474-480 (1969).) A second step has been to implement and field-test the Core Library in selected hospitals, and a third step, currently under way, is the compilation of Core Libraries of Materials in Nursing and in the Allied Health Professions which will complement the original medical Core Library.

Basic to the concept of community hospital library service is the recruitment and training of personnel to man such libraries. Recruitment is done at the local level with advice and guidance from NERMLS/PMI. Two week-long training institutes have been held, one in February 1969 and the other in September 1969. A third is scheduled for April 1970. Hospitals of all six states have been represented.

An important advance in the past six months has been the development of a textbook on health-science librarianship for use in community hospitals. In addition to NERMLS and PMI the School of Library Service of Case Western Reserve University is also involved in this endeavor. The date of publication is not determined at this time.

Another ongoing activity in New England is advice and consultation for hospital libraries provided by the staff of PMI and by NERMLS' Regional Library Consultant. This work is carried out by phone, by mail and by personal visits.

MEDLARS ORIENTATION PROGRAMS

Date	Presented at and for whom:	Presented by:
Jan. 6-8	University of Hawaii - Librarians and biomedical personnel.	Miss Colville-Stewart and Mr. Caldwell
Jan. 13	John Crerar Library - Mixed group of scientists (bacteriologists and biochemists), information specialists and librarians.	Miss Doherty and Miss Green
Jan. 19,20 and 21	University of Washington - Nursing faculty and graduate students.	Mrs. Des Chene
Jan. 20	Michigan MEDLARS Center - Graduate library students.	Mr. Lawrence and Mrs. Hirschfeld
Jan. 21	Auburn University - Two group meetings of veterinarians.	Miss Johnson and Miss Mueller
Jan. 21	St. Joseph Infirmary, Louisville, Kentucky - Librarians and educators.	Miss Osborn and Miss Davis
Jan. 22	Ohio State - Graduate seminar, hospital administrators and faculty.	Miss Osborn
Jan. 26,27	New York Academy of Science - N.Y. Academy staff.	Miss Herring
Jan. 28	University of Washington - School of Medicine faculty and research personnel.	Mrs. Des Chene

SWEDISH MEDLARS CENTER
Biomedical Documentation Center, Karolinska Institutet, Stockholm
Carl-Eric Elwin and Christina Olivecrona

A preliminary agreement between NLM and the Swedish Medical Research Council/Karolinska Institutet to establish a MEDLARS Center in Stockholm was reached in 1965. Systems design, programming and training of personnel delayed full implementation until May, 1967, when routine production was started. BMDC (Biomedical Documentation Center) services also include use of Chemical Abstracts data bases since the beginning of 1968 and Biological Abstracts data base since the middle of 1969. The Swedish MEDLARS Center now engages in all facets of MEDLARS activities, including searching, indexing, search and index training, and user orientations.

Computer facilities
To start with, BMDC had an IBM 1401 at its own disposal and input-output programs originally were written for that machine. During that period CCF search was conducted on an IBM 7090 at the Defense Department. The IBM 1401 was removed in January 1968 and input-output processing procedure transferred to an IBM 360/40 at Karolinska sjukhuset (hospital) and the programs had to be rewritten for this machine configuration. During Spring 1970, all processing will be transferred to an IBM 360/50 at the Stockholm Post Office. We hope to be operational on that machine within the next 2-3 months. This arrangement will allow the center to have all computer operations performed on one machine. Probably this will provide for a more economic system and also for shorter throughput time.

Personnel
Acting Director of the center, as well as especially in charge of the MEDLARS SDI-Service, is C.E. Elwin. Head of overall MEDLARS operations, including retrospective searches, indexing and training programs, is Ch. Olivecrona. B. Aschberg is specially responsible for indexing administration and supervising. Searchers and indexers are Mrs. K. Skog, Mrs. M. Kaukonen, Mr. L. Pathirane and Mr. A. Nilsson. Recently the staff has been reorganized and for the first time manpower resources at the center will allow more time for user orientation and other developments. Mr. J. Bergseng, former Head of Systems Development Section, is now working as a consultant for transferring computer operations to the IBM 360/50. Two programmers, Mr. B. Stahlberg and Mr. R. Isaksson and one computer assistant, Mr. L. Ohlsson, make up the staff of the Systems Section. Including secretaries and the CA and BA Sections personnel, the total staff at BMDC now amounts to about 25 persons.

Scandinavian Centers and training programs
In 1967, economic support for joint Scandinavian use of MEDLARS was made available through the Nordic Cultural Foundation. To promote use of MEDLARS, it was decided to establish Search Formulator Centers in Denmark, Finland, and Norway. This necessitated a training program and a first course was held in January 1968. Since then, there have been three more such courses, each one of about four weeks' duration. The training program includes about one week of indexing and about three weeks of search. Lectures are given about basic rules but emphasis is laid on practical exercises. Participants have come not only from Scandinavia but also from Germany, Holland and Belgium. A total of about 50 trainees have attended these courses and many of them have become active at the various centers established. Attendees have been primarily of two kinds - librarians wanting to get acquainted with computer-based

documentation and people with an interest in modern documentation. At the Medical
Section of the University Library in Gothenburg, the first Swedish Search Formulator
Center outside Stockholm has been founded. Some of the centers use TWX communica-
tion for speedy transmission of search formulations.

European MEDLARS workshops
The number of Regional MEDLARS Centers in Europe is growing and therefore it is
desirable that workshops be held annually in Europe. The first one was held at NLL,
Boston Spa, U.K., in April 1969. Plans are being made for the second workshop in
Stockholm in May this year.

Retrospective Search Service
During the first year of operation, 1967/68, 574 searches were processed. During
1968/69 the number increased to 1,661. Figures for the last six months of 1969
showed a tendency of further increase with 973 searches processed. At the present time,
more than 50% of the retrospective searches are processed for foreign countries,
mainly for Scandinavia and West Germany. Routine retrospective searching is done on
files dating back to January 1966 and also includes the latest arrived CCF. The
1964-65 files are run only on special request. Knowledge about the service is still
rather incomplete in Sweden and demand for searches in Sweden is expected to increase
with more active user information. Since May 1969 the customers are charged $10 for
the service.

Monthly Recurring Search Service
The SDI-service was started in January 1969 with about 70 requests in the first batch.
Demands for this service have shown a remarkable and steady increase since then and
now more than 600 monthly profiles are processed. One-third of the customers
represent university-affiliated research, one-third drug industry research, and one-
fourth Government agencies. Information through the SDI-service reaches the customer
about two months ahead of the printed Index Medicus (due to delay with overseas
distribution) and is especially useful for European customers because of rapid entry
into the system from high-quality American journals. The fee, which was charged from
the start, for the SDI-service is $60.00 a year.

MEDLARS TAPE USER BRIEFING
Lillian H. Washington

A two-day briefing session on MEDLARS II was held at the National Library of Medicine on January 14 and 15, 1970. Attendees were representatives from those organizations in the United States that are MEDLARS I tape users. The session was co-chaired by Dr. Joseph Leiter, Associate Director for Library Operations, NLM, and Mr. Charles Williams, MEDLARS Project Manager, Computer Sciences Corporation.

The first day of the session was opened with introductory remarks by Dr. Martin M. Cummings, Director, National Library of Medicine, followed by a status report on the development of MEDLARS II by Mr. Ralph A. Simmons, MEDLARS II Project Manager, NLM.

From this point the session, for the first day, consisted of presentations by the staff of Computer Sciences Corporation. The first item on the agenda was a presentation of the Overall Systems Design including hardware and software concepts and designs for MEDLARS II. Next, the applications design for the INITIAL phase of MEDLARS II was presented. The last item on the agenda was a presentation on projected support to MEDLARS tape users.

There are a series of alternatives through which the required continued support can be provided to the tape users. The optimum method, however, should allow for the use of the extended capabilities that will be available to NLM, especially in the area of using an augmented vocabulary for retrieval purposes. Some of these possible alternatives are:

1. Provide tape in MEDLARS I format;

2. Modify MEDLARS II retrieval and format programs to operate in the typical environment of our users, i.e., as another job at the University computing center; and

3. Provide the tape user with the total MEDLARS II package.

Emphasis was placed at the briefing on alternative two. Computer Sciences Corporation staff members presented a number of alternate proposals for adapting the programs in MEDLARS II for use in remote centers with IBM 360 equipment. Each proposal was discussed in terms of 1) type of search capability that would be available from a computer processing point of view, i.e., directory vs. linear (tape); 2) modifications that would have to be made to the MEDLARS II programs; 3) amount of effort in man-months to make the necessary modifications; and 4) minimum computer configuration necessary to run the programs. This presentation elicited dynamic discussion among the tape users, Computer Sciences Corporation staff, and NLM staff. Although no decisions were made, an understanding of the concepts of MEDLARS II and the operating problems of the tape users should lead to the development of the optimum system for their continued support.

Davis McCarn, Lister Hill National Center for Biomedical Communications, NLM, opened the second day's session with a presentation highlighting on-going network activities and their relationship to the development of MEDLARS II. A representative of each

of the organizations using the MEDLARS I tapes then described the environment in which MEDLARS I operates, the organization's plans for computer acquisition in relationship to implementation of MEDLARS II, and the effect of MEDLARS II support to tape users upon their present programs.

The benefits of the two-day session can best be described by the attitudes of the tape users who feel that they should work closely with the Library and actively participate in the development of solutions to common problems.

A similar MEDLARS tape user briefing has been scheduled for the overseas tape users on February 24 and 25, 1970.

Tape user representatives (and their organizations) who attended the January briefing were:

University of Alabama	Dr. Josiah H. Macy, Jr.
	Gayle Hall
University of Colorado	Dr. Frank B. Rogers
University of Minnesota	Dr. Arnold Lazarow
	Bud Schoener
	Elmo Brekhus
Ohio State University	Dr. John Prior
	J. Carroll Notestine
SUNY	Dr. Richard Fenzl
	Irwin H. Pizer
	Mary M. Baxter
Texas Medical Center	Hubert E. Bray

ANALYSIS OF A SEARCH
Esther Wei, Ohio MEDLARS Center

The detailed statement of requirements as submitted by the medical librarian for the requester was:

"I am interested in articles relating to drug cost for Medicare patients, particularly those related to comparing drug cost before and after the establishment of the Medicare program. I am also interested in drug utilization by these patients, not in reference to specific drugs but in a general sense.

"I am not particularly interested in total medical cost, only those costs relating to drugs."

Further restrictions were: only English articles and over-62 age group. A broad search was asked for and 10-50 citations were expected.

The search strategy used was:

$$[\text{English}] \ * \ \begin{bmatrix}\text{Aged} \ * \ \text{U.S.}\\ \text{Medicare}\end{bmatrix} \ * \ \begin{bmatrix}\text{Drug usage and cost terms}\\ \text{Pharmacy terms}\\ \text{Drugs (e) } * \text{ Cost and economics terms}\\ \text{Insurance terms}\end{bmatrix}$$

It seemed reasonable to suppose that Medicare patients would refer to the aged in
the United States and that only drug cost and utilization of this group was required,
and that the main interest was in Medicare and drug cost. This search retrieved 29
citations, most of which seemed relevant.

Of these 29 citations, the requester judged 3 to be relevant, 6 peripherally relevant
and 20 not relevant. This means only 31% of the articles were considered helpful.
Explaining why the articles were not relevant, the requester said:

"Many of the listed articles are quite relevant to Medicare in general
but my subject deals with a very specific aspect. The utilization of
drugs by Medicare patients in the hospital setting has probably not been
investigated by many individuals. Articles on this subject, more than
likely have not been published."

This is the first time that anything about the "hospital setting" had been mentioned,
though the requester still considers his request "must have been worded clearly
because I received more reference material than I had anticipated." At present, the
searcher's awareness of this new aspect of the problem would not have helped in making
the retrieval more specific due to limitations in the vocabulary.

The one citation mentioned as not having been retrieved is:
    Brewster AW, Horton JP   The relationship of drug costs to medical care
    Amer J Hosp Pharm 25:176-9 Apr 68

This article has been indexed under the following headings:
    Drug industry   Insurance, Pharmaceutical services
    Economics, Medical   United States
    Human

There seems to be no reason to expect the Indexer to index the article for aged,
Medicare, or any hospital terms to bring it within the scope of the request, for
these concepts are mentioned only in passing, if at all, in this article. To
retrieve articles such as this would require a broader search formulation, which
could be justified only if the requester had asked for it.

This citation was one of three listed under "known relevant papers" in the request.
The other two articles appeared in journals not indexed by Index Medicus. The
searcher should have called the requester after the perusal of these articles, as
they do not all fit the requirements of the search as stated.

It is also very probable that the requester did not see the final form in which
his request was submitted. It may be a good idea to send the requester a copy of
his own request form with his printout, if the request had been submitted for him
by someone else.

Since the requester is apparently quite satisfied with the search and estimates
that approximately 100% of the relevant articles were retrieved, we can consider the
search a successful one. It is also a good example of inadequate requester/analyst
interaction.

10

A "Basic Hospital Library" Exhibit
Raquel Halegua, D.D.S.

The National Library of Medicine has prepared an exhibit to display a small
collection of textbooks, journals and reference works which constitute a use-
ful basic library resource for a hospital. This project was undertaken
because many hospitals have inadequate libraries and their librarians might
benefit from the opportunity to examine a carefully selected collection which
could satisfy many of the information needs of practicing physicians.

The collection has three major components:

> A core collection of 49 textbooks and 39 journals, compiled under
> contract with the New England Regional Medical Library*; Abridged
> Index Medicus, and the 100 English-language journals indexed in it;
> and a small, well-selected group of medical reference works.

We plan to test the exhibit in hospitals in the Mid-Atlantic Region, offering
orientation about the "basic library" to the hospital administrators, directors
of education, and medical and library staff, concurrently with display of the
exhibit.

When the exhibit and the accompanying orientation program have been fully
tested, we will make information about the package available to other RML's.
In addition, we may display the "Basic Hospital Library" at selected national
meetings. The exhibit was first shown at one such meeting, the Congress on
Medical Education in Chicago, February 6-8, where an audience of over 2,000
hospital administrators and directors of medical education had the opportunity
of viewing it.

Below are the fundamental ideas which guided the development of the basic
hospital library exhibit.

1. Comprehensive Coverage of the Fields of Clinical Medicine

The textbook collection covers all major fields of medical practice. The books
are authoritative and current, and will be periodically updated. While the
books in the exhibit are those recommended by specialists in the Stearns project,
individual titles are not as important as comprehensive coverage. Hospitals
may wish to make their own selection to suit the needs of their staff.

The journal collection includes the 39 titles listed by Stearns, amplified to
cover all 100 titles indexed in AIM. Although only a single issue of each journal
is displayed, it is expected that when the collection is in use at a hospital it
will include from one to three years' files of each journal. Stearns believes
that the 39 core journals in his core collection represent the minimum for
comprehensive coverage of clinical medicine, and are those which a small hospital

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*Stearns, N., and Ratcliff, W. A Core Medical Library for Practitioners in
  Community Hospitals. New Eng J Med 280: 474-80, 27 Feb 69

with a limited budget should obtain first. The other journals represent a logical in-depth expansion in the fields of clinical medicine, and, of course, Abridged Index Medicus ensures ready access to the literature they contain.

While the present collection is confined to clinical medicine, studies are underway to supplement it with materials in nursing and the allied health professions, and in-depth collections in specialty areas of medical practice.

2. Functional Classification

Books and journals are arranged according to groups of medical specialties, to enable readers to find at a glance materials in a related subject field which might not otherwise come to mind. Color-coded labels on both shelves and books indicate four major approaches: Medicine and subspecialties; Basic and clinical specialties relating to medicine and surgery; Surgery and subspecialties; and Reference works.

3. Access to Other Biomedical Information

A small group of medical reference works facilitates access to still further information. Included are a number of NLM publications in addition to Abridged Index Medicus, such as, Medical Subject Headings, Monthly Bibliography of Medical Reviews, and the National Library of Medicine Current Catalog. The reference works expand the service potential of the library by indicating the specific location of articles on a given subject within the collection, as well as in books or journals not included in the collection, but which may be easily obtained from other sources.

4. Informed Library Assistance

It is planned that a trained library supervisor will be in attendance while the "Basic Hospital Library" is displayed at national meetings, or at individual hospitals, to aid readers in the use of the collection, and to obtain for them further backup services available on a regional and national basis. Such services include reference assistance, loan of documents (original or photocopy) and provision of conventional or computer-generated bibliographies.

5. Single Learning Resource

It is less time-consuming for a physician and more conducive to learning to have all materials essential for answering everyday practical questions on patient care conveniently arranged and always on the shelf. For this reason, Stearns recommends that the core library be non-circulating and used as a single learning resource.

Small hospitals which are in the process of organizing a library will find this concept useful as an initial information resource on which to build further. Large hospitals, and special hospitals with well-developed functional libraries, may find the core library idea a valuable supplement by setting it up as a non-circulating reserve collection always available for quick reference.

6. Reasonable Cost

The cost of purchasing the initial collection and maintaining it is relatively small. Stearns and Ratcliff estimate less than $2,000 is needed for initial purchase of the 49 books and 39 journals, with $600 annually required to maintain the journal subscriptions. Those figures do not include the cost of the reference collection, or of the additional AIM journals.

7. Suitable Display

All materials are housed together in a relatively small space, where they are readily accessible and easily located. The exhibit consists of a 10' x 6'7" journal rack; a book-case 3' wide, of the same height, attached to the journal rack at a right angle, and a panel, at the left, illustrating the content and purpose of the exhibit. When a small table is set in front, and backruns of the journals are made available, the exhibit becomes, in effect, a real library.

PERSONNEL NOTICES

Miss Sandra Colville-Stewart has resigned from the UCLA MEDLARS Center as of February 28. She is going on a trip around the world after which she will return to UCLA in September to begin work on a Ph.D. in the History of Science.

Mark Hodges resigned his post as Director of Regional Medical Library Services for the New England Regional Medical Library at the start of February to become Director of the Regional Medical Library Program for the Southeastern Region (Emory University, Atlanta, Georgia).

Miss Dorothy Mueller, the Chief Searcher at the Alabama MEDLARS Center, vacated her position on February 1, 1970, in order to become Associate Librarian of the University of Alabama Medical Center Library in Birmingham. Miss Florence Johnson assumed the duties of Chief Searcher of that Center.

Miss Carol C. Spencer has accepted the Directorship of the Mid-Eastern Regional Medical Library Program (College of Physicians of Philadelphia) effective February 1, 1970. She is a graduate of the University of Pennsylvania and Drexel Institute of Technology where she received the M.S. degree in information science.

Mr. Robert A. Walkington, formerly Chief of the Resources Division, Extramural Programs, was recently appointed to the position of Deputy Associate Director for Extramural Programs. He will continue his current involvement with the Regional Medical Library Program, and will remain as Acting Chief of the Resources Division until a replacement can be found.

A NEW THREE-TIER SERVICE AT THE U.K. MEDLARS CENTER
Dr. A.J. Harley, National Lending Library, Boston Spa, U.K.

Up to the present, MEDLARS searches have been processed against the whole MEDLARS file in a single operation. The file is now very large (about 1,200,000 references) and is continuously increasing. In order to provide a more efficient service, it is planned to divide the file into two or more sections which will be searched separately. Initially it is proposed to make the division into a "back-file" segment (1964-67 inclusive) and a current segment (Jan. 1968 to date).

1. "Pilot searches"
   During 1970, initial requests will be processed against the tapes from January 1968 to date, i.e., two years' tapes at the start of the year, rising to three years' by the end.

   Normally, all requests for MEDLARS searches will be handled as "pilot searches" only. They will be given priority in processing and it is the intention that most of them will be dispatched within 10 working days from the date of receipt at NLL.

2. "Back-file searches"
   When a "pilot search" has been done, and the requestor has studied the output, he may request a "back-file" search of the January 1964 - December 1967 tapes. Modifications to the strategy to take account of the older terminology will be made by the search editors as necessary, and it is hoped that the requestor will also be able to suggest modifications to increase the accuracy of the search.

   At the discretion of the search editor, initial requests may be put into "back-file" batches simultaneously with their "pilot searches."

3. "Update searches"
   Anyone who has had a previous search within the last 6 months may request an "update search." The request should quote the original search number: suggested modifications to improve accuracy should also be submitted. The modified request will then be processed against the tapes that have accumulated since the previous run, up to a maximum of 6 months.

All eleven regions have now been designated for the provision of regional medical library services to the entire country.

Region 2, comprising New York and the eleven northern counties of New Jersey, is supported by a grant which became effective May 1, 1969; services were initiated at the New York Academy of Medicine on February 16, 1970, under the direction of Miss Ann Hutchinson. Region 2 provides MEDLARS search formulations and interlibrary loan services. It also provides on-line access to the data banks of the SUNY (State University of New York) Biomedical Communications Network.

With the initiation of service by Emory University, Atlanta, Georgia, on January 2, 1970, the Southeastern Regional Medical Library program became operational. This serves Region 6, with a consortium of eleven resource libraries serving Alabama, Florida, Georgia, Mississippi, Puerto Rico, South Carolina, and Tennessee, under the direction of Mr. Mark Hodges.

The South Central Region (9), comprising Arkansas, Louisiana, New Mexico, Oklahoma, and Texas, is located at the University of Texas Southwestern Medical Center at Dallas, Texas and will be directed by Dr. Donald Hendricks; the Mid-Continental Region (8), at the University of Nebraska Medical Center at Omaha, serves the states of Colorado, Kansas, Missouri, Nebraska, South Dakota, and Wisconsin. Both the latter two regions have now been funded, but are not yet operational. It is anticipated that they will become operational before the end of the current fiscal year, thus completing the network of RML's throughout the United States.

It should be noted that the state of North Dakota is now a part of Region 7, rather than Region 8; institutions in that state will now receive regional medical library services from the John Crerar Library in Chicago.

INDEXING ERRORS
Stanley Jablonski, Head, Index Section, BSD

From time to time, MEDLARS analysts find indexing errors which vitally affect retrieval. We should like very much to hear about these, but in order to save the MEDLARS analyst the necessity of writing long explanations, and in order to relieve NLM staff of copying references, please follow the instructions below when submitting notices of indexing errors in the future:

1. Xerox the portion of the print-out on which the error occurs
2. Underline the error boldly to pinpoint it
   or
3. Note on margin briefly the error

For example, one might write

"INFANT, NEWBORN" should be "ANIMALS, NEWBORN"
                or
"HUMAN" has been omitted
                or
"SCHIZOPHRENIC PSYCHOLOGY" should be "SCHIZOPHRENIC LANGUAGE"

We wish to thank those analysts who in the past have been conscious of the need to continually update the MEDLARS data base and we wish to encourage those who find indexing errors, missing journal issues or articles, etc., to notify us immediately.

STATISTICAL SUMMARY FOR MEDLARS CENTERS FOR DECEMBER 1969
Constantine J. Gillespie

The table below, which includes only a few important items from each center's monthly report, gives a summary of the searching performance at each of the MEDLARS centers around the world:

MEDLARS DEMAND SEARCHING FOR
December 1969
Period: 11/28/69 - 12/25/69

Center	Searches rejected	Searches released excluding RDS's	Recurring demand searches released	Citations retrieved per search month	Percentage searches released by calendar days	
					0-20 days	0-30 days
Alabama	3	81	5	4.32	93.8	100.0
Colorado	1	54	0	4.02	100.0	--
Crerar	3	18	0	4.0	--	66.7
England	0	420	0	--	0.5	62.8
Harvard	9	55	0	5.8	8.0	40.0
Michigan	0	97	19	7.3	21.7	84.5
NIH	0	54	45	9.4	53.0	88.0
NLM-MAR	11	157	19	5.6	50.3	91.7
NLM-MMS	18	124	0	4.88	41.9	91.2
Ohio	0	77	0	7.06	100.0	--
Philadelphia	3	39	1	4.5	12.5	67.5
PMA	3	53	198	10.7	43.4	92.4
Sweden	0	124	0	7.32	5.6	62.9
Texas	6	91	0	2.56	100.0	--
UCLA	9	132	18	3.74	9.1	78.0
Washington	0	48	1	6.0	4.0	48.0

VETERINARY INDEXING
Thelma Charen

Index Section has adopted, with the approval of Dr. Shumway, the recommendation of Dr. Fritz Gluckstein that in MEDLARS the concept of "veterinary" cover all vertebrate animals "regardless of whether they are pet, farm, zoo or wild animals."

This coverage will work no hardship upon Indexers since the identity of the animal as "veterinary" has been standard for many years, before and since MEDLARS. At one time, for a brief period, Indexers were advised that "veterinary" did not include wild animals and the Indexing Manual was changed to so advise. Fortunately, this restriction was either not seen by Indexers or ignored by them when the slant of an article in a veterinary journal demanded that the article be brought within the ken of veterinarians.

The present recommendation, which several months ago had already been written into the Indexing Manual rescinding the previous restriction, is easy to follow and is practical. Indexers never have difficulty distinguishing the dog, for example, as a taxonomic or anatomic entity (i.e., "this is a dog and not a cat" or "this is a dog and not a wolf"), the dog as an experimental animal and the dog as a veterinary animal. The distinctions are fairly clear-cut. Question might arise as to when is a rat a rat or a veterinary animal but, fortunately again, this is only occasionally a problem since the idea of a "sick rat" only occasionally confronts the veterinarian or the veterinary indexer.

Indexers have little difficulty indexing veterinary journals except in the area of terminology regarding the extremities of animals. The confusion arises because some authors use terms like "cat's elbow" loosely while other authors remain anatomical purists. Confusion is compounded because of the continual distinction Indexers are required to make between ankle and ankle joint, finger and finger joint, etc., in the indexing of even human anatomy. Confusion is further compounded because what appears to the layman as a horse walking on his feet is really a horse walking on his toenails! There are other anatomical oddities known to veterinary anatomists that would further enchant an Indexer or an observer of human anatomy.

We have given you below several arrays to help Indexers and Searchers in the matter of the anatomy of extremities. All of the instructions below come with the recommendation of Dr. Gluckstein and the approval of Dr. Shumway.

MeSH Headings for Extremities

Animals

All of the terms here are from Subcategory A13 except the one indicated.

EXTREMITIES
    FORELIMB
        HOOF AND CLAW
        WING
    HINDLIMB
        HOOF AND CLAW
    JOINTS (A2)

WING may be used for bats, birds and insects

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Man

These terms are taken basically from Subcategory A1. A few are taken from
Subcategory A2 but the corresponding muscle and bone terms will pose no
problem in indexing veterinary material since veterinarians usually call
the bones in such articles by their scientific names.

```
EXTREMITIES
     ARM
          AXILLA
          FOREARM
               ELBOW (and ELBOW JOINT)
               HAND
                    FINGERS (and FINGER JOINT)
                         NAILS
                         THUMB
                    WRIST (and WRIST JOINT)
          SHOULDER (and SHOULDER JOINT)


     JOINTS
          (Arm)
                    ELBOW JOINT
                    FINGER JOINT
                    SHOULDER
                    WRIST JOINT
          (Leg)
                    ANKLE JOINT
                    HIP JOINT
                    KNEE JOINT
                    TARSAL JOINT
                    TOE JOINT

     LEG
          FOOT
               ANKLE (and ANKLE JOINT)
               HEEL
               TARSAL JOINT
               TOES (and TOE JOINT)
                    HALLUX
                    NAILS
          HIP (and HIP JOINT)
          KNEE (and KNEE JOINT)
          THIGH
```

Anatomical Conversion Table
MeSH Headings as Used with Various Species
-- means that the MeSH term will probably
not occur in the literature on this class

MeSH Term	Man	Non-Human Primates	Non-Primate Vertebrates	Invertebrates
ANKLE	ANKLE	ANKLE	HINDLIMB	--
ARM	ARM	ARM	FORELIMB	--
ELBOW	ELBOW	ELBOW	FORELIMB	--
EXTREMITIES	EXTREMITIES	EXTREMITIES	EXTREMITIES	EXTREMITIES
FINGERS	FINGERS	FINGERS	TOES (IM) + FORELIMB (NIM)	--
FOOT	FOOT	FOOT	FOOT (IM) + HINDLIMB (NIM) FORELIMB (NIM)	EXTREMITIES
FOREARM	FOREARM	FOREARM	FORELIMB	EXTREMITIES
FORELIMB	ARM or FOREARM	ARM or FOREARM	FORELIMB	EXTREMITIES
HALLUX	HALLUX	HALLUX	--	--
HAND	HAND	HAND	FOOT (IM) + FORELIMB (NIM)	--
HEEL	HEEL	HEEL	--	--
HINDLIMB	LEG	LEG	HINDLIMB	--
HIP	HIP	HIP	HIP	--
JOINTS	JOINTS	JOINTS	JOINTS	JOINTS
KNEE	KNEE	KNEE	HINDLIMB	--
LEG	LEG	LEG	EXTREMITIES or FORELIMB or HINDLIMB	EXTREMITIES
NAILS	NAILS	NAILS	HOOF AND CLAW	--
SHOULDER	SHOULDER	SHOULDER	SHOULDER	--
THIGH	THIGH	THIGH	THIGH	--
THUMB	THUMB	THUMB	--	--
TOES	TOES	TOES	TOES (IM) + HINDLIMB (NIM) or FORELIMB (IM)	--
WRIST	WRIST	WRIST	FORELIMB	--

The specific joint terms (ANKLE JOINT, KNEE JOINT, etc.) are represented in this table by only the base term (ANKLE, KNEE, etc.). For indexing joints, use the MeSH joint term for animals exactly as you do with human joint articles.

Miscellaneous Notes

1. Little material comes to our attention as medical indexers which requires the indexing of specific anatomical parts of the extremities of invertebrates.

   If the Indexer needs a concept to cover anything regarding the extremities of insects, particularly, but also other invertebrates, the main heading EXTREMITIES, JOINTS or WING will be adequate when applicable.

2. When indexing terms like FOOT or LEG or TOES in relation to quadrupeds, for maximum specificity try to index under FORELIMB or HINDLIMB as an NIM parameter when specified by the author.

3. Here are some indexing instructions. Headings below of "see under" variety are MeSH cross references. "Index under" instructions are from the IAF (Integrated Authority File).

   CARPUS, ANIMAL see under FORELIMB
   CLAWS see under HOOF AND CLAW
   claws of crabs, lobsters, etc., index under EXTREMITIES (not HOOF AND CLAW)
   HOCK see under HINDLIMB
   paw index under FOOT (IM) and FORELIMB or HINDLIMB (NIM)
   STIFLE see under HINDLIMB
   TARSUS, ANIMAL see under HINDLIMB
   web index under FOOT

THE ALABAMA MEDLARS CENTER

In the midst of the old and rare medical books at the University of Alabama Medical
Center Library is the department which represents the newest area of medical libraries
--the MEDLARS office. Extremely crowded conditions in the main medical library
building preclude the location of the MEDLARS personnel there; therefore, the MEDLARS
operations, complete with the keypunch machine, are housed in these rather unlikely
but extremely pleasant quarters. The rare book library includes, in addition to a
handy kitchenette, two well-appointed conference rooms which have proved quite
adequate for holding MEDLARS orientation workshops.

The Alabama MEDLARS Center is also unique in that it is the only U.S. center, other
than NLM, which does indexing and searching and processing. Our staff consists of
a project officer, two full-time search analysts, one half-time indexer/half-time
search analyst, and one full-time secretary who is responsible for logging in, filing,
and general office duties, as well as all of the keypunching. A programmer from the
University's Computer Research Laboratory is assigned to the MEDLARS project on an
as-needed basis. The programmer's service is included in our computer time costs.

An average week at the Alabama MEDLARS Center would yield about 60 articles indexed,
and an average of 30 requests received, formulated, keypunched, processed, and
released. The indexing, searching, and keypunching are done in the MEDLARS offices;
the computer processing is done on an IBM 7040 in the University's Computer Research
Laboratory, located about two blocks from the MEDLARS offices. The Edit portion of
each weekly batch is run on Friday and the Demand Search and Report Generator
programs are run on Sunday. Only local searches are processed at Alabama. Printouts
are returned to the MEDLARS offices on Monday and the printouts are usually released
within 24 hours of receipt from the Computer Center.

Since all of the phases, including the keypunching and processing, are done locally,
throughput time is usually quite good. Of all the searches released, over 50 per
cent have a turnaround time of 10 days or less, and from 80 to 95 per cent have a
turnaround time of 15 days or less. Those having a longer throughput time are usually
the early file searches, which are held to be processed only once a month.

The first contract between the Alabama MEDLARS Center and NLM was signed in 1966, at
which time two persons went to NLM for indexing and search training, and work was
started by the University Computer Center to debug the UCLA programs and adapt them
for Alabama's IBM 7040. Active indexing and search activity at the Center began in
1967 and local computer processing began in 1968.

Since the early days, both the magnitude and distribution of the MEDLARS service have
changed radically. In 1967 we received a total of 397 requests, of which 291 were
routed through NLM and 106 were received directly. In the following year, the
receipts more than doubled, totalling 849; but the percentages of first site of
receipt had reversed themselves--only 292 requests came through NLM, while 557 were
received locally. In 1969 requests have burgeoned (1210 for only the first 11 months)
with an extreme reversal in site of receipt (1146 were received locally and a
negligible 64 were routed through NLM). These changes have been the result of the
establishment of more regional MEDLARS Centers (the number has tripled in the past
four years); more and better publicity, which began to show its effects in 1968;
and the advent of user orientation programs in 1969.

3

REGIONAL MEDICAL IBRARY QUARTERLY STATISTICAL R. RT
Interlibrary Loans -- July-Sept. 1969

| Region | Workload | | Availability Rate | Throughput Time | |
	Requests Received	Requests Accepted	Percent Filled	Percent Filled in 3 days	Percent Filled in 4-5 days
1	10,142	9,718	85	83.0	93.0
3	15,445	15,175	90	99.0	100.0
4	10,252	9,854	82	78.2	90.0
5	12,746	12,481	75	90.1	92.6
7	4,512	4,458	69	91.0	97.2
10	4,541	4,465	92	84.2	89.1
NLM	25,753	22,373	91	59.0	83.5

STATISTICAL SUMMARY FOR MEDLARS CENTERS FOR NOVEMBER 1969
Constantine J. Gillespie

The table below, which includes only a few important items from each center's monthly report, gives a summary of the searching performance at each of the MEDLARS centers around the world:

MEDLARS DEMAND SEARCHING FOR
November 1969
Period: 10/31 - 11/27/69

| Center | Searches rejected | Searches released excluding RDS's | Recurring demand searches released | Citations retrieved per search month | Percentage searches released by calendar days | |
					0-20 days	0-30 days
Alabama	0	117	5	3.30	88.0	98.3
Colorado	1	79	14	4.4	95.0	100.0
Crerar	2	23	0	4.6	39.1	60.8
England	0	134	38	----	40.2	40.2
Harvard	11	73	0	5.6	7.0	36.0
Michigan	3	111	19	6.83	52.0	92.0
NIH	0	52	0	14.3	29.0	62.0
NLM-MAR	6	128	3	6.1	42.9	84.4
NLM-MMS	20	104	21	7.04	39.5	87.6
Ohio	1	82	96	7.85	100.0	----
Philadelphia	3	25	0	4.0	4.0	80.0
PMA	0	44	135	7.98	45.4	93.1
Sweden	11	125	537	8.5	4.8	61.6
Texas	3	100	0	2.24	100.0	----
UCLA	9	111	0	7.3	17.1	74.7
Washington	6	27	1	11.0	7.0	55.0

STATISTICS ON JANUARY-DECEMBER 1969 CCF
Constantine J. Gillespie

Total number of citations on January-December 1969 CCF:	233,980
Number of English-language citations:	120,706
Number of foreign-language citations:	113,274
Percentage English-language citations:	51.5
Percentage foreign-language citations:	48.5
	100.0
IM headings used with 233,980 citations:	607,751
NIM headings used with 233,980 citations:	1,600,043
Total headings used with 233,980 citations:	2,207,794
Average number of IM headings per article:	2.6
Average number of NIM headings per article:	6.8
Average number of total headings per article:	9.4

FORMULATING SEARCHES WITH 1970 MESH TERMS
Constantine J. Gillespie

Punched cards and listings for the new terms that have been added to Medical Subject Headings (MeSH) for 1970 have already been distributed to all MEDLARS centers within the United States. Searchers should begin using these new terms in their demand search formulations on February 2, 1970. At that time we will begin processing of searches against the Compressed Citation File on which all of the indexing terms have been file-maintained to make them conform to the 1970 MeSH. Current file searches will then cover the months January 1967 through February 1970. Back-file searches will still cover the months January 1964 through December 1966.

Searchers should indicate on their DSFR's that the search has been formulated according to the 1970 MeSH. You can do this by writing (1970) at the top of the DSFR where you indicate the years of CCF to be searched. This will enable the processing centers to keep searches formulated with 1969 MeSH terms separate from those searches formulated with 1970 MeSH terms. Searches that have been formulated with 1969 MeSH terms will continue to be processed against the CCF that is file-maintained to the 1969 MeSH terms until all such searches have been cleared from the pipeline. These searches will be processed against the January 1967 through December 1969 CCF's.

PROCESSING OF BACK-FILE SEARCH REQUESTS
Constantine J. Gillespie

Effective immediately, all back-file searches for all MEDLARS centers within the United States will be processed only at the National Library of Medicine. Such centralized processing offers a number of advantages: (1) At least one batch of back-file searches will be processed each weekend at NLM; this will provide faster throughput time, since many centers process back-file searches only once or twice a month. (2) Batches of a more efficient size can now be created, with a resultant improvement in computer time per search. (3) Magnetic tape files for 1964-66 will not have to be distributed to any MEDLARS center in the U.S. (except for Ohio State University, which will still have to make copies for NLM and for the overseas MEDLARS centers). The 1964-66 Compressed Citation File now comprises 18 reels of tape; with these tapes not needed at Alabama, Colorado, or Texas, there will be a saving of 54 reels of tape that do not need to be copied and shipped around the country. (4) The new MEDLARS Search Appraisal form is now in use; it makes no mention of the fact that back-file searches are available. Thus, the number of back-file search requests will probably decrease.

Each center must provide the following documents for each back-file search to be processed at NLM:

1. A copy of the request form (first page only) and DSFR for the back-file search;
2. A copy of the request form (first page only) and DSFR for the current file search;
3. A justification statement detailing why the back-file search is needed (all back-file searches must be approved by the Chief, Bibliographic Services Division, NLM);
4. A copy of the Report Generator Request Form;
5. A punched card deck for the search;
6. The appraisal form returned by the requester.

There are special requirements for keypunching the search decks for processing at NLM. The centers that have been doing their own computer processing may not be aware of these NLM requirements, but must follow them now for their back-file searches.

The requirements are as follows:

Report Generator cards must be keypunched onto blue card stock. In NLM programs the Report Generator cards are not read into the computer along with the rest of the search deck, but are held out until the Report Generator Module is ready to be started. Thus, these cards must be readily visible so they can be separated.

The first Report Generator card, the F card, must be punched with the request number in columns 1-6, the form identifier in columns 7-8, and, ALL in columns 10-14. (This will allow printing of a maximum of 500 citations per search; if more are expected and needed, then punch the higher number, e.g., 01000, or 05000, etc., but also submit a justification statement for the higher printout as detailed in MEDLARS/Network Technical Bulletin, No. 5, p. 2, September 1969.) In column 15,

a C or a P must be punched to indicate if card or paper output is desired. Fl
cards (specifying card output) must always be followed by an Hl card giving the
general title of the search. If the output medium is P (paper), then Hl, H2,
and H3 cards are not necessary.

Any back-file searches received at NLM before the close of business on Thursday
will be processed the following Saturday. This will also allow them to go through
computer edit Thursday evening. Any errors will be corrected Friday morning and
then the searches will be batched for processing on Saturday, either on NLM's
Honeywell 800 or on a local IBM 7094 using Ohio State programs.

Questions regarding any of these details will be answered promptly by
the MEDLARS Management Section.

REVISED APPRAISAL FORM

All MEDLARS centers in the U.S. are now using an updated version of the MEDLARS
Search Appraisal form. The major change in this form is the deletion of the
section which allows the requester to ask for a back-file search.

Analysts at various centers have asked what procedures our users are now expected
to follow in requesting back-file searches. The answer is: in the majority of
cases, it will be the analyst's responsibility to inform the user that a back-
file search is available if, in the analyst's judgment, such a search of the
additional citations is indicated. The analyst may inform the user verbally
(by telephone or in person) or by writing a note on the release letter or in a
separate letter. It is essential that the analyst inform the user that he must
complete and return the appraisal for the search in hand, with his request for
a back-file search written on the form.

MEDLARS USER ORIENTATION PROGRAMS

Date	Presented at and for whom:	Presented by:
Dec. 9	Eastern Michigan University ---- two groups of librarians, biologists, chemists, psychologists	Mrs. Hirschfeld and Mr. Lawrence
Dec. 9-10	John Crerar Library, Chicago, Illinois - two groups of health scientists and librarians from the Chicago area	Miss Dougherty, Miss Green and Mr. Caldwell
Dec. 11	Special Libraries Association, New York Chapter, New York, N.Y.	Dr. Halegua
Dec. 12	Texas MEDLARS Center - librarians and programmers	Miss Green and Miss Herring

NLM PERSONNEL CHANGES

Effective January 12, 1970, Mr. Ralph Simmons was named Acting Chief, Office of Computer and Engineering Services, NLM. Mr. Simmons will also continue as Chief, MEDLARS II Management Staff.

Mr. Alfred Asch, former Chief of OCES, has left the Library to take a position in private industry.

Mr. Albert M. Berkowitz has been named Deputy Chief, Reference Services Division. Mr. Berkowitz will continue to act as Head of the Loan and Stack Section (his previous position) until a replacement for him has been named.

NLM DIRECTOR'S HONOR AWARD

The first Director's Honor Award was recently presented to Mr. Ralph Simmons, Acting Chief, OCES, and Chief, MEDLARS II Management Staff. Dr. Martin M. Cummings, Director, NLM, cited Mr. Simmons for his "...outstanding contribution to the mission of the National Library of Medicine...". Specifically, Mr. Simmons was recognized for his success in coordinating the efforts of the MEDLARS II contractor and NLM personnel so that they are both "...working toward a unified objective in an efficient manner."

REMINDER

A brief article on MEDLARS, entitled "Medical Literature Research,"[1] reminds us that state medical journals (and publications issued by other regional or specialty groups) are excellent vehicles for informing professional users of our services.

Please send us a copy, photocopy, or clipping of any informational material (article, brochure, news release, announcement, pamphlet, etc.) issued by your RML, MEDLARS station, or other source.

Ann R. Lindsay
Managing Editor

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[1]Ohio State Med J 65:1243, Dec 69.

MEDLARS WORKSHOP MODE OF INTERACTION STUDY
UCLA BIOMEDICAL LIBRARY

As part of the November Workshop at NLM, the UCLA Search Section reported findings from a four-month study of appraisal forms. The purpose of this project was to determine if an interview technic for search requests resulted in higher precision, recall, and novelty ratios. We wished to probe more deeply into the findings of F.W. Lancaster's evaluation that indicated searches formulated without prior personal interaction resulted in higher precision and recall values. These ratios were consistently higher for no interaction requests than for searches conducted after either search analyst interview or librarian interview. Since variables such as search center, requesting organization, and subject field might have had an influence on these ratios, Lancaster held each one constant in turn, but obtained the same results.

For our study, MEDLARS centers were asked to record on the appraisal form accompanying each printout whether the request was formulated as an I search (interview) or an N search (no interview). We were aware that this distinction is not always clear-cut, but left the final decision to each search analyst. Notations were made on requests released from July 1 through September 30. Mrs. Grace Jenkins, Quality Control, BSD, added the N and I notation to the monthly statistical tallies of recall, precision, and novelty ratios. Our report was based on more than 470 appraisal forms returned to NLM with the N and I recorded, for the period of July 1 through October 31.

Precision ratios were based upon the percentage of citations judged either relevant or peripherally relevant by the requester from the total number of citations sent to him. Figures for precision ratios for all centers showed an average of 56.5% for non-interview (from 285 appraisals returned with this information recorded) and 57.8% for interview (based on 189 forms). Figures for precision ratios for each center individually were analyzed; they are listed in the chart below.

Novelty ratios were computed from the requester's statement concerning the number of relevant citations brought to his attention for the first time by the search. The average novelty ratios were 49.1% for I (from 134 appraisal forms) and 56.5% for N (based on 190 appraisal forms). Mrs. Jenkins' average figure for all appraisals returned was 47.3%. Again, novelty ratios were determined for each center and are presented below.

Recall ratios were taken from the user's estimate of the percentage of relevant citations retrieved by the search from the total number of relevant articles he knows to have been published since January 1967. Averages for all centers, for both the 100% and 75% categories combined, were 78.2% for I (165 appraisals) and 81.0% for N (258 appraisals). Figures for each center are included in the chart below.

	Precision		Novelty		Recall*	
	I	N	I	N	I	N
Alabama	60.5(11)	79.0(30)	31.3(8)	57.8(17)	55.6(9)	82.1(2.)
Colorado	66.8(15)	63.7(31)	58.7(10)	58.2(24)	76.9(13)	75.8(29)
Harvard	70.4(34)	50.7(3)	51.6(26)	36.9(2)	83.9(31)	75.0(4)
MARML	64.7(20)	55.9(38)	40.4(14)	56.7(28)	81.3(16)	88.6(35)
Michigan	52.2(14)	51.2(22)	37.7(12)	72.3(15)	75.5(16)	70.6(17)
MMS	56.3(22)	55.9(81)	62.3(19)	50.5(48)	68.5(19)	84.7(72)
NIH	71.9(31)	51.4(4)	32.3(19)	32.3(3)	89.3(28)	50.0(2)
OSU	54.6(15)	52.2(21)	67.7(11)	53.0(15)	81.8(11)	83.3(18)
Philadelphia	--------	48.0(3)	--------	82.5(3)	--------	75.0(4)
PMA	--------	62.2(19)	--------	76.2(13)	--------	75.0(16)
UCLA	62.8(24)	49.8(27)	82.9(13)	37.8(18)	75.1(16)	75.8(29)
Washington	17.5(3)	57.7(6)	25.6(2)	63.8(4)	80.0(5)	100.0(4)

*Based upon recall estimates of both 100% and 75%.
(The number of appraisal forms returned with information recorded for a particular section is included in parentheses.)

We also studied comments on the appraisal form. One interesting finding concerned the requester's indication that he would reword his request. Fifty-seven percent of the non-interviewed (based on 130 appraisal forms), compared to 26% of the interviewed, indicated their request needed rewording (93 appraisal forms). Lancaster, however, found that a higher percentage of interviewed requesters reworded their request.

In summary, whereas Lancaster's figures show higher ratios for no local interaction searches, the present study does not. Our results indicate that recall and precision ratios are not greatly influenced by the requester being interviewed, with the possi'`ᵉ exception of a few centers which put particular emphasis on the interview technic. We think a greater influence on performance is the large number of imponderables involving the requester which cannot be measured accurately. Some of these variables are: how much he already knows about the literature; his tolerance levels for non-relevant citations; and his acceptance of the system limitations in MEDLARS vocabulary and processing time.

COMMENTS ON UCLA INTERACTION STUDY
Clifford A. Bachrach, M.D.

This type of study is fraught with many difficulties. In a true experimental study, the individuals are randomly assigned to each of the treatments. However, in a practical working situation, we can hardly flip a coin to decide whether to interview or not to interview. Consequently, the matter is determined by a decision, by either the user or the searcher, that an interview is needed. The factors determining the decision may be some of the same factors that make a good search easy or difficult. We have therefore no assurance that differences in success with interview and non-interview searches are attributable to the interview itself; the differences may be related to the fact that the search questions in the two groups were not of equal difficulty to begin with.

A great deal has also been said about the imponderables affecting relevance judgments. We know nothing about the extent to which a user's judgments may be affected by having

had a personal telephone call or face-to-face chat with the searcher. If interview
actually influences the precision, does it do so by improving the search or by
influencing the user's attitude toward what is relevant?

Because of these two important sources of doubt, we can regard the effects observed
in this study, and in the Lancaster study as interesting, but still subject to doubt.
It would be desirable, but difficult, to eliminate some of the biases that are
inherent in observer studies of this type, by using the kind of experimental designs
that would be demanded in a good scientific experiment.

HINTS FOR SEARCHING AND INDEXING TISSUE CULTURE LITERATURE
Helen E. Cesvet, Librarian
Tissue Culture Association

Because most authors in fields using tissue culture as a research tool use the
term in vitro in their titles, many tissue culture articles are check-tagged
IN VITRO rather than being indexed for TISSUE CULTURE. This makes retrieval of
tissue culture literature difficult. Also, before 1969, the test tissue was
often not indexed (see Manual 14.30). In many test searches I have performed in
working out a strategy for the tissue culture bibliography, the following hedge,
with its special cautions and limitations, has been found to give the highest
recall and precision when summed with TISSUE CULTURE. Please note that the starred
items are also used in plant tissue culture, so if only animal tissues are wanted,
negate plant terms when using them. A hedge for plant tissue culture will appear
in a future issue.

Animal Tissues Hedge

*CELL LINE (A11) Prov.
*CELL TRANSFORMATION, NEOPLASTIC (C2, G1)
  CHICK EMBRYO (A10, A13) - This is not synonymous with TISSUE CULTURE. It is
                            most often a source of muscle, nerve, or vascular
                            tissue for culture.
  CLONE CELLS (A11)   - This may bring noise, as the term is also used by
                            people working with bacteria or yeasts.
  CULTURE MEDIA (D13)   - This term is also used in bacteria or yeast studies.
*CYTOPATHOGENIC EFFECT, VIRAL (E1, G1)
*DNA REPLICATION (G1)   - Especially with DNA, NEOPLASM.
  EMBRYO (A10)   - Especially anded with other terms in A11 or IN VITRO;
                            see also note on CHICK EMBRYO.
  FIBROBLASTS (A11)   - This should be anded with IN VITRO, as it is often
                            used merely to describe the ultrastructure of con-
                            nective tissue.
  HELA CELLS (A11, E5)   - This term was added to A11 in 1970 MESH.
  L CELLS (A11, E5)   - This term was added to A11 in 1970 MESH.
  LYMPHOCYTES (A11)   - And this with IN VITRO.
*VIRUS CULTIVATION (E5)   - Viruses are also cultivated in eggs and in the brain
                            of living animals, so and with IN VITRO.
*VIRUS REPLICATION (G1)

Following is a list of terms which are frequently used in articles dealing with tissue culture. They should be indexed TISSUE CULTURE plus other MESH terms as indicated or applicable.

Cell generation time   - MITOSIS
Cell strain   - CELL LINE
Cell culture
Cells in culture
Cells derived from .....
Cells in vitro
Cell transformation   - Caution, this need not be neoplastic!
Cell monolayers
Clonal strains   - CLONE CELLS and CELL LINE
Cultured cells
Cultured tissue
Cultivation in vitro
Explant
Growing cell populations
In vitro hybrid cells   - HYBRIDIZATION
Isolated cells
Mammalian cells in vitro
Organ culture
Passage   - This refers to transfer of cells from primary to
                            additional cultures. Number of passages is often
                            a criterion for establishing a cell line.
Perfusion culture
Population doubling time- CELL DIVISION
Single living cells
Somatic mammalian cells
Subculture
Suspension culture
Transformed cells   - This is not necessarily neoplastic or genetic.
                            It may be morphologic only.
Transformation in vitro - Same caution as above.

NATIONAL LIBRARY OF MEDICINE

LIBRARY NETWORK/ MEDLARS
technical bulletin

(formerly MEDLARS/Network Technical Bulletin)

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We welcome comments
and suggestions.

BEST WISHES FOR A HAPPY AND SUCCESSFUL NEW YEAR!

LIMITATION OF FEBRUARY MEDLARS ANALYST CLASS
Clifford A. Bachrach, M.D.

Very heavy demands will be made upon the NLM staff to prepare for the changeover
from MEDLARS I to MEDLARS II. A good deal of this work will come during the spring
and early summer of 1970. For this reason, it will be necessary for us to reduce
as far as possible the competing demands upon staff time.

The MEDLARS Analyst Training Class that will begin in February 1970 will be limited
to eight trainees. Most of these openings have already been committed. In filling
the few remaining openings, consideration will be given only to those centers whose
continuity of operation might be seriously jeopardized unless a trainee can be
accepted.

RECURRING DEMAND SEARCHES

All MEDLARS stations are reminded that they should canvass their recurring demand
search users now to determine whether continuance of the recurring searches will
be needed during the coming year. If the recurring demand searches are to remain
in effect, they should be updated to reflect any necessary 1970 MeSH changes.

CORRECTION TO 1970 TREE STRUCTURES

It has been called to the attention of MeSH that incorrect tree numbers have been
assigned to the following:

ANESTHESIA, DENTAL	E3.26.16	E3.26.16,
	E6.1	should be E6.9
RUMEN	A13.102.52	should be A13.101.52

As the tree structures have gone to press, and file maintenance will be necessary,
these numbers cannot be changed this year. For this reason, explode ANESTHESIA,
DENTAL only in E3. If exploding STOMACH, RUMINANT add RUMEN separately.

MEDLARS USER ORIENTATION PROGRAMS:
A Brief Review
Raquel Halegua, D.D.S.

MEDLARS I has been characterized, in part, by change and innovation, in response
to needs which became apparent as the system matured and expanded. Training was
one of the requirements stipulated in the preliminary specifications, but probably
no one anticipated either the size or the scope of the present instructional pro-
grams.

As MEDLARS grew, it was recognized that the user-system interaction played a vital
role in the success of its retrieval function. To bring the user closer to the
system, enabling him to understand its complexities, to know what he should reason-
ably expect from MEDLARS, and, most important, to know what is required of him, a
user orientation program was developed.

Between November 1967 and December 1968, seven experimental programs were presented
to NLM and NIH staff, medical students and faculty, and graduate library students.
At that time, it was decided to reduce the program to prototype modular training
units. Five units were prepared, consisting of outline-scripts keyed to 35 mm slides.

All five units, illustrated with 150 slides, can be used to present a full-day
program, and practical exercises are included to encourage audience participation
and group discussion. The units can be used independently or in various combinations.
Several programs were presented to test the preliminary slides, and in May 1969, we
began to disseminate the program actively.

From May 1969 to date, over 40 programs have been presented in the Mid-Atlantic
Region and at various MEDLARS stations. About two-thirds of all orientations have
been conducted in the MAR in order to train "trainers" by means of actual presenta-
tions.

Several variations of the basic program have been tried; these variations were based
primarily on the type of audience, as well as on the time available. For researchers
who expressed an interest in learning about MEDLARS in greater depth, the one-day
program has been presented in two half-days. Several hours of the second afternoon
are devoted to interviewing those participants who have requests to be processed.
Each interview is conducted after the requester has written his question on a Demand
Search Request form, filling it out as best he can. It is interesting to observe that
most requesters find it advisable to change the wording of their question after dis-
cussion with the analyst.

Medical librarians too, have been very much interested in the MEDLARS orientations.
Several sessions have been held especially for medical and hospital librarians, and
librarians have also been invited to participate in programs with health practitioners.

Orientations have been conducted at several medical schools (for both medical students
and faculty) and at graduate library schools. As with the research groups, the ses-
sions were conducted over two to three days, whenever possible.

Busy clinicians and professional health scientists attending national meetings have
also requested MEDLARS orientations, although they prefer shorter sessions. In such

cases, two alternatives have been tried: (1) presenting most of the material contained in the five-part package as straight exposition, with emphasis on the specialty or field of interest of the group; and (2) giving a more condensed version of the program with time for group discussion after a short exercise. Presentations of on two, and three hours have been given to large groups of hospital librarians and non-professional hospital library personnel, medical secretaries, and medical records librarians. The MEDLARS program has been offered as part of a regional meeting, or within a workshop on basic library technics. Our future plans include changing and updating some slides. Several centers in the U.S. and abroad have requested pictures of NLM and maps showing the distribution of Regional Medical Libraries and MEDLARS Stations, so these are being prepared. The outline-script for indexing is being re-written from quite a different viewpoint. Now in preparation is a manual on how to present user orientations. "The Principles of MEDLARS," a syllabus containing most of the information presented in the orientations, is near completion.

Most MEDLARS Centers are planning to present two or three orientations each month. The John Crerar Library has ten programs already scheduled for a period of about six months. We would like to receive from each center a list of orientations scheduled over a four-to six-month period. Consideration should be given to identifying those segments of the health community in your area which are not yet aware of or fully familiar with MEDLARS services. It is important to inform such groups of the availability of both services and orientation programs.

We are ready to provide you with whatever may be needed to carry out successful user orientation programs. Please do not hesitate to call on us.

MEDLARS USER ORIENTATION PROGRAMS

The following MEDLARS User Orientation Programs were conducted during November:

Date	Presented at and for whom:	Presented by:
November 5	USC School of Dentistry - Students and faculty	Miss Colville-Stewart, Mrs. Beamish, and
November 10	UCLA School of Public Health - Students and faculty	Miss Klinger
November 11-12	University of Pittsburgh - Group of Medical Librarians, Library School Graduate Students	Miss Tanen and Miss Nowak
November 14	University of Maryland, Baltimore, Md. - Department of Anesthesiology	Mr. Caldwell and Mr. Robinson
November 18	Washington, D.C. - Association of Military Surgeons	Mr. Caldwell
November 20	Baltimore Providence Hospital - Baltimore Medical Library Association	Mr. Caldwell
November 21	NLM - D.C. Regional Medical Librarians	Miss Mackov and Dr. Halegua
November 22	NIH - D.C. Regional Medical Library Association.	Dr. Halegua

THE HEALTH SCIENCES BIBLIOGRAPHIC CLEARINGHOUSE
Mrs. Edith D. Blair
Assistant Head, Reference Section
Reference Services Division

Plans are now well underway to establish within the Reference Services Division of the National Library of Medicine a Health Sciences Bibliographic Clearinghouse. It is hoped that it will be in full operation as a national service before the end of the present fiscal year.

The Clearinghouse staff will assume responsbility for selecting, acquiring, announcing, and furnishing on demand current bibliographies in the biomedical field. If the number of worthwhile bibliographies warrants it, a quarterly key-word-in-context (KWIC) index with an annual cumulation may be produced. The program will include only bibliographies produced during the last three years, on the theory that any bibliography over three years old which is worth keeping is worth updating.

As presently conceived, the Clearinghouse file will contain: NLM Literature Searches; bibliographies produced by the reference staff of the National Library of Medicine, regional libraries and other health-science libraries that wish to cooperate in the program; and bibliographies produced by specialized information centers such as the Parkinson's Disease Information Center, the Information Center for Hearing, Speech, and Disorders of Human Communications, the Vision Information Center, and the UCLA Brain Information Service. It will also include subject bibliographies appearing in journals, and those included in monographs if they are substantial and do not serve merely as footnote citations to articles or chapters. Letters will soon be going out to the specialized information centers, regional libraries, and selected health-science libraries asking for participation in our program.

With the responsibility for establishing and maintaining a bibliographic clearinghouse, the Reference Services Division has accepted the more specific responsibility of handling the NLM Literature Search Program. A small advisory committee, comprising three representatives from the Bibliographic Services Division and three representatives from the Reference Services Division, will work closely with the Clearinghouse staff in determining the most appropriate topics for new Literature Searches and in selecting those Literature Searches which should be updated or deleted. Selection is made on the basis of significant current interest of subject matter to a substantial audience and includes regular screening of MEDLARS demand searches for possible inclusion in the Literature Search series.

Suggestions of appropriate topics for Literature Searches may be made through either reference librarians or MEDLARS analysts. Individuals at the MEDLARS Centers and Regional Medical Libraries are invited to submit suggestions on a regular basis. MEDLARS analysts should send their suggestions to: Linn W. Kelner, D.D.S., MEDLARS Management Section, Bibliographic Services Division, National Library of Medicine. All other suggestions should be sent to: Health Sciences Bibliographic Clearinghouse, Reference Section, Reference Services Division, National Library of Medicine, 8600 Rockville Pike, Bethesda, Maryland 20014.

STATISTICAL SUMMARY FOR MEDLARS CENTERS FOR OCTOBER 1969
Constantine J. Gillespie

The table below gives a summary of the searching performance at each of the MEDLARS centers around the world. Only a few important items from each center's monthly report have been incorporated into this table. It was realized at the last MEDLARS Workshop that most centers know little about the performance of other centers.

The number of searches released by a center during a month depends not only upon the number of staff, but the number present for duty during the month. One must be circumspect in jumping to conclusions about the relative productivity of the various centers from the data that is furnished here. The number of searches released by a center does, however, give an indication of the stability - or instability - of the other data furnished for that center.

MEDLARS DEMAND SEARCHING FOR
OCTOBER 1969
Period: 9/26 - 10/30/69

Center	Searches rejected	Searches released excluding RDS's	Recurring demand searches released	Citations retrieved per search month	Percentage searches released by calendar days	
					0-20 days	0-30 days
Alabama	3	143	5	4.29	93.7	99.3
Colorado	1	103	28	4.25	100.0	--
Crerar	2	27	0	3.8	63.0	96.3
England	1	201	169	--	55.6	90.9
Harvard	15	67	0	5.8	11.0	39.0
Michigan	0	115	13	6.08	57.0	98.0
NIH	0	75	54	10.1	66.0	99.0
NLM-MAR	22	159	31	5.4	53.6	90.7
NLM-MMS	37	178	21	6.5	68.5	97.2
Ohio	5	81	182	5.5	94.8	100.0
Philadelphia	6	20	0	6.0	40.0	90.0
PMA	0	87	125	7.07	40.2	95.3
Sweden	0	148	505	9.45	21.6	75.7
Texas	1	134	0	5.07	100.0	--
UCLA	16	145	17	6.9	21.4	95.2
Washington	4	32	1	12.0	3.0	56.0

THE REGIONAL MEDICAL LIBRARY PROGRAM:
REPORT OF A MEETING ON NETWORK EXPERIENCE, POLICIES,
PROBLEMS, AND PROCEDURES

Representatives of the Regional Medical Libraries met in Louisville, Kentucky, October 24-25, with NLM personnel of the Extramural Programs, the Network Management Staff, and others. The first day of the meeting was concerned primarily with the policies governing the operation of the Regional Medical Libraries, while the second day was devoted chiefly to the procedures and problems of day-to-day RML operations. Both days were characterized by the frank interchange of ideas and experiences; everyone in attendance participated actively.

Major topics discussed during the first day included how best to obtain broad representation from various health-science and other fields on RML advisory committees; coordination of RML activities with those of the Regional Medical Programs related to filling health scientists' information needs; the differing problems and procedures of centralized and decentralized RML's; and RML interlibrary loan policies. Discussion of the latter extended well into the afternoon, and covered such matters as criteria for identification of qualified users of RML services, and means of providing ILL services equitably throughout each region. The day's session closed with a discussion of the training function of RML's, and NLM's network management role therein.

The second day opened with a brief session on consultation services which are or may be provided by RML's. Participants then heard a presentation on the National Biomedical Serials Program, after which there was a general discussion of serial lists for interlibrary loan, with consideration given to matters of format, data elements, and compatibility. Referral and switching of interlibrary loan requests was the next topic, including need and procedures for speed of fulfillment, and methods of reporting on fulfillment of referred requests.

The afternoon was devoted first, to consideration of traditional reference services -- the types of service now offered, the question of referral of reference requests, and the reporting and dissemination of reference bibliographies. Problems of measurement and reporting occupied the balance of the meeting: timeliness of service; data collection and manipulation (including reports on automated and non-automated reporting on transactions, and the feasibility of statistical sampling methods); presentations on the performance budget; and consideration of revised reporting requirements and forms.

Anticipated follow-up activities include the study by each RML of its Advisory Committee and, where necessary, its restructuring for broad representation and maximum service; the reporting by each RML of the training programs they have scheduled, with description of curriculum and concomitant materials for each; and agreement that NLM staff will serve as a clearinghouse for such training materials, publishing their availability in the Library Network/MEDLARS Technical Bulletin and, if feasible, distributing them on request to RMLs and MEDLARS stations.

NLM will consult with the RML's to determine in greater detail their needs and level of readiness for regional union lists of biomedical periodicals in the generally-agreed-upon UCMP format. It was considered likely that an advisory committee would be convened during the coming year to develop plans for updating the UCMP (Union Catalog of Medical Periodicals) file on a continuing basis, and preparing a pilot edition of a National Union List of Biomedical Serials.

Most RML's agreed to send to NLM selected reference bibliographies from among those compiled each month; NLM undertook to consider indexing these and publishing a subject-listing periodically.

All RML's and NLM concurred in the need to formulate mutually acceptable definitions of various criteria needed for reporting ILL activity -- terms, for example, such as "Unavailable" and "Rejected Requests." Participants agreed to forward their comments to the Regional Medical Librarian who had prepared a working paper setting forth these and other problems of reporting.

It was generally agreed that the two-day meeting offered the participants valuable opportunities to review policies and procedures; to exchange ideas and opinions and compare experiences in many areas of day-to-day operation; to learn of plans and developments both at NLM and in other Regional Medical Libraries; and to identify topics of mutual concern.

The consensus of the meeting was that it would be highly beneficial to all participants to meet during the first half of the coming year. Accordingly, a calendar was attached to the copy of the proceedings of the October meeting mailed to all participants, with the request that it be marked for preferred meeting dates and returned to NLM.

ABBREVIATIONS OF MEDICAL SUBJECT HEADINGS
Constantine J. Gillespie, Head, MMS

This note details procedures for discontinuing the use of abbreviated or alternate forms of subject headings in formulating MEDLARS demand searches. The MEDLARS centers that have their searches processed at Ohio State University (i.e., University of Michigan, John Crerar Library, and Ohio State University) or that use Ohio State computer programs (i.e., University of Alabama and Texas Medical Center) are already prohibited from using any abbreviated forms of MeSH terms in formulating searches. Thus, the information given here applies mainly to the centers whose searches are processed at NLM.

The reason for discontinuing use of these abbreviations in formulating searches is that some searches from NLM are batched and sent to Ohio State University for processing on their IBM 7094 computer. Some NLM searches are also processed in the Washington, D. C. area, using Ohio State computer programs and a local IBM 7094 computer. To use these facilities requires that no abbreviated or alternate MeSH terms (with some exceptions noted below) be used in formulating searches. If any of these abbreviated terms inadvertently gets into a search that is processed on an IBM 7094, it is rejected as an invalid heading and removed from the formulation. It is to avoid these rejections and to allow the MEDLARS Management Section the utmost freedom in batching searches for processing on any available computer that searchers are now being prohibited from using abbreviated terms in their formulations.

There are 17 MeSH terms which must __always__ be abbreviated in search formulations that are processed on the NLM computer or on the University of Colorado computer. ᵀM programs validate subject headings on the first 24 characters of the subject ..eading. Because these 17 subject headings are not unique within the first 24 characters they must be abbreviated in order to make them unique and distinguishable from other similar terms within the first 24 characters. Those terms which must __always__ be used in indexing and searching at NLM or at the University of Colorado are given below, followed by the fully-spelled out version (which must always be used for processing at Ohio State University or on other IBM 7094 computers). The terms marked with "a" are those which must be used at NLM and Colorado; the terms marked with a "b" are those which must be used at Ohio State University, University of Alabama, and Texas Medical Center.

a)   ADREN ALPHA RECEPT AG
b)   ADRENERGIC ALPHA RECEPTOR AGONISTS

a)   ADREN ALPHA RECEPT BLOCK
b)   ADRENERGIC ALPHA RECEPTOR BLOCKADERS

a)   ADREN BETA RECEPT AG
b)   ADRENERGIC BETA RECEPTOR AGONISTS

a)   ADREN BETA RECEPT BLOCK
b)   ADRENERGIC BETA RECEPTOR BLOCKADERS

a)   ANEMIA, HEMOLYTIC, CON NONSPHEROCYTIC
b)   ANEMIA, HEMOLYTIC, CONGENITAL NONSPHEROCYTIC

a)   ANTI-INFLAMM. AGENTS, TOPICAL
b)   ANTI-INFLAMMATORY AGENTS, TOPICAL

a)   EQUINE INFECT ANEMIA VIRUS
b)   EQUINE INFECTIOUS ANEMIA VIRUS

a)   GPD
b)   GLUCOSEPHOSPHATE DEHYDROGENASE

a)   GPD DEFICIENCY
b)   GLUCOSEPHOSPHATE DEHYDROGENASE DEFICIENCY

a)   HEPATITIS VIRUS, CANINE
b)   HEPATITIS VIRUS, INFECTIOUS CANINE

a)   LYMPHOCYTIC CHORIO. VIRUS
b)   LYMPHOCYTIC CHORIOMENINGITIS VIRUS

a)   PREGNANCY COMPL.
b)   PREGNANCY COMPLICATIONS

a)   PREGNANCY COMPL., CARDIOVASCULAR
b)   PREGNANCY COMPLICATIONS, CARDIOVASCULAR

a) PREGNANCY COMPL., HEMATOLOGIC
b) PREGNANCY COMPLICATIONS, HEMATOLOGIC

a) PREGNANCY COMPL., INFECTIOUS
b) PREGNANCY COMPLICATIONS, INFECTIOUS

a) PULM ADENOMATOSIS, BOVINE
b) PULMONARY ADENOMATOSIS, BOVINE

a) PULM ADENOMATOSIS, OVINE
b) PULMONARY ADENOMATOSIS, OVINE

The following list gives the 58 subject headings which have abbreviated or alternate forms. In the left-hand column are the unabbreviated versions which are now the mandatory form of entry for these terms in all searches processed by any MEDLARS center in the United States. The right-hand column gives the corresponding abbreviated, or alternate, form of each term; these abbreviations are no longer to be used in formulations.

Full Term To Be Used on DSFRs	Abbreviated or Alternate Form of Term Not To Be Used on DSFRs
ADENOSINE CYCLIC 3',5'-PHOSPHATE	CYCL AMP
AMERICAN DENTAL ASSOCIATION	ADA
AMERICAN MEDICAL ASSOCIATION	AMA
AMERICAN NURSES' ASSOCIATION	ANA
CONDITIONING (PSYCHOLOGY)	CONDITIONING
CONFLICT (PSYCHOLOGY)	CONFLICT
COUNTERTRANSFERENCE (PSYCHOLOGY)	COUNTERTRANSFERENCE
CRITICAL PERIOD (PSYCHOLOGY)	CRITICAL PERIOD
CROSSING OVER (GENETICS)	CROSSING OVER
CYTOPATHOGENIC EFFECT, VIRAL	CPE
DISPLACEMENT (PSYCHOLOGY)	DISPLACEMENT
*ECCENTRO- OSTEOCHONDRODYSPLASIA	ECCENTRO-OSTEOCHONDRODYSPLASIA
ETHIONAMIDE	ETHIONIAMIDE
EXPERIMENTAL LAB STUDY	EXPERIMENTAL STUDY
EXTINCTION (PSYCHOLOGY)	EXTINCTION
EXTROVERSION (PSYCHOLOGY)	EXTROVERSION
GENERALIZATION (PSYCHOLOGY)	GENERALIZATION
HABITUATION (PSYCHOPHYSIOLOGY)	HABITUATION
HANDLING (PSYCHOLOGY)	HANDLING
HEALTH INSURANCE FOR AGED, TITLE 18	MEDICARE
HISTORY OF MEDICINE, ANCIENT	ANCIENT
HISTORY OF MEDICINE, MEDIEVAL	MEDIEVAL
HISTORY OF MEDICINE, MODERN	MODERN
HISTORY OF MEDICINE, 15th CENT.	15th CENT.
HISTORY OF MEDICINE, 16th CENT.	16th CENT.
HISTORY OF MEDICINE, 17th CENT.	17th CENT.
HISTORY OF MEDICINE, 18th CENT.	18TH CENT.
HISTORY OF MEDICINE, 19th CENT.	19th CENT.
HISTORY OF MEDICINE, 20th CENT.	20th CENT.

* Please note that the space after the hyphen must be retained.

IDENTIFICATION (PSYCHOLOGY)	IDENTIFICATION
IMPRINTING (PSYCHOLOGY)	IMPRINTING
INTROVERSION (PSYCHOLOGY)	INTROVERSION
MAXIMUM PERMISSIBLE EXPOSURE LEVEL	MPEL
POLYMORPHISM (GENETICS)	POLYMORPHISM
PRACTICE (PSYCHOLOGY)	PRACTICE
* PSEUDOPSEUDOHYPO- PARATHYROIDISM	PSEUDOPSEUDOHYPOPARATHYROIDISM
PSYCHIATRIC STATUS RATING SCALES	PSR SCALES
REINFORCEMENT (PSYCHOLOGY)	REINFORCEMENT
SELECTION (GENETICS)	SELECTION
SET (PSYCHOLOGY)	SET
STAPHYLOCOCCAL INFECTIONS	STAPH INFECTIONS
TENDINITIS	TENDONITIS
* TETRACYCLINE-L-METHYLENE- LYSINE	TETRACYCLINE-L-METHYLENE-LYSINE
THROMBELASTOGRAPHY	THROMBOELASTOGRAPHY
TISSUE CONDITIONING (DENTAL)	TISSUE CONDITIONING
TRANSFER (PSYCHOLOGY)	TRANSFER
TRANSFERENCE (PSYCHOLOGY)	TRANSFERENCE
TRANSPORT OF WOUNDED AND SICK	TRANSPORT OF WOUNDED
* TRICHOMONAS PROSTATO- SEMINO-VESICULITIS	TRICHOMONAS PROSTATO-SEMINO-VESICULITIS
UNCONSCIOUS (PSYCHOLOGY)	UNCONSCIOUS
UNITED STATES FOOD AND DRUG ADMINISTRATION	FDA
UNITED STATES NATIONAL INSTITUTES OF HEALTH	NIH
UNITED STATES NATIONAL LIBRARY OF MEDICINE	NLM
UNITED STATES OFFICE OF ECONOMIC OPPORTUNITY	OEO
UNITED STATES PUBLIC HEALTH SERVICE	PHS
UNITED STATES VETERANS ADMINISTRATION	VA
VARIATION (GENETICS)	VARIATION
WORLD HEALTH ORGANIZATION	WHO

* Please note that the space after the hyphen must be retained.

The Pharmaceutical Manufacturers Association (PMA) Science Information Services (SIS) *
was established in response to the rapidly expanding need of drug-industry scientists
for additional information in the biomedical area. Current services utilize the
MEDLARS data base, with plans to incorporate other secondary services in the future.

SIS' professional staff consists of a manager, Mr. Charles B. Cleveland, and four
trained MEDLARS analysts: Maureen McDevitt, Ernest Crane, Stephen Molinari, and
Lonnell Johnson. Miss Elzora Brown handles secretarial duties associated with the
service. PMA offices are located at 1155 - 15th Street, N. W., Washington, D. C. 20005.

Membership in the PMA comprises approximately 125 firms engaged in the production of
prescription drugs. The present members account for about 95 percent of the prescrip-
tion drugs marketed in the United States.

The scope of requests handled by SIS is quite broad, reflecting the diversity of
interests within each company. Users include biologists, pharmacologists, physicians,
and research administrators. Questions deal with any stage in the development of a
pharmaceutical product, from the testing of a compound for biological activity to
evaluation of physicians' prescription-writing habits

The SIS has been in a trial stage since early 1968. On January 1, 1970, it will
move into operational status and begin functioning on a cost-recovery basis. During
the trial stage, retrospective searches were processed at the rate of about 60
questions a month. A current-awareness service was offered several months ago and
200 periodic updatings per month are currently being processed. Computer processing
during the trial stage was done at the National Library of Medicine. Commencing
January 1, the searches will be processed by a service bureau under contract to
PMA.

In recent months, a series of on-site user orientations have been presented at PMA
member firms. Response has been quite favorable and it is anticipated that this
orientation program will be expanded early in 1970. Other activities have included
the compiling of several bibliographies intended for use by the pharmaceutical
community. The first, entitled **Bibliography on Biopharmaceutics**, was published
in 1968. Staff members are currently working on two more compilations in the areas
of drug stability and particulate matter in parenterals. Both of these will be
published early in 1970.

Reaction of the industry has been favorable to the service. All professional staff
members are pharmacists, which has helped to more easily demonstrate the usefulness
of MEDLARS to our specialized audience. Greater interest is expected when MEDLARS II
and the Auxiliary Chemical Module become fully operational in the near future.

* The acronym SIS as used here is not to be confused with the National Library of
  Medicine's Specialized Information Services (SIS).

Editor's Note: For those pharmaceutical companies which desire computer processing
services through NLM resources, PMA will refer such formulations to NLM for processing
on a non-priority basis. Any searches processed by NLM that are deemed to be of general
interest can be disseminated more broadly as Literature Searches or as responses to
similar inquiries. NLM processed searches are considered to be non-proprietary and
available for distribution as required or requested.

MEDLARS WORKSHOP

The fall MEDLARS Workshop was held at the National Library of Medicine on November 24 and 25. Dr. Joseph Leiter, Associate Director for Library Operations, welcomed the group, which included participants from England, Sweden, Germany, France, and this country. Following Dr. Leiter's welcome, a representative from each center gave a brief report on his center. Next, Dr. Zeraffa, INSERM, Paris, France, discussed technical innovations at INSERM and the experiments they are conducting in areas such as more flexible "summing" in formulations and expanded number of subsearches in demand searches.

The first day's program also included a presentation by Mr. Stanley Jablonski, Head, Index Section, on indexing and the 1970 MeSH terms, and one by Mr. Samuel Waters, Deputy Associate Director for Library Operations, on network activities. Speaking in the afternoon were Miss Florence Johnson, University of Alabama MEDLARS Station, on "Search Request Acceptance/Rejection," Mrs. Doris Des Chene, University of Washington analyst, on "New Subheadings Suggestions," and Mr. Constantine J. Gillespie, Head, MEDLARS Management Section, on "MMS Activities."

The second day's session opened with a search exercise presented by Mrs. Joan Mavity, Head, Bibliographic Unit, NIH Library, and a guest scientist, Dr. Michael R. Peterson, Division of Biologics Standards, NIH. Next was a report on the status of MEDLARS II by Mr. Ralph Simmons, Head, MEDLARS II Management Staff, after which Mrs. Betsey Beamish, UCLA MEDLARS Station, spoke on "Mode of Request Transmission and Search Performance." Dr. Raquel Halegua, Special Assistant to the Associate Director for ⸱brary Operations, reported on "Experience with User Orientations," and Mrs. Edith ⸱⸱air, Assistant Head, Reference Section, spoke on "The Literature Search Series."

Mr. William Caldwell, Deputy Chief, BSD, led the final workshop session, which was a discussion of possible agenda items for the next workshop. Tentative agenda items include: a discussion of the searching of drugs; the effectiveness of various user-orientation programs; experiences with on-line systems; and searching problem search questions.

C14

RADIATION INJURY
    NEOPLASMS, RADIATION-INDUCED (C2)
        LEUKEMIA, RADIATION-INDUCED (C2)
    OSTEORADIONECROSIS (Provisional)
    RADIATION INJURY, EXPERIMENTAL
    RADIODERMATITIS (C12)

Note: RADIOTHERAPY *adverse effects can be considered in this
       facet of radiation injury.

D1

[ELEMENTS, RADIOACTIVE (NON-MESH)]
    ACTINIUM   NOBELIUM
    AMERICIUM   PLUTONIUM
    ASTATINE   POLONIUM
    BERKELIUM   PROMETHIUM
    CALIFORNIUM   PROTACTINIUM
    CURIUM   RADIUM
    EINSTEINIUM   RADON
    FERMIUM   TECHNETIUM
    FRANCIUM   THORIUM
    MENDELEVIUM   THORIUM DIOXIDE
    NEPTUNIUM   URANIUM

RADIOISOTOPES
    CALCIUM ISOTOPES
    CARBON ISOTOPES
    CERIUM ISOTOPES
    CESIUM ISOTOPES
    COBALT ISOTOPES
    GOLD ISOTOPES
        GOLD COLLOID, RADIOACTIVE
    IODINE ISOTOPES
        IODINE ISOTOPES, DIAGNOSTIC
            SERUM ALBUMIN, RADIOIODINATED
        IODINE ISOTOPES, THERAPEUTIC (1963-65)
    IRON ISOTOPES
    MERCURY ISOTOPES
    PHOSPHORUS ISOTOPES
    SODIUM ISOTOPES
    STRONTIUM ISOTOPES

RADIOISOTOPES (continued)
        SULFUR ISOTOPES
        TRITIUM
        YTTRIUM ISOTOPES
        ZINC ISOTOPES

FREE RADICALS (Provisional)
                                -D13-
RADIATION-PROTECTIVE AGENTS
        AET
        APT
        CYSTAMINE
        CYSTEAMINE

RADIATION-SENSITIZING AGENTS
                                -E-
RADIOGRAPHY: arrangement by organ or system
        (Age determination)
            AGE DETERMINATION BY SKELETON
            AGE DETERMINATION BY TEETH
        ANGIOGRAPHY (blood vessels only; Tree El includes also
                        LYMPHOGRAPHY under ANGIOGRAPHY)
            ANGIOCARDIOGRAPHY
            AORTOGRAPHY
            CEREBRAL ANGIOGRAPHY
            CINEANGIOGRAPHY
            PHLEBOGRAPHY
            SPLENOPORTOGRAPHY
        (Biliary tract)
            CHOLANGIOGRAPHY
            CHOLECYSTOGRAPHY
        HYSTEROSALPINGOGRAPHY
        LYMPHOGRAPHY
        MAMMOGRAPHY
        [NEURORADIOGRAPHY (NON-MESH)]
            CEREBRAL ANGIOGRAPHY
            MYELOGRAPHY
            VENTRICULOGRAPHY
                PNEUMOENCEPHALOGRAPHY (Provisional)
        (PLACENTOGRAPHY - 3/2/64-66)
        RADIOGRAPHY, DENTAL
            AGE DETERMINATION BY TEETH
        SIALOGRAPHY
        THORACIC RADIOGRAPHY
            BRONCHOGRAPHY
            MASS CHEST X-RAY
            PNEUMOMEDIASTINUM, DIAGNOSTIC
        UROGRAPHY

RADIOGRAPHY: arrangement by technic
        TECHNOLOGY, RADIOLOGIC
            (Air injection)
                HYSTEROSALPINGOGRAPHY
                PNEUMOMEDIASTINUM, DIAGNOSTIC

RADIOGRAPHY (contir i)
       TECHNOLOGY, RaaIOLOGIC (continued)
           (Air injection) (continued)
               PNEUMOPERITONEUM, ARTIFICIAL
               PNEUMOTHORAX, ARTIFICIAL
               RETROPNEUMOPERITONEUM
               VENTRICULOGRAPHY
                   PNEUMOENCEPHALOGRAPHY (Provisional)
           DENSITOMETRY, X-RAY
           ELECTROKYMOGRAPHY
           FLUOROSCOPY
           MICRORADIOGRAPHY
           MICROSCOPY, X-RAY
           RADIOIMMUNOASSAY
           SUBTRACTION TECHNIC (Provisional)
           TOMOGRAPHY
           XERORADIOGRAPHY (Provisional)

       [RADIOISOTOPE DIAGNOSIS (NON-MESH)]
           RADIOAUTOGRAPHY
           RADIOISOTOPE SCANNING
               AUTOFLUOROSCOPY (Provisional)
               RADIOISOTOPE DILUTION TECHNIC
               RADIOISOTOPE RENOGRAPHY
               SCHILLING TEST
           RADIOMETRY
               RADIATION MONITORING
               RADIOTHERAPY DOSAGE
           RADIOTHERAPY
               RADIOISOTOPE TELETHERAPY
               RADIOTHERAPY DOSAGE
                   RADIOTHERAPY, HIGH ENERGY

       RADIOTHERAPY
         (Ionizing)
             (NEOPLASM RADIOTHERAPY - 1964-65
              PITUITARY GLAND IRRADIATION
              RADIOISOTOPE TELETHERAPY
              RADIOTHERAPY, HIGH ENERGY
         (Non-ionizing)
              LIGHT COAGULATION
                 LASER COAGULATION
              ULTRAVIOLET THERAPY (but short-wave UV is ionizing)
                                   -G-
       RADIOLOGY
          RADIOBIOLOGY
             RADIATION EFFECTS
                RADIATION GENETICS
                (RADIATION IMMUNOLOGY - 1964-66)
                   RADIATION CHIMERA

       [RADIOLOGIC HEALTH (NON-MESH)]
           DECONTAMINATION
           RADIATION EFFECTS
           RADIATION PROTECTION
               HEALTH PHYSICS
               RADIATION MONITORING

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RADIOLOGIC HEALTH (NON-MESH) continued
    RADIOACTIVE FALLOUT
        AIR POLLUTION, RADIOACTIVE
        FOOD CONTAMINATION, RADIOACTIVE
        WATER POLLUTION, RADIOACTIVE
    RADIOACTIVE WASTE

-H-

Below are repeated headings arranged in different relationships. As arrayed here, they may or may not be exclusively radiation-oriented.

(NUCLEAR PHYSICS)
    ALPHA PARTICLES
    ATOMIC ENERGY
    (Atomic particles)
        ELECTRONS
        NEUTRONS
        PROTONS
    ELECTRON SPIN RESONANCE
    NUCLEAR MAGNETIC RESONANCE
    NUCLEAR REACTORS
    RADIOACTIVITY

RADIATION
    (Ionizing)
        ALPHA PARTICLES
        COSMIC RADIATION
    (Non-ionizing)
        INFRARED RAYS
        LIGHT
            LASERS
            LUMINESCENCE
        MICROWAVES
        RADAR
        RADIO WAVES
        ULTRAVIOLET RAYS (but short-wave UV is ionizing)

RADIOCHEMISTRY
    ALPHA PARTICLES
    (Atomic particles)
        ELECTRONS
        NEUTRONS
        PROTONS
    RADIOACTIVITY
    (spectrum analysis)
        ELECTRON PROBE MICROANALYSIS
        ELECTRON SPIN RESONANCE
        GAMMA SPECTOMETRY (Provisional)
        NUCLEAR SPIN RESONANCE
            X-RAY DIFFRACTION

-I-

ATOMIC WARFARE

-J-

FOOD IRRADIATION

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₋IBRARY NETWORK / MEDLAR/S

technical bulletin

TABLE OF CONTENTS

We welcome comments
and suggestions.

The Library Network/MEDLARS Technical Bulletin has been renamed to indicate the
shift in emphasis that will be evident during the coming months. MEDLARS activ-
ities and information will continue to be major topics, but we anticipate that
other regional medical library network activities, such as those discussed at
the recent two-day RML meeting in Louisville, will assume greater prominence.

Of the eleven regions in the nation, only one awaits designation of its RML
(for which a proposal is under consideration); the increasingly complex problems
of interregional and regional management should benefit by discussion and cor-
respondence in these pages.

                                                        The Editors

                        MEDLARS USER ORIENTATION PROGRAMS

The following MEDLARS User Orientation Programs were conducted during October:

Date	Presented at and for whom:	Presented by:
October 2	NLM - George Washington University - Group of Medical Students, Pathology Department	Mr. Caldwell
October 6	University of Virginia - Mixed group of Anesthesiologists, Neuropathologists and Librarians	Miss Nowak and Miss Bruning
October 16	NIH - Mixed group of NIH scientists	Mr. Caldwell, Miss Bryan and Mrs. Vashaw
October 17	Michigan State University - Mixed group of Health Science and Hospital Librarians	Mr. Lawrence and Mrs. Hirschfeld
October 24	NLM - Naval Oceanographic Staff, Suitland, Maryland	Mr. Caldwell and Mr. Robinson
October 26	MLA - Denver, Colorado - Librarians from Mid-Continental Region	Mr. Braude and Mrs. Davis

MEDLARS II PROGRESS REPORT
Ralph A. Simmons

During the last quarter, the MEDLARS II project effort resulted in the completion of several major events:

I. **Overall Functional Design Specification**

The general objectives of this specification are to: 1) provide a response to all stated functional requirements; 2) correlate NLM functional activities with hardware and software design; and 3) serve as a system baseline to define and control the development of the final product, MEDLARS II.

The Computer Sciences Corporation's submission, in two volumes, represents the most comprehensive documentation received by the Library from the contractor. Volume I primarily concerns itself with incorporating the capabilities requirements into an overall system design specification. Its content is divided into three sections: 1) an introduction outlining the logical divisions of the specification; 2) a description of the MEDLARS II enhancement of current operations and an articulation of the system capabilities; and 3) a precise description of how the system will function. Section 3 is subdivided into two segments and an appendix:

- Application Design Segment - a formal presentation of the design effort from a functional viewpoint, including general flow charts.

- Software Design Segment - a general description of the system's software capability and concept including design criteria, language and language processor, functions of the executive, and the data management system.

- Appendix A - Design Scenarios - These are, in effect, blueprints of how the system will appear in an operational mode and, as such, reflect the fabric of the total system. They permit the review of actions required by the system to support any library functional activity from input, or initiation, through final result.

Volume II includes the functional requirements. This section is divided into two segments, outlining the requirements accommodated by the design and those not to be accommodated, with an explanation for their exclusion. The purpose of this section is to establish a requirements

baseline or system design foundation. Hardware, performance, and personnel requirements are also presented as a part of Volume II. Some of the principal considerations presented in the hardware requirements section include thruput time, system queries, core usage, and secondary storage. The performance requirements presentation includes workloads and timings stated by functional areas and an analysis of batch and on-line procedures.

All of the capabilities of MEDLARS I are included in this design, in addition to the expanded MEDLARS II provisions, which include:

- a query capability over the <u>entire</u> data base,

- on-line access to files,

- ADP assistance for indexing, cataloging, and vocabulary control,

- maintenance, retrieval, and manipulation of vocabulary,

- ADP support for control and administration of the system,

- browsing capability of the data base,

- format flexibility, and

- ADP support to receipt activities and to maintenance of the collection.

Five functional modules were specified in the design: 1) Receiving & Routing; 2) Cataloging & Indexing; 3) Vocabulary Control; 4) Information Retrieval & Publication; and, 5) Maintenance and Selective Use of the Collection. For each module the design included a presentation of the scope, purpose, material processed, and module description.

II. Other Events

The other events completed by the contractor were the production of a Project Control Document and a Training Plan for the INITIAL system.

a. Project Control Document

This document serves as the management plan for the project, and appropriately provides:

- for reviews to insure quality,

- means to identify problems and to check on project status and/or progress, and

- a performance plan with PERT charts indicating intermediate milestones.

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This document also establishes procedures for periodic reporting to CSC and NLM managers. It describes:

- the organization of the two project managements and

- procedures designed to insure systems response to requests.

The document is to be modified and amended as the project progresses. For example, a test plan is under development and will be made a part of the Project Control Document.

b. **Training Plan**

It is the purpose of this plan to provide a curriculum for the instruction and training of NLM personnel and others providing MEDLARS services. The training effort includes classroom instruction and the preparation of all required material and training aids. All training must be completed before the functional modules can be declared operational. This document represents the first increment to and not the representative plan required to do the job. It is the intention of MEDLARS II management to solicit the participation of the Technical Bulletin readers in the evaluation of the Training Plan and involvement in the training itself at the appropriate times.

III. **Other Activities**

There were many associated tasks completed during this quarter in support of subsequent contractual events, including those scheduled for the immediate future. Some of the most important accomplishments were in the software areas. The contractor is presently well into the coding, testing and debugging of specific components required by the system's software.

In addition, the first draft of data elements, or fields, has been agreed upon for inclusion in MEDLARS II files. The development of file structure is presently under way; and conversion programs are currently being specified and implemented (the conversion of the data bases is to take place in February). We also plan for demonstrations of various functional capabilities of the INITIAL system in March, for subsequent operation in late May 1970.

The orderly transition to MEDLARS II is of prime concern to NLM. Currently in development are plans for the scheduling of discussions and detailed presentations of the system to members of the library community involved with MEDLARS.

SEARCHING SPECIAL LIST JOURNALS
Linn W. Kelner, D.D.S.

Retrieving the citations that appear in journals constituting the Special List
Nursing and Special List Dental presents a problem to searchers because of the
practices followed in indexing articles that appear in those journals. There
are about 170 nursing journals indexed for MEDLARS. Citations from only 11 of
these appear in Index Medicus. Citations from the other 160 journals appear in
the International Nursing Index (INI). These 160 are the Special List Nursing
journals. Similarly, 100 dental journals are indexed for Index Medicus. There
are about 250 additional dental journals indexed for MEDLARS and these constitute
the Special List Dental, and citations from these journals appear in the Index to
Dental Literature (IDL).

Sometimes the searcher may feel that inclusion of citations from the special list
journals is not important, particularly in subject areas not directly associated
with either nursing or dentistry. However, nursing or dental searches are a
different matter. My own feeling is that these requesters are familiar with the
special list type journals, and that citations from them often are just what they
are seeking. Therefore, the searcher is probably well-advised to include citations
from the special list journals.

The indexing procedures for the special list journal articles can be summarized as
follows:

(1) The check tags are not used. This includes the check tags REVIEW
and ENGLISH ABSTRACT, as well as those at the bottom of the Indexing
Data Form. Sometimes, an age group will be used in indexing a nursing
article, but only if that age group is a central point of the article,
and not if it merely reports the age of a patient. Age groups are
never checked in a Special List Dental article. The tags HUMAN or
ANIMAL EXPERIMENTS are never used.

(2) The main heading SPECIAL LIST DENTAL or SPECIAL LIST NURSING is used,
and will appear in the tracings with the other headings in retrieved
citations.

(3) MeSH headings used primarily as NIM coordinates to index articles that
would appear in Index Medicus are not used to index articles from special
list journals. Technics, appropriate animal headings, and ethnic or
racial groups, for example, are not routinely used.

(4) Provisional headings are not used to index Special List Dental journals
unless the provisional is specifically a dental provisional, in which
case the heading is used, and, further, the citation will appear under
that heading in the next quarterly issue of the IDL. All provisionals
may be used to index Special List Nursing journals and the citations
will appear under those headings in the INI.

(5) Geographic headings are never used to index Special List Dental journals,
but geographics are used to index the Special List Nursing journals,
and are printed in the INI. Notice that these exceptions to general

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indexing policy apply only to those dental and nursing journals constituting the special lists. The 11 nursing journals and 100 dental journals that are indexed for inclusion in Index Medicus are indexed in the same way as all other journals. The following example illustrates a dental search using the Special List Dental term in the request statement. The requester wanted all citations on the pathology of the periodontal structures in humans. Simply stated, the request statement was as follows:

PERIODONTIUM TERMS/pathology
PERIODONTAL DISEASE TERMS/pathology * (Human + Special List Dental).

A subsearch was done on HUMAN. This pulled all citations from Index Medicus journals which had been indexed with the term HUMAN into the 5 section. All citations (about 15) left in section 4 appear to be relevant, too. These were indexed for SPECIAL LIST DENTAL, but, of course, not for HUMANS. The first five of these citations appear below:

Section 4:

DE FARFAN AM
(TISSUE CHANGES IN PERIODONTAL DISEASE AND THEIR TREATMENT)   (SPA)
REV ODONT (LA PAZ) 22-8, APR 68
PERIODONTAL DISEASES/ PATHOLOGY, PERIODONTAL DISEASES/ THERAPY,
SPECIAL LIST DENTAL (4)

FRANKL Z
CLINICAL ASPECTS AND PATHOLOGY OF CYSTS OF THE JAWS.
DENT DELIN 19:11-6, SUMMER 68
JAW DISEASES/ PATHOLOGY, JAW NEOPLASMS/ PATHOLOGY, NONODONTOGENIC
CYSTS/ PATHOLOGY, ODONTOGENIC CYSTS/ PATHOLOGY, PERIODONTAL CYST/
PATHOLOGY, SPECIAL LIST DENTAL (4)

HALPERT LF
OCCLUSION IN PERIODONTAL PATHOLOGY AND THERAPY.
ALPHA OMEGAN 60:130-5, SEP 67
DENTAL OCCLUSION, TRAUMATIC, PERIODONTAL DISEASES/ PATHOLOGY,
PERIODONTAL DISEASES/ THERAPY, SPECIAL LIST DENTAL (4)

MATSUMIYA S, ANDO T
ROENTGENOLOGIC AND HISTOPATHOLOGIC STUDY ON EARLY CHANGES IN
PERIODONTAL DISEASES.
J PHILIPP DENT ASS 20:9-17, DEC 67
PERIODONTAL DISEASES/ PATHOLOGY, PERIODONTIUM/ RADIOGRAPHY,
SPECIAL LIST DENTAL (4)

MELCHER AH
SOME HISTOLOGICAL AND HISTOCHEMICAL OBSERVATIONS ON THE CONNECTIVE
TISSUE OF CHRONICALLY INFLAMED HUMAN GINGIVA.
J PERIODONT RES 2:127-46, 1967
CONNECTIVE TISSUE/ ANATOMY & HISTOLOGY, GINGIVA/ PATHOLOGY,
GINGIVITIS/ PATHOLOGY, HISTOCYTOCHEMISTRY, SPECIAL LIST DENTAL (4)

The same technic can be applied to searching the Special List Nursing journals. A search on "nursing aspects of drug addiction" retrieved about 75 citations. Nearly all were judged relevant by the user, although only 25 were indexed for a nursing term. The others were indexed only with a drug addiction term and SPECIAL LIST NURSING. The fact that the citations appeared in a nursing journal meant that they were written for the nurse reader population, or actually discussed nursing along with several other aspects of drug addiction so the citation was indexed DRUG ADDICTION, but no subheadings were used.

It is important to realize that there are no non-print headings used to index the articles in special list journals. That is why the check tags, experimental animals, and concepts usually indexed NIM are simply not used at all.

I would like to express my appreciation to Miss Rosalie Bruning and Dr. Robert Snyder for their assistance in the preparation of this article.

FOREIGN INTERLIBRARY LOAN REQUESTS
TO REGIONAL MEDICAL LIBRARIES
S. T. Waters

Several months ago, the National Library of Medicine was forced to curtail inter-library loan and other services to foreign countries. It is our practice to re-commend to foreign requesters that they submit their interlibrary loan requests instead to major resource libraries in the country in which the desired item was published. You may therefore note a slight increase in the number of requests you receive from abroad, especially for state medical journals.

We would like to remind you that Regional Medical Libraries may not provide free service to foreign requesters, and suggest that you turn such requests over to your parent library, which may be willing to handle such transactions free or on a fee basis.

MEDLARS WORKSHOP RECALL STUD.
Joan Mavity, NIH Library

For the MEDLARS workshop, the NIH Library conducted a search exercise consisting of an evaluation study, the construction of an optimal equation, and a recall study of the eleven search formulations received in response to the request we mailed to the centers. The rationale for the recall study is the subject of this article.

We have established a collection of relevant articles which we know to be in the MEDLARS data base. On the basis of retrieval or non-retrieval from this collection, we have compared the various formulations in terms of recall.

From the outset, we have distinguished between the searcher's and the user's opinion of relevance. Thus, an article which we know contains the terms we have used in formulating the search is relevant to the searcher, even though the finer concept sought by the user is not mentioned in it.

We reviewed every issue of a number of journals listed in LJI (List of Journals Indexed in Index Medicus), and noted all articles which should be retrieved by one or more of the eleven search formulations; i.e., the articles contain the combinations of parameters we chose to cover the concepts indicated by the requester. We checked the appropriate issues of Index Medicus to ensure that the articles are indeed in the system.

We then compared our collection of articles with the citations in the computer print-out combined from the eleven retrievals, and we expressed the number retrieved as a percentage of the total in our collection. In this way, we have been able to say that formulation B, for instance, retrieved 55.8% of the 52 citations known to be in the data base, whereas formulation C retrieved 5.7%.

We assume it is valid to compare the various formulations in terms of their retrieval from the basic collection of articles, and that this constitutes a measure of recall from this limited base. We cannot generalize from our collection of articles to the total data base, because our sample is too small and is not random. It seems an interesting hypothesis, perhaps to be tested later, that if one made a random sample of journals from LJI, and reviewed every issue of those journals for relevant articles, one could then make a statement about recall from the total base as a result of a study of recall from the sample.

To recapitulate those results given at the workshop: of 52 citations from 63 journals, recalls varied from 3.8% to 63.5% as follows:

Formulation	Total Citations Retrieved	Percent Relevant	Percent Recall
A	9	77.0	3.8
B	421	31.3	55.8
C	23	91.2	5.7
D	116	95.6	38.5
E	289	47.3	63.5
F	149	83.8	42.3
G	120	95.7	40.4
H	159	84.8	53.8
I	123	92.6	46.2
J	66	90.8	19.2
K	85	86.9	30.8

AGENDA

MEDLARS WORKSHOP
National Library of Medicine
Nov. 24 - 25, 1969

Monday, Nov. 24

9:00 - 9:15	WELCOME	Dr. Leiter
9:15 - 10:00	REPORTS FROM CENTERS	
10:00 - 10:30	INSERM ACTIVITIES	Dr. Zeraffa
10:30 - 11:00	COFFEE	
11:00 - 12:00	INDEXING AND 1970 MESH	Mr. Jablonski
12:00 - 12:30	NETWORK ACTIVITIES	Mr. Waters
12:30 - 1:30	LUNCH	
1:30 - 2:30	SEARCH REQUEST ACCEPTANCE/REJECTION	Miss Johnson
2:30 - 3:30	NEW SUBHEADING SUGGESTIONS	Mrs. Des Chene
3:30 - 3:45	BREAK	
3:45 - 4:30	MMS ACTIVITIES; ROUND-TABLE	Mr. Gillespie

Tuesday, Nov. 25

9:00 - 10:30	SEARCH EXERCISE	NIH Staff & Guest
10:30 - 10:45	BREAK	
10:45 - 11:15	MEDLARS II STATUS	Mr. Simmons
11:15 - 12:00	MODE OF REQUEST TRANSMISSION AND SEARCH PERFORMANCE	Mrs. Beamish
12:00 - 1:00	LUNCH	
1:00 - 2:00	EXPERIENCE WITH USER ORIENTATIONS	Dr. Halegua
2:00 - 2:30	THE LITERATURE SEARCH SERIES	Mrs. Blair
2:30 - 2:45	BREAK	
2:45 - 3:15	FUTURE WORKSHOP PLANNING	Mr. Caldwell
3:15 - 3:30	CLOSING REMARKS	Dr. Bachrach

1969 INDEX MEDICUS
Stanley Jablonski

On October 31, 1969, the last group of journals for the 1969 Index Medicus was
indexed and sent to OCES, thus bringing the total number of citations on the
1969 Compressed Citation File to 233,527.

The chart below, which includes Index Medicus and Special List Nursing and Special
List Dental articles, shows the rate of growth of the MEDLARS data base over the
past six years.

Year	Number of Citations
1964	140,689
1965	169,287
1966	157,497
1967	170,739
1968	217,384
1969	233,527

The 1969 Index Medicus, which contains approximately 224,000 citations, is the
largest in the MEDLARS history. The remaining 9,000 citations (approximate
figure) are printed only in the Index to Dental Literature or the International
Nursing Index.

ABRIDGED INDEX MEDICUS

Reproduced on the following two pages is a flyer which announces the publication of
Abridged Index Medicus. A discount of 25% of the subscription cost is allowed on
subscriptions of 100 or more going to the same address. Sample copies of AIM
may be requested from the Office of Public Information, NLM. We encourage you
to disseminate information about this valuable tool to the consumers of medical
information with whom you come in contact.

NATIONAL LIBRARY OF MEDICINE

ABRIDGED
INDEX MEDICUS

Abridged Index Medicus is a new monthly medical bibliography, published by the National Library of Medicine for the needs of the practicing physician. The first issue will appear in January 1970. Its select content and low cost will make it particularly desirable to the individual practitioner, and to the libraries of small hospitals and clinics that have hesitated to subscribe to more comprehensive and costly bibliographies. *Abridged Index Medicus* will provide an index to a large proportion of the journals to which such libraries subscribe.

Each issue will contain citations to articles in 100 English-language journals, representing one month's input into the National Library of Medicine's computer-based MEDLARS (Medical Literature Analysis and Retrieval System). The selection of the journals was made by the Library with guidance from an advisory committee of physicians, medical editors, and medical librarians. Consideration was given to the quality of the journals, usefulness of journal content for the medical practitioner, and the need for providing coverage of all fields of clinical medicine. (Journals indexed are listed on the back of this announcement.)

In *Abridged Index Medicus*, each citation appears under the same subject headings as in *Index Medicus*. The content of *Abridged Index Medicus* is identical with the content of *Index Medicus* except for the greater selectivity of journal coverage.

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List of 100 Titles for Abridged Index Meaicus

Title	Abbreviation
Acta Medica Scandinavica	Acta Med Scand
American Heart Journal	Amer Heart J
American Journal of Cardiology	Amer J Cardiol
American Journal of Clinical Nutrition	Amer J Clin Nutr
American Journal of Clinical Pathology	Amer J Clin Path
American Journal of Digestive Diseases	Amer J Dig Dis
American Journal of Diseases of Children	Amer J Dis Child
American Journal of Human Genetics	Amer J Hum Genet
American Journal of the Medical Sciences	Amer J Med Sci
American Journal of Medicine	Amer J Med
American Journal of Obstetrics and Gynecology	Amer J Obstet Gynec
American Journal of Ophthalmology	Amer J Ophthal
American Journal of Pathology	Amer J Path
American Journal of Physical Medicine	Amer Phys Med
American Journal of Physiology	Amer J Physiol
American Journal of Psychiatry	Amer J Psychiat
American Journal of Public Health and the Nation's Health	Amer J Public Health
American Journal of Roentgenology, Radium Therapy and Nuclear Medicine	Amer J Roentgen
American Journal of Surgery	Amer J Surg
American Journal of Tropical Medicine and Hygiene	Amer J Trop Med
American Review of Respiratory Diseases	Amer Rev Resp Dis
Anaesthesia	Anaesthesia
Anesthesiology	Anesthesiology
Annals of Internal Medicine	Ann Intern Med
Annals of Otology, Rhinology and Laryngology	Ann Otol
Annals of Physical Medicine	Ann Phys Med
Annals of Surgery	Ann Surg
Annals of Thoracic Surgery	Ann Thorac Surg
Archives of Dermatology	Arch Derm
Archives of Environmental Health	Arch Environ Health
Archives of General Psychiatry	Arch Gen Psychiat
Archives of Internal Medicine	Arch Intern Med
Archives of Neurology	Arch Neurol
Archives of Ophthalmology	Arch Ophthal
Archives of Otolaryngology	Arch Otolaryng
Archives of Pathology	Arch Path
Archives of Physical Medicine and Rehabilitation	Arch Phys Med
Archives of Surgery	Arch Surg
Arthritis and Rheumatism	Arthritis Rheum
Blood, Journal of Hematology	Blood
Brain; Journal of Neurology	Brain
British Heart Journal	Brit Heart J
British Journal of Radiology	Brit J Radiol
British Journal of Surgery	Brit J Surg
British Medical Journal	Brit Med J
Canadian Medical Association Journal	Canad Med Ass J
Cancer	Cancer
Circulation, Journal of the American Heart Association	Circulation
Clinical Pharmacology and Therapeutics	Clin Pharmacol Ther
DM Disease-a-Month	DM
Diabetes	Diabetes

Title	Abbreviation
Diseases of the Chest	Dis Chest
Endocrinology	Endocrinology
GP	GP
Gastroenterology	Gastroenterology
Gut	Gut
Journal of Allergy	J Allerg
Journal of the American Dietetic Association	J Amer Diet Ass
Journal of the American Geriatrics Society	J Amer Geriat Soc
Journal of the American Medical Association	JAMA
Journal of Applied Physiology	J Appl Physiol
Journal of Bone and Joint Surgery; American Volume	J Bone Joint Surg [Amer]
Journal of Bone and Joint Surgery; British Volume	J Bone Joint Surg [Brit]
Journal of Clinical Endocrinology and Metabolism	J Clin Endocr
Journal of Clinical Investigation	J Clin Invest
Journal of Clinical Pathology	J Clin Path
Journal of Experimental Medicine	J Exp Med
Journal of Gerontology	J Geront
Journal of Immunology	J Immun
Journal of Infectious Diseases	J Infect Dis
Journal of Investigative Dermatology	J Invest Derm
Journal of Laboratory and Clinical Medicine	J Lab Clin Med
Journal of Laryngology and Otology	J Laryng
Journal of Medical Education	J Med Educ
Journal of Nervous and Mental Diseases	J Nerv Ment Dis
Journal of Neurosurgery	J Neurosurg
Journal of Obstetrics and Gynaecology of the British Commonwealth	J Obstet Gynaec Brit Comm
Journal of Oral Surgery	J Oral Surg
Journal of Pediatrics	J Pediat
Journal of Thoracic and Cardiovascular Surgery	J Thorac Cardiovasc Surg
Journal of Trauma	J Trauma
Journal of Urology	J Urol
Lancet	Lancet
Medical Clinics of North America	Med Clin N Amer
Medical Letter on Drugs and Therapeutics	Med Lett Drugs Ther
Medicine	Medicine (Balt)
New England Journal of Medicine	New Eng J Med
Obstetrics and Gynecology	Obstet Gynec
Pediatrics	Pediatrics
Physical Therapy; Journal of the American Physical Therapy Association	Phys Ther
Physiological Reviews	Physiol Rev
Plastic and Reconstructive Surgery	Plast Reconstr Surg
Postgraduate Medicine	Postgrad Med
Progress in Cardiovascular Diseases	Progr Cardiovasc Dis
Public Health Reports	Public Health Rep
Radiology	Radiology
Science	Science
Surgery	Surgery
Surgery, Gynecology and Obstetrics	Surg Gynec Obstet
Surgical Clinics of North America	Surg Clin N Amer

WORKSHOPS AND COURSES FOR HOSPITAL LIBRARY PERSONNEL

Following is a partial list of recent workshops on hospital library methods and services. They covered general as well as specific topics, including: library organization and administration, acquisitions, binding and preservation, cataloging, and interlibrary loan procedures.

If your institution has conducted or plans to conduct similar workshops, please send programs, outlines, announcements, and all related training materials to: Raquel Halegua, D.D.S., National Library of Medicine, 8600 Rockville Pike, Bethesda, Maryland 20014.

* **American Hospital Association**
  Institute on Library Service (one week; October 1968, Philadelphia)
    Materials: Outline on acquisitions
                Outline on Library Administration
                Outline on Reference Service
                An annotated outline on Health Science Libraries in
                  Hospitals.

* **Bi-State Regional Medical Program**, St. Louis, Mo.
  Workshop for hospital librarians (one day; November 1968)
    Kit: Program-outline
                Sample materials and reprints
                Syllabus on Journals in Hospital Libraries (This is
                  an instructor's manual available upon request.)

* **Bowman Gray School of Medicine Library**, Winston-Salem, N.C.
  Brief course on Hospital Library Service for Medical Record
  Students (two weeks)
    Materials: This course is part of the curriculum for
                medical records students. It uses the case-
                study method and problem-solving approach.
                Program and handouts are available.

* **Case Western Reserve University School of Library Science**, Cleveland, Ohio.
  Nancy Lorenzi's manual on "Interlibrary Loans for Hospital Libraries."

* **Georgia Regional Medical Program**
  Institute on Hospital Libraries (two days; December 1968)
    Materials: Program and transcripts of lectures.

* **Medical Library Group of Arizona**
  Workshop on Hospital Library Methods (one day; April 1969)
    Materials: Program; handouts.

* **New England Regional Medical Library and Postgraduate Medical Institute**
  Library Training Institute for Hospital Library Personnel (one week;
  February 1969, September 1969)
    Materials: Programs

*Sponsoring Agency

* Ohio Regional Medical Program
    Hospital Library Seminar, including a workshop on interlibrary loans
        using Nancy Lorenzi's manual, "Interlibrary Loans for Hospital
        Libraries" (two days; September 1969)

* Tomkin McCaw Library, Medical College of Virginia, Richmond, Va.

    .   Introductory Workshop on Hospital Library Services (two days; March 1968)
            Materials: Program; handouts

    .   Cataloging and Classification Workshop (two days; October 1968)
            Materials: Program; handouts

    .   Serials Workshop (two days; February 1969)
            Kit: Program-outline; various handouts; transcripts of lectures

    .   Hospital Library Administration Workshop (one day; June 1969)
            Materials: Program

* Texas Council of Health Science Librarians
    Workshop for Hospital Librarians (two days: September 1969; October 1969)
        Kit: Program-outline; various handouts

* West Virginia Regional Medical Program and the Veterans Administration
    Interregional Workshop for Acting Librarians in Hospital Libraries
    (two days; June 1969)
        Kit: Program; various handouts

* Sponsoring Agency

MEDLARS / NETWORK
technical bulletin

No. 6   October 1969

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We welcome comments
and suggestions.

U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
Public Health Service
National Institutes of Health

MEDLARS WORKSHOP
William H. Caldwell

November 24 and 25 have been selected as the dates for the next MEDLARS
workshop, to be conducted at NLM. Though it is scheduled for only two
days, NLM staff members will be available on Wednesday, November 26, for
further consultation with those who wish to stay over. The result will
be a two-day workshop with time available for individual discussions, etc.,
on the third day.

A substantial portion of the workshop will be conducted by analysts from
various Centers. Specifically:

-- A U. of Alabama analyst will follow up on the acceptance/rejection
   of search requests topic from the May workshop.
-- An NIH analyst will present the results of your efforts to formulate
   a search for one of their users. That user will be present at this
   session of the workshop.
-- A U. of Washington analyst will present the results of her survey
   of your subheading suggestions.
-- A UCLA analyst will attempt to draw conclusions about search perform-
   ance as affected by the mode of request transmission.
--(Though not firm yet, persons from other Centers may also lead
   discussions on other topics.)

Other agenda items include

-- Discussion of the Technical Bulletin.
-- Status report on MEDLARS II.
-- Experience gained from MEDLARS user orientations.
-- 1970 MeSH changes, and indexing developments.

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A DOZEN COMMENTS ON RELEVANCE
Frank B. Rogers, M.D.
Colorado MEDLARS Center

The question of the degree of relevance ("precision") achieved in MEDLARS searches is of surpassing interest. The notion of relevance is a useful notion, and it is also one of seeming simplicity which can be quite deceptive. Subjective judgmental factors are involved which are often suspicious for their elasticity. Statistical compilations of percentages of relevance will often, therefore, enjoy only a very low level of confidence.

At the Colorado MEDLARS Center, we are very much aware of the reciprocal relationship between relevance and recall, of the necessity of choosing which shall have major emphasis, and of the difficulties in making that decision. We proceed in one direction or the other, according to our best judgment; from the Lancaster study, however, it is clear that the Colorado group leans more frequently toward the relevance end of the spectrum rather than toward the recall end.

In spite of this bias, the "percentage of relevance" reported to us on our MEDLARS Search Appraisals is sometimes disturbingly low. We take some comfort in the thought that while all relevances are equal, some are more equal than others. For the edification and enlightenment of all, we quote here some of the rather "more equal" statements we have received. (Figures in parentheses at end refer to number deemed relevant out of total retrieval.)

"Value was somewhat limited by the fact that too many articles have been published in poorly edited journals; from the titles they seem promising, but their content was of no scientific value." (242 of 312)
"Very few people report the exact parameters we need, simply because their objectives are different." (65 of 460)
"One article was too general, and another was an extremely poor study." (23 of 72)
"Non-relevant articles are those in great specific depth about items not necessary for this search and investigation." (613 of 1390)
"Some items not relevant because of their rareness." (114 of 127)
"Most irrelevant articles pertained to topics ancillary to our topic, or mentioned our topic without dealing with it directly." (— of 55)
"These articles either contained references to the descriptors in a casual and undocumented manner, or were too lax in their research approach." (210 of 219)
"Articles dealt with asthma and other allergic diseases but provided no longitudinal data to justify inclusion in developmental studies." (242 of 312)
"The articles dealt with the required subject but from a point of view not of interest to me." (78 of 115)
"Groups of patients were too small to be significant, or were inadequately studied." (50 of 82)
"The topics not relevant were so mainly because the topic had been covered in another article." (114 of 202)
"The 3 articles I refer to just didn't tell me much. Perhaps I am confusing quality with relevance." (190 of 193)

OHIO MEDLARS CENTER
Laura K. Osborn

Background

The first MEDLARS run here was on April 30, 1967. At that time we served only Ohio State University personnel, but now serve a two-state area: Kentucky and Ohio. Then and now we run on an IBM 7094 at the OSU Computer Center. In addition, we process NLM's overload, all of the formulations from the Michigan MEDLARS Center, and will soon begin to process all searches from the MEDLARS Center at the John Crerar Library. A normal batch is 50-60 searches comprising the most recent shipments from Michigan, the National Library of Medicine, and our local searches. Average processing time is 5-6 minutes per search. Recurring searches for 143 requestors are run after receiving the latest CCF.

Personnel

Dr. John A. Prior, Associate Dean of the College of Medicine, is the MEDLARS Project Director. Mr. J. Carroll Notestine has the responsibility for the computer processing. He is the programmer who completed the conversion of the MEDLARS programs from Honeywell 800 to IBM 7094. Mr. Notestine is assisted by Dick Doyle, Programmer, and Miss Lee Gronbach, MEDLARS Processing Assistant. Miss Gronbach originally worked full time in our office, but now has her own office at the Research Center where she spends most of her time. Miss Joanne Prestarri began as a full-time secretary in our office September 30. We have two MEDLARS Search Analysts: Miss Jodi Davis and Miss Laura Osborn. Miss Esther Wei is in the current MEDLARS training class.

Location

We are rather proud of our office which is above Freddie's Dairy Bar in what was a one-bedroom apartment. Naturally we have a hot plate in the "kitchen." Unfortunately campus mail is not delivered to this building, so we receive all of our mail through the Health Center Library which is across the street.

Carroll's office is in the Systems Engineering Building which is about five blocks north. The 7094 is about two miles west.

In November construction is supposed to begin on the new Health Center Library building. The MEDLARS Search Analysts will move into the new library when it is completed.

News

With local funds, we are renting an IBM 029 Key punch machine. We think that it will improve our turn-around time by several days.

Carroll and Dick, at our suggestion, wrote a special program, and we now have what we call a "Tree Tally." This new tool provides us with tallies for all possible explosions except when using a subheading. Thanks to Miss Lee Tanen for giving us the idea. Copies of this "Tree Tally" may be obtained, without charge, by sending requests to the Ohio MEDLARS Center.

RML PROCEDURE NOTE NO. 1 - 69
Referral of ILL Requests from Veterans Administration Libraries

The VA and NLM have agreed that VA libraries should continue to follow estab-
lished VA procedures for obtaining interlibrary loans, by routing requests in
the following sequence:

      a. Other VA libraries in the geographic area of the requesting
          library.

      b. Non-VA sources in the geographic area, including the Regional
          Medical Library. For non-centralized regions, this includes
          referral, as appropriate, from one resource library to another.

      c. Medical and General Reference Library, Central Office, VA.

      d. Non-VA sources in the Metropolitan area of the District of
          Columbia.

      e. National Library of Medicine.

In accordance with this agreement, Regional Medical Libraries should provide VA
libraries with all the services that they provide any other libraries in
their regions, except that unfilled requests should not be forwarded to NLM
but returned to the originating station for processing in sequence c through
e above.

This will ensure appropriate use of VA library channels, as specified in
the VA Professional Services Letter No. 67-93. In the event that any
questions from VA librarians arise, please ask them to consult their file
copy of that VA document.

NOTE: Please retain this procedure note on file.

Submitted by: Network Management Staff, Library Operations, NLM

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MEDLARS USER ORIENTATION PROGRAMS

The following MEDLARS User Orientation Programs were conducted during September:

Date September	Presented at and for whom:	Presented by:
9	UCLA - Mixed group: Dentists, Library Interns, Librarians, and Faculty, School of Dentistry.	Dr. Halegua, Mrs. Beamish, Miss Klinger and Miss Colville-Stewart.
9	Ohio State University - Mixed group: Hospital Pharmacists, Faculty, College of Dentistry, and Health Science Librarians.	Dr. Kelner, Miss Osborn, and Miss Davis.
10	George Washington University - Mixed group: Medical School Faculty, Students and Librarians.	Mr. Caldwell, Mr. Robinson and Miss Woodford.
11	George Washington University - Mixed group: Medical School Faculty, Students and Librarians.	Mr. Caldwell, Miss Doherty and Miss Green.
11	University of Washington - Mixed group: Medical School Faculty, Public Health Professionals.	Dr. Halegua, Mrs. Des Chene and Miss Colville-Stewart.
11	Wayne State University - Group of Medical Librarians and Medical School Faculty.	Dr. Kelner, Miss Osborn, Miss Davis and Mr. Lawrence.
25	College of Physicians, Philadelphia - Mixed group: Medical and Hospital Librarians.	Dr. Halegua, Miss Tanen and Miss Mackov.
25	George Washington University (at NLM) - Medical Students, Pathology Department, GW.	Mr. Caldwell and Dr. Kelner.
26	New York Academy of Medicine - Medical Librarians.	Dr. Halegua and Miss Bruning.
30	MEDLARS Trainees (at NLM)	Mr. Caldwell, Miss Nowak and Mr. Robinson.

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RESTRICTION OF SERVICES TO FOREIGN COUNTRIES
Clifford A. Bachrach, M.D.

Since September 1, NLM policy has been that we will no longer accept requests from foreign countries for MEDLARS demand searches.

The following exceptions will be made:

1. All APO, FPO requests originate from U.S. Officials abroad and therefore these requests should be honored.

2. All AID countries are eligible to receive MEDLARS demand search services under the NLM/AID Agreement.

3. MEDLARS Demand Search requests will be honored from:

   a. The World Health Organization (WHO)

   b. Authors of critical reviews under the PL480 program in Poland, Yugoslavia, Israel.

Centers will generally refer requesters to major medical library centers or MEDLARS centers in their respective areas.

The appended letter is a general one suggested for handling foreign MEDLARS requests. We are aware that most U.S. MEDLARS centers rarely receive foreign requests except from Canada and Mexico. Neither country is now eligible for MEDLARS service. Rather than try to keep everyone currently informed about the frequently changing roster of AID (Agency for International Development) countries, we suggest that you refer other non-European requests to the MEDLARS Management Section, NLM, for handling, or call MMS to determine eligibility status.

The INSERM center in Paris has trained MEDLARS analysts on its staff, but their processing is not yet operational. However, they will accept requests from French users, and arrange for processing elsewhere.

The Australian MEDLARS center has a trained MEDLARS analyst and their processing programs have been debugged. They expect to be operational in October. Australian and New Zealand requesters may be referred to them now.

The centers in the United Kingdom and Sweden have indicated a willingness to have foreign requests referred to them. Since they may decide to establish restrictions or impose charges if necessary, any referral should suggest that MEDLARS service may be sought from these sources, rather than stating that it is definitely available.

Suggested letter:

Dear _____:

We regret having to return the enclosed request for a MEDLARS search.
Budgetary and personnel limitations have necessitated the curtailment
of this service. We can no longer accept requests from the medical
community abroad, except for those countries covered by agreements
between the U.S. Agency for International Development and the
National Library of Medicine. Exception is also made for requests
from the World Health Organization and for foreign authors of critical
reviews prepared under NLM sponsorship.

We suggest that you inquire about the availability of MEDLARS services
at:

                    MEDLARS CENTER
                    National Lending Library
                       for Science and Technology
                    Boston Spa
                    Yorkshire, Great Britain

                    MEDLARS CENTER
                    Biomedical Documentation Center
                    Karolinska Institutet
                    Fack
                    S-104 01 Stockholm 60
                    Sweden

                    MEDLARS CENTER
                    Institut National de la Santé
                       et de la Recherche Médicale (INSERM)
                    3 rue Leon Bonnat
                    Paris 16e, France

                    MEDLARS CENTER
                    National Library of Australia
                    Canberra, A.C.T. 2600
                    Australia

REPORTING OF SEARCH STATISTICS VIA TWX
Constantine J. Gillespie

Effective with the weekly statistics for October 24-30, 1969, and with the monthly summary statistics for September 26-October 30, 1969, all MEDLARS centers (except MARML, PMA, NIH, and Ohio) will report their statistics to the MEDLARS Management Section via TWX lines. The NLM TWX number is 710-824-9619. The MEDLARS center at Ohio State University should use the SUNY terminal rather than TWX since SUNY uses dedicated lines and there is no added cost for any additional usage of the lines.

In the past, statistics have been collected by telephone calls each Friday. These telephone calls have served as a means of discussing problem areas and other matters that needed immediate attention, as well as for collecting statistics. It is _not_ intended that the conversion to TWX (or SUNY) destroy this line of communication when there are problems that need to be discussed.

The procedures and forms for transmitting weekly and monthly statistical data are outlined below. Attached are the two forms that MEDLARS Management Section uses for recording data received from the centers. Each column on these forms has been given a letter identification symbol. Note that on the weekly form, columns A through E correspond to the same items that each center reports to NLM on its monthly report. On the Monthly Summary Statistics form the letter identifiers for every column are the same as those used on the full monthly report submitted by each center.

To send the proper statistics by TWX the center needs only to identify itself, specify the dates covered, and then give the letter symbol for the column and the value for that column, starting with column A and going through column S for the weekly report, and starting with column E and going through column S4 for the monthly summary report. The following samples will show the data needed and the format in which it should be entered:

Example 1:
  Colorado 10/24-30/69

  A19 B0 C1 D0 E18 F25 G17 H25 I25 J11 K0 L2 M9 N0 O11 P11 Q0 R0 S0

Example 2:
  Washington 9/26-10/30/69

  E27 F33 G60 H29 I31 J+K8 N+O26 S40   (Note: & may be used instead of +)

If any column has a zero value, then the letter for the column with a zero should be entered. Always report on every column, even when some columns may be zero. Note that some columns represent the sum of several other columns. For example, A+B-C-D=E; J+K=0; L+M=0; P+Q+R+S=0. Also, since N is a subset of O, N can never be greater than O. On the monthly report E+F=G and G-H=I. These simple checks should be made on your figures to assure their accuracy.

MEDLARS MANAGEMENT SECTION

WEEKLY STATISTICS

Period _____

MEDLARS CENTER	REQUEST PROCESSING						SEARCH PROCESSING			UNRELEASED REQUESTS									
	REC'D DIR	REF MMS to CTR	REJ	REF CTR to MMS	ACC FOR FORM	REL TO USER	FORM-ULATED	TO COMP PROC	REL TO CTR	ORIGIN		STATUS			TOTAL	TIME SINCE RECEIPT			
										REC'D DIR	REF	UN-FORM	FORM-ULATED	COMP PROC		UNDER 2 WKS	2-3 WKS	3-4 WKS	OVER 4 WKS
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
ALA																			
COLO																			
CRERAR																			
HARV																			
MICH																			
NIH																			
NLM-MAR																			
NLM-MMS																			
OHIO																			
PHILA																			
PMA																			
TEXAS																			
UCLA																			
WASH																			
TOTAL THIS WEEK																			
TOTAL LAST WEEK																			

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MEDLARS SEARCH REQUEST PROCESSING
MONTHLY SUMMARY STATISTICS

Period _____

MEDLARS Center	E Accepted This Month	F Previous Carryover	G Total in Process	H Released	I Present Carryover	J & K Unform-ulated	N & O Formu-lations	S4 Total Proc. By
Alabama								
Colorado								
Crerar								
Harvard								
Michigan								
NIH								
NLM-MAR								
NLM-MMS								
Ohio								
Philadelphia								
PMA								
Texas								
UCLA								
Wash/Seattle								
TOTAL								

(Rev. 10/69)

TALLIES ON MEDLARS DICTIONARY TAPE
Constantine J. Gillespie

The tallies for term usage on the October 1969 MEDLARS Dictionary Tape (MDT)
have been changed to reflect the usage from January 1967 through October 1969.
The tallies for January 1964 through December 1966 were subtracted from the
tallies for October 1969. Since the Compressed Citation File (CCF) is searched
in two segments, January 1967 to date, and January 1964 to December 1966, these
divided tallies will allow searchers to make a better estimate of expected
retrievals from each segment of the file.

This notice is mostly for the benefit of MEDLARS centers with their own computer
processing capability, since they can print out the MDT and/or Master MeSH and
have it available for use by searchers. Those centers without computer capa-
bilities will receive copies of Master MeSH for January 1964-December 1966 and
for January 1967-December 1969 at the end of this year.

1970 INDEXING
Stanley Jablonski

We have distributed to all NLM indexers, all contract indexers, and all indexers
abroad, a packet containing the items listed below. They relate to indexing
under the 1970 MeSH and indexing policy.
   1. Categorized list of new 1970 MeSH headings
   2. 1970 provisionals labeled by MeSH: "Supplemental List of Provisional
         Headings, 3d Quarter - September 1969"
   3. MeSH's list of subheadings with changes
   4. Indexing Manual 1970 Subheading revisions
   5. Indexing Manual Addendum No. 4 for 1970 MeSH changes
   6. Hints for Index Medicus Users (additional copies are available for
         distribution upon request)
In addition to the above, the O-Z portion of the Integrated Authority File has
been distributed to all indexers and searchers.

Schedule for 1970 Indexing

- 15 October 1969, Wednesday, all foreign indexers begin indexing
                using the 1970 MeSH

- 24 October 1969, Friday, all contract indexers begin indexing
                using the 1970 MeSH

- 3 November 1969, Monday, all NLM indexers begin indexing
                using the 1970 MeSH

Priority 1 journals will be indexed at NLM until the last cut-off date for 1969,
                early in November.

SEARCHING ON FORM TAGS
Constantine J. Gillespie

Search analysts should be aware of a possible source of unwanted citations when searching on form tags. There are seven different form headings which, unfortunately, are represented in the CCF record by only four different form codes. This means that, in some cases, two or three form headings are represented by one form code. Thus, if you search on these headings as F elements you may retrieve more than you expect to retrieve. Below are listed all the form headings with an explanation of what you will retrieve if you list them as F elements.

F1	Biographies	This was used in 1964-65 only, but on a full-file search this will retrieve "Biographies" as well as "Current Biog-Obit" and "Historical Biography."
F1	Current Biog-Obit	This will retrieve "Current Biog-Obit" as well as "Historical Biography"; on a full-file search it will also retrieve "Biographies."
F1	Historical Biography	This will retrieve "Historical Biography" as well as "Current Biog-Obit"; on a full-file search it will also retrieve "Biographies."
F1	Obituaries	This was used in 1964-65 only and will retrieve "Obituaries" only.
F1	Review	This will retrieve "Review" articles only.
F1	Special List Dental	This will retrieve "Special List Dental" as well as "Special List Nursing."
F1	Special List Nursing	This will retrieve "Special List Nursing" as well as "Special List Dental."

You can see from this list that, in some cases, you will retrieve some things that you may not want. The NLM search programs have been modified to automatically convert "Special List Dental" and "Special List Nursing," when they are entered as F elements, to M elements. As M elements they will then retrieve only the citations specifically tagged with that term. In the case of form headings such as "Current Biog-Obit," you may enter it as an F element if you do not object to also retrieving citations tagged with "Historical Biography" and "Biographies." If you want only "Current Biog-Obit," then enter it as an M element. The same holds true for "Biographies" and for "Historical Biography": enter them as F elements if the retrieval listed above is acceptable; enter them as M elements to get only the specific form heading that you have listed. Computer processing is much more efficient when searching on F elements than when searching on M elements. Consequently, do not automatically enter all of your form headings as M elements; do this only when your retrieval is likely to be affected by the ambiguity of the form codes.

Centers whose processing is done at Ohio State University should only use "Review" with an F element. All other form headings should be entered as M elements.

NARCOTICS - A PARTIAL HEDGE
William H. Caldwell

DEFINITIONS:

Narcotic: "1. Pertaining to or producing narcosis. 2. An agent that produces insensibility or stupor."

-Dorland

Narcotic Drugs: "Means coca leaves, opium, cannabis, and every other substance neither chemically nor physically distinguishable from them; any other drugs to which the Federal Narcotic Laws may now apply; and any other drug found...to have an addiction-forming or addiction-sustaining liability similar to morphine or cocaine..."

-Uniform Narcotic Drug Act

A universally accepted, concise definition of "narcotic" is difficult. If we follow Dorland's definition, ethyl ether is a narcotic (it certainly produces insensibility). So would be the barbiturates (they produce stupor). If, on the other hand, we stick to the Uniform Narcotic Drug Act definition, which specifies an addiction liability, we would probably have to question the inclusion of cannabis (marijuana), cocaine, and others, for most investigators doubt such a liability with those drugs. But if we include cannabis, why not mescaline, and LSD? Though "illegal" in the U.S., these two drugs are not considered by law to be narcotics.

Obviously, in attempting to construct a list of "narcotics," some basic decisions must be made. In a manner which I hope will not appear to be too arbitrary, I decided on the following:

a. Sedative, non-analgesic drugs such as the barbiturates should not be included. In the classic, legal, and popular senses such drugs are not narcotics, though they produce narcosis.

b. Anesthetic agents such as ether, etc., - though they produce insensibility or stupor - are not narcotics. The exception is cocaine.

c. An addictive (not just habit-forming) liability should be associated through law or tradition. In other words, if the drug in question is listed by the Federal Narcotic Laws, then by definition it is addictive and, hence, a narcotic.

d. Narcotics need not be analgesic. Most, of course, are. But notable exceptions such as apomorphine (an emetic), nalorphine (a narcotic antagonist), and cocaine (a local anesthetic) must be included in our list because - by law and tradition - they are narcotics.

From item "d", above, it is apparent that this list of narcotics will not be a list of narcotic analgesics alone. Currently, in MeSH, the term NARCOTICS appears in Category D13 with no indentions under it. However, in D6.24 there is the term ANALGESICS, NARCOTIC (NON MESH). There are three drugs listed (in error) which are not narcotics. They are ETHOHEPTAZINE, PENTAZOCINE and PROPOXYPHENE. By the

definitions above, as well as by federal regulations governing the manufacture, labeling and sale of drugs, these three agents are unquestionably non-narcotic. Further, in Tree D6.12., ANALGESICS AND ANTIPYRETICS, the drug FENTANYL is listed. :t should be under D6.24. instead, for it is widely acknowledged (by its manufacturer as well as by law) as being a potent narcotic analgesic. (These errors have been brought to the attention of the MeSH group.)

A word should be said about narcotic antagonists (see Tree D6.90.). Some narcotic antagonists are also classed as narcotics. Nalorphine is an example. Others may be, although little agreement can be found in the literature. Current laws include only nalorphine of the four drugs in D6.90. as far as I can determine. I'm checking on this.

Title 21, Chapter II, of the Code of Federal Regulations, lists 35 basic classes of narcotic drugs. For the purposes of constructing this hedge I shall list those 35 classes, followed by the synonymous or permitted MeSH term; a blank indicates that there is no appropriate MeSH equivalent.

1.	Opium	OPIUM	19.	Ecgonine	
2.	Mixed alkaloids of opium	OPIUM	20.	Pethidine	MEPERIDINE
3.	Morphine	MORPHINE	21.	Alphaprodine	ALPHAPRODINE
4.	Codeine	CODEINE	22.	Methadone	METHADONE
5.	Thebaine	THEBAINE	23.	Isomethadone	METHADONE
6.	Narcotine	NOSCAPINE	24.	Levorphan	LEVORPHANOL
7.	Papaverine	PAPAVERINE	25.	Levomethorphan	
8.	Cotarnine		26.	Anileridine	ANILERIDINE
9.	Narceine		27.	Phenazocine	PHENAZOCINE
10.	Ethylmorphine	MORPHINE	28.	Dihydromorphine	
1˙	Apomorphine	APOMORPHINE	29.	Diphenoxylate	
12.	Nalorphine	NALORPHINE	30.	Metazocine	
13.	Hydromorphone	DIHYDROMORPHINONE	31.	Oxymorphone	OXYMORPHONE
14.	Metopon	DIHYDROMORPHINONE	32.	Pholcodine	
15.	Dihydrocodeine		33.	Piminodine	PIMINODINE
16.	Hydrocodone		34.	Norpethidine	
17.	Oxycodone		35.	Fentanyl	FENTANYL
18.	Cocaine	COCAINE			

Included in the foregoing list of MeSH terms are all of those in the D6.24. tree except for the following:

ETHOHEPTAZINE
PENTAZOCINE
PROPOXYPHENE
(These three were listed in error and are not narcotics, as explained earlier.)

DIACETYLMORPHINE
(This is heroin, and is illegal to produce, possess, etc., in the U.S. It is, therefore, officially "non-existent" and cannot be included as one of the 35 basic classes listed by the Bureau of Narcotics. A special section of the Act is devoted to heroin.)

PHENOPERIDINE
(This is a meperidine derivative, and belongs to Class 20 in the list.)

DEXTROMORAMIDE
(This drug is illegal in the U.S., and therefore is not included in any of the 35 classes. It is similar to methadone.)

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My choice, then, for a narcotics hedge at this time is:

ALPHAPRODINE
ANILERIDINE
APOMORPHINE
CANNABIS
COCAINE
CODEINE
DEXTROMORAMIDE
DIACETYLMORPHINE
DIHYDROMORPHINONE
FENTANYL
LEVORPHANOL
MEPERIDINE
METHADONE
MORPHINE
NALORPHINE
NOSCAPINE
OPIUM
OXYMORPHONE
PAPAVERINE
PHENAZOCINE
PHENOPERIDINE
PIMINODINE
THEBAINE

If I were doing a comprehensive "narcotics" search, I would also include at least the following:

MORPHINANS - this is a chemical class term in MeSH to which several of the narcotics belong.

NARCOTICS   - of course.

MORPHINE ADDICTION

                and

TUSSIONEX - this is one of the few trade name products in MeSH. It is an antitussive containing dihydrocodeinone, requires a narcotic prescription, and belongs to Class 16.

This has been labeled as a partial hedge because there may be other terms which should be included. You may want to consider DRUG AND NARCOTIC CONTROL, etc. I have asked the Bureau of Narcotics for some further information about some specific drugs in MeSH, and as they - and you - supply me with more particulars, I shall keep you all posted through the Technical Bulletin.

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NATIONAL LIBRARY OF MEDICINE   M   Geraldine Nowak

MEDLARS / NETWORK
technical bulletin

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Tropical Countries
EYE

We welcome comments
and suggestions.

LIMITATION OF SIZE OF SEARCH RETRIEVALS
Clifford A. Bachrach, M.D.

For some time, the NLM Report Generator program has been fixed to cut the printing of a search retrieval off at 500 citations unless the searcher has requested, on the report generator form, that printing of a higher retrieval be permitted. In establishing the 500 limit, we took cognizance of the fact that a retrieval of 500 citations is more than enough for a very high proportion of users and that only a small proportion of users desire or can use a larger number of citations.

In all but exceptional cases, the search analyst is expected to formulate searches which will retrieve fewer than 500 citations. He is not expected to depend upon the program limitation to cut off a search when the size of the retrieval has not been carefully considered. The program limitation was developed only to avoid great waste of computer time in those rare cases when, through formulation or input error, thousands upon thousands of citations are retrieved.

In recent months, certain search analysts and certain stations have been overriding the 500 limitation with increasing frequency. Sometimes a higher retrieval has been obtained without any apparent reason for it. In many cases, however, the retrieval was small and an inspection of the search strategy should have revealed that the retrieval could not have exceeded 500. In these cases, the override removes, without reason, our protection against long, bad runs in the event of a strategy or input error. It also impairs the flexibility of our operations.

Effective immediately, the searcher's override on the report generator form will be accepted only if the DSFR is accompanied by an acceptable explanation, by the searcher, of the necessity for a retrieval in excess of 500. An acceptable explanation depends upon the use to which the material is to be put, the evidence of the user's intent and ability to handle such a mass of citations, and the necessity for his getting it all at one time. Searchers are expected to request reasonable upper limits. A request for a 99999 limit is unreasonable and sloppy.

If a search that has been cut-off at 500 is fully acceptable to the user in other ways, it may be resubmitted for processing with an override. That is, a user's request for rerun of a truncated search will be acceptable justification but the responsible searcher should really give thought to whether the retrieval can be reduced, without substantive loss of recall, by a more precise search strategy.

Unless acceptable justification for override accompanies the DSFR, a limit of 500 will be put on the retrieval of every search submitted to NLM for processing regardless of the limit requested by the search analyst on the report generator form.

REQUEST FOR ARTICLES FROM MEDLARS STATIONS
Clifford A. Bachrach, M.D.

One of the aims of the Technical Bulletin is to disseminate ideas and information among the MEDLARS stations. We strongly encourage each station to share the benefits of its experience by submitting material to be included in future issues of the Technical Bulletin. This material may relate to various topics within the scope of the Bulletin, such as:

1. Station description: A general article might be written about a station. This article might include how the station operates; computer facilities; physical location and facilities; organizational placement; personnel resources; how searches at your station differ from other stations; services provided; how many searches are done for users at the institution in which station is physically located as opposed to other institutions in the area; user orientation programs; users' reactions to the services provided, etc., etc. Descriptive articles of this kind would be particularly helpful to newcomers who have not watched MEDLARS grow, station by station.

2. How to handle "tough" requests: Identify the requests and the solutions for getting at the necessary citations.

3. Analysis of search results: For an example of this type of article, see "Dangers of Exploding Without Specifying Tree Number" by Linn W. Kelner, D.D.S., in Technical Bulletin No. 4, August 1969.

4. Review of appraisals: Interesting comments from users, problems, questions, recall and precision ratios and/or user satisfaction, etc., might be the basis for an article.

5. Problems of the MEDLARS network: These should not be "gripe" letters, but a clear, ncise identification and analysis of problems, with constructive suggestions for modifications.

6. Any other clearly and concisely presented experience or idea that may be helpful to others in the network.

Stations are encouraged to submit material at any time as subjects of interest arise. We hope to have a useful contribution from each station at least once every 6 months; therefore, each station is asked to contribute according to the following schedule, but may skip its turn (if it so desires) if it has made an unscheduled contribution during the previous six-month period.

Stations	Material to be received at NLM by:
1. Colorado; Ohio; INSERM	Oct. 10, 1969 - 1st article
	Apr. 10, 1970 - 2nd article
2. NIH; Michigan; Harvard	Nov. 10, 1969 - 1st article
	May 10, 1970 - 2nd article
3. Alabama; PMA; National Lending Library, U.K.	Dec. 10, 1969 - 1st article
	June 10, 1970 - 2nd article
4. MARML; UCLA; Karolinska Institutet	Jan. 10, 1970 - 1st article
	July 10, 1970 - 2nd article
5. Philadelphia; MMS; National Library, Australia	Feb. 10, 1970 - 1st article
	Aug. 10, 1970 - 2nd article
6. U. of Washington; Crerar; WHO	Mar. 10, 1970 - 1st article
	Sept.10, 1970 - 2nd article

Questions regarding the above should be directed to Grace Jenkins, Quality Control, B   NLM (496-1473).

OHIO STATE PRINTOUTS
Grace T. Jenkins

MEDLARS analyst P.E. Pothier recently compiled a list of some problem areas
relating to Ohio State printouts. Mr. J. Carroll Notestine, the person
responsible for the Ohio programs, replied to the problems as follows:

Problem 1: Printouts frequently appear without tracings.
Answer: The first citation printed by card format following a search printed
           by paper format did not have the tracings. This was a program error
           and has been corrected.

Problem 2: When there are tracings, some of the descriptors are dropped.
           (In one recent example, the citation appeared with no print term.
           Actually the citation appeared in the February 1969 issue of
           Index Medicus under the print term AMYLOIDOSIS with no subheading,
           but this had been dropped from the citation in the Ohio printout.)
Answer: The above-mentioned citation exists on the CCF with AMYLOIDOSIS
           for each of four subheadings and then a fifth time with no sub-
           heading and the print indicator present. The processing program
           has been changed to reprint a repeating mainheading if the print
           indicator is present.

Problem 3: Titles of articles are often incomplete and must be looked up and
           completed by hand.
Answer: The example submitted (not included here) shows a citation printed
           with an incomplete title. The original MEDLARS specifications stated
           that two consecutive blanks terminate either an author, title,
           journal title abbreviation, pagination, or publication date field
           and the processing programs were written for this condition. A tape
           dump of this citation on the CCF shows that a double blank exists
           between two words in the title in the example. This double blank
           terminates title printing under the conditions specified in the program.
           In other words, this is a citation input problem, and not an Ohio
           processing problem.

Problem 4: Journal citations often include only the name of the journal and the
           year with no volume or pages. This happens most frequently on a card
           printout when the journal title is lengthy.
Answer: The program error mentioned above occurred only on card output when
           the journal title required the entire line. This error has been
           corrected.

Problem 5: Tracings are repeated for several inches in some printouts.
Answer: The program condition causing repeated tracings has been changed.

Because the MEDLARS analyst took the time and trouble to compile a list of some
problem areas that she encountered, Mr. Notestine was given the proper feedback
so that he could correct "errors" and modify his programs to give us better service.
We encourage all MEDLARS analysts to submit a statement of any problems they may
encounter with any aspect of their searching so that the problem may be examined
by the appropriate personnel and corrected if possible.

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1970 MeSH REVISION STATISTICS

Following is a statistical breakdown of the MeSH revision for 1970:

	1969 Total	Added	Deleted	1970 Total
Main Headings	7436	162*	8	7590
Subheadings	60	-	-	60
Geographics	267	2	-	269
Check Tags	13	-	-	13
TO-1	343	6	2	347
Superseded headings (will retrieve citations)	106	6	-	112
Structure (Non MeSH) (for tree purposes only)	237	-	2	235
Cross References (estimated)	9565	530	100	9995
PROVISIONALS	462 (9/1/68)	81	90	453 (9/1/69)

*86 were provisionals and 76 new headings

MEDLARS ANALYST TRAINEES

As of September 15, the following people are scheduled to participate in the next MEDLARS training class which starts September 29, 1969:

Miss Laurabell Eakin	University of Pittsburgh
Miss Alison E. Flynn	Emory University
Mr. Paul S. Hanson	UCLA MEDLARS Center
Miss Helen K. Jones	Alabama MEDLARS Center
Dr. Hedwig Shirner	Bundesministerium für Gesundheitswesen, Germany
Dr. Edith Velten-Schuberth	" " " "
Miss Esther Wei	Ohio MEDLARS Center
Miss Margaret E. Wineburgh	Vision Information Center
Mr. Theodore Webster	NLM, Index Section, BSD
Mr. Tulane Howard	NLM, Index Section, BSD
Miss Marilyn M. Wolf	Colorado MEDLARS Center
Miss Willerma Frazier	NLM Library Associate - Indexing only
Miss Barbara Greehey	NLM Library Associate - " "
Miss Cecile Quintal	NLM Library Associate - " "
Miss Helen E. Lea	University of Washington

SEARCHING AIDS
William H. Caldwell

Beginning with this issue of the _Technical Bulletin_, we plan to publish a monthly "searching aid." These aids might be in the form of a hedge, an ad hoc tree, a successful formulation for handling a search request, suggestions for ways to approach a difficult search, guidelines for doing supplemental searches or reformulations, hints for interviewing requesters, etc. As an example of the types of material that might be of value to MEDLARS analysts, we are including the following examples of hedges:

        I.   Tropical Countries Hedge
       II. Eye Hedge

All MEDLARS analysts, and others who work with the MEDLARS system, are invited to submit "searching aids" which they think will be of value to others.

Since it is planned to include searching aids (in the form of hedges, ad hoc trees, search formulations, etc.) in the MEDLARS II data base, it is important that comments from MEDLARS analysts be received in order that these aids will be accurate, inclusive, and useful. All comments, suggestions, criticisms, as well as aids suggested for inclusion in the _Bulletin_, should be sent to William H. Caldwell, Deputy Chief, BSD (496-6217).

I. TROPICAL COUNTRIES HEDGE
Bob Lawrence, Michigan

Those countries (MeSH) that lie wholly or partly between the Tropics of Cancer and Capricorn. (Dorland and Webster)

*means countries with only a small portion of land in the tropical region.

(all) means that all the countries indented under that particular region in the Z category are tropical. These countries are listed here.

(some) means that only the countries listed here under that particular region are tropical. There are other countries indented under that region that are not tropical.

Africa (some)

Africa, Central (all)	Africa, Southern (all)	Africa, Western (all)
Central African Republic	Angola	Cameroon
Chad	Botswana	Dahomey
Niger	Burundi	Gabon
Africa, Eastern (all)	Congo	Gambia
Ethiopia	Kenya	Ghana
Somalia	Lesotho	Guinea
Sudan	Malawi	Ivory Coast
Africa, Northern (some)	Mozambique	Liberia
Algeria*	Rhodesia	Mali
Egypt*	Rwanda	Nigeria
Libya*	South Africa*	Senegal
	Tanzania	Sierra Leone
	Uganda	Togo
	Zambia	Upper Volta

Asia (some)

  Asia, Southeastern (all)
    Borneo
    Burma
    Cambodia
    Indonesia
    Laos
    Malaysia
    Netherlands East Indies
    Philippines
    Singapore
    Thailand
    Timor
    Vietnam

  Asia, Western (some)
    Arabia
    Ceylon
    India
    Indian Ocean Islands
    Malagasy Republic
    Pakistan* (Eastern part only)
    Yemen

  Far East (some)
    China*
    Hong Kong
    Taiwan

Australia*

North America (some)

  Central America (all)
    British Honduras
    Costa Rica
    El Salvador
    Guatemala
    Honduras
    Nicaragua
    Panama
    Panama Canal Zone

  Mexico (Southern half only)

  West Indies (some)
    Cuba
    Dominican Republic
    Haiti
    Jamaica
    Netherlands Antilles
    Puerto Rico
    Trinidad

South America (some)
  Argentina*
  Bolivia
  Brazil
  British Guiana
  Chile*
  Colombia
  Ecuador
  French Guiana
  Paraguay
  Peru
  Surinam
  Venezuela

South Pacific Islands
  Melanesia
    New Guinea
  Micronesia
  Polynesia
    Hawaii
    Western Samoa

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A2
OCULOMOTOR MUSCLES
ORBIT

A7
OPHTHALMIC ARTERY
RETINAL VESSELS

A8
CORPORA QUADRIGEMINA
ABDUCENT NERVE
OCULOMOTOR NERVE
OPHTHALMIC NERVE
OPTIC CHIASM
OPTIC LOBE
OPTIC NERVE
TROCHLEAR NERVE
VISUAL CORTEX

A9
EYE
  ANTERIOR CHAMBER
    AQUEOUS HUMOR
  CONJUNCTIVA
  CORNEA
    DESCEMET'S MEMBRANE
  EYEBROWS
  EYELASHES
  EYELIDS
  LACRIMAL APPARATUS
  LENS, CRYSTALLINE
  RETINA
    FUNDUS OCULI
    MACULA LUTEA
    RODS AND CONES
  SCLERA
  UVEA
    CHOROID
    CILIARY BODY
    IRIS
    PUPIL
  VITREOUS BODY

A12
TEARS

C2
EYE NEOPLASMS
  CHOROID NEOPLASMS
ORBITAL NEOPLASMS
RETINOBLASTOMA

C11
EYE DISEASES
  ALBINISM
  ASTHENOPIA
  BEHCET'S SYNDROME
  CATARACT
  CONJUNCTIVITIS
    CONJUNCTIVITIS, INCLUSION
    KERATOCONJUNCTIVITIS
    OPHTHALMIA NEONATORUM
    PTERYGIUM
    REITER'S DISEASE
  CORNEAL DISEASES (NON MESH)
    ARCUS SENILIS
    CORNEAL DYSTROPHIES
    CORNEAL OPACITY
    KERATOCONUS
  EXOPHTHALMOS
    GOITER, EXOPHTHALMIC
  EYELID DISEASES (NON MESH)
    BLEPHARITIS
    BLEPHAROPTOSIS
    ECTROPION
    ENTROPION
    HORDEOLUM
  GLAUCOMA
    HYDROPHTHALMOS
  HYPHEMA
  KERATITIS
    CORNEAL ULCER
    HERPES ZOSTER, OCULAR
    KERATITIS, DENDRITIC
  LACRIMAL APPARATUS DISEASES (NON MESH)
    DACRYOCYSTITIS
    LACRIMAL DUCT OBSTRUCTION
    SJOGREN'S SYNDROME
  NYSTAGMUS
  OCULOMOTOR PARALYSIS
  OPHTHALMIA
    OPHTHALMIA, SYMPATHETIC
    PANOPHTHALMITIS
    TRACHOMA
    XEROPHTHALMIA
  OPTIC NERVE DISEASES (NON MESH)
    OPTIC ATROPHY
    OPTIC NEURITIS
  PAPILLEDEMA
  PUPIL DISEASES (NON MESH)
    ADIE'S SYNDROME
    HORNER'S SYNDROME

EYE HEDGE (continued)

C11 (continued)
EYE DISEASES (continued)

RETINAL DISEASES (NON MESH)
  ANGIOID STREAKS
  CHORIORETINITIS
  DIABETIC RETINOPATHY
  RETINAL DEGENERATION
  RETINAL DETACHMENT
  RETINAL HEMORRHAGE
  RETINITIS
  RETINITIS PIGMENTOSA
  RETROLENTAL FIBROPLASIA
SIDEROSIS
STEVENS-JOHNSON SYNDROME
TOXOPLASMOSIS, OCULAR
TUBERCULOSIS, OCULAR
UVEAL DISEASES (NON MESH)
  CHOROIDITIS
  IRIDOCYCLITIS
  IRITIS
  UVEITIS
    UVEOMENINGOENCEPHALITIC SYNDROME
EYE MANIFESTATIONS
VISION DISORDERS
  AMBLYOPIA
  BLINDNESS
  COLOR BLINDNESS
  DIPLOPIA
  HEMERALOPIA
  HEMIANOPSIA
  NYCTALOPIA
  REFRACTIVE ERRORS
    ANISEIKONIA
    ASTIGMATISM
    HYPEROPIA
    MYOPIA
    PRESBYOPIA
  SCOTOMA
SNOWBLINDNESS
STRABISMUS

C14

EYE INJURIES
  EYE BURNS
  EYE FOREIGN BODIES

C16
ANOPHTHALMOS
COLOBOMA
MICROPHTHALMOS

D2
PILOCARPINE (not always eye related)

D5
CYCLOPLEGICS
MIOTICS
MYDRIATICS
  BELLADONNA) not always
    ATROPINE) eye related

D10
EYE PROTEINS
  CRYSTALLINS
RETINAL PIGMENTS

D12
EXOPHTHALMOS PRODUCING SUBSTANCE

D13
OPHTHALMIC SOLUTIONS

E1
ELECTROOCULOGRAPHY
ELECTRORETINOGRAPHY
FLICKER FUSION
GONIOSCOPY
OPHTHALMODYNAMOMETRY
OPHTHALMOSCOPY
TONOMETRY
VISION TESTS
  COLOR PERCEPTION TESTS
  PERIMETRY
  REFRACTION, OCULAR

E2
ORTHOPTICS
CONTACT LENSES
EYEGLASSES

E4
EYE, ARTIFICIAL
CATARACT EXTRACTION
  ENZYMATIC ZONULOLYSIS
CORNEAL TRANSPLANTATION (T.O.)

E5
LENSES (not always eye related)

F1
CONDITIONING, EYELID
VISUAL PERCEPTION
  AFTERIMAGE
  COLOR PERCEPTION
  DEPTH PERCEPTION
  DISTANCE PERCEPTION
  FIGURAL AFTEREFFECT
  FLICKER FUSION
  FORM PERCEPTION
  PERCEPTUAL CLOSURE
SUBLIMINAL STIMULATION (not always
                  eye related)

EYE HEDGE (continued)

G1

EYE PHYSIOLOGY (NON MESH)
  ACCOMMODATION, OCULAR
  ADAPTATION, OCULAR
    DARK ADAPTATION
  EYE MOVEMENTS
    FIXATION, OCULAR
  INTRAOCULAR PRESSURE
  SLEEP, REM
  VISION
    VISUAL ACUITY
  VISUAL FIELDS

G2

OPHTHALMOLOGY
OPTOMETRY

<u>Related Terms</u>

LIGHTING
OPTICS
  AUDIO-VISUAL AIDS
    EXHIBITS
    MEDICAL ILLUSTRATION
    MODELS, STRUCTURAL
    MOTION PICTURES
    TELEVISION
  BIREFRINGENCE
  BOOKS, ILLUSTRATED
  COLOR
  DARKNESS
  LIGHT
    FLUORESCENCE
    LASERS
    LUMINESCENCE
  MICROFILMING
  MICROSCOPY
  PHOTOGRAPHY
    PHOTOMICROGRAPHY

MEDLARS ANALYST WORKSHOP

The 1969 Fall MEDLARS Analyst Workshop will be held on the 24th and 25th of November.
All stations will shortly receive a formal announcement of the agenda items to be
included in this two-day workshop.

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Dr. Joseph Leiter   Mr. S. T. Waters, Editor
Associate Director   Mrs. Ann R. Lindsay, Managing Editor
for Library Operations   Mrs. Grace T. Jenkins, Technical Editor

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HOW TO SELECT AND PREPARE MEDLARS ANALYST TRAINEES
Clifford A. Bachrach, M.D.

We share with the managers of MEDLARS stations the task of selecting MEDLARS analyst trainees. We wish we could tell in advance, with certainty, just who would make a good MEDLARS analyst, and who would not. Although we have made some mistakes in selection, mistakes that were painful both to us and the trainees, we do feel that we now have enough experience to make predictions, with a reasonably good chance of success.

Our experience indicates that the personal characteristics of the trainee are at least as important to his success as his prior training or experience. This does not mean that good training and work experience may not be valuable. Given a person who has the capabilities required for success, he will be a much better MEDLARS analyst for having had appropriate prior experience. But prior success as a science student, or physician, or reference librarian does not assure success as a MEDLARS analyst.

We feel that a MEDLARS analyst needs:

1. The ability to read and scan with comprehension, including the ability to summarize, to extract essential ideas, and separate them from the unessential, While especially important in indexing, this ability is also required in searching, where one must orient one's self rapidly to a subject with which one has little prior acquaintance.

2. A retentive memory for detail. In both indexing and searching, success requires recall of large numbers of vocabulary terms, definitions, rules, precedents, variant spellings, as well as retention of the extensive subject matter background one acquires. While look-up is always possible, one must retain quite a bit to recognize when look-up is necessary, and to use sources efficiently and effectively.

3. Neatness, orderliness of work habits, concern for detail. A computer is an obedient fool and does exactly what it is asked to do, making no allowances for intentions. Careless errors and omissions result in delays and costly corrections and reruns.

4. The ability to understand and handle logical relationships. We have a feeling that persons who find word-puzzles and problem-solving to be challenging fun, and have any aptitude for simple algebra, can handle the Boolean logic that is used in searching. Those who panic at these challenges may be doubtful risks.

5. The ability to interact with the user public effectively and graciously. In searching, one has to communicate with the user, by phone or in person, to elicit supplementation and clarification of his wants, to explain the capabilities and limitations of MEDLARS in relation to his needs, etc.

6. A broad enough interest in (but not necessarily extensive prior knowledge of) science and medical matters to be motivated to acquire additional subject background as needed.

7. The ability to face realistically the inevitable limitations of his own knowledge, and a readiness to seek help or accept suggestions from appropriate sources.

8. An appreciation of the law of diminishing returns, and the ability to relinquish a piece of work after a reasonable effort and go on to the next task.

Few people are really strong in every one of these characteristics, and this is hardly to be expected. However, a serious weakness in any of these eight areas constitutes cause for concern about the candidate's likelihood of success.

If a person has these characteristics, any scientific training that he may have had, and any experience in biomedical sciences or practice, in bibliographic compilation, or in medical reference work constitute plus values.

MEDLARS trainees should not be selected hastily. Each candidate should be screened in several ways:

1. His qualifications should be reviewed carefully by the nominating institution. If the candidate is already an employee, his aptitudes and weaknesses should be carefully considered from the viewpoint of his MEDLARS potential; success should not be assumed merely because he has successfully handled other tasks that may call for other aptitudes. Unhappy situations arise if a round employee is plucked from his round hole and thrust into a square one.

If the candidate is not already an employee, he should have:

(a) a careful interview
(b) a careful reference check, and
(c) a careful review of the curriculum vitae.

The above steps should be carried out for whatever can be learned, explicitly or implicitly. For example, evidence of successful prior experience in computer programming or good accomplishment in mathematical studies suggests that the candidate has the prerequisite logical ability and capacity for careful work. The same assurance may also be obtained from totally different types of activity. Untidiness and spelling errors in the candidate's application or curriculum vitae should lead one to further investigation of work habits.

The candidate himself must have an opportunity to make an assessment of his own aptitude with a realistic knowledge of what MEDLARS is all about. For this purpose, the following publications should be furnished to him for his careful perusal:

Guide to MEDLARS Services
MEDLARS, 1963-1967 by Charles Austin
MEDLARS: How to Use the System Effectively,
by F. W. Lancaster (in press, Aug. 1969)

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In addition, where possible, he should have an opportunity to receive an introduction to the work from a MEDLARS analyst. The MEDLARS analyst should try to present a balanced picture of the work without overstating or understating the demands of the job. Whenever possible the candidate should be scheduled to attend a User Orientation session.

When time, distance and funds permit, the serious candidate should be sent to the National Library of Medicine to be interviewed before a commitment is made to him. This gives the candidate the clearest preliminary view of MEDLARS and of the training situation to which he is considering committing himself. It also gives NLM staff an opportunity to react to the candidate. While, as previously stated, no one in Bibliographic Services Division is clairvoyant, our more extensive experience with MEDLARS trainees may make it possible for us to furnish the MEDLARS center with some useful additional insights.

Each candidate's employer should assure that the candidate has a reasonable understanding of what will be expected of him during his training.

While at the National Library of Medicine, the trainee is expected to conform to NLM's working hours, regardless of the working hours of the institution which employs him. These hours are from 8:30 a.m. to 5:00 p.m., Monday through Friday. In addition, some individual trainees may find it necessary to invest additional time to make up for inadequacies of their backgrounds, or to keep up with the pace of the training and to complete the work assignments.

The training includes class work, training exercises and practice under supervision. The trainee will be expected to develop an intimate acquaintance with the National Library of Medicine's indexing policies and practices, and to personally read and scan some hundreds of articles from the biomedical literature, indexing them fully and assigning appropriate subject headings from MeSH, the MEDLARS thesaurus. The indexing instruction serves to acquaint the student fully with the manner in which the material is prepared for input into the MEDLARS files. It also provides an introduction to the periodical literature of medicine for those students whose previous exposure to this body of literature has been limited.

After introductory lectures on search logic and technique, each trainee has the opportunity to analyze several score of users' requests. The trainee must determine which requests can be satisfied with MEDLARS searches and which call for the use of other bibliographic sources in place of, or in addition to, MEDLARS. When appropriate, the trainee carries through MEDLARS searches designed to satisfy the users.

The trainee participates in sessions designed to acquaint him with fundamental concepts in information retrieval generally, with vocabulary development, with indexing and abstracting services in the field of biomedicine, and other appropriate topics.

At present, each MEDLARS analyst trainee is expected to complete a 4-month training period followed by a 2-month "residency" which consists of additional practice under supervision. Whether the "residency" will be conducted at the National Library of Medicine or at the trainee's home station is determined by NLM for each trainee individually. The decision is based primarily upon the availability of thoroughly experienced trainers at the trainee's home station and upon the trainee's needs as revealed by his performance in training. Each trainee should be prepared to spend 6 months, if necessary, at NLM.

DANGERS OF EXPLODING WITHOUT SPECIFYING TREE NUMBER
Linn W. Kelner, D.D.S.

The following search (only part of which is reproduced here) was formulated by a searcher last month:

"CRIME and DRUG ADDICTION"

L1   Eng.

M1 E   Criminology
M2   Criminal psychology
M3   Prisons
M4   Social problems
M5   Illegitimacy
M6   Juvenile delinquency
M7   Prostitution
M8   Social control, formal
M9   Quackery
M10   Civil disorders

M40 E Drug abuse

M30 sum M1 M10

(this constitutes only a partial list of terms used)

SECT. 4 L1 * M30 * M40.

The search retrieved 964 citations. The searcher thought perhaps the batch did not run properly since many of the citations were indexed only for a term from the "CRIME" facet, but no term from the "DRUG ABUSE" facet.

The term DRUG ABUSE was exploded without specifying the category number and this is what caused retrieval of the non-relevant citations. One of the tree numbers of DRUG ABUSE is I.91.47.1. When it was exploded, all the terms with the I.91.47.1 tree number were retrieved since the computer searches on all the category numbers of the exploded term, rather than on the main heading code, when the category number is not specified in the DSFR. Five of those terms with the category number I.91.47.1 were also in the M30 sum; CRIME (in the CRIMINOLOGY explosion), ILLEGITIMACY, JUVENILE DELINQUENCY, PROSTITUTION and QUACKERY. These terms were "anded" with themselves, and so were retrieved regardless of the other terms in the tracings.

This is merely to serve as a reminder to searchers to analyze all sections of the trees in which a term to be exploded appears. First, and most obvious, because the terms indented under it are often different in different trees, and some of those terms may not be relevant to the search, and second, because if the exploded term is at the fourth indention anywhere in the tree, all the other terms with that same fourth indention category number will be retrieved if the category number is not specified on the DSFR.

We would like to express our appreciation to the searcher for so willingly sharing this experience with others in the MEDLARS system. Perhaps this gesture will prevent a colleague from undergoing the same disappointing experience.

STANDARDIZATION OF SEARCH STATISTICS
Constantine J. Gillespie

Various methods of recording statistics and assigning numbers to search requests are used by the stations in the MEDLARS network. Beginning with the September monthly report, all stations will use the procedure outlined below to insure that our reporting is uniform throughout the entire network.

Search requests are logged in and assigned a search number when they are received. If a single search request is really several questions, then it is logged in as two (or more) searches with a number assigned to each search, and with each search counted individually on weekly and monthly statistics. If a search must be reformulated <u>before</u> any output has been sent to the requester, then the search will retain its original search number but will not be counted again as a new search; it will be counted as released only at the time the output is finally sent to the requester.

If a search must be reformulated <u>after</u> the output has been sent to the requester then it will be given a new search number and counted again as if it were a new search.

Back-file search requests will be logged in, assigned a new search number, and counted as a new search. Supplemental searches to any previous search will also be given new search numbers and counted as new searches. Of course, the log should be properly annotated in these cases to indicate the number of the original searches.

Initial requests for full-file searches will be assigned two consecutive search numbers, one for the current file search and the other for the back-file search. These full-file search requests will be counted as two searches.

Any questions regarding this directive should be addressed to the Head, MEDLARS Management Section.

SEARCH PROCESSING CHANGES AT OHIO STATE UNIVERSITY
Constantine J. Gillespie

Effective August 1, 1969, MEDLARS search processing at the Ohio State University was changed in the following two ways:

1. If no numeric limitation on search retrieval is present in the formulation, the edit programs automatically add a limit of 500 in each subsearch (the previous automatic limitation was 301).

2. Each printed citation has the subsearch causing its retrieval printed as follows:

   a. On card output either -4, -5, or -6 following the search number depending on which subsearch retrieved the citation.

   b. On paper output the character 4, 5, or 6 appears four spaces to the right of the search number at the top of each page depending on which subsearch retrieved the first citation on that page.

INDEX SECTION DEVELOPMENTS FOR 1970
Stanley Jablonski

I. January 1970 Indexing

Indexing for the January 1970 issue of Index Medicus will begin early in October 1969 using the 1970 MeSH which is expected from the printer in mid-September. As is customary, the indexers will use the 1970 MeSH alphabetical array with provisional headings but will continue to use, with no perceptible inconvenience, the 1969 categorized lists until the 1970 printing appears in January.

Specific plans for the orientation of the indexing staff in indexing for 1970 will be announced in September.

II. MeSH

No major changes were made by MeSH for 1970. Of the 162 new main headings, 86 will be familiar as former provisionals. The remaining new headings come from practically all categories with the veterinary terms predominating.

Changes in category assignments for subheadings were made based upon Index Section suggestions.

Several subheading definition changes were made but most are minor and will affect indexing beneficially.

III. MEDLARS Indexing Manual

Manual sheets have been prepared to reflect the MeSH changes. Although the MeSH changes are relatively minor, again the examples and text of the manual had to be changed.

Most manual sheets you will receive will concern changes in the categorization of subheadings and changes in the wording of MeSH subheading definitions. A few pages were redone to correct a serious typographical error (a serious error is one affecting a MeSH term, such as the change from the incorrect OBSTETRIC NURSING to OBSTETRICAL NURSING).

There are several manual changes in addition which are of greater importance.

1. Journal Priorities: The designations DEPTH JOURNAL and NON-DEPTH JOURNAL have been eliminated together with the concept. Official notice of this was published in the MEDLARS/Network Technical Bulletin, Number 3, July 1969, page 4. The Indexing Manual 3.3 and elsewhere has been rewritten to show this change.

Although neither the manual nor statements issued by the Index Section will refer to Depth and Non-Depth Journals in the future, we shall continue to use the word "depth" in reference to the degree of indexing for, indeed, the word is clear and the practice of depth-indexing a desideratum.

2. Technics indexed as IM: Since the inception of MEDLARS, and even before that, it has been indexing policy not to print in Index Medicus a study or determinative technic except under restricted conditions even though the technic was mentioned in the title (1963-1969 Indexing Manual 19.2).

Effective with 1970 indexing a technic may be made IM provided the technic is the point of the article and provided it appears in the title. This is officially stated in 4.2.2.6.1 and 19.2. The change will make very little difference in the bulk of Index Medicus because most headings for technics are indexed routinely as NIM with the search operation in mind. Although a few technics will now become IM, the present change will better serve the reading public.

3. Translations: In the interests of clarity and brevity, the translation policy shows this minor change: while previously all meaningless introductory expressions in foreign titles (such as "A propos de") were faithfully retained in our translations, beginning with 1970 the meaningless non-substantive words and phrases at the beginning of a title only may be omitted.

The practice will be applied with discretion. In the face of possible doubt or possible misinterpretation or resultant change of sense, our indexers will not omit the phrase from the translation.

The 47 pages of manual sheets will be distributed in time for indexing under the 1970 MeSH.

IV. Technical Questions and Suggestions

The technical notes about indexing are usually generated by questions from indexers from all installations and by suggestions from searchers. We should like to encourage you to continue your interest.

V. Integrated Authority File

The last segments (O through Z) of the Integrated Authority File have been completed and sent to the printer. It will be distributed upon return.

A supplement is in preparation. It contains entries (A through Z) for items prepared after the publication of the base IAF. Complete supplements (i.e., A through Z) will appear periodically and each will completely replace its predecessor.

RECURRING BIBLIOGRAPHIES

The first issue of what may become an annual issue of the Recurring Bibliography of Education in the Allied Health Professions was published by the School of Allied Medical Professions in cooperation with NLM and the Ohio MEDLARS Center.

The Recurring Bibliography of Hypertension, Vol. 1, No. 1, May-June 1969, has been recently published by the American Heart Association, Inc., 44 East 23rd Street, N.Y., N.Y. 10010, in cooperation with NLM. This bibliography will be published bi-monthly.

INDEX SECTION CHECK LIST

1. Technical Notes for August 1969.

2. **Cell Lines**; MEDLARS Indexing Instructions.

Distribution of the above items will be completed by the first week of September.

ONE MILLION CITATIONS

The August 1969 issue of Index Medicus contains the one millionth citation input to MEDLARS. The citation number is 4,066,510.

Because of the "Special List" nursing and dental articles, which are not cited in Index Medicus, the millionth Index Medicus citation input since the inception of MEDLARS will not be published until the October 1969 issue.

We welcome comments
and suggestions.

Miss Nowak

MEDLARS / NETWORK
technical bulletin

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REPORT ON THE MEDLARS II PROJECT
Ralph Simmons

The National Library of Medicine initiated MEDLARS in January 1964, following three
years of detailed planning and system development. The principal objectives of this
system, as stated by Library management in 1961, were to: 1) improve the quality
and broaden the scope of Index Medicus; ?) reduce the time required for its prepara-
tion; 3) make possible the production of similar publications; 4) provide for the
inclusion of citations derived from other sources, as well as journal articles;
5) improve retrospective search service; 6) increase the depth of indexing; 7) increase
the volume of articles processed; 8) reduce the need for duplicative operations at
other libraries; and 9) provide statistics for management of the system. This was an
ambitious program but has been successful in most of the more important objects. A
comprehensive description of the system is presented in the publication MEDLARS 1963-
1967 by Charles J. Austin (U.S. Dept. of Health, Education,and Welfare, Public Health
Service, Bethesda, Maryland, 1968).

Workloads and maintenance requirements have long exceeded the design characteristics
of MEDLARS I. Serious limitations of the first generation system include the insuf-
ficient processing and memory capability of the present computer equipment and the
degree of human effort required in developing, maintaining, and using the controlled
vocabulary. The present system is capable of sophisticated manipulation of data once
indexed and will retrieve citations as requested by searchers. The processing and
memory capacity can be expanded through additional equipment, but the professionals
involved in the system must be aided if they are to be able to keep up with the expan-
sion and increasing complexity and sophistication of the state of the art. Therefore,
the Library determined to develop a replacement system, MEDLARS II, which would take
advantage of the more recent advances in computer technology as well as the latest
developments in information science, in order to provide increased capability to the
Library's programs.

Implementation of plans to acquire a new computer and a greatly augmented MEDLARS
system began in FY 1966. With the aid of a contractor, the requirements for the next
generation of MEDLARS were defined. On August 4, 1967, qualified firms received the
National Library of Medicine's Request for Proposal for a new system to meet future
data processing and information system requirements. These requirements include:
an increase in the level of MEDLARS bibliographic services provided, including demand
searches and recurring bibliographies; an automated acquisitions and cataloging system;
an on-line augmented MeSH vocabulary to aid indexers, searchers, and catalogers; and
additional chemical search capabilities (while at the same time maintaining present
computer support to MEDLARS stations). Also, the new equipment must be capable of
expansion to accommodate computer processing required by: 1) a graphic image storage
and retrieval system (closely linked to the MEDLARS search capability); 2) a toxi-
cology information exchange; and 3) an intramural research and development program in
information retrieval and scientific documentation.

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The Library conducted a detailed evaluation of each of the bids received and on 'une 11, 1968, a contract was awarded to the Computer Sciences Corporation (CSC) for the design, development, and implementation of MEDLARS II. Also, the Library elected to obtain the equipment configuration proposed by CSC, namely, the IBM 360/50.

The contractor, CSC, began the groundwork for the system design with an analysis of programming languages, software developments, and functional requirements. NLM personnel were required to assist CSC in their understanding of NLM's requirements by evaluating and responding to documentation produced by the contractor. This documentation included preliminary design work in the software and applications areas of MEDLARS II and functional requirements pertaining to various data bases. CSC also prepared a draft purchase order, which was utilized to order the IBM computer equipment. Much of the contractor's effort during the early months has been directed toward the development of the software design and implementation for the system. Significant progress has been made in the system executive, the data base manager, and other specialized software elements.

Due to the importance of the MEDLARS II project, the Chairman of the Board of Regents of the Library requested the R&D Subcommittee of that Board to review the status of the project. It was requested that this review cover the project efforts of both the Library and the contractor, CSC. The review meeting, held in San Francisco April 18, 1969, was attended by representatives of CSC, NLM, and the Board of Regents.

In the interim, a decision to reorganize the management of MEDLARS II was made by the Director, NLM, for the purpose of concentrating resources on the project. In 'larch 1969, I was assigned the responsibility for the project and as Project Manager ⊥ report directly to the Director, NLM. A small staff was assigned to me exclusively for the project. This staff has the full responsibility for the development and implementation of MEDLARS II. In addition, I am able to draw on the personnel resources of the Library on an "as required" basis. There are two advisory bodies for the project, i.e., the User Review Group and the Research and Development Subcommittee of the NLM Board of Regents. The former is concerned primarily with the adequacy of the system to meet the functional requirements and the latter is to provide policy guidance and advice to the Director as requested. The Office of Computer and Engineering Services (OCES) provides assistance to the project through its organizational structure. OCES is responsible for the installation, maintenance, and operation of all equipment required for the project.

As a result of a comprehensive evaluation of the project and the Board of Regents' review, the contractor was requested to reorient his staff and to modify his approach to a total systems design from a data base frame of reference to that of association to library functional capabilities. CSC has responded to this request and is working on the development of the system under a revised contract negotiated and signed on June 2, 1969.

The design of MEDLARS II is being developed in two phases, namely the INITIAL and EXTENDED modes. INITIAL processing is characterized by "batch" computer operation and can be described as having the same capabilities as MEDLARS I but with the addition of an augmented MeSH vocabulary, new equipment, and selected supporting products.

The EXTENDED system will provide the user with on-line access to the computer. The final MEDLARS II will provide for major functional activities to be conducted through the use of remote (located internal and external to NLM) terminal devices. These activities include acquisition and ordering, cataloging, interlibrary loan activities and physical location data, vocabulary browsing, search output, and total bibliographic control, as well as extended capabilities for management information.

The INITIAL phase of MEDLARS II will utilize the IBM system 360/50 and will operate in the multivariable tasking (MVT) of the Operating System. The equipment configuration includes a central processing unit, I core memory module of 512,000 bytes, large core storage (LCS) of 1,000,000 bytes, four 2314 direct-access storage devices (DASD), four 9-track tape drives, two 7-track tape drives, two printers, a card reader and card punch. The hardware configuration for the EXTENDED phase will be designated as a result of the full system design effort.

The INITIAL system will be operational by May 31, 1970, and the EXTENDED system by June 30, 1971. There are many milestones to be met before then and we plan to report them in the Technical Bulletin.

DISCONTINUATION OF DESIGNATION OF JOURNALS AS "DEPTH" OR "NON-DEPTH"
Clifford A. Bachrach, M.D.

The terms depth-rush, depth, and non-depth have been in use for some time to characterize the journal titles indexed in MEDLARS. The terms have indicated both the manner in which the journals are to be indexed, and their priority status. At one time, an indexer was enjoined to assign no more than three headings to an article in a non-depth journal. Over a year ago, this instruction was rescinded and indexers were told to assign to each article in a non-depth journal as many headings as required to index the basic concepts contained (but no secondary concepts).

We are now removing the label "depth" and "non-depth" from all journals. For purposes of managing work flow, journals will be designated as first, second, and third priority instead of depth-rush, depth and non-depth. All labels, stamps, forms, and instructions will be made to conform to this change.

Some journal articles require more headings because they are long and contain substantive information about a number of aspects of the subject material. Other articles require fewer headings because of their brevity or superficiality. The indexer is expected to give each article the number of headings that he feels are required for its proper indexing, regardless of the characteristics of the other articles in the same journal. It's to be expected that because of the characteristics of the literature, articles in many of the third priority journals will have a lower average number of headings assigned. However, in deciding how to index a particular article, the indexer should consider only the characteristics of the article itself, not the priority status of the journal. Indexing instructions will be amended to reflect this philosophy.

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EUROPEAN SEARCHERS WORKSHOP
A.G. Myatt

_he first European Searchers Workshop was held at the National Lending Library for
Science and Technology, Boston Spa, England, between 12th and 14th May. The follow-
ing delegates attended:

GREAT BRITAIN
Dr. A.J. Harley	- National Lending Library, Boston Spa
Mr. A.G. Myatt	" " " " "
Mr. D.R. Millson	" " " " "
Dr. B.C. Crosse	" " " " "
Mr. C. Norris	" " " " "
Mrs. M. Spragg	" " " " "
Miss D.A. Foston	" " " " "
Mrs. L. van Aernsbergen	- Royal Society of Medicine, London
Miss P.M. Eagles	- Medical Library, The University, Manchester
Dr. J. Pusey	- Office for Scientific and Technical Information, London
Dr. E. Whittle	- The University, Edinburgh
Miss M. King	- The University, Newcastle Upon Tyne

FRANCE
Mme. R. Gerday	- I.N.S.E.R.M., Service de Documentation, Paris

GERMANY
Dr. R. Polacsek	- Universitätsbibliothek, Ulm
Miss Ebro	" "
Miss E. Velten-Schuberth)	- Deutsche Institut fur Medizinische
Dr. Sybille Foerster)	Dokumentation und Information

HOLLAND
Mr. O. Cornelissen	- Excerpta Medica Foundation, Amsterdam
Mr. E. de Graaff	- Universiteitsbibliotheek, Nijmegen
Dr. A. Mathijsen	- University Library, Utrecht

NORWAY
Mr. D. Meen	- Medisinsk Bibliotek, Oslo

SWEDEN
Dr. C. Olivecrona	- Biomedical Documentation Center, Karolinska Institutet, Stockholm
Mr. H.R. Irgens	- Universitetsbibliotek, Goteborg University

SWITZERLAND
Mlle. Oudot	- World Health Organisation, Geneva
Mrs. Rhee	" " " "

U.S.A.
Miss R. Bruning	- National Library of Medicine, Bethesda
Dr. J. Leiter	" " " " "

The main items on the agenda were:
1. Summaries of developments at each centre
2. Outline of plans for the future, particularly MEDLARS II, and a description of
   proposed U.K. "on-line" experiments

3. Discussion of problems concerned with keeping up to date with the latest information on the use of indexing and searching terms and techniques
4. Descriptions of current awareness use of MEDLARS in centres where this had taken place or was planned, and in particular problems connected with the operation of such services and ways in which profiles might be initiated and amended
5. Accounts of courses held and examination of N.L.M. teaching aid slides
6. Examination of Evaluation and Quality Control techniques and results

The workshop was particularly fortunate because Dr. Leiter was able to attend for one day. He was able to bring everyone up to date on latest developments, particularly concerning MEDLARS II, and answer complex questions on a number of technical points.

Interesting accounts were also given of the Selective Dissemination of Information (S.D.I.) use of MEDLARS tapes at both the U.K. and Swedish centres. Dr. Olivecrona talked about the very well-developed Swedish S.D.I. Service. The U.K. S.D.I. Service, on the other hand, is at present in a very experimental state and until evaluation studies are completed, possibly by the end of 1969, it will not be known whether this activity is to continue.

Dr. Harley described the proposed U.K. on-line MEDLARS experiments. By the end of this year it should be possible to formulate searches on-line with direct access to the MEDLARS dictionary tape. By the end of 1970 it is hoped that a portion of the C.C.F. file will be in random access storage and that samples of references will be available to the user in response to the formulation. In the later stages of the project it is suggested that the whole file might be available for on-line searching.

At the end of this brief workshop, everyone thought that such meetings were of considerable value. Renewed cooperation and liaison on this scale would seem to be a most valuable contribution to the operation of the network as a whole, particularly where almost universal financial problems continually prevent European centres from sending their staffs to Bethesda as frequently as they would like.

MEDLARS USER ORIENTATION PROGRAM
Raquel Halegua, D.D.S.

The MEDLARS User Orientation Program, which the Library began to present in 1968,
has now been formalized as a prototype course and is being disseminated throughout
the regions. The schedule that follows was developed early in the spring, with the
idea of establishing capabilities both at the National Library of Medicine and
MEDLARS stations.

1969

July 8	- University of California, Los Angeles	- Caldwell
10	- University of Washington	- Caldwell
22	- University of Colorado	- Caldwell
29	- Houston, Texas	- Kelner (2d presentation)
31	- University of Alabama	- Kelner (2d presentation)
31	- John Crerar Library, Chicago	- Halegua and Caldwell
Aug. 1	- University of Chicago, Graduate Library School	- Halegua and Caldwell
11	- Marine Biology Laboratory, Woods Hole, Massachusetts	- Halegua
Sept.3	- University of Colorado	- Halegua (2d presentation)
9	- UCLA	- Halegua (2d presentation)
9	- Ohio State University	- Kelner
11	- University of Washington	- Halegua (2d presentation)
11	- Wayne State University, Detroit	- Kelner and analysts from Michigan and Ohio
25	- College of Physicians, Philadelphia	
25	- George Washington University Medical School, Washington	
26	- New York Academy of Medicine	
Nov.18	- Medical Specialists Corps (Association of Military Surgeons, Washington)	
20	- Baltimore Hospital Librarians	

(In the last three months, the National Library of Medicine has given a series of
Orientations to groups such as the American Gastroenterology Association; the Bio-
medical Communications Consortium, and local Federal Medical Librarians and library
users.)

After one or more presentations, when each MEDLARS station has become fully
acquainted with the program, with assistance from the National Library of Medicine,
the station will be expected to bear the responsibility of systematically orienting
user groups in its region. Each station has been asked to develop a plan for this
purpose. By this fall, we should be ready to discuss these long-range plans with
representatives of the stations. The slides, on indefinite loan to the stations,
will be updated periodically. At the time of each orientation, each station should
have the following items:

    I. For use by the participants during the workshop
        a. Published Medical Subject Headings
        b. Tree structures
        c. Subheadings arranged by categories

II. For distribution to each participant
        a. <u>Guide to MEDLARS Services</u>
        b. Indexing Data Forms
        c. DSFRs
        d. Request Forms
        e. Appraisal Forms
        f. Materials for practical exercise (to be distributed at
                                              appropriate time)
            1. article to be indexed
            2. "accepted" indexing
            3. search question
            4. "accepted" search formulation
            5. 2 pages of search printout

Most participants in full-day orientation programs have been very enthusiastic
about them and felt their time was profitably spent. Since the approach to
potential audiences seems to be a problem at some stations, the following sample
invitations are included to indicate how this has been handled in the past.
Also included is a brief description of the program for your use, either as part
of your letter of invitation or as a companion to your personal invitation to
department heads of medical schools or chiefs of staff at hospitals.

<u>Sample 1</u>   To Students and Faculty

If someone gave you the chance to be introduced to MEDLARS, would you:
   1) get a tetanus booster as a precautionary measure?
   2) be sure to read his latest article so you would
      know all about his latest research?
   3) ask for an extra ticket for your wife so she could go with you?

If you have never heard of MEDLARS, then any one of these answers might
seem reasonable. If you are acquainted with MEDLARS, then you know that
all of the answers are absurd. For MEDLARS is not a disease, not a person,
and not a place.

It <u>is</u> a bibliographic service, available through the MEDLARS Center in the
Medical Center Library, whereby a particular subject is searched via
computer and citations on that subject are printed out for you on 3x5 cards
or in list form on paper.

That sounds like a relatively simple operation, doesn't it? Just push a
button, watch the computer tapes spin around for a few seconds, and then
pick up your printout. In actuality, the system is not that simple.

And in order to give you a chance to learn more about
MEDLARS, its capabilities and limitations, its advantages
and shortcomings, and the philosophy behind the system
itself, the Alabama MEDLARS Center is offering a one-day
orientation workshop to acquaint you with the particulars.

The workshop is being conducted under the auspices of the National Library
of Medicine--the institution which first implemented the system and now
sponsors the service throughout the world.

Schedules and other workshop information are as follows:

             Date: Thursday, June 26
             Time: 9:00 a.m. - 4:00 p.m.
  Who May Attend: All persons in the health sciences--
                    both students and faculty
            Place: Reynolds Library Conference Room
             Cost: No charge

Because of the workshop approach, we must limit the group to 15 people.
The class will be filled on a first-come, first-served basis, so make your
reservations immediately.

If you have never had the chance to use MEDLARS, now is your opportunity
to learn what it is all about.

If you have already heard of MEDLARS but 1) are not sure whether such
a service would be useful to you, or 2) would like to have more information
about it, or 3) would like to know whether what you have heard is true,
then this is the time and place to get the answers.

    Call the Alabama MEDLARS Center at 4354 for reservations
    or additional information.

Sample 2   NLM Invitation

The National Library of Medicine has developed a one-day MEDLARS User
Orientation Program designed to familiarize medical library users with
its Medical Literature Analysis and Retrieval System, and how it can be
used most effectively. The program is divided into five parts, illus-
trated with slides, and will be presented by trained MEDLARS analysts.

MEDLARS is a computer-assisted reference service. MEDLARS demand
bibliographies are tailored to meet the bibliographic needs of
individual requesters whose areas of interest are complex and multi-
faceted. A great deal of intellectual effort has to be put into the
system by the user in order to obtain satisfactory results in locating
the desired information.

We have arranged to present this one-day program for health scientists
associated with local Federal medical libraries and also local Federal
medical librarians, at the National Library of Medicine, 8600 Rockville
Pike, Bethesda, Maryland, on June 27, 1969, from 9:00 a.m. to 4:30 p.m.
in the Billings Auditorium.

We want to invite you to participate in this program and ask that you extend this invitation to two users of MEDLARS. This way the composition of our audience (60-75% users, 25-40% librarians) will make the user-system interaction more meaningful, and the results, we hope, more successful. The session will be informal, with audience participation in workshop fashion. Because of the nature of the presentation, there is a practical limit on the number of attendees. We can accept only fifteen, on a first-come basis.

Please confirm this invitation at your earliest convenience by telephoning Dr. Raquel Halegua on Code 14, extension 63498. We look forward to having you with us.

<u>Sample 3</u>   Computerized Literature Searching

For some years there has been interest in the possibility of computerized literature retrieval and bibliographic service in Woods Hole. So far as the Library Committee is aware there is not yet available an on-line, short turnaround, remote access service of sufficient breadth to meet our special needs. However, the MEDLARS system of the National Library of Medicine is a "going" facility with several years of experience, and deep coverage in a number of MBL and WHOI fields of interest, which could serve as a model for preliminary test and evaluation. Accordingly, the Committee has arranged to invite the NLM to conduct a demonstration of MEDLARS at MBL during the week of August 11. There will be two mornings of orientation, which will deal with subjects such as input-output flow, indexing subject headings and vocabulary, logic and strategy of retrieval, comparison of MEDLARS with other machine bibliographic services, and the optimization and limitations of the system. There will be discussion and practical exercises in indexing and in search-formulation, and, probably in an additional evening session, each participant will be assisted in writing a detailed search in his own field of specialization which will be processed by MEDLARS and returned to him by mail.

In order to get the schedule arranged as soon as possible to suit the maximum number of people we ask that anyone interested in participating sign below, with telephone number or other tracer. Since only 15-20 persons can be accommodated in the program, applications will be accepted primarily on a first-come, first-served basis. Conceivably a second group could be formed if the first is oversubscribed.

                                           John Buck, for the
                                           Library Committee

1._____   2._____

3._____   4._____

5._____   6._____

7._____   8._____

9._____   10._____

                                                   (etc.)

Description of MEDLARS User Orientation Program

MEDLARS (MEDICAL LITERATURE ANALYSIS AND RETRIEVAL SYSTEM), a computer-based information retrieval system in operation at the National Library of Medicine and MEDLARS stations through the United States and abroad, is designed to provide rapid access to the world biomedical literature.

To use this information retrieval system effectively, it is important to understand how it performs. For this purpose, the Library has developed a full-day presentation in five parts, illustrated with 150 35mm. slides. The session, conducted by trained MEDLARS analysts, includes question-and-answer periods and practical exercises in workshop fashion.

The five parts of the program cover the following:

1) MEDLARS OVERVIEW. A general description of the system, its products and services and input-output flow.

2) MEDLARS INDEXING. A detailed description of how journal articles are indexed, indexing policies, and the characteristics of MEDICAL SUBJECT HEADINGS, the controlled vocabulary of MEDLARS. Following the presentation each participant will be given a journal article to index. The instructor then presents a "standard" indexing, which is discussed by the group.

3) MEDLARS SEARCHING. A detailed description of the retrieval function. Characteristics of requests made to the system, conceptual analysis of requests and their translation into search strategies for computer retrieval. Following the presentation, each participant will formulate a search, reducing a request to a simple conceptual search strategy. A "standard" strategy will be presented for group discussion. A second exercise is possible at this point. Each participant will write a detailed request in his field of interest, and will formulate a search strategy. This search will be processed by MEDLARS and returned to the requester in two weeks.

4) MEDLARS IN CONTEXT. MEDLARS in relation to other bibliographic services in biomedicine. The types of requests that are suitable for MEDLARS, and the types that are not, with reference to other sources of biomedical information.

5) MEDLARS CAPABILITIES AND LIMITATIONS. What this system or any other large mechanized information retrieval system should reasonably be expected to do, and what it cannot do. Factors affecting the success or failure of a search, and how requesters can make optimum use of the system.

For further information, questions, comments, or suggestions, call or write Dr. R. Halegua, Office of Associate Director for Library Operations (301) 496-3497.

LIST OF MEDLARS ANALYST TOOLS
Grace T. Jenkins

All stations should have the following tools available for the use of their MEDLARS analysts:

MeSH Tools

1. Medical Subject Headings (Part 2 of January Index Medicus; includes the categorized list)
2. Medical Subject Headings (index copy) -- includes provisionals and geographic headings (issued 4 times per year)
3. Medical Subject Headings (search copy) -- includes provisionals, geographic headings, tag override of 1, with dates (issued annually)
4. New Medical Subject Headings (Visible Index) -- includes new main headings, provisional headings, dates of entry
5. List of definitions of new main headings
6. List of definitions of provisional headings
7. Supplements to main headings, provisional headings, and tree structures
8. Tree structures
9. Tag override of 1 list
10. Table of subheading chronology
11. List of provisional headings according to subcategories
12. Subheadings arranged by category

Indexing Tools

1. MEDLARS Indexing Manual by Thelma Charen (1969 is the latest edition)
2. Integrated Authority File
3. Integrated Authority File, Chemical Section
4. Technical Notes -

1967	1968	1968 (cont'd)	1969
October 14	February 1	July	February
November 3	March 10	September	April
December 1	April 1	November	May
December 20	May 1	December	July

5. Specific Index Section publications, such as:
   a. Genetics
   b. MEDLARS Classification of Steroids by Elizabeth J. Van Lenten, Ph.D.
   c. Parasitology by Thelma Charen
   d. Pharmacy and Pharmacology by Thelma Charen
   e. Respiration Physiology Indexing Problems by David Millson

Searching Tools

1. Master MeSH
2. Statistical Reports
3. Cumulated Vol Index

<u>Searching Tools</u> (continued)
4. <u>List of Journals Indexed</u>
5. Supply of search-related forms, including: request form, release letter, DSFR, appraisal form, search explanation, rejection letter, etc. (Some stations use their own forms and not those supplied by MEDLARS Management Section.)
6. "Tub-file" punch cards (if used by station)
7. <u>Guide to MEDLARS Services</u> (revised March 1969)

<u>Other NLM publications needed by MEDLARS stations</u>

1. <u>Cumulated Index Medicus</u>
2. <u>Index Medicus</u>
3. MEDLARS User Orientation Program script and slides. (Each center should have a supply of <u>Medical Subject Headings</u> and tree structures available to be used in this program.)
4. Recurring Bibliographies (see appendix B of the <u>Guide to MEDLARS Services</u> for list)
5. <u>MEDLARS Network Technical Bulletin</u>

Questions regarding the above tools should be sent to Mr. Constantine J. Gillespie, MEDLARS Management Section.

PERSONNEL

Mr. John Timour, former NLM Training Officer, has joined the Connecticut Regional Medical Program in New Haven, Connecticut.

Mrs. Mary Virginia Clark has been appointed Acting Head of the Reference Section at the National Library of Medicine. Mrs. Clark has been with NLM since 1963 when she was appointed as an Intern.

INDEX SECTION CHECK LIST

1. <u>Pharmacy and Pharmacology</u>
2. Technical Notes for July 1969. (There were no Technical Notes for June 1969.)

Distribution of the above items will be completed during the first week of August.

BIBLIOGRAPHIC SERVICES DIVISION
Annual Report--Fiscal Year 1969
Clifford A. Bachrach, M. D.

INDEXING: During FY 1969 approximately 210,000 articles were indexed for Index Medicus, an increase of nine percent over the previous record production in FY 1968. The indexing backlog which was equal to nearly five-month indexing capacity at the beginning of the year, was reduced to slightly over three-month capacity. By the end of the year, except for the German and Russian literature, top quality journals were being indexed on a current basis. During the year, NLM began to receive indexing of the French medical literature from INSERM in Paris. This, and the continuance of arrangements with other outside organizations, promises continued enhancement of indexing capacity during the coming year.

SEARCHING: 11,500 MEDLARS demand searches were carried out for domestic users, 50% more than during FY 1968. A new MEDLARS center commenced operation at the University of Washington in Seattle. The number of demand searches formulated by NLM staff rose from 2,500 to 3,000, but because of an even greater increase in the capacity of other centers, the proportion of all domestic searches formulated at NLM was reduced from over 30 percent to 26 percent. The processing of this increased workload was made possible by the continued supplementation of NLM computer operations by facilities at Ohio State University, the Universities of Colorado and Alabama, and at the Texas Medical Center.

TRAINING: The activation of additional regional medical libraries and the organization of additional overseas MEDLARS centers created a need for continued expansion of our training efforts. The MEDLARS Analyst Training Program was revised and broadened. Materials were also developed for one or two-day orientation sessions for physicians, scientists, librarians and other MEDLARS users. To perfect the presentations and to train staff in the conduct of the sessions, these programs were presented to a series of user groups. Users who participated in the sessions reacted enthusiastically, and indicated that the sessions gave them background for more intelligent and effective interaction with MEDLARS.

PUBLICATIONS: The Cumulated Index Medicus (CIM) for 1968 had 9,000 pages containing 15 percent more citations than in 1967, and was published in five volumes. Beginning with the January 1969 issue, a citation number is being published with each citation in the name section of the monthly Index Medicus. This innovation is expected to facilitate interlibrary loans and to become especially important with the advent of a mechanized graphic image retrieval system.

RECURRING BIBLIOGRAPHIES: Five new recurring bibliographies began publication during the year. The Index of Investigative Dermatopathology and Dermatology is produced for publication by the Universities Associated for Research and Education in Pathology, Inc., the Bibliography of Hypertension, by the American Heart Association, the Cranio-Facial - Cleft Palate Bibliography, by the American Cleft Palate Association, the Current Bibliography of Epidemiology by the American Public Health Association, and the Neurosurgical Biblio-Index by the Journal of Neurosurgery.

MEDICAL SUBJECT HEADINGS: Because of the constraints of MEDLARS I, the number
of new main headings introduced during the year was held to 87, bringing the
total number of main headings to 7,436. However, extensive thought and effort
were devoted to investigating the various alternative approaches that MEDLARS
II may offer for handling vocabulary problems. This work included continued
efforts to reconcile microthesauri and the vocabularies used by specialized
information centers with Medical Subject Headings.

PHARMACY AND PHARMACOLOGY: MEDLARS INDEXING INSTRUCTIONS
Thelma Charen

Index Section has published a new brochure entitled Pharmacy and Pharmacology:
MEDLARS Indexing Instructions. Its purpose is to gather in a single place
policy on the indexing of pharmacy and pharmacology literature. It has collected
instructions from the tools and references available to indexers and searchers
and presented for use in a single pamphlet the body of instructions helpful to
those indexing or retrieving articles in the fields of pharmacy and pharmacology.

Pharmacy and Pharmacology contains special categorizations of Medical Subject
Headings terms pertaining to these fields. Fourteen so-called "hedges" in these
two areas have been made available for both indexers and searchers. The pamphlet
collects Indexing Manual instructions on check tags which specifically apply to
the indexing of drugs and chemicals as well as instructions on those subheadings
commonly used in this kind of literature. From the Integrated Authority File it
provides instructions for terms commonly met in the pharmacy literature together
with all MeSH cross-references in this area. An appendix gives, from the List of
Journals Indexed in INDEX MEDICUS, the titles of pharmacy, pharmacology and toxi-
cology journals, the journal abbreviation and the computer alphanumeric code for
the abbreviations.

As designed, the pamphlet represents the total concern of the Index Section with
drugs and pharmacy. The lists of pharmacy and pharmacology references and text-
books should be helpful to reference librarians; the categorizations and hedges,
to MEDLARS analysts; the indexing instructions to indexers, especially; the LJI
titles to both MEDLARS searchers and reference librarians.

Although all of the information contained in this pamphlet is available in five or
six separate tools, the present pamphlet is a convenient working tool for those
indexing pharmacy and pharmacology exclusively in the course of a day at NLM or
off-campus installations.

REMINDER TO ALL MEDLARS ANALYSTS

The Special Evaluation Project in the field of ophthalmology (see Technical Bulle-
tin No. 1, pp. 3-4) is still in progress but no contributions have been received
from any MEDLARS center. All MEDLARS analysts are urged to re-read that notice
and to send copies of all applicable search requests (with a copy of the formula-
tion and printout) to: Mr. Constantine J. Gillespie, MEDLARS Management Section,
NLM.

REFERRAL OF DEMAND SEARCHES TO PMA

Listed below are the current member firms of the Pharmaceutical Manufacturers Association (PMA). All MEDLARS stations are requested to refer any demand search requests that they receive from any of these organizations to PMA for formulation. These search requests should be sent directly to:

> Mr. Charles Cleveland
> Pharmaceutical Manufacturers Association
> 1155 15th Street, N.W.
> Washington, D.C. 20005

Abbott Laboratories, North Chicago, Ill.
Alcon Laboratories, Inc., Fort Worth, Tex.
Allergan Pharmaceuticals, Inc., Santa Ana, Calif.
Ames Company, Inc., Elkhart, Ind.
Armour Pharmaceutical Company, Chicago, Ill.
Arnar-Stone Laboratories, Inc., Mt. Prospect, Ill.
B.F. Ascher & Company, Inc., Kansas City, Mo.
Astra Pharmaceutical Products, Inc., Worcester, Mass.
Ayerst Laboratories, New York, N.Y.

J.T. Baker Chemical Co., Phillipsburg, N.J.
Barnes-Hind Pharmaceuticals, Inc., Sunnyvale, Calif.
Barry Laboratories, Pompano Beach, Fla.
Baxter Laboratories, Morton Grove, Ill.
Becton, Dickinson and Company, East Rutherford, N.J.
Bioquest, BBL Division, Cockeysville, Md.
The Blue Line Chemical Company, St. Louis, Mo.
Bowman, Inc., Canton, Ohio
Brayten Pharmaceutical Company, Chattanooga, Tenn.
Breon Laboratories, Inc., New York, N.Y.
Bristol Laboratories, Syracuse, N.Y.
Burroughs Wellcome & Co. (USA) Inc., Tuckahoe, N.Y.

Carbisulphoil Company, Dallas, Tex.
G.W. Carnrick Co., Summit, N.J.
The Central Pharmacal Company, Seymour, Ind.
Chatham Pharmaceuticals, Inc., Newark, N.J.
Ciba Pharmaceutical Company, Summit, N.J.
Cole Pharmacal Company, Inc., St. Louis, Mo.
Commercial Solvents Corporation, New York, N.Y.
Conal Pharmaceuticals, Inc., Chicago, Ill.
Cutter Laboratories, Berkeley, Calif.

Davies, Rose-Hoyt, Needham, Mass.
Davis & Geck, Danbury, Conn.
The De Pree Company, Holland, Mich.
Difco Laboratories, Detroit, Mich.

Distillation Products Industries, Rochester, N.Y.
Dome Chemicals, Inc., New York, N.Y.
Dorsey Laboratories, Lincoln, Nebr.
E.I. DuPont de Nemours & Co., Inc., Wilmington, Del.
S.F. Durst & Company, Inc., Philadelphia, Pa.

Endo Laboratories, Inc., Garden City, L.I., N.Y.
Ethicon, Inc., Somerville, N.J.

Ferndale Laboratories & Surgical, Inc., Ferndale, Mich.
Fine Chemicals Department, Pearl River, N.Y.
First Texas Pharmaceuticals, Inc., Dallas, Tex.
C.B. Fleet, Inc., Lynchburg, Va.
Flint Laboratories, Morton Grove, Ill.
E. Fougera & Company, Inc., Hicksville, L.I., N.Y.

Geigy Pharmaceuticals, Ardsley, N.Y.

Hoechst Pharmaceutical Company, Cincinnati, Ohio
Hoffmann-La Roche, Inc., Nutley, N.J.
Hollister-Stier Laboratories, Spokane, Wash.
Hyland Laboratories, Los Angeles, Calif.
Hynson, Westcott & Dunning, Inc., Baltimore, Md.

Ives Laboratories, Inc., New York, N.Y.

Johnson & Johnson, New Brunswick, N.J.

Kinney & Company, Inc., Columbus, Ind.
Knoll Pharmaceutical Company, Orange, N.J.
Kremers-Urban Co., Milwaukee, Wisc.

Lafayette Pharmacal, Inc., Lafayette, Ind.
Lakeside Laboratories, Inc., Milwaukee, Wisc.
Lederle Laboratories Division, Pearl River, N. Y.
Lemmon Pharmacal Company, Sellersville, Pa.
Eli Lilly and Company, Indianapolis, Ind.

Mallard, Inc., Detroit, Mich.
Mallinckrodt Chemical Works, St. Louis, Mo.
Marion Laboratories, Inc., Kansas City, Mo.
The S.E. Massengill Company, Bristol, Tenn.
McNeil Laboratories, Inc., Fort Washington, Pa.
Mead Johnson & Company, Evansville, Ind.
Merck & Co., Inc., Rahway, N.J.
Merck Chemical Division, Rahway, N.J.
Merck Sharp & Dohme, West Point, Pa.
The Wm. S. Merrell Company, Cincinnati, Ohio

The National Drug Company, Philadelphia, Pa.
Neisler Laboratories, Inc., New York, N.Y.
Nion Corporation, Los Angeles, Calif.
The Norwich Pharmacal Company, Norwich, N.Y.
P.J. Noyes Company, Lancaster, New Hampshire

Organon, Inc., West Orange, N.J.
Ortho Pharmaceutical Corporation, Raritan, N.J.

Parke, Davis & Company, Detroit, Mich.
S.B. Penick & Company, New York, N.Y.
Chas. Pfizer & Co., Inc., New York, N.Y.
Philips Roxane Laboratories, Columbus, Ohio
Pitman-Moore, Indianapolis, Ind.
Wm. P. Poythress & Co., Inc., Richmond, Va.
The Purdue Frederick Company, Yonkers, N.Y.

Reed & Carnrick, Kenilworth, N.J.
Rexall Drug Company, Los Angeles, Calif.
Riker Laboratories, Northridge, Calif.
A.H. Robins Company, Inc., Richmond, Va.
William H. Rorer, Inc., Fort Washington, Pa.
Rowell Laboratories, Baudette, Minn.
Rystan Company, Mount Vernon, N.Y.

Sandoz Pharmaceuticals, Hanover, N.J.
Savage Laboratories, Inc., Bellaire, Tex.
R.P. Scherer Corporation, Detroit, Mich
Schering Corporation, Bloomfield, N.J.
Schieffelin & Co., Apex, N.C.
G.D. Searle & Co., Chicago, Ill.
Sherman Laboratories, Detroit, Mich.
Smith Kline & French Laboratories, Philadelphia, Pa.
Smith, Miller & Patch, Inc., New York, N.Y.
E.R. Squibb & Sons, New York, N.Y.
Standard Pharmacal Corp., Elgin, Ill.
Strasenburgh Laboratories, Rochester, N.Y.
Strong Cobb Arner, Inc., Cleveland, Ohio
The Stuart Division, Atlas Chemical Industries, Inc.,
                          Pasadena, Calif.
Sutliff & Case Co., Inc., Peoria, Ill.
Syntex Laboratories, Palo Alto, Calif.

Tenneco Chemicals, Inc., New York, N.Y.
Tilden-Yates Laboratories, Inc., Worcester, Mass.

The Upjohn Company, Kalamazoo, Mich.
USV Pharmaceutical Corporation, New York, N.Y.

The Vale Chemical Company, Inc., Allentown, Pa.

Walker, Corp & Co., Inc., Syracuse, N.Y.
Wallace Laboratories, Cranbury, N.J.
Wallerstein Company, Morton Grove, Ill.
Wampole Laboratories, Stamford, Conn.
Warner-Chilcott Laboratories, Morris Plains, N.J.
Warren-Teed Pharmaceuticals, Inc., Columbus, Ohio
Westerfield Laboratories, Inc., Cincinnati, Ohio
Westwood Pharmaceuticals, Buffalo, N.Y.
White Laboratories, Kenilworth, N.J.
The Wilson Laboratories, Chicago, Ill.
Winthrop Laboratories, New York, N.Y.
Wyeth Laboratories, Philadelphia, Pa.

The Zemmer Company, Oakmont, Pa.

We welcome comments
and suggestions.

MEDLARS / NETWORK
technical bulletin

No. 2 June 1969

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Dr. Joseph Leiter
Associate Director
for Library Operations

Mrs. Ann R. Lindsay, Managing Editor

Mrs. Grace T. Jenkins, Technical Editor

UCLA PLANS ANALYST/USER STUDY

Dear MEDLARS Searchers:

Our contribution to the November 1969 MEDLARS workshop at the National Library of Medicine will be an attempt to correlate the users' response to their bibliographies (as recorded by comments on their appraisal form) with whether or not they were interviewed by a search analyst about their request. To obtain a moderately large sample to work with, we are hoping that all the stations will cooperate with us in this study.

Starting on Tuesday, July 1, 1969, all searches received at a station should be marked as follows:

N - where no interview with the searcher has taken place;

I - where the requester has been interviewed;

BFS - for searches run over the 1964-66 files;

SUP - for supplements to searches already processed.

At UCLA, we find it easiest to do the initial marking on the request form when the search is logged in and assigned a number. If, in the course of formulating the request, the requester is interviewed -- as when a mailed-in request is followed up by a telephone call -- then the N status of the search should be changed to I.

We are interested only in search analyst-requester interviews, not librarian-requester, etc. There will obviously be the odd ambiguity, such as whether or not a brief conversation should really count as an interview, but how these are marked we must leave to the discretion of the individual searcher, who should keep in mind the aim of our study. Please note that supplements and back-file searches are being treated separately; do not mark them BFS and I or N, just BFS (or SUP).

We feel that each station can decide where to record I, N, BFS, or SUP on the original request form. However, it is very important that the information should always be in the same place on the appraisal form -- that is, over the heavy black line above Section 1. (See marked example on following page.) The searcher could perhaps record the symbol when marking in Section 1 the number of citations being sent. The important thing is that N, I, BFS, or SUP be written in the correct place on the appraisal form before it is sent to the requester with his printout. Mrs. Grace T. Jenkins (Quality Control, BSD, NLM) will lift off this information when the appraisal form reaches her.

All appraisal forms relating to searches received between Tuesday, July 1st, and Tuesday, September 30th, should be marked. Please note that these dates refer to the date the request is received, not the date on which the appraisal is sent out. We are, in fact, interested in marked appraisal forms received by Quality Control through the month of October.

We hope that recording these statistics will not inconvenience you. We are looking forward to discussing our findings with you at the November workshop.

<div align="center">
Yours sincerely,

The California Searchers
</div>

<div align="center">
Fold on dashed line
</div>

- -

<div align="center">

MEDLARS SEARCH APPRAISAL

</div>

N IT IS IMPORTANT THAT WE RECEIVE AN INDICATION OF HOW WELL THIS SEARCH HAS SATISFIED YOUR REQUIRE-MENTS. This will indicate system effectiveness and allow us to correct any failures. This continuous evaluation will enable us to provide users with the best possible search results. We urge you to please answer the following questions and return the form to us. It is pre-franked and pre-addressed for your convenience.

1. Your search printout contains_____citations. Please indicate approximately how many of the articles cited are: directly relevant _____, peripherally relevant _____, and, not relevant _____, to your information needs.

2. Consider the articles that you judged not relevant. There are several possible reasons why an article may be "not relevant" (e.g., it relates to a topic outside the scope of your request or it deals with the required subject but from a viewpoint different from that requested). Please give specific details as to why certain articles retrieved by this search are not relevant to your information needs:

The following lists will be sent to all search analysts this month:

- Index to Supplemental Lists
- Supplemental List of Provisional Headings 1969 -- 2nd Quarter --
    pages S5 and S6
- Supplemental List of Provisional Headings 1969 -- Supplement to
    Tree Structure -- 2nd Quarter -- one page
- Corrected Definitions for old Provisional Headings -- one page

MeSH 1969 No. 4, which is being released this month, will not be sent to
searchers since the 1969 Search Copy of MeSH is not being supplanted by
MeSH #4. There are cross-reference additions and other changes in MeSH #4,
however, which must be added to the 1969 Search Copy of MeSH. The additions
and changes in cross-references for the searcher's copy are listed below:

Cross-references to be added to MeSH Search Copy, 1969:

    Antigenic Determinants see HAPTENS (D12)
    Articulators, Dental see under DENTAL EQUIPMENT (E5, E6)
    Astasia-Abasia see under CONVERSION REACTION (F1, F2)
    Denticaid see under MEDICAL ASSISTANCE (N3)
    Dinoflagellates see under MASTIGOPHORA (B1)
    Eating Behavior see FEEDING BEHAVIOR (F1)
    Glucosiduronates see GLUCURONATES (D11)
    Hand, Foot and Mouth Disease see under COXSACKIE VIRUS INFECTIONS (C1)
    Harderian Gland see under LACRIMAL APPARATUS (A9)
    Hemoglobin F see FETAL HEMOGLOBIN (D10)
    Intermittent Positive Pressure Breathing (IPPB) see under POSITIVE
      PRESSURE RESPIRATION (E2)
    Molecular Models see under MODELS, STRUCTURAL (L)
    Natal Teeth see under TOOTH, DECIDUOUS (A3)
    Occlusal Plane see under DENTAL OCCLUSION (E6, G1)
    Oxytocinase see under AMINOPEPTIDASES (D9)
    Phenylenediamines see under ANILINE COMPOUNDS (D2)
    Poisson Distribution see under PROBABILITY (H)
    Quinaldines see under QUINOLINES (D2)
    Rifampicin see under RIFOMYCIN (D3)
    Rifampin see under RIFOMYCIN (D3)
    Spectropolarimetry see under SPECTRUM ANALYSIS (H)
    Stimulation, Electric see ELECTRIC STIMULATION (E5)

    CARBON DIOXIDE (D1) see also related HYPERCAPNIA (C17)
    IRON (D1) see also related TRANSFERRIN (D10)

√ Change:

In the May issue of the Bulletin, you were instructed to delete Afferent Loop
Syndrome see under DUMPING SYNDROME (C4) and add Afferent Loop Syndrome see
under GASTROENTEROSTOMY (E4) -- adverse effects. This instruction should be
ignored and the cross-reference should remain Afferent Loop Syndrome see
under DUMPING SYNDROME (C4).

✓

MEDLARS SEARCH APPRAISAL FORM CHANGES

Starting in July 1969, MEDLARS searches will be conducted on that part of the computer files input since January 1967 (see <u>Bulletin</u>, May 1969). Therefore, the MEDLARS Analyst must be sure that the following changes have been made on the MEDLARS Search Appraisal form <u>before</u> it is sent to the requester:

Appraisal Form	Change
Item 4	"Of all the relevant articles that you know to have been published from January <u>1966</u> . . ." should be changed to: ". . . January <u>1967</u> . . ."
Item 4	"Please give citations for any relevant articles (published from January <u>1966</u> . . ." should be changed to: ". . . January <u>1967</u> . . ."
Item 7	"The present search was conducted on that part of the file input since January <u>1966</u>. If you should now require a search of the earlier file (1964 - <u>1965</u>) . . ." should be changed to: "The present search was conducted on that part of the file input since January <u>1967</u>. If you should now require a search of the earlier file (1964 - <u>1966</u>) . . ."

The MEDLARS Search Appraisal Form is presently being modified to include the above changes (and several other minor changes). We expect this modified form to be available -- and distributed to the MEDLARS stations -- in August 1969. A more extensive revision of the appraisal form is being planned, but it will probably not be completed until November 1969.

NEW MEDLARS TRAINEES

The latest series of MEDLARS training classes started on June 2, 1969, at the
National Library of Medicine. Below is a list of the new trainees:

Barbara Chrzanowska, M.D.   Medical Literature, Inc.
Miss Carolyn S. Green   The John Crerar Library, Chicago
Mr. Vincent Franco   BSD, Index Section
Vivian Little, Ph.D.   BSD, Index Section
Miss Alice O. Mackov   College of Physicians, Philadelphia
Miss Blanca Miyamoto   Parkinson Information Center
Mr. Lawrence C. Moore   Harvard MEDLARS Center
Mr. Harold L. Tarpley   BSD, Index Section
Miss Susan E. Woodford   Harvard MEDLARS Center

CHANGE IN CITATION NUMBERING OF JULY 1969 CCF

Effective with the input of citations for the July 1969 issue of Index Medicus, the Compressed Citation File for July 1969 begins with citation no. 0,000,002. The CCF is thus divided into two parts: (1) January 1964 through June 1969, numbered from citation no. 0,000,001 through citation no. 3,506,567; and (2) July 1969 forward, numbered from citation no. 0,000,002 forward. The initiation of a new number series beginning with 0,000,002 for July 1969 was necessary because the supply of available citation numbers was running out and would not have lasted until the end of the 1969 publication year. (3,777,777 octal is the highest permissible citation number which the citation record in MEDLARS I can carry.) July 1969 was the only month in which a new citation number series could begin because of the overlapping of months for bimonthly and quarterly publications; thus it was selected as the changeover month.

Since January 1969, the Author Section of Index Medicus has had the citation number printed with the citation. This practice will continue, but a programming change has been made to allow citation no. 0,000,002, no. 0,000,003, no. 0,000,004, etc., to be printed in the Author Section as citation no. 4,000,002, no. 4,000,003, no. 4,000,004, etc., respectively. The number in the high-order position is an implied number, however; it is not actually in the CCF record, since there is insufficient room in the record to carry it. This change provides continuity of citation numbers printed in the issues of Index Medicus. Requests for CCF printouts from the July 1969 and later CCF's should list the citation numbers exactly as they appear in Index Medicus, i.e., with the implied number in the high-order position, just as if the citation number actually contained that implied number.

The search files will be divided into two parts as of July 1, 1969: (1) January 1964 through December 1966; and, (2) January 1967 up to the present. Since the January 1967 CCF begins with citation no. 1,626,422, it will be many months before the new series of citation numbers beginning in July 1969 reaches that same citation number. Thus, there should be no possible duplication of the same citation number from the older numbered file and the newer numbered file within the same search output. Searchers should be aware, however, that citation numbers printed in search outputs will not have the implied high-order digit printed out; i.e., citation no. 4,006,342 in the Author Section of the July 1969 Index Medicus, if printed out in a search, will appear as citation no. 0,006,342.

If programmers at any center have questions regarding the programming for these changes, they should write directly to the Head, MEDLARS Management Section, for specific answers.

STATISTICS ON JANUARY-JUNE 1969 CCF

Total number of citations on Jan.-June 1969 CCF:	110,734
Number of English-language citations:	55,092
Number of foreign-language citations:	55,642
Percentage English-language citations:	49.8
Percentage foreign-language citations:	50.2
	100.0
IM headings used with 110,734 citations:	288,229
NIM headings used with 110,734 citations:	742,666
Total headings used with 110,734 citations:	1,030,895
Average number of IM headings per article:	2.6
Average number of NIM headings per article:	6.7
Average number of total headings per article:	9.3

INDEX SECTION CURRENT DEVELOPMENTS

Production

Indexing production for the month of May was 19,692 articles; this brings the total of articles thus far indexed for Index Medicus 1969 to over 130,000. In spite of the increased production, the backlog rose during the month. This was due to improved claim procedures; an effort to eliminate gaps and missing issues; and receipt of European shipments held up by the longshoremen's strike.

Throughput time for the more important English-language publications has been reduced. Journals such as Science, Nature, and Lancet are usually indexed within one week after receipt.

Backlogs

    English
        Depth   -------------------- Current
        Non-Depth --------------------- Current except for journals held
                                         for training purposes

    German
        Depth   -------------------- Current
        Non-Depth --------------------- Dec. 1968

    Romance
        Depth   -------------------- Current
        Non-Depth --------------------- Late 1967

    Russian
        Depth   -------------------- 1969
        Non-Depth --------------------- Late 1967

Revised Data Form

We began using the revised data form the second week of June (see Attachment No. 2). The main features are: new check tags, provision for English Abstract, provision for Entry Vocabulary, and a new method for suggesting provisional headings. (MEDLARS Indexing Manual Addenda No. 3, issued June 1969, describes in detail the new form.)

Search Training

Of 29 indexers and revisers, 11 have already undergone search training and 3 are attending the June class.

INDEX SECTION CHECK LIST

1. Technical Notes for May 1969

2. Memo to Indexers on DEPTH; NON-DEPTH; REVIEWS (1 May 1969)

3. MEDLARS Indexing Manual Addenda No. 3: Data Form (June 1969)

Distribution of the above will be completed during the first week of July.

NEW BIBLIOGRAPHIES

Two bibliographies that have been published recently by the National Institute
of Allergy and Infectious Diseases have contents based upon the high-speed
printer printout of MEDLARS Demand Searches. These are:

1. Bibliography on Human Organ Transplantation and Related Aspects,
   published by the Transplantation Immunology Branch in March 1969.
   This consists of 233 pages and includes MEDLARS input from January
   1966 through January 1969.

2. Interferon Bibliography, edited by Dr. Charles E. Buckler and Dr.
   Samuel Baron of the Laboratory of Viral Diseases. This includes a
   194-page subject section, without tracings, and a 38-page first-
   author section, with tracings, and a five-page secondary-author
   section. Includes MEDLARS input, January 1964 through October 1968.

These bibliographies will be available from the Clearing House for Federal
Scientific and Technical Information, 5285 Port Royal Road, Springfield,
Virginia, 22151.

NIH PERSONNEL CHANGES

Effective May 5, Miss Elizabeth Yeates became Scientific Information Specialist in the Office of the NIH Librarian, and Mrs. Joan Mavity became Acting Chief, Bibliographical Services Section.

Mrs. Mavity will be responsible for all of the regular operational aspects of the NIH MEDLARS Center.

With respect to the National Library of Medicine, Miss Yeates will now be responsible for maintaining liaison relations pertaining to any of the NIH Library information activities, including non-operational aspects of MEDLARS.

NLM PERSONNEL CHANGES

Effective May 5, 1969, Mr. Constantine J. Gillespie was designated Acting Head of the MEDLARS Management Section during the extended detail of Mrs. Lillian Washington to the new MEDLARS II Task Force. Mrs. Yvonne Scott will continue to be responsible for technical arrangements for the processing of recurring bibliographies and recurring demand searches. Dr. Linn Kelner, in addition to his MEDLARS training responsibilities, will coordinate the activities of all trained searchers assigned to the MMS.
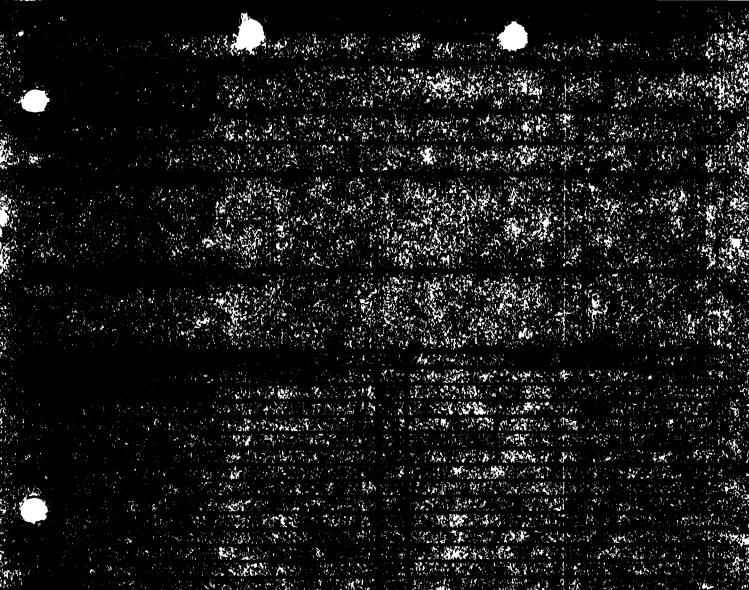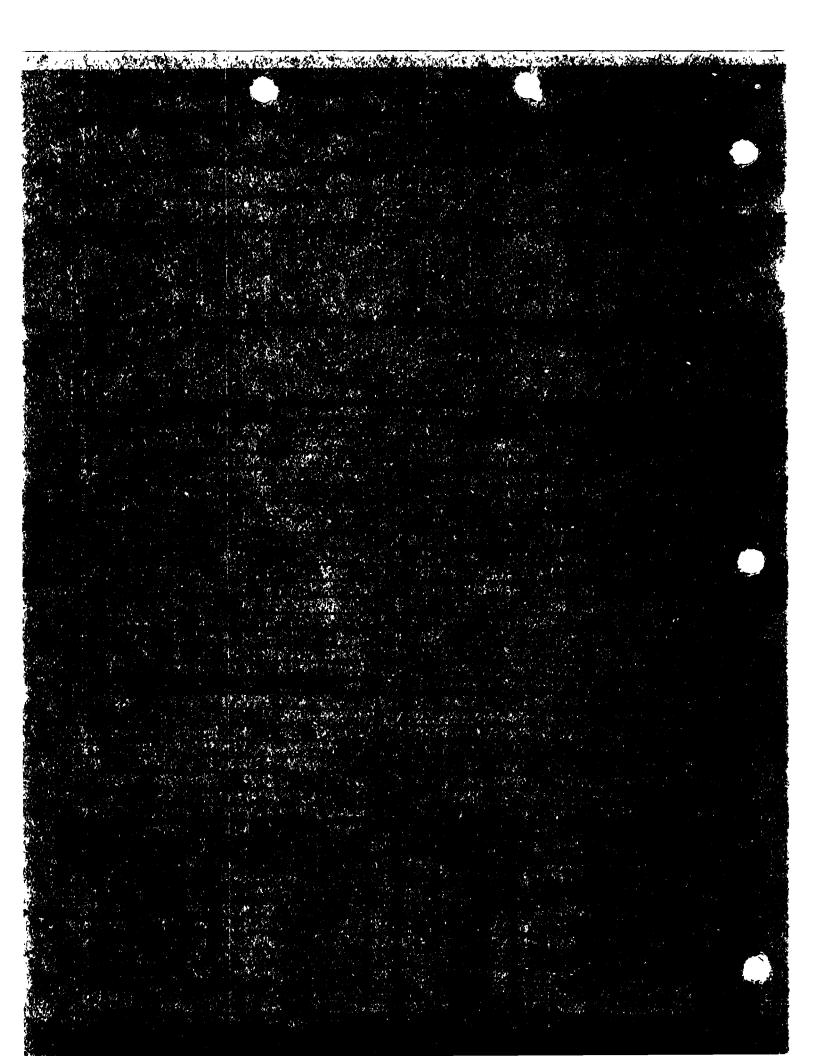
These bibliographies are reprints of literature searches requested by individual physicians, scientists, and other health professionals, and are considered to be of wide interest. Single copies may be ordered by number and title from NLM at no charge.

L.S. No	Title
1-66	Exercise and the electrocardiogram. January 1964—December 1965. (217 citations)
1A-66	Exercise and the electrocardiogram. January 1966—September 1967. (148 citations) [Supplement to L.S. 1-66]
2-66	Hospital outpatient services and mental disorders. January 1964—December 1965. (129 citations)
3-66	Erythropoiesis and androgens. January 1964—December 1965. (17 citations)
4-66	Nerve growth factor. January 1964—December 1965. (22 citations)
5-66	Drug effects on conditioning and avoidance-escape learning. Mid-1963—December 1965. (150 citations)
6-66	Automation in blood and urine analysis. Mid-1963—December 1965. (77 citations)
7-66	Erythrocytes in blood preservation. Mid-1963—March 1966. (116 citations)
8-66	Rubella virus. Mid-1963—March 1966. (71 citations)
9-66	Bovine bone in transplantation. Mid-1963—March 1966. (16 citations)
10-66	Ultrastructure of the kidney. Mid-1963—March 1966. (268 citations)
11-66	Human fetal cardiac function. Mid-1963—March 1966. (179 citations)
12-66	Review articles on viral oncogenesis. Mid-1963—March 1966. (107 citations)
13-66	Brain RNA in learning and memory. Mid-1963—March 1966. (14 citations)
14-66	Education in health practitioner-patient relations. Mid-1963—March 1966. (43 citations)
15-66	Lithium in manic-depressive illness; references from Index Medicus, 1960—1966, Bibliography of Clinical Psychopharmacology, 1958-69 (HEW-PHS 1965), and from cited articles. (39 citations.
16-66	Frontal lobe tumor presenting as anxiety or anxiety-like symptoms; references from Current List of Medical Literature, 1955-59, Index Medicus, 1960-66, and cited literature. (30 citations)
17-66	Sarcoidosis and tuberculosis. Mid-1963—mid-1966. (176 citations)
18-66	Sarcoidosis and infectious diseases, excluding tuberculosis. Mid-1963—mid-1966. (95 citations)
19-66	Saroidosis and immunology. Mid-1963—mid-1966. (135 citations)
1-67	Lung transplantation. Mid-1963—1966. (104 citations)
2-67	Effects of tetracyclines on teeth. Mid-1963—1966. (63 citations)
3-67	Computers in design of hospital or medical facilities. Mid-1963—1966. (10 citations)

L.S. No	Title
4-67	Mechanism of action of general anesthetics. Mid-1963—1966. (165 citations)
5-67	Burkitt's lymphoma. Mid-1963—1966. (99 citations)
6-67	Medicine in Vietnam. Mid-1963—1966. (136 citations)
7-67	Rabies in bats. January 1964—July 1967. (24 citations)
8-67	Dimethyl sulfoxide (DMSO). Mid-1963—April 1967. (303 citations)
9-67	Cardiac resuscitation. Mid-1963—July 1967. (266 citations)
10-67	Hospital architecture. Mid-1963—July 1967. (198 citations)
11-67	Oral cytology. Mid-1963—July 1967. (142 citations)
12-67	Implanted artificial heart. Mid-1963—July 1967. (64 citations)
13-67	Evaluation of patient care and chronic disease facilities. Mid-1963—August 1967. (57 citations)
14-67	Human laterality in learning and aphasia. Mid-1963—August 1967. (105 citations)
15-67	Amino acid transport in non-human mammals. Mid-1963—September 1967. (131 citations)
16-67	Asparaginase in metabolism, especially antitumor activity. January 1964—August 1967. (19 citations)
17-67	Cytogenetics in mongolism. January 1964—August 1967. (257 citations)
18-67	Blood bank administration. January 1964—August 1967. (26 citations)
19-67	Enzymes and human neoplasms. Mid-1963—August 1967. (566 citations)
20-67	Aerospace medicine. Mid-1963—August 1967. (453 citations)
21-67	Epidemiology of suicide. Mid-1963—September 1967. (299 citations)
1-68	Clinical studies involving estrogens. Mid-1963—September 1967. (190 citations)
2-68	Neoplasm models. Mid-1963—August 1967. (79 citations)
3-68	Tumors of cold-blooded vertebrates. Mid-1963—May 1967. (123 citations)
4-68	Emergency psychiatric service. January 1964—November 1967. (60 citations)
5-68	Intrauterine contraceptive devices (IUD) and intrauterine foreign bodies. January 1964—September 1967. (362 citations)
6-68	Radioisotope diagnosis of brain neoplasms. Mid-1963—December 1967. (211 citations in English)

(Continued)

L.S. No	Title
	Computers in medicine and biology. Mid-1964—December 1967. (327 citations)
8-68	Untoward effects of iron. Mid-1963—September 1967. (178 citations)
9-68	Ethical and legal aspects of transplantation. Mid-1963—December 1967. (40 citations)
10-68	The thymus and immunity. November 1965—July 1968. (394 citations in English and French)
11-68	Transplantation of intestines and stomach. January 1964—July 1968. (46 citations)
12-68	Effects of noise on man. January 1964—July 1968. (173 citations in English)
13-68	Effect of progestational hormones and estrogens on fertility and fetal development. January 1964—June 1968. (209 citations)
14-68	Etiology and epidemiology of infectious mononucleosis. January 1944—July 1968. (39 citations)
15-68	Insect control by sexual sterilization. January 1964—August 1968. (98 citations)
16-68	Tooth transplantation. January 1964—July 1968. (90 citations)
17-68	Veterinary dentistry. January 1964—July 1968. (69 citations)
18-68	Factors in glucose tolerance in aged humans. January 1964—July 1968. (23 citations)
19-68	Coronary care units. January 1964—August 1968. (164 citations)
20-68	Indian health in the U.S. and Canada. January 1964—August 1968. (228 citations)
21	Computer analysis of the electroencephalogram. January 1964—August 1968. (167 citations)
22-68	Diabetes and lipid metabolism in man. January 1964—August 1968. (408 citations)
23-68	Lung transplantation. January 1964—June 1968. (169 citations)
24-68	Adverse effects of LSD. January 1964—August 1968. (112 citations)
25-68	Effect of estrogens and progestins on carbohydrate metabolism. January 1964—August 1968. (137 citations)
26-68	Training of public health personnel. January 1964—August 1968. (181 citations)
27-68	Toxicity of pesticides to man. January 1964—August 1968. (316 citations)

L.S. No	Title
28-68	Trends in administration of psychiatric hospitals. January 1964—August 1968. (172 citations in English)
29-68	Effect of physical development on adolescent personality. January 1964—August 1968. (115 citations)
30-68	Effect of hallucinogens on man. January 1966—August 1968. (303 citations)
31-68	Models of neural activity. January 1964—May 1968. (279 citations)
32-68	Transplantation of pancreas, liver, and spleen. January 1964—July 1968. (242 citations)
33-68	Hazards in the operating room. January 1964—July 1968. (73 citations)
34-68	Hydrocarbons and carcinogens as air pollutants. January 1964—July 1968. (335 citations)
35-68	Transplantation of reproductive organs. January 1964—July 1968. (55 citations)
36-68	Blood coagulation during use of oral contraceptives. January 1964—August 1968. (159 citations)
38-68	Psychological aspects of cancer. January 1964—July 1968. (146 citations in English)
39-68	Adverse effects of heart catheterization in children. January 1964—July 1968. (39 citations)
1-69	Psychotherapy in alcoholism. January 1964—August 1968. (160 citations)
2-69	Psychotherapy in drug addiction or abuse. January 1964—August 1968. (50 citations)
3-69	Psychotropic drug addiction or withdrawal symptoms in man. January 1964—August 1968. (207 citations)
4-69	Cannabis toxicology. January 1964—August 1968. (55 citations)
5-69	Heart transplantation. ▬▬▬ January 1964—August 1968. (180 citations)
6-69	Kidney transplantation in man. January 1964—June 1968. (651 citations)
7-69	Progestational or estrogenic hormones and human lipid metabolism. January 1964—August 1968. (51 citations)
8-69	Programs for rehabilitation of the aged. January 1964—August 1968. (115 citations)
9-69	Sarcoidosis. January 1966—December 1968. (546 citations)

Send requests to: Office of Public Information
National Library of Medicine
8600 Rockville Pike
Bethesda, Maryland 20014

MEDLARS / NETWORK
technical bulletin

No. 1   May 1969

INTRODUCTION

The MEDLARS/Network Technical Bulletin, which begins with this issue, has been established for the following purposes:

(1) To communicate technical and management information among those with a need to know about MEDLARS and network developments, and

(2) To enable MEDLARS and network staff to interact with NLM staff and each other on matters affecting their operations.

The MEDLARS/Network Technical Bulletin will contain information relevant to each MEDLARS station and Regional Medical Library at the operating level; it will thus be directed to the searcher and librarian, although it is expected to be of interest also to administrators of Regional Medical Libraries and MEDLARS facilities. In addition, notes pertaining to all aspects of the operation of Regional Medical Libraries, and of the Regional Medical Library Program and Network, will be included.

The Bulletin, which will be issued monthly, will include the following topics:

(1) Notes from MEDLARS stations
(2) Notes from MEDLARS processing centers
(3) Notes from MEDLARS Management Section
(4) Notes from Quality Control
(5) Indexing notes
(6) MeSH notes
(7) Training notes
(8) Notes from overseas centers
(9) Notes from Regional Medical Libraries
(10) Notes concerning various NLM activities
    (for example, MEDLARS II developments)

We hope also to publish analyses of recurring problems of a technical or administrative nature, with suggested solutions. From time to time, individuals will be asked to assist in "solving problems." This problem-solving will often involve communicating with other MEDLARS centers and/or Regional Medical Libraries.
For your convenience, and for future reference, we have attached lists of addresses of all the MEDLARS Centers and Regional Medical Libraries (see attachments 1 and 2).

We would like to solicit your comments and suggestions regarding the MEDLARS/Network Technical Bulletin.

The _Bulletin_ will go to press on the 20th of each month. Material for any given
.ssue must reach the Managing Editor (see below) at NLM by the 10th of that month.
All communications regarding the _Bulletin_ should be sent to the Managing Editor.

Dr. Joseph Leiter
Associate Director for Library Operations
National Library of Medicine

Mrs. Ann R. Lindsay
Managing Editor

Mrs. Grace Jenkins
Technical Editor for MEDLARS

SEARCHING OF MESH TERM BARBITURATES (D2, D6)

It has been brought to the attention of the Library that some citations indexed under BARBITURATES are being retrieved when the D4 category is exploded. This condition is not limited to any specific reel of tape, but is limited to the portion of the file prior to January 1967. All search analysts are asked to make the following adjustments in their search formulations for searching the file for the period January 1964 through December 1966:

✳ 1. If the D4 category is exploded, you should negate the term BARBITURATES unless you are willing to accept the resulting noise.
   Example: M1 E = ANTINEOPLASTIC AGENTS
             M2   = BARBITURATES

             (M1 *- M2)

2. If you wish to search on a specified portion of a tree that contains the term BARBITURATES (D6. 36. 4; D6. 48. 12; D6. 84. 4), you should explode that portion of the tree in which you are interested, and, in addition, search on the main heading BARBITURATES in the same sum.
   Example: M1 E = BARBITURATES (D6. 36. 4)
             M2   = BARBITURATES
                     (M1 + M2)
                       or
             M5 = SUM M1 -M2

3. If you wish to explode the D6 category, you must "or" the term BARBITURATES with the explosion of the D6 category or any portion of it that is to include the term BARBITURATES.
   Example: M1 E   CNS Agents (Non MeSH) (D6)
             M2   = BARBITURATES   (M1 + M2) or
                                           M5 = SUM M1 - M2

This error will be corrected on the new search file, to be distributed after file maintenance is done at the end of the year.

If, during the course of preparing and reviewing your searches, you find that unexplained discrepancies appear in your printout, please notify the MEDLARS Management Section so that the problem may be reviewed.

SPECIAL EVALUATION PROJECT

✳ The National Library of Medicine is cooperating with the Department of Computer Science at Cornell University, headed by Professor Gerard Salton, in an evaluation of the MEDLARS search and retrieval strategies. This project will be focused on MEDLARS search requests in the field of ophthalmology that are received at NLM or at any of the MEDLARS centers in the United States. The specific areas of ophthalmology to be considered are the structure, function, and biochemistry of the eye and the optic nerve, including diseases and abnormalities, in humans only.

orty to fifty searches in these areas are needed for Professor Salton's study. Searchers at NLM and all domestic MEDLARS centers are asked to be on the lookout for appropriate searches for this study. If pertinent search requests are encountered, they should be flagged for the Cornell Ophthalmology Study.

After they have been formulated, a Xerox copy of the full Search Request Form and the Demand Search Formulation Record should be sent immediately to Mr. Gillespie, MEDLARS Management Section, NLM. A copy of the search printout for those ophthalmology searches that are run through NLM will be sent to Professor Salton. For ophthalmology searches formulated and processed at those centers with their own processing capability, the center is asked to prepare an additional copy of the printout that can be sent to Mr. Gillespie along with the copy of the request form and DSFR. The cooperation of all MEDLARS centers and all search analysts is urgently requested for this project.

QUALITY CONTROL STAFF ACTIVITIES

A steady increase in the return of Appraisal Forms has been evident since the new form was put into use in January. In January, 22 Appraisal Forms were returned; 178 in February; 228 in March; and, 296 through April 30, 1969. The Quality Control Staff has been returning the original form to the originating center after making a Xerox copy for its own use.

Each form is analyzed, with special attention given to the relevant but non-retrieved citations listed by the requester. It has been found that the majority of these citations are in the data base, but a small number were found to have been missed and not input to the data base. In February, for example, 31 journal issues were identified which had never been received in the Index Section and consequently had never been indexed. These issues, including a number of depth-rush journals, were retrieved from the Library stacks and rushed through indexing to get their citations onto the tape files.

Some searches were analyzed to determine why relevant citations which are in the data base were not retrieved. However, the small Quality Control Staff is not able, at this time, to perform all the analyses it would like. Detailed analysis must be limited to those searches which seem to have yielded especially poor results.

All the MEDLARS centers have been told how to fill in the return information on the Appraisal Form, but it bears repeating now, because of inconsistencies noted on Appraisal Forms returned thus far. The return information on the Appraisal Form should include: the name of the MEDLARS center and the searcher's name; the requester's name; the search number; and the date on which the search is being released. Many searchers have omitted the date or have put some date other than the date of release of the search. Please provide all of this information on every Appraisal Form you send out. Quality control briefings for each MEDLARS training class are planned and a detailed briefing will be provided at the next MEDLARS Workshop.

4

The following lists were sent to all analysts this month with MeSH Copy #3:

- Index to Supplemental Lists
- Supplemental List of Provisional Headings 1969 -- 1st Quarter
     pages S-1 through S-4
- Supplemental List of Provisional Headings 1969 -- Supplement to
     Tree Structure -- 1st Quarter -- pages 1 through 2
- Medical Subject Headings 1969 -- Errata -- one page

For ease of updating, each analyst must also have a list of cross reference changes, in order to avoid the need for a line-by-line comparison of MeSH #3 against the analyst's copy. The additions and deletions of cross references for the searcher's copy are listed below:

Cross references to be added to MeSH Search Copy, 1969:

    Adjuvants, Pharmaceutic see under PHARMACEUTIC AIDS (D13, E5)
    Afferent Loop Syndrome see under GASTROENTEROSTOMY (E4) -- adverse effects
    Anorectics see under APPETITE DEPRESSANTS (D5)
    Atheroma see under ARTERIOSCLEROSIS (C8)
    Axenic Animals see under GERM-FREE LIFE (G1)
    Carbamazepine see under DIBENZAZEPINES (D2)
    Child, Abandoned see under CHILD (G1, M)
    Community Medicine see under COMPREHENSIVE HEALTH CARE (N4)
    Cross Circulation see under PARABIOSIS (G1)
    Desensitization (Psychologic) see under BEHAVIOR THERAPY (F3)
    Diurnal Rhythm see under CIRCADIAN RHYTHM (G1)
    Engineering Psychology see under HUMAN ENGINEERING (F1, J)
    Family Practice see GENERAL PRACTICE (G2)
    Iron Deficiency Anemia see ANEMIA, HYPOCHROMIC (C9)
    Kerasin see under CEREBROSIDES (D11)
    Matrix Band see under DENTAL MATERIALS (D13)
    Organ Preservation see under TISSUE PRESERVATION (E5)
    Perfusion, Regional see ISOLATION PERFUSION (E2)
    Rhombencephalic Sleep see under SLEEP, REM (F1, G1)
    Specific Pathogen Free see under GERM-FREE LIFE (G1)
    Statolon see under POLYSACCHARIDES (D11)
    Transcription, Genetic see under GENETIC CODE (G1)
    Tuber Cinereum see under HYPOTHALAMUS (A8)
    HUMAN ENGINEERING (F1, J) see also related PSYCHOLOGY, INDUSTRIAL (F1, G2)
    LUPUS ERYTHEMATOSUS, SYSTEMIC (C8, C12, C17) see also related LE CELLS (E1)

Cross references to be deleted from MeSH Search Copy, 1969:

    Afferent Loop Syndrome see under DUMPING SYNDROME (C4)
    Cardiac Drugs see MYOCARDIAL DEPRESSANTS (D5)
    Programming, Linear see under PROGRAMMED INSTRUCTION (I)
    Matrix Band see under DENTAL INSTRUMENTS (E6)
    ANTI-ANTIBODIES (D12) see also related AUTOIMMUNE DISEASES (C14)

CHANGE IN COVERAGE OF SEARCH FILES

Effective July 1, 1969, the MEDLARS Search file will be divided into the two following sets for computer processing:

> CURRENT FILE -- January 1967 to date
> BACK FILE   -- January 1964 through December 1966

Since all computer processing centers will have the tape for the search month of July 1969 in their search file by July 1, the first current-file searches that are computer-processed on or after July 1 will cover a period of 31 search months, from January 1967 on. The first back-file searches that are computer-processed on or after July 1 will cover a period of 36 search months.

How will this change affect the searches in process (i.e., those that have been formulated but not yet computer-processed)? How will this change affect the formulation of new requests? MEDLARS stations will have to coordinate the following steps:

I. Computer Processing

1. Effective July 1, 1969, the search file will be divided into two sets:

   a. Current File -- January 1967 through July 1969.
      Current tapes for 1969 will be added to this file.
   b. Back File   -- January 1964 through December 1966.

2. Effective July 1, 1969, all searches that are computer-processed, regardless of when they were formulated, will be processed against the files as defined above. Effective immediately, searches sent for computer processing will be marked either "Current File" or "Back File"

3. Computer processing centers will notify the analysts of the search months used to process each batch of searches.

II. Formulation

1. Current File Searches -- January 1967 to date: no changes in formulation.

2. Back File Searches -- January 1964 through December 1967: the analyst must consider the following factors:

   a. I Dates
      --to be used to limit the total search retrieval to the years 1964-65 if the (original) current-file search covered 1966.
      --to be used to limit that part of the retrieval covered by the 1964-65 formulation, for back-file searches covering 1964-66. This will allow for differences between MeSH in 1964-65 and MeSH in 1966, where necessary. The I date

limitation is to be placed <u>only</u> on the terms used to retrieve from the 1964-65 file, not on the entire strategy.
--to be used as needed, to limit retrieval on specific concepts in formulation, either for part of the file, or for entire retrievals in the case of supplements.

b. Changes in MeSH Vocabulary
--In formulating back-file searches, the analyst must continue, of course, to consider MeSH as it existed in 1964 and 1965. He must now be sure also to consider MeSH for 1966, with its 1966 subheadings, changes in check tags, etc.

c. 1966 File
--Most back-file searches formulated before July 1, 1969, will have already included 1966 on the initial search. For those few full-file searches awaiting processing on July 1, however, the analyst must ensure (by checking the transmittal letter) coverage of 1966-- if necessary, by formulating a supplement for that year.

Attachment No. 1 - MEDLARS Stations

Mrs. Marcia Ford
MEDLARS Search Center
The Francis A. Countway Library of Medicine
10 Shattuck Street
Boston, Massachusetts 02115

Mr. Constantine J. Gillespie
MEDLARS Management Section
National Library of Medicine
8600 Rockville Pike
Bethesda, Maryland 20014

Mr. Elliott Morse
Mid-Eastern Regional Library
College of Physicians of Philadelphia Library
19 South 22d Street
Philadelphia, Pennsylvania 19103

Miss Charlotte Kenton
Mid-Atlantic Regional Medical Library
P.O. Box 30260
Bethesda, Maryland 20014

Miss Elizabeth J. Yeates
NIH Library
MEDLARS Center
Building 10, Room 1L13
Bethesda, Maryland 20014

Mr. Robert Lawrence
MEDLARS Center
University of Michigan
3490 Kresge Medical Research Building
Ann Arbor, Michigan 48104

Miss Laura Osborn
MEDLARS Center
Health Center Library
Ohio State University College of Medicine
1645 Neil Avenue
Columbus, Ohio 43210

Miss Dorothy Mueller
MEDLARS Center
Medical Center Library
University of Alabama
1919 Seventh Avenue South
Birmingham, Alabama 35233

Attachment No. 1 - MEDLARS Stations (continued)

Mr. Richard Davis
Midwest Regional Medical Library
The John Crerar Library
35 West 33d Street
Chicago, Illinois 60616

Miss Pat Pannier
MEDLARS Center
Denison Memorial Library
University of Colorado Medical Center
4200 East Ninth Avenue
Denver, Colorado 80220

Miss Carol Herring
MEDLARS Center
Texas Medical Center
Jesse H. Jones Library Building
Houston, Texas 77025

Miss L. Yvonne Wulff
Pacific Northwest Regional Library
Health Sciences Library
University of Washington
Seattle, Washington 98105

Miss Betsey Starr
MEDLARS Center
Biomedical Library
Center for the Health Sciences
University of California
Los Angeles, California 90024

Mr. Charles Cleveland
PMA (Pharmaceutical Manufacturers Association)
1155 15th Street, NW
Washington, D.C. 20005

Mrs. Virginia L. Algermissen
Research Associate
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Attachment No. 1 - MEDLARS Stations (continued)

Dr. A. J. Harley
National Lending Library of Science and Technology
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I.N.S.E.R.M.
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Paris 16e
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c/o MEDLARS Center
Basser Computing Department
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Mr. H. L. White, National Librarian
Bibliographical Services
National Library of Australia
Canberra, Australia

Miss Denise Oudot
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Harold A. Izant
Chief Librarian
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Miss Luise Franchetti
c/o Israel Journal of Medical Sciences
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Attachment No. 2 - RML Addresses

REGION I
Mr. Harold Bloomquist, Librarian
       or
Mr. Mark T. Hodges
The Francis A. Countway Library of Medicine
10 Shattuck Street
Boston, Massachusetts 02115

REGION 2
Dr. James E. McCormack
Director
The New York Academy of Medicine
2 East 103d Street
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REGION 3
Mr. Elliott Morse, Librarian
College of Physicians of Philadelphia
19 South 22d Street
Philadelphia, Pennsylvania 19103

REGION 4
National Library of Medicine
8600 Rockville Pike
Bethesda, Maryland 20014

REGION 5
Dr. Vern M. Pings
Medical Librarian
Kentucky-Ohio-Michigan Regional Medical Library
Wayne State University
645 Mullett Street
Detroit, Michigan 48226
         or
Dr. John A. Prior
Associate Dean
College of Medicine Facilities
Ohio State University
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REGION 6
Mrs. Miriam H. Libbey, Librarian
A.W. Calhoun Medical Library
Woodruff Research Building
Emory University
Atlanta, Georgia 30322

Attachment No. 2 - RML Addresses

REGION 7   Mr. Richard A. Davis
Assistant Librarian for
  Regional Medical Library Service
         or
Mr. William S. Budington, Librarian
The John Crerar Library
35 West 33d Street
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REGION 8

REGION 9

REGION 10   Dr. Gerald J. Oppenheimer, Director
Pacific Northwest Region
Health Sciences Library
University of Washington Libraries
Seattle, Washington 98105

REGION 11   Miss Louise Darling
Biomedical Librarian
      or
Mr. Nelson J. Gilman
Assistant Biomedical Librarian
The Center for the Health Sciences
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