NATIONAL LIBRARY OF MEDICINE

LIBRARY NETWORK/ MEDLARS technical bulletin

No. 32 December 1971

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We Welcome Comments
and Suggestions

U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
Public Health Service
National Institutes of Health

LIBRARY NETWORK/MEDLARS TECHNICAL BULLETIN
Issued monthly by the Office of the Associate Director for Library Operations

Dr. Joseph Leiter
Associate Director
for Library Operations

Mrs. Ann R. Lindsay, Managing Editor
Mrs. Grace T. Jenkins, Technical Editor

National Library of Medicine, 8600 Rockville Pike, Bethesda, Maryland 20014

NETWORK ACTIVITIES
November 1971
Dan Tonkery, Network Management Staff, NLM

MEDLARS Searches

Statistics from domestic MEDLARS Centers indicate that 1,257 searches were released during November. Exclusive of AIM-TWX activities, the Fiscal Year 1972 cumulation of released searches totals 6,394.

MEDLARS Searches Released in November

FY 1970	1,076
FY 1971	1,423
FY 1972	1,257

ORIENTATION PROGRAMS

Date	Type of Orientation	Presented At	Presented By
11/02/71	AIM-TWX	San Fernando Valley State College, Physical therapy students from UCLA	A. Durso P. Hanson
11/08/71 11/10/71 01/15/72	MEDLARS, MEDLINE, and AIM-TWX	University of Washington Nursing School faculty & students	D. Des Chene N. Blase
11/18/71	MEDLARS & AIM-TWX	UCLA - School of Public Health	A. Durso J. Boorkman
11/23/71	MEDLARS	The Center for the Advancement of Library--Information Sciences, Grad. Div. of C.U.N.Y.	R. Marcolina

STATISTICAL SUMMARY FOR MEDLARS CENTERS FOR NOVEMBER 1971
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 1971
Period: 10/29 - 11/25/71

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		
					Current	Back File	Total	Current	Back File	Total
UNITED STATES										
Alabama	15	114	12	6.7	69.4	33.3	66.6	92.7	33.3	91.1
Colorado	4	64	13	3.6	94.0	60.0	91.0	100.0	100.0	100.0
Crerar	4	60	3	5.6	80.3	50.0	78.3	98.2	75.0	96.6
Harvard	25	58	14	9.9	48.0	67.0	48.0	73.0	100.0	74.0
Michigan	8	119	121	5.5	40.3	0	40.3	67.2	0	67.2
New York	28	30	6	6.4	20.0	0	20.0	33.3	0	33.3
NIH	0	61	44	7.1	88.0	100.0	88.6	93.0	0	93.5
NLM-MARML	27	232	18	3.9	78.7	75.0	78.5	89.2	100.0	89.7
NLM-MMS	0	24	5	13.0	96.0	100.0	96.0	100.0	-	100.0
Ohio	30	92	131	6.7	50.0	0	42.9	92.2	100.0	92.4
Philadelphia	6	61	15	7.5	10.7	0	9.8	50.7	60.0	50.7
PMA	0	46	242	10.0	100.0	85.7	93.5	-	100.0	100.0
Texas	13	124	37	4.9	100.0*	0	100.0*	-	0	-
UCLA	47	116	40	5.9	51.8	100.0	53.5	79.5	-	80.2
Washington	45	56	3	4.4	80.0	33.0	77.0	91.0	100.0	91.0
TOTALS	252	1257	704	NA	67.4	66.7	67.4	85.4	92.5	85.9
FOREIGN										
Australia	2	97	29	7.2	86.1	77.8	84.5	96.2	88.9	94.8
Canada	0	23	30	20.5	21.1	0	17.4	57.9	0	47.8
England	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
France(INSERM)	2	63	450	6.5	NA	NA	85.0	NA	NA	100.0
Germany(DIMDI)	1	27	1358	NA	NA	NA	NA	NA	NA	12.0
Japan(JICST)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sweden	0	228	428	8.2	83.7	25.0	78.5	93.8	30.0	88.2

*Texas -100% 6-10 days

TITLE SEARCHING ON AIM-TWX

Barbara Greehey
MEDLARS Management Section, NLM

An explanation of the Title Search capability has been distributed to AIM-TWX users. The following illustration is intended to clarify some points, particularly the weight factors.

SS 1/C?

USER: MYCOBACTERIUM INFECTIONS

PROG: PSTG (153) ——→ maximum allowed is 200

If higher than 200 you can limit by year and search in segments or specify "print headings" (e.g. *Mycobacterium Infections).

SS 2/C?

USER: "TITLE" ——→ Alternatives: "TIRCH"
"TIRCH x"
"TITLE SEARCH USING x"
(x=search statement number - if search statement number is not specified, the last search will be used)

PROG: 153 TITLES OBTAINED FOR SEARCH STATEMENT 1

ENTER YOUR TITLE TO USE FOR THE TITLE SEARCH

USER: (MYCOBACTERIUM MARINUM) IN A FISH AQUAR#.

PROG: YOUR TITLE IS NOW:

MYCOBACTERIUM MARINUM /FISH /AQUAR#

- will retrieve aquarium, aquaria, etc.
- end title with period
- parens indicate that these words should appear together in the title and in the same order as entered within the parens

PROG: OK (YES/NO/CANCEL) Alternatives: Y or N or C'

USER: YES

PROG: TITLE SEARCHING HAS STARTED, PLEASE STAND BY.
0 PROCESSED
10 PROCESSED
20 PROCESSED
etc.

PROG: TITLE SEARCH FINISHED. ENTER WEIGHTS FOR ORDERING PRINTOUT

The number of articles retrieved will be the same regardless of the weights that you enter. If you are not concerned with the printout order you might routinely type in a set of numbers such as 9,0,0. The score that is derived and which orders the printout is the result of a multiplication/addition process using the weight factors that you have entered and those listed below each title.

USER: 7,1,1

PROG: 6 TITLE QUALIFY

STARTING SORT - PLEASE WAIT.

PROG: THE TITLES ARE AS FOLLOWS, ACCORDING TO THEIR SCORES

TITLE

TROPICAL FISH AQUARIUMS. A SOURCE OF MYCOBACTERIUM MARINUM INFECTIONS RESEMBLING SPOROTRICHOSIS.
(SCORE=2233 SIZE=3 ORDER=1 PROPORTION=33)

3 terms in this title match 3 in requested title

SKIN INFECTION WITH MYCOBACTERIUM MARINUM FROM A TROPICAL FISH TANK.
(SCORE=1625 SIZE=2 ORDER=2 PROPORTION=25)

the words fall in the same position within the retrieved title as those in the requested title resulting in a higher order number than the first title, where the position is reversed

MYCOBACTERIA FROM AQUARIA.
(SCORE=820 SIZE=1 ORDER=1 PROPORTION=20)

the number of matches (1) is divided by the sum of unique terms in the requested and the retrieved titles (5) to produce a proportion of 20

prints out 5 then asks:

PROG: CONTINUE (YES/NO)

USER: NO

PROG: ENTER NEW WEIGHT FACTORS, THE WORD 'DONE' TO TERMINATE TITLE SEARCHING, OR YOUR NEW TITLE.

USER: DONE

PROG: SPECIFY (ON-LINE/OFF-LINE/NONE)

USER: ON-LINE

AU - ADAMS RM
AU - REMINGTON JS
AU - STEINBERG J
AU - SEIBERT JS
TI - TROPICAL FISH AQUARIUMS. A SOURCE OF MYCOBACTERIUM MARINUM INFECTIONS
RESEMBLING SPOROTRICHOSIS.
SO - JAMA 211 457-61 19 JAN 70

etc.

In the example above emphasis was placed on size which is useful when you wish a number of terms to appear in the same title. In this case one would probably prefer to see first an article on Mycobacterium marinum in an aquarium rather than Mycobacterium marinum in a swimming pool which would also be retrieved by the title as requested. Thus, you might wish to use a routine set of weights such as 9.0.0. Note that prepositions, articles, etc., are ignored as can be seen by the title that you are asked to OK.

Most often you will probably be searching only one term and the weight factors will assume little importance. Weight factors are not very significant either when searching synonymous terms or a number of similar terms at the same time. Multiple terms may be entered in a variety of ways such as the following three examples:
Snowmobile/ski Bike motorcycle Hydrophilic or soft
Weight factors can assume significance when the title search retrieval is large and the user wishes only a few titles printed in an order related to the particular search request.

Truncation (#) is very useful as a means of handling a variety of word endings but it should be remembered that truncation cannot be used within a parens and that it may also bring terms unrelated to your request.

Note: Weights are assigned: size, proportion, order even though the printout shows: size, order, proportion.

IMPROVEMENTS MADE IN INTERLIBRARY LOAN SERVICE

Sheldon Kotzin
Acting Head, Loan and Stack Section, NLM

Recent efforts to improve the NLM's interlibrary loan service have concentrated in two areas: (1) the reduction of missing items, and (2) faster notification of requests which cannot be filled at NLM.

Reduction of Missing Items

A title of a monograph or issue of a serial identified in the catalog or serial record (or various serial indices) as being owned by NLM but not located, constitutes a missing issue. These represent about 30% of the items returned to requesters as non-available. The remainder of non-availables include items at the bindery, on order, in processing, on reference, and not owned.

For the 4th Quarter, FY 71 (the earliest quarter for which we have statistics on missing items) 4.4% or 1,529 of 36,087 requests received were returned as missing. The percentage increased to 4.7%, or 1,671 of 36,412 requests for the 1st Quarter, FY 72 this slight increase probably was caused by the increase in requests received. The trend for the 2nd Quarter of this Fiscal Year indicates a reduction in the number of requests returned as missing which may be due to the gap filling project.

During the past few months, the Loan and Stack and Serial Record Sections of NLM have joined in a project to replace missing serial issues. The primary goal of the project is the acquisition of journal issues missing from the collection which are needed to fill present ILL requests. A secondary goal is the acquisition of items requested in the past, but which were reported missing and could not be supplied. An ancillary effect of the program has been to recognize and order complete runs of titles not owned.

A third party in this project is the U. S. Book Exchange, a private non-government corporation which operates as a clearinghouse by accepting and distributing publications to libraries throughout the world. When the Loan and Stack Section receives an ILL request for a journal article which cannot be filled because the journal issue is missing, the requester is sent a notification of short-term non-availability and asked to resubmit his request in two weeks. Immediately, a Xerox copy of the request is sent to the Serial Records Section which places orders with the Book Exchange. Our agreement calls for a one-week turn-around time in filling orders. Statistics available indicate that out of the 350 journal issues requested from the Book Exchange, 107 (over 30%) were supplied.

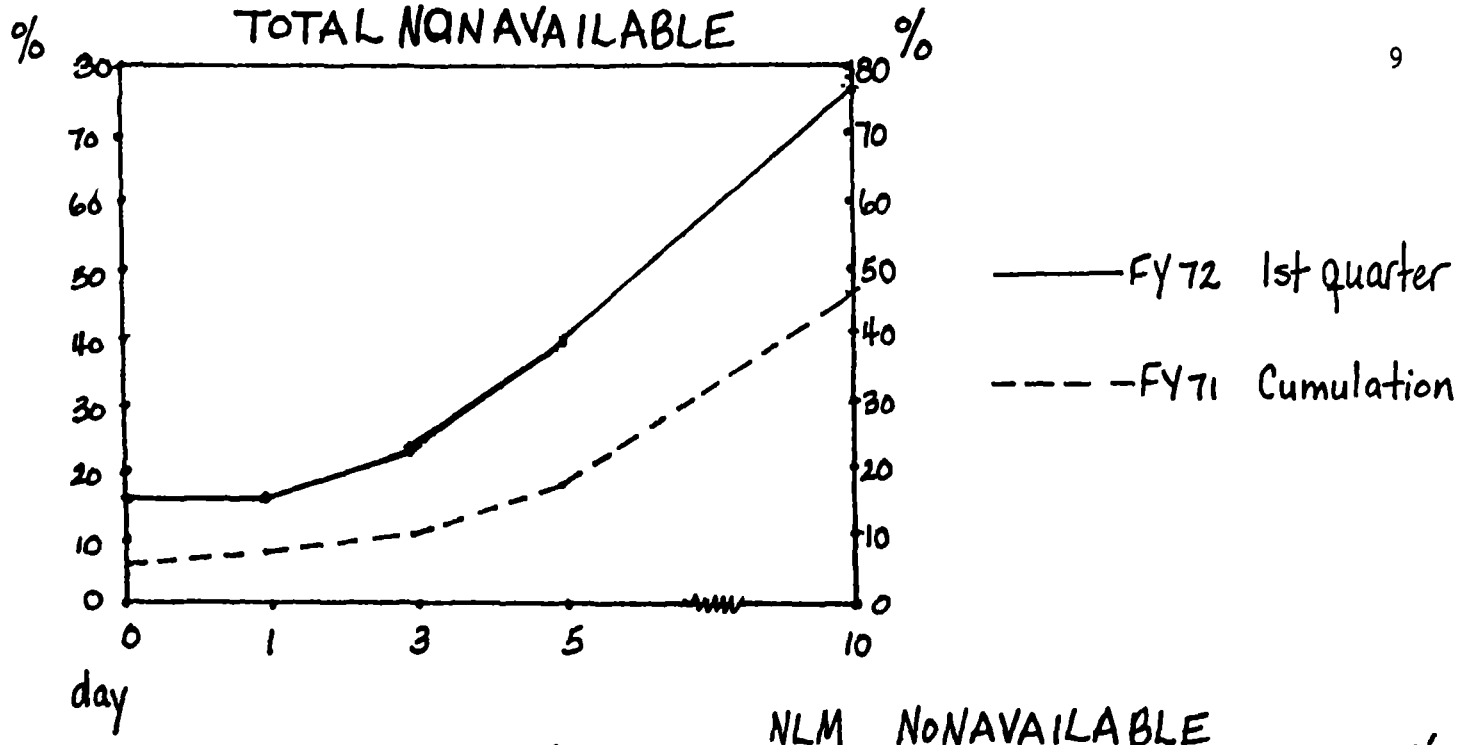
In addition to replacing issues noted as missing in current ILL requests, NLM has begun to examine all unfilled requests received during the last year for

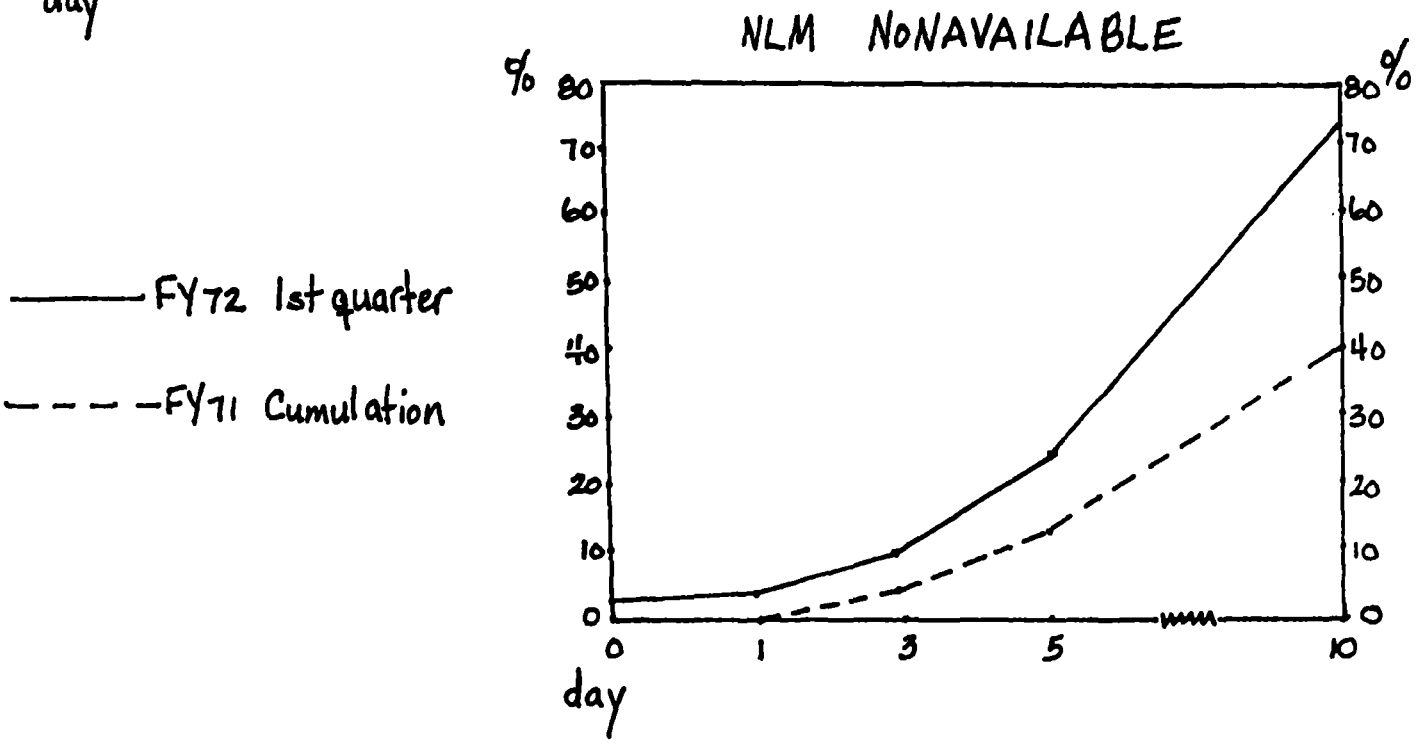
serial articles dating back to 1955. Those issues still found to be missing will be ordered. In addition, the 5,000 titles included in the national holdings list are being checked and any existing gaps will be filled. The Serial Record Section has filled over 4,000 gaps in NLM holdings exclusive of ILL requests. It expects to expand its gap-filling sources to include several reprint companies outside the Washington area for those items which the Book Exchange cannot supply. The outlook for reducing the number of ILL requests returned as missing is even brighter.

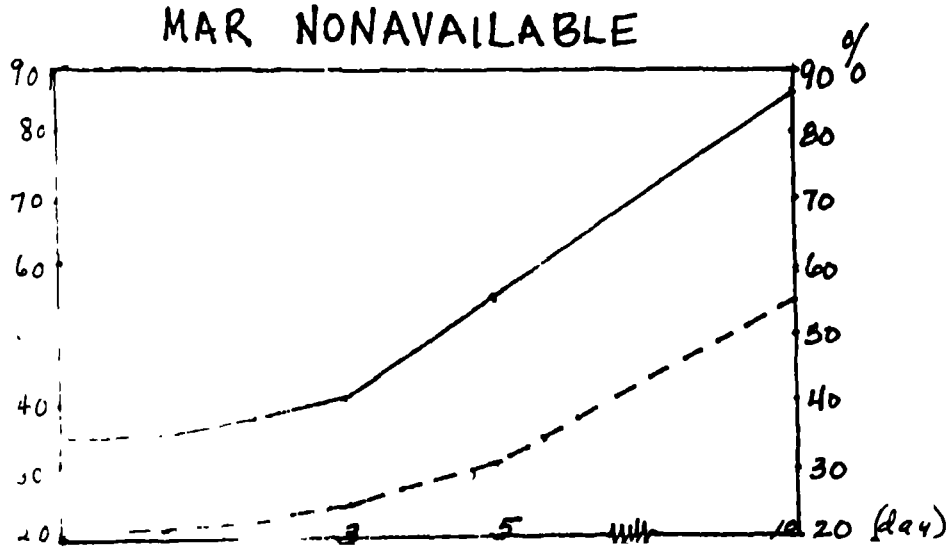
Improvement in Releasing Fewer Non-available Requests

As a result of the above efforts, not only will there be fewer non-available items, but there will also be an accompanying faster notification of requests which cannot be filled.

The following three charts compare total non-availables, those for requests received from the Mid-Atlantic Region, and those for referrals from RML's for 1st Quarter of Fiscal Year 72 and the Fiscal Year 71 cumulation. As the accompanying charts indicate, our release time for notifying the requesting library on non-availability has improved tremendously. With the increase in gap-filling activity and more referrals going from NLM to RML's, non-availables should decrease enabling us to improve throughput even more.


TOTAL NONAVAILABLE
%
%
30
70
66
50
40
30
20
10
0
80
70
60
50
40
30
20
10
0
0
1
3
5
10
day
FY72 1st quarter
FY71 Cumulation


NLM NONAVAILABLE
%
%
80
70
60
50
40
30
20
10
0
80
70
60
50
40
30
20
10
0
0
1
3
5
10
day
FY72 1st quarter
FY71 Cumulation


MAR NONAVAILABLE
%
90
80
70
60
40
30
20
90
80
70
60
50
40
30
20
5
(day)
FY72 1st quarter
FY71 Cumulation

KWIC INDEX TO SERIAL TITLES HELD AT THE NATIONAL LIBRARY OF MEDICINE

William Plank
Head, Serial Record & Binding Section, NLM

The National Library of Medicine is planning to produce a pilot issue of a Key-Word-in-Context Index to approximately 15,000 of its live serial titles. The list probably will be in a two-column photocomposed format with the key word printed in boldface type and each title will be accompanied by the UCMP sequence number. Common title words, e.g., journal proceedings, etc., will not be key words in the listing; the list of stop words will be similar to the Countway KWIC index.

UPDATES TO MESH MATERIALS

1. ERRATA TO: TREE STRUCTURES 1972

Page 70	Change:	POLYCHRONDITIS, RELAPSING C3.65.35
	To:	POLYCHONDRITIS, RELAPSING C3.65.35
Page 152	Change:	ORGANOTHIOPHORUS COMPOUNDS D2.83.30
	To:	ORGANTHIOPHOSPHORUS COMPOUNDS D2.83.30
Page 163	Change:	ORGANOTHIOPHORUS COMPOUNDS D3.121.33.1
	To:	ORGANOTHIOPHOSPHORUS COMPOUNDS D3.121.33.1
Page 224	Change:	LEG LENGTHING E4.51.23.1
	To:	LEG LENGTHENING E4.51.23.1

MEDLINE OFF-LINE PRINTOUTS

A total of 106 MEDLINE off-line printouts were requested by the following institutions:

CENTER	QTY. OF PRINTOUTS
College of Physicians	1
George Washington University	6
Johns Hopkins University	5
MARML	44
National Library of Medicine	25
New York Academy	9
University of Alabama	1
University of Virginia	10
Walter Reed	5
TOTAL	106

Off-line printouts are mailed from NLM on the same day requested or the morning following. If your printout is not received within one week following the request, to allow for mail delivery, please contact Mrs. Grace T. Jenkins, MEDLARS Management Section, National Library of Medicine. (301-496-6193 - collect calls not accepted).

NATIONAL LIBRARY OF MEDICINE

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No. 31 November 1971

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NETWORK ACTIVITIES
October 1971
Dan Tonkery, Network Management Staff, NLM

MEDLARS Searches

Statistics from domestic MEDLARS Centers indicate that 1,102 searches were released during October. Exclusive of AIM-TWX activity, the Fiscal Year 1972 cumulation of released searches totals 5,137. This month's total released searches is 33.2% less than the total of last October.

MEDLARS Searches Released in October

FY 1970	1,372
FY 1971	1,650
FY 1972	1,102

ORIENTATION PROGRAMS

Date	Type of Orientation	Presented At	Presented By
September 29	MEDLARS Overviews and NSL Tape Services	University of British Columbia, Vancouver	A. Nevill
September 30	MEDLARS Overviews and NSL Tape Services	University of Calgary, Calgary	A. Nevill
October 1	MEDLARS Overviews and NSL Tape Services	University of Saskatchewan, Saskatoon	A. Nevill
October 7	MEDLARS Overviews and NSL Tape Services	University of Alberta, Edmonton	A. Nevill
October 7	MEDLARS & AIM-TWX	V. A. Hospital, Long Beach, Calif.	B. Beamish

Date	Type of Orientation	Presented At	Presented By
October 8	MEDLARS & AIM-TWX	UCLA School of Nursing	A. Durso J. Boorkman
October 15	MEDLARS & AIM-TWX	UCLA School of Nursing	A. Durso J. Boorkman

NLM Serial Title KWIC List

A KWIC list has been generated from the first group of NLM titles converted to the UCMP format by the Medical Library Center of New York. Included in this group were the titles being indexed in Index Medicus in 1969 (ca. 2,300) plus about the same number of other titles currently received at NLM, primarily from the beginning of the alphabet. Each Regional Medical Library has received a copy of the listing and has been asked to help in the review and to submit their comments before a final listing is produced.

NLM Card Service - Selective Orders

Under the Selective Ordering Service, a service provided by Bro-Dart, Inc., you may submit orders for individual card sets produced by the National Library of Medicine since June 1, 1971. Orders for cards produced prior to June 1 cannot be filled. Cards are reproduced by xerography.

A. Card Set Format

1. NLM Standard
2. Without Headings Overprinted; Without Call Number Brought Up
3. Added Entries Overprinted; Without Subject Headings. Overprinted: Without Call Number Brought Up
   a. Type Subject Headings at an additional charge of $ .25 per set
4. Call Number Brought Up; Without Headings Overprinted

B. Prices (For best service the NLM citation number should be provided)

1. With Citation Number Provided by the Purchaser:
   English-Language Books . . . . . $ .70 per set
   Foreign-Language Books . . . . . 1.25 per set

2. Without Citation Number:
   English-Language Books . . . . . $ .83 per set
   Foreign-Language Books . . . . . $1.40 per set

Card sets can be ordered using card order part of standard library book order forms, or a card order form suggested by the NLM Card Service. Form and mailing envelopes are available free of charge on request.

C. Scrip. Payment by scrip issued by NLM Card Service. Scrip books are available as follows:

Denomination	Coupons per Book	Price
$ .70	50	$35.00
$ .85	50	$42.50
$1.25	25	$31.25

Direct all correspondence to:

Director
NLM Card Service
Bro-Dart, Inc.
15255 East Don Julian Road
City of Industry, California 91747

TEN LARGEST AIM-TWX USERS
September 1971

User	Terminal Connect Minutes
National Library of Medicine	5,824
University of California, Los Angeles	4,331
Walter Reed Army Institute of Research	2,233
George Washington University Hospital Branch Library	2,169
Rancho Los Amigos Hospital, Downey, Calif.	1,926
University of California, San Diego, School of Medicine Library	1,832
Ohio State University College of Medicine	1,209
National Institutes of Health Library, Clinical Center	1,075
Veterans Administration Hospital Library, Washington, D. C.	999
University of Virginia School of Medicine Library	889

STATISTICAL SUMMARY FOR MEDLARS CENTERS FOR OCTOBER 1971
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 1971
Period: 10/1 - 10/28/71

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		
					Current	Back File	Total	Current	Back File	Total
UNITED STATES										
Alabama	0	70	10	4.7	79.7	100.0	80.0	98.5	-	98.6
Colorado	1	62	12	3.6	95.0	100.0	95.2	100.0	-	100.0
Crerar	5	43	3	7.4	80.9	100.0	81.3	95.2	-	95.3
Harvard	19	84	4	10.0	61.0	40.0	58.4	85.0	85.0	84.6
[illegible]igan	8	92	12	6.2	94.4	0	91.3	100.0	0	96.7
New York	12	40	0	3.5	24.6	100.0	40.0	56.0	-	65.0
NIH	0	48	0	7.3	100.0	100.0	100.0	-	-	-
NLM-MARML	28	162	1	5.2	72.5	61.0	71.6	90.0	100.0	90.7
NLM-MMS	5	9	0	19.0	89.0	0	89.0	100.0	0	100.0
Ohio	37	79	121	12.8	79.0	100.0	79.7	81.6	-	82.3
Philadelphia	11	39	15	6.4	46.7	66.7	48.8	88.0	100.0	89.8
PMA	2	62	238	7.4	100.0	69.0	85.5	-	100.0	100.0
Texas	19	133	36	6.0	100.0	100.0	100.0	-	-	-
UCLA	35	139	0	5.3	76.9	77.8	76.9	91.8	83.4	90.6
Washington	18	40	2	4.8	86.5	100.0	87.5	97.0	-	97.5
TOTALS	200	1102	454		80.6	74.0	80.0	92.8	93.0	93.0
FOREIGN										
Australia	0	124	1	6.4	42.0	63.7	47.9	58.6	63.7	64.9
Canada	0	15	26	23.0	27.3	0	20.0	54.6	25.0	47.0
England	0	82	75	NA	60.3	20.5	46.3	79.1	23.9	59.7
France(INSERM)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Germany(DIMDI)	0	261	1308	NA	NA	NA	0	NA	NA	80
Japan(JICST)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sweden	0	122	420	7.3	51.5	0	43.4	73.8	0	62.3

UNION LIST OF SERIAL TITLES FOR INCLUSION IN NATIONAL UNION INDEX TO BIOMEDICAL SERIALS

Elizabeth Sawyers
Special Assistant to the Associate Director
for Library Operations, NLM

It is intended that the National Union Index be restricted to those substantive titles for which there have been or are likely to be significant document demands. It was felt that a practical method of measuring this demand would be the inclusion of a title in one or more of the major abstracting and indexing publications. Additional restrictions on selection were (1) that no secondary publications be included and (2) that all titles in the list be currently published.

In the actual development of the list, a printout (for use as a check list) was obtained from the Medical Library Center of New York, which merged together the holdings of 12 representative medical libraries with as balanced a geographic distribution as possible. All of these libraries had been included in a union list produced by the Medical Library Center. The libraries are: New York Academy of Medicine, Columbia University, Washington University (St. Louis), Mayo Clinic, University of Illinois, University of Colorado, Mount Sinai Medical School (New York), New Jersey College of Medicine and Dentistry, Downstate Medical Center (Brooklyn), Montefiore Hospital (Bronx), Albert Einstein College of Medicine (Bronx), and University of Minnesota.

This listing was then matched against the lists of journals included in Index Medicus and Excerpta Medica, as well as those scheduled for addition to Index Medicus. When a match was found, the title was marked on the checklist; if a title did not already appear on the checklist, it was added. The non-IM titles being added were verified for accuracy and currency before their inclusion in the list.

The resulting list was then reviewed. Known substantive titles which had not been identified in the previous checking (e.g., new titles or title changes occurring during the present year) were added, as were any supplements or translations of titles already on the list. Known non-substantive titles were not marked for inclusion, nor was an attempt made to cover the proceedings of congresses, conferences, or symposia.

The preliminary working list which has been produced thus includes all titles held by any of the 12 libraries mentioned above, plus the additions noted. Those titles which have been selected for inclusion in the first edition of the national listing are now being reviewed by each Regional Medical Library for possible additions or deletions.

MEDLINE STATUS REPORT

Rose Marie Woodsmall & Davis B. McCarn
Lister Hill National Center for Biomedical Communications

On October 29, 1971, MEDLINE was made available to five institutions in the Washington, D. C. area: George Washington University Hospital Branch Library, Veterans Administration Hospital Library, Walter Reed Army Institute of Research, National Institutes of Health Clinical Center Library, and the National Library of Medicine. The basis for selection of these five was usage of the AIM-TWX system. Costs for the operation of AIM-TWX have been excessive recently due to an overload of users, so it was decided to allow MEDLINE access to the five largest AIM-TWX users as soon as possible. Other users will be added as soon as practicable following these priorities: Regional Medical Libraries, MEDLARS Centers, resource libraries, medical school libraries, major research institutions, general hospitals, and community hospitals.

Meetings are being held at each Regional Medical Library with representatives from libraries throughout the Region attending. These potential MEDLINE users receive information on how to apply for access, a description of the system and data base, and an explanation of the obligations a user agrees to accept. Meetings have been held in Nebraska, Texas, and Los Angeles and will be held in the other Regions before the end of January.

The second MEDLINE Training Class was held at the National Library of Medicine on November 8-24, 1971. The following people attended:

Bennett, Miss Emily	Walter Reed Gen. Hospital Washington, D. C.
Drew, Mr. Howard	Reference Section, NLM
Fulton, Miss June	College of Physicians, Philadelphia, Pennsylvania
Homan, Mr. Michael	Biomedical Library, UCLA
Netzow, Miss Mary	Veterans Administration Hospita, Washington, D. C.
Pichon, Mme. Christiane	INSERM, Paris
Soben, Mrs. Phyllis	George Washington Hospital Library, Washington, D. C.
*Sprow, Mr. Allan	Veterans Administration Libraries, Washington, D. C.
Walz, Miss Ursula	NIH Library, Bethesda, Md.

*auditor

A tentative schedule for training MEDLINE users at NLM has been established. Courses will be given starting on the following dates in 1972.

TENTATIVE TRAINING SCHEDULE
THREE-WEEK CLASSES BEGINNING:

January	17
February	28
April	10
May	22
July	10
August	21
October	2
November	6

In addition, tentative arrangements are being made with UCLA to provide training in that region.

The data base on the system covers the citations from 236 journals which have appeared in Index Medicus since January 1969. It now includes the December 1971 IM citations and contains over 150,000 citations. We are planning to have the full 1,000 journal data base available for searching on January 4, 1972.

In December the present IBM 360/50 will be replaced with an IBM 370/155 which will operate about three times as fast. The replacement will occur about December 9 and it is expected that MEDLINE will not be available December 10 and December 13. The service will be extended to eight hours a day (9:00 a.m.-5:00 p.m. EST) in January.

The leased FX lines from the New York Academy of Medicine, College of Physicians of Philadelphia, Wayne State University, and Ohio State University have been installed and are being tested. This will allow toll-free access for these four Regional Medical Libraries. Lines have also been installed for access by users with TWX machines, and the University of Virginia has tested this line and is accessing the system regularly. Additional communication links will be added between mid-December and the end of January to allow toll-free access from more than 20 metropolitian areas and all the Regional Medical Libraries and MEDLARS centers.

MEDLARS II PROGRESS

Davis B. McCarn, Deputy Director
Lister Hill National Center for Biomedical Communications

The MEDLARS II project is developing as planned, with progress being made on a wide front. During the starting phases of the program we experienced a two-week schedule slippage which we have not been able to recover as yet-- except for this two-week lag, the project is on schedule.

There are several high points in the System Development effort:

As in all large efforts, progress has been made in many areas--some small, some large, but too numerous to list in detail. Worth mentioning though, are several key steps that have provided direction and impetus to the project.

Early in the project effort (June 1971), the Director, National Library of Medicine, designated Mr. Davis B. McCarn, Deputy Director, Lister Hill National Center for Biomedical Communications, as the Project Manager. He also named a directorate to assist the Project Manager. This directorate is comprised of Mr. Ralph A. Simmons, Associate Director, Computer and Engineering Services, Dr. Joseph Leiter, Associate Director, Library Operations, and Mr. Hector L. Maynez, Deputy Chief, Network Plans and Management Branch, Lister Hill National Center for Biomedical Communications.

The National Library of Medicine contracted with the RAND Corporation to assist as an independent consultant. RAND will assist by providing a continuing evaluation of the Contractor's (SDC) activities to the NLM management.

The Office of Computer and Engineering Services has relocated three staff members to work at the SDC premises and has made additional staff assignments at NLM. This completes the OCES project staffing.

Library Operations has also completed its staff assignment to the Project. Staff responsibilities have been defined to develop strong project communications and to assure that LO expertise is available to SDC and the project as a whole.

The Project Control Document, the first formal document delivered by SDC, was received on September 13, 1971. Two visits by the SDC design teams and numerous consultations with NLM staff were required to develop the document. This document has been reviewed and was accepted on October 19, 1971, to form a starting point for project planning and control.

The initial steps taken in any project form the base for future actions. Consequently, the NLM Project Management Staff is making a site visit to

(1) evaluate the SDC designs in detail, (2) to provide NLM expertise, and (3) to make any necessary system design decisions.

This on-site progress review will assure a better, more complete System Design Overview, the next document to be provided by SDC.

ALABAMA MEDLARS CENTER

205-934-3613 is the new telephone number for the Alabama MEDLARS Center. The address is as follows:

MEDLARS Center
Lister Hill Library for the Health Sciences
University of Alabama
1919 Seventh Avenue South
Birmingham, Alabama 35233

PERSONNEL NOTICES

1. Mrs. Erika Love, former Director of Libraries, Bowman Gray School of Medicine, has been designated Deputy Associate Director for Library Operations effective November 22, 1971. Mrs. Love will be concerned with the Library's technical and customer services at NLM and in its management of Regional Services. Mrs. Love is also being designated as Director, Mid-Atlantic Regional Library and will be responsible for developing and maintaining these regional services.

2. As of November 1, 1971, Mrs. James F. Williams, II, was appointed Acting Associate Director, Vera Shiffman Medical Library, Wayne State University, 4325 Brush Street, Detroit, Michigan 48201.

3. Miss Carolyn Green has left the MEDLARS Center at the John Crerar Library and transferred to the Mid-Continential Regional Medical Library, University of Nebraska Medical Center, Omaha, Nebraska.

UPDATES TO MESH MATERIALS

1. ERRATA TO: SEARCHER'S MESH 1972

Page 22	Column 1	Under:	ANTIPROTOZOAL AGENTS
		Delete:	XU TRICHOMONACIDES
Page 56	Column 2	Change:	CHEMOSTERILANTS D3.121.5
		To:	CHEMOSTERILANTS D3.121.3
Page 66	Column 2	Change:	COLOSTRIUM
		To:	COLOSTRUM
Page 79	Column 2	Under:	DENTAL CLINICS
		Delete:	see also related TOOTHBRUSHING
Page 101	Column 1	Change:	ENCEPHALOMYELITIS, NECROTIZING HEMORRHAGE
		To:	ENCEPHALOMYELITIS, NECROTIZING HEMORRHAGIC
Page 104	Column 2	Change:	EPITHELIA CELLS
		To:	EPITHELIAL CELLS
Page 163	Column 2	Change:	ISOTOPE LABELING E5.61
		To:	ISOTOPE LABELING E5.62
Page 170	Column 2	Change:	LEG LENGTHING
		To:	LEG LENGTHENING
Page 215	Column 1	Change:	ORGANOTHIOPHORUS COMPOUNDS
		To:	ORGANOTHIOPHOSPHORUS COMPOUNDS
Page 250	Column 1	Change:	PUBLIC HEALTH DENTISTRY D2.8.54.1
		To:	PUBLIC HEALTH DENTISTRY G2.8.54.1
Page 284	Column 1	Change:	STRUCTURE ACTIVITY RELATIONSHIP G1.13.16
		To:	STRUCTURE ACTIVITY RELATIONSHIP G1.13.61
Page 292	Column 2	Add	*Teichoic Acids D11.12.54.1, D11.24.57
Page 301	Column 1	Under:	TOOTHBRUSHING
		Delete:	XR DENTAL CLINICS
Page 305	Column 1	Delete:	TRICHOMONACIDES SEE UNDER ANTIPROTOZOAL AGENTS

2. ERRATA TO: TREE STRUCTURES 1972

Page 139	Delete:	PUBLIC HEALTH DENTISTRY D2.8.54.1
Page 198	Add:	*Teichoic Acids D11.12.54.1, D11.24.57
Page 230	Change:	*ISOTOPE LABELING E5.61
	To:	*ISOTOPE LABELING E5.62
Page 251	Delete:	STRUCTURE ACTIVITY RELATIONSHIP G1.13.16
Page 252	Add:	STRUCTURE ACTIVITY RELATIONSHIP G1.13.61
Page 264	Add:	PUBLIC HEALTH DENTISTRY G2.8.54.1

NATIONAL LIBRARY OF MEDICINE

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LIBRARY NETWORK/MEDLARS TECHNICAL BULLETIN
Issued monthly by the Office of the Associate Director for Library Operations

Dr. Joseph Leiter
Associate Director
for Library Operations

Mrs. Ann R. Lindsay, Managing Editor
Mrs. Grace T. Jenkins, Technical Editor

National Library of Medicine, 8600 Rockville Pike, Bethesda, Maryland 20014

NETWORK ACTIVITIES
September 1971
Dan Tonkery, Network Management Staff, NLM

MEDLARS Searches

Statistics from domestic MEDLARS Centers indicate that 1,486 searches were released during September.

Exclusive of AIM-TWX activity, the Fiscal Year 1972 cumulation of released searches totals 4,035.

MEDLARS Searches Released in September

FY 1970	1,001
FY 1971	1,196
FY 1972	1,486

ORIENTATION PROGRAMS

DATE	TYPE OF ORIENTATION	PRESENTED AT	PRESENTED BY
September 13-14	AIM-TWX	SERMLP Emory University	F. Johnson
September 14	Index Medicus usage	PSRMLS Institute for hospital librarians	A. Durso
September 15	AIM-TWX	PSRMLS Institute for hospital librarians	J. Boorkman A. Durso P. Hanson

STATISTICAL SUMMARY FOR MEDLARS CENTERS FOR SEPTEMBER, 1971
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, 1971
Period: 8/27 - 9/30/71 (5 weeks)

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		
					Current	Back File	Total	Current	Back File	Total
UNITED STATES										
Alabama	0	106	9	5.2	93.2	50.0	92.4	97.0	50.0	96.2
Colorado	1	64	13	4.8	74.0	66.0	73.4	100.0	100.0	100.0
Crerar	2	74	0	8.4	84.5	33.3	82.4	94.4	33.3	91.9
Harvard	14	79	10	8.6	73.0	17.0	68.4	88.0	17.0	82.3
Michigan	5	104	112	5.7	27.3	0	25.9	54.6	0	51.8
New York	7	51	7	3.5	68.6	0	68.6	78.4	0	78.4
NIH	0	60	43	6.4	90.8	57.2	86.7	92.6	85.8	91.7
NLM-MARML	25	261	18	6.7	77.0	40.0	76.2	90.3	100.0	90.4
NLM-MMS	0	17	3	21.0	92.0	100.0	94.1	100.0	-	100.0
Ohio	9	182	0	4.9	100.0	50.0	99.0	-	75.0	99.5
Philadelphia	5	65	0	8.5	52.5	50.0	52.3	86.9	75.0	86.1
PMA	2	41	224	11.1	100.0	42.9	70.8	-	62.0	80.5
Texas	20	131	37	4.3	*100.0	100.0	100.0	-	-	-
UCLA	19	168	34	10.5	70.7	**100.0	70.8	94.1	-	94.0
Washington	19	83	2	5.1	83.0	86.0	83.1	91.0	86.0	90.3
TOTALS	128	1486	512	-	79.0	51.0	78.0	91.0	67.0	90.0
FOREIGN										
Australia	1	115	48	8.3	89.7	50.0	87.0	94.4	72.5	92.2
Canada	0	26	25	18.7	4.4	33.3	7.7	43.5	33.3	42.3
England	0	72	135	NA	77.1	8.3	54.2	89.6	8.3	62.5
France(INSERM)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Germany(DIMDI)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Japan(JICST)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sweden	0	72	413	6.6	69.4	0	69.4	88.8	0	88.8

*Texas-current-10 days 100%
**UCLA -BFS -10 days 100%

INDEX TRAINING CLASS OF OCTOBER 1971

Listed below are the people attending the INDEX training course which began on October 4, 1971:

Mrs. Beverly Z. Beckley	Franklin Institute, Philadelphia
Mr. James R. Cowley	" " "
Mrs. Diana W. Crystal	Herner & Company, Washington
Mrs. Dorothy O. Wing	" " "
Miss Jean T. Boulware	Pharmaceutical Manufacturers Assoc., Washington
Mrs. Mary Hantzes	" " " "
Mrs. Karen Graves	" " " "
Miss Nancy Butts	Scientific Literature Corp., Philadelphia
Mrs. Ruth Handzel	" " " "
Mrs. Peri Lee Schuyler	" " " "
Mr. Michael Homan	UCLA MEDLARS Center, Los Angeles, Calif.
Mr. Leo A. Grigaitis	MEDLARS Center, National Science Library, Ottawa, Canada
Auditors:	
Mrs. Jacqueline C. Picciano	American Journal of Nursing
Mrs. Lynda Cahoon	NIH Division of Research Grants

PERSONNEL NOTICE

Mrs. Sarah C. Brown is project director for the MEDLARS Center at the University of Alabama in Birmingham, replacing Dr. John J. Sharry.

205-934-3613 is the new telephone number for the Alabama MEDLARS Center. The address remains the same: MEDLARS Center
Medical Center Library
University of Alabama
1919 Seventh Avenue South
Birmingham, Alabama 35233

Miss Angie Durso is Head of the MEDLARS Center and Information Services at UCLA MEDLARS Center, Pacific Southwest Regional Medical Library, Los Angeles, California, replacing Mrs. Betsey Beamish, who assumed responsibility for Continuing Education and Consulting for PSRMLS as of October 1, 1971.

MEDLINE

In October 1971 the National Library of Medicine initiated a new service, MEDLINE (MEDLARS On-Line), to provide an on-line bibliographic searching capability for medical schools, medical libraries, hospitals, and research institutions throughout the country. MEDLINE allows almost instantaneous searching of the medical literature.

The initial data base consists of all the articles in the top 236 medical journals indexed for MEDLARS since January 1, 1969, with over 130,000 citations. This data is being expanded and will cover over 1,000 journals and contain over 300,000 citations. MEDLINE operates on the IBM 360/50 computer of the National Library of Medicine and can support up to 25 simultaneous users.

The Library is installing a data communication network to facilitate access to the service. The initial phase of the network will provide local numbers in Albany, New York; Cincinnati, Ohio; Atlanta, Georgia; Sacramento, California; Houston, Texas; and Denver, Colorado; special connecting lines will be extended from these network nodes to the Regional Medical Libraries and MEDLARS Search Centers. By January 1972, the network will be extended so that the computer can be reached by a local call in at least twenty major cities.

Each user of the service will pay for his own terminal and telephone costs. The system can be used by teletype, TWX, IBM 2741, and other terminals operating at 100, 148, or 300 words per minute. User institutions can obtain appropriate terminals for as low as $65 per month. In addition to paying these costs, user institutions must agree to send at least one person for training in the use of the system and, further, they must agree to provide bibliographic services to health professionals beyond their normal service responsibilities.

Development of MEDLINE has been spurred by the success of AIM-TWX (Abridged Index Medicus via the Teletypewriter Exchange Network), an experimental service developed in June 1970 by the System Development Corporation for the Library's Lister Hill National Center for Biomedical Communications and the Library Operations staff of NLM. The AIM-TWX data base comprises citations to articles published in the last five years in 100 English-language journals in clinical medicine, plus a small number concerned with toxicology and other subjects.

For further information about MEDLINE, write:

Associate Director for Library Operations
National Library of Medicine
8600 Rockville Pike
Bethesda, Maryland 20014

UPDATES TO MESH MATERIALS

1. ERRATA TO: MEDICAL SUBJECT HEADINGS 1972 #1

Page 22	Column 1	Under:	ANTIPROTOZOAL AGENTS
		Delete:	XU TRICHOMONACIDES
Page 66	Column 2	Change:	COLOSTRIUM
		To:	COLOSTRUM
Page 79	Column 2	Under:	DENTAL CLINICS
		Delete:	see also related TOOTHBRUSHING
Page 101	Column 1	Change:	ENCEPHALOMYELITIS, NECROTIZING HEMORRHAGE
		To:	ENCEPHALOMYELITIS, NECROTIZING HEMORRHAGIC
Page 104	Column 2	Change:	EPITHELIA CELLS
		To:	EPITHELIAL CELLS
Page 170	Column 2	Change:	LEG LENGTHING
		To:	LEG LENGTHENING
Page 215	Column 1	Change:	ORGANOTHIOPHORUS COMPOUNDS
		To:	ORGANOTHIOPHOSPHORUS COMPOUNDS
Page 292	Column 2	Add:	TEICHOIC ACIDS D11.12.54.1, D11.24.57
Page 301	Column 1	Under:	TOOTHBRUSHING
		Delete:	XR DENTAL CLINICS
Page 305	Column 1	Delete:	TRICHOMONACIDES SEE UNDER ANTIPROTOZOAL AGENTS

NOTES TO AIM-TWX USERS

All AIM-TWX users will be receiving a letter from the Lister Hill National Center for Biomedical Communications with the following attachments:

1. Revisions to the University of Washington AIM-TWX Users' Guide (4 pages)
2. "ELHILL Title Search Capability" (9 pages)
3. New "AIM-TWX Login Sheet" (2 pages)
4. User Statistics for July and August

1972 INDEXING

Thelma Charen, Index Section, BSD, NLM

On 1 October the Index Section held its orientation in 1972 indexing. Almost a hundred indexers, revisers and visitors were present from the NLM staff and from the contractors. Contract indexers came from as far away as Atlanta.

As usual, the orientation centred about the new main headings introduced by MeSH for 1972 and, as usual, indexing policy remains unchanged except for two or three minor points discussed below.

The following items were handed out at the orientation but sent also to the various foreign indexing centers about the world:

Supplied by MeSH Section:

1. 1972 #1 Alphabetical MeSH
2. New Main Headings 1972, with definitions
3. Addenda to 2 above (one sheet)
4. Errata to 2 above (one sheet)
5. 1972 Provisional Headings with indexing instructions
6. Provisional Heading List by Subcategories - 1972
7. Data Form Abbreviations

Supplied by Index Section:

8. 1972 Main Headings by Subcategory
9. 1972 Indexing Manual revisions (page indicated)
   - Foreign Titles - 5
   - Subheadings - 51
   - Category A - 6 and 6a
   - Category M - 4 and 5
   - Category N - 1 and 2
   - Enzymes - 5 through 11
10. Instructions for identical Provisionals and Cross-References
11. Intermediate disease headings
12. Indexing of nursing articles
13. Insects tree (page 10 of item 8 above)
14. New respiration terms (page 11 of item 8 above)
15. Deleted MeSH headings (page 12 of item 8 above)

The indexers were delighted with several 1972 headings:

DIGESTIVE SYSTEM, URINARY TRACT, CELLS, BACTERIAL INFECTIONS, RETINAL

DISEASES, PITUITARY HORMONES, MYCOLOGY, TUMOR VIRUS INFECTIONS. The 1963-1971 indexing of these concepts under given MeSH headings were never satisfactory to indexers.

Category B has been greatly amplified by the addition of many insects, mollusks, crustaceans, frogs and toads.

In 1972 the indexer will specify the species of two Schistosoma, four Trypanosoma, four species of Rana and three of Bufo. MICE, INBRED STAINS and RATS, INBRED STRAINS will also be picked up.

Because of the introduction of MEDLINE, the new direct on-line form of MEDLARS, for the present the Check Tags printed on the data form will continue to be checked by the indexers, FROGS - in addition to indexing under RANA - and MONKEYS - in addition to indexing under MACACA and BABOONS (these last two are 1972 Provisionals).

Several new groups of enzymes have been added to the 1972 MeSH, and the Indexing Manual KEY TO THE INDEXING OF ENZYMES has been accordingly updated, copies of which are available.

FUNGICIDES, INDUSTRIAL has been added to MeSH and, beginning in 1972, should be distinguished from ANTIFUNGAL AGENTS which will be restricted to fungicides used in the <u>treatment</u> of human and animal diseases.

RNA, SOLUBULE has been changed to RNA, TRANSFER to reflect the more commonly used term in the literature.

IMMUNOGLOBULINS has become a main heading, with GAMMA GLOBULIN to be indented under it in the 1972 categories soon to appear.

Indexers should routinely check MeSH to discover new useful terms in both respiration physiology and immunology.

The only subheading change has been the addition of *education to Category M. The Indexing Manual Sheet on this category has been revised to note this addition but at the same time both lists restrictions and cautions against nonsensical matings (SINGLE PERSON *education).

One indexing practice was mentioned and emphasized during the orientation. We admonished the indexers to serve searchers by regularly indexing so-called intermediate disease headings under the practice I choose to call "the law of useful redundancy." It can best be illustrated by this example. In indexing "echinococcosis of the common bile duct" the correct indexing is

1. ECHINOCOCCOSIS (IM)
2. COMMON BILE DUCT (IM)
3. BILIARY TRACT DISEASES (NIM)

The arrows indicate the coordinations: No. 3 is the "intermediate disease heading", the one of "useful redundancy": indexing needs only 1 and 2 but 3 allows the searcher to retrieve the article as a biliary tract disease without resorting to explosions of the disease or organ subcategories to retrieve all biliary tract disease citations. This same "law of useful redundancy" operates in checking the tag FROGS when indexing RANA.

Change in indexing practice in the next area merely follows usage in the indexing of four regional circulation concepts; the 1972 Indexing Manual sheet Category A - 6 in turn legitimizes practice. BRAIN *blood supply will be indexed for the anatomical aspects of this subject while CEREBRO-VASCULAR CIRCULATION will be indexed for the physiological slant; correspondingly CORONARY VESSELS will serve the anatomy with CORONARY CIRCULATION serving the physiology. Likewise, LIVER *blood supply and LIVER CIRCULATION are both legitimate as are LUNG *blood supply and PULMONARY CIRCULATION.

For the first time since 1950 we have changed our practice on translating corporate names. Formerly we did not translate any corporate name in the Romance or Germanic languages. Effective in 1972 we shall translate any corporate name not clearly understood by an American or English reader: Istituto Italiano di Cardiologia will not be translated, Instituto Superiore di Sanità will be.

The Index Section is planning to continue issuing its Technical Notes periodically and expects to publish also indexing aids on various subjects as needed.

We promise as we do annually on the Eve of the New MeSH Year to try to serve you as accurately and speedily as possible. As we do annually, we welcome, however sadly, your criticism and suggestions.

NATIONAL LIBRARY OF MEDICINE

LIBRARY NETWORK/ MEDLARS
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National Library of Medicine, 8600 Rockville Pike, Bethesda, Maryland 20014

NETWORK ACTIVITIES
August 1971
Dan Tonkery, Network Management Staff, NLM

MEDLARS Searches

Statistics from domestic MEDLARS Centers indicate that 1,134 searches were released during August. This month's total released searches decreased 20% from last month's total.

Exclusive of AIM-TWX activity, the Fiscal Year 1972 cumulation of released searches totals 2,549.

MEDLARS Searches Released in August

FY 1970	1,048
FY 1971	1,345
FY 1972	1,134

MEDLARS ORIENTATION PROGRAMS

DATE	PRESENTED AT	ATTENDEES	PRESENTED BY
August 6	Veterans Administration Hospital, Los Angeles	20	J. Boorkman
August 19	Veterans Administration Hospital, Los Angeles	20	A. Durso

RML Statistical Tables

Comparisons of the RMLs and their performance are offered in the following three tables; because of the lack of standard definitions, some of the data presented may be difficult to correlate in any analysis.

RML-FUNDED ILL ACTIVITY

July 1970 - June 1971

	NLM	1 HARV	2 NYAM	3 COP	4 MAR	5 WAYNE	6 EMORY	7 CRERAR	8 NEB	9 DALLAS	10 SEATTLE	11 UCLA	TOTAL OR AVERAGE
Total Requests Received	79,946	57,012	49,225	50,637	46,803	69,541	45,702	22,545	18,680	18,919	25,969	40,792	525,771
% Accepted of Requests Received	92%	96%	99%	97%	94%	98%	99%	99%	99%	99%	98%	99%	97%
% Filled of Requests Accepted	88%	84%	71%	84%	87%	80%	77%	64%	84%	85%	89%	78%	81%
% Filled Within One Day of Receipt	60%	22%	90%	96%	75%	77%	80%	30%	65%	96%	23%	66%	65%
% Filled Within Three Days of Receipt	80%	59%	95%	99%	91%	86%	93%	77%	90%	98%	36%	93%	83%
% Unfilled but Cleared Within Ten Days of Receipt	39%	88%	99%	98%	55%	97%	98%	98%	98%	99%	13%	95%	81%

INDIVIDUAL RML-FUNDED ILL ACTIVITY

Summary of FY 70 and FY 71

	NLM	1 HARV	2* NYAM	3 COP	4 MAR	5 WAYNE	6* EMORY	7 CRERAR	8* NEB	9* DALLAS	10 SEATTLE	11* UCLA
Total Requests Received												
FY 70	79,374	47,975	3,990	58,650	48,542	57,016	9,757	18,494	- -	5,335	22,768	28,335
FY 71	79,946	57,012	49,225	50,637**	46,803	69,541	45,762	22,545	18,680	18,919	25,969	40,792
Total Requests Accepted												
FY 70	67,967	46,462	3,807	57,623	45,709	56,076	9,463	18,379	- -	5,214	22,386	28,146
FY 71	73,235	54,942	48,792	49,417	44,241	68,201	45,302	22,465	18,640	18,863	25,503	40,394
Total Requests Filled												
FY 70	61,703	38,798	1,884	51,397	38,918	43,048	6,906	12,955	- -	4,222	20,393	22,399
FY 71	64,141	46,642	34,863	41,649	38,418	54,448	34,979	14,420	15,687	16,145	23,172	31,688
% Filled within Three Days of Receipt												
FY 70	67%	74%	97%	99%	82%	92%	92%	86%	- -	94%	83%	87%
FY 71	80%	59%	95%	99%	91%	86%	93%	77%	90%	98%	36%	93%

* Not in full operation FY 1970
** Excludes non-reimbursable

NLM and RML-FUNDED ILL ACTIVITY

	FY 1970	FY 1971	% Increase
Total Requests Received	276,072	525,771	90%
By TWX	24,384	78,813	223%
Total Requests Accepted	261,210	509,995	95%
Total Requests Filled	220,452	416,252	88%
Photocopy	182,119	366,262	101%
Original	38,333	51,280	33%

STATISTICAL SUMMARY FOR MEDLARS CENTERS FOR AUGUST 1971
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 1971
Period: 7/30 - 8/26/71

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		
					Current	Back File	Total	Current	Back File	Total
UNITED STATES										
Alabama	6	84	10	4.2	83.7	75.0	83.4	100.0	100.0	100.0
Colorado	0	59	12	5.4	80.0	0.	78.3	99.0	100.0	98.6
Crerar	9	55	0	6.9	77.0	0.	72.7	94.3	66.7	92.7
Harvard	5	87	12	9.2	73.0	72.0	72.5	90.0	86.0	89.7
Michigan	4	35	113	8.7	22.9	0.	22.9	60.	0.	60.0
New York	2	51	9	4.5	56.8	0.	56.8	82.3	0.	3
NIH	2	73	42	9.6	44.4	33.3	43.9	62.9	100.0	64.4
NLM-MARML	17	193	25	6.7	72.7	64.3	72.0	88.9	78.6	88.1
NLM-MMS	1	21	3	8.0	90.0	100.0	90.5	100.0		100.0
Ohio	8	113	120	6.7	100.0	100.0	100.0			
Philadelphia	5	72	15	7.3	85.9	100.0	86.1	98.6		98.6
PMA	0	39	222	10.0	86.4	53.0	71.8	95.5	64.8	82.1
Texas	0	91	37	6.7	100.0	100.0	100.0			
UCLA	38	125	33	9.2	74.4	62.5	73.6	92.4	100.0	92.8
Washington	0	36	3	8.2	80.0	33.0	72.3	93.0	50.0	86.2
TOTALS					77.0	62.0	76.0	91.0	82.0	91.0
FOREIGN										
Australia	0	79	0	11.3	88.7	75.0	87.3	100.0	100.0	100.0
Canada	0	18	21	14.5	-	-	0.	-	-	5.6
England	0	68	193	NA	-	-	79.3	-	-	85.1
France(INSERM)	0	60	326	7.	-	-	49.0	-	-	87.0
Germany(DIMDI)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Japan(JICST)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sweden	0	52	NA	8.7			88.4			96.1

CHANGE IN INTERLIBRARY LOAN NON-AVAILABILITY REPORT FORM

Sheldon Kotzin
Acting Head, Loan & Stack Section, Reference Services Division, NLM

Non-availability procedures and reporting are being revised at the National Library of Medicine in order to insure that requesting libraries receive as prompt a report as possible on items requested.

Three categories of non-availables will be established: 1) Short Term, 2) Long Term, and 3) Not Located on Initial Search.

Both the Short Term and Long Term categories are already in use. A notice of Short Term non-availability is sent when a requested item is presently on loan, at the bindery, or in processing. A Long Term non-availability notice is sent when it is anticipated that the item will not be available for at least two weeks. Reasons for Long Term non-availables may be that an item is missing, has not been received, or is non-circulating.

The main change in procedure results from the addition of a new category--Not Located on Initial Search. Every attempt will be made to locate an item within five working days after the request is received at the Library. If it is not located within this time, a notice will be sent to the original requesting library and the RML or referring library, indicating that a problem exists. If further searching is desired, the user may resubmit his request. In that case, an additional search will be conducted, using every resource available, including referrals to other libraries.

The Not Located on Initial Search category serves two purposes. It will give the requester as prompt an answer as possible and will also enable him to request an exhaustive search for those items of extreme importance which are within the scope of the Library's collection.

A sample of the new form follows:

_____19___

NLM REPORT OF NON-AVAILABILITY

_____SHORT TERM NON-AVAILABLE: The item you have requested is temporarily unavailable (for the reason cited below), but should be available within two 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. Address the request to the Loan and Stack Section for prompt action.

_____NOT LOCATED ON INITIAL SEARCH: The attached interlibrary loan request has been in process at the National Library of Medicine for five working days. A problem or delay has been encountered in locating the item and you may wish to locate it elsewhere. If you wish additional searching for this item by a professional staff member, please return the request form with this report stapled to it, addressed to the Loan and Stack Section.

_____LONG TERM NON-AVAILABLE: For the reason cited below, the item you have requested cannot be supplied within a two week period. We suggest that you attempt to locate it elsewhere.

****

_____Title not in Library	_____On Loan	_____Exceeds page limit (Item non-circulating)
_____Issue not received	_____At Bindery	
_____Title or issue missing	_____In processing	_____Exceeds copy limits (1 article per issue 3 articles per volume)
_____Non-circulating		

PRIMARY PARAMETERS OF PSYCHOLOGICAL TESTS

Edith G. Calhoun
MeSH Section, Bibliographic Services Division, NLM

Several times over the past months, searchers have asked for information on the primary parameters of psychological tests. Any single test may be used to assess many parameters, and in personality research, especially, there are new variables constantly being studied and applied to old tests. However, as a particular test is developed, there are certain primary parameters which are considered most applicable to a particular test. It is from this standpoint that I have attempted to construct this matrix. The parameters indicated for the individual psychological test are only primary and basic to that test; this is not to say that other parameters may not be assessed on occasion.

	Cognitive Intelligence	Personality	Brain Dysfunction	Special Abilities e.g. Mechanical	Perceptual	Motor Function
Rorschach		X	X		X	
Thematic App. Test		X			X	
p Holtzman Inkblot Test		X	X		X	
Inkblot Tests		X	X		X	
Intelligence Tests	X		X			
MMPI		X				
Bender-Gestalt	X*		X		X	X
Aptitude Tests	X			X		X
Word Assoc. Test	X	X*	X			
Semantic Differential	X	X[1]				
p Memory-For-Designs Test			X		X	X
p Trail Making Test			X			
Personality Inventory		X				

* Low Validity
1 Osgood Measure of Affect
p Provisional term

APTITUDE TESTS (F3)
F3.65.8
Primarily non-verbal tests designed to predict an individual's future learning ability or performance.

BENDER-GESTALT TEST (E1,F3)
E1.80.8; F3.65.16
A psychological test consisting of 9 geometric designs on cards. The subject is asked to redraw them from memory after each one is presented individually. Syn: Bender Visual Motor Gestalt Test

HOLTZMAN INKBLOT TEST (E1,F3)
E1.80.48.1; F3.65.32.1
Personality evaluation based on the scoring of several variables as a result of the subject's responses in perceiving 47 inkblot plates.
INDEX UNDER: INK BLOT TESTS (E1,F3)

INK BLOT TESTS (E1,F3)
E1.80.48.1; F3.65.32.1
Projective tests utilizing ink blots to which a subject responds; they are used in personality diagnosis.

INTELLIGENCE TESTS (E1,F3)
E1.80.16; F3.65.8.1
Standardized tests that measure the present general ability or aptitude for intellectual performance.

MEMORY FOR DESIGNS TEST (E1,F3)
E1.80.25; F3.65.20
Presentation of 15 simple geometric designs on cards and the reproduction of these designs from immediate memory. Most widely used test for the diagnosis of perceptual, motor and memory dedicits related to organic brain dysfunction.
INDEX UNDER: PSYCHOLOGICAL TESTS (E1,F3)

MMPI (E1,F3)
E1.80.40.1; F3.65.24.1
A personality inventory consisting of statements to be asserted or denied by the individual. The patterns of response are characteristic of certain personality attributes.

PERSONALITY INVENTORY (E1,F3)
E1.80.40; F3.65.24
Check list, usually to be filled out by a person about himself, consisting of many statements about personal characteristics which the subject checks; to include the manifest anxiety scale.

PROJECTIVE TECHNICS (E1,F3)
E1.80.48; F3.65.32
Personality attributes are revealed through the subject's responses to relatively unstructured, ambiguous or vague stimuli. These responses represent projections of the subject's own fears and needs.

PSYCHOLOGICAL TESTS (E1,F3)
E1.80; F3.65
The objective and standardized measure of a sample of behavior in a sample of individuals.

PSYCHOMETRICS (F3)
F3.65.40
Assessment of psychological variables by the application of mathematical procedures.

RORSCHACH TEST (E1,F3)
E1.80.48.1; F3.65.32.1
Used to evaluate a broad range of personality variables including pathology of thought and perception. Test consists of 10 inkblot prints. The subject's responses to these inkblots are scored along with subjective interpretation by the test administrator.

SEMANTIC DIFFERENTIAL (E1,F3)
E1.80.56; E1.87.32; F3.65.48
Analysis of word concepts by the association of polar adjectives, e.g. good - bad, with the concept, e.g. father. The adjectives are usually scaled in 7 steps. The subject's placement of the concept on the adjectival scale indicates the connotative meaning of the concept.

THEMATIC APPERCEPTION TEST (E1,F3)
E1.80.48.1; F3.65.32.1
A projective test in which a person is asked to make up stories about a series of pictures suggesting life situations. The themes expressed by the subject are viewed as those important in his own life or expressions of his personality needs.

TRAIL MAKING TEST (E1,F3)
E1.80.59; F3.65.52
The subject's ability to connect 25 numbered and lettered circles in sequence in a specific length of time. A score of 12 or below is suggestive of organic brain damage.
INDEX UNDER: PSYCHOLOGICAL TESTS (E1,F3)

WORD ASSOCIATION TESTS (F3)
F3.65.56
Lists of words to which individuals are asked to respond for ascertaining the conceptual meaning held by the individual.

NATIONAL LIBRARY OF MEDICINE JOURNAL TITLE ABBREVIATIONS

An article entitled "MEDLARS Abbreviations for Medical Journal Titles," by Thelma Charen and Constantine Gillespie, appeared in the July 1971 issue of the Bulletin of the Medical Library Association.

It traces the history of abbreviation activity at NLM since the official pronouncement of July 1962. It represents present policy and declares the adoption of the American National Standard for the Abbreviation of Titles of Periodicals.

Pages 426 to 429 of the ten-page article are the NLM Rules for Abbreviation of Periodical Titles.

MEDLARS and NLM want to encourage all authors to adopt the standard form of journal title abbreviations. Copies of the article are available from Stanley Jablonski, Head Index Section, NLM.

Chemical Indexing of Pesticides

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Since this is the decade for cleaning up the environment, the volume of literature on pesticides indexed by NLM has risen considerably. For specicity in retrieval, it is not sufficient to index these compounds under the main classes HERBICIDES, INSECTICIDES, MOLLUSCACIDES, RODENTICIDES, INSECT REPELLENTS, FUNGICIDES, INDUSTRIAL, AND CHEMOSTERILANTS listed in D3 under PESTICIDES. The indexer learns early in his training that, for specificity, a neoplasm has to be indexed with three terms: Organ neoplasm, histological type and the site, if available. This same degree of specificity can be obtained in indexing chemicals and drugs, if proper use is made of the coordinate system. For example, a search for phosalone (O,O-diethyl-S (6-chloro-oxo-benzoxazolin-3-yl) methyl phosphorodithioate) can yield citations on about 75 different compounds if organophosphorus insecticides are indexed only with the terms INSECTICIDES and ORGANOTHIOPHOSPHORUS COMPOUNDS or ORGANOPHOSPHORUS COMPOUNDS and the search formulation is written accordingly. The addition of OXAZOLES as an NIM coordinate in indexing the above compound will yield citations on only a few organophosphorus insecticides or quite possibly only on the desired compound. Since MeSH has given us many new pesticide terms for 1972, an attempt has been made in the following pages to acquaint the indexer and searcher with the pesticide field and with the various chemical headings used in indexing pesticides. The chemical specialist is available for questioning if the selection of terms poses difficulties.

I. INSECTICIDES There are five main classes of insecticides.

a) Organochlorine Insecticides (see table). The best known member of this group is DDT. The accompanying table lists the most frequently encountered insecticides. Members of this group are indexed HYDROCARBONS, HALOGENATED (IM), and a coordinate (NIM), if available. The term INSECTICIDES should, of course, always be used when an insecticide is indexed.

Example: tetradifon (p-chlorophenyl-2,4,5-trichlorophenyl sulfone)

HYDROCARBONS, HALOGENATED	(IM)
SULFONES	(NIM)
INSECTICIDES	(IM)

b) Organophosphorus Insecticides or organophosphates (see table). PARATHION and MALATHION are members of this group. Organophosphorus insecticides for which we do not have MeSH headings are indexed under the new main headings ORGANOPHOSPHORUS COMPOUNDS or ORGANOTHIOPHOSPHORUS COMPOUNDS, as applicable, and an NIM coordinate.

Examples: diazinon (diethyl-2-isopropyl-4-methyl-6pyrimidinyl phosphorothionate)

ORGANOTHIOPHOSPHORUS COMPOUNDS (IM)
PYRIMIDINES (NIM)
INSECTICIDES (IM)

Gardona (phosphoric acid, 2-chloro-1-(2,4,5-trichlorophenyl) vinyl dimethyl ester)

ORGANOPHOSPHORUS COMPOUNDS (IM)
VINYL COMPOUNDS (NIM)
INSECTICIDES (IM)

c) Carbamate Insecticides (see table). A well-known member of this group is carbaryl (SEVIN (prov)). Members of this group should be indexed as INSECTICIDES (IM), CARBAMATES (IM) and an NIM coordinate.

Example: carbofuran (2,3-dihydro-2,2-dimethylbenzofuranyl-7-N-methylcarbamate

CARBAMATES (IM)
BENZOFURANS (NIM)
INSECTICIDES (IM)

d) Botanicals (see table). This group includes the nicotinoids, rotenoids, and pyrethroids. Index NICOTINE, ROTENONE, and PYRETHRUM, respectively, and an appropriate NIM coordinate.

e) Fumigants (see table). Since we do not have the heading "fumigants" in MeSH, articles dealing with these compounds are indexed under FUMIGATION. Pesticidal fumigants are insecticides which possess sufficient natural or induced vapor pressure to produce lethal concentrations of vapor. The majority of fumigants are low-molecular-weight halogenated hydrocarbons such as dibromochloropropane, CARBON TETRACHLORIDE, ethylene dichloride, methyl bromide, etc. They are indexed HYDROCARBONS, HALOGENATED (IM), an NIM coordinate such as CHLORINE, BROMINE, or FLUORINE, INSECTICIDES (IM), and FUMIGATION (IM). BENZENE, CARBON DISULFIDE, methane sulfonyl fluoride, naphthalene, aluminum phosphide, sodium bisulfite, and SULFUR DIOXIDE are also considered fumigants.

II. FUNGICIDES. For 1972, MeSH has given us the term FUNGICIDES, INDUSTRIAL, which is to be applied to antifungal agents used against plant diseases. The term ANTIFUNGAL AGENTS is reserved for therapeutic antifungal drugs. Therefore, FUNGICIDES, INDUSTRIAL is always used as a coordinate when indexing fungicides. While there are many fungicides which do not lend themselves to convenient grouping, there are several well-known groups in the fungicide field.

a) Dithiocarbamate and Ethylenebisdithiocarbamate Fungicides (see table). Members of this group are indexed FUNGICIDES, INDUSTRIAL (IM), THIOCARBAMATES (IM), and an appropriate NIM coordinate.

Example: zineb (zinc ethylenebisdithiocarbamate)

THIOCARBAMATES	(IM)
ZINC	(NIM)
FUNGICIDES, INDUSTRIAL	(IM)

maneb (manganese ethylenebisdithiocarbamate)

THIOCARBAMATES	(IM)
MANGANESE	(NIM)
FUNGICIDES, INDUSTRIAL	(IM)

b) Quinone Fungicides (see table). Chloranil and dichlone are members of this group. Index with appropriate quinone term (IM) and NIM coordinate.

Examples: chloranil (tetrachloro-p-benzoquinone)

QUINONES	(IM)
CHLORINE	(NIM)
FUNGICIDES, INDUSTRIAL	(IM)

dichlone (2,3-dichloro-1,4-naphthaquinone)

NAPHTHAQUINONES	(IM)
CHLORINE	(NIM)
FUNGICIDES, INDUSTRIAL	(IM)

c) Imidazoline Fungicides (see table). Glyodin and thiabendazole are members of this group. Index with appropriate imidazole term and NIM coordinate.

Examples: glyodin (2-heptadecyl-2-imidazoline acetate)

IMIDAZOLES	(IM)
ACETIC ACIDS	(NIM)
FUNGICIDES, INDUSTRIAL	(IM)

thiabendazole (2-(4'-thiazolyl)benzimidazole)

BENZIMIDAZOLES	(IM)
THIAZOLES	(NIM)
FUNGICIDES, INDUSTRIAL	(IM)

d) Thiodicarboximide Fungicides (see table). Captan, difolatan, and folpet belong to this group. Index INDOLES (IM) and appropriate NIM coordinate, if available.

Example: folpet (N-trichloromethylthiophthalimide)

INDOLES	(IM)
SULFIDES	(NIM)
CHLORINE	(NIM)
FUNGICIDES, INDUSTRIAL	(IM)

e) Substituted Phenol, Nitrophenol, and Dinitrophenol Fungicides (see table). These compounds are also used frequently as wood preservatives. They are indexed with the appropriate phenol term and appropriate NIM coordinate if available.

Examples: dinitrocresols

CRESOLS	(IM)
NITRO COMPOUNDS	(NIM)
FUNGICIDES, INDUSTRIAL	(IM)

trichlorophenol

PHENOLS	(IM)
CHLORINE	(NIM)
FUNGICIDES, INDUSTRIAL	(IM)

f) Mercury Compounds (see table). These compounds have been used extensively as fungicides and for seed treatment. Mercuric chloride, mercuric oxide, and mercuric iodide are representative of this group. Index MERCURY (IM) and an appropriate NIM coordinate such as CHLORIDES, IODIDES, or OXIDES.

g) Organomercury Compounds. These include compounds such as Granosan (ethylmercuric chloride), methylmercury propionate, etc. (see table). Index ORGANOMETALLIC COMPOUNDS (IM), MERCURY (IM), and appropriate NIM coordinate such as CHLORINE, PROPIONATES, etc.

h) Metallic Compounds such as copper salts, sulfur compounds, and chromate complexes (see table). These should present no indexing difficulties.

i) Antibiotics used against plant diseases (see table). Index ANTIBIOTICS, ANTIFUNGAL (IM), FUNGICIDES, INDUSTRIAL (IM), and appropriate MeSH term or chemical group (IM).

III. HERBICIDES As in the case of fungicides, many herbicides do not fall into specific chemical groups. There are, however, several well-known herbicide groups. The term HERBICIDES is always used as an IM coordinate when articles on herbicides are indexed.

a) Triazine Herbicides (see table). They are indexed TRIAZINES (IM) with an appropriate NIM coordinate, such as ETHYLAMINES for chlorazine and PROPYLAMINES for prometryne.

b) Carbamate, Thiocarbamate, and Dithiocarbamate Herbicides (see table). Index CARBAMATES (IM) or THIOCARBAMATES (IM) and an NIM coordinate, such as ALLYL COMPOUNDS for di-allate and ALKYNES for barban.

c) Urea Herbicides (see table). Index UREA (IM) and the appropriate NIM coordinate, such as CYCLOHEXANE for siduron and INDENES for norea.

d) Bipyridinium Herbicides (Dipyridylium). The two best known members of this group, DIQUAT and PARAQUAT, are now provisionals. Morfamquat is indexed PYRIDINIUM COMPOUNDS (IM) and MORPHOLINES (NIM).

e) Chlorophenoxy Aliphatic Acid Herbicides (Glycolic Acids). The best-known member of this group is 2,4-D. This compound and 2,4,5-T are now provisionals (see table). Other compounds are indexed with the appropriate phenol term (IM) and the appropriate acid term (IM).

Examples: MCP or MCPA (4-chloro-2-methylphenoxyacetic acid)

CRESOLS	(IM)
ACETIC ACIDS	(IM)
HERBICIDES	(IM)

dichloroprop (2-(2,4-dichlorophenoxy)propionic acid)

PHENOLS	(IM)
PROPIONATES	(IM)
HERBICIDES	(IM)

f) Halogenated Acid Herbicides (see table). Index with appropriate acid term,e.g., BENZOATES, PROPIONATES, ACETIC ACIDS (IM), and an NIM coordinate, such as CHLORINE, ANISOLE, etc.

Examples: dalapon (2,2-dichloropropionic acid)

PROPIONATES	(IM)
HERBICIDES	(IM)
CHLORINE	(NIM)

dicamba (3,6-dichloro-o-anisic acid)

BENZOATES	(IM)
ANISOLE	(NIM)
HERBICIDES	(IM)

g) Uracil Herbicides (see table). Index with appropriate uracil term (IM) and an NIM coordinate, if available.

h) Aniline Herbicides (see table). Index with appropriate aniline term (IM) and NIM coordinates, such as specific halogens, nitro compounds, etc.

i) Nitrile Herbicides (see table). Index NITRILES (IM) and an appropriate NIM coordinate, such as PHENOLS for bromoxynil and BENZENE COMPOUNDS for diphenatrile.

IV. RODENTICIDES One of the best known rodenticides is the coumarin anticoagulant WARFARIN. Other coumarin rodenticides (see table) are indexed RODENTICIDES (IM), COUMARINS (IM), and an NIM coordinate, such as FURANS for coumafuryl or NAPHTHALENES for coumatetralyl. Certain indandiones are also anticoagulant rodenticides. Indandiones are indexed INDENES (IM), KETONES (NIM), and an NIM coordinate, such as PROPIONATES for pindone and VALERATES for Valone. Other rodenticides which do not fall into specific groups include certain salts of fluorine such as sodium fluoride index FLUORIDES (IM), SODIUM (NIM); sodium fluoroacetate index FLUOROACETATES (IM), SODIUM (NIM); and sodium fluoroacetamide index Fluorine (IM), ACETAMIDES (NIM), SODIUM (NIM); norbormide index TERPENES (IM), PYRIMIDINES (NIM); crimidine index PYRIMIDINES (IM), METHYLAMINES (NIM) as well as zinc phosphide, arsenic trioxide and SQUILL.

V. MOLLUSCACIDES The most prominent molluscacides are Bayluscide (5,2'-dichloro-4'-nitrosalicylanilide, ethanolamine salt), sodium pentachlorophenate, which is essentially PENTACHLOROPHENOL (prov), copper sulfate, and N-trityl-morpholine. Index Bayluscide with the terms SALICYLAMIDES (IM), NITROBENZENES (NIM), AMINO ALCOHOLS (NIM) and N-tritylmorpholine MORPHOLINES (IM), BENZENE DERIVATIVES (NIM). Other molluscacides include fluorinated aromatic compounds, such as 1,2-dinitrotetrafluorobenzene (index NITROBENZENES (IM), FLUORINE (NIM)), dinitrooctafluorobiphenyl (index BIPHENYL COMPOUNDS (IM), FLUORINE (NIM), NITRO COMPOUNDS (NIM)), as well as copper carbonate, calcium cyanamide, metaldehyde, and several insecticides, such as aldicarb, phorate, and Abate. The term MOLLUSCACIDES is always used as an IM coordinate when indexing molluscacides. At this point it may be advisable to mention that MeSH has given us several new mollusk terms for 1972. They include CLAMS, MUSSELS, OYSTERS, and the snails BIOMPHALARIA, BULINUS, and LYMNEA.

VI. CHEMOSTERILANTS Most of the well-known chemosterilants contain azirine groups and a phosphorus-containing group (see table). Index AZIRINES (IM), PHOSPHINES or PHOSPHORANES or PHOSPHONIC ACIDS (NIM).

Example: tepa (tris(1-aziridinyl)phosphine oxide)

AZIRINES	(IM)
PHOSPHINES	(NIM)
OXIDES	(NIM)
CHEMOSTERILANTS	(IM)

apholate (2,2,4,4,6,6-hexahydro-2,2,4,4,6,6-hexakis(1-aziridinyl)-1,3,5,2,4,6-triazatriphosphorine)

AZIRINES	(IM)
PHOSPHORANES	(NIM)
HETEROCYCLIC COMPOUNDS	(NIM)
CHEMOSTERILANTS	(IM)

Other frequently used chemosterilants are hempa PHOSPHINES (IM), METHYLAMINES (NIM), hemel TRIAZINES (IM), METHYLAMINES (NIM), tetramine AZIRINES (IM), TRIAZINES (NIM), and 3-chloro-1,2-propanediol PROPANEDIOLS (IM), CHLORINE (NIM).

VII. INSECT REPELLANTS The two best-known insect repellents are deet (N,N-diethyl-m-toluamide) and ethylhexanediol. The former is indexed BENZOATES (IM), ETHYLAMINES (NIM), and the latter GLYCOLS (IM). Other frequently used compounds in this class are dimethylphthalate (PHTHALIC ACIDS (IM), ESTERS (NIM)), dimethylcarbate (DICARBOXYLIC ACIDS (IM), BRIDGED COMPOUNDS (NIM)), and butopyronoxyl or Indalone (PYRANS (IM), CARBOXYLIC ACIDS (NIM), KETONES (NIM)). Always also index with INSECT REPELLENT (IM).

Arsenic Pesticides These have not been listed in a specific class, since arsenic containing pesticides can be insecticides, fungicides, or herbicides. Perusal of Index Medicus has shown that there has been some confusion as to when the term ARSENIC or ARSENICALS is applicable. Use ARSENIC for elemental arsenic and inorganic arsenic compounds such as arsenic pentoxide, lead arsenate, or sodium arsenate. Index with the term ARSENICALS such organic arsenic compounds as DSMA (methanearsonic acid or cacodylic acid (dimethylarsinic acid).

The accompanying table contains the most frequently encountered pestidide groups. It is designed to aid the indexer and searcher in rapidly recognizing the group to which a particular pesticide belongs. The terms in lowercase letters are not MeSH terms. The terms in parentheses are synonyms, either generic or trademarked. Terms beginning with a capital letter are trademarked names; terms beginning with a lowercase letter are generic names. Note that this is merely a classification for easy use by indexers and searchers. The required NIM coordinates are not given. For complete indexing by indexers unfamiliar with the necessary chemical coordinate, submit the pesticide to the chemical specialist in the usual way. A future issue of the Technical Bulletin will carry an alphabetized list of pesticides and their classification.

I. INSECTICIDES

Organochlorine insecticides

ALDRIN (prov)
BENZENE HEXACHLORIDE (Lindane)
CHLORDANE
Chlordecone
DDD
DDT
dicofol
DIELDRIN
endosulfan
ENDRIN (prov)
HEPTACHLOR (prov)
heptachlor epoxide
Lindane (BENZENE HEXACHLORIDE)
methoxychlor
Milbex
mirex
2-nitro-1,1-bis(p-chlorophenyl) propane
ovex
tetradifon
toxaphene

ORGANOPHOSPHORUS COMPOUNDS

Azodrin (monocrotophos)
Bidrin (dicrotophos)
chlorfenvinphos
Ciodrin
crufomate (Ruelene)
DFP (non-MeSH) see ISOFLUROPHATE
DICHLORVOS (prov)
dicrotophos (Bidrin)
Gardona
ISOFLUROPHATE
mevinphos
mipafox
monocrotophos (Azodrin)
naled
para-oxon
phosphamidon
Ruelene (crufomate)
Sarin
shradan
TEPP (non-MeSH)
TRICHLORFON (prov)
tricresylphosphates
triethylphosphate

ORGANOTHIOPHOSPHORUS COMPOUNDS

Abate
amidithion
azinphosethyl
azinphosmethyl
bromophos
coumaphos
cythioate
demeton
diazinon
dimefox
dimethoate
dioxathion
disulfoton
DURSBAN (prov)
dyfonate
EPN (non-MeSH)
ethion
ethoate-methyl
famphur
fenitrothion
fensulfothion
fenthion
formothion
Imidan
iodofenphos
MALATHION
methyl mercaptophos
methyl parathion
oxydemetonmethyl
PARATHION
phencapton
phorate
phosalone
ronnel
Supracide
Tetram
thiometon
thioniazin
torak
vamidothion

CARBAMATES

aldicarb (Temik)
aprocarb (Baygon)
Banol
Baygon (aprocarb)
carbaryl (SEVIN) (prov)
carbofuran
chlorphenamidine
Dimetilan
dioxacarb
formetanate
Landrin
methiocarb
Mobam
SEVIN (prov) (carbaryl)
Temik (aldicarb)
Zectran

Botanicals

PYRETHRUM

allethrin
crysanthemates
phthalthrin (Neo-Pynamin)

NICOTINE

anabasine

ROTENONE

deguelin (Derris)

Fumigants

HYDROCARBONS HALOGENATED

CARBON TETRACHLORIDE
dibromochloropropane
ethylenedibromide
ethylene dichloride
hexachlorobutadiene
methylallyl chloride
methyl bromide
TETRACHLOROETHYLENE
TRICHLOROETHYLENE

II. FUNGICIDES, INDUSTRIAL

Dithiocarbamates and Ethylene Bis Dithiocarbamates

ferbam
maneb
nabam
sodium dimethyldithiocarbamate (DDC)(non-MeSH)
thiram
zineb
ziram

Quinone Fungicides

chloranil
dichlone
dithianon

Imidazolines

glyodin
thiabendazole

Thiodicarboximides

captafol (Difolatan)
captan
Difolatan (captafol)
folpet

Phenol, Nitrophenol and Dinitrophenol Fungicides

chloroneb
dichlorophene
dinitrocresol
DINITROPHENOLS
Hexachlorophene
PENTACHLOROPHENOL (prov)
sodium phenylphenate
trichlorophenol

Mercury Compounds

mercuric chloride
meuric iodide
mercuric oxide
mercurous chloride (calomel)

METALS

BISMUTH
Bordeaux Mixture
CADMIUM
CHROMATES
COPPER
SULFUR
TIN

Organomercury Compounds

aminophenylmercuric acetate (Mercan)
Ceresan (ethylmercuric chloride)
Ceresan M (ethylmercury p-toluenesulfonanilide)
ethylmercuric chloride (Granosan, Ceresan)
ethylmercuric phosphate (New Improved Granosan; New Improved Ceresan)
ethylmercurithiosalicylate
ethylmercury p-toluenesulfonanilide (Ceresan M)
Granosan (ethylmercuric chloride)
Mercan (aminophenylmercuric acetate)
Mercuran (methoxyethylmercuric acetate)
mercuric acetate
methoxyethylmercuric acetate (Mercuran)
methylmercuric acetate
methylmercuric benzoate
methylmercuric chloride
methylmercury pentachlorophenate
methylmercuric propionate
methylmercury quinolate
New Improved Ceresan
New Improved Granosan
polyethylmercuric phosphate

Antibiotics which are used against plant diseases.

Blasticidin-S
CHLORAMPHENICOL
CYCLOHEXIMIDE
phleomycin
STREPTOMYCIN

III. HERBICIDES

Triazine Herbicides

ametryne
atrazine
chlorazine
Lambast
prometone
prometryne
propazine
simazine

Carbamate, Thiocarbamate and Dithiocarbamate Herbicides

Barban
chlorpropham
CDEC (non-MeSH) (Vegadex)
diallate
pebulate
propham
swep
Vegadex (CDEC)
vernolate

Urea Herbicides

buturon
chlorbromuron
chlorphropham (CIPC)
CIPC (non-MeSH) (chlorpropham)
diuron
fenuron
fluometuron
linuron
Maloran
monuron
neburon
siduron
norea

Bipyridinium Herbicides (Dipyridylium)

DIQUAT (prov)
morfamquat
PARAQUAT (prov)

Chlorophenoxy Aliphatic Acid Herbicides (Glycolic Acids)

2,4-D (prov)
2,4-DB (non-MeSH)
2,4-DEP (non-MeSH) (Falone)
dichloroprop (2,4-DP)
2,4-DP (non-MeSH) (dichloroprop)
erbon
Falone (2,4-DEP)
MCP (MCPA) (non-MeSH)
MCPB (non-MeSH)
mecoprop
naphthoxyacetic acid
sesone
silvex
2,4,5-T (prov)

Halogenated Acid Herbicides

amiben
dalapon
DCPA (non-MeSH)
dicamba
fenac
naphthaleneacetic acid
polychlorobenzoic acid
tricamba
trichloroacetic acid
trichlorobenzoic acids
trichloropropionic acid
triiodobenzoic acid

Uracil Herbicides

bromacil
isocil
terbacil

Aniline Herbicides

benefin
propachlor
propanil
solan
trifluralin

Nitrile Herbicides

bromoxynil
dichlobenil
diphenatrile
ioxynil

IV. RODENTICIDES

Coumarin Rodenticides

coumachlor
coumafuryl
coumatetralyl
WARFARIN

Indandione Rodenticides

DIPHENADIONE
pindone
Valone

V. CHEMOSTERILANTS

Azirine and Phosphorus containing Chemosterilants

aphamide
apholate
metepa
methiotepa
morzid
tepa
THIO-TEPA

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Angeline Durso
UCLA MEDLARS Search Analyst

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LIBRARY NETWORK/ MEDLARS
technical bulletin

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Public Health Service
National Institutes of Health

LIBRARY NETWORK/MEDLARS TECHNICAL BULLETIN
Issued monthly by the Office of the Associate Director for Library Operations

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Network Activities
July 1971
Dan Tonkery, Network Management Staff, NLM

Regional Medical Library Directors' Subcommittee Meeting

A subcommittee of the RML Directors, composed of H. Bloomquist, L. Darling, E. Morse, and V. Pings, met at NLM July 26-27, 1971. The meeting was essentially a working session at which the following items were discussed: MEDLINE training; MEDLINE network centers, including present network philosophy as outlined by NLM and network responsibilities of NLM and institutional users; MEDLARS centers; management information systems; and regional serial holdings Lists.

At the end of the session, it was agreed that individual members of the subcommittee and NLM staff members would present position papers at the RML directors' meeting, October 11-12, 1971. The following assignments were accepted:

H. Bloomquist -- RMP funding vs NLM funding
V. Pings -- Identification of network responsibilities towards non-bibliographic reference services
Dr. Leiter -- Locator tools
Dr. Schoolman -- Scope and policy of the network
L. Darling -- Review of fee vs. free service for document delivery
E. Morse/D. Tonkery -- Management information service: Identification and definition of primary data elements
A. Broering -- Grant Program under the RMLs and Resource Grants to implement MEDLINE.

MEDLARS Searches

Statistics from domestic MEDLARS centers show that 1,415 searches were released during July. This total, (for a five-week period) is 22.2% more than was reported during June (four weeks).

MEDLARS Orientation Programs

Date	Presented at	Attendees	Presented by
7-22-71	University of Southern California School of Library Science	25	J. Boorkman

MEDLARS DEMAND SEARCH STATISTICS FOR JULY 1971

(6/25/71-7/29/71)

MEDLARS Management Section, NLM

The table below includes only a few items from each Center's monthly report.

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	7	108	10	6.7	80.5	98.1
Colorado	2	36	12	NA	53.0	97.0
Crerar	2	80	2	6.9	76.3	96.3
Harvard	32	85	24	9.9	59.0	93.0
Michigan	3	72	113	4.3	65.0	98.0
New York	7	25	12	4.5	56.0	68.0
NIH	2	66	84	9.1	71.3	90.9
NLM-MARML	18	255	32	5.9	74.0	92.4
NLM-MMS	10	52	0	7.0	73.0	94.0
Ohio	8	164	170	6.2	96.9	97.5
Philadelphia	4	68	30	5.6	58.8	85.3
PMA	0	13	218	15.9	61.6	61.6
Texas	15	128	40	5.6	95.0	100%
UCLA	36	172	31	5.6	70.9	86.0
Washington	15	91	5	6.3	61.0	81.0
FOREIGN						
Australia	NA	NA	NA	NA	NA	NA
Canada	NA	NA	NA	NA	NA	NA
England	0	58	194	NA	84.4	86.1
France (INSERM)	2	99	298	4.5	88.0	95.0
Germany (DIMDI)		NA	NA	NA	NA	NA
Japan (JICST)	NA	NA	NA	NA	NA	NA
Sweden	0	81	406	6.1	60.9	95.5

NA = Not Available

UPDATES TO MeSH MATERIALS

1. ERRATA TO: SUPPLEMENTAL LIST OF PROVISIONAL HEADINGS 1971

Page S-1 Column 2 Under adenosine diphosphate
Delete Use ADP for indexing

Page S-1 Column 2 Under adenosine monophosphate
Delete Use AMP for indexing

INDEX SECTION TOOLS

By
Stanley Jablonski,
Head, Index Section

The Index Section receives many inquiries about enzymes, eponyms, tumors, and the like. In most instances, the answers may be found by the inquirers in the various tools published in Index Section.

Most questions concern enzymes. We have not changed indexing policy on enzymes since MEDLARS began. The procedure taught in all MEDLARS training classes still obtains:

1. Look up the name of the enzyme in Enzyme Nomenclature (as recommended by the International Union of Biochemistry) Elsevier Publishing Company, Amsterdam, 1965.

2. When you locate the classification number in this Index, pp. 190-214, turn to the MEDLARS Indexing Manual, to the section entitled, "Indexing of Enzymes."

3. Find the classification number here. You will then find the MeSH term under which it is indexed.

4. If you do not locate the enzyme in Enzyme Nomenclature, please feel free to call Dr. Van Lenten, Index Section, 301-496-6766.

We can provide copies of the enzyme section of the MEDLARS Indexing Manual if the demand is great enough. Because of the copyright laws, however, we cannot reproduce the Elsevier enzyme index. The nomenclature is readily available from the Elsevier Publishing Company.

The list of official authorities and references used by Index Section is available in the Introduction to MeSH, in the Indexing Manual and in the MEDLARS Indexing Training Syllabus.

For immediate reference, here is a list of tools issued by the Index Section. A few copies are still available.

CELL LINES
CROSS-REFERENCES INDEXING INSTRUCTIONS
DENTISTRY: GLOSSARY
EPONYMOUS SYNDROMES
GENETICS: GLOSSARY
MAIN HEADING/SUBHEADING COMBINATIONS (Present supply exhausted)
MEDLARS CLASSIFICATION OF STEROIDS
PARASITOLOGY (Present supply exhausted)
PHARMACY AND PHARMACOLOGY
RESPIRATION PHYSIOLOGY
TUMOR MANUAL
VETERINARY MEDICINE GLOSSARY

PERSONNEL NOTICE

Effective August 15, 1971, Mrs. Grace T. Jenkins was appointed Head, MEDLARS Management Section, BSD.

Mr. Constantine J. Gillespie has transferred from NLM to the National Institutes of Health Library where he is the Head, Reference and Bibliographic Section.

SUBHEADINGS IN SEARCH

By
Thelma Charen
Index Section

The principles below regarding the use of subheadings in search were deduced from an analysis of 400 unselected searches performed at MEDLARS centers all over the country.

The analysis permitted me, a seasoned indexer, expert in the meaning and use of subheadings at the National Library of Medicine since 1950, to make certain cogent observations regarding them.

These are my two basic observations:

1. Searchers overuse subheadings.
2. Searchers misuse specific subheadings.

This is not meant to be a diatribe against searchers. It is a suggestion that searchers give thought to the meaning this marvelous separator device has for search.

The Dark Age of Subheadingless Indexing from 1963 AD through 1965 AD and the Renaissance of Subheadings in 1966 AD give ample testimony to their importance for the printed INDEX MEDICUS and in search.

This paper merely calls to the attention of searchers that the same needs for printing subheadings in INDEX MEDICUS do not necessarily carry over routinely to many searches which on the face of it merely appear to require subheadings.

The array below* is extracted from a soon-to-be-printed MEDLINE TRAINING SYLLABUS for use in forthcoming MEDLINE training classes. It is offered to MEDLARS searchers with my wish that you view it as written, only with helpful intent. It is not gospel but it is suggestive.

*see following 6 pages

Editors' Note: Searchers are requested to send in any comments they may have on Mrs. Charen's article and on their experiences in searching with subheadings.

SEARCH HINTS

o We suggest that the USER recognize at the outset that, unlike the machine, the MEDLARS indexer is not perfect. Though intelligent, willing and obedient like the machine, he is -unlike the machine- sometimes forgetful.

o This forgetfulness - forgivable in the face of the myriad rules of indexing confronting him - should be compensated for by the USER. The USER does so by exercising compassion with ingenuity.

o The triumph of practice over theory forces the MEDLINE USER to search many times two ways: a strategy based on the CORRECT indexing and a strategy based on INCORRECT indexing - BUT WITHIN REASON!

o Here are some common errors committed by indexers:

1. The indexer sometimes uses a legal subheading with an assigned main heading but the combination has been superseded by a pre-coordinated MeSH term (see MEDLARS Indexing Manual, Section 12.5).

   Legal: HEAD/INJURIES

   Wrong: HEAD/INJURIES

   Right: HEAD INJURIES

2. Often two indexed concepts are so close and so similar that it is difficult for an indexer or a searcher or a physiologist to choose between them - instructions in the manuals notwithstanding. In such cases, the searcher should search under both concepts:

   Reasonable: LIVER/BLOOD SUPPLY

   Reasonable: LIVER CIRCULATION

   Reasonable: STATISTICS

   Reasonable: MATHEMATICS

160

INVALID MAIN HEADING/SUBHEADING COMBINATIONS

This actual posting shows the wisdom of searching on INVALID MAIN HEADING/SUBHEADING COMBINATIONS, even though indexers have been officially advised against them in the MEDLARS Indexing Manual, 12.5.

```
PROG:
SS 10 /C?

USER: BRAIN/ANALYSIS          <---  illegal!!

PROG: PSTG (53)

SS 11 /C?

USER: BRAIN CHEMISTRY

PROG: PSTG (629)

SS 12 /C?

USER: BRAIN/INJURIES          <---  illegal!!

PROG: PSTG (6)

SS 13 /C?

USER: BRAIN INJURIES

PROG: NP (BRAIN INJURIES)
```

SS /C? is the program message asking the user whether he wishes to type a Search Statement (SS) or issue a Command (C).

PSTG stands for POSTING, the number of citations in the system on a given MeSH term, a coordination of MeSH terms, or a name.

I. Form

1. A main heading paired with a subheading is typed in MEDLINE thus:

LIVER DISEASES/PATHOLOGY

using all capital letters, no spaces, and with a slash (/) heralding the subheading.

2. Subheadings may be written in full as above or may be abbreviated according to the chart on the next page.

Be careful in typing abbreviations: EM and EN - for example - are both legal with Categories A and C and could yield reasonable postings. Similarly be careful of TU (therapeutic use, with Category D) and TH (therapy, for Category C).

II. Use

1. Any MAIN HEADING can be paired with a subheading as long as the combination is legal by category.

2. MAIN HEADING/SUBHEADING combinations may be ANDed, ORed and AND NOTed at will.

LEUCINE/BLOOD OR LEUCINE/URINE OR LEUCINE/ANALYSIS

III. Limitations

1. It is not possible to perform searches on subheadings ONLY, as is possible in MEDLARS. That is, if a USER wants to retrieve the subheading /FAMILIAL & GENETIC alone or with another element of a Search Statement, he cannot.

2. Subheadings cannot be attached to EXPLOSIONS:

WRONG: EXPLODE D8.97./THERAPEUTIC USE

The fact that the eyes can behold only STOMACH while the computer can give you STOMACH in multifold combinations almost instantly is the basis of the philosophy of using subheadings less frequently in search than is required in indexing and publishing bibliographies.

V. Practical Principles

- Use a subheading to break down volumes of material when a main heading stands alone as a Search Element.

  INDEX MEDICUS: STOMACH *anatomy & histology

  MEDLINE: STOMACH/ANATOMY & HISTOLOGY

- Do not use a subheading when one or more additional parameters act as a brake on retrieval.

  GENITALIA, FEMALE AND MICE AND THYMIDINE AND METHYLCHOLANTHRENE

  for an actual Search Request, "Incorporation of thymidine in the female genital system of methylcholanthrene-treated mice."

- Do not use a subheading when the relationship between two parameters is clearly inherent in the coordination of main headings.

  INDEX MEDICUS: SMOKING *complications
  LUNG NEOPLASMS *etiology

  MEDLINE: SMOKING AND LUNG NEOPLASMS

  INDEX MEDICUS: STRESS *physiopathology
  DIVING
  RESPIRATION
  DOGS (NIM)

  MEDLINE: STRESS AND RESPIRATION AND DIVING AND DOGS

INDEX MEDICUS: HYPERTENSION *blood (or *diagnosis or *immunology)
IMMUNOGLOBULINS *analysis or *isolation & purification

MEDLINE: IMMUNOGLOBULINS AND HYPERTENSION

- Do not use a subheading when the expected retrieval is small.

INDEX MEDICUS: KURU *pathology
BRAIN *pathology

or

KURU *metabolism
BRAIN *metabolism

etc.

MEDLINE: KURU AND BRAIN/PATHOLOGY

KURU AND BRAIN/METABOLISM

KURU is a small-volume heading and BRAIN is a large-volume term.

- Use a subheading wisely as a device for avoiding other shot-gun parameters.

MEPROBAMATE/ADVERSE EFFECTS OR MEPROBAMATE/TOXICITY OR MEPROBAMATE/POISONING

is adequate since indexers adhere to the need for these subheadings with regard to the USFDA surveillance of drugs. They always use them faithfully. Searching in addition on

ABNORMALITIES, DRUG-INDUCED
DRUG HYPERSENSITIVITY
HYPERSENSITIVITY
HYPERSENSITIVITY, DELAYED
DRUG ANTAGONISM
DRUG SYNERGISM
DERMATITIS MEDICAMENTOSA
OCCUPATIONAL DISEASES
etc.

ROUTINELY is pointless (unless specifically requested for the disease parameters). The sine qua non in any article would be these three important subheadings used by the indexer, not the additional main headings as pellets in the gunshot.

- Use subheading trees judiciously. Do not routinely use all related concepts of a subheading tree without the same scrutiny you accord a main heading TREE.

CREATINE/BLOOD is better than

CREATINE/BLOOD OR CREATINE/ANALYSIS

if the requester wants blood creatine: CREATINE/ANALYSIS of course will do no harm here, but remember that indexers give great weight to *blood, *urine and *cerebrospinal fluid. CREATINE/ANALYSIS will - it is true - drag out the article in which the indexer indexed blood, urine, brain, liver, pancreas, etc., levels of creatine under *analysis rather than the specifics, but this practice is pursued mostly in Priority 3 journals which do not make up the MEDLINE store.

NOTES TO AIM-TWX USERS

Grace T. Jenkins
Head, MEDLARS Management Section, NLM

1. Below are listed the Honeywell Service Centers under contract to provide maintenance and repair of the AIM-TWX Teleterm 1030 terminals which the National Library of Medicine has loaned to various health science libraries.

Bethesda, Maryland -
1701 North Fort Meyer Drive
Arlington, VA 22209
(703) 524-8200

Boston, Massachusetts -
1400 Soldiers Field Road
Brighton, MA 02135
(617) 254-1700 x365

New York, New York -
71 West 23rd Street
New York, NY 10010
(212) 691-5132

Philadelphia, Pennsylvania -
3345 West Hunting Park Avenue
Philadelphia, PA 10132
(215) 226-2400 or (215) 835-2570

Dallas, Texas -
6116 North Central Expressway
Suite 402
Dallas, TX 75206
(214) 363-5441

Detroit, Michigan -
13631 Plymouth Road
Detroit, MI 48227
(313) 834-6020

Atlanta, Georgia -
Six West Druid Hills Drive, N.E.
Atlanta, GA 30329
(404) 631-3321

Chicago, Illinois -
8711 W. Ogden Avenue
Lyons, IL 60534
(312) 447-5960

Omaha, Nebraska -
c/o Northwestern Bell Telephone Co.
100 South 19th Street, Room 470
Omaha, NB 68102
(402) 345-2857

Seattle, Washington -
9555 36th Street, Southeast
Mercer Island, WA 98040
(206) 232-5030

In case of mechanical problems with your AIM-TWX terminal, contact directly the Honeywell Service Center closest to you. Please notify the MEDLARS Management Section, Bibliographic Services Division, NLM, of your problem and how it was resolved -- e.g., repair, replacement, etc. Let us know if you have any trouble in obtaining service.

For nonmechanical or "undiagnosed" problems, write to the MEDLARS Management Section, or call Mrs. Jenkins (301-496-6193).

2. The required "thermochromic" paper for computer terminals (including Execuport, Teleterm, Tymshare, and Datapoint) is available from the National Cash Register Co., 1217 K St., N.W., Washington, D.C. 20005 or any of its branches. Since NLM does not provide the terminal paper, each user should establish its own source of supply.

3. The ELHILL II program /the program which will provide the new MEDLINE service/ is now being tested at NLM. The new data base will be generated after the program is running.

4. Note regarding AIM-TWX searches: In searching authors, citations which have identical print and sort authors will be printed twice.

5. All users are requested to submit AIM-TWX items which they think will be of general interest and use. These will be published as a part of the monthly "Notes to AIM-TWX Users," of which this is the first.

REQUEST FOR INFORMATION ON PRIMATE SEARCHES

Dr. Norman P. Shumway
MeSH, BSD, NLM

The MeSH group is interested in determining the need for expanding terms in the area of primate taxonomy. In order to determine the need for this expansion, it will be of great assistance to know if any searches have been requested by scientists from the various primate centers supported by NIH or by scientists working with primates as experimental models in university centers.

If such requests have been received, please send a copy of the request and search formulation to:

Dr. Norman P. Shumway
Head, MeSH
National Library of Medicine
8600 Rockville Pike
Bethesda, Maryland 20014

LIBRARY NETWORK/ MEDLARS
technical bulletin

No. 27 July 1971

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We welcome comments
and suggestions

U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
Public Health Service
National Institutes of Health

LIBRARY NETWORK/MEDLARS TECHNICAL BULLETIN
Issued monthly by the Office of the Associate Director for Library Operations

Dr. Joseph Leiter
Associate Director
for Library Operations

Mrs. Ann R. Lindsay, Managing Editor
Mrs. Grace T. Jenkins, Technical Editor

National Library of Medicine, 8600 Rockville Pike, Bethesda, Maryland 20014

NETWORK ACTIVITIES
June 1971
Dan Tonkery, Network Management Staff, NLM

Regional Medical Library Contracts

During the month of June, three institutions signed contracts with NLM to continue operation of their respective RML--the New York Academy of Medicine for the New York and Northern New Jersey RML, June 1, 1971-May 31, 1972; Harvard University for the New England RML, June 1, 1971-July 31, 1972; and the University of California at Los Angeles for the Pacific Southwest RML, June 1, 1971-May 31, 1972. Thus, there are now seven RML's operating under the contract mechanism.

MEDLARS Searches

Statistics from domestic MEDLARS Centers indicate that 1,157 searches were released during June.

Exclusive of AIM-TWX activity, the Fiscal Year 1971 cumulation of released searches totals 18,069, which represents an increase of 26.5% over Fiscal Year 1970.

MEDLARS Orientation Programs

Date	Presented at	Attendees	Presented by
6/2/71	American Medical Writers Association, Los Angeles	27	A. Durso
6/8/71	St. Vincent's School of Nursing, Los Angeles	16	A. Durso

Union Lists

An extension of the NLM-UCMP (Union Catalog of Medical Periodicals) contract was signed in June 1971 to continue through June 1972. The tasks involved are:

1. Inclusion in UCMP of new substantive medical serial titles from NLM and other libraries.

2. Inclusion in UCMP of a generalized holdings statement for NLM's new serial titles.

3. Changing the cross-reference structure to enable a library to obtain a list of its holdings with a subset of titles and appropriate cross-references.

4. Programming changes to UCMP format to allow inclusion of the standard serial number.

5. Creation of a file for subsequent printing of the National Union Index to Biomedical Serials.

UPDATES TO MESH MATERIALS

1. ERRATA TO: INDEX TO SUPPLEMENTAL LIST OF PROVISIONAL HEADINGS, July 1, 1971:

Page 1	Column 1	Delete:	actin (10)
		Add:	actin (D10)
Page 1	Column 1	Delete:	identity crisis (D1)
		Add:	identity crisis (F1)

2. ERRATA TO: SUPPLEMENTAL LIST OF PROVISIONAL HEADINGS, July 1, 1971:

Page S-2	Column 1	Delete:	ajmaline (D2, D5) D2.24.45.1; D5.77.15
		Add:	ajmaline (D2, D5) D2.24.43.1; D5.77.8
Page S-4	Column 1	Delete:	identity crisis (D1)
		Add:	identity crisis (F1)

3. ERRATA TO: SUPPLEMENTAL TO TREE STRUCTURE, July 1, 1971:

Page 1	Column 1	Delete:	D2.24.45.1, D5.77.15 ajmaline
		Add:	D2.24.43.1, D5.77.8 ajmaline
Page 2	Column 2	Delete:	E1.37.2 amniocentesis
		Add:	E1.37.2 amnioscopy
Page 2	Columns 1&2	Delete:	E5.99.24 cell isolation

MEDLARS DEMAND SEARCH STATISTICS FOR JUNE 1971
(5/28/71-6/24/71)
Constantine J. Gillespie
MEDLARS Management Section, NLM

The table below includes only a few items from each Center's monthly report.

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	7	84	6	5.7	86.8	100.0
Colorado	1	71	0	3.8	96.0	99.0
Crerar	1	48	2	6.5	73.0	85.5
Harvard	12	73	12	11.9	45.0	63.0
Michigan	7	92	0	4.0	56.5	86.9
New York	2	18	4	5.4	16.8	28
NIH	3	67	0	9.4	98.5	100
NLM-MARML	24	182	7	5.2	63.2	87.4
NLM-MMS	14	61	4	11.0	81.0	89.0
Ohio	6	127	10	4.8	84.3	95.3
Philadelphia	4	49	16	5.1	18.5	47.1
PMA	--	25	222	11.2	64.0	80.0
Texas	13	91	0	5.3	100.0	--
UCLA	17	126	31	7.6	39.7	68.3
Washington	10	43	3	7.1	35.0	79.0
FOREIGN						
Australia	0	91	0	3.8	81.3	90.1
Canada	0	26	14	24.1	30.7	61.5
England	0	56	0	NA	60.6	82.0
France (INSERM)	3	99	286	5.3	87.0	97.0
Germany (DIMDI)	NA	NA	NA	NA	NA	NA
Japan (JICST)	NA	NA	NA	NA	NA	NA
Sweden	1	73	441	7.0	49.4	75.4

NA = Not Available

NATIONAL LIBRARY OF MEDICINE REGIONAL MEDICAL LIBRARY PROGRAM

Harold M. Schoolman, M.D.
Assistant to the Director, NLM

The NLM Board of Regents, at its meeting on June 14-15, 1971, endorsed the principles described in the document below, which represents a synthesis of the discussions held in New York by RML directors and NLM staff. The Board also recommended to the Library a policy with regard to union lists of serials, as described in the formal recommendation at the end of the following document.

There are important issues still to be resolved and operational decisions that must be made. To expedite this work, an advisory committee of RML directors has been appointed, consisting of Louise Darling, Vern Pings, Harold Bloomquist, and Elliott Morse. The primary responsibility of the committee, as well as of all RML directors, is to design an optimal network in support of health services delivery, education, and research. Institutional considerations must be subordinate to this national purpose. The advisory committee will work on the development of position papers in important areas, to be presented to the full group at a meeting early in the fall.

REGIONAL MEDICAL LIBRARY PROGRAM

INTRODUCTION

The National Library of Medicine is committed to the development of a Biomedical Communications Network (BCN) to serve health services delivery, education, and research.

The Regional Medical Library Program (RMLP) is one aspect of the development of that BCN. It is a critically important aspect because it is built upon existing products, in everyday use, of unquestionable value, and requires the development of a network of cooperating institutions, each having its own prime constituency. It, therefore, becomes the fundamental model by means of which we may learn and grow. The network being created in support of the RMLP will form the matrix for the evolution of a more comprehensive BCN in which the nation's medical libraries will always be important nodes, and the resource and Regional Medical Libraries will be critical switching stations.

The RMLP is a program designed to provide a logical basis for extended cooperation between existing institutions in support of their fundamental constituencies by making available to each the library resources of the nation. In return for access to this invaluable resource, the individual participating institutions are expected to extend the availability of their own resources

beyond their prime constituency to a much wider community. By this means, a more general access to the system and its resources will be achieved.

The implementation of this program is to be achieved through NLM support of existing institutions willing and able to assume these additional service responsibilities. It is, therefore, neither desirable nor necessary to build separate institutions for this purpose.

I. PROGRAM OBJECTIVES

A. General Objective

To develop an interactive cooperating network as a model for study, growth, and development of a nationwide Biomedical Communications Network designed for information transfer to support health services delivery, education, and research.

B. Immediate Objective

To support the development and operation of a network for document delivery for the nation's medical libraries. This network should include, but not be limited to, the following characteristics:

1. rapid and efficient delivery of documents
2. optimal cost effectiveness
3. access to the nation's information resources
4. national coordination
5. deal with that group of requests which cannot ordinarily be fulfilled by institutions of prime responsibility
6. take into consideration the broad variation in resources and users across the country.

The network shall have the responsibility of providing access in an orderly fashion to the nation's health science information resources in order to supplement general formal and informal preëxisting arrangements; and shall provide for access to the information retrieval system for health science practitioners and educators remote from major medical centers.

II. OPERATIONAL MODEL

A. General

The system design is hierarchical in nature, with each higher-level facility acting as a backup resource to the echelon below.

B. The Basic Unit

On the assumption that every community hospital in this country may be thought of as having a fundamental continuing education obligation,

the basic unit is best considered as an essentially independent, free-standing educational organization. This would include, but not be limited to, the following:

1. community hospitals
2. colleges and junior colleges with meaningful health science education and training programs
3. other health-related schools -- research organizations or government agencies.

C. The Second Level

This level will be made up of selected institutions, with meaningful resources, that would be designated as resource libraries. In most instances, these would be libraries of the nation's medical schools.

D. The Third Level

The Regional Medical Library

E. The Fourth Level

The National Library of Medicine

III. SPECIFIC RESPONSIBILITIES

A. The National Library of Medicine shall be responsible for:

1. network management and control
2. national coordination of planning
3. back-up resource for the Regional Medical Libraries
4. act as a Regional Medical Library for the mid-Atlantic states.

Network Management and Control

1. Basic policies shall be determined by the Board of Regents of NLM. The Board shall be kept informed by an annual report and review by NLM of the RMLP, and through a permanent subcommittee of the Board which will review (with the help of ad hoc advisors, if desired) the practices and operations of the RMLP management.

2. Network management and control by NLM will be implemented by the senior management group, which will consist of the following:

Special Assistant for Program Planning & Evaluation, Chairman
Associate Director, Library Operations
Associate Director, Extramural Programs

The Associate Director, LO, shall be responsible, through his designated Project Officer, for the service contracts with RMLs.

The Associate Director, EMP, shall assign an Associate Project Officer for fiscal control for those service contracts. The Associate Director, EMP, will supervise and direct the grants aspect of the RMLP according to guidelines established by the Director, NLM. The Associate Director, EMP, will assure coordination of the Resource Grant Program with the implementation of the Regional Medical Library Program.

Back-up Resource for Regional Medical Libraries

This function is under the direction of the Associate Director, LO, and it has two major components:

1. Document Delivery -- NLM's back-up responsibility in document delivery is to assure prompt response to requests for material in its collection made by a regional library or designated library. Requests for material not in NLM's collection will be returned to originating library as beyond the present capacity of the network. Further pursuit of such documents is not the fiscal responsibility of the RML network.

2. Data Acquisition -- NLM, in its capacity as a back-up library, will maintain accurate records of transactions to maintain a quality control on performance for filled requests, and to identify and classify unfilled requests. On the basis of such data, remedial measures will be instituted when indicated.

The Regional Medical Library

1. Shall be a back-up facility for the Resource Libraries in the region.

2. Shall be responsible for the planning of a coordinated system within the region for provision of library services.

3. Shall indicate how resource and project grants which have regional implications fit into the regional plan. This indication shall not include a quality judgment of the proposal, which is the prerogative of the Resources Review Committee and the Board of Regents.

4. Shall be a back-up for the education activities, supplying coordination and expertise in support of resource libraries' education efforts within the geographic area of their responsibility.

The Resource Library

A. Requirements -- The Resource Library must have the capacity to operate as a meaningful node in the network.

B. Responsibilities

1. Support the information needs of the basic units located within its geographic area
2. Join with other Resource Libraries within the region in a coordinated effort to support network development, including coordinated regional acquisitions, with recognition of the RML's back-up role. Such a coordinated acquisition plan could be a basis of requesting additional NLM support.
3. Undertake such coordinated educational activities for the basic units in its geographic area as it deems necessary for the implementation of the regional plan.

The Basic Unit

1. Shall indicate its willingness to underwrite the continuing costs of its participation. These include, but are not limited to (a) adequate staff to supervise and manage the resources within the basic unit, and to assure effective communication with the Resource Library; (b) communication charges between basic unit and Resource Library.

/UNION LISTS OF SERIALS/

The Board favors, as part of a national network for document delivery, simple locator tools based on a principle of vertical referral compatible with a national serials data base which will provide easy access to the holdings of major resource libraries and NLM. The Board does not favor for this purpose the funding of multiple incompatible union lists containing detailed information on the serial holdings for limited geographic areas.

SUMMARY OF RML DIRECTORS' MEETING--MAY 27, 1971 *

Present: H. Bloomquist, M. E. Feeney
T. Basler, A. Hutchinson
E. Morse, C. Spencer
M. Libbey, T. M. Hodges
V. Pings, J. Monroe
J. Leiter
W. Budington, R. Davis
E. Petgen, N. Williams
D. Hendricks
L. Darling, N. Gilman
G. Oppenheimer

The meeting opened with some statesmanlike words from Chairman Elliott Morse, calling for mutual understanding and forbearance between the RMLs and NLM, but frank discussion of problems as individual RMLs see them. He reminded us that economic pressures beyond NLM's control prevent realization of plans and goals visualized in 1965 when the MLAA was passed, through 1967 and into 1968 when the new realities became very apparent.

Morning Session

The group discussion began with a consideration of goals and objectives of the national medical library network and the RML system. There was general agreement that the overall goal is the improvement of health care through the network's contributions to health investigation and practice. Most Directors also agreed that RMLs were implementing this goal primarily by intensifying efforts to provide and improve services which had already long been in existence among medical libraries. There was a fair amount of semantic confusion over secondary objectives, methods of implementation of the primary goals just stated, and means of evaluating the latter, but in the end it was recognized that secondary objectives and implementation of primary goals are really synonymous; there was agreement that evaluation had not and could not easily be done, although such evaluation is certainly a highly desirable secondary objective.

With the intensification of services, the most important secondary service thus far has been document delivery -- more of it faster. The necessary basic assumption is that the delivery of information does indeed contribute to improvement of health care by adding to knowledge of investigators, teachers and practitioners alike. The second objective of emphasis is MEDLARS service, and, more recently, AIM-TWX, both of which obviously help implement document delivery by singling out documents which bear on particular pieces of needed information.

* Reported by Louise Darling, Pacific Southwest Regional Medical Library (Region XI)

Another prime secondary objective is the development of the network itself at the national-regional level and, within regions, at the subregional level by incorporating (or, at any rate, tapping) VA, RMP, and public library networks in order to extend to poorly served areas the access that has long been available in many metropolitan and other areas affluent in medical library resources. Interlaced with this objective is the effort RMLs can make to bring out in individual institutions a feeling of identification with the primary and secondary objectives of the RML system and with the network as a means of reaching the objectives.

There was also much discussion of the fact that libraries have long been practiced in document delivery, although, admittedly, not in the wider, systematic manner RMLs are attempting. Aside from progress in establishing a more formalized, systematic pattern with referral features and a common base for gathering statistical data on operations, the RML document delivery program is not innovative. What is new - or, at any rate, newer - is the use of training programs at the technician level to broaden document delivery service. Most of the Directors, especially those who have had a fair amount of experience with workshops at this level, believe that this type of training is essential for a successful network and document delivery program. Therefore, such training programs should have equal priority for funding with document delivery, and, if a choice between the two has to be made, the former should be higher, in the view of most RML Directors.

This is an old theme, and it was thoroughly aired last November at the Detroit meeting, where most of us recollected NLM had agreed to the extent of saying that training on this level should be regarded as part of the service function and thus fundable under the service contracts. It was recognized that this policy might be open to different interpretations by both NLM and RMLs.

Related to this was consideration of another already much-discussed theme--whether or not ILL service should be free, the benefits and disadvantages of free service, the need to do more than guess at these, and the possibility of changing the present legal requirements that the service be free--at least, up to a point--when the MLAA Extension Act comes up for renewal in 1973.

The next topic was the question of the desirability of a National Council of Medical Librarians to advise NLM concerning the RMLP, as recommended by the Executive Committee of SERMLP. The latter resolution was passed because of the feeling in SERMLP that NLM did not fully understand problems faced by RMLs and resource libraries. Copies of this resolution went out to all RMLs except Region IV (NLM), which was inadvertently overlooked, although the resolution was attached to a SERMLP report to Extramural Programs. Region IV should be included in all blanket distributions to RMLs.

After a good deal of discussion and expression of numerous opinions, the consensus was not to adopt the resolution. The most cogent reason for non-adoption is that the RML Directors themselves constitute the most knowledgeable

group for advising NLM, and that communication would only be hindered if still another group were involved in addition to NLM, the already-existing NLM advisory groups, and the RMLs. Moreover, no one came up with a satisfactory, concrete statement of exactly what the proposed committee would do or how it would function, other than the general statement that it would be advisory.

Several of the RMLs have had no communication problems with NLM and do not feel out of rapport with NLM--they are only regretful that the economic climate demands retrenchment in some areas, and precludes expansion in any. It was also suggested that understanding all around would be enhanced if NLM could anticipate problems earlier and prepare the RMLs, as a group, ahead of time for required changes.

The next topic was the Region VII (Midwest) resolution to the effect that the RML Project Officer to be appointed by NLM should be a librarian with a master's degree in library science and a minimum of five years' administrative experience in libraries, plus thorough familiarity with current developments in national network operations.

Pros on this were that there are no librarians among NLM personnel involved in negotiating and monitoring the RML service contracts, and that the contracts deal with technical aspects of librarianship.

Cons were that (1) NLM is seeking a qualified librarian with managerial abilities, but thus far has not been successful in its recruiting efforts; (2) that managerial expertise is in low supply, but is a sine qua non in this job, in the RMLs and in network management anywhere (i.e., it is more important than an MLS degree); (3) rigidity in interpretation of policies, which often comes from preoccupation with technical matters, should be avoided, the implication being that the holder of the MLS might perhaps in some cases be too technically oriented on broad questions involving librarianship; and (4) the MLS requirement is guildism.

The consensus was that the group endorsed the spirit of the Region VII resolution, but perhaps not the letter. The Directors were in unanimous agreement that they want to see someone who speaks the librarian's language in the post of permanent Project Director, someone who will fully understand and appreciate the technical problems which come up in RML operations, but, at the same time, be broad in view.

The final topic before lunch was aid to the RML system from other sources. The sources identified were the RMP, state and other public library networks, Council on Library Resources, and Medical Library Resource, Research, and Training grants from NLM, as well as RML grants for R & D projects related to solving problems in the RML area.

Caution is needed about relying on the first two to absorb any basic role in RML operations, because unstable and dwindling funding could cause the collapse of some of our own efforts. However, to use them as additional mechanisms for orientation of health professionals to services available from RMLs is all to the good; it costs effort but no money, and is not a structural element in operations.

Afternoon Session

The afternoon was devoted to services required to produce a national RML system. The first consideration was document delivery, and the desirability of a reasonable amount of lateral referral as an essential in a true network. The treatment of this question in the proposed RML Guidelines is quite satisfactory, but certain of the stipulations in the service contracts, and the negotiations which led to them, appear to be in conflict with the guidelines. To give a specific example, the Crerar contract provides for referral within the region, but not outside. What we want is to refer to a library from which we can get the first and fastest results. Usually, this is by referral to NLM, then to other RMLs, but occasionally an RML knows NLM lacks an item and knows where it is in another region. /This point was resolved satisfactorily at the Friday meeting with NLM representatives./

A good deal of attention was devoted to the question of quotas. The proposed guidelines cover this for the present and anticipate changes in the future. Quotas are primarily a way to equalize access so that certain libraries, especially metropolitan libraries, do not overburden the system to the detriment of other users. Quotas may not do much to regulate ILL costs, but they do save a little money and prevent the loss of considerably more at the expense of less voracious users.

Quotas were vigorously defended by some, and questioned by others who feel that they cannot be justified until we know the level of document delivery for the whole country, so that quotas and subsidies can be uniformly and fairly distributed. In other words, we should have national goals, a national plan. The proponents of this view believe that we need to know the total borrowing within the country and the limitations and strengths of the individual institutions within each RML. Those who favor quotas see the gathering of complete ILL information as a distant accomplishment; they feel that quotas meanwhile are very useful in the maintenance of regional efficiency and effectiveness.

Dr. Vern Pings offered a resolution stipulating that an investigation be made of alternatives to free ILL service and of the social consequences of the alternatives, but no action was taken on this.

Next on the agenda was regional reference service. There were several views on what kind of service is desirable and several levels of activity were reported. No one is funded to do a full job of reference work; and some are not funded to do any. However, the majority felt some kind of reference service is essential--even token is better than none, for the sake of public relations, if nothing else. Reference service should be back-up service, but it would be unfortunate to discourage those hospital libraries which are just awakening to the idea of offering any kind of service, have never related to a resource library, and turn naturally to the RML which alerted them through training workshops.

Reference services led to discussion of computerized information retrieval systems -- MEDLARS, AIM-TWX, and others. TALON had hoped to offer health sciences tape services, but was not funded to do so. This would be a very expensive activity, requiring special contracts with the indexing and abstracting services.

AIM-TWX answers many requests for short searches and, in its expanded form, should facilitate reference service to a significant degree.

Discussion of union lists was the last item which time allowed. As might be expected, the disinterest in union lists was noted in centralized RMLs, whereas there was great interest expressed by the decentralized RMLs. However, the majority of Directors, no matter what their type of operation, felt that union lists, especially union lists of serials, are essential for implementing the "net" in the network, a necessity for lateral borrowing at all levels. Dr. Leiter was asked about the UCMP national union index to regional lists. His answer was that the project is still viable.

SERMLP and TALON have been interested in union lists for cooperative collection building in their regions. It was warned that RMLs are not yet stable enough to do much in regional collection building.

The meeting adjourned with a recommendation that conferences restricted to RML Directors, including a Region IV representative, be continued and on a more frequent than annual basis. Most of the RMLs appeared to have no insurmountable operating problems, although the economic bind is very frustrating. The chief difficulties were minor, rather than major, points that festered for lack of good communication and clear understanding. The meeting provided an opportunity for letting off steam, as well as a forum for discussion and clearance of problems. There is perhaps no real necessity for meeting separately from NLM staff, but, if the meetings are not separate, it is desirable that NLM presentations be deemphasized as far as is practical, and that there be ample time for discussion of issues not raised by NLM.

The finale of the session was a cheer for the Academy's gracious hospitality and well-planned arrangements.

SUMMARY OF NLM-RML DIRECTORS' MEETING--May 28, 1971*

Dr. Joseph Leiter, Associate Director for Library Operations, NLM, called the meeting to order and greeted the Regional Medical Library Directors, staff members, and guests. (In addition to those who attended the May 27th meeting, participants on May 28 included Dr. Harold Schoolman, Special Assistant to the Director, and other NLM staff members, as well as representatives of the five decentralized MEDLARS stations.)

RML Grants

The first topic discussed was the possibility of RML grant funds being made available to RMLs or other libraries for projects which would benefit the entire network. Dr. Harold Schoolman described the application and review processes and stated that September 1, 1971, would be the application deadline, assuming that funds were forthcoming. Though the amount of the appropriation was not yet known, the Directors were eager to have guidelines established, so that they might begin to formulate their applications. Dr. Schoolman hoped to have guidelines ready by mid-July. He mentioned that RMLs may still apply for NLM resource grants. The guidelines for RML grants would clearly indicate the nature of projects which would be eligible for funding in this new category.

Review of RML Contracts

Dr. Schoolman announced that contract negotiations had taken place with all RMLs except the University of Washington, the University of Nebraska, and Emory University. Those three institutions will phase into contracts in Fiscal Year 1972. It was basic to all negotiations that lateral referral should occur only when there is *a priori* knowledge that the library to which the request is referred can fill the loan. Although interregional referrals are not to be completely eliminated, there will be a limitation on professional reference librarians spending time on verification. NLM will continue limited referral of requests which it cannot fill.

Mr. William Budington, Director of the John Crerar Library, said that, as a result of this discussion, he would rescind the announcement that Crerar would not accept referrals.

Review of New RML Policy Statement

Dr. Schoolman discussed the new RML Policy Statement which he was to present to the NLM Board of Regents in June /see page 5_7. If accepted by the Regents, this document would replace the "Regional Medical Library Program Information and Policy Statement," the "Red Book" issued (revised) by NLM in 1969. Dr. Schoolman said that identifying long-range goals and establishing policies to attain those

*Reported by Sheldon Kotzin, NLM

goals was his primary concern. He pointed out that the Board of Regents, which governs NLM policy, must approve the program prior to its implementation. Dr. Schoolman stated that NLM intends to impose no policy guidelines that redirect institutions from their own fundamental goals; he emphasized that, in order to make the program effective, institutions must be made aware of the ways in which the RML program is developing new avenues of regional cooperation.

The discussion turned to quotas and the net lender concept. The Directors expressed concern about several areas: 1) determination of quotas; 2) cost of implementation; 3) staff needed to effect control; and 4) the criteria established for resource libraries. Dr. Schoolman told the Directors not to ignore the quota concept, and reminded them that they, not NLM, were responsible for determining the levels. The need for limits on the number and percentage of requests filled by resource libraries results from the need for better fiscal control. If a resource library cannot meet these requirements, it can generally be said that the cost of doing business with them would be too great.

There was agreement on the need for RMLs to be more aware of library activities within their region. RML cooperation with local medical libraries is recognized as a two-way activity; often, however, not enough effort is expended by the RML or the local library to make the program effective. Dr. Schoolman called upon RMLs to develop regional plans, and to review their own projects, as well as those of other libraries in their region, to determine how they fit into these plans. It is believed that resource grant applicants should discuss proposals with their RML so that all RML Directors might be familiar with regional activity.

Some participants asked about the development of additional decentralized regions as a result of the net lender concept and the phasing-out of some Regional Medical Program library activities. Any logical subregionalization, Dr. Schoolman said, would receive NLM support.

The discussion ended with Dr. Schoolman restating that though the Policy Statement may contain reference to programs which may take considerable time to implement, its prime purpose is the establishment of policy.

Review of Copyright Suit

Mr. Albert Berkowitz, Acting Deputy Associate Director for Library Operations, NLM, reported on the progress of the law suit brought by the Williams and Wilkins Company against NLM and the Library of the National Institutes of Health. The case came to trial in September 1970, in the U. S. Court of Claims. Some of the points brought out in testimony included the question of ownership of copyright, "fair use," license to copy material produced as a result of grant-supported research, and the question of infringement on the basis of the right to copy. A decision is expected from the Commissioner in about six months. Mr. Berkowitz then briefly described a bill introduced by Senator McClellan in February 1971 for revision of the Copyright Law, but stated that he was not optimistic about its chances for passage.

Review of MEDLARS

Dr. Leiter discussed the development of the ELHILL program by the Lister Hill Center, explaining that it will include nearly all of the capabilities anticipated for MEDLARS II. ELHILL will be composed of an expanded Abridged Index Medicus data base containing citations from almost 1,000 journals. The data base capacity will be three years (i.e., about 350,000 citations) with a fourth year accumulating. Back-file and lowest-priority journal citations will continue to be available off-line in batch mode.

The Library intends to make the MEDLARS data available at low cost to the biomedical community by establishing terminals at approximately 150 of the Nation's largest institutions. The possibility has been explored of NLM joining a nationally based time-sharing network capable of providing communications support. It is expected that 85% of the cooperating institutions would have only a local line charge or minimal cost for entering the system. Dr. Leiter anticipated full implementation in 18 months to two years. This would make the information generally available within six months of original MEDLARS II projections.

The installation of terminals means that bibliographic searching will no longer be limited to RMLs and MEDLARS Centers, and that AIM-TWX Centers will have to be responsive to the needs of the medical community outside their own institutions. The order of priority for establishment of terminal locations will be (1) MEDLARS Centers and RMLs and (2) larger medical schools and hospitals. The responsibility for paying salaries of personnel while in training rests with their institutions, as does payment of line charges and rental of terminals. Training will be conducted at NLM and MEDLARS Centers.

Financial support must come from existing MEDLARS funds and RML contract funds. This will mean a significant reduction in batch searching. This, however, is not considered an important problem, since ELHILL should be able to satisfy the needs of most requesters.

Development of a Network Management Information System

Mr. Gerald Oppenheimer, University of Washington, spoke on the development of a network-wide ILL management information system which would satisfy the information needs of NLM and RMLs and avoid the increased duplication of analytical effort now being expended in several RMLs. Mr. Oppenheimer explained that preliminary meetings have resulted in the identification of areas for which information is needed, and asked all RMLs to participate in developing the system.

Dr. Schoolman encouraged the rapid development of the system, noting that it would result not only in the collection of more pertinent data, but in the presentation of that data in a more standardized form. He was certain that once the system became operational, it would allow for a reduction in statistical effort by RMLs.

DEFINING THE HUMAN FACET IN MEDLARS SEARCHING

Paul Hanson, MEDLARS Search Station
Pacific Southwest Regional Medical Library Service, UCLA

INTRODUCTION

It has been said that if there is no natural law precluding the occurrence of something, that "something" will eventually happen. This argument can be applied to the hypothesized formation of neutron stars and to errors in indexing and searching in MEDLARS. There is no law that the computer must apply the term HUMAN when Homo sapiens is involved or implied in an article. It follows, therefore, that sometimes citations will be input without this appropriate check tag when its presence is required. The purpose of my investigation was to determine the incidence of, and to suggest alternative actions search analysts can take to compensate for, such omissions.

The MEDLARS Indexing Manual indicates the criteria that will determine when the MeSH term HUMAN is to be used. If the article is purely biographical, it should be indexed by FAMOUS PERSONS, CURRENT BIOG-OBIT, or HISTORICAL BIOGRAPHY, and HUMAN should not also be added; HUMAN here is an impermissible redundancy.

A second major category where HUMAN is prohibited is composed of articles "which are indisputably man-directed in intent." An example of a title in this class is "A physician's view on books." The third category contains articles from SPECIAL LIST journals that do not receive check tags in indexing.

All articles not included in any of these three sets and that pertain to H. sapiens merit the check tag HUMAN, regardless of the amount of apparent redundancy this practice may produce. An article indexed with CHROMOSOMES, HUMAN, 21-22; CASE REPORT; and MONGOLISM, although each term implies a human being, is incomplete without HUMAN.

How frequently is HUMAN omitted in this last group of articles? What MeSH terms that signify human are likely to be present when HUMAN is lacking?

PROCEDURE

To arrive at some approximate answers, I made use of the AIM-TWX data base. I chose for my sample a topic which I anticipated would be represented by a large number of citations in the data base and would pertain primarily to humans. This subject was mental disorders, covered by MENTAL DISORDERS and its subordinates in MeSH.

From the search statement EXPLODE F2.54 /MENTAL DISORDERS/, the computer tallied 5041 citations. And-ing that search statement with NOT HUMAN reduced

the tally to 251, indicating that only 4.99% (251/5041) of the citations indexed with MENTAL DISORDERS or one of its specifics were not also indexed with HUMAN. I next inspected these 251 citations that had not received the check tag HUMAN and rejected from further review those not requiring that descriptor (e.g., the cited article was an obituary or from a special list journal or was an animal experiment). This left ninety-three citations. I scanned their indexing and assigned them to five sets. The first four sets contain citations that had been indexed with, respectively, (1) CASE REPORT, (2) CLINICAL RESEARCH, (3) a check tag for an age group, (4) a term from category M (NAMED GROUPS) exclusive of the age groups; the fifth set aggregates citations that could not be classified elsewhere. Classification for the citations in the fifth category was most difficult, for I judged by the title of the article and its indexing rather than by reading its text.

The groups were made in this way to reflect the habits of search analysts. Some are content with using HUMAN to obtain a search limited to this species. Others broaden this facet by or-ing HUMAN with CLINICAL RESEARCH, CASE REPORT, explode AGE GROUPS; this has been extended still more by others who substitute explode NAMED GROUPS (NON MESH) for explode AGE GROUPS.

The following table shows how these ninety-three citations not indexed with HUMAN were classed. The total exceeds ninety-three because a citation may fall into more than one category.

category	characteristic MeSH term	frequency
(1)	CASE REPORT	5
(2)	CLINICAL RESEARCH	1
(3)	AGE GROUPS	45
(4)	NAMED GROUPS (but not AGE GROUPS)	12
(5)	/none/	41
	Total	104

More than forty-eight percent (45/93) could have been retrieved on a term from the age groups. Exploding on NAMED GROUPS would have elevated this percentage somewhat. Nevertheless, fully forty-four percent (41/93) of these citations not indexed with HUMAN were not retrievable by the alternate terms in categories one through four above, terms that are routinely employed by many search analysts. On the other hand, this number is assuredly small when compared with the total that had received the descriptor HUMAN (4790). Because not one of these forty-one citations had been indexed with ANIMAL EXPERIMENTS, they could have been retrieved by negating that term.

To generalize from these data, evidently about ninety-eight percent (the ratio of the number of citations that had been indexed with HUMAN to the total number

that either had been so indexed or should have been, 4790/4790+93 = 4790/4883) of the citations in the MEDLARS data base have been assigned HUMAN as required, an excellent level of reliability.

This study suggests that HUMAN used by itself in a MEDLARS search strategy to define the human facet is highly effective. Still greater comprehensiveness can be achieved by expanding this facet to (M5+ -M10), where

M1 = HUMAN
M2 = CASE REPORT
M3 = CLINICAL RESEARCH
M4 = explode NAMED GROUPS (NON MESH)
M5 = SUM M1 M4
M10 = ANIMAL EXPERIMENTS

COMPARATIVE STATISTICS ON COMPRESSED CITATION FILE FOR THE PERIOD JANUARY TO JUNE 1969, 1970, and 1971

Constantine J. Gillespie
MEDLARS Management Section, NLM

		Jan-Jun 1969		Jan-Jun 1970		Jan-Jun 1971
Total number of citations on January-June CCF:		110,734		104,950		109,747
Number of English-language citations:		55,092		58,929		61,832
Number of foreign-language citations:		55,642		46,021		47,915
High-volume foreign language citations by language:	German	14,466	Russian	11,440	German	10,407
	Russian	10,150	German	9,705	French	9,357
	French	8,040	French	6,321	Russian	8,763
	Italian	6,581	Italian	4,598	Italian	5,065
	Japanese	5,187	Japanese	4,222	Japanese	3,657
	Spanish	2,922	Polish	2,253	Polish	2,235
		47,346		38,539		39,484
Percentage of English-language citations:		49.8		56.1		56.3
Percentage of foreign-language citations:		50.2		43.9		43.7
		100.0		100.0		100.0
Percentage of foreign-language citations represented by 6 high-volume foreign languages listed above:		85.1		83.7		82.4
Percentage of all other foreign-language citations:		14.9		16.3		17.6
		100.0		100.0		100.0
IM headings used with all citations:		288,229		270,938		282,705
NIM headings used with all citations:		742,666		777,443		872,247
Total headings used with all citations:		1,030,895		1,048,381		1,154,952
Average number of IM headings per article:		2.60		2.58		2.57
Average number of NIM headings per article:		6.71		7.41		7.95
Average number of total headings per article:		9.31		9.99		10.52

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technical bulletin

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and suggestions

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National Institutes of Health

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Dr. Joseph Leiter
Associate Director
for Library Operations

Mrs. Ann R. Lindsay, Managing Editor
Mrs. Grace T. Jenkins, Technical Editor

National Library of Medicine, 8600 Rockville Pike, Bethesda, Maryland 20014

NETWORK ACTIVITIES
May 1971

Sheldon Kotzin, Network Management Staff, NLM

Regional Medical Library Contracts

The College of Physicians of Philadelphia has signed a contract with NLM to continue operation of the Mid-Eastern RML for the period June 1, 1971 to May 31, 1972.

MEDLARS Activities

1. MEDLARS Searches

Statistics from domestic MEDLARS Centers indicate that 1129 searches were released during May. Exclusive of AIM-TWX activity, the Fiscal Year 1971 cumulation thus far totals 16,754 released searches.

During May, the number of searches released diminished, the downward movement apparently resulting from normal periodic fluctuation and the ending of the academic year.

MEDLARS ORIENTATION PROGRAMS

Date	Presented at	Attendees	Presented by
5/3-4	Southern California Dental Association Annual Meeting, Anaheim--Health Professional Users		P. Hanson A. Durso
5/11	National Indexing and Abstracting Services, IIT Research Institute, Chicage--Health Professional Users	30	M. Doherty
5/12	University of Southern California Library School--Health Professional Librarians	25	A. Durso

Date	Presented at	Attendees	Presented by
5/13	Mayo Clinic, Rochester, Minn.--Health Professional Users	75	M. Doherty C. Green
5/13	UCLA, Special Libraries Class--Health Professional Librarians	18	B. Beamish
5/14	University of Texas Medical School at San Antonio--Health Professional Users and Librarians		U. Simons P. Worley
5/14	University of Minnesota Medical Center, Minneapolis--Health Professional Users (2 sessions)	100	M. Doherty C. Green
5/21	Memorial Hospital Staff, Panorama City--Health Professional Users	15	B. Beamish
5/26	Conference on Computer Applications in the Medical Sciences, Columbus--Health Professional Users		L. Osborn
5/26	Ohio State University, Computer Science Students, Columbus--Health Professional Users		L. Osborn

Union Lists

The following information was discussed at the recent UCMP (Union Catalog of Medical Periodicals) users meeting held June 4 in New York City.

1. The Medical Library Center of New York will soon begin publishing a technical newsletter. The publication will contain contributions from all UCMP users.

2. There has been tentative agreement that the cost of UCMP update tapes will increase from $25.00 to $79.75 per year.

3. The Medical Library Center intends to add CODEN and will attempt to add the capability to include Standard Serial Numbers in its records.

Visitors to NLM

A group of seventy-five library students visited NLM to attend three days of seminars and discussions about Library programs and operations. The participants were recipients of NLM stipends in their various library schools and post-graduate programs. Seminars and overviews were presented on the Regional Medical Library Program, MEDLARS, AIM-TWX, as well as several areas of library operations. The session also included a tour of the NIH Library.

Personnel

Mr. Donald Dennis, Chief, Reference Services Division, (RSD), resigned, effective June 23, 1971 and Mr. Albert Berkowitz has been designated Acting Chief of the Division.

Mr. Donald Borton, formerly Head, Loan & Stack Section, RSD, had been detailed to the position of Acting Head, Photoduplication Section and Mr. Sheldon Kotzin has been designated Acting Head, Loan and Stock Section.

MEDLARS DEMAND SEARCH STATISTICS FOR MAY 1971
(4/30/71-5/27/71)

Constantine J. Gillespie
MEDLARS Management Section, NLM

The table below includes only a few items from each Center's monthly report.

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	2	89	6	6.3	68.2	97.4
Colorado	2	73	12	5.9	98.0	99.0
Crerar	13	94	2	9.8	46.8	78.7
Harvard	16	56	12	8.9	39.0	73.0
Michigan	17	78	228	8.9	69.3	94.9
New York	NA	NA	NA	NA	NA	NA
NIH	5	21	82	11.5	100.0	--
NLM-MARML	14	154	31	6.2	45.5	64.9
NLM-MMS	3	54	--	4.1	65.0	87.0
Ohio	22	97	107	7.0	92.8	100.0
Philadelphia	21	36	29	5.7	22.2	61.0
PMA	0	43	225	6.1	69.8	79.1
Texas	20	90	79	4.9	100.0	--
UCLA	95	142	50	9.5	18.3	46.5
Washington	21	70	1	6.1	52.0	86.0
FOREIGN						
Australia	NA	NA	NA	NA	NA	NA
Canada	0	33	10	14.9	0	24.2
England	0	63	149	NA	17.4	34.8
France (INSERM)	0	128	270	6.6	71.1	93.0
Germany (DIMDI)	NA	NA	NA	NA	NA	NA
Japan (JICST)	NA	NA	NA	NA	NA	NA
Sweden	0	146	413	9.6	55.5	67.1

NA = Not Available

REGENTS AWARD FOR SCHOLARSHIP OR TECHNICAL ACHIEVEMENT

Following is a memorandum from Dr. Martin M. Cummings, Director, NLM:

> I am pleased to announce that the Second Regents Award for Scholarship or Technical Achievement will be presented to Mr. Stanley Jablonski. *
>
> Mr. Jablonski was selected from nominations submitted by the NLM Staff. A committee consisting of
>
> Miss Mary E. Corning, Chairman
> Dr. John B. Blake
> Dr. Ralph Christenson
> Dr. Norman Cole
> Mr. Howard P. Drew, Jr.
> Dr. Jaroslav Nemec
> Mr. Robert Walkington
>
> reviewed and evaluated these nominations, using the criteria that the work must enrich biomedicine, be original, be creative, exceed normally assigned duties, and be performed by an employee of the Library. The Committee unanimously selected Mr. Jablonski for his published work, Illustrated Dictionary of Eponymic Syndromes and Diseases and Their Synonyms.
>
> Although the presentation of the Award is usually made at the June Meeting of the Board of Regents, it is being postponed to the November meeting because Mr. Jablonski is presently out of the country.

* Mr. Jablonski is Head of the Index Section, BSD, NLM.

CHANGE IN CURRENT AND BACK-FILE SEARCHES

The increasing demand for MEDLARS search services over the past several months has necessitated the application of control measures. Effective May 1, 1971, the time period for current file searches was changed from January 1968 to date, to January 1969 to date; the time period for backfile searches was changed from January 1964 through December 1967, to January 1966 through December 1968. In addition, access to the 1964 and 1965 files are no longer being offered on a routine basis.

INDEXING TRAINING CLASS OF JUNE 1971

AMERICAN DENTAL ASSOCIATION, Chicago

Miss Karen Sorensen

HERNER & COMPANY, Washington

Dr. Barbara A. Blaylock
Miss Anne Laliberte
Mrs. Hannelore S. Ninomiya
Mr. Uriel H. Schoenbach

SCIENTIFIC LITERATURE CORPORATION, Philadelphia

Dr. Dorothy Stroup

NAVAL DENTAL SCHOOL, Bethesda

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Mrs. Louise Beard - Bureau of Retirement & Survivors Insurance
Mr. John Ropach - same

Mrs. Helen Carney - Bureau of Health Insurance

NIH LIBRARY

Mrs. Genevieve Schiffmann

NEW DIRECTOR NAMED FOR LISTER HILL CENTER

Albert Feiner, formerly Manager of Magnavox Video Systems, has been named Director of NLM's Lister Hill National Center for Biomedical Communications. The appointment, announced by NLM Director Martin M. Cummings, M.D., became effective May 24, 1971.

Dr. Cummings said, "Mr. Feiner's technical knowledge of modern communications technology, involving satellites, cable and closed circuit television, plus his wide management experience make him ideally suited to direct the Center's programs in biomedical communications."

Prior to managing Magnavox Video Systems (Magnavox Research Laboratories, Torrence, California), Mr. Feiner was Manager of Space Communications for the same company. He was responsible for the design and development of "spread spectrum" communication equipment for the Armed Services. He was also co-inventor of satellite time division multiple access (TDMA) teletype and voice devices which were subsequently sponsored by the U.S. Air Force.

Mr. Feiner is the Center's second Director, succeeding Dr. Ruth M. Davis, who is now Director of the Center for Computer Sciences and Technology, National Bureau of Standards.

NEW OFFICE OF AUDIOVISUAL EDUCATIONAL DEVELOPMENT AT NMAC

The National Library of Medicine and the Bureau of Health Manpower Education, two units of the National Institutes of Health, have created a new Office of Audiovisual Educational Development, designed to stimulate the development and use of new audiovisual techniques in the education of health professionals.

The new office will be located within the Library's National Medical Audiovisual Center in Atlanta, and will be regarded as a field activity of the Bureau. The agreement will allow NMAC to expand activities and conduct joint audiovisual activities with the Bureau in professional health education efforts. Up to half of the Center's operating capacity will be available for the Bureau's audiovisual program. The Center is expected to be a forum for the production of innovative education projects.

George E. Mitchell, D.M.D., M.P.H., the Bureau's Associate Regional Health Director for Manpower, Region IV (Atlanta), will be chief of the office. He began his new job on June 1, 1971.

MEDLARS-ENGLISH DICTIONARY

Carolyn S. Green, MEDLARS Search Analyst
John Crerar Library, Chicago, Illinois

MEDLARS - acronym for Medical Literature Analysis and Retrieval System.

Requester - the person who will actually be using a MEDLARS search printout.

Searcher - (Search Analyst; MEDLARS Analyst; MEDLARS Search Analyst)--the literature specialist who is responsible for devising a strategy for retrieving pertinent citations from the MEDLARS system.

MEDLARS Request - a natural-language statement of the information needs of a requester. The search analyst is the only person who needs to worry about using computer language!

Demand Search - (MEDLARS Search)--a machine-produced bibliography generated in response to an individual's demand for information on a specific subject.

Current Search - a demand search which covers the last two to three years of the MEDLARS data base (currently January 1969 to date).

Back File Search - (BFS)--a retrospective demand search which retrieves citations from the non-current MEDLARS files (presently 1966-1968). May be requested by the requester after he has evaluated his current search printout.

Recurring Demand Search - (RDS)--a demand search which is automatically updated each month. Functions as a current awareness service.

Noise - (Noisy Search)--irrelevant citations in a printout.

Formulation - the strategy used by a search analyst to get citations out of the MEDLARS data base.

Logical Connectors - devices used in machine searching for connecting the various elements of a search strategy. See below for specifics.

Logical And - requires that a citation be indexed for two (or more) specific subject headings in order to be retrieved. Can be used as a verb ("I anded these terms together."); an adjective ("These anded terms were used in your search."); or an infinitive ("I intend to and those terms ").

Logical Or - permits a citation to be retrieved if one element of a group is present, without requiring the presence of all elements. Usage fractures English grammar precisely as above.

Logical Not - (negation)- used to specify what is to be omitted from a search. Rarely used if it can be avoided, since negating terms increases the chances of missing relevant citations.

Printout - the end product of a search.

Appraisal Form - an important document which each requester is asked to fill out, evaluating his search printout. It tells us how well the system is operating, and is the only "payment" for a search. Must be submitted by requester before a BFS can be supplied.

Computer - a machine which never makes mistakes itself, but which has an irritating habit of following orders, without deviation, from its human operators--even when they're the wrong orders!

MEDLARS TAPE SUBSCRIPTIONS

Since April 1971, the National Library of Medicine has made available on subscription magnetic tapes containing data from the Library's computer-based Medical Literature Analysis and Retrieval System (MEDLARS). The tapes contain citations to the biomedical journal articles which are indexed to provide the data base for NLM publication and information services. Tapes will be made available in only the following format: ½-inch IBM 7094, 800 BPI, seven-track.

Individuals or organizations may subscribe for $30,000 per year under the conditions set forth in §4.5c of NLM regulations on availability of products, services, and facilities (published in the Federal Register on March 2, 1971). Subscribers will receive the current monthly tape file of citations indexed for MEDLARS and dictionary files which will facilitate use of the citation file. Subscribers may also obtain up to three years of back files by direct purchase. Programming and system documentation will not be available.

The National Technical Information Service (NTIS), 5285 Port Royal Road, Springfield, Virginia, will sell and distribute the data tapes for the Library. A booklet describing the contents and format of the tapes will soon be available from that organization. Prospective purchasers may obtain a pilot tape and dictionary file from NTIS for a one-time charge of $100. Before a subscription is entered, purchasers must execute a purchase agreement obtained from the National Library of Medicine. This purchase agreement will:

a. hold the Government free from liability for the technical operations of the purchaser or from any copyright constraints applicable to the data in MEDLARS;

b. leave the Library free to make any changes in MEDLARS without regard to the impact such changes may have on the purchaser's system or potential use to be made of the tapes;

c. exempt the Government from any licensure, copyright, or other reproduction constraints for all products developed from MEDLARS tapes;

d. restrict the purchaser from duplication and distribution of the tapes without the permission of the National Library of Medicine.

Purchase agreements are available from: Dr. Joseph Leiter, Associate Director for Library Operations, National Library of Medicine, 8600 Rockville Pike, Bethesda, Maryland 20014. ATTN: Tape Purchase Agreement.

NATIONAL LIBRARY OF MEDICINE

LIBRARY NETWORK/ MEDLARS
technical bulletin

No. 25 May 1971

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We welcome comments
and suggestions

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LIBRARY NETWORK/MEDLARS TECHNICAL BULLETIN
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Dr. Joseph Leiter
Associate Director
for Library Operations

Mrs. Ann R. Lindsay, Managing Editor
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NETWORK ACTIVITIES
April 1971
Sheldon Kotzin, Network Management Staff, NLM

Regional Medical Library Contracts

The John Crerar Library and Wayne State University have signed contracts with NLM to continue the operations of the Midwest and East Central Regional Medical Libraries for the period from May 1, 1971 to April 30, 1972.

The Library has also completed contract negotiations with the South Central Regional Medical Library (the University of Texas Southwestern Medical School at Dallas). The award covers the period from May 1, 1971 to January 31, 1972.

Bibliography of Medical Bibliographies

The second pilot issue of the Bibliography of Medical Bibliographies has been distributed to selected biomedical libraries throughout the country. Composed of a citation section and a keyword-in-context (KWIC) index, the BMB cites NLM literature searches, bibliographies prepared by specialized information centers, bibliographies published in books and journals or as separate publications, and unpublished bibliographies from medical libraries.

A limited number of the second pilot issues are still available; single copies may be obtained from Miss Barbara L. Greehey, Health Sciences Bibliographic Clearinghouse, Reference Section, National Library of Medicine, 8600 Rockville Pike, Bethesda, Maryland 20014.

MEDLARS Searches

The number of demand searches released by domestic MEDLARS Centers in April was 1,942. Thus, the total released during the first ten months of Fiscal Year 1971 was 15,625.

MEDLARS and AIM-TWX Orientation Program

Date	Presented at	Attendees	Presented by
3/26	Valley General Hospital, Renton, Washington --Health Professional Users	20	D. Des Chene
4/6	Oklahoma RMP, Oklahoma City--Health Professional Users and Librarians	34	U. McConnell
4/12	Visitors to TALON RML, Dallas--Health Professional Librarians	9	C. Green
4/13	Pacific Southwest RML Workshop, Sonoma California State Hospital, Eldridge, Calif. --Health Professional Users	25	P. Hanson
4/14	Portland, Oregon--Health Professional Users and Librarians	15	D. Des Chene
4/15	Oregon State University, Corvallis--Health Professional Users and Librarians	48	D. Des Chene
4/15	University of Oregon, Eugene--Health Professional Librarians	26	D. Des Chene
4/16	Visitors to TALON RML, Dallas--Health Professional Librarians	15	C. Green
4/19	Mississippi Medical Center, Jackson--Health Professional Users and Librarians	39	F. Johnson M. Miller
4/19	Texas (Southwestern) Medical School, Dallas--Health Professional Users	10	C. Green
4/19-21	Association of Western Hospitals Convention, Las Vegas--Health Professional Users		B. Beamish A. Durso
4/20	Case Western Reserve University, Cleveland, Ohio, School of Library Science--Health Professional Librarians		L. Osborne
4/27	Ohio State University Law School, Seminar of Legal Medicine--Health Professional Users	20	L. Osborne
4/29	San Fernando Valley State College, California --Health Professional Users	50	B. Beamish

STATISTICAL SUMMARY FOR MEDLARS CENTERS FOR APRIL 1971

Constantine J. Gillespie
MEDLARS Managament 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 1971
Period: 3/26/71 - 4/29/71

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	7	143	6	4.2	74.0	99.3
Colorado	0	115	26	4.1	92.0	99.0
Crerar	6	98	2	5.9	30.6	74.5
Harvard	26	136	8	6.9	13.0	46.0
Michigan	3	141	97	4.5	31.9	70.9
New York	11	65	4	5.6	4.5	27.6
NIH	4	81	40	5.1	77.8	86.4
NLM-MARML	17	265	18	6.6	43.4	67.9
NLM-MMS	34	174	6	6.0	55.2	74.7
Ohio	16	115	111	5.6	100.0	--
Philadelphia	3	44	18	3.5	43.2	72.7
PMA	0	49	230	7.2	65.3	79.6
Texas	14	167	40	5.5	100.0	--
UCLA	13	231	25	5.6	9.1	43.7
Washington	12	118	1	6.0	14.0	39.0
FOREIGN						
Australia	NA	NA	NA	NA	NA	NA
Canada	1	83	1	11.2	0.0	4.8
England	0	86	22	NA	18.5	33.6
*France (INSERM)	3	108	246	4.7	30.0	34.0
Germany (DIMDI)	NA	NA	NA	NA	NA	NA
Japan (JICST)	NA	NA	NA	NA	NA	NA
Sweden	0	133	406	7.3	15.8	30.8

* Figures are for March 1971

ON-LINE MEDLARS IN THE UNITED KINGDOM

Dr. A. J. Harley, National Lending Library for Science and Technology
Boston Spa, United Kingdom

This brief account of the experimental system now being used in the United Kingdom will concentrate on features in which it differs from AIM-TWX. The main objective is, of course, the same--to explore the possibilities of on-line information retrieval as applied to MEDLARS.

The computer is an IBM 360-67 installed at the University of Newcastle upon Tyne. From 10 until 7 each day it operates under the MTS time-sharing system, and an IBM 2741 terminal at the National Lending Library (NLL) is one of many which can be connected to it, directly or through the public telephone.

The on-line MEDLARS system has been developed over the last two years by a team of three under the direction of Miss Elizabeth Barraclough. The work has been financed by a grant from the Office of Scientific and Technical Information (OSTI).

Because many diverse users may be on the computer simultaneously, we are limited in storage to one 20-megabyte disc pack, which carries all our dictionary and other files, together with a small file of recent MEDLARS citations, at present some 26,000 of them.

We have concentrated mainly on search formulation. The idea has been to make the system simple to use, and at the same time flexible enough to permit searches as complex as any written in the normal way. Sampling of the data base then allows the searcher to verify his strategy, and modify it if necessary.

After signing on and disposing of certain preliminaries, such as giving a title to his search, the user is alone with the system. It has two modes giving more or less explanation, and the user can change from one to the other at any time by typing

```
help
```

or

```
desist
```

Generally, the user types in lower case, and the system replies in upper case.

There are about a dozen simple commands, and otherwise the user is invited to propose terms, which the system will seek in the dictionary. The user simply types a word followed by carriage return. If the computer recognizes a command word, it acts; otherwise, it checks the dictionary, and responds with a display showing the term, its tally, the presence of cross-references, and its hierarchical relationships. It labels the term with an M-number for future convenience. Thus, we might type

gerbils

and receive the response

M1 = GERBILS T = 88 NEW TERM

DN = 0 RODENTS (MAMMALS (VERTEBRATES))

The second line of the display shows that there are no terms down the tree from GERBILS, and what branches there are above it. Third, fourth, and fifth lines are used when the term is in more than one tree.

All MeSH terms are, of course, in the dictionary, together with all the cross-references from the published MeSH, and all of the English-language indexing instructions from the IAF, the Tumor Manual, and the Enzyme List. Consequently, if one types

Hurler's disease

the system responds

M2 = LIPOCHONDRODYSTROPHY T = ...
etc.

In more complex cases, it will indicate the appropriate combinations of main- and sub-headings, or give a text message. Commands such as up, down, across, xref, or old are followed by a term label, and generate further displays. Thus, continuing the above example,

up m1

will cause a display of the next term up the tree (RODENTS), while

old m1

will cause a display of whatever term combination was formerly used for GERBILS, combined with an I-date. (The dictionary carries this information for all the terms on the searchers' list of new terms.)

The down command gives a display which starts with a C-term, then a list of all the terms at the next level down. Thus, if we had a display of

M3 = RODENTS T= 617 etc.

then the command

down M3

would lead to

C1 = RODENTS TT=81781

M4 = CHINCHILLAS .....etc.

M5 = GUINEA PIGS .....etc.

M6 = HAMSTERS .....etc.

etc.

M1 = GERBILS .....

Use of the C1 label subsequently implies RODENTS and all subordinate terms at all levels.

When terms have been chosen, they are connected up using the combine command, e.g.,

combine m1 or m2

combine m1-15

combine m6 and m7 and not m8

combine m9 link q1

(q is a subheading)

The system responds with a repeat statement and a statistical forecast of the output that would be retrieved from a three-year search. Statements may then be combined with further statements, e.g.,

combine m1 or m2

R1 = M1 OR M2

EXP = 520

combine r1 and m3

R2 = R1 and M3

EXP = 6

This R2 statement is equivalent to (m1 or m2) and m3.

Next, a command such as

sample r2

causes the system to search the sample file, and list out all references which

satisfy the specified statement (if any) until it is told to stop by means of the attention button. It gives the full tracings for each reference.

Finally, when satisfied, the user can command, e.g.,

batch r2

when the system will store, for subsequent listing in an ordered display, the logic and terms needed to put the search into the ordinary MEDLARS batch process.

We are now at the stage where research workers can use the terminals experimentally, and, with their co-operation, we compare their efforts at the terminal with those of a conventional MEDLARS searcher.

It is too soon to report results of this yet, but it is at least clear that many medics can use the system with confidence (possibly over-confidence) after no more than half an hour's use. Whether such facilities are justifiable, remains, of course, to be seen. At least we are over the first fence: it works.

HEAD INJURIES

Thelma Charen, Index Section
Bibliographic Services Division, NLM

The literature on head injuries seems to be increasing. This poses a problem for indexers since, while the author may say "head injury," he sometimes means "brain injury," "skull injury," "maxillofacial injury," or even something as specific as "mandibular injury."

Since the definition of each MeSH term is not possible at this time, deductions regarding the scope of headings must be made in the usual way: from the perusal of MeSH categories and from the identity of specific headings under a given term.

There is a minor confusion, however, for both indexers and searchers, because the same terms are not indented the same way in trees as in categories, even allowing for the four-indention limitation imposed by the MEDLARS I computer. For example, SCALP is considered part of the HEAD in Category A1, but not in the A1 Tree where it is indented under SKIN.

This brief technical note will attempt, among other things, to synthesize the MeSH headings to be considered when indexing head injuries. The arrays are better than the trees and categories because I am constrained only by good judgment, not by machine or other pre-ordained restrictions. The array, too, will be restricted to MeSH headings which would be involved in any disquisition on what MeSH or the world means by HEAD and SKULL, and what they mean by HEAD INJURIES or "skull injuries." Excluded from the array are organs or headings which would not readily spring to mind when one reads "head injury," such as CONJUNCTIVA, although this is indented under EYE in Category A9, or TONGUE, although this is indented in Category A3 under MOUTH--both EYE and MOUTH being considered part of the HEAD in Category A1.

HEAD--to abbreviate Dorland--is the upper extremity of the body which contains the brain and sense organs. To MeSH it comprises the ears, the face, and the scalp. To an indexer it refers anatomically or geographically to the globe atop the neck, including both the soft tissue and the bony tissue. SKULL, according to Dorland, is "the bony framework of the head, composed of the cranial bones and the bones of the face." It then goes on to specify each of the headings indented under SKULL in Category A2, and more. This means that SKULL is not restricted to the portion of the head from the eyebrows up and over. MeSH considers SKULL and cranium synonyms, for it prints "CRANIUM see SKULL."

Array 1

Subcategory A1

HEAD
- EAR (also A9)
- FACE
  - CHEEK
  - CHIN
  - EYE (also A9)
  - EYEBROWS (also A9)
  - EYELIDS (also A9)
- MOUTH (also A3)
  - LIPS (also A3)
- NOSE (also A2, A4)

Array 2

Subcategory A2

SKULL
- CRANIAL FOSSA, POSTERIOR (Provisional) (also A8)
- ETHMOID BONE
  - ETHMOID SINUS (A4 only)
- FACIAL BONES
  - HYOID BONE
  - JAW
    - MANDIBLE
      - ALVEOLAR PROCESS (also A3)
      - DENTAL ARCH
      - MANDIBULAR CONDYLE
    - MAXILLA
      - ALVEOLAR PROCESS (also A3)
      - DENTAL ARCH
      - MAXILLARY SINUS (A4 only)
  - NOSE (also A1, A4)
    - NASAL SEPTUM (also A4)
    - TURBINATES (also A4)
  - ORBIT
  - PALATE (also A3)
  - ZYGOMA
- FORAMEN MAGNUM
- FRONTAL BONE
  - FRONTAL SINUS (A4 only)
- OCCIPITAL BONE
- PARANASAL SINUSES (A4 only)
  - ETHMOID SINUS (A4 only)
  - FRONTAL SINUS (A4 only)
  - MAXILLARY SINUS (A4 only)
  - SPHENOID SINUS (A4 only)
- PARIETAL BONE
- SPHENOID BONE
  - SELLA TURCICA
  - SPHENOID SINUS
- TEMPORAL BONE
  - PETROUS BONE

Array 3

Subcategory C14

HEAD INJURIES
BRAIN INJURY, ACUTE
BRAIN CONCUSSION
CEREBROSPINAL OTORRHEA
CEREBROSPINAL RHINORRHEA
EPILEPSY, TRAUMATIC
MAXILLOFACIAL INJURIES
* FACIAL INJURIES
JAW FRACTURES
MANDIBULAR FRACTURES
MAXILLARY FRACTURES
MANDIBULAR INJURIES
MANDIBULAR FRACTURES
ZYGOMATIC FRACTURES (Provisional)
PNEUMOCEPHALUS
PSYCHOSES, TRAUMATIC
SKULL FRACTURES
JAW FRACTURES
MANDIBULAR FRACTURES
MAXILLARY FRACTURES
ZYGOMATIC FRACTURES (Provisional)

* FACIAL INJURIES is not restricted to the bony parts of the face; the heading is used with reference to soft parts, too. This is, however, a general concept for articles where the specific part--hard or soft--is not mentioned. As usual, an injury of the cheek is indexed as CHEEK *injuries, not FACIAL INJURIES.

We have discussed the indexing of "head injuries" and "skull injuries" with Dr. Shumway (Head, MeSH Section, Bibliographic Services Division). The observations below have been approved by him.

1. HEAD INJURIES is the most general term to use when an author does not specify beyond this.

2. "Skull injuries," for all practical purposes, may be interpreted as HEAD INJURIES and should NOT be indexed as SKULL *injuries when the author does not specify beyond the expression "skull injury."

3. "Skull injuries" and "head injuries" should be carefully inspected in the article to see whether a heading from Array 3 above is not a better indexing term for the article or, even better, from Array 2 a heading paired with the subheading *injuries: FRONTAL BONE *injuries, OCCIPITAL BONE *injuries, etc.

4. "Craniocerebral injury" should be examined for maximum specificity: does the author mean HEAD INJURIES or BRAIN INJURY, ACUTE or both? In most articles, the term "craniocerebral injury" will be indexed only as BRAIN INJURY, ACUTE since most articles emphasize the cerebral aspect of the blow, rather than the cranial (skull) aspect.

ERRATA TO MeSH 1971

Errata to List of Provisionals and Definitions, 1971

Page 89 add:

sarcolemma (A11) 7/16/67
A11.25.13

semi-permeable membrane which directly encloses the contents of the skeletal muscle cell

INDEX UNDER: MUSCLES (A10)
CELL MEMBRANE (A11)

Errata to Alphabetic List, 1971 #1

Page 260 col. 2
change SECRETIN 65/66 (327) to SECRETIN
change +SECRETIONS (NON MeSH) to +SECRETIONS (NON MeSH) 65/66 (327)

Errata to Alphabetic List, 1971 #2

Page 99 col. 1
change encephalitis virus, venezulean equine
to encephalitis virus, venezuelan equine

Page 239 col. 2
change PSEUDOMONODALES (NON MeSH)
to PSEUDOMONADALES (NON MeSH)

Errata to Tree Structures

Page 37
change PSEUDOMONODALES (NON MeSH) B3.84
to PSEUDOMONADALES (NON MeSH) B3.84

SELECTIVE INDEXING OF ANIMAL SCIENCE AND VETERINARY JOURNALS

Fritz P. Gluckstein, D.V.M.
Coordinator for Veterinary Affairs
Technical Services Division, NLM

Among the journals listed under VETERINARY MEDICINE in the List of Journals Indexed in Index Medicus are several that are indexed selectively, since they are partially devoted to animal or poultry husbandry.

Husbandry of domestic animals is OUT OF SCOPE, but the husbandry (breeding, raising, feeding, housing, management) of laboratory animals is in scope.

Following are some guidelines for the selection of articles from selectively indexed animal science and veterinary journals.

Articles on the following are IN SCOPE:

1. Anatomy, including Histology and Embryology
2. Artificial Insemination
3. Biochemistry (chemistry of feedstuffs, meat, milk, and milk products are excluded)
4. Epizootiology - The epidemiology of animal diseases
5. Food Hygiene, including Meat and Milk Hygiene and Egg Hygiene - The protection of man against food-borne diseases (keeping quality and other aspects of food science and technology are excluded)
6. Genetics - Laws and principles of heredity and variation
7. History of Veterinary Medicine
8. Husbandry of Laboratory Animals - Breeding, raising, feeding, housing, and management of laboratory animals
9. Immunology, including Serology, Allergy, and Anaphylaxis
10. Internal Veterinary Medicine - Prevention, diagnosis, and treatment of infectious and non-infectious diseases
11. Laboratory Animal Medicine, Science, and Technology - Pathology and diseases, as well as breeding, raising, feeding, housing, and management of animals used in the laboratory
12. Microbiology - Bacteria, fungi, rickettsia, and viruses of animals (excludes dairy microbiology and microbiology of silage and other feeds)

13. Nutrition - see Nutrition as distinguished from Feeding, below

14. Obstetrics and Reproductive Disorders

15. Parasitology - Helminths, protozoa, and arthopods, and the diseases caused by them

16. Pathology

17. Pharmacology and Therapeutics

18. Physiology

19. Radiobiology - Protection of animals and animal products against ionizing radiation

20. Radiology - Use of x-rays in the diagnosis and treatment of diseases

21. Regulatory Veterinary Medicine - Veterinary laws, regulations, and administrative procedures

22. Surgery

23. Toxicology - Inorganic and organic poisons, including poisonous plants

24. Zoonoses - Diseases common to both animals and man

Articles on the following subjects are OUT OF SCOPE:

25. Breeding - The practical science of propagation and improving animals, e.g., breeding for increased milk or egg production, or breeding for increased yield of meat as distinguished from fat

26. Classification and Judging - Identification of types and breeds; distribution and relative importance of breeds; advantages and disadvantages of certain breeds; market value of certain breeds

27. Dairy Microbiology - Bacteria, yeasts, and molds causing desirable fermentation (e.g., butter culture, cheese making) and undesirable fermentation (e.g., souring, discoloration) in milk and milk products. (Articles on milk products in relation to disease transmission are IN SCOPE.)

28. Dairy Science and Technology - The manufacture, processing and distribution of dairy products; chemistry of milk and milk products

29. Feeds and Feeding - see Nutrition as distinguished from Feeding, below

30. Husbandry of Domestic Animals - Breeding, raising, feeding, housing, and management of domestic animals

31. Meat Science and Technology - Handling, processing and distribution of meat and meat products. (Articles on the hygienic aspects of slaughter and processing operations are IN SCOPE.)

32. Poultry Science - Breeding, feeding, housing, and management of poultry; and the handling, processing, and distribution of poultry meat, eggs, and other poultry products.

Nutrition as distinguished from Feeding:

There is no distinct division between nutrition (IN SCOPE) and feeding (OUT OF SCOPE). This frequently makes it difficult to decide whether an article should be indexed or not.

Articles dealing with the following subjects are IN SCOPE:

Ingestion, digestion, absorption, and assimilation

Nutritional deficiencies

Feed additives as they affect the health of animals and man

Nutrition and feeds in relation to the animal's health and well-being, in contrast to economic considerations such as production or gain of weight

Articles dealing primarily with the following subjects are OUT OF SCOPE:

Comparison of nutritive values

Preparation and storage of feed

Compilation of rations

Feed quality control

Cost accounting

Nutrition and feeds as they relate to economic and commercial aspects such as weight gain, milk production, egg production, or meat quality

If you are not certain whether an article is in or out of scope, exclude the article.

In most journals, a condensed version of each article title appears on top of the respective pages. This condensed version usually stresses the salient points and thus may be an aid in determining whether or not an article should be indexed. At times, however, the title of an article may be misleading. It is, therefore, advisable to scan an article (or at least its summary) before excluding it.

The affiliation and academic degrees of the author are not a reliable aid in deciding whether an article should be selected or not, but articles by veterinarians in American, British, and Central European journals are likely to be IN SCOPE.

Below are examples of actual journal titles with their condensed version in parentheses whenever given. The examples are listed in two groups according to whether they are IN SCOPE or not. Each title is followed by one or more subject designations corresponding to those given above (e.g., Breeding, Nutrition), explaining why the article is considered IN or OUT OF SCOPE.

Titles of IN SCOPE Articles:

Fertility of Bull Semen with Added Beta-Glucoronidase (Sperm Fertility) Artificial Insemination.

Chromosomal Aberration in Cultured Porcine Fibroblasts after X-Irradiation of Male Progenitors (Chromosomal Aberrations) Genetics.

Neonatal Lambs in a Gnotobiotic Environment (Gnotobiotic Lambs) Laboratory Animal Medicine, Science, and Technology.

Animal Models in Biomedical Research. Laboratory Animal Medicine, Science, and Technology.

Factors Influencing the Production of Staphylococcal Enterotoxin A in Milk (Staphylococcal Enterotoxin A) Food Hygiene; Microbiology.

Microbial Resistance and Public Health Aspects of Use of Medicated Feeds (Drugs and Feed Additives) Food Hygiene; Microbiology; Nutrition.

Effects of Moisture on Salmonella Populations in Animal Feeds (Moisture and Salmonella in Feeds) Microbiology; Food Hygiene.

Goitrogenic Effect of Corn Silage - Soybean Meal Supplemented Ration (Goitrogenic Ration) Nutrition; Toxicology.

Manganese Utilization and Placental Transfer in the Gilt (Manganese Utilization) Physiology; Nutrition.

Hair as an Indicator of the Calcium and Phosphorus Status of Ponies (Calcium and Phosphorus Status of Ponies) Physiology; Nutrition.

Temperature, Light, and Broiler Growth (Temperature, Light, and Growth) Physiology.

Titles of OUT OF SCOPE Articles:

Sex Dimorphism and Genetic Differences in Live Weights, Carcass Yields, and Commercial Grade Scores of Market Geese (Grade Scores of Market Geese) Breeding.

Production of Bitter Flavor Components By Lactic Cultures (Bitter Flavor) Dairy Microbiology.

Formation of Dimethyl Sulfide by Propionibacterium shermani (Sulfide Production) Dairy Microbiology.

Comparison of Flavor Thresholds of Aliphatic Lactones with Those of Fatty Acids, Esters, Aldehydes, Alcohols, and Ketones. (Flavor Properties of Lactones) Dairy Science and Technology.

Effect of Ration Composition on Production Performance of Cows Fed Mixed Rations of Corn Silage and Concentrates (Mixed Silage and Concentrate for Production) Feeding.

Response of Lactating Cows to Added Increments of Dietary Protein and Nonprotein Nitrogen (Protein and Nonprotein for Lactation) Feeding.

Early Diagnosis of the Meat Color in Veal (Meat Color of Veal) Meat Science and Technology.

VETERINARY INDEXING

Thelma Charen, Index Section, NLM

The essay to follow will give the general indexing policy governing veterinary articles indexed in Index Medicus. It will not reproduce the specific instructions for indexing veterinary material given in the MEDLARS Indexing Manual, but referent passages will be listed at the end of this note. Instead, this will give the reader the general approach to veterinary indexing in MEDLARS.

Before elaborating, we should note that the criteria of selection outlined above by Dr. Gluckstein refer to only those journals designated in the List of Journals Indexed in Index Medicus as selectively indexed (those marked s in the LJI). If the journal is a so-called "index-through," i.e., a journal in which all articles are indexed, the matter of Dr. Gluckstein's criteria is irrelevant. In effect, this means that if an article on carcass quality is in a selective journal, it is not indexed; if in an index-through, it is taken! This is to protect the integrity of index-throughs by insuring the user against selective indexing of them.

Once it is decided that a veterinary article is to be indexed, the general approach is to emphasize the veterinary aspect in the print headings in Index Medicus (IM), and to store all other aspects in the computer (NIM), being careful to multiple-index every concept in the article as required for complete indexing.

The simplest and most frequently used device in indexing veterinary medicine is the use of the subheading *veterinary which has been assigned to Category C (diseases) and to Category E (diagnostic, therapeutic, surgical, and other technics). Use of this subheading is the most popular form of coordination in Index Medicus: ANEMIA (C) *veterinary; SKIN DISEASES (C) *veterinary; PNEUMONIA (C) *veterinary; HEART CATHETERIZATION (E) *veterinary; ANESTHESIA (E) *veterinary.

The general tenet of printing the veterinary concepts is reasonable: to separate out articles for the veterinarian. This tenet is illustrated by a hypothetical representative article:

Rhabdomyosarcoma of the bladder in a male bulldog; radiographic study.

1. RHABDOMYOSARCOMA *veterinary (IM)
2. BLADDER NEOPLASMS *veterinary (IM)
3. DOG DISEASES *radiography
4. RHABDOMYOSARCOMA *radiography
   BLADDER NEOPLASMS *radiography
5. DOGS
6. MALE

1. Both the identity of the disease as veterinary and the specific facet of the study--the radiology--are multiple-indexed, but the veterinary aspect takes precedence over the radiological by making *veterinary IM and the x-ray NIM.

2. The reader is reminded that the policy in Index Medicus demands that every cancer or tumor be indexed in two ways: by histology (here RHABDOMYOSARCOMA) and by site (BLADDER NEOPLASMS).

3. The precoordinated animal/disease heading (DOG DISEASES) is always provided if it exists in Medical Subject Headings (see below for the list of this group of headings and an additional indexing example).

4. Any aspect of the article required for depth or complete indexing must be covered. Here, subordinate to the veterinary concept which must be IM, *radiography must be indexed but is attached to an NIM parameter.

5. At the request of searchers for ease of searching and consistency of retrieval, DOGS in the form of the check tag--or of a MeSH heading for those animals not pre-printed as check tags (SWINE, HORSES, for example)--is indexed in addition to DOG DISEASES.

6. As is customary with the indexing of human beings or animals, whether in clinical or experimental studies, the sex is supplied if discernible from the article.

Here are some general observations on veterinary indexing by category.

Category A13 - Terminology of Animals

A list of 35 anatomical terms referring to animals only appears in this subcategory. Most headings here present no problem; they are usually IM headings paired with subheadings appropriate to Category A and coordinated with the name of the animal from Subcategory B2 as IM also. That is, an article on the shape of the horse and zebra hoof is indexed:

HOOF AND CLAW *anatomy &
histology (IM)
HORSES *anatomy & histology (IM)
PERISSODACTYLA *anatomy & histology
(IM) (for zebra)

Indexers distinguish between FORELIMB and HINDLIMB whenever possible. The matter of the identity of various parts of the extremities in various animals was presented at great length in this bulletin dated February 1970, No. 10.

MAMMAE in animals corresponds to BREAST in humans; OVIDUCTS in non-mammals corresponds to FALLOPIAN TUBE in mammals and MeSh so cautions with this cross-reference, "OVIDUCTS, MAMMALIAN see FALLOPIAN TUBES."

The indexer indexes ABOMASUM, OMASUM, RETICULUM or RUMEN instead of STOMACH, RUMINANT whenever possible. Similarly, GIZZARD and PROVENTRICULUS should be used instead of STOMACH, AVIAN if determinable.

MILK (A,J) is the white matter emanating from the udder as a physiological secretion (A) or from a bottle (J). MILK is presumed to be cow's milk unless otherwise specified, and then it is coordinated with GOATS, HORSES, etc., probably both IM.

WOOL is either the hair of the animal or the finished textile (although strangely it is not in J).

Category B2 - Animal Kingdom - Vertebrates

In veterinary medicine and in anatomy articles, these headings tend to be IM, and they mate with all Category B subheadings deemed appropriate. One considered inappropriate is *cytology. That is, skin cytology in poodles is indexed:

SKIN *cytology (IM)
DOGS *anatomy & histology (IM)

not DOGS *cytology

The indexer sees this as an article on the cytology of the skin, but on dog anatomy, with reference to the skin, not the cytology.

The indexer is expected to avoid MAMMALS since MeSH has gone to the trouble of providing him with each of the great mammalian orders. For example, an indexer is expected to identify a mongoose as CARNIVORA before he blithely indexes it under MAMMALS. All of the mammals are in the Integrated Authority File (IAF), and all are probably in any Webster. VERTEBRATES is also avoided since MeSH has listed for us all the vertebrate classes. The big cats (lion, tiger, cougar, etc.) are not indexed under CATS, but under CARNIVORA. Usually the place of origin (AFRICA, INDIA, BRAZIL) can be a limiting factor in a search.

The apes and monkeys are listed in the Indexing Manual in 15.16, spelled out for us by the Smithsonian Institution. ANIMALS is not often used, but

ANIMALS, DOMESTIC
ANIMALS, LABORATORY
ANIMALS, POISONOUS
ANIMALS, ZOO

are nice to have about; I say wistfully I wish we had also ANIMALS, WILD.

A specific example will illustrate how indexers distinguish between BIRDS and POULTRY. If an article on pheasants relates to their identity by classification, by anatomy, by physiology, by genetics, pheasants are BIRDS. If the pheasant is viewed as food, it is indexed as POULTRY. It is the eternal tomato/food-as-VEGETABLES-or-tomato/tissue-as-PLANTS gambit.

Category C15 - Diseases Exclusively of Animals

MeSH lists the following precoordinated animal/disease headings:

ANIMAL DISEASES	HORSE DISEASES
BIRD DISEASES	MONKEY DISEASES
CAT DISEASES	POULTRY DISEASES
CATTLE DISEASES	RODENT DISEASES
DOG DISEASES	SHEEP DISEASES
FISH DISEASES (Provisional)	SWINE DISEASES

Indexers do not index the above headings with the subheading *veterinary. It is felt that for all practical pusposes it is redundant: if the dog is used experimentally, the veterinary concept is irrelevant; if the dog is viewed in the article as a veterinary entity, his diseases would follow as a veterinary entity in turn and the use of *veterinary would waste a more pertinent subheading.

ANIMAL DISEASES is little used. Instead indexers coordinate the name of the animal which is not the subject of a precoordinated animal/disease heading among the 11 above, directly with the disease heading paired with *veterinary. That is, dermatomycosis in mink is indexed:

DERMATOMYCOSIS *veterinary (IM)
MINK (IM)

not DERMATOMYCOSIS *veterinary
MINK
ANIMAL DISEASES

The rest of the headings in this subcategory are exclusively animal diseases, e.g., GLANDERS; LUMPY SKIN DISEASE; RINDERPEST; HEPATITIS, ANIMAL; MALARIA, AVIAN. For obvious reasons, the subheading *veterinary is wasted on these. For equally obvious reasons, if any of the diseases in this subcategory named by MeSH as "diseases exclusively of animals" occurs in a human being, this fact will be indicated accordingly by the check tag Human.

Another heading useful for both veterinarians and experimentalists is DISEASE MODELS, ANIMAL, although it is in another subcategory, C17.

MEDLARS Indexing Manual

Here are the sections in the Indexing Manual relating to veterinary indexing:

11.8.6	animals as IM
11.8.7	animal check tags with disease headings
11.8.8	animals with subheadings
11.13.6	check tag Animal Experiments
11.17.2	check tag Case Reports not permitted for veterinary case records
12.4.42	*veterinary
16.39	diseases in animals
16.39.1	diseases for non-existent precoordinate animal/disease concepts
16.39.2	multiple-indexing diseases
16.39.3	specifying animals
17.16	neoplasms in veterinary animals
17.16.1	neoplasms for non-existent precoordinates
17.16.2	neoplasms in wild animals
17.16.3	neoplasms in organs without human counterparts
24.25	definition of VETERINARY MEDICINE diseases of ANIMALS, DOMESTIC; ANIMALS, LABORATORY; ANIMALS, ZOO
24.27	ANATOMY, VETERINARY; PATHOLOGY, VETERINARY

NATIONAL LIBRARY OF MEDICINE

LIBRARY NETWORK/ MEDLARS
technical bulletin

No. 24 April 1971

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and suggestions

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NETWORK ACTIVITIES
March 1971
Sheldon Kotzin, Network Management Staff, NLM

MEDLARS Activities

1. MEDLARS Searches

Statistical reports indicate that 1,748 searches were released in March by domestic MEDLARS Centers, bringing to 4,072 the number of searches completed in the third quarter, FY 1971. The number of searches released from July 1970 through March 1971 totaled 13,816, only 441 short of the entire number released during all of FY 1970!

Suggested Reading

The virtues and problems of time-sharing systems for information retrieval are discussed by Carlos A. Cuadra, of the Systems Development Corporation, in an article entitled "On-Line Systems: Promise and Pitfalls," published in the Journal of the American Society of Information Science. The author discusses the AIM-TWX service now being defined and tested by NLM.

The same issue of the Journal of the ASIS features an article which discusses an Experimental Library Management System (ELMS) developed by IBM. Designed for total library management, ELMS is presented as a system in which the patron can search the library files, and the librarian can order, receive, catalog, and lend books in an on-line mode.

MEDLARS Orientation Programs

We have noticed that orientation programs are being given more frequently and to larger audiences than in the past. Based on the reports submitted by MEDLARS Centers in the last six months, 79 programs have been offered to more than 2,200 individuals. In view of restrictions on demand searches, it is suggested that future orientations be directed at on-line AIM-TWX capabilities rather than demand searches.

As a footnote, a recent report from Ann Nevill, Canadian MEDLARS Service, illustrates that there may be a logical connection between orientations and the quality of search requests.

"One interesting thing I noted," Ann relates, "when I went to London (Ontario to present a program) last month, it was almost the end of the free* period, so I encouraged people to get searches in right away--and brought back about a dozen. These came to the top of the pile this week--and I was able to do ten of them in one day. Could it be that after hearing the talk they knew how to word their requests so they were easy to do?"

Have other searchers noted such a correlation?

* The Canadian MEDLARS Service instituted a charging system on March 1.

MEDLARS ORIENTATION PROGRAMS

Date	Presented at	Attendees	Presented by
2/26	Pacific Northwest RML Workshop, Seattle--Health Professional Librarians	28	D. DesChene N. Blase
2/27	UCLA Extension Course--Health Professional Librarians	25	B. Beamish
3/8	Letterman General Hospital--Health Professional Users	63	P. Hanson
3/8	Pratt Institute, School of Library Science, Baltimore--Health Professional Librarians	30	C. Herring
3/9	University of California, San Francisco Medical Center--Health Professional Users and Librarians	103	A. Durso
3/10	University of California, Berkeley, School of Public Health and Department of Biology	66	A. Durso
3/12	New Jersey College of Medicine and Dentistry, Newark--Health Professional Librarians	80	C. Herring
3/15	University of Michigan, Graduate School of Library Science, Ann Arbor--Health Professional Librarians	8	R. Lawrence L. Hirschfeld
3/19	University of Michigan, Medical Center, Department of Internal Medicine--Health Professional Users	40	R. Lawrence L. Hirschfeld

Date	Presented at	Attendees	Presented by
3/22	Medical College of Georgia, Augusta--Health Professional Users	44	F. Johnson M. Miller
3/23	Illinois Department of Mental Health and Southern Illinois University Medical School--Health Professional Users	32	M. Doherty C. Green
3/24	University of Ottawa--Health Professional Users	15	A. Nevill
3/24	City University Graduate Center, New York--Health Professional Librarians	28	M. Marcolina
--	Seattle Community College--Health Professional Users	11	N. Blase
--	University of Washington, Department of Psychiatry--Health Professional Users	27	N. Blase

eliminated the variables of different searchers and other reasons for not using AIM-TWX.

AIM-TWX USED				AIM-TWX NOT USED (PM or Inoperable)		
Search No.	No. articles sent	No. articles retr. by AIM-TWX	Total work-time spent (in hours)	Search No.	No. articles sent	Total work-time spent (in hours)
C-1	3	3	2	C-3	3	2
C-2	3	3	2	C-11	3	1½
C-5	3	3	1½	C-17	4	1½
C-6	3	3	2	C-21	2	3
C-7	3	3	1½	C-22	3	1½
C-12	4	2	2½	C-23	3	2½
C-14	3	3	1	C-28	5	3
C-15	4	4	2	C-30	4	1½
C-24	3	2	1½	C-32	2	2½
C-27	5	0	2	C-34	4	2
	34	26	18		33	21

Without AIM-TWX, each search averaged 2.1 hours work time (or 0.64 hours) to retrieve and send each article). With AIM-TWX, each search was done in an average of 1.8 hours (or 0.53 hours to retrieve and send each article.

It is of added interest that, in these 10 searches using the on-line computer, AIM-TWX retrieved 26 of the 34 articles sent (76%). A similar percentage (71.25%)was retrieved for the total sample when AIM-TWX was used. AIM-TWX provides citations rapidly, but a large percentage of total work time was spent finding the journals, scanning the articles for relevance, and processing them.

AIM-TWX was especially helpful in saving effort and time in searches on neoplasm therapy and metastases. Sixteen requests for one or both of these aspects generated 55 articles (45 of them retrieved by AIM-TWX) and took only 29½ hours for an average time of 1.8 hours per search.

Several conclusions and projections were derived from the results of this experiment, one of them being the potential offered by AIM-TWX and other on-line bibliographic services as a means of satisfying biomedical communication needs of physicians who practice at great distances from substantial library resources.

NLM CATALOG CARDS TO BE AVAILABLE

Sheldon Kotzin, Network Management Staff, NLM

The National Library of Medicine has completed negotiations with Bro-Dart, Inc. of Williamsport, Pennsylvania, for the commercial production and distribution of NLM catalog card sets. The decision to seek a vendor for this service came in response to requests from the biomedical library community, which has for some time sought to receive NLM's cataloging data in card format.

The primary consideration throughout negotiations, which began late in 1970, was to obtain highest quality cards at a reasonable price. The cost of sets will begin at $ .35 for 3 SAT sets (including cross-references) for English-language titles added to the NLM data base from the time the service is initiated. A subscription to all English-language titles cataloged in a year, roughly 10,000 items, will cost approximately $3,500.00 Cards will be available in the standard NLM format. At a slightly higher cost per set, cards may be available with classification numbers omitted; with subject headings overprinted; or with classification numbers and all tracings omitted. Other variations will be considered, based upon the response to a questionnaire Bro-Dart is circulating to biomedical libraries.

Card sets may be ordered by subscription or selectively, with no minimum number of orders required for the latter method. At present, cards must be ordered by NLM citation number, but Bro-Dart will explore other methods of ordering, including main entry and subject heading. Subscribing to sets in various subject disciplines, such as dentistry, veterinary science, and nursing, remains a possibility at a later date.

Bro-Dart and NLM are working with biomedical publishers to coordinate, expedite, and increase the flow of commercially published English-language monographs to the Library. In the near future, Bro-Dart hopes to be able to provide finished card sets with books at the time they are supplied to libraries.

The service is scheduled to begin on June 1, 1971. Write to NLM Card Service, Bro-Dart, Inc., Box 923, Williamsport, Pennsylvania 17701, for additional information.

TWO REPORTS ON THE AIM-TWX/MEDLARS WORKSHOP, APRIL 1971

A number of experienced users participated in an AIM-TWX/MEDLARS Workshop April 1 and 2 at the National Library of Medicine. It is hoped that the two summary reports which follow may elicit additional suggestions or comments from readers who have used the AIM-TWX service, but who did not attend the meeting. Please send all communications to Mr. Davis B. McCarn, Acting Director, Lister Hill National Center for Biomedical Communications, National Library of Medicine, 8600 Rockville Pike, Bethesda, Maryland 20014.

PANEL DISCUSSION OF AIM-TWX EXPERIENCE

Clifford A. Bachrach, M.D.
Chief, Bibliographic Services Division

I have tried to set down here some of the ideas that came out at the panel I chaired April 1 at the AIM-TWX Workshop. Because I was engaged in chairing the meeting, my notes are quite imperfect. I will try to supplement them with the reactions to this memo of others who were present.

The discussion revealed that there has been considerable diversity in practice in the use of AIM-TWX at various centers. The factors influencing the manner of use include:

a. Interest of customer in personally interacting with system,

b. Location of AIM-TWX machine, and

c. Awareness of, and concern about line charges.

It was noted that although many interns, residents, and medical scientists were willing to try AIM-TWX for themselves, the older and more clinically oriented men prefer to have someone else just furnish the citations. One discussant suggested that this trend might, in part, result from the willingness of librarians to urge residents to try, and their reluctance to urge the more senior staff. The representatives of the smaller hospitals indicated that their clinicians wanted the citations handed to them.

In some institutions, the customer who is reluctant to use the keyboard himself sits with the searcher, reacting to the system and the searcher as the search progresses. In most institutions, when the customer is not personally present, the searcher interacts with the system after preliminary interaction with the customer. In at least one institution, the searcher who receives a request formulates a strategy which she then turns over to a clerk, who uses AIM-TWX for rapid retrieval.

A number of institutions have apparently had real reluctance to encourage direct customer interaction because the customers' lack of acquaintance with the system leads to more errors, longer pauses--and higher line charges. The same

consideration has led to other requirements. Some institutions require each user to do a preliminary search of Index Medicus and/or to write out a clear search statement and starting strategy before logging in. In most cases, the strategy was a starting strategy, to be improved upon on the basis of system feedback.

Most stations do not permit AIM-TWX use for single MeSH term searches. However, one station permitted such searches, considering them cheaper than hand-copying and proofreading from Index Medicus, in a location where there was no photocopying machine convenient to the Index Medicus.

Some stations have set their own limits on the on-line printing of citations.

A few participants expressed concern because the system is "deceptively easy to use," providing the customer with some useful citations without his realizing that there may be more and better citations to be had by more thorough and more expert probing. Mr. Lancaster pointed out that the same is true of Index Medicus and other printed indexes. Because computer mystique may lead the unsophisticated user to expect greater infallibility from a computer search than from a manual search, this point might have to be emphasized in user training.

Participants who were more strongly oriented toward direct customer-system interaction recommended the development of improved aids for learning system use, to minimize the need for a trained person to stand by the customer. Text, filmstrip, or other audiovisual aid, and on-line computer learning were all suggested; the last-mentioned to be used, presumably, after the line charge problem is solved. There was mention of the desirability of having rapid on-line access to a live expert on vocabulary, indexing practice, and search, for consultation purposes.

There was surprisingly little concern about the composition of the data base, despite several attempts to evoke discussion on this matter. Apparently, our expressed intention of including all Priority 1 and 2 journals for three-plus years was very acceptable. Several participants felt strongly that, although enlargement of the data base is fine, it will still be essential to be able to search the subset of the data base that is not included in AIM-TWX.

The participants were encouraged to mention problems which might be improved by system or programming changes. Mr. McCarn noted these for further exploration.

There was one comment on the desirability of having eventual on-line access to the catalog.

SUGGESTED IMPROVEMENTS FOR THE AIM-TWX SYSTEM

Davis B. McCarn, Acting Director
Lister Hill National Center for Biomedical Communications

During the April 1-2 AIM-TWX/MEDLARS Workshop, suggestions for improvements of the AIM-TWX system were made by the AIM-TWX users attending the workshop. The

following list of suggestions indicates the degree of interest demonstrated by the group:

a. Inclusion of scope notes, definitions, and Integrated Authority File to explain vocabulary usage: minor interest.

b. Forgiving match (to avoid the problem of term rejection due to minor misspelling, punctuation error, or other insignificant error): major interest.

c. Program interrupt (for stopping print-out of retrieval or other activity): major interest.

d. Ability to retrieve on any two of a series of terms entered: almost no interest.

e. Change the default option for citation printing to streamline the citation (print only first author, omit accession number, omit element abbreviations AU, TI, SO, etc.): major interest.

f. Allow more than 36-character search terms: minor interest.

g. Provide a data base of only AIM journals (a subset of the proposed expanded AIM-TWX base which will include both Priority 1 and Priority 2 journals for 3 years): minor interest.

h. Develop an improved user's manual (the University of Washington manual, which is considered the best of those written by various users, is being revised for distribution to AIM-TWX users): major interest.

i. Automatic logout if user interaction or response not received in two minutes (item brought to my attention after the meeting; when system costs are reduced to a local call in many areas, there is the possibility of multiple users logging into the system and staying on the complete day to avoid logging on and off as the need arises; this could cause drastic system overloads and an automatic logout for those not actually using the system would be necessary).

Most of the above suggestions relate to the future system. SDC has been contacted about 1e., and, if it can be done easily, it may be done for the existing service. On the basis of the workshop reaction, we will pursue further 1b.; 1c.; 1e.; 1h.; and 1i.

THROUGHPUT TIME: A PARTIAL ANALYSIS

Robert E. Lawrence, Lorraine G. Hirschfeld, Jean A. Breisch, Kathleen M. Iven
University of Michigan MEDLARS Center

At this Center we keep track of our search requests as every other Center does--that is, we count the number of requests we formulate, we keep track of the dollars we spend, and we tally the number of citations we retrieve. We also try occasionally to look at our operation from other points of view. One of the things under continuing survey is, of course, the search formulation and the consequent requester satisfaction. That relationship, however, is a more subtle thing than the simple analysis that we want to discuss here. Two things that we also count are the location and occupation of the requester; this information is presented each month in the form of a short table. One other aspect of our operation that is measurable is the length of time it takes to do each operation: first, formulation of the request; second, keypunching and mailing; and third, processing the request (this includes mailing time).

The centers that do not have local processing are subject to what sometimes seem to be the vagaries of the processing centers. (Of course, most of the time the processing is done as fast as possible.) This "throughput" time is one of the most public aspects of our operation, and is the most common subject of inquiry by our requesters. Since we cannot directly affect the processing time, the only way we can improve our throughput time is by formulating, keypunching, and mailing each request with all possible speed. During January and February we took the 643 current-file search requests received from July 1, 1970, through December 31, 1970, and arranged them graphically to illustrate the time involved in each of these operations. The data is presented here in abbreviated form. (Copies of the original graphs may be obtained from this Center.)

A. HOW MANY (WORKING) DAYS DOES IT TAKE TO FORMULATE A SEARCH REQUEST?

1. 203 requests were formulated on the day of receipt (0 days)

2. 169 requests were formulated on the next day (day no. 1)

3. 7 requests took 10 days or more to formulate

4. 75% (about 482) of the 643 requests were formulated by the end of day number 2

B. HOW MANY (WORKING) DAYS DOES IT TAKE TO KEYPUNCH AND MAIL THE SEARCH FORMULATION?

1. 169 requests were keypunched and mailed the same day they were formulated (0 days)

2. 277 requests were keypunched and mailed the day after they were formulated (day no. 1)

3. All formulated requests were keypunched and mailed by day 6

4. 88% (about 566) of the 643 formulated requests were keypunched and mailed by the end of day 2

C. HOW MANY DAYS DOES IT TAKE TO PROCESS A SEARCH REQUEST?

(number of days = calendar days from mailing the keypunched search to the return of the print-out)

1. 38 requests took 8 days or less

2. 52 searches took 9 days

3. 56 searches took 10 days . . . and so on

4. 640 searches were returned in 24 days or less

5. 52% of the 643 searches were returned by the end of day 13

We attempt to draw no conclusions from these data. Perhaps, at the end of June, we will make the same analysis of the searches processed in the six-month period from January 1 through June 30, 1971. (Then we'll know if we formulate faster in the spring or the fall.) Would other centers like to calculate their speed of formulation or keypunching and compare it to ours? We do not know whether our formulating time is fast or slow, since we have no basis of comparison. Obviously, it would be best if each search could be formulated, keypunched, and mailed immediately. The AIM-TWX system does this, and perhaps makes a fast throughput time less important.

A MEDLARS/AIM-TWX ORIENTATION FOR AN EPIDEMIOLOGY CLASS

Eugene Boostrom, M.D.
Resident in Preventive and Social Medicine
UCLA School of Public Health

[The following is a report, very slightly modified, from Dr. Boostrom to Dr. John Chapman, Chairman, Department of Epidemiology, UCLA School of Public Health. Dr. Boostrom is a regular MEDLARS user; the UCLA MEDLARS Center formulated eight demand searches for him in 1970.]

This note is a follow-up to our conversation of several weeks ago regarding the possibility of introducing the sophomore medical students to Index Medicus and computer-based information retrieval systems during their epidemiology course. Information retrieval seems to be an appropriate topic for this course, which is basically concerned with approaches to gathering valid information with regard to diseases through various kinds of studies. It is particularly relevant now, since the students have been given the task of designing studies in small groups and have been seeking information on their topics.

Two hours of this week's meeting of my epidemiology section, 25 students, were devoted to a presentation and demonstration by the staff of the Biomedical Library's MEDLARS Search Station. Mr. Paul Hanson explained first the fundamentals of the indexing and retrieval systems, then their uses and limitations, illustrating each point with slides. During the remaining hour, the students went to the library, in two groups. There, the capabilities of the AIM-TWX system were demonstrated by Angeline Durso and Betsey Beamish (the director), using questions related to the students' projects. While each group was in the library, I discussed projects with the other students.

The MEDLARS personnel were very interested, cooperative, and helpful. The students with whom I have spoken found the session very informative and interesting and feel that such services will be quite valuable to them in the future.

I think that this small experiment was a success and that it would be worthwhile to incorporate similar sessions in future courses. Retrieval systems such as the ones available here at UCLA are very real assets to universities, to students, and to professionals, but they are to a certain extent underutilized, partially due to a lack of awareness which we have some power to correct.

UPDATES TO MESH MATERIALS

1. ERRATA TO: MEDICAL SUBJECT HEADINGS PROVISIONAL HEADINGS 1971

Page 12 Column 2 body burden E1.121.21.1 G3.96.27.
Change to E1.121.21.1, G3.96.27.1

Page 28 Column 2 dental health surveys delete 4/1/71
add 3/10/69

Page 42 Column 2 ganglionic stimulants delete D5.55
add D5.14.21

Page 56 Column 1 Lesch Nyhan syndrome delete hyphen

also change on page 2, New Provisional Headings Added Since 4/1/71; pages 1 and 5 of SUPPLEMENTAL TO TREE STRUCTURE 3rd Quarter

Page 79 Column 2 plethysmography, whole body E1.9.45.1
change to E1.9.39.1, E1.9.45.1

also change on page 4 of SUPPLEMENTAL TO TREE STRUCTURE, 3rd Quarter

Page 87 Column 2 delete 2nd definition of ribonucleosides, deoxy at bottom of page and replace with following:

ribonucleotides, deoxy (D10)
D10.55.50

compounds obtained by the partial hydrolysis of deoxyribonucleic acid (DNA) in which the phosphoric ester of deoxyribose is conjugated to a purine or pyrimidine base

INDEX UNDER: NUCLEOTIDES or
specific nucleotide

Page 89 Column 1 saccharin delete (main heading as of 1/1/71)

Page 100 Column 1 tooth bleaching add to indexing instructions
root canal therapy

2. ERRATA TO: MEDICAL SUBJECT HEADINGS 1971, Vol. 12, No. 1, Part 2, January 1971 Index Medicus:

Page 319 Column 3 HETEROCYCLIC COMPOUNDS delete Oxadiazines
add Oxadiazoles

Page 420 Column 2 STUDENT, DENTAL
change to STUDENTS, DENTAL

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and suggestions

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LIBRARY NETWORK/MEDLARS TECHNICAL BULLETIN
Issued monthly by the Office of the Associate Director for Library Operations

Dr. Joseph Leiter
Associate Director
for Library Operations

Mrs. Ann R. Lindsay, Managing Editor
Mrs. Grace T. Jenkins, Technical Editor

National Library of Medicine, 8600 Rockville Pike, Bethesda, Maryland 20014

NETWORK ACTIVITIES
February 1971
Sheldon Kotzin, Network Management Staff, NLM

Visitors to NLM

1. Professor Anatoli I. Kitov, Deputy Director of the Research Institute of Medical and Medical-Technical Information of the Ministry of Public Health of the U.S.S.R., visited NLM for several weeks for briefing on the Library's MEDLARS operations. Dr. Kitov's itinerary also included a visit to the Francis A. Countway Library in Boston.

2. Dr. Sune Bergstrom, Rector of the Karolinska Institute in Stockholm, met with NLM Director Martin M. Cummings, M.D., and other staff members.

MEDLARS Activities

1. Demand Searches

   Domestic MEDLARS Centers report 1,608 demand searches released this month. The total for the period July 1970 through February 1971 has now reached 12,099.

PERSONNEL

Dr. Linn W. Kelner, MEDLARS Search Training Officer, NLM, left the Library at the end of February to become Head of Biomedical Communication and Information Services at the Welch Medical Library, Johns Hopkins University School of Medicine, Baltimore. Dr. Kelner came to NLM in October 1968 from the University of Michigan, where he headed the MEDLARS Center.

Summary of NLM and RML-Funded ILL Activity *
July - December 1970

	NLM	Countway	College of Physicians	Mid-Atlantic	Wayne State	Emory	Crerar	Nebraska	Dallas	Seattle	UCLA
Total Requests Received [1]	36,558	26,223	23,503[3]	21,680	33,121	21,469	11,135	7,343	8,036	11,953	18,914
% Accepted of Requests Received	91%	96%	98%	94%	98%	99%	99%	99%	99%	98%	99%
% Filled of Requests Accepted	89%	85%	84%	89%	78%	77%	65%	84%	86%	93%	80%
% Filled Within 1 Day of Receipt [2]	63%	30%	96%	80%	79%	77%	17%	65%	92%	28%	64%
% Filled Within 3 Days of Receipt	90%	78%	99%	95%	89%	92%	68%	89%	97%	40%	93%

* Statistics from New York Academy not yet received.

1 Statistics for decentralized regions include referrals.

2 Throughput time for decentralized regions includes only in-house time for the institution filling the request.

3 Does not include 5,129 "walk-in" requests.

MEDLARS ORIENTATION PROGRAMS

Date	Presented at	Attendees	Presented by
1/7	St. Louis Medical Society, St. Louis (Sponsored by the Bi-State RMP)--Health Professional Users		F. Rogers
1/29	Auburn University, School of Veterinary Science--Health Professional Users	4	F. Johnson
2/1	PSRMLS Workshop, Merritt Hospital, Oakland--Health Professional Librarians	25	P. Hanson
2/2	PSRMLS Workshop, Letterman Hospital, San Francisco --Health Professional Users	30	P. Hanson
2/8	McGill University, Montreal--Health Professional Users	80	A. Nevill
2/12	Group of Visiting Physicians and Librarians, Seattle	26	D. Des Chene J. Ekendahl
2/16	University of Maryland, Speech and Hearing Science Department, College Park--Health Professional Users	35	R. Halegua
2/19	Canadian Nurses Association, Ottawa--Health Professional Users	12	A. Nevill
2/22	UCLA Medical School--Physical Health Students and Health Professional Users	25	P. Hanson
2/24	Cleveland Health Science Library--Health Professional Users		L. Osborn E. Uki
2/24	Victoria Hospital, London, Ontario--Health Professional Users and Librarians	15	A. Nevill
2/25	St. Joseph Hospital, London, Ontario--Health Professional Users and Librarians		A. Nevill
2/25	University of West Ontario Medical School--Health Professional Users	90	A. Nevill
2/26	Group of Physicians, Seattle	28	D. Des Chene J. Ekendahl

Chairman, Afternoon Session: Dr. Bachrach

1:15	- 2:00	MEDLARS II Searching	Mr. Caldwell
2:00	- 3:00	User Orientation Packages	Dr. Halegua
3:00	- 3:20	BREAK	
3:20	- 4:00	Discussion Groups	
		Topics of Interest to Attendees	

UPDATES TO MeSH MATERIALS

1. ERRATA TO: TREE STRUCTURES, 1971

Page 179 D9 ADENOSINE TRIPHOSPHATASE
Change to ATPASE for Indexing and Searching

Page 184 D10 ADENOSINE TRIPHOSPHATE
Change to ATP for Indexing and Searching

Page 219 E4 TRANSPLANTATION, AUTOLOGOUS
delete + and date

SKIN TRANSPLANTATION
add + and 1963-1965

TOOTH TRANSPLANTATION
change date to 1965 only

Page 240 G1 CALCIFICATION
add + and date

2. ERRATA TO: MEDICAL SUBJECT HEADINGS 1971, Vol. 12, No. 1, part 2, January 1971 INDEX MEDICUS:

Page 332 Column 3 Under CURARE-LIKE AGENTS, delete hyphen from gallamine triethyiodide

Page 420 Column 2 Change STUDENTS HEALTH SERVICES TO STUDENT HEALTH SERVICES

SEE UNDER REFERENCES

Thelma Charen, Index Section, NLM

The Introduction to MEDICAL SUBJECT HEADINGS (MeSH) defines a see under reference as "used to refer from a specific term not in the list to a more general heading under which it is indexed." By this definition,

EGOCENTRISM see under DEFENSE MECHANISMS

suggests that there are various types of defense mechanisms of which egocentrism is one.

The MeSH see under references fall into five natural groups:

1. Where specific retrieval is possible by the coordination of one or more MeSH headings:

   ACANTHOCHEILONEMIASIS see under NEMATODE INFECTIONS

   is retrievable by the coordination of

   NEMATODE INFECTIONS + ACANTHOCHEILONEMA

   or

   LEGG-PERTHES DISEASE see under OSTEOCHONDRITIS

   is retrievable by the coordination of

   OSTEOCHONDRITIS + FEMUR HEAD + NECROSIS

2. Where retrieval is possible because a Provisional Heading exists in addition to the see under reference:

   FIBRIN FILM AND FOAM see under HEMOSTATICS

   and

   * FIBRIN FILM AND FOAM - a Provisional

3. Where retrieval by coordination yields no more in practical value than a general retrieval:

   THUMBSUCKING see under FINGERSUCKING

   Here, although it is possible to get specificity by the coordination of FINGERSUCKING + THUMB, is this fine distinction really valuable to the mother? the researcher? the searcher?

BAKER'S YEAST see under SACCHAROMYCES

BREWER'S YEAST see under SACCHAROMYCES

Again, although it is possible to achieve specificity with BREAD or BEER, is the distinction demanded or worth making for material on Saccharomyces?

4. Where retrieval is not possible by coordination, but where the specific see under reference is practically synonymous with the referent:

CHARGES see under FEES AND CHARGES

Here the user, the indexer, the searcher, and the pocketbook do not require the subtle distinction between a fee and a charge.

5. Where retrieval is not possible since no maneuverable MeSH coordination exists:

HYPERHIDROSIS see under SWEATING

There is no MeSH concept for hyperfunction to get a coordination here or elsewhere.

This chart gives an actual count of several types of see under references.

Total	see under references	1883
Group 1	retrievable by coordination	318
Group 2	retrievable by Provisional	48
Group 4	insignificant difference	598
Group 5	unretrievable	919

Included among the 598 showing near-synonymity are many see under references, which will pose no problem for the indexer or searcher, because MeSH advises the reader to make a decision among choices:

EDUCATION, MEDICAL, POSTGRADUATE see under EDUCATION, MEDICAL, CONTINUING

EDUCATION, MEDICAL, POSTGRADUATE see under EDUCATION, MEDICAL, GRADUATE

Here, once the choice is made, synonymity is assured and search becomes happily selective.

Of the same 598, the majority is chemical terms. Differentiating among chemicals is no matter for discussion here.

Since MEDLARS is a coordinate indexing and retrieval system, most of the retrievals of Group 1 involve main headings with main headings, as in the examples given. But the searcher should not forget that the indexer is obliged to make available for search other types of coordination.

LESBIANISM see under HOMOSEXUALITY

can be retrieved by coordinating HOMOSEXUALITY with a sex tag FEMALE.

INFANT WELFARE see under CHILD WELFARE

is retrievable by coordination with the age tag INFANT if, indeed, such specificity is required.

SGOT see under ASPARTATE AMINOTRANSFERASE

is retrievable by coordination of the main heading with a subheading, ASPARTATE AMINOTRANSFERASE *blood.

CARRION'S DISEASE see under BARTONELLA INFECTIONS

can be retrieved by the coordination of the main heading with a Geographic Heading for the countries which reflects the endemicity in South America.

FREUDIAN THEORY see under PSYCHOANALYTIC THEORY

is retrievable by coordination with (FREUD S) which the indexer would have supplied on the data form in Field 10.

Although it is not the subject of these notes, an analysis of the see references too discloses that in many instances, the indexer will be required to provide a search parameter--if possible--despite the avowed definition by MeSH of a see reference as a synonym:

HOSPITALS, CHRONIC DISEASE see HOSPITALS, SPECIAL

should demand CHRONIC DISEASE as a coordinate for HOSPITALS, SPECIAL, in view of the other references (see under) to HOSPITALS, SPECIAL.

CHINESE MEDICINE see MEDICINE, ORIENTAL

will require CHINA as a geographic parameter since Japanese medicine is also being indexed under MEDICINE, ORIENTAL and the indexers want to differentiate.

These notes on see under references are being published here for three reasons. First, they give--so far as I know--the only published figure on the total number of see under references: MeSH can provide only a total count of cross-references, not a break-down by type. The knowledge of this figure will not change the course of history but it is interesting.

Second, these notes show the only formal analysis I have seen of the types of see under references in MeSH. Since the grouping is obvious and highly personal, the knowledge of it, too, will not change the course of history, but its implications may be of some help to anyone interested in the problems of vocabulary construction or, as MeSH says, THESAURUS DEVELOPMENT see under SUBJECT HEADINGS.

Third, and most important, these notes serve as an opportunity for the indexers to re-affirm their approach to cross-references with a regard for the searchers.

Almost half of the NLM indexers have received MEDLARS search training, as have most of the off-campus indexers. Thus, the problems of a searcher needing maximum specificity in retrievals when requested are well known to indexers.

For this reason, Index Section published for several years its brochure entitled, CROSS-REFERENCES: INDEXING INSTRUCTIONS. It was updated annually, but with the attention of MeSH drawn to MEDLARS II, not enough changes were made in MeSH to justify the continued annual reissue lately. Copies are still available, which serve indexers and searchers well, and which are handed out to each MEDLARS training class.

In further recognition of the problems searchers have with retrieval, Index Section continues to issue instructions regarding coordinations as they are requested by the searchers. We shall continue to publish these in the Index Section TECHNICAL NOTES, which have been resumed and are planned as monthly issues.

The last published tool of the Index Section, EPONYMOUS SYNDROMES: MEDLARS INDEXING INSTRUCTIONS, is also used in providing reasonable coordinations for searchers. Every eponymous syndrome for which there is a MeSH heading must be checked in this tool. If the indexing instruction appears to be inadequate for search purposes as directed, it must be routinely supplemented by reference to the parent text, Jablonski"s ILLUSTRATED DICTIONARY OF EPONYMIC SYNDROMES AND DISEASES.

Finally, this paper reiterates the obligation of the indexer to the searchers. This is a public statement that each indexer will go formally through this thought process when he locates a <u>see under</u> reference in MeSH: he will ask himself, "What other MeSH coordination can I supply which will best reflect the content of this article and serve as a useful search parameter?" I hope we shall do our best.

EDUCATION OF PATIENTS: A SEARCHING AID

Nancy G. Blase, MEDLARS Search Analyst
University of Washington

Our MEDLARS Center has received several requests on patient education, i.e., teaching the patient about his disease, its therapy, the prognosis, etc. This author has reviewed the requests, formulations, and tracings, and would like to discuss them.

I. The basic strategy involves patient terms and education terms.

A. One quite effective combination of terms is PATIENTS * (TEACHING + HEALTH EDUCATION).

Examples:

Title: Patient problems are problems in learning.
Tracings: PATIENTS HEALTH EDUCATION TEACHING

Title: Diabetes teaching manual for patients and hospital personnel.
Tracings: PATIENTS TEACHING DIABETES MELLITUS

B. PATIENTS/education is another necessary strategy and can safely be used by itself for general searches.

Examples:

Title: Home dialysis: learning to be a home dialysis patient.
Tracings: PATIENTS/education PATIENT CARE PLANNING
HEMODIALYSIS KIDNEY, ARTIFICIAL

Title: Teaching patients self-care.
Tracings: PATIENTS/education PATIENT CARE PLANNING
AMBULATORY CARE NURSE-PATIENT RELATIONS

This does not mean that I encourage a main heading/subheading combination which indexers are not supposed to use. (Goto, Keijo, Main Heading-Subheading Combinations, 1970, p. 39.) Since it is done, however, we searchers ought to use it.

C. The rule on using PATIENTS as an indexing term is this:

PATIENTS will be restricted to articles on a sick person under treatment irrespective of his disease. Use PATIENTS when the person's status as a patient is dominant over his disease state: when he is viewed as a patient rather than as a diabetic or a tuberculotic, for example. On the other hand, do not confuse

his condition as a patient with the preferred heading for the disease when the disease is the point of the article: interpret, usually, the cardiac patient as HEART DISEASES and not as PATIENTS; tuberculosis patients as TUBERCULOSIS and not as PATIENTS. (Charen, Thelma, MEDLARS Indexing Manual, 1969, p. M-2.)

II. HEALTH EDUCATION can be both patient and education, but has to be limited by a patient, disease, or therapy term (to avoid education of the general public).

A. Therapy as a limiting factor.

Example:

Title: Bridging the gap between patient and home.
Tracings: COLOSTOMY HEALTH EDUCATION PREOPERATIVE CARE
POSTOPERATIVE CARE ADAPTATION, PSYCHOLOGICAL

B. Disease term as a limiting factor.

Examples:

Title: Education of the diabetic.
Tracings: DIABETES MELLITUS HEALTH EDUCATION

Title: The significance of discussion with patients about therapy, diagnosis and its replications.
Tracings: CORONARY DISEASE/rehabilitation HEALTH EDUCATION

III. Variations from the general strategies exist.

A. Additional patient terms can be used, for example: NURSE-PATIENT RELATIONS or PHYSICIAN-PATIENT RELATIONS.

Example:

Title: Nurses must be teachers and must know these principles.
Tracings: NURSE-PATIENT RELATIONS LEARNING TEACHING

B. An interesting education term is COUNSELING.

Examples:

Title: Group counseling for speech anxiety.
Tracings: SPEECH DISORDERS COUNSELING
(Note the disease means the patient here.)

Title: Your cancer patients require special counseling.
Tracings: COUNSELING PHYSICIAN-PATIENT RELATIONS NEOPLASMS

(Unless careful, one must expect noise from this latter strategy not restricted by diseases, such as this title: Marriage counseling as a responsibility of the physician).

C. Two education terms which might have proved useful, but were not tried, were: INFORMATION SERVICES and ADAPTATION, PSYCHOLOGICAL.

D. Two education terms which were tried and found to be more noisy than useful were exploding AUDIO-VISUAL AIDS and using PROGRAMMED INSTRUCTION. They are used primarily in teaching medical students, general practitioners, etc., about diagnosing and treating. All the relevant citations, when they were included in the tracings, were retrievable by strategies discussed above.

Example:

Title: Clinical session on self-teaching devices for patient education.
Tracings: PROGRAMMED INSTRUCTION PATIENTS/education

Surprisingly, none of the tracings contained specific LEARNING terms (CONDITIONING, OPERANT, etc.) LEARNING, itself, was found in tracings with TEACHING.

IV. Examples from specific searches:

A. TEACHING THE CARDIAC PATIENT.

1. A straightforward search is effective with a heart (disease, surgery, etc.) hedge.

Example:

Title: A teaching plan for cardiac surgical patients.
Tracings: HEART SURGERY PATIENTS/education TEACHING

2. This search included ADAPTATION, PSYCHOLOGICAL in several tracings.

B. EDUCATING THE DIABETIC PATIENT.

1. In this search, exploding DIABETES MELLITUS and using DIABETIC DIET are effective disease or disease-patient terms.

Examples:

Title: Diabetics need to know more about diet.
Tracings: DIABETIC DIET HEALTH EDUCATION
DIABETES MELLITUS/therapy

Title: Teaching the diabetic patient.
Tracings: DIABETES MELLITUS PATIENTS/education

2. Exploding HYPOGLYCEMIC AGENTS (non-MeSH) and combining with education terms was not a successful strategy--even though it did retrieve citations.

C. PREOPERATIVE PATIENT EDUCATION.

The facets of this search were patient, education, and surgery hedges.

1. HEALTH EDUCATION and PATIENTS were useful as patient terms.

Example:

Title: Fears, facts and fantasies about pre- and post-operative care.
Tracings: HEALTH EDUCATION POSTOPERATIVE CARE PREOPERATIVE CARE FEAR

CHILD, HOSPITALIZED, HOSPITALIZATION, PATIENT CARE PLANNING, PROGRESSIVE PATIENT CARE, and COMPREHENSIVE CARE did not retrieve additional citations, but were not noisy either.

2. HEALTH EDUCATION was the only useful education term, except for the PATIENTS/education strategy.

Examples:

Title: A pre-operative patient teaching program.
Tracings: PATIENT CARE PLANNING PATIENTS/education TEACHING PREOPERATIVE CARE

Title: Does pre-operative instruction make a difference?
Tracings: HEALTH EDUCATION PATIENT CARE PLANNING SURGICAL NURSING PREOPERATIVE CARE

EDUCATIONAL MEASUREMENT was noisy. EDUCATION, SPECIAL did not retrieve anything. COUNSELING and TEACHING were not especially useful, since other strategy retrieved those articles. This author would try all of them except EDUCATIONAL MEASUREMENT for a similar request--even for a narrow search.

3. The surgery hedge consisted of the subheadings surgery and transplantation used alone and also SURGICAL NURSING and E4. SURGERY exploded (which includes PREOPERATIVE CARE). This was actually too broad a hedge to use successfully. Some of the noise retrieved from exploding E4 included these citations:

Title: Six concepts for survival (on food supply for population survival). Retrieved by STERILIZATION, SEXUAL.

Title: Preparation for childbirth--a personal experience. Retrieved by NATURAL CHILDBIRTH.

Title: Confusion in the management of diabetes. Retrieved by SYRINGES.

Thus, one should include PREOPERATIVE CARE and other general surgery terms, and then determine which additional surgery and transplantation terms would be applicable for the requester and, by extension, surgery or transplantation subheadings for which diseases and/or organs.

4. Although the strategy (NURSE-PATIENT RELATIONS + PHYSICIAN-PATIENT RELATIONS + PATIENT CARE TEAM + NURSING, TEAM) * (HEALTH EDUCATION + COUNSELING) * surgery hedge was tried, no positive result occurred from it.

D. EDUCATION OF PARENTS WITH MENTALLY RETARDED CHILDREN.

The highly relevant citations were retrieved by one education term: COUNSELING. Thus, some diseases may emphasize one type of teaching. This may be the case such as in patient education (COUNSELING) about cancer. Knowing which terms are emphasized is helpful in formulating narrow searches.

V. Remember to be careful in using T's in these types of searches, because a large quantity of the literature is in journals from Special List Nursing (where no IM terms are designated). The important terms as T and also with SLN would get around this obstacle, i.e., T terms + M terms * SLN.

VI. We have suggested the term PATIENT EDUCATION as an addition to MeSH to help in searching for similar requests.

VII. I would be interested in hearing from others about additional terms which have been successful in similar searches.

LIBRARY NETWORK/ MEDLARS
technical bulletin

No. 22 February 1971

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NETWORK ACTIVITIES
January 1971
Sheldon Kotzin, Network Management Staff, NLM

RML Grants

The South Central (TALON) and East Central (KOM) Regional Medical Libraries have been awarded grants of $47,719 and $40,326 in direct costs, respectively, for the period January 1, 1971 through March 31, 1971. These continuations, as well as the one previously announced for the Midwest Region, are intended to permit an orderly "phase-in" of the contract mechanism for future support of the RML's.

MEDLARS Center Activities

1. Demand Searches

There were 1,526 demand searches released by domestic MEDLARS Centers in January, bringing the total to 10,491 for Fiscal Year 1971.

2. Canadian MEDLARS Center

Beginning March 1, 1971, the Canadian MEDLARS Center will institute the following fee schedule for MEDLARS searches:

Demand Searches (January 1968 to date)	$30 per search
Back File Searches (January 1964 to December 1967)	$30 per search
Current Awareness Service (based on monthly MEDLARS tapes) ..	$60 per year

3. MEDLARS Center - RML Cooperation

The University of Michigan MEDLARS Center and the RML located at Wayne State University are cooperating to develop greater awareness of MEDLARS services at Wayne State. A staff member of the RML has been appointed to serve as liaison between the two institutions. He will consult with faculty members of the Wayne State University Medical School, determine their research and teaching interests, instruct them on search request procedures, and be a contact point with the MEDLARS Center, should they wish to apply for searches. The maintenance of close communication between those RML's whose Centers are remote from them--specifically Regions 5, 6, 8 and 9--should help to promote optimum MEDLARS utilization in every region.

MEDLARS ORIENTATION PROGRAMS

Date	Presented at	Attendees	Presented by
1/6	University of Alabama Dental School, Birmingham--Health Professional Users	-	F. Johnson
1/12	John Crerar Library, Chicago--Health Professional Users and Librarians	60	C. Green M. Doherty
1/14	UCLA, School of Environmental Sciences and Engineering--Health Professional Users	25	B. Beamish
1/28	Loma Linda University, PSRMLS Workshop--Health Professional Users	30	P. Hanson A. Durso
1/29	Jesse Jones Library, Houston--Health Professional Users and Librarians	23	C. Green U. McConnell

NLM will appreciate receiving information on all AIM-TWX presentations, as well as traditional MEDLARS orientations.

RESUMPTION OF TECHNICAL NOTES

Stanley Jablonski, Head, Index Section
Bibliographic Services Division

With the new year, the Index Section has resumed publication of the Technical Notes it issued periodically in the past.

The first production of 1971 has been typed on cards, for easy filing. This was requested by several MEDLARS indexers and searchers. We plan to issue them monthly in the same card format.

Since the Technical Notes concern indexing problems called to our attention by both indexers and searchers, we continue to welcome your questions and suggestions for subjects of future issues.

STATISTICAL SUMMARY FOR MEDLARS CENTERS FOR JANUARY 1971

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 JANUARY 1971
Period: 1/1 - 1/28/71

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	7	62	6	4.2	58.0	[illegible]
Colorado	0	72	0	3.1	97.0	100.0
Crerar	3	42	2	6.1	59.5	97.6
Harvard	27	138	8	7.8	7.0	24.0
Michigan	4	97	88	5.9	27.8	70.1
New York	2	53	7	5.1	12.0	20.0
NIH	3	98	42	11.0	70.5	82.7
NLM-MARML	6	208	27	5.5	43.3	63.0
NLM-MMS	13	135	1	5.0	73.0	85.0
Ohio	8	160	113	6.3	95.0	99.4
Philadelphia	3	34	12	6.0	20.6	55.9
PMA	2	50	220	6.8	80.0	80.0
Texas	8	129	38	6.1	100.0	--
UCLA	10	181	20	6.5	22.7	55.3
Washington	3	67	1	6.9	60.0	76.0
FOREIGN						
Australia	0	30	0	6.9	60.0	76.7
Canada	2	59	0	7.6	1.7	18.7
England	NA	NA	NA	NA	NA	NA
France (INSERM)	1	110	0	4.1	31.0	58.0
Germany (DIMDI)	NA	NA	NA	NA	NA	NA
Japan (JICST)	NA	NA	NA	NA	NA	NA
Sweden	0	95	0	8.8	0	0

MEDLARS II DEMAND SEARCH SYSTEM FOR FOREIGN CENTERS

John Cox, Chief, General Applications Branch
Computer and Engineering Services, NLM

The development of the MEDLARS II system has been a major undertaking at NLM since the project began in June 1968. Brief descriptions of the project and progress reports have appeared in previous issues of the Technical Bulletin. A major requirement of the project is the provision of continued support to the foreign MEDLARS centers in the form of machine-readable files necessary to provide bibliographic services to the medical and health-related communities in those areas.

The creation of new file designs and file structures, as well as basic changes in the MeSH vocabulary, affects the capabilities for computer processing of demand searches at these foreign MEDLARS centers. The change from MEDLARS I to II at the Library would require a change in programs and processing at the individual centers. After discussions with representatives of the foreign centers, it was decided that a single project should be undertaken to provide the demand search capability for the centers using the MEDLARS II data, rather than having each center independently develop its own searching programs. This project began at NLM in July 1970, with programmers from Sweden, England, Australia, the World Health Organization, and NLM participating. A representative from Germany joined the project in November 1970. The Computer Sciences Corporation entered into a contract with NLM to provide the necessary project planning, systems design, and technical guidance. The representatives from the foreign centers, with the exception of the German representative who is still assisting in the project, returned to their respective countries in December. NLM has assumed the task of completing the project.

The programming effort consists principally of selecting those pieces of the MEDLARS II system which are required for processing demand searches, and segmenting those pieces in such a way that they will run on an IBM 360 with a core storage capacity of 256,000 characters. Since MEDLARS II was designed for an IBM 360 with a much larger capacity, the most difficult problem has been that of reducing the size of these programs to meet this minimum.

The system being developed allows the user to formulate searches and store them on a disk file, to execute these searches and retrieve a hit count, and subsequently to retrieve and format search results for the line printer. That portion of the system which stores and executes the searches is a segmented version of the parent MEDLARS II program. The retrieval and formatting programs have been especially written for use in this system. This was decided upon primarily because of the delays in completing the formatting capability in MEDLARS II.

We are currently testing all programs, except those which are required for removing systems control information from the NLM system and incorporating it into the systems at the foreign centers. In addition to the problems normally

associated with program testing, we have the additional problem of incorporating changes made to the parent programs into the segmented versions, since the MEDLARS II system is still in a developmental stage. Our current schedule calls for the testing of all capabilities to be complete sometime in July 1971. The date at which the system could be operable at the foreign centers is primarily dependent upon the conversion of citations from our Honeywell tapes to the MEDLARS II format. This is an extremely time-consuming task on the computer, and no final plan has been formulated for the conversion effort.

REPORT ON CURRENT CATALOG PROOF SHEETS

Sheldon Kotzin
Network Management Staff, NLM

In July 1970, the National Library of Medicine Current Catalog Semiweekly Proof Sheets were made available to biomedical libraries at a subscription price of $25.00 per year. NLM provided cataloging data for current (latest three years), English-language citations in camera-ready form. The Medical Library Association functioned as publisher and handled all details related to subscriptions and claims.

The Semiweekly, as it appeared in mid-1970, represented the culmination of nearly two years of effort by Library personnel to produce a publication that would best reflect the bibliographic needs of biomedical librarians. Such a publication would serve to 1) disseminate data rapidly enough to be of maximum assistance to librarians, and 2) highlight current NLM acquisitions of potential interest to the entire medical library community.

I. Experimental Issues

Early in 1969, NLM began circulating pilot issues of the publication, on an experimental basis, to twenty-five major resource libraries throughout the United States. The publications were mailed from NLM twice each week in an edited form, so that items entered into the system inaccurately would be corrected in the same issue and not have to be deleted and re-entered at some later date. Between 150 and 200 citations were added each week in alphabetical order under the main entry only.

In an effort to validate its conclusions as to the efficacy of the publication, NLM asked the receiving libraries to note their utilization of the Proof Sheets as a cataloging and acquisitions tool by completing a special questionnaire sent with each issue. By June 1969, after six months of production, feedback indicated conclusively that the data and format had been effective. The questionnaire was eliminated, and the list of recipients was expanded. By the end of 1969, although the Library had never solicited interest from any but the original 25, it was evident that with a minimum amount of publicity the number of users could grow significantly. In January 1970, the Semiweekly ceased being issued as an experimental publication and was made available to the entire biomedical community.

II. Negotiations with MLA

With an expanded list of recipients, the Library was no longer capable of producing the publication "in-house." NLM approached the MLA and asked it to act as publisher. MLA agreed to publish the Semiweekly, publicize it in library journals, and handle subscription and claiming activities. NLM, of course, continued to provide all cataloging data and do any necessary editing. Libraries would be charged $12.50 for the 52 issues appearing from July through December. The 1971 subscription price was set at $25.00.

III. First Six Months of Operation

A company in Washington, D.C., contracted to print the Proof Sheets. Publication began with only a few problems at first. Citations for monographs within the scope of the Semiweekly which were cataloged on a Monday or Tuesday were processed on the Library's computer Tuesday evening, edited by senior catalogers by Wednesday noon, and sent by messenger to the printer that afternoon. Wednesday, Thursday, and Friday citations were delivered to the printer the following Monday. Allowing two days for printing, most Semiweeklies were mailed to subscribers within one week of cataloging.

As it happened, however, the printing company encountered some production problems. Because of its proximity to Bethesda, NLM had the unrewarding task of trying to remedy assorted throughput time problems, printing errors, and mail delays. As incidents of ineffective service continued, discouraging to both NLM and MLA, the decision was made to transfer to MLA's regular printer, a Chicago-based firm, for the production of 1971 issues. It was not that production levels in the first six months of operation were unacceptable, but, rather, that the original belief by MLA officials that a company with offices near NLM would afford better control of the publication proved to be unfounded. As MLA records indicate, during the first six months of publication, subscriptions rose steadily, approaching 250 institutions in this country and abroad, but throughput times too often lengthened past the one-week turnaround time NLM considered acceptable.

IV. 1971 Production

The 1971 issues produced in Chicago have, almost without exception, been mailed to subscribers the day after the receipt of camera-ready copy from NLM. This year's issues are printed on one side of the page only, instead of back-to-back; this enables librarians to shingle up the lists and utilize them for the purpose of establishing order or in-process files. This change in format, plus the speedier service, should attract additional subscribers.

When the Library's catalog card distribution service becomes operational early this year, the Semiweekly will be of additional benefit to librarians. It will serve as a checklist of new citations from which they may order NLM cards, or possibly books with cards, from the Library's card service contractor.

MEDLARS WORKSHOP PLANNED

William H. Caldwell, Deputy Chief
Bibliographic Services Division

A two-day MEDLARS Workshop is scheduled for April 1 and 2, 1971, at the National Library of Medicine. It is hoped that one search analyst from each MEDLARS Center will be able to attend.

One of the two days will be devoted to a detailed appraisal of the AIM-TWX experiment, and an exploration of future on-line search capabilities. Several topics will be discussed on the second day, among them the MEDLARS II expanded vocabulary.

More detailed information will be sent directly to the MEDLARS Centers as it becomes available.

ERRATUM

LIBRARY NETWORK/MEDLARS TECHNICAL BULLETIN - January 1971, Page 22

Periodicity of the Recurring Bibliography on Education in the Allied Health Professions should be: 1969 - . Annual.

LIBRARY NETWORK/ MEDLARS technical bulletin

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We welcome comments
and suggestions

U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
Public Health Service
National Institutes of Health

LIBRARY NETWORK/MEDLARS TECHNICAL BULLETIN
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NETWORK ACTIVITIES

December 1970

Sheldon Kotzin, Network Management Staff, NLM

UNION LISTS

The Medical Library Center of New York reports that it has coded 15,500 of the 18,000 titles which NLM expects to include in the Union Catalog of Medical Periodicals data base. An additional 1,298 titles have been added to the UCMP file by U.S. medical libraries. The input of these new records was funded by NLM.

MEDLARS SEARCHES

The number of demand searches released by domestic MEDLARS Centers (excluding Canada) in December was 1,856 bringing to 8,965 the number of searches released during the first half of Fiscal Year 1971. This constitutes 63% of the 14,287 searches released during the entire 1970 Fiscal Year.

PUBLICATION ANNOUNCEMENT

The Proceedings of the Conference on Image Storage and Transmission Systems for Libraries (PB 193 692), the report of meetings held on December 1-2, 1969, at the National Bureau of Standards, is available from the National Technical Information Service (the Clearinghouse), 5285 Port Road, Springfield, Virginia 22151. Topics discussed included digital image display, interlibrary communications developments, microfilm information systems, copyright considerations, and image transmission for the library. The cost of the report is $3.00.

The report covers a two-day symposium sponsored by the Federal Library Committee's Task Force on Automation, the Lister Hill National Center for Biomedical Communications at NLM, the Panel on Information Sciences and Technology of COSATI, and the National Bureau of Standards.

MEDLARS ORIENTATION PROGRAM

DATE	PRESENTED AT	ATTENDEES	PRESENTED BY
12/2	Yale Medical Library, New Haven--Health Professional Librarians	29	M. Ford S. Woodford
12/3	Yale Medical Library, New Haven--Health Professional Librarians	13	M. Ford S. Woodford
12/3	Yale Medical Library, New Haven--Health Professional Users	13	M. Ford S. Woodford
12/4	Evanston Hospital Association, Evanston, Illinois--Health Professional Librarians	75	M. Doherty
12/9	University of Rhode Island, Kingston--Health Professional Users & Librarians	40	F. Solomon
12/9	Laval University, Quebec City--Health Professional Users	--	A. Nevill
12/10	Queen's University, Kingston, Ontario--Health Professional Users & Librarians	--	A. Nevill
12/11	University of Massachusetts, Amherst--Health Professional Users & Librarians	30	S. Woodford

Fifty-six MEDLARS Orientation Programs were conducted from July through December 1970.

STATISTICAL SUMMARY FOR MEDLARS CENTERS FOR DECEMBER 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 DECEMBER 1970
Period: 11/27 - 12/31/70

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	4	111	6	4.1	64.8	98.1
Colorado	0	83	14	4.1	94.0	99.0
Crerar	2	72	1	5.5	38.9	70.8
Harvard	12	110	8	7.6	0	7.0
Michigan	1	145	89	6.2	33.8	59.3
New York	1	70	5	4.5	0	12.0
NIH	5	106	80	5.0	63.2	98.1
NLM-MARML	15	266	21	6.2	17.4	44.
NLM-MMS	18	210	2	6.0	27.4	55.5
Ohio	6	115	105	5.5	90.4	95.6
Philadelphia	2	74	10	6.3	0	23.0
PMA	0	32	223	12.6	71.8	93.6
Texas	7	183	38	4.4	100	--
UCLA	16	172	20	9.4	17.4	47.1
Washington	4	106	1	7.0	35.0	70.0
FOREIGN						
Australia	0	70	0	6.8	92.9	100
Canada	1	34	0	6.5	29.4	67.7
England	2	119	184	NA	87.4	95.2
*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	2	95	1092	6.4	1.0	13.0

* Figures are for November 1970

For the centers in the United States, the percentage of searches released in 0-15 days improved over November at eight centers and remained the same at one center. Harvard, New York, NLM-MARML, NLM-MMS, and Philadelphia had longer throughput times because of year-end computer processing loads at NLM which required that most demand search decks be shipped on to the Texas Medical Center for computer processing. The extra time for mailing to and from Texas resulted in longer overall throughput times for the searches for these five centers.

STATISTICS ON JANUARY-DECEMBER 1970 CCF

Constantine J. Gillespie
MEDLARS Management Section, NLM

Total number of citations on January-December 1970 CCF:		220,287
Number of English-language citations:		118,557
Number of foreign-language citations:		101,730
High-volume foreign-language citations by language:	Russian	24,534
	German	18,692
	French	17,286
	Japanese	9,866
	Italian	9,716
	Polish	4,799
	Spanish	4,237
		89,130
Percentage of English-language citations:		53.8%
Percentage of foreign-language citations:		46.2%
		100.0%
Percentage of all citations represented by 7 high-volume foreign languages listed above:		40.5%
Percentage of all other foreign languages		5.7%
Percentage of English-language citations:		53.8%
		100.0%
IM headings used with 220,287 citations:		563,604
NIM headings used with 220,287 citations:		1,626,904
Total headings used with 220,287 citations:		2,190,508
Average number of IM headings per article:		2.56
Average number of NIM headings per article:		7.38
Average number of total headings per article:		9.94

CUMULATED ABRIDGED INDEX MEDICUS

In response to numerous requests, the National Library of Medicine has published an annual cumulation of the monthly issues of Abridged Index Medicus. The 1970 Cumulated Abridged Index Medicus (C-AIM), in one case-bound volume, is now available. Because the number of citations under each subject heading are far greater than in the monthly AIM, subheadings have been used to subdivide the entries.

The 1970 C-AIM may be ordered from the Superintendent of Documents, U. S. Government Printing Office, Washington, D.C. 20402. The price is $10.00 ($12.50 if mailed to a foreign address). An order form is provided below.

MAIL ORDER FORM To:

Superintendent of Documents, Government Printing Office, Washington, D.C. 20402

Enclosed find $..... (check, money order, or Supt. of Documents coupons).

Please send me ..... copies of CUMULATED ABRIDGED INDEX MEDICUS

Price: $10.00 ($12.50 foreign)

Please charge this order to my Deposit Account No. .....

Name .....

Street address .....

City and State ..... ZIP Code .....

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WASHINGTON, D.C. 20402

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U.S. GOVERNMENT PRINTING OFFICE

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Street address .....

City and State ..... ZIP Code .....

UPDATES TO MeSH MATERIALS

1. ERRATA TO: MEDICAL SUBJECT HEADINGS 1971, Vol. 12, No. 1, part 2, January 1971 INDEX MEDICUS:

Page 164	Column 1	At top of page add:	PROLACTIN D8.48.48.1; D8.79.32.1 x lactogenic hormone (D8)
Page 164	Column 2	At top of page add:	PROSTAGLANDINS (D12.78) xr kinins (D10)
Page 264	Column 3	Delete hyphen from: The correct form is:	CELL-TRANSFORMATION, NEOPLASTIC CELL TRANSFORMATION, NEOPLASTIC

2. PROVISIONAL HEADING LIST WITH DEFINITIONS, 1971: To update for 1971, make the following changes in the 1970 provisional heading list with definitions:

Delete: Cyclamates
Nonverbal Communication
Saccharin

They have been made main headings for 1971.

3. LIST OF DELETED HEADINGS: Add the following headings to your list of deleted headings, 1970, to bring it up-to-date.

Date of Change	HEADING	Entry Date	Changed to
71	EAR, EXTERNAL, DEFORMITY (244)	63	TO-1
71	EDUCATION, NURSING, DEGREE PROGRAMS (427)	67	TO-1
71	HAND DEFORMITIES (469)	63	TO-1
71	SCLERODERMA (898)	63	TO-1

ERRATA

LIBRARY NETWORK/MEDLARS TECHNICAL BULLETIN - November 1970, Page 14

The Index to NLM Literature Searches should read (in all places it appears): numbers 1-67 --70-43 and not 1-69 -- 70-43.

NLM'S RECURRING BIBLIOGRAPHY PROGRAM

William H. Caldwell
Deputy Chief, Bibliographic Services Division, NLM

The Recurring Bibliography Program was initiated by the National Library of Medicine as a service to both the librarian and the information user. The primary purpose of recurring bibliographies (RB's) is to bring together - in compact, convenient form - references on various subjects within the scope of biomedicine. The ultimate user of these references, of course, is the scientist in need of information. It matters little whether the user finds the desired references himself, or whether his medical librarian finds them for him. What is important is that the references be made readily accessible; recurring bibliographies are designed to provide that ready access.

Recurring bibliographies constitute by-products of MEDLARS; there are currently 19 RB's published on a regular basis, and several others are in the planning stages. All but two were developed as joint ventures between NLM and other government agencies or nonprofit professional organizations. Through cooperative agreements, the Library and the individual sponsoring groups share the responsibility for the content of each RB, and for production costs. The agreements are carried out in the following manner.

Representatives of organizations which sponsor a new RB outline in detail the subject scope of the proposed publication, the audience it is intended to serve, etc. One of the most important considerations in this regard is the availability or existence of other reference sources in the field; it must be demonstrated that the proposed RB will fill a void in the plethora of published indexes. The format and frequency of the new RB are agreed upon jointly by the sponsoring organization and NLM, consistent with the purpose of the bibliography and the needs of its users.

The next step in the generation of a new RB is a long series of work-sessions during which subject specialists from the sponsoring organizations and MEDLARS analysts from NLM create the exact specifications for the bibliography's content. These specifications, known as search strategies, are developed painstakingly through an iterative process. An initial strategy is conceived, constructed, and processed against the MEDLARS data base. Following critical review of the references retrieved, the strategy is modified as necessary before it is accepted as optimal for the desired bibliography. In most cases, one or more pilot issues of the proposed publication are then distributed to knowledgeable scientists for their review and comments. Further changes in the search strategy may then be made. (The search strategy for each RB is reviewed annually, and may be modified in accord with changes in Medical Subject Headings, indexing procedures, etc.)

On the average, over a year elapses from initial negotiations to publication of the first issue of the new RB. The final search strategy, which is, of course, retained, is processed against the MEDLARS data base on a regular ("recurring") basis. The references retrieved are arranged in camera-ready form by NLM and forwarded to the sponsoring organization. That organization

is then responsible for publication of the bibliography and, in many cases, its distribution.

Each RB has certain advantages over Index Medicus. The first of these has already been alluded to -- the inclusion in each of references within a somewhat narrower subject area than the broad-based Index Medicus. This intentional restriction -- which in one sense is an RB's main asset -- can also be one of its primary faults if it is relied upon exclusively by the searcher. Index Medicus and other major indexes and abstract sources must be consulted for comprehensive literature searching; they contain a wealth of information not included in RB's.

Incorporation of one or more of the following traits into each RB provides them with various advantages over Index Medicus:

A. Some RB's cite references which never appear in Index Medicus.

The Index to Dental Literature (IDL) includes (in addition to selected references from Index Medicus) citations to articles appearing in approximately 400 dental journals not indexed for Index Medicus. Thus, the 2nd Quarter, 1970 issue of Index to Dental Literature, for example, lists 263 citations under the heading PERIODONTAL DISEASES. The six monthly issues of Index Medicus for the same period list 149. Of the additional 114 citations, 98 are from non-Index Medicus journals. (The remaining 16 are those which were listed in IDL under PERIODONTAL DISEASES, but under different headings in Index Medicus; see paragraph B, below.) In summary, IDL lists about 43% more citations under this typical dental heading than does Index Medicus.

The International Nursing Index (INI), like the IDL, also cites articles from about 200 additional nursing journals not indexed for Index Medicus. A comparison similar to the one above shows that, for example, 66 references appear under the heading NURSE-PATIENT RELATIONS, in the INI issue covering the first three months of 1970. Only eight of those 66 appear in Index Medicus, under that heading, for the same period. Of the difference (58), 30 are from non-Index Medicus nursing journals. (The remaining 28 appear in Index Medicus under headings other than NURSE-PATIENT RELATIONS.) In summary, INI lists about eight times as many references -- under this heading of particular interest to nurses - than does Index Medicus; almost half of the total do not appear in Index Medicus at all.

The Endocrinology Index includes, in each bimonthly issue, many citations supplied by the UCLA Brain Information Service. A typical issue of the Endocrinology Index (May-June 1970) lists 275 such references, none of which appeared in Index Medicus for the same period.

B. Any citation may appear in a RB under MeSH headings different from those under which it appears in Index Medicus.

A simple example may serve to show how this fact makes an RB especially useful. Suppose we wish to find references on the untoward effects of chloramphenicol. By consulting a single issue of the quarterly Toxicity Bibliography (January-March 1970), we find 16 references under the heading CHLORAMPHENICOL/adverse

effects. Under the same heading in the three corresponding monthly issues of Index Medicus, 9 of those 16 references are cited. The remaining 7 references appear in Index Medicus under subject descriptors for the specific disease being treated (such as TYPHOID), or for the untoward effect which resulted from treatment (such as THROMBOPENIA, BONE MARROW DISEASES, or PHOTOSENSITIVITY). Even if the searcher had looked under these and related headings in Index Medicus, the 7 additional references would likely have gone unnoticed based upon the titles of the articles.

C. Most RB's cite references under subject headings which are not regular MeSH terms -- that is, those which do not appear in the printed Index Medicus.

There are 37 such headings for anatomic structures, 88 for diseases, 25 for diagnostic technics and procedures, etc. In all, over 500 of these subject descriptors may appear in most RB's, but never in Index Medicus. The largest group comprises drug and chemical terms - over 250 of them are currently cited. They enable the user of, say, the Toxicity Bibliography to look for references directly under CARBAMAZEPINE, CI-581, CYCLAZOCINE, CYCLORPHAN, PHENYLSEMICARBAZIDE, and PHENYRAMIDOL. References on these agents would be listed in Index Medicus under the more general authorized MeSH term, ANALGESICS AND ANTIPYRETICS.

In addition to these 500+ subject descriptors, there are over 250 geographic headings. References may appear in some RB's under these geographic terms, which represent continents, regions, countries, provinces, states, and major cities.

D. Some RB's provide --in addition to the standard bibliographic reference -- a listing of all descriptors assigned by the indexer for each article.

These descriptors, in the jargon of MEDLARS, are called "tracings." They consist of all subject descriptors used by the indexer in describing an article's content, not just those few under which the reference is cited in Index Medicus. The tracings, when viewed in the context of the article's title, convey more information about the content than does the title alone. The title "In Prison," found in Index Medicus under PRISONS, doesn't reveal much of the article's subject. But the descriptors DRUG ADDICTION/therapy, DRUG WITHDRAWAL SYMPTOMS/therapy, HUMAN, ENGLAND, and PRISONS -- all of which comprise the citation's tracings -- appear with the reference in at least one RB consulted (the Toxicity Bibliography). The searcher can easily determine not only what aspect of prisons is being discussed, but, in this case, where those prisons are.

E. Some RB's provide subject and/or author indexes as well as subject and/or author sections, thus enabling the searcher to conduct a coordinate search.

In those RB's with subject indexes, citations are numbered sequentially for referencing. By looking for identical numbers under two or more headings in

the index, it is possible to locate references of possible relevance in the subject section. For example, suppose the searcher is interested in articles reporting some connection between intelligence and food intake. A comparison of numbers assigned to references with headings such as INTELLIGENCE TESTS, FASTING, etc. -- in the subject index -- points to articles such as one entitled "Psychologic effects of prolonged starvation in extreme obesity." A look at the tracings for that article, in the subject section, confirms the likelihood that it is relevant to the request. The user of Index Medicus, finding this title under the heading STARVATION, has no way of knowing just what psychological effects are reported in the article.

F. Some RB's provide introductory material relative to the scope and content of the bibliography, to include (in some cases) a listing of all search terms used.

The introductory materials included in bibliographies are all too often ignored by the searcher. This is unfortunate, since a number of the RB's provide some really very helpful information. For example, the preface to the Index of Investigative Dermatopathology and Dermatology informs the user that references on venereal diseases are not included in the bibliography, thereby precluding fruitless searches. The Endocrinology Index describes, in the introduction, how to use the subject index in conducting a coordinate search (see paragraph E, above). The Current Bibliography of Epidemiology and several others provide a complete list of subject headings under which references may be found; it is often surprising to note the number and type of headings within the scope of an RB.

Below are descriptions of each of the RB's currently published. Full details on each are not included, but the following data may prove helpful to those unfamiliar with them:

PERIODICITY: Initial date and frequency of publication with cumulations (if any) noted.

FORMAT: The format varies from a single arrangement by subject to combinations of subject, author, and review sections, with or without indexes, non-MEDLARS references, etc. Subheadings (as used in Index Medicus and defined in MeSH) and tracings are noted, as applicable.

CONTENT: General guidelines are given relative to the subject matter of each bibliography. These descriptions are not all-inclusive or overly specific.

SPONSOR: Name and address of the organization which sponsors the bibliography.

ANESTHESIOLOGY BIBLIOGRAPHY

PERIODICITY: Jan.-Feb. 1968-1970. Bimonthly; cumulated annually in Nov.-Dec. issue. Quarterly, beginning 1971.

FORMAT: Subject and author sections.

CONTENT: English-language literature only.

Major emphasis on anesthesia and anesthesiology *per se*, anesthetic agents, equipment, etc.

Also included: references to articles reporting substantive material on any of several drugs used in conjunction with human surgery; monitoring systems in operating rooms; postoperative complications.

SPONSOR: American Society of Anesthesiologists
WOOD Library, Museum of Anesthesiology
515 Busse Highway
Park Ridge, Illinois 60068.

ARTIFICIAL KIDNEY BIBLIOGRAPHY

PERIODICITY: Jan.-Mar. 1967- Quarterly.

FORMAT: Subject section, with subheadings.

Author section.

CONTENT: All languages.

References to articles on acute and chronic kidney failure, artificial kidney instrumentation, kidney transplantation, hemodialysis, peritoneal dialysis, artificial membranes, anuria, and uremia.

SPONSOR: National Institute of Arthritis and Metabolic Diseases
National Institutes of Health
Bethesda, Maryland 20014

BIBLIOGRAPHY OF SURGERY OF THE HAND

PERIODICITY: Jan.-Mar.1967- July-Sept. 1970. Quarterly
Oct. 1970 - . Annual

FORMAT: Subject section, with sub-headings.

Author section.

Tracings included in subject section.

CONTENT: All languages.

References to articles on surgery of the hand and on clinical or experimental studies on muscle physiology and physiopathology, tendon injury, and tendon surgery (not restricted to the hand).

SPONSOR: American Society for Surgery of the Hand
2150 Pennsylvania Avenue, N.W.
Washington, D.C. 20037

BIBLIOGRAPHY ON MEDICAL EDUCATION

PERIODICITY: 1964 - 1966. Annual
Annually from 1964 through 1966 (1964 and 1965 in one volume, 1966 in another).

Monthly since January 1966, in the Journal of Medical Education.

FORMAT: Subject and author sections in annual publications; subject section only in monthly issues.

CONTENT: All languages

References to articles on medical education; graduate and continuing medical education; internships and residencies; medical faculties; medical licensure; medical schools; medical and premedical students.

SPONSOR: Association of American Medical Colleges
2530 Ridge Avenue
Evanston, Illinois 60201

CEREBROVASCULAR BIBLIOGRAPHY

PERIODICITY: 1960 - 1963. Quarterly
1964 - Quarterly, as by-product of MEDLARS

Subject section and review section both with subheadings.

Author section, with tracings.

Subject and author indexes, both keyed to author section.

CONTENT: All languages.

Major emphasis on cerebrovascular literature.

Also included: selected references to articles on neurological, vascular, and hematological topics; alphabetic listing of subject headings useful as entry points into the bibliography.

SPONSOR: Joint Council Subcommittee on Cerebrovascular Disease
National Institute of Neurological Diseases and Stroke, and National Heart and Lung Institute.
National Institutes of Health
Bethesda, Maryland 20014

CRANIOFACIAL - CLEFT PALATE BIBLIOGRAPHY

PERIODICITY: July - Dec. 1968 (1st issue.) Jan.-Mar. 1969- Quarterly.

FORMAT: Subject section, with subheadings.

Author section.

CONTENT: All languages.

References to articles on cleft palate, cleft lip, maxillofacial development; selected references on genetic, embryologic, surgical, radiographic, and other aspects of the face, nose, tongue, etc.

SPONSOR: American Cleft Palate Association
Chairman, Nomenclature Committee
Box 3098
Division of Plastic, Maxillofacial and Oral Surgery
Duke University Medical Center
Durham, North Carolina 27706.

CURRENT BIBLIOGRAPHY OF EPIDEMIOLOGY (CuBE)

PERIODICITY: Jan. 1969- . Monthly; annual cumulations.

FORMAT: Two subject sections, both with subheadings.

CONTENT: All languages

Subject Section 1: References related to some 200 topics (from Accident Prevention to Zoonoses) of interest to administrators, investigators, and teachers. Complete list of subjects covered appears in each issue.

Subject Section 2: References on the etiology, occurrence, and prevention and control of disease, and the pathogenicity and immunologic aspects of organisms.

SPONSOR: American Public Health Association.
1740 Broadway
New York, New York 10019

ENDOCRINOLOGY INDEX

PERIODICITY: Jan. - Feb. 1968 - Bimonthly

FORMAT: Subject, review, and methods sections, each with subheadings.

Author section, with tracings.

Subject and author indexes, both keyed to author section.

Table of contents.

CONTENT: All languages.

References on virtually any aspect of the pituitary, thyroid and adrenal glands; gonads, placenta, parathyroid and bones, and neuroendocrinology.

Also listed are references not derived from MEDLARS, such as monographs, technical reports, etc.

SPONSOR: National Institute of Arthritis and Metabolic Diseases
National Institutes of Health
Bethesda, Maryland 20014

FIBRINOLYSIS, THROMBOLYSIS, AND BLOOD CLOTTING

PERIODICITY: Jan. 1965- . Monthly; cumulated.

FORMAT: Subject section and review section, both with sub-headings.

Author section, with tracings.

Subject and author indexes, both keyed to author section.

CONTENT: All languages.

Broad subject coverage of the blood coagulation factors, enzymes, drugs effecting the clotting process, blood preservation, hemorrhagic diseases, etc.

SPONSOR: National Heart and Lung Institute
National Institutes of Health
Bethesda, Maryland 20014

INDEX OF INVESTIGATIVE DERMATOPATHOLOGY AND DERMATOLOGY

PERIODICITY: March 1969- . Monthly

FORMAT: Subject section and review section, both with subheadings.

Author section.

Complete list of subject descriptors.

CONTENT: All languages.

References to articles on diseases of the skin, other diseases resulting in or contributing to skin involvment (except for venereal diseases); topical anti-inflammatory agents; related subjects in dermatology.

SPONSOR: Universities Associated for Research and Education in Pathology, Inc. (UAREP)
9650 Rockville Pike
Bethesda, Maryland 20014

INDEX OF RHEUMATOLOGY

PERIODICITY: Jan. 1965 . Monthly. 1970 cumulation.

FORMAT: Subject section, with subheadings.

Author section.

CONTENT: All languages.

Selective coverage of the inflammatory diseases of connective tissue; muscle and joint pathology. Particular emphasis on anti-arthritic agents in therapy. Injuries to bones and joints not included.

SPONSOR: American Rheumatism Association of the Arthritis Foundation.
1212 Avenue of the Americas
New York, New York 10036

INDEX TO DENTAL LITERATURE

PERIODICITY: 1921 - 1964.
1965 - . Quarterly, each issue cumulative, as a by-product of MEDLARS.

FORMAT: Subject section and review section, each with subheadings.

Author section.

Dental Books section.

Dissertations and Theses section.

CONTENT: All languages.

Comprehensive coverage of the dental literature, including references from about 400 journals not indexed for Index Medicus. Complete list of journals covered is included in each issue. Recent monographs, dissertations, and theses also cited.

SPONSOR: American Dental Association
211 E. Chicago Avenue
Chicago, Illinois 60611

INTERNATIONAL NURSING INDEX

PERIODICITY: Jan. - Mar. 1966. Quarterly.
Jan. - Mar. 1969. Quarterly; each issue cumulative.
Quarterly

FORMAT: Subject section, with subheadings.

Author section.

CONTENT: All languages.

Comprehensive coverage of the nursing literature, including references from about 200 journals not indexed for Index Medicus. Complete list of journals covered is included in each issue.

Part 2 of the first issue of each year is a complete nursing thesaurus with cross referencing to MeSH terms. The thesaurus is also included in the fourth quarter (annual) cumulation.

SPONSOR: American Journal of Nursing Co.
10 Columbus Circle
New York, New York 10019

NEUROSURGICAL BIBLIO-INDEX

PERIODICITY: April 1969 - . Quarterly.

FORMAT: Subject section.

Author section.

CONTENT: All languages.

References in major areas of neurosurgical interest; normal and disease processes of the nervous system; physiology and surgery of nervous tissue.

A list of all headings used is included in each issue.

SPONSOR: American Association of Neurological Surgeons
Suite 1230, 251 East Chicago Avenue
Chicago, Illinois 60611

PARKINSON'S DISEASE AND RELATED DISORDERS

PERIODICITY: May 1970 - . Monthly

FORMAT: Subject section, with tracings.

Author section.

CONTENT: All languages.

References to the periodic literature of Parkinsonism, movement disorders, tremors, tics, etc. Therapeutic agents (trihexyphenidyl, etc.) and anatomic structures involved (thalamus, basal ganglia, etc) also included.

List of subject headings used appears in each issue.

SPONSOR: National Institute of Neurological Diseases and Stroke
Bethesda, Maryland 20014

RECURRING BIBLIOGRAPHY OF HYPERTENSION

PERIODICITY: May - June 1969 - . Bimonthly.

FORMAT: Subject section.

Author section.

CONTENT: All languages.

Broad coverage of the literature of blood pressure; neuronal, vascular, and endocrine considerations, as well as anti-hypertensive therapy.

SPONSOR: The American Heart Association Inc.
44 E. 23rd Street
New York, New York 10010

RECURRING BIBLIOGRAPHY ON EDUCATION IN THE ALLIED HEALTH PROFESSIONS

PERIODICITY: 1964 - . Annual

FORMAT: Subject and author sections.

CONTENT: English-language literature only.

References to articles on dental assistants, hygienists, and technicians; occupational and physical therapy; dietary services, dietetics, and nutrition; related topics such as health manpower, health occupations, medical records librarians, etc.

SPONSOR: School of Allied Medical Professions
Ohio State University
410 West 10th Avenue
Columbus, Ohio 43210

SELECTED REFERENCES ON ENVIRONMENTAL QUALITY AS IT RELATES TO HEALTH

PERIODICITY: Jan. 1971 - . Monthly.

FORMAT: Subject section, with subheadings.

Author section.

CONTENT: All languages.

References on health hazards of an environmental nature; good coverage of chemical pollutants and their effects upon life forms. Noise, bacterial contaminants, and other hazards are also included.

SPONSOR: National Library of Medicine
8600 Rockville Pike
Bethesda, Maryland 20014

TOXICITY BIBLIOGRAPHY

PERIODICITY: Jan. - Mar. 1968 - . Quarterly.

FORMAT: Two subject sections, with subheadings and tracings.

Subject index and author index for Subject Section I.

CONTENT: All languages.

Section I. Broad coverage of the adverse, poisonous, and toxic effects of drugs and chemicals.

Section II. References reporting diseases and symptoms induced by drugs and chemicals.

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8600 Rockville Pike
Bethesda, Maryland 20014

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National Institutes of Health

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