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INDEX TO LIBRARY NETWORK/MEDLARS TECHNICAL BULLETIN
January - December 1973, Nos. 45-56

g. Nowak

NATIONAL LIBRARY OF MEDICINE

LIBRARY NETWORK/MEDLARS TECHNICAL BULLETIN

of the

Library Component of the Biomedical Communications Network

No. 45 JANUARY 1973

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

LIBRARY NETWORK/MEDLARS TECHNICAL BULLETIN
of the
Library Component of the Biomedical
Communications Network

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The LIBRARY NETWORK/MEDLARS TECHNICAL BULLETIN
is issued monthly by the Office of the
Associate Director for Library Operations.

PUBLICATIONS SUPPLEMENT TO NLM NEWS

A special issue of the NLM News (Publications Supplement, December 1972) has been sent to all News subscribers. The Supplement contains lists of NLM publications that are offered for sale, guidelines for ordering publications from the Government Printing Office, and a new procedure for handling complaints about sales and subscription problems. Also included are an advance order form for the 1972 Cumulated Index Medicus and a newly designed form for claiming publications ordered from GPO.

Additional copies of the Publications Supplement are available from the Office of Public Information, NLM.

MEDLINE NEWS BRIEFS

Leonard J. Bahlman
MEDLARS Management Section, NLM

TYMSHARE NUMBERS The 10 character per second Denver, Colorado Tymshare number (303/399-7471) used to access MEDLINE has been discontinued.

MEDLINE GREETING The "Greeting" message received after login to MEDLINE now includes the status of the MEDLINE and SDILINE data bases, e.g. ....NOW CONTAIN FEB. 1973 DATA.

MAIL WAITING If you receive the message MAIL WAITING after logging in to the Tymshare News Files, please notify MEDLARS Management Section, as mail meant for MMS may have been sent to one of the other user names by mistake.

DATA BASE ERRORS When reporting data base errors to MEDLARS Management Section, please give the following information for each incorrect or duplicate citation:

1. Data base in which error was found
2. Author of article
3. Title of article
4. Source (journal, volume, pages, month, and year)

If you receive the message ENTRY XXXXX (number) CONTAINS AN ERROR AND CANNOT BE PRINTED, please report that Entry Number to MEDLARS Management Section.

MEDLINE "NEWS" COMMAND

The general news which users receive after login to the Tymshare News Files may now be obtained while in MEDLINE by entering in quotes, after any USER cue, the command "NEWS" and a carriage return. Users must still log into Tymshare under NLM4 through NLM4E to access the more specific news files, e.g. COM PHONES, COM ELHILL, etc. Responses to user questions will still be sent via the Tymshare network from MEDLARS Management Section. If you are expecting a response from MMS, please log in to the Tymshare News Files periodically.

COMPFILE

The complement file to MEDLINE (the remaining journals in MEDLARS) will be available to all users on Saturdays from 12 noon - 3 pm (Eastern Time) until further notice. Users of COMPFILE are able to search and receive postings on-line, but all printing must be done off-line. The file is accessed by logging into MEDLINE and entering in quotes the command "FILE COMPFILE". A news file has been initiated within the Tymshare system for news specific to COMPFILE. Users must log into Tymshare under NLM4 through NLM4E and enter COM COMPFILE.

"COMMENT"

Users are requested not to use the "COMMENT" command while in MEDLINE at SDC in California, as these messages will no longer be received by MMS. If you wish to send a message to MEDLARS Management Section, use the SEND MMS routine in Tymshare or the "COMMENT" command while in MEDLINE at NLM. Only Pharmaceutical Mfrs. Assoc. should use the SDC "COMMENT".

SEND MMS AND RECEIVING MESSAGES - TELETYPE

Users with Teletype or TWX terminals will be disconnected from the Tymshare system when using the SEND MMS routine if a message is terminated with a Control D. The following routine should be substituted for these terminals. Hold down the Control key and the Shift key simultaneously and press the letter N to terminate the message. If your terminal will not permit you to hold down the Control key and the Shift key at the same time, you may be able to use the following procedure. Hold down the Control and ORIG keys simultaneously and press the letter D to terminate your message.

If after logging into the Tymshare News Files (NLM4-NLM4E) you begin to receive a message from MEDLARS Management Section, immediately hold down the ORIG key until you begin to receive the "general news." This will delete the message from the file after it has been printed and you will not be disconnected. This problem should be corrected in the near future.

SDILINE

There is now the capability of searching on title words (TW) of citations within the SDILINE file. You may search only on <u>single</u> keywords within titles. Therefore, if you wish to search on more than one word within a title you must AND

the terms and include the Title Word qualifier, (TW), e.g., AIR (TW) AND POLLUTION (TW). If your term is a MeSH heading, a subheading, or an author, and also appears in a title, you will receive a multi-meaning message unless you specify the category you wish searched, e.g. METABOLISM (MH), METABOLISM (SH), or METABOLISM (TW).

The truncation symbol (#) may be used with these title words, as with MeSH terms, authors, etc., to represent individual characters within words or at the end of terms to represent any right continuing string of characters.

BA#E retrieves BATE, BARE, BASE, etc.
CEREBR# retrieves CEREBRUM, CEREBRAL, CEREBROSPINAL, etc.

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MEDLARS/MEDLINE DATA BASE STATISTICS

	JOURNAL TITLES	CITATIONS
MEDLARS (Jan.'70 - Feb.'73)	2,202	701,264
MEDLINE (Jan.'70 - Feb.'73)	1,262	413,354
MEDLINE w/AIM Identifier	100	83,215
SDILINE (Feb. 1973)	2,202	17,178

NOTE: The journal titles shown for MEDLARS represent the titles being actively indexed as of February 1973. The journal count for MEDLINE includes some titles that are no longer indexed but which still have some citations in the data base.

PUBLICIZING MEDLINE

Barbara Greehey
MEDLARS Management Section, NLM

In addition to the communications network which links users' terminals to the computer, MEDLINE depends also on a less impersonal type of communication. This is the process of informing the biomedical community about MEDLINE. Though it frequently seems that MEDLINE advertises itself best through the enthusiasm of a satisfied customer, other methods are being used by libraries to put MEDLINE and potential users on familiar terms. These are described in the following.

For some the first introduction to MEDLINE may be in response to the question "What is that" on seeing the terminal. Others begin with misconceptions and want to use the system that supplies answers to any question, contains reprints of journal articles, etc. Thus begins the education of the prospective MEDLINE user.

Demonstrations of MEDLINE scheduled on the spot for individuals or long-planned, formal demonstrations are a popular way of orienting people to MEDLINE. Out of various approaches, the following offers one formula.

The prepared demonstration, geared to the interest of the audience, followed by individual questions, time allowing, has certain advantages. Demonstrations immediately thrown open to the first question from the audience tend to center around a specific interest of one individual while a prepared demonstration, based on the background of the group, may be of a greater interest to the group as a whole. Also it avoids spending time floundering around with the vocabulary before the group has even seen the system.

After a prepared demonstration, it is usually stimulating to the audience to be able to ask their own questions. You might have copies of MeSH available so that while you are working on one person's question, another person may be preparing his own. But a prepared demonstration first, illustrating the various capabilities of MEDLINE, orients the group to the system itself before interest is centered on awaiting output from a particular question.

Demonstrations for one individual should have a different approach and it is usually better to encourage specific questions. In this more informal atmosphere, it is easier to discuss the person's question and to be more convincing if it is not suitable for MEDLINE.

Announcements, flyers, and write-ups in in-house newsletters are another way libraries are using to announce MEDLINE services to particular communities. These usually include concise information about the data base, the output, hours of service, and how the user may request a search. Most libraries emphasize the speed of the service. Some libraries report statistics, such as their number of searches, what group is requesting searches, etc., in these publications. Updated information on the number of citations, number of journals and date span of the data base can be obtained each month from the Technical Bulletin.

Libraries have also devised other ways of publicizing MEDLINE. Indiana University School of Medicine Library advertised "MEDLINE and the Author" in

their newsletter. They suggest using MEDLINE for quick author bibliographies in preparation for site visits, introducing guest lecturers, or background reading before attending a lecture. University of Texas Health Sciences Center Library at Dallas distributed bookmarks with information about MEDLINE. Some libraries have packed up their terminals and have traveled with MEDLINE to various locations within their state or region.

Lane Medical Library of Stanford University created a videotape presentation which is used at times in combination with a live presentation. University of Nebraska Medical Center Library has prepared a slide/tape cassette user orientation. Both these have been described in earlier issues of the Technical Bulletin and are cited below.

The following is presented as a partial bibliography of articles about MEDLINE or AIM-TWX. Copies of articles might be kept on hand for those requiring background information on MEDLINE.

Blase, Nancy G. An experimental cancer information service using AIM-TWX. Bull Med Libr Assoc 60:115-20, Jan 72.

Feng, Cyril. Charging system for MEDLINE (University of Miami Medical School Library). Lib Net/MEDLARS Tech Bull No. 43:7, Nov 72.

Green, Carolyn S. MEDLINE orientation at the University of Nebraska. Lib Net/MEDLARS Tech Bull No. 41:5-6, Sep 72.

Katter, Robert V. and McCarn, Davis B. AIM-TWX--an experimental on-line bibliographic retrieval system. (In Walker, Donald E., ed. Interactive bibliographic search: the user/computer interface. Proceedings of the Workshop, "The User Interface for Interactive Search of Bibliographic Data Bases" held in Palo Alto, California, 14-15 January 1971. Montvale, N.J., AFIPS Press, 1971. p. 121-41)

Lancaster, F.W. Evaluation of on-line searching in MEDLARS (AIM-TWX) by biomedical practitioners. Champaign, Illinois, University of Illinois, Graduate School of Library Science, 1972. (Occasional Paper No. 101). 20 p.

McCarn, Davis B. Networks with emphasis on planning an on-line bibliographic access system. Inf Stor Retr 7:271-9, Dec 71.

McCarn, Davis B. Planning for on-line bibliographic access by the Lister Hill National Center for Biomedical Communications. Bull Med Libr Assoc 58:303-10, Jul 70.

Moll, Wilhelm. AIM-TWX service at the University of Virginia: a review and evaluation. Bull Med Libr Assoc 59:458-62, Jul 71.

Moll, Wilhelm. Observations on the AIM-TWX service at the University of Virginia Medical Library. Bull Med Libr Assoc 60:571-4, Oct 72.

Stangl, Peter. Spreading the word about MEDLINE. Lib Net/MEDLARS Tech Bull No. 37:2-3, May 72.

Van Camp, Ann. TWX network + Tymshare network + MEDLINE = Rapid transmission to remote physicians. Lib Net/MEDLARS Tech Bull No. 41:2-3, Sep 72.

MEDLINE STATISTICS
OCTOBER - DECEMBER 1972

Leonard J. Bahlman
MEDLARS Management Section, NLM

On December 20th, all MEDLINE Centers were requested to record, for that day, both the number of @ symbols entered indicating completed searches and an estimate of the number of connect hours. These statistics, which were reported to MEDLARS Management Section by the Centers,coincided with the computer generated statistics produced at NLM.

The @ symbol is counted by the computer only if it is the first character of input after a USER cue and is immediately followed by a carriage return. If multiple @ symbols are entered on the same line, only the first @ symbol will be counted. Please enter an @ symbol after each search, within the file in which you were searching. Though it is preferable to enter an @ after each search, you may enter the @ symbols at the end of your session if you have forgotten. You should then enter one @ symbol and carriage return per search after each USER cue.

In cases where there is line interference or when the user enters another character preceding the @ symbol, the computer will not recognize and record the @ symbol properly, and the user will receive a NO POSTINGS message instead of a USER cue.

In previous months, some users have reported discrepancies in the number of @ symbols counted by the computer and the number of searches actually performed at their Center. The MEDLINE statistical files have been changed to reflect the figures reported from the MEDLINE Centers.

The cumulative MEDLINE statistical report (October - December) in this issue of the Technical Bulletin also reflects the changes reported from the Centers for these months.

In viewing the MEDLINE statistics, please note that Centers showing no usage of the system are generally new users, who are not yet operational.

MEDLINE STATISTICS
OCTOBER - DECEMBER 1972

The statistical reporting period ends at close of business on the last Thursday of each month. If your statistics differ greatly from these, please notify MEDLARS Management Section.

Col (1) = Number of @ symbols entered to denote completed searches (all files)
Col (2) = Number of off-line prints processed against MEDLINE file
Col (3) = Number of off-line prints processed against SDILINE file
Col (4) = Total number of connect hours (all files)
Col (5) = Average number of minutes per search (conn hrs / @ sym)

These statistics do not reflect use of MEDLINE at SDC

MEDLINE CENTER	(1)	(2)	(3)	(4)	(5)
Region 1					
BOSTON U SCH MED..MED LIB	151	68	0	38.9	15.5
DARTMOUTH COL..DANA BIOMED LIB	98	63	0	35.0	21.5
HARVARD U..F COUNTWAY LIB	136	79	0	57.6	25.5
MASS GEN HOSP..TREADWELL LIB	4	1	0	.9	13.5
TUFTS U..MED DENT LIB	1019	2	0	151.3	9.0
U CONN..L M STOWE LIB	260	119	0	39.6	9.2
U MASS..MED SCH LIB	71	24	0	36.2	30.6
YALE U..MED LIB	636	189	50	159.6	15.1
TOTAL FOR REGION 1	2375	545	50	519.1	
Region 2					
ALBANY MED COL	20	0	0	3.4	10.2
ALBERT EINSTEIN COL MED..LIB	0	0	0	.0	.0
COL MED DENT NJ..LIB	1229	255	757	135.6	6.7
CORNELL U MED COLL..LIB	358	74	3	57.5	9.7
ELLIS HOSP..LIB	0	0	0	.0	.0
MED RES LIB BROOKLYN	120	12	2	21.5	10.8
NY ACAD MED..NY NO NJ RML	249	169	0	43.6	10.6
SUNY ALBANY..CENT OFF COMPUTER CTR	8	0	0	8.1	60.8
SUNY BUFFALO	0	0	0	.0	.0
SUNY STONY BROOK	0	0	0	.0	.0
TOTAL FOR REGION 2	1984	510	762	269.7	
Region 3					
COL PHYSICIANS PHILA..LIB	238	94	2	57.3	14.5
HAHNEMANN MED COL..LIB	0	0	0	.0	.0
JEFFERSON MED COL..LIB	37	18	0	15.7	25.5
PENNA STATE U..HERSHEY MED CTR LIB	554	60	6	112.0	12.2
TEMPLE U..HEALTH SCI CTR LIB	381	104	0	86.3	13.6
U PENN..SCH MED LIB	112	34	0	49.6	26.6
U PITTSBURGH..FALK LIB	253	113	0	82.5	19.6

	(1)	(2)	(3)	(4)	(5)
V A HOSP ERIE PA..LIB	83	29	0	10.6	7.7
TOTAL FOR REGION 3	1658	452	8	414.0	
Region 4					
BOWMAN GRAY SCH MED..LIB	191	56	2	13.4	4.3
BUR NARC DANG DRUGS..DRUG CTRL DIV SCID	16	2	0	5.3	19.9
DUKE U SCH MED..MED CTR LIB	225	93	0	48.5	13.0
ENVIRONMENT PROTECT AG 401 M ST SW DC	5	0	0	2.0	24.0
GEORGE WASHINGTON U HOSP..HOSP BR LIB	450	14	0	127.6	17.1
GEORGETOWN U MED CTR..DAHLGREN MEM LIB	292	41	0	76.7	15.8
HOWARD U..MED DENT LIB	14	1	0	12.6	54.0
JOHNS HOPKINS U..WELCH MED LIB	254	48	0	95.8	22.7
JOINT MED LIB USA USAF..OFF SURG GEN	77	49	2	16.9	13.2
NATL LIB MED..MARML RM 152	604	364	18	163.5	16.3
NATL LIB MED..RSD	731	149	0	294.8	24.2
NATL NAVAL MED CTR..STITT LIB & RES INST	312	70	0	59.3	11.5
NIH..DRG	177	12	0	43.3	14.7
NIH..LIB	985	419	70	175.9	10.8
NIH..NATL CANCER INST	120	28	6	30.0	15.0
NIH..NIAMD	22	5	1	10.6	29.0
NIMH..NIMH LIB & HSMHA LIB	77	92	1	27.2	21.2
PHARMACEUTICAL MFR ASSN	52	10	0	13.9	16.1
U MARYLAND BALTIMORE..HEALTH SCI LIB	628	173	0	193.6	18.5
U NC..HEALTH SCI LIB	194	109	1	24.6	7.7
U S GOVT	153	59	2	35.7	14.0
U VA..MED SCH LIB	465	109	1	103.1	13.4
V A CTRL OFF 810 VERMONT AVE NW DC	89	36	1	25.4	17.2
V A HOSP DC..LIB	323	30	3	55.8	10.4
WALTER REED ARMY MED CTR..GEN HOSP LIB	292	36	0	84.9	17.5
WASHINGTON HOSPITAL CTR..MED LIB	192	8	0	21.7	6.8
WVA U..MED CTR LIB	157	42	0	41.9	16.1
TOTAL FOR REGION 4	7097	2055	108	1804.0	
Region 5					
CASE WEST RES U..CLEVELAND HEALTH SCI LIB	142	29	0	37.8	16.0
ENVIRONMENT PROTECT AG CINCINNATI	258	58	5	51.5	12.0
HARPER HOSP..DEPT LIB	2	0	0	.4	12.0
HENRY FORD HOSP	198	9	0	25.4	7.7
MED COL OHIO TOLEDO..LIB	89	40	0	25.1	17.0
MICH STATE U..SCI LIB	251	110	0	82.8	19.8
OHIO STATE U COL MED..HEALTH CTR LIB	604	33	0	83.5	8.3
U CINCINNATI..MED CTR LIB	531	174	0	99.5	11.3
U DETROIT..SCH DENT LIB	0	0	0	.0	.0
U KY..MED CTR LIB	241	122	1	22.2	5.6
U LOUISVILLE..KORNHAUSER HEALTH SCI LIB	371	98	0	85.1	13.8
U MICH..MED CTR LIB	278	138	34	58.6	12.7
WAYNE STATE U..SHIFFMAN MED LIB	117	123	13	59.6	30.6
WILLIAM BEAUMONT HOSP..MED LIB	14	0	0	6.7	28.8

	(1)	(2)	(3)	(4)	(5)
TOTAL FOR REGION 5	3096	934	53	638.2	
Region 6					
EMORY U..A W CALHOUN MED LIB	263	32	0	48.7	11.2
MED U SC..LIB	206	27	0	38.0	11.1
TOXICOLOGY INF RESPONSE CTR..BIOL DIV	83	97	0	21.4	15.5
U ALA..LISTER HILL CTR HEALTH SCI	545	79	5	53.7	6.0
U FLA..J H MILLER HEALTH CTR LIB	108	30	0	13.3	7.4
U MIAMI..L CALDER MEM LIB	267	90	0	22.0	5.0
U MISS MED CTR..ROWLAND MED LIB	0	0	0	.0	.0
U SOUTH FLORIDA..MED CTR LIB	19	4	0	3.9	12.4
U TENN..MED UNITS LIB	84	40	0	12.0	8.6
V A HOSP DECATUR GA..LIBRARY	314	23	2	46.8	9.0
VANDERBILT U..SCH MED LIB	17	14	0	3.2	11.3
TOTAL FOR REGION 6	1906	436	7	263.0	
Region 7					
AMER MED ASSOC..ARCHIVE LIB	442	14	3	103.8	14.1
IND U..SCH MED LIB	388	28	2	69.1	10.7
JOHN CRERAR LIB	166	74	0	59.4	21.5
LUTHERAN GEN HOSP..LIB	164	0	0	33.2	12.2
MAYO FOUND..MAYO CLINIC LIB	228	59	0	36.3	9.6
MED COL WIS..MED DENT LIB	23	7	0	5.8	15.2
SOUTHERN ILL U..SCH MED LIB	3	0	0	.9	18.0
U CHICAGO..BILLINGS HOSP LIB	69	32	0	27.0	23.5
U ILL MED CTR..LIB HEALTH SCI	155	22	0	23.5	9.1
U ILL..ROCKFORD SCH MED LIB	0	0	0	.0	.0
U IOWA..MED LIB	305	252	19	54.5	10.8
U MINN..BIOMED LIB	682	328	4	116.0	10.3
U WISC..MIDDLETON MED LIB	748	82	8	92.7	7.5
V A HOSP WOOD WISC	208	22	4	45.7	13.2
TOTAL FOR REGION 7	3581	920	40	667.9	
Region 8					
CREIGHTON U..HEALTH SCI LIB	169	52	1	24.6	8.8
ST LUKES HOSPITAL..LIB	161	6	0	19.0	7.1
U COLO..DENISON MEM LIB	416	88	52	81.3	11.8
U KANS..CLENDENING MED LIB	303	43	0	51.5	10.2
U MO COLUMBIA..MED LIB	133	39	3	28.4	12.9
U MO KANSAS CITY..SCH MED LIB	506	79	9	56.2	6.7
U NEBR..MIDCONTINENTAL RML PROG	385	56	0	80.6	12.6
U UTAH..ECCLES MED SCI LIB	99	65	0	28.7	17.4
V A HOSP LINCOLN NB..LIB	20	2	0	8.7	26.1
WASHINGTON U..SCH MED LIB	633	332	14	167.7	15.9
TOTAL FOR REGION 8	2825	762	79	546.7	

	(1)	(2)	(3)	(4)	(5)
Region 9					
BROOKE GEN HOSP..MED LIB	5	5	0	6.7	80.4
LOUISIANA STATE U..SCH MED LIB	40	3	0	11.0	16.5
SPARKS REG MED CTR..HEALTH SCI LIB	18	2	0	2.3	7.7
TEXAS MED ASSN..LIB	76	0	0	17.4	13.8
TEXAS MED CTR HOUSTON..J H JONES LIB	993	372	0	146.4	8.9
U ARK..MED CTR LIB	72	23	0	9.2	7.7
U NM..LIB MED SCI	175	180	1	114.2	39.2
U OKLA..HEALTH SCI CTR LIB	154	35	3	33.3	13.0
U TEXAS DALLAS..MED SCH LIB	619	253	5	128.5	12.5
U TEXAS MED BR GALVESTON..MOODY MED LIB	334	65	3	98.1	17.7
U TEXAS SAN ANTONIO..MED SCH LIB	210	48	5	48.1	13.8
WILLIAM BEAUMONT ARMY HOSP..MED LIB	2	0	0	1.4	42.0
TOTAL FOR REGION 9	2698	986	17	616.6	
Region 10					
ALASKA HEALTH SCI INFO CTR	172	76	0	31.0	10.9
COLUMBUS HOSP GREAT FALLS MONT..LIB	23	0	0	4.1	10.7
MADIGAN GEN HOSP	0	0	0	.0	.0
SACRED HEART GEN HOSP..MED CTR DR'S LIB	150	54	0	20.8	8.4
U OREGON..MED SCH LIB	311	2	0	115.1	22.3
U WASHINGTON..PAC NW REG HEALTH SCI LIB	853	170	20	145.7	10.3
V A HOSP BOISE IDAHO..LIB	86	5	0	27.2	19.0
TOTAL FOR REGION 10	1595	307	20	343.9	
Region 11					
CHILDREN'S HOSP L A..DOCTOR'S LIB	0	0	0	.0	.0
L A CO HARBOR GEN HOSP..MED LIB	0	0	0	.0	.0
LETTERMAN GEN HOSP..MED LIB	175	32	0	27.3	9.4
LOMA LINDA U..V RADCLIFF MEM LIB	163	35	0	49.8	18.4
MEM HOSP MED CTR LONG BEACH..MED LIB	0	0	0	.0	.0
ORTHOPAEDIC HOSPITAL..RUBEL MEM LIB	0	0	0	.0	.0
RANCHO LOS AMIGOS HOSP..LIB	0	1	0	.0	.0
STANFORD U MED CTR..LANE MED LIB	389	194	16	69.2	10.7
U ARIZ..MED CTR LIB	73	48	0	25.1	20.7
U CALIF DAVIS..HEALTH SCI LIB	310	125	3	84.1	16.3
U CALIF IRVINE..MED SCI LIB	186	138	0	77.3	25.0
U CALIF L.A...BIOMED LIB PAC SW RML	576	470	10	167.9	17.5
U CALIF L.A...BIOMED LIB,.REF DIV	353	220	17	121.8	20.8
U CALIF S.F...LIB	253	198	7	95.6	22.7
U CALIF SAN DIEGO..BIOMED LIB	198	156	1	55.7	16.9
U NEV RENO..LIFE HEALTH SCI LIB	107	5	0	8.0	4.5
U SO CALIF SCH MED..NORRIS MED LIB	347	202	1	105.0	18.2
V A HOSP SEPULVEDA CALIF..MED	108	35	0	26.0	14.5
TOTAL FOR REGION 11	3238	1859	56	912.8	

	(1)	(2)	(3)	(4)	(5)
Region 80					
BIBLIOTECA REG DE MED..ORG PAN AMER SAUDE	6	4	0	8.1	81.0
I.N.S.E.R.M.	101	0	0	41.1	24.5
NATL RES COUNCIL OF CANADA..NATL SCI LIB	139	26	0	29.7	12.9
TOTAL FOR REGION 80	246	30	0	78.9	
** GRAND TOTAL **	32299	9796	1200	7074.8	
Aver min per search					16.5

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MESH MATERIALS ERRATA

Medical Subject Headings Alphabetic List 1973

Page 326

Under IMMUNOGLOBULIN FRAGMENTS
Change Immunoglobulin, Lamba Chain
To Immunoglobulin, Lambda Chain

Change Immunoglobulin, Lamba Chain see under Immunoglobulin Fragments
To Immunoglobulin, Lambda Chain see under Immunoglobulin Fragments

Page 423

MYOSIN should not be underlined, it is a main heading

Page 558

Under RIFAMPIN delete x Rifomycins
Under RIFAMYCINS add x Rifomycins

MEDLINE CENTER SURVEY, DECEMBER 1972

Barbara Greehey
MEDLARS Management Section, NLM

On December 6th, a message appeared in the Tymshare News requesting MEDLINE users to report the following information to MEDLARS Management Section by December 12th:

1. Name of institution
2. Type of terminal(s)
3. Telephone numbers routinely used to access MEDLINE, e.g. Tymshare
4. Line charge rate/minute, if any
5. Name of special telephone line, if any, e.g. WATS
6. Charges per MEDLINE search to user, if any

The survey was conducted for a number of reasons. First, MEDLARS Management Section maintains a list of all MEDLINE Centers and some of the requested information was needed to update or complete items on this list.

Next, the information was requested to determine telephone charges Centers pay to connect to MEDLINE and to find how many Centers charge users for MEDLINE searches and what these charges are. Lastly, the results were used to determine the number of institutions that are calling individual Tymshare and direct dial numbers.

MEDLINE INSTITUTIONS IN SURVEY - 127 (94.1%)

MEDLINE INSTITUTIONS NOT IN SURVEY - 8 (5.9%)
(Not yet operationable)

The information obtained on telephone and search charges is summarized below.

Telephone Charges to Institution

Charges were counted when MEDLINE is not a local call or when a special long distance line was installed specifically for MEDLINE. A few libraries already had special long distance lines at their institutions and these are not included. Phone rates were charted for the first three minutes and for each additional minute. One center is paying the highest rate reported of $1.00/3 minutes and .30/each additional minute. Special long distance lines range from $420 to $9000 a year.

NO CHARGES PER TELEPHONE CALL 83 (65.4%)

TELEPHONE OR SPECIAL LINE CHARGES 44 (34.6%)

(1) Charges per Call 34

(2) Special Line, e.g. WATS 10

Charges to Users for MEDLINE Searches

Charging systems vary widely and are summarized in the figures below.

NO CHARGE TO USERS	93	(73.2%)
CHARGES TO USERS	34	(26.8%)

(1) Centers Charging All Users

a. Standard Fee (per hour or search)	8
b. Telephone only	5.5 *
c. Fee + Telephone	3.5 *
	17

*one institution charges inside users telephone only but outside users fee plus telephone

(2) Centers Charging Non-Affiliated Users Only

a. Standard Fee (per hour or search)	14
b. Telephone only	1
c. Fee + Telephone	2
	17

The highest standard fee per search is $15.00 and the highest hourly rate is $10.00. Hourly rates usually include formulation time as well as terminal time.

Of the various charging systems, one library provides ten free searches per year for affiliated users and charges only after this number is reached. Another library conducts special training classes and initiated a lower rate for trained individuals submitting their preformulated searches.

Of the institutions that pay telephone charges, 40.9% charge users for searches. On viewing this from another angle, 52.9% of the institutions that charge users have special telephone charges to pay.

NEW PROVISIONAL HEADINGS AND CROSS REFERENCES, JANUARY 1973

The following is a list of provisional headings and cross references which should be added to your 1973 copies of Medical Subject Headings - Alphabetic List and Medical Subject Headings - Tree Structures.

The MEDLINE data base is updated monthly and on January 15th citations from February Index Medicus were added to the file. The following provisionals may begin to have postings with the inclusion of this new month. If you wish to follow the format in Medical Subject Headings - Alphabetic List when adding these terms, provisionals are underlined, preceded by an asterisk, and are followed by the date the term was entered into MEDLARS, in this case 1/1/73.

ACETYLATION H.40.10
AEROSOL PROPELLANTS D13.44.6.1; J.63.6.1
Agasten see MECLASTINE
aminolevulinate dehydrase see AMINOLEVULINIC ACID DEHYDRATASE
aminolevulinate hydro-lyase see AMINOLEVULINIC ACID DEHYDRATASE
AMINOLEVULINIC ACID DEHYDRATASE D9.70.52.1
amylenediamine see CADAVERINE
angiotensin converting enzyme see KININASE II
animal coniine see CADAVERINE
anthropodeoxycholic acid see CHENODEOXYCHOLIC ACID
anthropodesoxycholic acid see CHENODEOXYCHOLIC ACID
Aureotan see AUROTHIOGLUCOSE
Auromyose see AUROTHIOGLUCOSE
AUROTHIOGLUCOSE D1.37.18.1
Aurumine see AUROTHIOGLUCOSE
Authron see AUROTHIOGLUCOSE
AUTOANTIGENS D12.25.26.1
AZOTOMYCIN D2.35.6; D3.18.3.1; D4.36.10.1; D4.26.16.1

BA 2682 see TETRAHYDROCORTISOL
BDH 1921 see MELENGESTROL
beclometasonedipropionate see BECLOMETHASONE
BECLOMETHASONE D2.94.46.1; D8.3.32.1
Biphenabid see PROBUCOL
Brenol see AUROTHIOGLUCOSE
BUTOXAMINE D2.20.28.1; D5.98.5.1; D11.6.40
butylmethoxamine see BUTOXAMINE
BW 64-9 see BUTOXAMINE

CADAVERINE D2.30.40.1
carboxypeptidase N see KININASE I
Carlsberg subtilisin see under SUBTILISINS
cerebrocuprein see SUPEROXIDE DISMUTASE
CH 13437 see NAFENOPIN
chenodeoxycholate see CHENODEOXYCHOLIC ACID
CHENODEOXYCHOLIC ACID D2.94.14.1; D7.45.33.1
chenodesoxycholic acid see CHENODEOXYCHOLIC ACID

cholaic acid see TAUROCHOLIC ACID
cholalic acid see CHOLIC ACID
Cholalin see CHOLIC ACID
cholate see CHOLIC ACID
choleic see DEOXYCHOLIC ACID
CHOLIC ACID D2.94.14.1; D7.45.33.1
cholic acid glycine conjugate see GLYCOCHOLIC ACID
cholic acid taurine conjugate see TAUROCHOLIC ACID
cholorebic see DEOXYCHOLIC ACID
cholyl taurine see TAUROCHOLIC ACID
cholyl-glycine see GLYCOCHOLIC ACID
CHROMOGRANINS D10.88.30.1; D10.88.43.1
Chrysothios see GOLD THIOMALATE
CL 59806 see MINOCYCLINE
clemastine fumarate see MECLASTINE
CP-10, 303-8 see QUINTERENOL
CROTONATES D2.4.18.1; D11.48.22.1
CYTOCHALASIN B D2.50.28.1
CYTOCHALASINS D2.50.28.1
CYTOCHROME REDUCTASES D9.80.37.1

DDE D2.66.18; D3.121.33.1
DDX see DDE
DEBRISOQUIN D2.50.33.1; D5.7.13
Debrisoquine see DEBRISOQUIN
Declinax see DEBRISOQUIN
Degalol see DEOXYCHOLIC ACID
deoxycholate see DEOXYCHOLIC ACID
deoxycholatic acid see DEOXYCHOLIC ACID
DEOXYCHOLIC ACID D2.94.14.1; D7.45.33.1
deoxy-cholic acid see DEOXYCHOLIC ACID
desoxycholic acid see DEOXYCHOLIC ACID
DERMACENTOR B1.18.16.1
Dermoformo see BECLOMETHASONE
DH-581 see PROBUCOL
diaminopentane see CADAVERINE
diazomycin B see AZOTOMYCIN
Digitin see DIGITONIN
DIGITONIN D5.28.24.1; D13.59.14
DIPHOSPHOGLYCERIC ACIDS D2.83.12; D11.12.42.1
DNA, CIRCULAR D10.33.21.1
DNA, MITOCHONDRIAL D10.33.21.1
DOPA OXIDASE D9.80.16.1
Droxolan see DEOXYCHOLIC ACID
DRUGS, NON-PRESCRIPTION D13.46.10
duazomycin B see AZOTOMYCIN

EHDP see SODIUM ETIDRONATE
ENCEPHALITOGENIC BASIC PROTEINS D10.88.43.1
ENDOCYTOSIS G1.36.46
ENDOTHELIUM A10.33.10
erythrocuprein see SUPEROXIDE DISMUTASE

EXOCYTOSIS G1.36.47

fructose-1,6-diphosphate d-glyceraldehyde-3-phosphate-lyase see FRUCTOSEDIPHOSPHATE ALDOLASE
FRUCTOSEDIPHOSPHATE ALDOLASE D9.70.13.1

gallodesoxycholic acid see CHENODEOXYCHOLIC ACID
GLYCOCHOLIC ACID D2.94.14.1; D7.45.33.1; D10.11.36.1
glycocolic acid see GLYCOCHOLIC ACID
Glysanol B see AUROTHIOGLUCOSE
gold sodium thiomalate see GOLD THIOMALATE
gold thioglucose see AUROTHIOGLUCOSE
GOLD THIOMALATE D1.37.18.1
GTP: oxaloacetate carboxy-lyase (transphosphorylating) see PHOSPHOENOLPYRUVATE CARBOXYKINASE

HALOFENATE D2.4.40.1; D2.16.23.1; D11.6.32.1
hemocuprein see SUPEROXIDE DISMUTASE
hepatocuprein see SUPEROXIDE DISMUTASE
HEROIN ADDICTION F2.45.21.1
HOMEMAKER SERVICES N2.72.9.1; N2.72.32.1
HS-592 see MECLASTINE
HYDROSTATIC PRESSURE H.80.39.1

INFECTIOUS BOVINE RHINOTRACHEITIS C1.117; C15.16.25
isocaramidine sulfate see DEBRISOQUIN

KIDNEY CORTEX A5.70.10.1
KIDNEY MEDULLA A5.70.10.1
kidney tubules, ascending see KIDNEY TUBULES, DISTAL
kidney tubules, descending see KIDNEY TUBULES, PROXIMAL
KIDNEY TUBULES, DISTAL A5.70.10.1
KIDNEY TUBULES, PROXIMAL A5.70.10.1
Kidon see GOLD THIOMALATE
KININASE I D9.90.26.1
KININASE II D9.90.52.1

LEUCOGENENOL D2.64.45.1; D2.93.16
LIGANDS D1.37.27; D2.82.29
LITHOCHOLIC ACID D2.94.14.1; D7.45.33.1
lithocolic acid see LITHOCHOLIC ACID
LOOP OF HENLE A5.70.10.1

MECLASTINE D2.48.49.1; D6.66.38
mecloprodine fumarate see MECLASTINE
MELENGESTROL D2.94.46.1; D8.88.47
Melipan see NAFENOPIN
MGA see MELENGESTROL
MICROBODIES A11.50.52.1
Minocin see MINOCYCLINE
MINOCYCLINE D3.36.54.1

Miocrisina see GOLD THIOMALATE
MK 185 see HALOFENATE
MONOTREMATA B2.72.42
MOSAIC VIRUSES B4.78.24
MURAMIC ACID D11.12.6.1; D11.12.42.1
Myochrysine see GOLD THIOMALATE
Myocrisin see GOLD THIOMALATE

Na2EHDP see SODIUM ETIDRONATE
NADH, NADPH OXIDOREDUCTASES D9.80.37
nafenoic acid see NAFENOPIN
NAFENOPIN D2.4.54.1; D11.6.32.1
Nagarse proteinase see under SUBTILISINS
natrii aurothiomalas see GOLD THIOMALATE
NEPHRONS A5.70.10.1
NERVE TISSUE PROTEINS S 100 D10.88.43.1
NITRATE REDUCTASES D9.80.37.1
NITRITE REDUCTASE D9.80.37.1
Novo subtilisin see under SUBTILISIN
NSC-56654 see AZOTOMYCIN
NSC-70968 see MELENGESTROL
NYMPH B1.121

Oronol see AUROTHIOGLUCOSE
OTC drugs see DRUGS, NON-PRESCRIPTION
over the counter drugs see DRUGS, NON-PRESCRIPTION

pentamethylenediamine see CADAVERINE
PHOSPHOENOLPYRUVATE CARBOXYKINASE D9.70.26.1
phosphopyruvate carboxylase see PHOSPHOENOLPYRUVATE CARBOXYKINASE
POLYHEDROSIS VIRUSES B4.39.48
porphobilinogen synthase see AMINOLEVULINIC ACID DEHYDRATASE
PREGNANCY, UNWANTED G1.95.49.1
PRISONERS M.87
PROBUCOL D2.84.51; D11.6.32.1
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PYRUVATE DEHYDROGENASE COMPLEX D9.75.40

Quinprenaline see QUINTERENOL
QUINTERENOL D2.20.28.1; D5.106.2.1

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RO 5-3307/1 see DEBRISOQUIN
Romosol see AUROTHIOGLUCOSE

SENSORY AIDS E2.84.46; E2.99.58
sodium ethydronate see SODIUM ETIDRONATE
SODIUM ETIDRONATE D2.83.47; D13.90
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Solganal B see AUROTHIOGLUCOSE
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subtilisin BPN' see SUBTILISINS
SUBTILISINS D9.90.52.1
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subtilopeptidase B see under SUBTILISINS
subtilopeptidase C see under SUBTILISINS
SUPEROXIDE DISMUTASE D2.90.50

taurocholate see TAUROCHOLIC ACID
TAUROCHOLIC ACID D2.17.52.1; D2.94.14.1; D7.45.33.1
Tavegyl see MECLASTINE
Tavist see MECLASTINE
tetrahydrocompound E see TETRAHYDROCORTISONE
tetrahydrocompound F see TETRAHYDROCORTISOL
TETRAHYDROCORTISOL D2.94.48.1; D8.3.16.1
TETRAHYDROCORTISONE D2.94.48.1; D8.3.16.1
TETRAZOLES D2.48.10.1
THE see TETRAHYDROCORTISONE
THF see TETRAHYDROCORTISOL
THIAZEPINES D2.48.3.1; D2.97.6.1
THYMIDYLATE SYNTHETASE D9.100.38.1
TRYPTOPHAN HYDROXYLASE D9.80.27.1
tryptophan-5-monooxygenase see TRYPTOPHANHYDROXYLASE

urocortisol see TETRAHYDROCORTISOL
urocortisone see TETRAHYDROCORTISONE

VACCINES, ATTENUATED D12.30.60; D12.97

TECHNICAL BULLETIN INDEX

The 1972 Index to the Library Network/MEDLARS Technical Bulletin will be included with the mailing of this issue of the Bulletin.

NATIONAL LIBRARY OF MEDICINE

g. Dawke

LIBRARY NETWORK/MEDLARS TECHNICAL BULLETIN

of the

Library Component of the Biomedical Communications Network

No. 46 FEBRUARY 1973

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Public Health Service
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LIBRARY NETWORK/MEDLARS TECHNICAL BULLETIN
of the
Library Component of the Biomedical
Communications Network

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The LIBRARY NETWORK/MEDLARS TECHNICAL BULLETIN
is issued monthly by the Office of the
Associate Director for Library Operations.

MEDLINE CHARGES

The National Library of Medicine will introduce a modest user charge for its on-line services by April 1. In order to allow adequate lead time to the MEDLINE Centers for necessary budget modifications, the charge system will not be fully implemented until July 1. The RML directors have already notified MEDLINE Centers in their regions of the impending charge. Additional information may be found in the February issue of the NLM NEWS.

MEDLINE TECHNICAL NOTES

Leonard J. Bahlman
MEDLARS Management Section, NLM

PLEASE QUERY THE NEWS AND UPDATES FILES ON A DAILY BASIS

LIST OF USERS

The COM USERS list, previously a separate Tymshare file, is now derived from the MEDLINE statistical file. As in the past, the user file is accessed by logging in to NLM4 or NLM4A - NLM4E and typing in COM USERS. The listing will be printed in order by region and user institution in the following format:

Region Number, State, City, User Institution

COMMENT COMMAND

When entering the command "COMMENT" within MEDLINE to send messages to MEDLARS Management Section, the system will ask if you wish a reply, REPLY? (YES/NO). You may answer YES and the system will prompt you for your name and address or you may answer NO and simply enter your message. If you choose to answer NO, please enter your terminal ID (MEDXXX01) at the end of your message for identification.

RECURRING DEMAND SEARCHES

We suggest that centers using SDILINE for Recurring Demand Searches, run them as soon as possible after the file has been updated, approximately the fifteenth of each month. Thus, if your off-line prints are not received within one week of your request, you will have ample time to reenter your searches before the file is updated again. The "HELLO" message from MEDLINE cites the month contained in SDILINE.

MEDLINE AT SDC

On February 19, MEDLINE service at SDC in California was discontinued. Until MEDLINE is also available on the State University of New York (SUNY) computer, users may access MEDLINE on the NLM computer in Bethesda, Maryland only.

RECORDS OVERFLOW MESSAGE

When searching HUMAN in COMPFILE you will receive the multi-meaning message since there is an author entered incorrectly in the file as "HUMAN". If you respond ALL to the system query you will receive a RECORDS OVERFLOW message. This message appears whenever there would be more than 80,000 postings stored in a series of search statements. Postings retrieved are not stored in the users search register unless the search terms are connected with one of the logical operators, AND, OR, or AND NOT. When the user responds ALL the system ORs together the occurrences of HUMAN, i.e. HUMAN (MH) OR HUMAN (AU) and thus overflows the search register. To avoid this, qualify HUMAN when searching in COMPFILE, i.e. HUMAN (MH).

MAILING OFF-LINE PRINTS

MEDLARS Management Section is conducting quarterly mailing surveys to determine the most efficient method of mailing the off-line prints. Surveys were conducted on December 11 and January 15 when off-line prints were mailed to the same institutions via both air and first class mail. In only a few cases did first class mail take more than one day longer than air mail to arrive at its destination. Because of the difference in cost, off-line prints are now being mailed first class within the continental United States. Under normal circumstances, off-line prints are mailed from the National Library of Medicine in the morning of the day after the request was entered at the terminal.

TYMSHARE NUMBERS

Most of the Tymshare numbers are on a rotary. Occasionally there are problems with the rotary and the user will dial in and get a busy signal, instead of being automatically switched to a higher number on the rotary, or during the login procedure will continually lose the line. If this occurs, dial a number which is a digit or two higher on the rotary, e.g., instead of 521-6520 dial 521-6522. If you then receive the data transmission signal and are able to complete a login on a higher number on the rotary, there may be a switching problem and you should notify MEDLARS Management Section. If you dial in and the Tymshare number continues to ring, or you receive a recording indicating that the number you have dialed is not a working number, you may dial a Tymshare number in another city and access the COM PHONES file within the Tymshare News Files to see if the number has changed. Please notify MEDLARS Management Section of any problems you have with the numbers.

GLUCOSE-PHOSPHATE DEHYDROGENASE DEFICIENCY

The computer recognizes the term glucosephosphate dehydrogenase deficiency only when it is entered as GLUCOSEPHOSPHATE DEHY- DROGENASE. The term glucosephosphate dehydrogenase is also in the vocabulary and is entered as GLUCOSEPHOSPHATE DEHYDROGENASE.

MESSAGES TO USERS, ON-LINE

The program which delivers messages from MEDLARS Management Section to various users is in the process of being revised to conserve CPU time. When logging into the News File in Tymshare, at present, the user will immediately receive the message

ENTER COM DELIVERMAIL TO OBTAIN MESSAGES IF YOUR CODE IS IN THIS LIST:
MEDXYZ01 MEDXXX01 MEDABC01

If your project code appears in this list, enter COM DELIVERMAIL when you receive a dash, and the system will then instruct you to enter your project code and a carriage return for verification before printing your message. Please do not "escape" until you are sure there are no messages for your institution.

MESSAGES TO MMS, ON-LINE

Many messages are received in MEDLARS Management Section on-line which require a response, but the user has neglected to include his name, terminal ID, or some other means of identification. Please remember to include some form of identification within your message, as the system will not do this automatically.

When using the SEND MMS routine in Tymshare to send messages to MEDLARS Management Section, please log in under the User Names NLM4, or NLM4A through NLM4E. The User Names NLM4F through NLM4H are not queried for messages on a regular basis, as they are located on another computer which is used primarily as a backup system.

PROGRAM MESSAGE, TYMSHARE

Users may occasionally receive the message BAD MUD after entering the User Name when logging in through Tymshare. This message indicates that the Tymshare computer is unable to verify the User Name against the Master User Directory at that particular moment. Wait for a few minutes and then log in again. If this continues for an extended period of time, please notify MEDLARS Management Section. Please also report the number of occurrences of this message at the same time you report Tymshare disconnects to MEDLARS Management Section each month.

PROPER AND COURTEOUS USE OF MEDLINE

Grace T. Jenkins
MEDLARS Management Section, NLM

There are now approximately 160 MEDLINE Centers and 186 people have been trained at NLM and UCLA. The overall increased use of the system makes it imperative that economical, efficient and courteous MEDLINE searching methods be developed. Each MEDLINE user, through experience, develops work routines and search techniques which are appropriate to his or her individual situation. However, looking at the use of the MEDLINE system as a whole, NLM has identified some areas which need elaboration:

1. Off-Line Prints

   A. Print full should be used only in those cases where the main headings are required by the user and not as a routine process. This is especially true when large retrievals are being printed. The print full costs approximately three times as much as a simple print. Print indented should not be used for production searches and only occasionally in demonstrations to illustrate the category names.

   B. The computer limit for each off-line print has been set at 300 citations. Please do not ask for additional citations by using the "print, skip" routine except in the very exceptional case.

   C. Do not request off-line prints when you have retrieved only a few citations. These should be printed on-line. Generally, up to 25 citations should be printed on-line; more than 25 citations should be printed off-line.

2. Entering Search Statements

   A. In MEDLINE, any input by a user requiring action by the computer is placed in a queue. The user's input is handled in turn by the program, which performs the action requested. Since a single user is served at a time, the input of one user affects all users.

   Thus we would like to emphasize that search statements should be kept simple. Instead of requesting many terms and combinations in one search statement, break the request up into simpler, multiple statements.

✓ B. Since explosions require a relatively large amount of processing time, limit explosions to one per search statement. Search statement numbers can be ORed before combining them with another facet of the request:

```
SS 1/C?
USER:
EXPLODE C1.20.59
```

```
PROG:
PSTG  (1910)
SS 2/C?
USER:
EXPLODE C1.10.32
PROG:
PSTG  (1698)
SS 3/C?
USER:
1 OR 2
PROG:
PSTG  (3555)
SS 4/C?
USER:
3 AND BACITRACIN
PROG:
PSTG  (13)
```

C. When terms or search statement numbers are combined by the logical operators, AND, OR, and AND NOT, a comparison is made between the postings retrieved for the individual terms or search statement numbers. For large postings terms this amounts to a lengthy comparison process. For instance, every time HUMAN is requested in combination with other terms or search statement numbers, locators for all of the citations indexed HUMAN, at this time 214,055, are pulled into working storage and are compared with locators for the other citations. Please consider this comparison process when searching on large postings terms. If a question is already quite specific, it should be asked if it is justified to compare an already limited retrieval with the 214,055 citations indexed HUMAN.

3. Search Preparation

Even though pre-formulation of searches is not required since MEDLINE is an interactive system, it is recommended that the vocabulary and search strategy be considered in advance in order to conserve computer connect time.

4. Hours of Use

MEDLINE Centers, especially East and Central time zone users, are encouraged to access the system at the start of their work day. By doing this, they will be using the system when the NLM computer is first brought up and when use is lower. As a courtesy, the afternoon hours should be primarily for Pacific and Mountain time zone users, since their work day does not begin until approximately 12:00 noon, Eastern Time. When all users access MEDLINE in the afternoon, there is an increase in response time along with long waits to access the system.

5. Disconnections

The new version of ELHILL will contain an automatic cutoff if no messages (characters and a carriage return) are transmitted after a specified period of time. Until this revision is made, however, users who do not log out properly, using the "STOP" command, are preventing someone else from logging in if all 50 ports are in use, since their user environment is maintained until the system is brought down. It is therefore important that a proper disconnect be made. Please go through the "STOP" procedure even if you have been accidentally disconnected and must log in again to do so.

MEDLARS Management Section wishes to take this opportunity to thank you for your letters, error messages, responses to our questions and surveys, and most of all for your continued support and cooperation, especially during periods when we have experienced problems with the system.

MEDLINE TOOLS AVAILABLE FROM NTIS

Permuted Medical Subject Headings, 1973 has been placed in NTIS and orders are being accepted now. When ordering, please give the superseded accession number as well as the present accession number.

Accession No.	Publication Title	Price Per Copy
PB-214-334 (Supersedes PB-207-707)	Permuted MeSH, 1973	$9.00

Source: The National Technical Information Service
The U. S. Department of Commerce
5285 Port Royal Road
Springfield, Virginia 22151

MEDLINE TRAINEES AT NLM, JANUARY 22, 1973

The eleventh NLM MEDLINE Training Class was held January 22 - February 9, 1973. The following people attended:

Ione Auston	University of Maryland Health Sciences Library Baltimore, Maryland
Twyla Bishop	Medical College of Georgia Library Augusta, Georgia
Jane Fouser	Northwestern University Dental School Library Chicago, Illinois
Denis Gaffney	New York Academy of Medicine New York, New York
Carlos Gamboa	Biblioteca Regional de Medicina Sao Paulo, Brazil
Ralph Hester	National Institute of Environmental Health Sciences (NIEHS) Research Triangle Park, North Carolina
Saki Himel	Federation of American Societies for Experimental Biology (FASEB) Bethesda, Maryland
Jennie Hunt	National Library of Medicine Reference Services Division Bethesda, Maryland
Frank Mervine	National Institutes of Health Library Bethesda, Maryland
Lynne Morris	Pharmaceutical Manufacturers' Association Washington, D.C.
Ruth Roney	St. Elizabeth's Hospital SMR, NIMH Library Washington, D.C.
Ellen Schwartz	Columbia University Medical Library New York, New York

Sara Slaughter	D.C. General Hospital Library Washington, D.C.

MEDLINE TRAINEES AT UCLA, JANUARY 22, 1973

University of California Biomedical Library, Los Angeles held its sixth MEDLINE Training Class January 22, 1973 - February 6, 1973.

Mary Barbour	Martin Luther King, Jr. Hospital Medical Library Los Angeles, California
Alex Bienkowski	University of Texas Medical Branch Moody Memorial Library Galveston, Texas
Gloria Linder	Stanford University Medical Center Lane Medical Library Stanford, California
Sharon Pruhs	Rancho Los Amigos Hospital Medical Library Downey, California
Alice Reinhardt	Los Angeles County/University of Southern California Medical Center Nursing Library Los Angeles, California
Ann Ryan	Los Angeles County Medical Association Library Los Angeles, California
Lorraine Schulte	University of Southern California Norris Medical Library Los Angeles, California

PUBLICATIONS SUPPLEMENT TO NLM NEWS
ADDITIONS AND DELETIONS

Roger Gilkeson
Office of Public Information
and Publication Management, NLM

The following publications are now available from the Superintendent of Documents, and may be ordered following the guidelines outlined in the Publications Supplement to the December 1972 NLM News. We suggest that you update that issue accordingly (pages 4 and 5).

Title	Price	Catalog Number
*Index of NLM Serial Titles	$13.55($16.95 foreign)	S/N 19752-00142
Current Bibliography of Epidemiology, 1972 (Annual Cumulation)	$14.30($17.90 foreign)	HE 20.3617/2:4
Cumulated Abridged Index Medicus, 1972	$12.20($15.25 foreign)	HE 20.3612/2-2:3
List of Journals Indexed in Index Medicus, 1973	$ 2.00($ 2.50 foreign)	HE 20.3612/4:973

Send all orders for the above publications, with payment, to: Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. (Each order should contain a request for only one publication title, although several orders may be sent at the same time with payment in one sum.)

Deleted: The 1971 edition of Cumulated Index Medicus (Vol. 12) is no longer available from the Superintendent of Documents. For information on a planned reprint edition, write the Johnson Reprint Corporation, 111 Fifth Ave., New York, New York 10003.

Superseded: Permuted Medical Subject Headings, 1973 is now available from the National Technical Information Service, U.S. Department of Commerce, 5285 Port Royal Road, Springfield, Virginia 22151. Orders should include remittance of $9.00 ($0.95 microfiche); non-U.S. purchasers must include an additional $2.50 ($1.50 for microfiche orders). The Accession Number which should be cited on your order is "PB-214-334 (Supersedes PB-207-707)." This information updates that found on page 6 of the Publications Supplement.

*The Index of NLM Serial Titles is a keyword-out-of context (KWOC) listing of approximately 19,000 titles received by the Library as of June 1972, and was extracted from the data base of the Medical Library Center of New York's Union Catalog of Medical Periodicals.

ANNOTATED MESH: SUPPLEMENTARY NOTES

The January 1973 issue of the Technical Bulletin, pages 15-19, carried a list of new January 1973 Provisional Headings and cross-references to them. The Provisional Headings have also been annotated for indexers and searchers by Index Section, in the style of the Annotated MeSH.

ACETYLATION H.40.10	NIM; no *
AEROSOL PROPELLANTS D13.44.6.1; J.63.6.1	D13 * with discretion
AUROTHIOGLUCOSE D1.37.18.1	do not use *physiology
AUTOANTIGENS D12.25.26.1	only *admin *adv eff *anal *csf *class *isol *rad eff *stand *tox *urine
AZOTOMYCIN D2.35.6; D3.18.3.1; D4.36.10.; D4.26.16.1	do not use *physiol
BECLOMETHASONE D2.94.46.1; D8.3.32.1	do not use *physiol
BUTOXAMINE D2.20.28.1; D5.98.5.1; D11.6.40	do not use *physiol
CADAVERINE D2.30.40.1	do not use *physiol
CHENODEOXYCHOLIC ACID D2.94.14.1; D7.45.33.1	*physiol permitted
CHOLIC ACID D2.94.14.1; D7.45.33.1	*physiol permitted
CROTONATES D2.4.18.1; D11.48.22.1	do not use *physiol
CYTOCHALASIN B D2.50.28.1	do not use *physiol
CYTOCHALASINS D2.50.28.1	do not use *physiol
DDE D2.66.18; D3.121.33.1	do not use *physiol
DEBRISOQUIN D2.50.33.1; D5.7.13	do not use *physiol
DEOXYCHOLIC ACID D2.94.14.1; D7.45.33.1	*physiol permitted
DIGITONIN D5.28.24.1; D13.59.14	do not use *physiol
DIPHOSPHOGLYCERIC ACIDS D2.83.12; D11.12.42.1	do not use *physiol
DRUGS, NON-PRESCRIPTION D13.46.10	D13 * with discretion
ENCEPHALITOGENIC BASIC PROTEINS D10.88.43.1	IM; coord with ENCEPHALOMYELITIS, ALLERGIC or other applicable dis term (IM)
ENDOCYTOSIS G1.36.46	only *drug eff *rad eff
ENDOTHELIUM A10.33.10	NIM; *cytol permitted with this but if needed as IM, EPITHELIUM becomes EPITHELIAL CELLS

EXOCYTOSIS G1.36.47	only *drug eff *rad eff
GLYCOCHOLIC ACID D2.94.14.1; D7.45.33.1; D10.11.36.1	*physiol permitted
GOLD THIOMALATE D1.37.18.1	do not use *physiol
HALOFENATE D2.4.40.1; D2.16.23.1; D11.6.32.1	do not use *physiol
HEROIN ADDICTION F2.45.21.1	do not use *drug eff
HOMEMAKER SERVICES N2.72.9.1; N2.72.32.1	do not use *educ
HYDROSTATIC PRESSURE H.80.39.1	IM; only *adv eff
INFECTIOUS BOVINE RHINO- TRACHEITIS C1.117; C15.16.25	DF: INFECT BOVINE RHINOTRACHEITIS
LEUCOGENENOL D2.64.45.1; D2.93.16	do not use *physiol
LIGANDS D1.37.27; D2.82.29	NIM with specific metal; IM general only; do not use *physiol
LITHOCHOLIC ACID D2.94.14.1; D7.45.33.1	*physiol permitted
MECLASTINE D2.48.49.1; D6.66.38	do not use *physiol
MELENGESTROL D2.94.46.1; D8.88.47	do not use *physiol
MICROBODIES A11.50.52.1	All * except *cytol
MINOCYCLINE D3.36.54.1	do not use *physiol
MONOTREMATA B2.72.42	IM; B2 *
MOSAIC VIRUSES B4.78.24	do not use *cytol
MURAMIC ACID D11.12.6.1; D11.12.42.1	do not use *physiol
NAFENOPIN D2.4.54.1; D11.6.32.1	do not use *physiol
NYMPH B1.121	NIM
POLYHEDROSIS VIRUSES B4.39.48	do not use *cytol
PREGNANCY, UNWANTED G1.95.49.1	no *
PRISONERS M.87	no *
PROBUCOL D2.84.51; D11.6.32.1	do not use *physiol

REAGENT STRIPS D13.59.50	D13 * with discretion
REGRESSION ANALYSIS H.92.54	no *
SENSORY AIDS E2.84.46; E2.99.58	do not use *man *mortal *nurs *util; for deafness consider HEARING AIDS
SODIUM ETIDRONATE D2.83.47; D13.90	do not use *physiol
STEREOTYPED BEHAVIOR F1.7.62; F2.9.62	human & animal; only *drug eff
SUBTILISINS D9.90.52.1	do not use *physiol
TAUROCHOLIC ACID D2.17.52.1; D2.94.14.1; D7.45.33.1	*physiol permitted
TETRAHYDROCORTISOL D2.94.48.1; D8.3.16.1	do not use *physiol
TETRAHYDROCORTISONE D2.94.48.1; D8.3.16.1	do not use *physiol
TETRAZOLES D2.48.10.1	do not use *physiol
THIAZEPINES D2.48.3.1; D2.97.6.1	do not use *physiol
VACCINES, ATTENUATED D12.30.60; D12.97	only *admin *adv eff *anal *class *hist *isol *pharm *rad eff *stand *suppl *tox; coord with specific vaccine term

MESH MATERIALS ERRATA

Medical Subject Headings Alphabetic List 1973

Page 147	Under CONTRACEPTIVES, POSTCOITAL	
	Change:	X POSTCOITAL, CONTRACEPTIVES
	To:	X POSTCOITAL CONTRACEPTIVES
Page 510	Change:	POSTCOITAL, CONTRACEPTIVES SEE CONTRACEPTIVES POSTCOITAL
	To:	POSTCOITAL CONTRACEPTIVES SEE CONTRACEPTIVES, POSTCOITAL
Page 658	Change:	UNICINARIASIS SEE UNDER HOOKWORM INFECTION
	To:	UNICINARIASIS SEE UNDER HOOKWORM INFECTIONS

MEDLINE JOURNALS ADDENDA

Please add the following titles to your lists MEDLINE JOURNALS and MEDLINE JOURNALS BY SUBJECT, both dated 10 November 1972.

GQZ Int J Clin Pharmacol
Full title: International Journal of Clinical Pharmacology, Therapy and Toxicology
Subject: Pharmacology

JAJ J Neural Transm
Full title: Journal of Neural Transmission
Subject: Neurology

OKE ORL
Full title: ORL; Journal for Oto-Rhino-Laryngology and its Borderlands
Subject: Otorhinolaryngology

XWO Z Klin Psychol Psychother
Full title: Zeitschrift fur Klinische Psychologie und Psychotherapie
Subjects: Psychology, Psychiatry

MEDLINE JOURNALS BY SUBJECT
ERRATA

In your list MEDLINE JOURNALS BY SUBJECT, dated November 10, 1972, please note the following errors:

1. The heading DENTISTRY should appear at the top of page 13.
2. Page 8 has been printed upside down.
3. Pages 37 and 38 are reversed.
4. Pages 56 and 57 are reversed and are duplicated.

NATIONAL LIBRARY OF MEDICINE

LIBRARY NETWORK/MEDLARS TECHNICAL BULLETIN

of the

Library Component of the Biomedical Communications Network

No. 47 MARCH 1973

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

LIBRARY NETWORK/MEDLARS TECHNICAL BULLETIN
of the
Library Component of the Biomedical
Communications Network

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The LIBRARY NETWORK/MEDLARS TECHNICAL BULLETIN
is issued monthly by the Office of the
Associate Director for Library Operations.

MEDLINE AT SUNY

The MEDLINE and SDILINE data bases are now also available at the State University of New York (SUNY) at Albany. These data bases are identical at NLM and SUNY, and are being run on the same programs. At present, COMPFILE may be accessed only through NLM.

Information specific to MEDLINE at SUNY may be obtained through the Tymshare News Files by entering COM (MMS)SUNY.

MEDLINE TECHNICAL NOTES

PLEASE QUERY THE NEWS AND UPDATES FILES ON A DAILY BASIS

LOGIN PROCEDURE, SUNY

The login procedure for MEDLINE at SUNY, through Tymshare, is the same as the login for MEDLINE at NLM, except the User Name is SUNY instead of NLM:

```
PLEASE LOG IN: SUNY
PASSWORD:      MED
;              MEDXXXØ1  (your terminal ID)
```

DATA BASES

Presently, plans are to update the data bases at NLM and SUNY on the same day. The scheduled dates for the next three months for updating MEDLINE and SDILINE at both institutions are March 19, April 16, and May 14.

HOURS OF SERVICE

MEDLINE hours at NLM, Bethesda (Eastern Time):

Mon, Wed, Thu, Fri	9 a.m. - 5 p.m.
Tue	1 p.m. -10 p.m.
Sat	10 a.m. - 3 p.m.

Note: COMPFILE is available on Saturdays only

MEDLINE hours at SUNY, Albany (Eastern Time)

Mon, Wed, Thu, Fri	1 p.m. -10 p.m.
Tue	9 a.m. - 5 p.m.

NLM and SUNY will serve as backup systems for each other. In case either computer is down during scheduled hours, check the other system for availability. In general, it will take one-half hour to bring up either system in such emergencies.

DOWN MESSAGE

To query the Tymshare network for the operating status of the NLM or SUNY systems, log into the Tymshare News Files

and enter one of the following:

```
COM DOWN        (for MEDLINE at NLM)
COM DOWNSUNY    (for MEDLINE at SUNY)
```

Whenever the system either goes down or is expected to go down, a message will be placed in the appropriate file.

AUTOMATIC LOGOUT

With the advent of the new version of the MEDLINE programs, ELHILL IIC, users who do not interact with the system within a specified period of time will automatically be logged out, thus losing all search statements.

USER NAME, TYMSHARE NEWS FILES

Multiple users may now log into the Tymshare News Files under the same User Name. Therefore, the User Names NLM4A through NLM4H have been deleted from the Tymshare News system. All users wishing to access the Tymshare News Files must now log in under NLM4. If the SYSTEM UNAVAILABLE message appears you may then log into NLM4:18. This will log you into a backup computer system which contains only the "general" MEDLINE news and the COM DOWN and COM DOWNSUNY files.

Occasionally, after entering the password, you will receive the ALREADY ENTERED message, which is now just a notification that another user is logged in under NLM4. This will be followed immediately by the PROJECT CODE prompt, cueing you for your terminal ID, e.g.

```
PLEASE LOG IN:      NLM4
PASSWORD:           MED
ALREADY ENTERED
PROJ CODE:          MEDXXXØ1
```

ESCAPE KEY

The ESCape key may be used only in the Tymshare News Files. There is no "interrupt" capability in MEDLINE.

After logging into the Tymshare News Files, please do not press the ESCape key until you are sure that there are no messages for your institution from MEDLARS Management Section.

If you press the ESCape key to interrupt one of the News Files, and are then prompted with a period, type the word QUIT and you will again be prompted with a hyphen.

THE ROLE OF TITLE SEARCHING IN AUGMENTING THE POWER OF MEDLINE

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

For many years, articles have appeared in the documentation literature containing opinions, assertions, and unconvincing "studies" of the relative merits of "natural language" indexing, and indexing that utilizes an established thesaurus. Each system has had its strong proponents who, thinking in the context of their own universe of experience, have felt that one is clearly superior to the other. Apparently little thought has been given to the advantages that might accrue if both types of indexing were used in a complementary way.

We now have, in MEDLINE, a system that combines most of the virtues of both without the sacrifice of the advantages of either.

MEDLINE, the National Library of Medicine's remote access on-line extension of MEDLARS, contains between 400,000 and 500,000 citations. These citations have all been indexed by trained indexers who scan the full text of the article, and assign an average of twelve descriptors selected from the Medical Subject Heading (MeSH) thesaurus. In the on-line system, citations may be accessed using descriptors singly or in combination through the use of Boolean operators.

Two types of title word searching have been added to the system. One is available for searching all citations in the MEDLINE file; the other, for searching SDILINE, which contains all citations input to MEDLARS for the most recent publication month.

The former is carried out by a "stringsearch" capability, a computer program that scans each title for the occurrence of a word or fragment of a word sought by the searcher.

Because this capability requires the computer to scan each word in each title it is costly in terms of computer time. The user is therefore not allowed to scan the entire data base, or any very large segment of it. Rather, he is first required to perform a search based upon subjects, languages, authors, dates, journal codes, or other characteristics of citations. Having isolated a subset of the file of reasonable size, he may then search the titles for the word or words that are of interest to him, singly or in combination.

It is apparent that this capability may be used when the searcher requires citations on a specific subject that is not discretely identified in MeSH. Of course, it is helpful to the searcher if a more general MeSH term exists (and if the searcher knows what it is), but even this is sometimes not essential. A search for a concept that has only recently begun to appear in the genetic literature might begin with a search for citations from genetics journals, limited by publication date. This subset could then be the subject of a title scan.

The SDILINE segment of the file contains a "directory" for each word in the title of each citation, excepting only "stop words" such as articles,

prepositions, etc. Because these directories are generated when the citations are put into the SDILINE file, no "stringsearch" feature is required when the system is being queried. A request for any given "title word" leads directly to a listing containing the identity of each citation in which the title word is to be found, and thence to the citations themselves. While this title word approach would not be feasible in the larger MEDLINE file, it is not too costly of storage space in the 17,000 citation SDILINE segment.

If title searching of either type produces some appropriate citations, the MeSH headings assigned to these citations may be examined to discover how the concept may have been indexed. This, in turn, may lead to the development of a strategy for locating additional articles that were not published in the limited group of citations whose titles were scanned.

Of course, this type of back and forth strategy is not novel. People frequently approach subject or author indexes with strategy ideas derived from scanning appropriate journals, texts, or indexes. But the title scan features of MEDLINE now facilitate this type of search even in situations where immediate access to appropriate journals or related indexes does not exist.

The introduction of title search capability may tempt the inexperienced user to approach MEDLINE as a natural language system. That is, some users may fall into the habit of using the title search feature routinely and exclusively instead of considering what MeSH term(s) the indexer should have assigned to the concept. This would be unfortunate, for it would fail to take advantage of the power of MEDLARS to pull together citations that bear on a single concept expressed in diverse ways. Thus, desirable citations will be lost when the concept is expressed in the title as a synonym, variant spelling, etc., or if the concept, although prominent in the article, is not explicit in the title. Title word searching has the virtue of frequently providing rapid access to some relevant citations. However, these are only a fraction of the citations that may be retrievable from a citation file indexed with a fixed thesaurus. The system user must learn the art of using the clues provided by examination of a few citations to locate others. In MEDLINE, title searching should be done for specific indication; it is not a panacea.

RECURRING DEMAND SEARCHES AND SDILINE ERRATUM

The instructions for using paper tape on the Model 33 Teletype, given in the article "Recurring Demand Searches and SDILINE" (Technical Bulletin, October 1972, p. 11) do not give the procedures for punching paper tape in the correct order. The steps to be followed in punching paper tape must be carried out in the following order:

1. Punch the line to be input
2. Carriage return
3. Control X-off
4. Line feed

The carriage return is part of the statement to be input, so it must precede the control X-off, which is the stop code.

TITLE SEARCHING: OBSERVATIONS OF AN INDEXER

Thelma Charen
Index Section, NLM

These thoughts were prompted by the announcement of the title-searching capability of MEDLINE. I start this paper with some basic, albeit obvious, premises on title searching:

1. A title search will retrieve citations more specific than those retrieved by a coordination of MeSH terms. While title searching has other aims, this is the primary purpose.

2. If the word or concept is not in the title, a title search is pointless.

3. Most concepts in titles tend to be IM while most concepts not in titles tend to be NIM; or, stated conversely, IM concepts are probably in titles and NIM concepts are probably not in titles.

Indexers have always been aware of the importance of titles - so much so that they place great reliance on the title in relation to the quality of the journal, the priority designation of the journal and the cultural patterns of the various languages and nationalities (e.g., there is a distinct difference between American and French titles in any priority 3 journal of comparative subject coverage).

Indexers trained in the INDEX MEDICUS read/scan method have always been told to start the indexing operation by:

1. reading and scanning the title;
2. correlating the introductory paragraphs with the title;
3. corroborating the title through paragraph and section headings, plates, charts, methods, etc. (MEDLARS INDEXING MANUAL: Article Examination, 2.3-2.3.3)

"In selecting concepts for Depth Indexing," they are told to "choose any concept the author thinks important as evidenced by his mention of them in the title..." (MANUAL: Depth Indexing, 3.2.1).

In directions on the selection of IM versus NIM concepts, the indexers are told to "make IM those concepts given most prominence by the author as seen from the title and summary..." (Manual: IM and NIM: Specific Guides for Selection, 4.2.2.2).

And last, the only negative note, with reference to indexing as specifically as possible:

> "The Analysts should not be mislead by such titles as 'Enzyme metabolism in the central nervous system' when the article deals with the dehydrogenase content of the medulla oblongata." (Manual: Choice of Headings, 13.2)

Every MEDLARS and MEDLINE indexing class is cautioned against the title "EVER ONWARD" and each of you has his favorite to rival this.

Many times a reviser has to allay the protests of a trainee indexer who laments, "But my main heading and subheading don't tell the whole story!" The reviser's reply is always, "The user of INDEX MEDICUS is not reading only the main heading/subheading combination: he is reading also the title of the article below it, and this, certainly, tells him much more of the story that you in your frustration could not account for in detail."

Also, I have been told by many MEDLARS trainees and auditors of MEDLARS classes that they were surprised at the lectures on the read/scan method of indexing we use: they had always assumed we indexed merely by title! This of course is a tribute to authors who clearly herald the contents of their articles in their titles. Now the current title-searching capability of MEDLINE gives added testimony to the importance of titles. No longer will indexers and searchers feel the inadequacy of not being able to index urinals, for example, in a convenient place (HOSPITAL EQUIPMENT AND SUPPLIES? EQUIPMENT AND SUPPLIES? HYGIENE? NURSING CARE? LATRINES (TOILET FACILITIES see under LATRINES)? ad nauseam. Now a title search will pull them from the system.

The MEDLINE analyst will have the assurance that a title search or a title scan will bring productive results if he uses a dictionary, common sense and a bounded imagination to amplify his corpus of synonyms for the desired concept. I say "bounded" and I hasten to plead in favor of an intelligent but reasonable imagination and to caution against a soaring to flights of synonymatic fancy. Although this exhilarates the imaginative analyst, at the same time the altitude dizzies to the point of unproductivity by overgeniused distortions. Search titles for reasonable, conventionally acceptable synonyms.

One of the useful sources of ideas for title searching in the realm of synonyms is MeSH. MeSH should be exploited in title searching with the same vigor as for standard subject searches. The reverse cross-reference apparatus will be a gold mine.

Ever since the days of the old Current List of Medical Literature the reverse cross-references have been used by indexers as indexing and translation aids. They came to the fore under MEDLARS basically for greatest use in mandatory coordinations for specificity.

For example,

FILARIASIS
C1.99.48.1:
XU ELAEOPHORIASIS (C1)
XU ELEPHANTIASIS (C1)
XU FILARIOIDEA INFECTIONS (C1)
XU LOAIASIS (C1)
XU MANSONELLIASIS (C1)
XU SETARIASIS (C1)
XU WUCHERERIA INFECTIONS (C1)

shows instantly to the indexer that, since obviously all these types of filariasis appear to exist in tropical medicine, it behooves him to differentiate among them for the searcher. Therefore, to serve the searcher in retrieving

loaiasis, he must coordinate LOA AND FILARIASIS; mansonelliasis, MANSONELLA AND FILARIASIS; wuchereria infection, WUCHERERIA AND FILARIASIS. The searcher can continue to rely on this type of interpretation by an indexer with subsequent proper coordination. Moreover, if the searcher chooses, he can go farther, using a title search to retrieve a specific species, e.g., WUCHERERIA AND FILARIASIS supplemented by the title scan for MALAYI for those who consider W. malayi the proper taxonomy or FILARIASIS with a MALAYI title scan for those who consider Brugia malayi the proper taxonomy (MeSH acknowledging this by telling us BRUGIA see under FILARIOIDEA).

Just as every indexer routinely peruses the reverse cross-reference apparatus, so the searcher about to do a title search should get into the same habit. Let me elaborate the routine thinking with a specific MeSH entry,

ANGIOMATOSIS
C8.97.14;
see also related
TELANGIECTASIA, HEREDITARY HEMORRHAGIC (C8, C9)
X KLIPPEL-TRENAUNAY DISEASE (C8)
XU HIPPEL-LINDAU DISEASE (C8)
XU STURGE-WEBER SYNDROME (C8)

Remembering that X references are, when direct, see references, you know that KLIPPEL-TRENAUNAY DISEASE, as a see or synonymous term will avail nothing in a title search. But MeSH has gone to the trouble of differentiating two XU references for us, neither of which can be brought out in indexing. Therefore, a searcher who needs to retrieve Hippel-Lindau but not Sturge-Weber (or vice versa) can rely on a title search with confidence.

Again it is pointless to search on titles for the X terms below since they are all accepted synonyms of the respective MeSH headings:

NAD
D9.10.26; D10.56.11.1
X COENZYME I (D9, D10)
X DIPHOSPHOPYRIDINE NUCLEOTIDE (D9, D10)
X DPN (D9, D10)
X NICOTINAMIDE-ADENINE DINUCLEOTIDE (D9, D10)

NADP
D9.10.42; D10.56.11.1
X COENZYME II (D9, D10)
X NICOTINAMIDE-ADENINE DINUCLEOTIDE PHOSPHATE (D9, D10)
X TPN (D9, D10)
X TRIPHOSPHOPYRIDINE NUCLEOTIDE (D9, D10)

CESTODA
B1.71.56.1;
X TAPEWORMS (B1)
XU DIPYLIDIUM (B1)
XU HYMENOLEPIS (B1)
XU INERMICAPSIFER (B1)
XU MULTICEPS (B1)
XU RAILLIETINA (B1)
XU SPARGANUM (B1)

But, although Dipylidium, Hymenolepis, Raillietina and Sparganum are retrievable specifically by coordinating CESTODA with the corresponding -IASIS Category C1 terms in MeSH (DIPYLIDIASIS AND CESTODA), Multiceps and Inermicapsifer as species are not retrievable except through titles.

Searchers should learn to consider routinely all XU references as useful suggestions for title elements: they represent terms which MeSH, doing its customary extensive research, can vouch for as being medically competent and nomenclaturally approved.

On the first day of training all MEDLINE trainees learn the limitations of MEDLARS, that at present we cannot index or retrieve with precision

any degree of quality or quantity, any temporal specific (early, late, seldom, often), major or minor, positional specifics (above, below, surrounding), primary or secondary, partial or total, more or less, before or after, etc. Title searching will go a long way toward shortening the path to these specifics.

In regard to the time element in performing abortions, although indexers can supply TIME FACTORS or GESTATIONAL AGE for an article discussing the optimal time or legal limits for aborting an embryo, only a title search can pinpoint exact months.

MeSH can give us IDIOCY (IQ -25) but IMBECILITY (IQ 25-49) is an XU and will have to be title-searched, as will Moronity (IQ 50-69) under MENTAL RETARDATION.

Many MeSH headings are forbidden to indexers under the conditions of categorization. That is, CULTURE and SURVIVAL in Category I (Anthropology, etc.) cannot refer to bacteria or viruses; VEHICLES in Category D13 (Miscellaneous Drugs and Chemicals) cannot refer to motorcycles. With title searching, now the indexer need feel no frustration at his inability to extend these words outside their MeSH implications and the searchers need feel no helplessness at the adamancy of MeSH categorization: a title search will retrieve the culture (cultivation), survival (resistance) and anything else.

A title search will better serve the searcher who has chafed at Check Tags either with regard to the restricted definition laid down by MeSH or the inconsistent use by indexers. For example, CASE REPORTS was originally (1963) checked as a tag when any case study appeared in an article. Later (1967) at the request of the epidemiologists, its use was restricted as used today. Neither searchers nor indexers care for this use but the indexers attempt to follow policy. Occasionally we misapply it. The use, misuse, abuse, or non-use of the tag CASE REPORTS may now be solved: merely title search on :CASE: or :OBSERVATION: or :ANAMNES: or :CATAMNES: or :CASUIST: (these last three are non-American).

Both indexers and searchers have disliked the restriction of COMPARATIVE STUDY to the comparison of two or more drugs or technics (defined by MeSH in 1965). While the comparative effects of penicillin and SM are correctly tagged by the MeSH definition as COMPARATIVE STUDY, the comparative response of staph and strep to penicillin is NOT the tag COMPARATIVE STUDY, nor is its comparative effects on the liver and kidney. Now the searcher can bypass the tag and happily search comparisons in the title.

As implied by the examples above using the colons, truncations are permitted in terms in title searches. I am suggesting further, that having resorted to a title search, the MEDLINE analyst, in addition, give some thought to what I call in class interchangeable elements in artifically compounded medical terms. Training classes are taught to browse through MeSH with interchangeable elements in mind: autoradiography or radioautography? microphotography or photomicrography? hydropneumothorax or pneumohydrothorax? cardioangiography or angiocardiography? encephalomyelitis or myelo-encephalitis? Sometimes it makes no difference, sometimes it does: microphotography is not photomicrography. Some are the preferences of languages and nations, some are stylistic preferences of authors. The interchange may be synonymous or it may invoke two different

demons. The analyst should check MeSH and Dorland before settling on choices for title searching.

Since title searching is a new feature of MEDLINE, much doubtless will come to pass with experience. We expect to see many hints to MEDLINE searchers from MEDLINE title searchers in the future. Observations and results may change patterns of both indexing and searching. You have my personal assurance that Mr. Jablonski and his indexing staff will be eager to hear reports from you about your future successes. Again, you have my assurance that the indexing staff will attempt to benefit from your experience and apply the lessons you learn and to do your bidding.

INTERLIBRARY LOAN ASSISTANCE

Sheldon Kotzin
Loan & Stack Section, NLM

The common expression "We try harder" is applicable when speaking of interlibrary loan activity at NLM. Unfortunately, our attempts at locating and verifying requested items often result in delays, and do not always eliminate the necessity for sending a notice of non-availability. Though we strive to fill every request or return it as non-available within five working days, the quantity of work and the extent of our efforts can lead to delays.

Considering return mailing time, if there are any requests for which you have received no response within three weeks from the date sent from your library, notify us by telephone or by TWX. If your request has been referred through a Regional or participating library, allow three weeks from the date they sent the request to us. Librarians should contact Mrs. Doralee Agayoff for rapid assistance, by telephone (301/496-5511) or by TWX (710/824-9615).

The new NLM Index of Serial Titles, which lists all currently received serial publications at NLM, as of June 1972, should be consulted by Regional and participating libraries, as well as libraries in Region IV sending requests directly to NLM. Call numbers are provided for each title listed, and if these numbers are included on the request form, it should help hasten service.

Requests for monographic items which are verified in the NLM Current Catalog should also include the NLM call number. Referral messages should contain a separate field entitled, "Call No.," placed after "Verification." Components of call numbers (i.e., classification, Cutter number, and date) should be separated by spaces.

NEW CAPABILITIES IN MEDLINE

Barbara L. Greehey
Leonard J. Bahlman
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The new capabilities described below are currently available in MEDLINE. With the exception of title searching in SDILINE, which was implemented in January 1973, these changes became effective with the installation of the new version of the MEDLINE programs, ELHILL IIC.

1. ENTRY OF LONG MESH TERMS
2. MULTIPLE SEARCH STATEMENTS IN A PRINT COMMAND
3. QUALIFYING SEARCH STATEMENTS
4. RESTACK COMMAND
5. TITLE WORD SEARCHING IN SDILINE
6. STRINGSEARCH

1. ENTRY OF LONG MESH TERMS

Formerly, it was necessary for the user to truncate MeSH headings longer than 33 characters when entering them into MEDLINE. The computer now recognizes these terms when 33 or more characters are entered, but the term may be entered in full, as found in MeSH.

2. MULTIPLE SEARCH STATEMENTS IN A PRINT COMMAND

Multiple search statements may be requested in a PRINT command with SS numbers separated by commas, e.g., *"PRINT OFF-LINE SS 3,SS 7,SS 9"*

The various PRINT options may be used but they apply to all the search statement numbers requested. Thus it is not possible, for example, to specify one option for SS 3 and another for SS 7.

Though this capability may be used in an on-line or an off-line PRINT command, it will have its greatest utility in the off-line command. Citations for each search statement requested appear separated in the off-line print. The 300 limit for an off-line print still applies. Thus, the sum of the citations in the individual search statements must be 300 or less.

3. QUALIFYING SEARCH STATEMENTS

Category qualifiers (designations specifying the part of the unit record to be searched, e.g. MH, AU, JC) may be used to introduce a search statement both in MEDLINE and SDILINE. When the category qualifier is used in front of the terms to be searched, it applies to all search terms in the statement, except those that are followed by another category qualifier. Illustrations appear in this article on p. 14.

4. RESTACK COMMAND

A new command, related to ERASEALL and ERASEBACK, is now available. Its function is to selectively save search statements and to delete unwanted ones. The word RESTACK or its abbreviation RSTK may be used after any USER cue, but it is particularly useful when the 16 search statement limit has been reached.

The user has a number of options when using the RESTACK command.

(1) When the word RESTACK or its abbreviation RSTK is used alone, the command acts on the last search statement with postings. The retrieval of the last search statement is moved to SS 1 and all other search statements are deleted.

(2) A number(s) following the word RESTACK specifies the search statement(s) to be moved.

(3) RESTACK TO specifies where a search statement should be moved.

The following chart displays the various forms of the command, and its results.

YOU ARE HERE: SS 9/C
USER:

YOU TYPE:	*WHAT HAPPENS:*	*YOU ARE NOW HERE:*
"RESTACK"	*SS 1-7 are deleted* *SS 8 becomes SS 1*	*SS 2/C?* *USER:*
"RESTACK 4,8"	*SS 1-3,5-7 are deleted* *SS 4 becomes SS 1* *SS 8 becomes SS 2*	*SS 3/C?* *USER:*
"RESTACK TO 3"	*SS 1,2 are unchanged* *SS 3-7 are deleted* *SS 8 becomes SS 3*	*SS 4/C?* *USER:*
"RESTACK 4,7 TO 3"	*SS 1,2 are unchanged* *SS 3,5,6,8 are deleted* *SS 4 becomes SS 3* *SS 7 becomes SS 4*	*SS 5/C?* *USER:*

Prepared by Susanne Humphrey
Medical Subject Headings Section, NLM

NOTE: If the DIAGRAM command is to be used, it should be requested before RESTACK or it may not be meaningful:

SS 1/C? AUTOMOBILE EXHAUST
SS 2/C? LEAD OR LEAD POISONING
SS 3/C? 1 and 2

SS 4/C? "RESTACK"
SS 2/C? "DIAGRAM"
PROG:
SEARCH FORMULATION BEGINNING AT SS 1:
((SS 1) (RESTACKED) AND
(SS 2) (RESTACKED))

SS 3 has become SS 1 and the earlier SS 1 and SS 2 are deleted. The postings which are a result of ANDing 1 and 2 are retained, but DIAGRAM can no longer illustrate what the former SS 1 and SS 2 represented.

5. TITLE WORD SEARCHING IN SDILINE

When searching in MEDLINE and its related data bases, the requested item is first located in a directory of searchable terms called the Index File. This is an alphabetic/numeric list of MeSH headings, authors, languages, tree numbers, etc. In SDILINE (current month of MEDLARS), single words within titles of articles have been added to the Index File, and thus, are searchable. These are designated by the category qualifier TITLE WORD or (TW).

It was possible to implement this capability in SDILINE because the file is relatively small (approximately 17,000 citations as opposed to the 400,000 citations in MEDLINE). Thus, in SDILINE it is not necessary to perform a preliminary search and then scan titles of articles, as in the MEDLINE Stringsearch (see p. 15 of this article).

In SDILINE's titles, a word is defined as a set of characters which falls between blanks, numbers, or any punctuation other than the hyphen. You may search more than one word within a title by using the logical operators AND, OR, and AND NOT to connect the terms, e.g., to search for the words veins or capillaries within a title, enter *VEINS (TW) OR CAPILLARIES (TW)*. Since individual title words, only, are listed in the Index File, phrases have to be requested word by word:

AIR POLLUTION would be searched as AIR (TW) AND POLLUTION (TW)
HEAT RASH would be searched as HEAT (TW) AND RASH (TW)

As with other searchable elements, the truncation symbol (#) may be used within words as a variable character when you are unsure of the spelling of a term, or at the end of a set of characters to retrieve various forms of a root term:

BA#E	*retrieves BARE, BATE, BAKE, etc.*
BRA##S	*retrieves BRACES, BRAINS, BRAIDS, etc.*
TRAC#	*retrieves TRACING, TRACINGS, TRACED, etc.*
DRUG#	*retrieves DRUG, DRUGS, DRUGGED, etc.*

When using the truncation symbol, a multi-meaning message will be received if the term appears in more than one form. The user must then specify which forms of the term he wishes to retrieve.

When entering a search statement in SDILINE, if category qualifiers (designations specifying the part of the unit record to be searched, e.g. MH, TW) are not used, you may receive a multi-meaning message. This is because some terms may appear in more than one of the following categories: title word, main headings, subheadings, or authors. For example, metabolism may appear in the file as a main heading, subheading, or in the title of an article. If you wish to search on title words alone, use the qualifier (TW). Terms which are not in the MeSH vocabulary and which are not subheadings do not need the title word qualifier to avoid the multi-meaning message.

Both in MEDLINE and SDILINE, category qualifiers may be used to introduce a search statement. When the category qualifier is used in front of the terms to be searched, it applies to all search terms in the statement, except those that are followed by another category qualifier. This is particularly useful in SDILINE to avoid the multi-meaning message described in the preceding paragraph.

When main headings only are desired and not title words, all the terms in the search statement may be qualified in one step, e.g.

(MH) AUTOMOBILES AND AIR POLLUTION AND LEAD

In the following example, title words will be retrieved, but only in combination with the requested author.

(TW) HEART AND LUNG AND BYPASS AND WILSON GA (AU)

The following is a list of non-searchable title elements:

(1) Words less than 3 characters in length.

(2) Numbers, whether attached to terms or not.

Terms with numbers must be searched by dropping the number, e.g.,

CARBON13 would be searched as CARBON
CARBON 13 would be searched as CARBON

(3) Plural and possessive terms with an apostrophe.

These must be searched without the apostrophe, e.g.,

SMITH'S would be searched as SMITH
SMITHS' would be searched as SMITHS

(4) Punctuation marks, with the exception of the hyphen.

Hyphenated terms may be searched as single terms, unless there are spaces between the terms and the hyphen, e.g.,

ZOLLINGER-ELLISON would be searched as ZOLLINGER-ELLISON
NUCLEOTIDYL- TRANSFERASES would be searched as NUCLEOTIDYL AND TRANSFERASES

(5) A list of approximately 300 stop words which consist primarily of adverbs, prepositions, articles, and pronouns.

6. STRINGSEARCH

It is now possible to search words or character strings within titles of articles or within other parts of the MEDLINE unit record. The examples that follow pertain to title searching since this will be the most important use of the stringsearch in MEDLINE. As other uses present themselves, they will be reported.

Unlike SDILINE title word searching, it is first necessary to perform a preliminary search and then stringsearch the resultant citations. The initially retrieved citations are presently scanned in segments of thirty. After each thirty citations, the user is told how many titles qualify and is asked for a continuation cue.

Many searches will be as simple as the following example, but variations of the stringsearch will sometimes be necessary, and these are discussed in the remainder of the article.

SS 1/C?
USER:
VITAMIN A AND LIVER AND RATS
PROG:
PSTG (79)
SS 2/C?
USER:
TS :RETINOL:
PROG:
(30) RECORDS SEARCHES AND (5) QUALIFIED,
CONTINUE SEARCHING? (YES/NO)
USER:
NO
PROG:
PSTG: (5)
SS 3/C?

Note: The user should be aware that stringsearch searches from the oldest citations to the newest; therefore answering NO to the continuation cue ends the search and leaves out the most recent citations in the data base.

Elements of the Stringsearch Statement

There are four elements, two of them optional, that may appear in a stringsearch. These elements are described below in the order that they would appear in a stringsearch statement.

A.	B.	C.	D.
STRINGSEARCH or STRS or TITLESEARCH or TS	*Search Statement Number*	*(Category Qualifier)*	*:Stringsearch Terms:*

e.g. TS 1 (TI) :RETINOL:

A. The word STRINGSEARCH or one of its alternate forms (STRS, TITLESEARCH or TS) introduces the request. This capability is a type of search statement rather than a command and thus does not require quotes.

B. Search Statement Number - OPTIONAL

Unless specified, the stringsearch will be performed on the last search statement. Thus, the number is required only if you wish to operate on a search statement other than the last.

C. Category Qualifiers, e.g. (AU), (TI), (MH) - OPTIONAL

The category qualifier specifies the part of the unit record to be searched. If omitted, the program assumes that it is the title that should be searched.

When a category qualifier is used in front of the stringsearch terms, it applies to all search terms in the statement, except those that are followed by another category qualifier.

TS (AU) :BAGLEY: AND :BECKER: AND :RETINOL: (TI)

would retrieve articles co-authored by Bagley and Becker with Retinol in the title.

D. Stringsearch Terms

In a stringsearch, a term is usually entered between colons (:), which informs the computer that any combination of characters, spaces, or punctuation may appear to the right or left of the stringsearch term(s).

In a standard search statement, the number sign (#) represents a single character or a right continuing string of characters. In a stringsearch, the number sign represents only one character. Unlike the standard search statement though, it may represent the first or second character entered.

(1) Positioning or omission of the colon

a. If both colons are omitted, only titles will be retrieved which consist entirely of the stringsearch request.

TS GRAM
will retrieve only the title
Gram.

b. When spaces are used around the term, titles will be retrieved which contain the exact form of the requested term. The spaces become part of the actual request, though they may represent certain punctuation (see (2)).

TS : GRAM :
will retrieve
Comparison of 50 and 100 GRAM oral glucose tolerance test.
but not
Leiomyoma weighing more than 1,000 GRAMS in the esophagus.

c. When spaces are not used, the requested characters will appear in titles as a word or part of a word.

TS :GRAM:
will retrieve titles containing GRAM, GRAMs, GRAMmar, proGRAM, proGRAMmer, GRAM-negative, etc.

d. A variety of other possible positionings of the colons exist:

:GRAM :	*will retrieve GRAM, proGRAM*
: GRAM:	*will retrieve GRAM, GRAMs, GRAMmar, GRAM-negative*
GRAM:	*will retrieve GRAM, GRAMs, GRAMmar, GRAM-negative but only as the first word of a title*
:GRAM	*will retrieve GRAM, proGRAM but only as the last word of a title.*

The use of the colon will vary according to the request. To assure only the retrieval of a specific word, spaces would be used around the word, as in b. For instance, if the search were on art therapy, the words arteries, arthritis, arthropod, etc. would not be wanted. To pick up various forms of a word, one or both of the spaces around the word would be omitted, as in c and d. For instance, if searching addict, the terms addicts, addiction, and re-addiction would probably be relevant.

It should be kept in mind when deciding whether to include spaces or not, that eliminating irrelevant titles will not usually be as considerable a problem as assuring that all relevant citations are retrieved. The search has already moved toward relevancy by the initial searching and retrieving of postings, the prerequisite to stringsearching. Also, the majority of words will not be roots or parts of other, unrelated words. The types of entries most likely to bring "false drops" are short words, root terms, acronyms, and abbreviations.

The following section on punctuation should also be considered when deciding on the positioning of the colons.

(2) Punctuation

Certain punctuation is ignored in the stringsearch, when it is found in titles, i.e., commas, periods, apostrophes, left and right parentheses, and quotation marks.

TS : ANTISTREPTOLYSIN : would retrieve
Economic modification of the ASR (antistreptolysin reaction).
and also
Antistreptolysin, inhibitory factor in pollen.

All other punctuation <u>immediately</u> following or preceding words in titles (i.e., no intervening spaces), is considered part of the word.

TS : ANTISTREPTOLYSIN : would not retrieve
Use of O-antistreptolysin reaction in dermatology.
(TS :ANTISTREPTOLYSIN: would retrieve this title)

(3) Searching multiple terms

Single or multiple terms may be requested in one search statement.

<u>a</u>. The logical operators AND, OR, and AND NOT may be used in a stringsearch, as in a regular search statement.

TS :heat: and :loss:
TS :epilepsy: and not :focal:
TS :heat: or :temperature: or :therm:

When the logical operators are used, the requested terms may appear in any order within the title to be retrieved.

When title searching, consider ORing possible synonyms or searching on a root of a word rather than on an entire word.

b. More than one word may fall within the colons, but to be retrieved, they must then appear in that same order and proximity within a title. Terms would not be entered in this manner if alternate phrasings of a request were desired.

TS :heat loss: would retrieve
Heat loss during neonatal operations.
but not
Loss of body heat during neonatal operations
(TS :heat: and :loss: would retrieve both titles)

There may be instances when it is decided that the words should appear within a certain order and proximity.

To retrieve such titles as

Community diet counseling in a county heart association.

:HEART ASSOCIATION: might be entered rather than :HEART: AND :ASSOCIATION: which would also retrieve

The association of heart disease and smoking.

Additional Mechanics

(1) An individual stringsearch term must be 36 or fewer characters/spaces in length. The 37th and succeeding characters will be ignored without notifying the user.

(2) A search statement may be continued on subsequent input lines by ending a line with AND or OR.

(3) The FIND command may be used to input the stringsearch, as it is used to input the standard search statement.

THE FOLLOWING CHART ILLUSTRATES THE FORMS AND LOCATIONS OF A WORD THAT WOULD BE RETRIEVED BY VARIOUS POSITIONINGS OF COLONS AND SPACES.

STRINGSEARCH

: DOPA	DOPA :	:DOPA	DOPA:	:DOPA :	: DOPA:	: DOPA :	:DOPA:	DOPA	
+	+	+	+	+	+	+	+	+	Dopa.
-	+	-	+	+	+	+	+	-	Dopa metabolism.
+	-	+	-	+	+	+	+	-	Metabolism of dopa.
-	-	-	-	+	+	+	+	-	Metabolism of dopa and related drugs.
-	-	-	+	-	+	-	+	-	Dopamine.
-	-	-	+	-	+	-	+	-	Dopamine metabolism.
-	-	-	-	-	+	-	+	-	Metabolism of dopamine.
-	-	+	-	+	-	-	+	-	Methyldopa.
-	-	-	-	+	-	-	+	-	Methyldopa metabolism.
-	-	+	-	+	-	-	+	-	Metabolism of methyldopa.
-	-	-	-	-	-	-	+	-	Methyldopamine.

+ (title will be retrieved)
- (title will not be retrieved)

Prepared by Susanne Humphrey
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NATIONAL LIBRARY OF MEDICINE

LIBRARY NETWORK/MEDLARS TECHNICAL BULLETIN

of the

Library Component of the Biomedical Communications Network

No. 48 APRIL 1973

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Public Health Service
National Institutes of Health

LIBRARY NETWORK/MEDLARS TECHNICAL BULLETIN
of the
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The LIBRARY NETWORK/MEDLARS TECHNICAL BULLETIN
is issued monthly by the Office of the
Associate Director for Library Operations.

COMPFILE HOURS

COMPFILE is now available on Tuesdays at the National Library of Medicine. Users logging into the system through the Tymshare network must login under the User Names NLM or NLM2, as COMPFILE is not available on the SUNY computer. Hours are as follows:

Tuesday 1:00pm - 10:00pm (Eastern Time)
Saturday 10:00am - 3:00pm (Eastern Time)

MEDLINE TECHNICAL NOTES

PLEASE QUERY THE NEWS AND UPDATES FILES ON A DAILY BASIS

STATISTICAL REPORTING PERIOD

In the past, our statistical reporting period has ended at close of business on the last Thursday of each month. As of April 1, 1973 all statistics will be based on a calendar month. The MEDLINE statistical file in Tymshare (COM REGIONSTATS) will be based on the new reporting period in the future, but for the MARCH reporting period the statistics will show use of the system from February 23 through March 31.

PRINT COMMAND

The options FULL and TRIAL in the PRINT command may be abbreviated as F and T respectively, for example:

"PRINT FULL" may be entered as "PRINT F"
"PRINT TRIAL" may be entered as "PRINT T"

EXPLAIN COMMAND

The "EXPLAIN" command may now be used to obtain an explanation of the stringsearch capability in MEDLINE. You may enter the command in any of the following forms:

"EXPLAIN TS"
"EXPLAIN TITLESEARCH"
"EXPLAIN STRS"
"EXPLAIN STRINGSEARCH"

The "EXPLAIN" command may also be used for an explanation of the RESTACK command in the following forms:

"EXPLAIN RESTACK"
"EXPLAIN RSTK"

NOTE: EXPLAIN may be abbreviated as EX, e.g., "EX STRS"

HARDWARE PROBLEMS

For the past few months the IBM 370/155 computer at the National Library of Medicine, on which MEDLINE is run, has experienced many hardware problems. These were diagnosed as circuit deterioration and on the weekend of March 24 the circuit boards in the Central Processing Unit (CPU) were replaced. Hopefully this has solved the problems and there will be less "down" time in the future. We wish to thank our users for being patient during this period.

HOURS, TYMSHARE

The hours for accessing the Tymshare News Files through the following User Names are as follows:

NLM4 - 7:00am - 1:00am (Eastern Time)
NLM4:18 - 2:00am - 11:00pm (Eastern Time)

NOTE: NLM4:18 contains only the general news and the COM DOWN and COM DOWNSUNY files. All other files must be accessed through NLM4.

MEDLINE ANALYSTS MEETING AT MLA - KANSAS CITY

There will be an informal meeting of MEDLINE and MEDLARS analysts during the 72nd Annual Conference of the Medical Library Association to be held in Kansas City, Missouri, May 27 - May 31, 1973. All persons trained at NLM or UCLA are invited to attend, as well as anyone who uses the system a great deal. Representatives from NLM will be on hand to discuss recent developments and future capabilities of MEDLINE and the other data bases. Also, we hope to exchange ideas and experiences gained by use of the system since receiving the original training. The meeting will be held on Tuesday, May 29 at the conference hotel, the Hotel Muehlebach, from 9:00 - 11:00 p.m. in Room Trianon "A". We hope to see you there.

INTRODUCING MEDLINE IN SCANDINAVIA

Gunvor Svartz-Malmberg, MD
Carl-Eric Elwin, MD
Biomedical Documentation Center (BMDC)
Karolinska Institute, Stockholm, Sweden

About one year ago, the MEDLINE system was installed in Sweden. It might be of interest to sum up the experience of the first year of the MEDLINE service at BMDC since this is the first time that MEDLINE has been run on a computer outside the United States.

The first Swedish MEDLINE demonstration was held at Linkoeping in January 1972 at a meeting for library and information science people from all the Nordic countries. This presentation has been followed by numerous others and our impression is that the system has been met with interest and enthusiasm.

Since many prospective users start out with rather vague ideas about the MEDLINE system, and about on-line systems in general, we believe that written descriptions about MEDLINE are inadequate to bring about an understanding of its performance. Therefore, we have aimed at using folders, flyers, journal articles etc. as supplements to a personal contact with the functioning system. Our demonstrations have been organized along the schedule of a general introduction, sometimes combined with a presentation of a search dialogue on viewgraphs, followed by a session at the terminal with questions from the audience. There have been very few technical problems at these demonstrations. IBM 1050 or 2741 terminals are the only ones used for MEDLINE in Scandinavia so far, and the terminals often have to be moved in for the occasion of the demonstration, leaving very little time for testing beforehand.

Since June 1972, BMDC has been running MEDLINE regularly on a 360/75 computer in Stockholm which is used for university training and research. The system operates ten to twelve hours a week (Tues. - Fri. 8-10 a.m.; Thurs. 7-9 p.m.; and Sat. 10 a.m.-12 noon). The training of MEDLINE search analysts was started in February 1972. The BMDC MEDLARS training course in October 1972 included MEDLINE training. A one week MEDLINE course will be given in April 1973 for trained MEDLARS analysts.

We are presently working on certain problem areas in the implementation of MEDLINE. The storage capacity of the present computer does not allow BMDC to carry the full MEDLINE database available in the United States. The database is being expanded to include 1200 journals, but the date span is July 1970 through the current month. The storage capacity will allow new MEDLINE material to be added until the summer of 1973, but after that, a complete regeneration of the system must be undertaken. This is a costly process and BMDC is looking into various ways of improving that procedure.

During the spring of 1973, it will be possible to use teletype or teletype-compatible terminals to access MEDLINE. However, these are considerably more expensive to rent in Sweden than the 1050 or the 2741 terminals. The number of 1050 or 2741 terminals that BMDC can connect to the computer will probably be limited to ten in the late spring. Since we expect to have fifteen to twenty terminals by the end of 1973, a certain number of these must be teletype terminals.

MEDLINE is of much interest to the clinicians because of the rapid access to key information. The morning hours, though, are not usually convenient for the clinicians' schedules, since they are usually very busy during morning hours and would prefer having access to the system in the afternoon. This problem may be difficult to resolve because the Computer Center operates another on-line system for the rest of the day.

Another problem for the customer has turned out to be the telephone costs. In Sweden, where there is great distance from north to south, the difference in line costs is substantial. It is about 400 times more expensive to connect a terminal in Gothenburg to the system, than to connect the BMDC terminal to the system. The only solution seems to be leased lines that could be shared by customers, while awaiting computerized telecommunications in 1975. BMDC is now discussing a joint communication network with other national on-line systems.

BMDC is also working towards a Swedish and a Scandinavian MEDLINE network. This network will operate with one terminal in each Scandinavian capital during 1973. After that, it is up to each country to decide on a national network. It is hoped that these plans will be sponsored by an inter-Nordic agency supported by the governments. After 1973, the Scandinavian MEDLINE network would include several participating stations in Denmark, Finland and Norway. Hopefully, the network will function as a cooperative Scandinavian enterprise.

The following table surveys the subjects of searches processed in Sweden, November through December 1972.

SUBJECT OF RELEASED MEDLINE SEARCHES, NOVEMBER - DECEMBER 1972

	1)	2)	3)	Total
"Theoretical medicine" corresponding to pre-clinical sciences	23	12	3	38
Clinical medicine	55	70	11	136
Pharmacology, drug research	5	1	19	25
Behavioral sciences	7	-	-	7
Miscellaneous	4	1	-	5
Total	94	84	33	211

1) = BMDC, The Library of Karolinska Institute and the Biomedical Library of Gothenburg
2) = Libraries at the university hospitals of Huddinge and Linkoeping
3) = Pharmaceutical manufacturers ASTRA and Kabi

ABBREVIATIONS IN THE MESH TREE STRUCTURES

There are a number of terms that are listed in the MeSH Tree Structures in the abbreviated form that indexers may use. MEDLINE, though, will not accept the terms in this abbreviated form. Note that Medical Subject Headings - Alphabetic List does contain these terms spelled in full.

For those who wish to annotate the MeSH Tree Structures, the abbreviations are listed below by tree number, with the form acceptable to MEDLINE. Terms will appear more than once when they have more than one tree number. This list was prepared by Dorice Des Chene of the Pacific Northwest Regional Health Sciences Library at the University of Washington, Seattle. Included also is a list of errors that exist in the Trees.

Tree Number:	Found in the Tree:	Enter in MEDLINE:
B4.26.39	HEPATITIS VIRUS, CANINE	HEPATITIS VIRUS, INFECTIOUS CANINE
B4.91.16.1	HEPATITIS VIRUS, CANINE	HEPATITIS VIRUS, INFECTIOUS CANINE
B4.91.32.1	ENCEPH VIRUS, JAPANESE	ENCEPHALITIS VIRUS, JAPANESE
B4.91.32.1	ENCEPH VIRUS, ST. LOUIS	ENCEPHALITIS VIRUS, ST. LOUIS
B4.91.32.1	ENCEPH VIRUS, VENEZUELAN EQUINE	ENCEPHALITIS VIRUS, VENEZUELAN EQUINE
B4.91.32.1	ENCEPH VIRUS, WESTERN EQUINE	ENCEPHALITIS VIRUS, WESTERN EQUINE
B4.91.32.1	LYMPHOCYTIC CHORIO, VIRUS	LYMPHOCYTIC CHORIOMENINGITIS VIRUS
B4.91.48.1	EQUINE INFECT ANEMIA VIRUS	EQUINE INFECTIOUS ANEMIA VIRUS
C1.20.56	STAPH INFECTIONS	STAPHYLOCOCCAL INFECTIONS
C1.30.38	PREGNANCY COMPL., INFECTIOUS	PREGNANCY COMPLICATIONS, INFECTIOUS
C1.115	BVD DISEASE	BOVINE VIRUS DIARRHEA-MUCOSAL DISEASE
C3.20.26.1	TEMPOROMANDIBULAR JT SYNDROME	TEMPOROMANDIBULAR JOINT SYNDROME
C3.70.62	TEMPOROMANDIBULAR JT SYNDROME	TEMPOROMANDIBULAR JOINT SYNDROME
C6.60	PREGNANCY COMPL.	PREGNANCY COMPLICATIONS
C6.60.39	PREGNANCY COMPL., CARDIOVASCULAR	PREGNANCY COMPLICATIONS, CARDIOVASCULAR
C6.60.42	PREGNANCY COMPL., HEMATOLOGIC	PREGNANCY COMPLICATIONS, HEMATOLOGIC
C6.60.46	PREGNANCY COMPL., INFECTIOUS	PREGNANCY COMPLICATIONS, INFECTIOUS
C8.65	PREGNANCY COMPL., CARDIOVASCULAR	PREGNANCY COMPLICATIONS, CARDIOVASCULAR
C9.16.26.1	ANEMIA, HEMOLYTIC, CON NONSPHEROCYTIC	ANEMIA, HEMOLYTIC, CONGENITAL NONSPHEROCYTIC
C9.16.26.1	GPD DEFICIENCY	GLUCOSEPHOSPHATE DEHY- DROGENASE DEFICIENCY

Tree Number:	Found in the Tree:	Enter in MEDLINE:
C9.41.60	PREGNANCY COMPL., HEMATOLOGIC	PREGNANCY COMPLICATIONS, HEMATOLOGIC
C10.36.18.1	ENCEPH, NECRO HEMOR	ENCEPHALOMYELITIS, NECROTIZING HEMORRHAGIC
C10.45.16.1	ENCEPH, NECRO HEMOR	ENCEPHALOMYELITIS, NECROTIZING HEMORRHAGIC
C13.66.21.1	GPD DEFICIENCY	GLUCOSEPHOSPHATE DEHY- DROGENASE DEFICIENCY
C15.16.8	BVD DISEASE	BOVINE VIRUS DIARRHEA- MUCOSAL DISEASE
C15.16.36	PULM ADENOMATOSIS, BOVINE	PULMONARY ADENOMATOSIS, BOVINE
C15.87.24	PULM ADENOMATOSIS, OVINE	PULMONARY ADENOMATOSIS, OVINE
D2.4.4.1	0,2,4-D	2,4-DICHLOROPHENOXYACETIC ACID (This heading is also in the Tree, so just cross out 0,2,4-D)
D2.4.4.1	0,2,4,5-T	2,4,5-TRICHLOROPHENOXYACETIC ACID (This heading is also in the Tree, so cross out 0,2,4,5-T)
D2.4.40.1	0,2,4-D	2,4-DICHLOROPHENOXYACETIC ACID
D2.16.23.1	0,2,4-D	2,4-DICHLOROPHENOXYACETIC ACID
D2.24.21.1	LSD	LYSERGIC ACID DIETHYLAMIDE
D2.54.11.1	LSD	LYSERGIC ACID DIETHYLAMIDE
D3.121.11.1	0,2,4-D	2,4-DICHLOROPHENOXYACETIC ACID
D3.121.11.1	0,2,4,5-T	2,4,5-TRICHLOROPHENOXYACETIC ACID
D5.14.8.1	CHOLINESTERASE INHIB, IRREVERSIBLE	CHOLINESTERASE INHIBITORS, IRREVERSIBLE
D5.14.8.1	CHOLINESTERASE INHIB, REVERSIBLE	CHOLINESTERASE INHIBITORS, REVERSIBLE
D5.98.3	ADREN ALPHA RECEPT BLOCK	ADRENERGIC ALPHA RECEPTOR BLOCKADERS
D5.98.5	ADREN BETA RECEPT BLOCK	ADRENERGIC BETA RECEPTOR BLOCKADERS
D5.106.1	ADREN ALPHA RECEPT AG	ADRENERGIC ALPHA RECEPTOR AGONISTS
D5.106.2	ADREN BETA RECEPT AG	ADRENERGIC BETA RECEPTOR AGONISTS
D6.78.33	LSD	LYSERGIC ACID DIETHYLAMIDE
D9.20.27.1	CHOLINESTERASE INHIB, IRREVERSIBLE	CHOLINESTERASE INHIBITORS, IRREVERSIBLE
D9.20.27.1	CHOLINESTERASE INHIB, REVERSIBLE	CHOLINESTERASE INHIBITORS, REVERSIBLE
D9.40.42.1	ATPASE	ADENOSINE TRIPHOSPHATASE
D9.80.3.1	GPD	GLUCOSEPHOSPHATE DEHYDROGENASE
D10.55.48.1	AMP	ADENOSINE MONOPHOSPHATE
D10.55.48.1	ATP	ADENOSINE TRIPHOSPHATE
D10.55.48.1	CYCL AMP	ADENOSINE CYCLIC 3',5' MONOPHOSPHATE
D10.55.48.1	CYCL GMP	GUANOSINE CYCLIC 3',5' MONOPHOSPHATE
D10.55.48.1	GTP	GUANOSINE TRIPHOSPHATE
D10.88.47	OX PHOS COUPLING FACTORS	OXIDATIVE PHOSPHORYLATION COUPLING FACTORS
D13.5.26	ANTI-INFLAMM. AGENTS, TOPICAL	ANTI-INFLAMMATORY AGENTS, TOPICAL
D13.41.5	ANTI-INFLAMM. AGENTS, TOPICAL	ANTI-INFLAMMATORY AGENTS, TOPICAL

Tree Number:	Found in the Tree:	Enter in MEDLINE:
E1.18.18	CPE	CYTOPATHOGENIC EFFECT, VIRAL
E5.93.25.1	DOSE-RESPONSE RELAT, RADIATION	DOSE-RESPONSE RELATIONSHIP, RADIATION
E5.101	TRANSPORT OF WOUNDED	TRANSPORT OF WOUNDED AND SICK
E6.94.58	TISSUE CONDITIONING	TISSUE CONDITIONING (DENTAL)
F1.7.23	DISPLACEMENT	DISPLACEMENT (PSYCHOLOGY)
F1.7.40	INHIBITION	INHIBITION (PSYCHOLOGY)
F1.32.16	DISPLACEMENT	DISPLACEMENT (PSYCHOLOGY)
F1.32.32	IDENTIFICATION	IDENTIFICATION (PSYCHOLOGY)
F1.53.9	CONDITIONING	CONDITIONING (PSYCHOLOGY)
F1.53.12	CRITICAL PERIOD	CRITICAL PERIOD (PSYCHOLOGY)
F1.53.24	GENERALIZATION	GENERALIZATION (PSYCHOLOGY)
F1.53.26	HABITUATION	HABITUATION (PSYCHOPHYSIOLOGY)
F1.53.27	IMPRINTING	IMPRINTING (PSYCHOLOGY)
F1.53.28	INHIBITION	INHIBITION (PSYCHOLOGY)
F1.53.36	PRACTICE	PRACTICE (PSYCHOLOGY)
F1.53.45	REINFORCEMENT	REINFORCEMENT (PSYCHOLOGY)
F1.53.45.1	EXTINCTION	EXTINCTION (PSYCHOLOGY)
F1.53.51	SET	SET (PSYCHOLOGY)
F1.53.54	TRANSFER	TRANSFER (PSYCHOLOGY)
F1.66.14	CONFLICT	CONFLICT (PSYCHOLOGY)
F1.66.42	HANDLING	HANDLING (PSYCHOLOGY)
F1.83.55.1	EXTROVERSION	EXTROVERSION (PSYCHOLOGY)
F1.83.55.1	IDENTIFICATION	IDENTIFICATION (PSYCHOLOGY)
F1.83.55.1	INTROVERSION	INTROVERSION (PSYCHOLOGY)
F1.83.55.1	UNCONSCIOUS	UNCONSCIOUS (PSYCHOLOGY)
F1.104.27	HABITUATION	HABITUATION (PSYCHOPHYSIOLOGY)
F2.36.16	DISPLACEMENT	DISPLACEMENT (PSYCHOLOGY)
F2.36.32	IDENTIFICATION	IDENTIFICATION (PSYCHOLOGY)
F2.90.10	EXTROVERSION	EXTROVERSION (PSYCHOLOGY)
F2.90.18	INHIBITION	INHIBITION (PSYCHOLOGY)
F2.90.21	INTROVERSION	INTROVERSION (PSYCHOLOGY)
F2.90.60	UNCONSCIOUS	UNCONSCIOUS (PSYCHOLOGY)
F3.39	PSR SCALES	PSYCHIATRIC STATUS RATING SCALES
F3.78.60.1	COUNTERTRANSFERENCE	COUNTERTRANSFERENCE (PSYCHOLOGY)
F3.78.60.1	TRANSFERENCE	TRANSFERENCE (PSYCHOLOGY)
G1.38.39	CROSSING OVER	CROSSING OVER (GENETICS)
G1.54.30.1	POLYMORPHISM	POLYMORPHISM (GENETICS)
G1.54.30.1	SELECTION	SELECTION (GENETICS)
G1.54.30.1	VARIATION	VARIATION (GENETICS)
G1.54.40	LINKAGE	LINKAGE (GENETICS)
G1.71.18	CPE	CYTOPATHOGENIC EFFECT, VIRAL
G1.77.18	HABITUATION	HABITUATION (PSYCHOPHYSIOLOGY)
G1.77.35.1	RECRUITMENT	RECRUITMENT (NEUROLOGY)
G1.86.10	DOSE-RESPONSE RELAT, DRUG	DOSE-RESPONSE RELATIONSHIP, DRUG
G1.86.45	LD 50	LETHAL DOSE 50
G3.30.25	MPEL	MAXIMUM PERMISSIBLE EXPOSURE LEVEL
K.58.39.1	15TH CENT.	HISTORY OF MEDICINE, 15TH CENT.
K.58.39.1	16TH CENT.	HISTORY OF MEDICINE, 16TH CENT.
K.58.39.1	17TH CENT.	HISTORY OF MEDICINE, 17TH CENT.

Tree Number:	Found in the Tree:	Enter in MEDLINE:
K.58.39.1	18TH CENT.	HISTORY OF MEDICINE, 18TH CENT.
K.58.39.1	19TH CENT.	HISTORY OF MEDICINE, 19TH CENT.
K.58.39.1	20TH CENT.	HISTORY OF MEDICINE, 20TH CENT.
K.58.39.1	MEDIEVAL	HISTORY OF MEDICINE, MEDIEVAL
K.58.39.1	MODERN	HISTORY OF MEDICINE, MODERN
L.72.37.1	NLM	UNITED STATES NATIONAL LIBRARY OF MEDICINE
N2.72.63	TRANSPORT OF WOUNDED	TRANSPORT OF WOUNDED AND SICK
N3.26.11.1	MEDICAID	MEDICAL ASSISTANCE, TITLE 19
N3.26.11.1	MEDICARE	HEALTH INSURANCE FOR AGED, TITLE 18
N3.26.33.1	MEDICARE	HEALTH INSURANCE FOR AGED, TITLE 18
N3.52.19.1	FDA	UNITED STATES FOOD AND DRUG ADMINISTRATION
N3.52.19.1	HSMHA	UNITED STATES HEALTH SER AND MENTAL HEALTH AD
N3.52.19.1	NIH	UNITED STATES NATIONAL INSTITUTES OF HEALTH
N3.52.19.1	NLM	UNITED STATES NATIONAL LIBRARY OF MEDICINE
N3.52.19.1	OEO	UNITED STATES OFFICE OF ECONOMIC OPPORTUNITY
N3.52.19.1	PHS	UNITED STATES PUBLIC HEALTH SERVICE
N3.52.19.1	VA	UNITED STATES VETERANS ADMINISTRATION
N3.52.24.1	PAHO	PAN AMERICAN HEALTH ORGANIZATION
N3.52.24.1	WHO	WORLD HEALTH ORGANIZATION
N3.52.34.1	ADA	AMERICAN DENTAL ASSOCIATION
N3.52.39.1	AMA	AMERICAN MEDICAL ASSOCIATION
N3.52.44.1	ANA	AMERICAN NURSES' ASSOCIATION

Corrections to the Tree

	Error:	Correction:
C1.50.48.1	+TRICHOMONAS PROSTATO-SEMINO-VESICULITIS (in use 1963-1972)	+TRICHOMONAS PROSTATO- SEMINO-VESICULITIS
C3.30.42.1	ECCENTRO-OSTEOCHODRODYSPLASIA	ECCENTRO- OSTEOCHONDRODYSPLASIA
C3.60.33.1	PSEUDOPSEUDOHYPOPARA-THYROIDISM	PSEUDOPSEUDOHYPO- PARATHYROIDISM
C3.80.48	TENDONITIS	TENDINITIS
C6.12.26.1	+TRICHOMONAS PROSTATO-SEMINO-VESICULITIS	+TRICHOMONAS PROSTATO- SEMINO-VESICULITIS
D3.78.22	ETHIONIAMIDE	ETHIONAMIDE
E1.18.4.1	THROMBOELASTOGRAPHY	THROMBELASTOGRAPHY

TWO NEW "SPECIAL LISTS"

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

Users of MEDLINE may occasionally encounter citations bearing either of two unfamiliar "special list" designations. These are "special list foreign" and "special list reproduction".

"Special list reproduction" is a heading applied to certain journals that are now being indexed in order to permit comprehensive subject coverage of a new recurring bibliography that will soon be published.

"Special list foreign" journals are certain foreign journals that it has been necessary to include to satisfy the special needs of particular foreign MEDLARS centers. These will generally be journals fulfilling some locally felt need, but having little significance for an international audience.

As in the case of our previously established "Special lists", citations from these journals will appear in appropriate recurring bibliographies, in SDILINE, and in COMPFILE, but not in Index Medicus, nor, generally, in MEDLINE (U. S. version).

NATIONAL LIBRARY OF MEDICINE

LIBRARY NETWORK/MEDLARS TECHNICAL BULLETIN

of the

Library Component of the Biomedical Communications Network

No. 49 MAY 1973

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

LIBRARY NETWORK/MEDLARS TECHNICAL BULLETIN
of the
Library Component of the Biomedical
Communications Network

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The LIBRARY NETWORK/MEDLARS TECHNICAL BULLETIN
is issued monthly by the Office of the
Associate Director for Library Operations.

MEDLINE DATA BASES

The MEDLINE data bases were updated on May 14 at NLM and SUNY to include the June 1973 MEDLARS citations. The sizes of the data bases are as follows:

MEDLINE	-	460,095 citations
SDILINE	-	17,710 citations
COMPFILE	-	312,332 citations

MEDLINE TECHNICAL NOTES

PLEASE QUERY THE NEWS AND UPDATES FILES ON A DAILY BASIS

LOGIN — If after entering the login data to access MEDLINE through the Tymshare network, you receive the USER: cue instead of the "Hello ..." greeting, or if you are accidently disconnected during a session and receive repeated USER: cues, try entering /LOGIN and your MEDLINE terminal ID, i.e. /LOGIN MEDXXXØ1.

OFF-LINE PRINTS, MAILING TIME — Off-Line prints are mailed from NLM and SUNY the morning following the day the search was entered at the terminal, or on Monday morning if the request was entered on a Friday or Saturday. If the off-line prints are generally taking more than three days to reach your center (not including internal distribution at your institution) please notify MEDLARS Management Section.

G.E. TERMINET TERMINALS — The Automatic Line Feed switch (AUTO L.F.) on the G. E. TermiNet should be set at the OFF position when using MEDLINE or Tymshare. If it is not, you may experience problems receiving messages from MEDLARS Management Section through the Tymshare system.

NEWS, SUNY — The "NEWS" command within MEDLINE at SUNY is now operational. The general news from the Tymshare files will be copied to this file on a daily basis, as on the NLM system. The more specific Tymshare News Files such as COM DATABASE and COM USERS must still be queried through the Tymshare system itself under the user name NLM4.

CUMULATED LIST OF NEW MEDICAL SUBJECT HEADINGS, 1963-1973

A cumulated list of terms that have been added to the MeSH vocabulary since 1963 is now available from NTIS.

This publication is divided into three parts. The terms are first presented in alphabetic order, with the year of their introduction and the subject heading(s) under which the concept was formerly indexed. Next, the terms appear listed by the year of introduction into the vocabulary. Finally, there is a listing of previously indexed terms and the new terms which either replaced them or provided more specific aspects in subsequent years.

This publication should prove a useful tool for those doing retrospective searches in Cumulated Index Medicus or the MEDLINE data bases. It may be ordered from:

The National Technical Information Service
The U. S. Department of Commerce
5285 Port Royal Road
Springfield, Virginia 22151

Please include the following information when ordering:

Accession No.	Publication Title	Price Per Copy
PB-219-054	Cumulated List of New Medical Subject Headings 1963-1973	$3.00 $5.50 (non-U.S.)

CITATION IDENTIFIER

The Citation Identifier (CI) no longer appears when using the standard PRINT and the PRINT TRIAL commands. It will continue to appear when using the PRINT FULL command, or when asked for specifically as a print option, e.g. "PRINT TI,CI".

COM (MMS) REGIONSTATS

The monthly MEDLINE statistics, which appeared in the Tymshare COM (MMS)REGIONSTATS file, are no longer available on-line. Plans are to print these statistics each month in the Technical Bulletin.

EXPERIENCE WITH MEDLINE AND AUTHOR-SEARCHING

Ann Van Camp
Virginia Gillette
Indiana University School of Medicine Library

Experience at the Indiana University School of Medicine Library between May 1, 1972 and April 1, 1973 has demonstrated the value of MEDLINE author searches to the patrons and the library staff. Traditionally, searching under authors' names has been important; however, manual searching is admittedly time-consuming and laborious. Author searching through MEDLINE, in addition to saving man-hours, may be performed on a name which appears listed in the article after the first three names, a depth of retrieval which is impossible through the familiar indexes designed for manual use.

An informal survey has revealed that patrons who request author searches find them to be of major value. Some of the purposes of such searches are discussed below.

An author search run at the School of Medicine Library falls into one of three categories:

1. User demand
2. SDI
3. Administrative

During the eleven months under consideration, 194 demand author searches were performed (this is 22% of all demand search requests). The largest share (90) consisted of searches for faculty members, followed, interestingly, by 37 searches for physicians in private practice outside of the Indiana University Medical Center complex. These were performed as part of the School of Medicine Library's statewide service to all biomedical personnel in Indiana. The remaining 67 searches were requested by other persons such as graduate students, residents, interns, fellows, staff members, and medical students. In only 23 of the 194 searches were more than 20 citations retrieved; another 23 searches retrieved no citations at all.

If possible, the reason for the search was determined during the patron interview. Purposes stated on many occasions include introduction of visitors, preparation to meet teams making site visits at the Indiana University Medical Center, writing papers, preparation of seminars, and gathering background information for research projects. One faculty member asked for all of his own articles and another has used his search to prepare for a site visit to another institution. A participant in a meeting asked for everything written by the individuals scheduled to give papers at the conference.

An unusual aspect of author searching has arisen on occasions when the School of Medicine Library has received requests in which the user has known the author's last name only and the subject on which he has written. The Search Analyst then can truncate the author's name and "and" it with the appropriate

subject to obtain the desired citation(s). For example, a patron knew the name "Cherry" in relation to Teflon paste applied to vocal cords. Truncating Cherry (CHERRY #) and "anding" it with VOCAL CORDS or VOCAL CORD PARALYSIS produced the desired information. A printout of the retrieved citations will show the author's initials, which may then be searched in case additional articles appear under other subject headings.

In September 1972, SDI services at Indiana University were converted from the manual system formerly employed. Each user may now select up to ten authors, all of which are entered in an "or" relationship because usually there are fewer than twelve citations for all ten names. Many times there are no citations at all.

Twenty individuals receive SDI services. Of the 20, 17 people (or 85%) want author searches; in addition, two of the 17 have also requested demand author searches.

The Search Analyst may use the system for administrative purposes such as demonstrations of author-searching for groups of visiting librarians or other interested personnel. Searches may also be run to provide the Search Analyst with greater insight into indexing policies.

The value and benefits of author searches on MEDLINE are evident. Patrons express satisfaction with the usefulness of the searches and request them for a wide variety of purposes.

ADDENDUM TO MEDLINE JOURNALS

Please add the following titles to your lists MEDLINE JOURNALS and MEDLINE JOURNALS BY SUBJECT, both dated 10 November 1972. These are journals which have changed title since publication of those lists.

A5P Biomedicine
Full title: Biomedicine
Subject: Experimental Medicine
Old JTA: Rev Europ Etude Clin Biol (RWW)

SWC Rev Odontostomatol (Paris)
Full title: Revue d'Odontostomatologie
Subject: Dentistry
Old JTA: Rev Fr Odontostomatol (SØP)

VØX Steroids Lipids Res
Full title: Steroids and Lipids Research
Subjects: Endocrinology, Pharmacology
Old JTA: Steroidologia (VØZ)

XOR Wien Klin Wochenschr Suppl
Full title: Wiener Klinische Wochenschrift. Supplement
Subject: General Medicine
New supplement to MEDLINE journal

NOTES ON TITLE SCANNING AND PRINTING OF MULTIPLE SEARCH STATEMENTS IN MEDLINE

P. E. Pothier
MEDLARS Management Section, NLM

A simple search consisting of two title scans, one for the drug Innovar and one for the drug Ketamine, is presented below to illustrate some points in the operation of the title scan and multiple PRINT command.

```
SS 1/C?
USER:
DROPERIDOL OR BENPERIDOL OR BUTYROPHENONES
PROG:
PSTG (323)
SS 2/C?
USER:
1 AND FENTANYL
PROG:
PSTG (116)
SS 3/C?
USER:
TS :INNOVAR:
PROG:
(30) RECORDS SEARCHED AND (5) QUALIFIED.  CONTINUE SEARCHING? (YES/NO)
USER:
Y
PROG:
(60) RECORDS SEARCHED AND (12) QUALIFIED.  CONTINUE SEARCHING? (YES/NO)
USER:
Y
PROG:
(90) RECORDS SEARCHED AND (19) QUALIFIED.  CONTINUE SEARCHING? (YES/NO)
USER:
Y
PROG:
PSTG (21)
SS 4/C?
USER:
ANESTHETICS OR ANALGESICS AN# ANTIPYRETICS
PROG:
PSTG (1782)
SS 5/C?
USER:
4 AND CYCLOHEXANE
PROG:
PSTG (193)
SS 6/C?
USER:
TS :KETAMINE: OR :KETALAR: OR :CI-581:
PROG:
```

```
(30) RECORDS SEARCHED AND (21) QUALIFIED.  CONTINUE SEARCHING (YES/NO)
USER:
Y
PROG:
(60) RECORDS SEARCHED AND (47) QUALIFIED.  CONTINUE SEARCHING? (YES/NO)
USER:
Y
PROG:
(90) RECORDS SEARCHED AND (76) QUALIFIED.  CONTINUE SEARCHING? (YES/NO)
USER:
Y
PROG:
(120) RECORDS SEARCHED AND (102) QUALIFIED.  CONTINUE SEARCHING? (YES/NO)
USER:
Y
PROG:
(150) RECORDS SEARCHED AND (129) QUALIFIED.  CONTINUE SEARCHING? (YES/NO)
USER:
Y
PROG:
(180) RECORDS SEARCHED AND (155) QUALIFIED.  CONTINUE SEARCHING? (YES/NO)
USER:
Y
PROG:
PSTG (161)
SS 7/C?
USER:
6 OR KETAMINE
PROG:
PSTG (222)
SS 8/C?
USER:
"PRT OFF-LINE SS 3, SS 7"
PROG:
```

In Search Statements 1 and 2 the searcher anded DROPERIDOL, BENPERIDOL, or BUTYROPHENONES with FENTANYL, retrieving 116 citations. In Search Statement 3 these were title-scanned for Innovar. Note three things:

1. Although the records are searched in groups of thirty, the number of qualifying records is cumulative. Of 30 records searched 5 qualified; of 60 records 12 qualified, and of 90 records 19 qualified. But the total number of records which had Innovar in the title is not 5+12+19; it is 19 plus the 2 which were found in the last group of 26 records.
2. The last 26 records were searched even though no message reports the fact.
3. The search statement in which the title scan is done counts as a numbered search statement. It can be printed by number or used in further logic, as the next example will show.

In Search Statements 4 and 5 the searcher anded ANESTHETICS or ANALGESICS AN# ANTIPYRETICS with CYCLOHEXANE, and in Search Statement 6 these were title-scanned for Ketamine or Ketalar or CI-581. The results of the title scan (Search Statement 6) were then ored with the new heading KETAMINE, retrieving a total of 222 citations in SS 7.

The user now wanted one off-line printout containing the citations on Innovar and those on Ketamine, so the command "PRT OFF-LINE SS 3, SS 7" was issued. In the off-line print, 21 citations on Innovar were printed followed by the phrase END OF SEARCH STATEMENT. A new page was begun and 222 citations on Ketamine were printed, followed by the phrase END OF OFFLINE PRINTOUT.

Had the number of citations been few enough to print on-line, the user could have issued the command "PRT SS 3, SS 7". The two groups of citations would have been separate, but no message would have identified the break point.

The only restriction of which the user must be aware when issuing a multiple PRINT command is that the print options apply to all the statements to be printed. For example, the command "PRINT 20 SS 3, SS 7" will print 40 citations, i.e., 20 from SS 3 and 20 from SS 7.

Remember also that the total number of citations printed off-line may not exceed 300. If SS 3 retrieved 175 citations and SS 7 retrieved 150, the command "PRINT OFF-LINE SS 3, SS 7" would be ignored because the total number of retrieved citations would be 325.

MEDLARS/MEDLINE ENTRY DATES

The COM ENTRYDATES file within the Tymshare News Files now contains the MEDLARS and MEDLINE entry dates and citation counts for the current calendar year only. The file formerly contained this information from January 1964 through the present. Following is a listing of the COM ENTRYDATES file as it formerly appeared:

MONTH	ENTRY DATES FROM	TO	MEDLARS CITS.	MEDLINE CITS.	
JUNE	730411	730504	17710	10654	
MAY	730313	730406	18204	12257	
APRIL	730215	730308	17249	11717	1973
MARCH	730116	730208	17785	12113	
FEBRUARY	721214	730109	17178	11382	
JANUARY	721108	721204	17110	11435	
* TOTAL FOR YEAR: 1973			105236	69558	
DECEMBER	720928	721030	20841	13254	
NOVEMBER	720905	720922	20921	12670	
OCTOBER	720807	720828	20673	13497	
SEPTEMBER	720708	720803	20853	12474	
AUGUST	720607	720704	20769	13093	
JULY	720508	720606	20330	11245	1972
JUNE	720411	720503	19430	12014	
MAY	720316	720407	19278	12829	
APRIL	720216	720309	18544	11839	
MARCH	720121	720215	16997	10785	
FEBRUARY	711221	720117	16470	11259	
JANUARY	711130	711216	16504	10591	
* TOTAL FOR YEAR: 1972			231610	145550	
DECEMBER	711021	711117	18420	11064	
NOVEMBER	710914	711015	17601	11132	
OCTOBER	710807	710907	17001	9968	
SEPTEMBER	710712	710804	17636	9614	
AUGUST	710615	710706	17208	10122	
JULY	710510	710609	18061	9886	1971
JUNE	710413	710506	17975	10569	
MAY	710320	710407	17974	10628	
APRIL	710223	710312	18554	10618	
MARCH	710120	710212	17561	9829	
FEBRUARY	701221	710116	18335	11131	
JANUARY	701117	701214	19045	10780	
* TOTAL FOR YEAR: 1971			215371	125341	

MONTH	ENTRY DATES FROM	TO	MEDLARS CITS.	MEDLINE CITS.	
DECEMBER	701011	701112	21255	11404	
NOVEMBER	700917	701010	20340	9766	
OCTOBER	700816	700912	19914	9879	
SEPTEMBER	700716	700812	18937	10295	
AUGUST	700610	700710	17211	10102	
JULY	700509	700609	17788	9101	1970
JUNE	700408	700506	17800	10414	
MAY	700313	700407	17414	9766	
APRIL	700213	700307	17582	9337	
MARCH	700118	700208	18711	10280	
FEBRUARY	691215	700110	17505	10094	
JANUARY	691126	691206	15538	9207	
* TOTAL FOR YEAR: 1970			219995	119645	
DECEMBER	691015	691119	23599	0	
NOVEMBER	690916	691008	19033	0	
OCTOBER	690817	690910	19933	0	
SEPTEMBER	690723	690812	20060	0	
AUGUST	690618	690711	20420	0	
JULY	690514	690611	20160	0	1969
JUNE	690415	690510	18847	0	
MAY	690315	690412	19436	0	
APRIL	690214	690313	19511	0	
MARCH	690116	690211	18915	0	
FEBRUARY	681210	690115	16244	0	
JANUARY	681117	681209	17440	0	
* TOTAL FOR YEAR: 1969			233598	0	
DECEMBER	681009	681111	27841	0	
NOVEMBER	680912	681009	20109	0	
OCTOBER	680814	680909	20636	0	
SEPTEMBER	680716	680809	18219	0	
AUGUST	680618	680711	15874	0	
JULY	680519	680611	13885	0	1968
JUNE	680420	680510	15991	0	
MAY	680324	680411	16537	0	
APRIL	680224	680316	15790	0	
MARCH	680127	680216	18199	0	
FEBRUARY	680104	680122	16628	0	
JANUARY	671212	671227	17557	0	
* TOTAL FOR YEAR: 1968			217266	0	

MONTH	ENTRY DATES FROM	TO	MEDLARS CITS.	MEDLINE CITS.	
DECEMBER	671028	671120	27925	0	
NOVEMBER	670923	671023	22648	0	
OCTOBER	670814	670923	23490	0	
SEPTEMBER	670720	670808	9946	0	
AUGUST	670613	670710	9363	0	
JULY	670509	670608	10987	0	1967
JUNE	670411	670504	10387	0	
MAY	670316	670405	10041	0	
APRIL	670220	670310	10657	0	
MARCH	670120	670210	10903	0	
FEBRUARY	661219	670118	12008	0	
JANUARY	661123	661210	12347	0	
* TOTAL FOR YEAR: 1967			170702	0	
DECEMBER	661007	661101	18379	0	
NOVEMBER	660916	661004	10104	0	
OCTOBER	660810	660912	11739	0	
SEPTEMBER	660713	660801	14745	0	
AUGUST	660615	660703	14744	0	
JULY	660519	660606	14235	0	1966
JUNE	660408	660428	14622	0	
MAY	660305	660331	15019	0	
APRIL	660129	660226	12632	0	
MARCH	660107	660128	10215	0	
FEBRUARY	651206	660104	10653	0	
JANUARY	651113	651204	10408	0	
* TOTAL FOR YEAR: 1966			157495	0	
DECEMBER	651013	651105	18008	0	
NOVEMBER	650914	651006	16365	0	
OCTOBER	650810	650909	17355	0	
SEPTEMBER	650713	650804	12879	0	
AUGUST	650614	650706	14088	0	
JULY	650512	650608	14923	0	1965
JUNE	650406	650504	14996	0	
MAY	650310	650331	14022	0	
APRIL	650209	650303	13686	0	
MARCH	650119	650201	10017	0	
FEBRUARY	641211	650107	9471	0	
JANUARY	641111	641209	14462	0	
* TOTAL FOR YEAR: 1965			170272	0	

MONTH	ENTRY DATES FROM	TO	MEDLARS CITS.	MEDLINE CITS.	
DECEMBER	641008	641104	12547	0	
NOVEMBER	640904	641006	12096	0	
OCTOBER	640806	640903	12346	0	
SEPTEMBER	640707	640804	13809	0	
AUGUST	640610	640707	13589	0	
JULY	640506	640602	13588	0	1964
JUNE	640409	640504	14592	0	
MAY	640311	640402	13667	0	
APRIL	640213	640305	12818	0	
MARCH	640109	640207	10955	0	
FEBRUARY	631213	640108	7470	0	
JANUARY	631123	631209	5024	0	
* TOTAL FOR YEAR: 1964			142501	0	

MEDLINE TOOLS ORDERED FROM NTIS

Between February 7 and March 9, 1973, MEDLARS Management Section conducted a survey of the usefulness of the MEDLINE tools and the service provided by the National Technical Information Service (NTIS) in relation to the distribution and printing quality of these tools. A questionnaire appeared in the Tymshare News File during the survey and thirty-six percent of the MEDLINE Centers responded. Below is a summary of the data collected:

Average Receipt Time from Date Ordered	=	40 days
Average Number of Titles Ordered	=	4
Tools Ordered and Received	=	89.4%
Overall Quality of Printing		
Excellent	=	30.3%
Good	=	53.5%
Poor	=	4.7%
Unspecified	=	11.4%

Usefulness of Tool to MEDLINE User	MAJOR VALUE%	CONSIDERABLE VALUE %	MINOR VALUE %	UNSPECIFIED%
MEDLARS Training Program: MEDLINE Training Syllabus	38.4	23.1	7.7	30.8
MEDLARS Indexing Manual	23.5	47.1	5.9	23.5
Permuted MeSH, 1972	46.6	26.7	0.0	26.7
MEDLARS Indexing and Searching Aids	22.2	5.6	0.0	72.2
Medical Subject Headings New Main Headings and Provisionals 1973	55.8	27.9	9.3	7.0
Medical Subject Headings Tree Structures 1973	80.7	5.3	0.0	14.0
Medical Subject Headings Alphabetic List 1973	80.4	8.9	0.0	10.7
MEDLARS Training Program: MEDLINE Reference Manual	51.5	20.0	17.1	11.4

MEDLINE STATISTICS
APRIL 1973

The statistical reporting period now runs from the first to the last day of each month. The statistics are a total of the usage of all MEDLINE files (MEDLINE, SDILINE and COMPFILE) both at NLM and SUNY. If your statistics differ greatly from these, please notify MEDLARS Management Section.

MEDLINE CENTER	TOTAL SEARCHES @ SYM	TOTAL OFF-LINE PRINTS	TOTAL PAGES	TOTAL HOURS	AVERAGE MIN. PER SEARCH
* RG: 1					
BOSTON U SCH MED..MED LIB	133	42	453	32.1	14.5
BROWN U..SCI LIB	0	0	0	.0	.0
DARTMOUTH COL..DANA BIOMED LIB	104	23	273	18.2	10.5
HARVARD U..F COUNTWAY LIB	58	30	652	20.0	20.7
MAINE MED CTR	4	0	0	.6	9.0
MASS GEN HOSP..TREADWELL LIB	29	16	162	18.1	37.4
TUFTS U..MED DENT LIB	922	15	137	46.4	3.0
U CONN..L M STOWE LIB	183	62	816	20.3	6.7
U MASS..MED SCH LIB	70	16	128	13.0	11.1
YALE U..MED LIB	266	35	297	74.1	16.7
* TOTAL FOR RG: 1	1769	239	2918	242.8	
* RG: 2					
ALBANY MED COL	14	0	0	3.4	14.6
ALBERT EINSTEIN COL MED..LIB	0	0	0	.0	.0
COL MED DENT NJ..LIB	407	146	1358	54.5	8.0
COLUMBIA U..MED LIB	43	19	374	12.1	16.9
CORNELL U MED COLL..LIB	75	23	317	13.7	11.0
ELLIS HOSP..LIB	23	6	39	5.5	14.3
MED RES LIB BROOKLYN	52	3	24	9.9	11.4
NY ACAD MED..NY NO NJ RML	37	16	469	10.8	17.5
SUNY ALBANY..CENT OFF COMPUTER CTR	0	0	0	.0	.0
SUNY BUFFALO	48	0	0	26.7	33.4
SUNY STONY BROOK	0	0	0	.0	.0
* TOTAL FOR RG: 2	699	213	2581	136.6	
* RG: 3					
COL PHYSICIANS PHILA..LIB	52	32	544	21.2	24.5
HAHNEMANN MED COL..LIB	8	3	24	2.5	18.7
JEFFERSON MED COL..LIB	33	6	130	9.6	17.5
MED COL PA	24	3	38	7.7	19.2
PENNA STATE U..HERSHEY MED CTR LIB	223	19	272	41.4	11.1

MEDLINE CENTER	TOTAL SEARCHES @ SYM	TOTAL OFF-LINE PRINTS	TOTAL PAGES	TOTAL HOURS	AVERAGE MIN. PER SEARCH
TEMPLE U..HEALTH SCI CTR LIB	146	29	854	37.9	15.6
U PENN..SCH MED LIB	135	41	556	32.1	14.3
U PITTSBURGH..FALK LIB	22	8	82	7.7	21.0
V A HOSP ERIE PA..LIB	9	3	39	1.7	11.3
* TOTAL FOR RG: 3	652	144	2539	161.8	
* RG: 4					
BOWMAN GRAY SCH MED..LIB	33	4	42	3.5	6.4
BUR NARC DANG DRUGS..DRUG CTRL DIV	12	10	199	2.9	14.5
D C GEN HOSP..LIB	32	1	21	7.9	14.8
DUKE U SCH MED..MED CTR LIB	106	12	76	22.3	12.6
ENVIRONMENT PROTECT AG 401 M ST SW	0	0	0	.4	.0
FED AMER SOC EXP BIOL..OFF BIOL HAN	143	1	40	13.0	5.5
GEORGE WASHINGTON U HOSP..HOSP BR L	137	0	0	44.8	19.6
GEORGETOWN U MED CTR..DAHLGREN MEM	183	40	511	42.8	14.0
HOWARD U..MED DENT LIB	65	9	50	15.3	14.1
JOHNS HOPKINS U..WELCH MED LIB	129	19	325	46.4	21.6
JOINT MED LIB USA USAF..OFF SURG GE	32	7	82	2.7	5.1
MED CHIR FAC MARYLAND..LIB	68	7	52	14.8	13.1
NATL INST ENVIRON HEALTH SCI	23	2	15	9.5	24.8
NATL LIB MED..MARML RM 152	146	112	1843	44.1	18.1
NATL LIB MED..RSD	337	59	816	139.2	24.8
NATL NAVAL MED CTR..STITT LIB & RES	188	16	182	28.6	9.1
NIH..DRG	41	1	16	10.1	14.8
NIH..LIB	418	173	2641	92.6	13.3
NIH..NATL CANCER INST	93	38	506	22.3	14.4
NIH..NATL HEART INST	4	2	50	2.1	31.5
NIH..NIAMD	5	4	73	2.0	24.0
NIMH..NIMH LIB & HSMHA LIB & ST.ELI	57	52	738	15.5	16.3
PHARMACEUTICAL MFR ASSN	39	12	326	12.0	18.5
ST ELIZ HOSP..PROF LIB	2	1	6	.3	9.0
U MARYLAND BALTIMORE..HEALTH SCI LI	216	30	435	71.8	19.9
U NC..HEALTH SCI LIB	98	19	163	13.1	8.0
U S GOVT	8	2	23	2.3	17.2
U VA..MED SCH LIB	161	41	528	23.4	8.7
V A CTRL OFF 810 VERMONT AVE NW DC	78	2	11	13.9	10.7
V A HOSP DC..LIB	133	19	236	27.1	12.2
WALTER REED ARMY MED CTR..GEN HOSP	99	12	149	28.8	17.5
WASHINGTON HOSPITAL CTR..MED LIB	84	2	27	12.5	8.9
WVA U..MED CTR LIB	156	5	86	30.5	11.7
* TOTAL FOR RG: 4	3326	714	10268	818.5	
* RG: 5					
CASE WEST RES U..CLEVELAND HEALTH S	48	15	192	13.4	16.7
ENVIRONMENT PROTECT AG CINCINNATI	117	14	296	20.9	10.7

MEDLINE CENTER	TOTAL SEARCHES @ SYM	TOTAL OFF-LINE PRINTS	TOTAL PAGES	TOTAL HOURS	AVERAGE MIN. PER SEARCH
HARPER HOSP..DEPT LIB	68	0	0	14.3	12.6
HENRY FORD HOSP	33	9	78	8.1	14.7
MED COL OHIO TOLEDO..LIB	34	2	45	5.3	9.4
MICH STATE U..SCI LIB	83	28	283	19.7	14.2
OHIO STATE U COL MED..HEALTH CTR LI	307	34	344	47.0	9.2
SINAI HOSP DETROIT..MED LIB	0	0	0	.0	.0
U CINCINNATI..MED CTR LIB	297	42	500	48.2	9.7
U DETROIT..SCH DENT LIB	2	0	0	.5	15.0
U KY..MED CTR LIB	97	40	493	19.1	11.8
U LOUISVILLE..KORNHAUSER HEALTH SCI	162	15	100	27.6	10.2
U MICH..MED CTR LIB	222	131	5556	41.2	11.1
WAYNE STATE U..SHIFFMAN MED LIB	39	50	430	20.3	31.2
WILLIAM BEAUMONT HOSP..MED LIB	70	10	100	13.1	11.2
* TOTAL FOR RG: 5	1579	390	8417	298.7	
* RG: 6					
EMORY U..A W CALHOUN MED LIB	91	50	668	18.9	12.5
JACKSONVILLE HOSP EDU PROG..J L BOR	11	1	8	2.2	12.0
MED COL GA..DIV HEALTH COMM LIB	21	4	94	3.8	10.9
MED U SC..LIB	129	11	104	14.5	6.7
TOXICOLOGY INF RESPONSE CTR..BIOL D	39	16	298	5.9	9.1
U ALA..LISTER HILL CTR HEALTH SCI	159	23	393	22.2	8.4
U FLA..J H MILLER HEALTH CTR LIB	80	15	145	12.7	9.5
U MIAMI..L CALDER MEM LIB	70	42	713	8.2	7.0
U MISS MED CTR..ROWLAND MED LIB	0	0	0	.0	.0
U SOUTH FLORIDA..MED CTR LIB	32	15	199	3.8	7.1
U TENN..MED UNITS LIB	59	21	291	10.1	10.3
V A HOSP DECATUR GA..LIBRARY	83	17	150	23.6	17.1
VANDERBILT U..SCH MED LIB	16	6	59	2.2	8.2
* TOTAL FOR RG: 6	790	221	3122	128.1	
* RG: 7					
AMER MED ASSOC..ARCHIVE LIB	138	1	8	18.4	8.0
IND U..SCH MED LIB	76	2	15	10.5	8.3
JOHN CRERAR LIB	24	20	224	7.5	18.7
LUTHERAN GEN HOSP..LIB	40	0	0	9.8	14.7
MAYO FOUND..MAYO CLINIC LIB	65	17	231	13.7	12.6
MED COL WIS..MED DENT LIB	47	10	60	16.4	20.9
NORTHWESTERN U..MED & DENT SCH LIB	133	87	1011	33.0	14.9
SOUTHERN ILL U..SCH MED LIB	8	0	0	2.5	18.7
U CHICAGO..BILLINGS HOSP LIB	179	33	234	25.9	8.7
U ILL MED CTR..LIB HEALTH SCI	117	19	387	16.0	8.2
U ILL..ROCKFORD SCH MED LIB	34	5	67	10.2	18.0
U IOWA..MED LIB	88	42	754	14.1	9.6
U MINN..BIOMED LIB	228	97	2497	50.8	13.4

MEDLINE CENTER	TOTAL SEARCHES @ SYM	TOTAL OFF-LINE PRINTS	TOTAL PAGES	TOTAL HOURS	AVERAGE MIN. PER SEARCH
U WISC..MIDDLETON MED LIB	149	23	730	34.1	13.7
V A HOSP WOOD WISC	82	10	92	18.0	13.2
* TOTAL FOR RG: 7	1408	366	6310	280.9	
* RG: 8					
CREIGHTON U..HEALTH SCI LIB	60	7	65	10.6	10.6
FITZSIMONS GEN HSP..MED-TEC LIB	0	0	0	.0	.0
ST LUKES HOSPITAL..LIB	88	1	6	8.9	6.1
U COLO..DENISON MEM LIB)	164	31	339	36.3	13.3
U KANS..CLENDENING MED LIB	128	16	256	18.9	8.9
U MO COLUMBIA..MED LIB	75	26	321	15.8	12.6
U MO KANSAS CITY..SCH MED LIB	183	17	175	21.9	7.2
U NEBR..MIDCONTINENTAL RML PROG	143	14	185	27.0	11.3
U UTAH..ECCLES MED SCI LIB	55	45	513	17.0	18.5
V A HOSP LINCOLN NB..LIB	56	3	27	7.2	7.7
WASHINGTON U..SCH MED LIB	231	82	1064	49.1	12.8
* TOTAL FOR RG: 8	1183	242	2951	212.7	
* RG: 9					
BROOKE GEN HOSP..MED LIB	56	8	47	11.6	12.4
FOOD & DRUG ADM..NATL CTR TOX RES	17	2	38	3.2	11.3
LOUISIANA STATE U NEW ORLEANS..LIB	0	0	0	.0	.0
LOUISIANA STATE U..SCH MED LIB	24	3	53	5.6	14.0
SPARKS REG MED CTR..HEALTH SCI LIB	21	4	115	2.5	7.1
TEXAS MED ASSN..LIB	75	2	16	5.0	4.0
TEXAS MED CTR HOUSTON..J H JONES LI	489	106	1537	58.9	7.2
TULANE U..SCH MED LIB	0	0	0	.0	.0
U ARK..MED CTR LIB	31	20	293	3.3	6.4
U NM..LIB MED SCI	105	58	2266	22.8	13.0
U OKLA..HEALTH SCI CTR LIB	128	12	240	16.1	7.5
U TEXAS DALLAS..MED SCH LIB	358	92	1389	55.3	9.3
U TEXAS MED BR GALVESTON..MOODY MED	196	17	143	33.3	10.2
U TEXAS SAN ANTONIO..MED SCH LIB	98	19	147	19.6	12.0
WILLIAM BEAUMONT ARMY MEDICAL CENTE	7	3	46	4.9	42.0
* TOTAL FOR RG: 9	1605	346	6330	242.1	
* RG: 10					
ALASKA HEALTH SCI INFO CTR	62	6	110	10.8	10.5
COLUMBUS HOSP GREAT FALLS MONT..LIB	17	0	0	1.6	5.6
MADIGAN GEN HOSP	14	6	61	3.9	16.7
SACRED HEART GEN HOSP..MED CTR DR'S	95	14	184	16.8	10.6

MEDLINE CENTER	TOTAL SEARCHES @ SYM	TOTAL OFF-LINE PRINTS	TOTAL PAGES	TOTAL HOURS	AVERAGE MIN. PER SEARCH
U OREGON..MED SCH LIB	222	1	19	69.6	18.8
U WASHINGTON..PAC NW REG HEALTH SCI	592	79	1281	102.9	10.4
V A HOSP BOISE IDAHO..LIB	21	2	8	5.8	16.6
* TOTAL FOR RG: 10	1023	108	1663	211.4	
* RG: 11					
CEDARS-SINAI MED CTR..HOSP LIB	0	0	0	.0	.0
CHILDREN'S HOSP L A..DOCTOR'S LIB	146	32	465	16.4	6.7
HOAG MEM HSP PRESBYTERIAN..MED LIB	0	0	0	.0	.0
L A CO HARBOR GEN HOSP..MED LIB	163	70	597	42.6	15.7
L A COUNTY MED ASSOC..LIB	24	3	18	14.7	36.7
LETTERMAN GEN HOSP..MED LIB	63	8	57	9.4	9.0
LOMA LINDA U..V RADCLIFF MEM LIB	74	18	159	25.9	21.0
MARTIN LUTHER KING JR GEN HOSP..MED	1	1	12	1.9	114.0
MEM HOSP MED CTR LONG BEACH..MED LI	208	72	804	28.0	8.1
ORTHOPAEDIC HOSPITAL..RUBEL MEM LIB	34	9	83	13.3	23.5
RANCHO LOS AMIGOS HOSP..LIB	3	2	40	.3	6.0
STANFORD U MED CTR..LANE MED LIB	271	96	1193	45.2	10.0
U ARIZ..MED CTR LIB	75	23	236	18.4	14.7
U CALIF DAVIS..HEALTH SCI LIB	118	41	566	33.4	17.0
U CALIF IRVINE..MED SCI LIB	67	38	528	25.1	22.5
U CALIF L.A...BIOMED LIB PAC SW RML	220	103	1254	70.0	19.1
U CALIF L.A...BIOMED LIB REF SECT	309	148	1464	72.0	14.0
U CALIF S.F...LIB	128	76	908	48.8	22.9
U CALIF SAN DIEGO..BIOMED LIB	161	85	1319	44.9	16.7
U NEV RENO..LIFE HEALTH SCI LIB	26	1	16	2.2	5.1
U SO CALIF SCH MED..NORRIS MED LIB	294	146	1732	56.5	11.5
V A HOSP SEPULVEDA CALIF..MED LIB	65	12	129	9.4	8.7
* TOTAL FOR RG: 11	2450	984	11580	578.4	
* RG: 70					
DALHOUSIE U..W K KELLOG HEALTH SCI	79	16	217	11.3	8.6
DEPT NATL HEALTH WELFARE..HEALTH PR	29	5	76	5.4	11.2
MCGILL U..MED LIB	124	47	722	50.9	24.6
MEM U NEWFOUNDLAND..FAC MED LIB	0	0	0	.0	.0
NATL RES COUNCIL OF CANADA..NATL SC	40	10	522	21.1	31.7
U BRITISH COLUMBIA..LIB	22	1	7	5.5	15.0
U CALGARY..LIB	2	2	97	1.7	51.0
U MANITOBA..LIB	15	19	805	6.0	24.0
U TORONTO..LIB	61	31	394	17.1	16.8
* TOTAL FOR RG: 70	372	131	2840	119.0	

MEDLINE CENTER	TOTAL SEARCHES @ SYM	TOTAL OFF-LINE PRINTS	TOTAL PAGES	TOTAL HOURS	AVERAGE MIN. PER SEARCH
* RG: 80					
BIBLIOTECA REG DE MED..ORG PAN AMER	0	0	0	.0	.0
I.N.S.E.R.M.	93	0	0	17.0	11.0
NATL LEND LIB SCI TECH	4	0	0	1.4	21.0
* TOTAL FOR RG: 80	97	0	0	18.4	

** GRAND TOTAL - APRIL 1973

TOTAL SEARCHES - @ SYMBOLS	16953
TOTAL OFF-LINE PRINTS	4098
TOTAL PAGES OFF-LINE	61519
TOTAL HOURS	3449.4
AVERAGE MIN. PER SEARCH	12.2

LIST OF MEDLINE COMMANDS

On the following page is a list of command names and their abbreviations, with a brief description of each. This may prove useful as a handout to MEDLINE users.

LIST OF MEDLINE COMMANDS

Command	Abbrev.	Function
COMMENT	---	Allows user to type in comments which are stored for system personnel.
DIAGRAM	DIAG	Allows user to trace the structure of search statements, especially when search statements have been formed by combination of other search statements.
ERASEALL	ERSLL	Erases all previous search statements.
ERASEBACK	ERSBK	Allows user to erase all search statements back to a specified search statement number.
EXPLAIN	EX or ?	Allows user to obtain on-line explanation of any command or program message.
EXPLODE (not a command)	EXP	This search capability, when combined with a MeSH classification number, allows rapid searching of a general term and all its subordinates.
FIND	FD	Allows user to enter a search statement without receiving the readiness cue.
HELP	---	Provides specific suggestions for action when one of a set series of problems is identified.
MESHNO	MNO	Provides MeSH classification number of specified term.
NEIGHBOR	NBR	Displays index terms that are alphabetic neighbors of the requested term and indicates the number of postings for each.
NEWS	---	Provides user with announcements, etc.
PRINT	PRT	Causes program to print out information desired. User has many options such as on- and off-line, format, elements to be printed, etc.
RENAME	RNM	Allows user to change the names of the commands or logical operators for a particular connect session.
RESTACK	RSTK	Allows user to move search statements with the purpose of saving some and deleting others.
RESTART	RST	Allows user to erase all stored records of interactions with the program and start over again.
STOP	---	Allows user to stop the program at any point during the operation.
TREE	---	Causes thesaurus display of terms hierarchically related to specified term.
VERSION	VERS	Allows user to set routine messages to one of three lengths: symbolic, short, or full.

NATIONAL LIBRARY OF MEDICINE

LIBRARY NETWORK/MEDLARS TECHNICAL BULLETIN

of the

Library Component of the Biomedical Communications Network

No. 50 JUNE 1973

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

LIBRARY NETWORK/MEDLARS TECHNICAL BULLETIN
of the
Library Component of the Biomedical
Communications Network

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The LIBRARY NETWORK/MEDLARS TECHNICAL BULLETIN
is issued monthly by the Office of the
Associate Director for Library Operations.

SAMPLE BILLING STATISTICS

As a preliminary to MEDLINE charges, which will begin for most centers July 1, sample billing statistics are being sent out during June. This sample includes for your institution, May connect time to MEDLINE at NLM and SUNY and the number of NLM and SUNY off-line print pages. Based on this usage, a total May bill was estimated. Credit for line charges was not included in this test bill.

When the actual bill is sent out by the contractor, Tymshare Inc., an invoice plus the billing statistics will be sent. An invoice is not included with the samples being sent in June.

MEDLINE TECHNICAL NOTES

PLEASE QUERY THE NEWS AND UPDATES FILES ON A DAILY BASIS

NTIS TOOLS

Centers which have ordered MEDLINE Tools from the National Technical Information Service (NTIS) and have not received them in a reasonable length of time may notify MEDLARS Management Section and we will attempt to determine their whereabouts. Please include the following information:

1. PURCHASE ORDER NUMBER
2. DATE ORDERED
3. NAME AND ADDRESS ON PURCHASE ORDER
4. TOOLS ORDERED AND QUANTITY
5. PAYMENT BY:
   CHECK
   SPECIAL ACCOUNT (SPECIFY TYPE)

ABBREVIATIONS

The following abbreviations may be used in any of the MEDLINE files:

	Abbreviation	Example
EXPLODE	EXP	EXP A2.96.21
PUBLICATION YEAR	last two digits	71 thru 71

GPO PUBLICATIONS

The NLM News; Publications Supplement (December 1972; revised March 1973) contained information on ordering publications from the Government Printing Office (GPO) and a form for submitting claims for material not received from GPO. When submitting a claim, the form should be sent to Office of Public Information, Attn: Publications, National Library of Medicine, 8600 Rockville Pike, Bethesda, Maryland 20014.

INTERLIBRARY LOAN REQUESTS

Interlibrary loan requests being sent to the National Library of Medicine should be sent by mail or TWX directly to the address below and not to MEDLARS Management Section via mail or through the on-line message capabilities.

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

DATA BASES

MEDLARS Management Section will attempt to notify users in advance through the Tymshare News Files of the times the various data bases at NLM and SUNY are expected to be updated.

MEDLEARN

Phyllis Soben
George Washington University Hospital Library
Washington D. C.

The George Washington University Medical Center has developed an orientation to MEDLINE called MEDLEARN, which appears in two complementary forms. As a computer assisted education program, it is available on the TYMSHARE Network. As a manual, it contains the didactic portions of the computer program as well as additional items which are not suitable for on-line presentation.

MEDLEARN is a flexible instructional tool which may be used by persons with varied backgrounds. It is divided into approximately forty sections, each represented by a number. The user may choose any section he wishes to see in any order.

MEDLEARN on-line has many special features. Queries interspersed within the text of the program require user interaction and encourage an active learning process. Exercises after major sections of text reinforce and encourage application of learned concepts.

Because MEDLEARN provides an intensive learning experience, users are encouraged to limit their sessions at the terminal to one hour. Several learning sequences are suggested as a guide to users. At the end of each session of the suggested sequences, the user is given an opportunity to demonstrate what he has learned. At the end of the first session, he is offered the first simulated MEDLINE search, which enables him to see a MEDLINE print-out with annotations and interpretive comments. At the end of the second session, he is encouraged to try a more sophisticated MEDLINE simulation. After the third session, he is advised to login to MEDLINE, try four search exercises, and return to MEDLEARN for an evaluation of his performance. At the end of the fourth session, he is sent to MEDLINE to perform a restricted search and to return again to MEDLEARN. Users are motivated to continue as they see their learning experiences bringing them closer to their goals.

MEDLEARN is presently being evaluated at George Washington, Georgetown, Howard, University of Maryland and Johns Hopkins medical centers.

NOTE ON MEDLEARN

Joseph Leiter, Ph.D
Associate Director, Library Operations, NLM

MEDLEARN, as described in the preceding article by Phyllis Soben, was supported by a contract with the National Library of Medicine as an experimental package. It is being currently evaluated as a tool at the institutions listed in Ms. Soben's article.

At this time, there appears to be little likelihood that it will become routinely available to all MEDLINE users except at very significant cost to the user.

MEDLEARN is programmed for a PDP-10 computer and the current software cannot operate on the NLM computer. The PDP-10 is a Tymshare computer and is available at a cost of 20 dollars per connect hour. It is estimated that the MEDLEARN sequences can be completed by a skilled person in as little as three hours of connect time. For many users it may require as much as seven hours. It is thus apparent that the cost of a training session can vary from 60 to about 150 dollars.

The principal contribution of MEDLEARN is that it is an initial experiment toward developing a computer-aided learning tool. It is apparent that a great deal more development work is needed before one can look to such learning tools as a practical method for teaching users how to operate MEDLINE.

It is important for MEDLINE analysts who have been through the intensive three week course at NLM or at UCLA to be conscious of their mission to teach and train users as well as their colleagues in the use of MEDLINE.

ADDENDUM TO MEDLINE JOURNALS

Please add the following titles to your lists MEDLINE JOURNALS and MEDLINE JOURNALS BY SUBJECT, both dated 10 November 1972. These are either journals which have changed title since publication of those lists or supplements to MEDLINE journals.

DXK Cytogenet Cell Genet
Full title: Cytogenetics and Cell Genetics
Subjects: Anatomy, Genetics
Old JTA: Cytogenetics (DXN)

GUK Int Rev Neurobiol Suppl
Full title: International Review of Neurobiology. Supplement
Subject: Neurology and Neurosurgery
Supplement to MEDLINE Journal

T3R Rev Roum Virol
Full title: Revue Roumaine de Virologie
Subject: Microbiology
Old JTA: Rev Roum Inframicrobiol (T37)

CHECK TAGS: 1974 CHANGES

Thelma Charen
Index Section, NLM

The year 1974 brings three changes in CHECK TAGS, as recently approved by Medical Subject Headings Section. Indexers and Searchers are dancing in the streets, for a happy Check Tag makes a happy Indexer and Searcher.

ANIMAL

This is the 1974 form superseding the tag ANIMAL EXPERIMENTS. There is no change in the use and application, only in the name of the tag itself.

The form ANIMAL EXPERIMENTS has always been uncomfortable since it implied "experimental" even though it was not used or defined with this emphasis. It has been difficult to explain to the uninitiated that the experimental concept was irrelevant. Now ANIMAL comfortably and simply separates material on animals from material on HUMAN in a more natural way, without arcane explanation.

Since too much rewriting would be needed to change ANIMAL EXPERIMENTS to ANIMAL in the MEDLARS INDEXING MANUAL every time it appears, a manual sheet will be distributed worldwide in October for insertion at 11.8 (ANIMALS) and 11.13 (ANIMAL EXPERIMENTS) informing the user of the 1974 change.

COMPARATIVE STUDY

The restriction on the use of this tag to the comparison of two or more drugs (or chemicals) or to the comparison of two or more therapeutic or diagnostic procedures has been lifted. Beginning in 1974 you may use COMPARATIVE STUDY for a comparison of <u>any</u> two or more concepts regardless of category - organs, organisms, diseases, even hospitals and services, geographic locations, named persons - the widest possible range.

The Indexing Manual at 11.19 (COMPARATIVE STUDY) will reflect this change and manual sheets will be distributed later this year.

CASE REPORTS

Here is a minor change: up to now this tag has been restricted to human case reports only. In 1974 it may be used for veterinary case reports also. The Indexing Manual at 11.7.2 will show the change; the sheets will be distributed later.

Despite the narrow use of the Check Tag CASE REPORTS, it will fit better if you re-appraise its purpose. MeSH recently reiterated that the tag was designed for those search customers wanting <u>only case reports</u> or by those who specify "<u>but not</u> case reports." Since the Indexing Manual states in 11.17.1 that it will be used for material which is "merely a report of a case," its use as a limiter in retrieval should continue.

When, in October 1973, preparations are made for 1974 indexing and manual sheets are distributed, the readers of this Technical Bulletin will be reminded of the changes and of the available manual sheets.

OFF-LINE PRINTS MAILING SURVEY

Grace T. Jenkins
Head, MEDLARS Management Section, NLM

The National Library of Medicine recognizes that an essential part of the MEDLINE system is the rapid and accurate delivery of the off-line prints. Therefore, it is our practice that all off-line print requests be mailed out in the first mail on the day following the input of the request. For example, all requests input during NLM's or SUNY's scheduled 9:00 a.m. to 10:00 p.m. hours of service on Monday, are prepared for mailing and sent out by Tuesday noon. Despite the fact that there is relatively little difference in mailing time, as may be seen by the survey below, off-line prints will be sent air mail to institutions which are located 500 miles or more from NLM or SUNY, because of the additional, comparatively small cost involved.

NLM further attempts to ensure, through surveys and personal contact, that high standards of delivery times are maintained. So far, three surveys have been conducted to determine how long it takes the user to receive an off-line print once it has been mailed from NLM. An additional survey has been done of the SUNY off-line print mailing time.

For the three NLM mailing surveys, the following procedures were used:

1. "Dummy" off-line prints were requested at NLM.
2. Forms were prepared to indicate date and time off-line prints were mailed and date and time of receipt by test centers.
3. All prints were mailed from NLM on Monday at 12:30 p.m.
4. Two "Dummy" searches were sent, one first class mail and one air mail, to each test center except for the Washington D.C. area and foreign centers.

The first two mailings went to the same centers for comparison purposes. The fourth mailing, to be conducted during the week of July 16, will go to the same centers included in the third test.

On the next page is a summary of the three mailing surveys conducted thus far at NLM. In all cases, the figures shown are mailing days and do not include the day the search was input. You will note that the date of receipt ranged from 1 - 7 days for first class mail and from 1 - 4 days for air mail. NLM follows up on those centers which have an abnormally long receipt time to determine if this is a one-time occurrence or the usual mailing time.

		First Class Throughput Days			Air Mail Throughput Days			Average Days of Receipt by Region		
Region	State	Dec.11, 1972	Jan.15, 1973	Apr.16, 1973	Dec.11, 1972	Jan.15, 1973	Apr.16, 1973	First Class	Air Mail	Diff.
1	Mass.	3	7		2	2		3.5	2.0	1.5
	N.H.	3	4		3	3				
	Conn.			2			1			
	Conn.			2			1			
2	N.Y.	2	3		2	3		2.4	1.8	.6
	N.Y.			3			1			
	N.Y.			2			1			
3	Pa.	2	2		2	2		2.3	1.7	.6
	Pa.	1	3		1	2				
	Pa.			3			2			
	Pa.			3			1			
4	W.Va.	2	2		3	2		2.0	2.0	.0
	N.C.			2			1			
5	Mich.	1	3		1	1		2.0	1.3	.7
	Mich.			2			1			
	Ohio			2			2			
6	Ga.	3	2		2	2		2.3	1.7	.6
	Fla.			2			1			
7	Ind.	4	2		2	2		3.2	2.0	1.2
	Ill.	4	4		2	2				
	Ill.			2			2			
8	Neb.	3	2		2	2		2.5	1.8	.7
	Neb.			2			1			
	Utah			3			2			
9	Texas	3	2		2	2		2.7	1.8	.9
	Texas	4	3		2	2				
	Ark.			2			1			
	N.M.			2			2			
10	Mont.	4	3		4	2		3.7	2.2	1.5
	Wash.	3	3		2	2				
	Wash.			2			1			
	Ore.			7			2			
11	Calif.	3	3		2	2		3.0	1.7	1.3
	Calif.			3			1			

The medians of the off-line prints receipt dates were:

First Class			Air Mail		
Dec. 72	Jan. 73	Apr. 73	Dec. 72	Jan. 73	Apr. 73
3	3	2	2	2	1

Another way to present the results of the three surveys is:

COMBINED SURVEYS MAILING TIMES

Mailing Days	First Class Mail	Air Mail
1	3.8%	28.3%
2	41.5%	62.3%
3	37.7%	7.4%
over 3 days	17.0%	2.0%

The SUNY mailing survey was conducted slightly differently than the NLM surveys in that only first class mail was used. The results of the only study done so far indicates that the average throughput time is 3.8 days. Percentages on throughput time are as follows:

1 day	12%
2 days	29%
3 days	-
4 days	-
5 days	47%
6 days	6%
7 days	6%

NLM's goal is to achieve average mailing throughput days of three days or under. You are encouraged to let us know of any problems you have with the receipt of your off-line prints. We will work with you to make any necessary modifications in our procedures which would improve our service to you.

ON-LINE CITATION VERIFICATION

Leonard J. Bahlman
MEDLARS Management Section, NLM

Many times journal loan requests are received, or patrons will come into a library with incorrect references. If the journal and publication date coincide with the MEDLINE data base, the librarian may be able to save considerable time by verifying the request on-line.

The MEDLINE data base presently covers January 1970 through the current month of Index Medicus. At the end of the year, the 1970 citations will be removed from the data base and 1974 citations will begin to be input into the system.

When you receive a reference which you are unable to locate in a particular journal, you could begin by assuming that the journal title and author are probably correct and begin searching on the journal code (JC), author, and publication year. All centers should have on hand the list, MEDLINE Journals.

SS 1/C? JR5 and JONES RF
SS 2/C? 1 and 1971 thru 1971

If the desired citation is not retrieved, then it is advisable to broaden the scope of the search by dropping the publication year from the search and then, if the citation is still not retrieved, the journal code.

Most of your citation verification will fall into the above category, but occasionally you may receive a request which does not include the source journal and/or the publication year. In these instances you would simply begin by searching on the author, and publication year if available.

If the author were initially missing or if author searching produces no results, it may be possible to retrieve the citation by subject. When the subject is specific enough, use the National Library of Medicine Medical Subject Headings (including geographics), language, checktags, etc., to formulate a search statement on the subject. If a title or a partial title is available, you could then perform a stringsearch on the resultant citations. Sometimes a requester remembers an article on a specific subject in a particular journal. In this case, a combination subject and journal code searching might prove fruitful.

The truncation symbol (#) may also prove useful when verifying citations on-line. It could be used when you are unsure of an author's initials or of the spelling of his name.

KI#PATRICK JL
KILPATRICK #
KILPATRICK J#

Although the most efficient method would be for the requester to provide complete and correct references, as most people know this is not always the case.

The frustrations you encounter while manually verifying citations will decrease only slightly on-line, but the "legwork" and time saved may help compensate for, or shorten these frustrations.

If you have developed other techniques in verifying citations on-line, or if you have encountered special problems while searching for these "mysterious" references, please let us know so that we may pass your experiences on to others.

MEDLINE TRAINEES AT NLM, MARCH 26, 1973

The twelfth NLM MEDLINE Training Class was held March 26 - April 13, 1973. The following people attended:

Rochelle Bader	George Washington University Medical School Library Washington, D. C.
Catherine Brooks	Louisiana State University School of Medicine Library New Orleans, Louisiana
Mary Ann Brown	Duke University Medical Center Library Durham, North Carolina
Josephine Carson	Brown University Sciences Library Providence, Rhode Island
Jane Cooper	Maine Medical Center Library Portland, Maine
Patsy Copeland	Tulane University Rudolph Matas Medical Library New Orleans, Louisiana
Carol Fenichel	Medical College of Pennsylvania Library Philadelphia, Pennsylvania
Fritz Gluckstein	National Library of Medicine Bibliographic Services Division Bethesda, Maryland
Joseph Jensen	Medical & Chirurgical Faculty of Maryland Baltimore, Maryland
Lucy Lee	Sinai Hospital of Detroit Medical Library Detroit, Michigan
Jerry Platt	Food and Drug Administration National Center for Toxicological Research Jefferson, Arkansas
Luiza Maria Rodriguez Cepeda	Biblioteca Regional de Medicina Sao Paulo, Brazil

Terry Thorkildson	University of New Mexico Library of the Medical Sciences Albuquerque, New Mexico
Bettye Stilley	Jacksonville Hospitals Educational Program James C. Borland Medical Library Jacksonville, Florida

MEDLINE TRAINEES AT UCLA, APRIL 11, 1973

University of California Biomedical Library, Los Angeles held its seventh MEDLINE Training Class April 11-26, 1973.

Cynthia Butler	University of California Medical Sciences Library Irvine, California
Joan Davis	Northwestern University Archibald Church Medical Library Chicago, Illinois
Susan Horowitz	Cedars-Sinai Medical Center Cedars Lebanon Hospital Library Los Angeles, California
M. Moss Humphrey	Martin Luther King Jr. General Hospital Library Los Angeles, California
Dorothy Mylin	Fitzsimons General Hospital Medical-Technical Library Denver, Colorado
Diane Populus	University of California The Library San Francisco, California
Phyllis Smith	Hoag Memorial Hospital Presbyterian Medical Library Newport, California

NEW PROVISIONAL HEADINGS AND CROSS REFERENCES, APRIL & JULY 1973

The following is a list of provisional headings and cross references which should be added to your 1973 copies of Medical Subject Headings - Alphabetic List and Medical Subject Headings - Tree Structures.

If you wish to follow the format in Medical Subject Headings - Alphabetic List when adding these terms, provisionals are underlined, preceded by an asterisk, and are followed by the date the term was entered into the vocabulary, in this case 4/1/73 and 7/1/73. In the following list the April provisionals are preceded with an A and the July provisionals with a J. Some of the April provisionals began to have postings when citations from June MEDLARS were added to the MEDLINE files. July provisionals should begin to have postings when September is added. The list of provisionals also includes the necessary annotations.

Month	Cross ref. or Provisional/Tree No./Annotation
A	acetothioamide see THIOACETAMIDE
J	ACETYL COA CARBOXYLASE D9.60.4
A	ACETYL COENZYME A D9.10.6.1; D10.55.48.1
A	achilleic acid see ACONITIC ACID
A	aconitase see ACONITATE HYDRATASE
A	aconitate see ACONITIC ACID
A	ACONITATE HYDRATASE D9.70.52.1
A	ACONITIC ACID D2.4.58.1
A	acontic acid see ACONITIC ACID
A	acraldehyde see ACROLEIN
A	ACROLEIN D2.22.13 Do not use *biosyn *physiol
A	acrylaldehyde see ACROLEIN
A	acrylic aldehyde see ACROLEIN
A	acyl-CoA desaturases see FATTY ACID DESATURASES
A	adonic acid see ACONITIC ACID
J	ALETAMINE D2.30.30.1; D6.54.2 Do not use *biosyn *physiol
J	alfetadrinum see ALETAMINE
J	alfetamin see ALETAMINE
A	allyl aldehyde see ACROLEIN
A	ALLYLISOPROPYLACETAMIDE D2.4.4.1; D2.26.4.1; D2.62.32.1 Do not use *biosyn *physiol
J	alpha-aminopeptide aminoacidhydrolase see OXYTOCINASE
A	AMIDINOTRANSFERASES D9.100.18
A	aminotriacetic acid, NTA see NITRILOTRIACETIC ACID
J	amylopectin-1,6-glucosidase see PULLULANASE
A	ANDROSTENEDIONE D2.94.7.1; D2.94.40.1; D8.21.13; D8.97.16.1
A	Anginin see PYRIDINOLCARBAMATE
J	ANGIOGENESIS FACTOR D11.36.2; D12.68.10
A	ANTI-AUSTRALIA ANTIGEN D12.15.30.1 Only *admin *anal *biosyn *csf *isol *urine
A	Aqualin see ACROLEIN
A	ATP CITRATE LYASE D9.70.55.1

Month	Cross ref. or Provisional/Tree No./Annotation
A	ATP:citrate oxaloacetate-lyase see ATP CITRATE LYASE
A	ATP protein phosphotransferase see PROTEIN KINASE
A	AVIDIN D10.88.3.1; D10.88.19.1; D10.88.25.1
J	beta-1,4-glucan glucanohydrolase see CELLULASE
J	Bifiteral see LACTULOSE
A	biformal see GLYOXAL
A	biformyl see GLYOXAL
A	BUNGARATOXINS D5.82.22.1; D10.66.8; D12.25.43.1 Do not use *antag *chem syn *diag use *physiol *pois *secret
J	carbodicyclohexylimide see DICYCLOHEXYLCARBODIIMIDE
A	carboxyglutaconic acid see ACONITIC ACID
A	CARBOXYHEMOGLOBIN D10.22.24.1; D10.88.27.1
A	CARCINOEMBRYONIC ANTIGEN D12.25.7.1
A	CDR see DEOXYCYTIDINE
A	CEA see CARCINOEMBRYONIC ANTIGEN
J	CELLULASE D9.40.28.1
A	Chel 300 see NITRILOTRIACETIC ACID
A	citrate cleaving enzyme see ATP CITRATE LYASE
A	citrate condensing enzyme see CITRATE SYNTHASE
A	citrate (isocitrate) hydrolyase see ACONITATE HYDRATASE
A	citrate oxaloacetate-lyase (CoA acetylating) see CITRATE SYNTHASE
A	CITRATE SYNTHASE D9.70.55.1
A	citridic acid see ACONITIC ACID
A	citridinic acid see ACONITIC ACID
A	citrogenase see CITRATE SYNTHASE
J	Clinium see LIDOFLAZINE
A	Colesterinex see PYRIDINOLCARBAMATE
A	Complexon I see NITRILOTRIACETIC ACID
A	compound fractures see FRACTURES, OPEN
A	condensing enzyme see CITRATE SYNTHASE
A	cytosine deoxyribonucleoside see DEOXYCYTIDINE
A	cytosine deoxyriboside see DEOXYCYTIDINE
J	Dalmane see FLURAZEPAM
J	Dantrium see DANTROLENE
J	DANTROLENE D2.48.17.1; D2.74.31.1; D5.63.20 Do not use *biosyn *physiol
J	DCCD see DICYCLOHEXYLCARBODIIMIDE
A	dehydrobenzperidol see DROPERIDOL
A	deidrobenzperidolo see DROPERIDOL
A	DEOXYCYTIDINE D10.44.23.1
J	DICYCLOHEXYLCARBODIIMIDE D2.72.10.1 Do not use *biosyn *physiol
A	diethion see ETHION
A	diformal see GLYOXAL
A	DIHYDROXYCHOLECALCIFEROLS D2.94.53.1; D11.48.54.1; D11.96.36.1
A	DIMETHYLTRYPTAMINE D2.30.60.1; D2.50.28.1; D6.78.26 Do not use *biosyn *physiol

Month	Cross ref. or Provisional/Tree No./Annotation
A	N,N-dimethyltryptamine see DIMETHYLTRYPTAMINE
A	DMT see DIMETHYLTRYPTAMINE
A	DOM D6.54.9; D6.78.24 Do not use *biosyn *physiol
A	Dridol see DROPERIDOL
A	Droleptan see DROPERIDOL
A	DROPERIDOL D2.74.22.1; D6.102.20 Do not use *biosyn *physiol
A	Duaxol see PYRIDINOLCARBAMATE
J	Duphalac see LACTULOSE
A	Duvaline see PYRIDINOLCARBAMATE
A	DYFONATE D2.83.30.1; D3.121.33.1 Do not use *biosyn *physiol
A	Dyphonate see DYFONATE
J	EHRLICHIA B3.90.31
A	ekkrinosiderophillin see LACTOFERRIN
A	elemicin see NUTMEG
J	endo-1,4-beta-glucanase see CELLULASE
A	enterokinase see ENTEROPEPTIDASE
A	ENTEROPEPTIDASE D9.90.52.1
A	equisetic acid see ACONITIC ACID
A	ERABUTOXINS D12.25.43.1 Do not use *antag *chem syn *diag use *physiol *pois *secret
J	ergot sugar see TREHALOSE
A	ethanedial see GLYOXAL
A	ethanedione see GLYOXAL
A	ETHION D2.83.30.1; D3.121.33.1 Do not use *biosyn *physiol
A	Ethopaz see ETHION
A	ethylene aldehyde see ACROLEIN
J	F-440 see DANTROLENE
J	F-368 see DANTROLENE
A	FATTY ACID DESATURASES D9.80.27.1
A	FILARICIDES D3.12.20 Do not use *biosyn *physiol
J	FLURAZEPAM D2.50.6.1; D6.84.38; D6.102.23 Do not use *biosyn *physiol
A	Fonofos see DYFONATE
A	Fosdrin see MEVINPHOS
A	FRACTURES, CLOSED C14.88.30.1
A	FRACTURES, OPEN C14.88.30.1
A	FREON D2.66.25 Do not use *biosyn *physiol
A	fumarase see FUMARATE HYDRATASE
A	FUMARATE HYDRATASE D9.70.52.1
A	Gasparol see PYRIDINOLCARBAMATE
A	GESTALT THERAPY F3.78.15 SPEC*
J	GLUTARALDEHYDE D2.22.40 Do not use *biosyn *physiol
A	glycogen synthetase kinase see PROTEIN KINASE
J	glycuronyltransferase see UDP GLUCURONOSYLTRANSFERASE
A	GLYOXAL D2.22.47 Do not use *biosyn *physiol
A	glyoxylaldehyde see GLYOXAL

Month	Cross ref. or Provisional/Tree No./Annotation
J	HALOPROGIN D2.84.21; D3.48.20 Do not use *biosyn *physiol
J	Halotex see HALOPROGIN
A	HEMOGLOBIN H D10.22.24.1; D10.88.27.1 Do not use *blood
A	HEMOGLOBIN S D10.22.24.1; D10.88.27.1 Do not use *blood
A	Hepatitis Associated Antibody see ANTI-AUSTRALIA ANTIGEN
A	HISTIDASE D9.70.16.1
A	histidinase see HISTIDASE
A	histidine alpha-deaminase see HISTIDASE
A	histidine ammonia-lyase see HISTIDASE
A	HMPA see HOMOVANILLIC ACID
A	HOMOVANILLIC ACID D2.10.34.1
A	HVA see HOMOVANILLIC ACID
J	4-hydroxy-3-methoxyphenylglycol see METHOXYHYDROXYPHENYL GLYCOL
A	Hylemox see ETHION
A	IMMUNOGLOBULINS, J CHAIN D12.15.32.1 Only *anal *csf *isol *urine
A	Inapsine see DROPERIDOL
A	Inopsin see DROPERIDOL
A	Inopsine see DROPERIDOL
A	KETOGLUTARATE DEHYDROGENASE COMPLEX D9.75.26; D9.80.29.1
J	Klinium see LIDOFLAZINE
A	LACTOFERRIN D10.88.9.1; D10.88.25.1; D10.88.33.1; D10.88.34.1 *physiol permitted
J	LACTULOSE D11.72.32.1
J	Laevolac see LACTULOSE
J	LIDOFLAZINE D2.48.28.1; D5.7.62.1 Do not use *biosyn *physiol
J	limit dextrinase see PULLULANASE
A	lipoate oxidoreductase see KETOGLUTARATE DEHYDROGENASE COMPLEX
A	Lisator see PYRIDINOLCARBAMATE
A	L-malate hydro-lyase see FUMARATE HYDRATASE
A	MARRIAGE THERAPY F3.78.54.1; F3.78.19 SPEC*
A	McN-JR-4749 see DROPERIDOL
J	McN-JR-7904 see LIDOFLAZINE
A	alpha-MDH see METHYL DOPAHYDRAZINE
A	Meniphos see MEVINPHOS
J	3-methoxy-4-hydroxyphenyl ethylene glycol see METHOXYHYDROXYPHENYL GLYCOL
J	METHOXYHYDROXYPHENYL GLYCOL D2.20.56.1; D2.84.6.1 Do not use *biosyn *physiol
A	METHYLDOPAHYDRAZINE D2.30.24.1; D2.58.45; D9.20.42 Do not use *biosyn *physiol
A	alpha-methylhydrazinodopa see METHYLDOPAHYDRAZINE
A	MEVINPHOS D2.83.22; D3.121.33.1 Do not use *biosyn *physiol
J	MHPG see METHOXYHYDROXYPHENYL GLYCOL
A	MK 485 (DL form) see METHYLDOPAHYDRAZINE
A	MK 486 (L-form) see METHYLDOPAHYDRAZINE
A	Movecil see PYRIDINOLCARBAMATE

Month	Cross ref. or Provisional/Tree No./Annotation
J	mycose see TREHALOSE
A	myristica oil see NUTMEG
A	myristicin see NUTMEG
J	N-1028 see HALOPROGIN
J	NAFOXIDINE D2.48.49.1; D8.34.48 Do not use *biosyn *physiol
J	NDR-5061A see ALETAMINE
A	Niagara 1240 see ETHION
A	Nialate see ETHION
A	nitrilotriacetate see NITRILOTRIACETIC ACID
A	NITRILOTRIACETIC ACID D2.4.4.1 Do not use *biosyn *physiol
A	NUTMEG B6.81.21.1; D6.78.50 As plant & condiment
A	ODONTOMETRY E6.76 Only *instrum
J	ordiflazine see LIDOFLAZINE
A	OS 2046 see MEVINPHOS
A	oxal see GLYOXAL
A	oxaldehyde see GLYOXAL
A	oxaloacetate transacetase see CITRATE SYNTHASE
A	2-oxoglutarate see KETOGLUTARATE DEHYDROGENASE COMPLEX
A	oxoglutarate dehydrogenase see KETOGLUTARATE DEHYDROGENASE COMPLEX
A	OXYHEMOGLOBIN D10.22.24.1; D10.88.27.1
J	OXYTOCINASE D9.90.13.1
	PCN = PRegnenolone Carbonitrile
A	P-23 see PYRIDINOLCARBAMATE
J	PERHEXILINE D2.48.31.1; D5.7.62.1 Do not use *biosyn *physiol
J	Pexid see PERHEXILINE
A	Phosdrin see MEVINPHOS
A	Phosfene see MEVINPHOS
A	phosphorylase kinase see PROTEIN KINASE
A	Phosphotox see ETHION
J	Polik see HALOPROGIN
A	Professional Standards Review Organization see PSRO
A	PROTEIN KINASE D9.100.55.1
A	protein phosphokinase see PROTEIN KINASE
A	PSRO N4.88.35.1 Do not use *educ *man *util
J	pullulan-6-glucanohydrolase see PULLULANESE
J	PULLULANASE D9.40.28.1
A	PYRIDINOLCARBAMATE D2.8.54.1; D11.6.55 Do not use *biosyn *physiol
A	pyrocitric acid see ACONITIC ACID
A	R-4749 see DROPERIDOL
J	R-7094 see LIDOFLAZINE
J	R-enzyme see PULLULANASE
A	REYE'S SYNDROME C4.58.9.1; C10.18.62
A	RICKETTSIAL VACCINES D12.95.40 Only *admin *adv eff *anal *class *hist *isol *pharm *rad eff *stand *supply *ther use *tox
A	Ro4-4602 see SERYLTRIHYDROXY BENZYLHYDRAZINE
J	Ro5-6901 see FLURAZEPAM

Month	Cross ref. or Provisional/Tree No./Annotation
A	Rodocid see ETHION
A	RP 8167 see ETHION
A	RUBREDOXINS D10.88.9.1; D10.88.33.1
A	SCHISTOSOMICIDES D3.12.40 Do not use *biosyn *physiol
A	SCOTOPHOBIN D10.66.53
A	SERYLTRIHYDROXY BENZYLHYDRAZINE D2.58.57; D9.20.50
A	Sintodian see DROPERIDOL
A	Sintodril see DROPERIDOL
A	SKF 2170 see ANDROSTENEDIONE
J	SKID ROW ALCOHOLICS F2.72.48.1; I.91.47.1 Only *mortal *nurs *rehab
J	SOCIAL BREAKDOWN SYNDROME F2.9.58.1 Human only; do not use *drug eff
A	SOCIAL CLUBS N3.52.28 Do not use *educ *man *util
A	Sospitan see PYRIDINOLCARBAMATE
A	Stauffer N-2790 see DYFONATE
A	STP see DOM
A	TAA see THIOACETAMIDE
A	Thalamonal see DROPERIDOL
A	THIOACETAMIDE D2.4.4.1; D2.26.4.1 Do not use *biosyn *physiol
A	THIOHYDANTOINS D2.48.17.1; D8.102.38 Do not use *biosyn *physiol
A	TRANSACTIONAL ANALYSIS F3.78.37.1 SPEC *
A	transamidinases see AMIDINOTRANSFERASES
J	TREHALOSE D11.72.32.1
A	triglycollamic acid see NITRILOTRIACETIC ACID
A	Trilon A see NITRILOTRIACETIC ACID
J	U-11100 see NAFOXIDINE
J	U-11100 A see NAFOXIDINE
J	UDP glucoronyltransferase see UDP GLUCURONOSYLTRANSFERASE
J	UDP glucuronate glucuronyltransferase see UDP GLUCURONOSYLTRANSFERASE
J	UDP GLUCURONOSYLTRANSFERASE D9.100.37.1
J	vanylglycol see METHOXYHYDROXYPHENYL GLYCOL
J	VISNA-MAEDI VIRUSES B4.91.32.1 Do not use *cytol

CHANGE IN INTERLIBRARY LOAN TTY TELEPHONE NUMBER

The TTY telephone number used to call Interlibrary Loan is being changed to 301/496-4840. Since the date the change will be actually made is uncertain, users should continue to try 496-2704. If it does not work, try 496-4840. Regional Medical Libraries will be notified as soon as the changeover date is known. The new TTY number will be available twenty-four hours a day.

Note that the TWX number (710-824-9615) is unchanged. Mr. Sheldon Kotzin, Head, Loan & Stack Section, will answer any questions regarding the use of the TTY number or the TWX network number for interlibrary loan purposes.

NATIONAL LIBRARY OF MEDICINE

LIBRARY NETWORK/MEDLARS TECHNICAL BULLETIN

of the

Library Component of the Biomedical Communications Network

No. 51 Geraldine D. Novak JULY 1973

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Public Health Service
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LIBRARY NETWORK/MEDLARS TECHNICAL BULLETIN
of the
Library Component of the Biomedical
Communications Network

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The LIBRARY NETWORK/MEDLARS TECHNICAL BULLETIN
is issued monthly by the Office of the
Associate Director for Library Operations.

MEDLINE DATA BASES

The MEDLINE and SDILINE data bases were updated on June 18 at NLM and SUNY to include the July 1973 MEDLARS citations. The COMPFILE data base will not be updated again until the middle of July. The sizes of the data bases are as follows:

MEDLINE - 471,416 citations
SDILINE - 18,069 citations
COMPFILE- 312,332 citations

MEDLINE TECHNICAL NOTES

LOGIN, TYMSHARE Users may hasten the login procedure in Tymshare by entering all of the login data on one line, separated by semicolons, as opposed to pressing the carriage return after each entry:

PLEASE LOG IN: NLM;PASSWORD;MEDXXX01 (carriage return)

If this procedure does not yield a successful login, when you again receive the PLEASE LOG IN message, simply press the carriage return to see if the system will prompt you with USER NAME. If it does not, then you may assume that the network supervisor is temporarily out. Wait for a few minutes and then try to login again.

POWER REDUCTIONS During the summer months, users dialing Tymshare numbers in cities which have frequent "BROWN OUTS" should attempt to use the system early in the morning or in the evenings, before or after power is reduced. During these power reductions users will probably be unable to access the system.

MICE, INBRED STRAINS When searching on MICE, INBRED STRAINS and all specific inbred strains, do not use EXPLODE and the TREE number. The postings in response to this explosion are incorrect. Instead, use the truncation symbol (#) which will pick up the correct number of postings

SS 2/C?
USER:
ALL MICE, INBRED#
PROG:
PSTG (3869)

This error will be file maintained at a later date.

MULTIPLE COMMANDS

Multiple commands may be entered at one time, before pressing the carriage return. For instance, if you have printed out 25 titles and then wish to print out the first, tenth, eleventh, and twenty-first in more detail, you may enter the following statement:

"PRT TI,SO,MH 1""PRT TI,SO,MH 2 SKIP 9""PRT TI,SO,MH 1 SKIP 20"

Note that when several commands are issued together, they need not be separated by blanks, but each must be surrounded by quotes.

PASSWORD

On July 23 the MEDLINE password will be changed. All MEDLINE Centers with completed memorandums of understanding will be notified of the new password. If you have not received the new password by July 20, please contact MEDLARS Management Section.

DATA BASES

The anticipated schedule for updating MEDLINE and SDILINE at NLM and SUNY is as follows:

MEDLARS Month	Update
August	July 23
September	August 20
October	September 17
November	October 15
December	November 19

Users will be notified of any changes in these dates.

WATS NUMBERS

Wide Area Telephone Service (WATS) numbers have been distributed to MEDLINE Centers paying telephone charges over 10¢ per minute to access MEDLINE. These numbers became effective July 13, 1973.

USER CHARGES IN RELATION TO REQUESTS FOR ADDITIONAL MEDLINE ID CODES

Joseph Leiter, Ph.D.
Associate Director, Library Operations, NLM

With the initiation of billing charges for the use of MEDLINE and other NLM on-line data bases, it has become evident that there are circumstances under which it would be convenient both for billing arrangements and for direct access to the network to make available additional ID codes to selected institutions. The Library is prepared to make additional ID codes available as needed.

Because of additional processing and billing costs involved there will be a annual surcharge of $100.00 for each additional ID code authorized by NLM. This surcharge will be effective beginning July 1 for any institution having additional ID codes assigned in the past.

Those institutions which are involved as cooperative cataloging partners will probably be assigned ID numbers which would be limited to specific use of the CATLINE data base.

Institutions requesting additional ID codes will be asked to provide a justification for such requests. These could include: 1) evidence of extensive use of their existing ID codes; 2) the desire to establish simplified billing procedures for users of their terminal for which reimbursement will be requested; 3) needs and plans for establishing multiple access points within their institution for MEDLINE services; 4) the desire to make specific ID codes available for direct use by users such as students, residents and investigators, etc.

Since it is the desire of NLM to make the on-line systems available directly to the user and for interaction of the user with the data base, preferences will be given to those requesting additional ID codes with the purpose of providing direct access to the users or for providing branch services to those users in their institution where services are not conveniently available.

In order to avoid overloading the network during peak periods, NLM may establish procedures for controlling simultaneous access with multiple user codes by user institutions. Where multiple users codes are assigned, institutions are encouraged and urged to make every effort to have simultaneous access by these codes limited to off peak hours such as morning and evening as often as possible.

Further information on this may be obtained by writing to the Head, MEDLARS Management Section, NLM.

THE 1974 ANNOTATED MESH

Thelma Charen
Index Section, NLM

The Index Section has completed the annotating of the 1974 MeSH. It contains approximately 7500 annotations covering all types of MeSH terms: main headings, cross-references, provisionals and geographics.

The MeSH Section provided the Index Section with camera copy in a single-column format on high-gloss paper. Four members of the Index Section typed the annotations directly onto the copy.

All of the annotations made by the section for the 1973 MeSH were retained as in effect or updated to conform to 1974 MeSH headings. Several new features have been added to the 1974 edition by the Index Section.

1. Over 400 indexing instructions from MeSH's PROVISIONAL HEADINGS were added for every non-chemical provisional and for every chemical provisional with MeSH instructions to index under one or two main headings. If three or more places to index were given for a chemical, the annotation was omitted.

2. Another new feature is the bracketing of two or more MeSH directions for cross-references, as below:

CHILD, EXCEPTIONAL see under CHILD, GIFTED (F1, M)

CHILD, EXCEPTIONAL see under MENTAL RETARDATION (C10, F2)

This is to call the attention of new indexers and searchers to the existence of two or more MeSH possibilities for a single term they may be looking for.

3. Also we reviewed those Category D terms which dissuaded the indexer from using *physiology (a somewhat difficult concept with drugs) and to these terms we either added *biosynthesis or discouraged its use if the living matter did not synthesize the Category D term. Thus, natural antibiotics and synthetic ones can be distinguished for the most part, since *biosynthesis is permitted for natural antibiotics but not for the synthetic.

4. In 17 cases the computer broke a very long main heading by beginning at the bottom of one column and ending at the top of the next page. In these 17 instances we hand-cut the overhanging word or words and pasted it onto the bottom to make a complete unbroken main heading lest there be some misunderstanding through haste. Only those which could be misinterpreted were hand-tailored; those obviously incomplete by sense were left untouched. For example

GASTROINTESTINAL

TUBERCULOSIS,

was cut-and-pasted to read TUBERCULOSIS, GASTROINTESTINAL but

EXPOSURE LEVEL

MAXIMUM PERMISSIBLE

was not.

5. The abbreviation "All * " which was meant to mean "use only those subheadings assigned in the Introduction to Subcategory All" was unfortunately misinterpreted as "all * ". For 1974 these are all changed to "A ll * " in the hope that it will now be read as A ll and not as All.

6. We have been informed by MeSH that 125 tag-overrides have been deleted from the 1974 MeSH. These are especially old terms long ago superseded by fresher terms and by the institution of subheadings (e.g., NEOPLASM ETIOLOGY deleted in 1966).

In several cases where an extant main heading represents a change from the very recent (1971-3) past, we annotated with a "formerly was..." or "pre-1973 heading was..." or "for 1973 or earlier search under ..." note.

7. Under CRANIAL NERVES each of the numbered nerves is shown thus, "1st OLFACTORY NERVE, 2d OPTIC NERVE, 3d OCULOMOTOR NERVE," etc. This should give entry to the correct nerve more easily when the author refers to "the eighth cranial nerve"; it will now be listed under CRANIAL NERVES: "8TH ACOUSTIC NERVE."

8. The TECHNICAL NOTES that were published in 1973 have been added to the main headings to which they refer.

9. INSECTS and all pertinent insect indentions were annotated to remind the indexer and searcher that according to Technical Note 111, the insecticidal effect of an insecticide is not indexed as *drug effects.

As usual we have tried our best with both the indexer and searcher in mind. If there are errors of judgment or of haste, please let us know, for not only 100 indexers all over the world are affected but also unnumbered MEDLINE users. Direct your criticisms, queries and corrections to Mr. Stanley Jablonski, Head, Index Section.

EDITOR'S NOTE: The 1974 MeSH - Alphabetic List is expected to be available from NTIS in September. Order information will be provided in a future issue of the Technical Bulletin.

MEDLINE UNDER TSO

Dave Kenton
Chief, On-Line Services, Office of
Computer and Communications Systems, NLM
Bill Shutt
IBM

INTRODUCTION

In the very near future (prior to August 1, 1973), the MEDLINE SYSTEM (ELHILL II) will operate through the IBM Interactive Time Sharing System (TSO). With this change, the following new features will be available to our user population:

1) messages to and from MEDLARS Management Section (See NOTE 1)
2) network wide broadcast messages, upon login or during sessions (as controlled by the NLM Master Control Terminal (NLM53) (See NOTE 2)
3) elimination of two terminals logging on with the same user code simultaneously (See NOTE 3)
4) user code security (See NOTE 4)
5) terminal connect time and approximate cost immediately displayed for each intellectual search on entering an at sign (@) (See NOTE 5)
6) ability to list NEWS and general information (See NOTE 6)
7) access to other teleprocessing systems through TSO (See NOTE 7)
8) direct dial support of Correspondence Code 2741 terminals (See NOTE 8)

LOGIN PROCEDURE

The LOGIN procedure to connect to the MEDLINE SYSTEM, through TYMSHARE or by direct dialing, is basically unchanged. Before seeing the message THIS TERMINAL IS CONNECTED TO ....., the following messages will be displayed at the user's terminal:

'user code' LOGON IN PROGRESS AT 'eastern daylight time' ON 'current date'
WELCOME TO TSO AT NLM - 370/155 - OS/MVT/21.6
TSO LINE 'line number'

Example:

NLM01 LOGON IN PROGRESS AT 10:50:42 ON JULY 3, 1973
WELCOME TO TSO AT NLM - 370/155 - OS/MVT/21.6
TSO LINE 055
THIS TERMINAL IS CONNECTED TO THE .....

You will note that although the MED is not displayed in the User ID, your login through TYMSHARE or by direct dial into TSO still requires the use of MED, e.g. ;MEDXXXØ1 or /LOGIN MEDXXXØ1. The same new messages will be displayed to the direct dial user as to the user dialing in through the TYMSHARE System.

NOTES

1. Messages to and from MEDLARS Management Section (NLM53)

In order to send messages to the MEDLARS Management Section (NLM53) at NLM, it will be necessary to temporarily disengage from MEDLINE. This is done by typing "QUIT" followed by a carriage return. Immediately, READY will print at your terminal. NLM53 is the ID for the receiving terminal in MEDLARS Management Section. To send your message, type:

SEND 'message to be sent' USER(NLM53)

Example:

User MEDXXXØ1 wishes to ask MEDLARS Management Section a question

SEND 'WHEN WILL MEDLINE BE UPDATED IN AUGUST' USER(NLM53)

READY will be printed at the sending terminal (XXXØ1) after entering the carriage return. At the receiving terminal (NLM53) the following message will be displayed:

WHEN WILL MEDLINE BE UPDATED IN AUGUST XXXØ1

The complete transactions might appear as follows:

At XXXØ1:

```
PROG:
SS 2/C?
USER:
"QUIT"
READY
SEND 'WHEN WILL MEDLINE BE UPDATED IN AUGUST' USER(NLM53)
READY
ELHILB
PROG:
SS 2/C?
USER:
```

At NLM53:

```
PROG:
SS 3/C?
USER:
WHEN WILL MEDLINE BE UPDATED IN AUGUST   XXXØ1
```

After the message or messages have been sent, the user should return to ELHILL by typing ELHILL and a carriage return. He will then be reconnected at his point of departure (if the user has been away for more than fifteen minutes, he will be treated as a new user and his old search statements will have been lost). Under all circumstances, the user must return to ELHILL after "quitting" to send messages, even if it is only to "STOP".

2. Network Broadcast Messages

There will exist times when it is important to inform all people connected to MEDLINE and all people who subsequently login to MEDLINE that a specific condition exists. For example, if the computer is experiencing hardware difficulties and the possibility of the computer "going down" is imminent, it is important to inform everyone at once. The message will be displayed at all connected terminals immediately and at login time for all terminals who login after the message has initially been sent. Another example of the use of this feature would be, if it were approaching 5:00 EST and NLM was informed that the SUNY MEDLINE system would not be up on time, the NLM service would, therefore, stay up past 5:00 and perhaps until 10:00 if SUNY did not "come up" at all. This information would be sent out to all users in a broadcast message.

3. Duplicate Logins on the Same Code

With the implementation of "MEDLINE under TSO", a terminal logging in, using a code already in use, will be rejected as follows:

Example:

NLM01 tries to login and the following messages will appear:

IKJ56425I LOGON REJECTED, USER ID NLM01 IN USE

IKJ56400A ENTER LOGON OR LOGOFF

At this point, type LOGOFF and turn off your terminal. If you receive this message, and you are the person or institution authorized the rejected code, call MMS and inform them that someone else is using "your" code. MMS will immediately cancel the unauthorized session and within five or ten minutes you should be able to get on the system.

4. User Code Security

With the advent of billing charges for the use of the MEDLINE SYSTEM, an institution may wish to further safeguard the unauthorized use of their code (See NOTE 3). This may be accomplished by sending a letter to MMS requesting a PASSWORD. The letter should give a three through eight character password for their specific user code. A letter will be sent from MMS to the requesting institution confirming their password and the date it will become active.

At every login, the message:

ENTER PASSWORD

will be transmitted to a terminal with password protection. The user should then enter his password and a carriage return and the normal login process will then continue, with the

'user code' LOGIN IN PROGRESS.....

This feature should only be requested by those terminals who feel that their codes are being used by unauthorized people.

The password may be changed from time to time (no more than once a month) by sending a letter to MMS with a new password.

5. Real Time Printout of Intellectual Search Costs

The at sign (@) is supposed to be entered at a terminal whenever an intellectual search has been completed. This is not used for billing but only for statistics maintained by NLM. A user may wish to know how long an intellectual search took and its cost (at 10¢/minute). Whenever the user enters an at sign, these two pieces of information will be displayed. These printouts can only be meaningful if the at sign is entered when the intellectual search is completed and not entered as a group of at signs prior to "STOPPING". At logoff time, the total connect time and cost will displayed. (The format of these messages is not, as yet, fixed).

6. News and General Information

In the past, users of the TYMSHARE system used the COM filename to get various news and general information files. Now all users may get this information through TSO after exiting from ELHILL ("QUIT"). To obtain a listing of the new print files available through TSO, type LIST 'ACCESS'.

After getting all the desired printouts, return to ELHILL by typing ELHILL.

7. Other Teleprocessing Systems

Some terminals will have access to other TSO systems (INQUIRE, etc.). On exiting from ELHILL, these terminals will be allowed to use these other systems. More information on this developing feature will be printed in subsequent issues of the Technical Bulletin.

8. 2741 Correspondence Code Terminals

In the past, NLM could not support 2741s with Correspondence Code unless they dialed in through the TYMSHARE system. For those users of this terminal type,

who would have been dialing in directly to NLM, the implementation of "MEDLINE under TSO" will allow them to do so. MEDLARS Management Section will contact the affected institutions giving each a telephone number to use. Those institutions with 2741 Correspondence Code Terminals which use the TYMSHARE system because of geographic location, will continue to do so, using the same telephone numbers.

SERLINE

Cecile Quintal
Serial Records and Binding Section, NLM

SERLINE (SERials on-LINE) is an on-line data base of serial records containing bibliographic and locator information for approximately 6500 primary, substantive, biomedical serial titles.

SERLINE's prime function is to provide on-line bibliographic and locator information in support of the RML Network interlibrary loan activity. The system's secondary functions are to provide support for cooperative acquisitions and reference functions within the network.

The following data elements are contained in the data base for each serial title:

CATEGORY QUALIFIER ABBREVIATION	CATEGORY NAMES	PRINTABLE	SEARCHABLE
TI	Title	X	X
JT	Journal Title Abbreviation	X	
PU	Publisher	X	X
PL	City/State of Publication	X	
FL	First-Last Issue	X	
FR	Frequency	X	
DN	NOTES	X	
R1	LOCATOR CODES - REGION 01	X	X
R2	LOCATOR CODES - REGION 02	X	X
R3	LOCATOR CODES - REGION 03	X	X
R4	LOCATOR CODES - REGION 04	X	X
R5	LOCATOR CODES - REGION 05	X	X
R6	LOCATOR CODES - REGION 06	X	X
R7	LOCATOR CODES - REGION 07	X	X
R8	LOCATOR CODES - REGION 08	X	X
R9	LOCATOR CODES - REGION 09	X	X
RT	LOCATOR CODES - REGION 10	X	X
RE	LOCATOR CODES - REGION 11	X	X
JC	Index Medicus Journal Title Code	X	X
UC	Sequence Number	X	
SN	International Standard Serial Number	X	X
CX	Coden	X	

CATEGORY QUALIFIER ABBREVIATION	CATEGORY NAMES	PRINTABLE	SEARCHABLE
NO	NLM Catalog Citation Number	X	
MH	Subject	X	X
LA	Language	X	X
CO	Country	X	X
AI	Abstract & Indexing Tag	X	X
CR	Cross Reference	X	X
YP	Year of Publication		X
CD	Closed Date of Publication		X
CY	Closed Entry		X
CN	Call Number	X	

SERLINE operates under the retrieval program system called ELHILL, the same program that is used for MEDLINE. The logical operators (AND, OR, AND NOT) and commands (with a few exceptions) that are used in MEDLINE are used in SERLINE.

The locator information is carried in the form of a five character alpha-numeric code. The first two characters are numeric and identify the RML region to which a library belongs, and the last three characters are an alphabetic code which specifically identifies a particular library within that region. Thus the locator code 01HMS indicates that the title is held in the New England Region (Region 1) and by the Francis A. Countway Library of Medicine (Harvard Medical School). Locator information for approximately 117 participating medical libraries is carried in the SERLINE data base. These libraries represent the Regional Medical Libraries and other Resource Libraries which comprise the Regional Medical Library Network.

SERLINE is now being tested in Region 8 by the National Library of Medicine for general use. Hard copy back-up of the SERLINE Data base is also being provided.

MEDLINE TRAINEES AT NLM, JUNE 11, 1973

The thirteenth NLM MEDLINE Training Class was held June 11 - 29, 1973. The following people attended:

Marguerite Abel	West Virginia University Medical Center Library Morgantown, West Virginia
Rochelle Bock	University of Colorado Medical Center Library Denver, Colorado
Carolyn Brown	National Naval Medical Center Naval Medical Research Institute Library Bethesda, Maryland
Gretchen Gibson	University of Kentucky Medical Center Library Lexington, Kentucky
Sheryl Kunitz	University of Maryland Health Sciences Library Baltimore, Maryland
Dick Miller	University of South Alabama Biomedical Library Mobile, Alabama
Everlyne Murdock	National Institutes of Health Division of Research Grants Reference Library Bethesda, Maryland
Sara Nixon	University of Vermont Medical Library Burlington, Vermont
Karen Patrias	Frederick Cancer Research Center Library Frederick, Maryland
Patricia Piermatti	Rutgers University Library of Science and Medicine New Brunswick, New Jersey
Alice Sheridan	Fairfax Hospital Library Falls Church, Virginia

Seymour Taine	National Library of Medicine Technical Services Division Bethesda, Maryland
Susan Wakefield	University of Mississippi Medical Library Jackson, Mississippi

UCLA MEDLINE TRAINEES, JUNE 27, 1973

University of California Biomedical Library, Los Angeles held its eighth MEDLINE Training Class June 27 - July 13, 1973.

Jane Carroll	Tripler Army Medical Center Medical Library Honolulu, Hawaii
Viola Furumoto	University of Hawaii Hamilton Library Honolulu, Hawaii
Frances Granier	Hawaii Medical Library, Inc. Honolulu, Hawaii
Ester Nekemoto	Tripler Army Medical Center Medical Library Honolulu, Hawaii
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Barbara Rongstad	University of Hawaii Hamilton Library Honolulu, Hawaii
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MEDLINE STATISTICS
May 1973

The statistical reporting period runs from the first to the last day of each month. The statistics are a total of the usage of all MEDLINE files (MEDLINE, SDILINE and COMPFILE) both at NLM and SUNY. If your statistics differ greatly from these, please notify MEDLARS Management Section.

MEDLINE CENTER	TOTAL SEARCHES @ SYM	TOTAL OFF-LINE PRINTS	TOTAL PAGES	TOTAL HOURS	AVERAGE MIN. PER SEARCH
* RG: 1					
BOSTON U SCH MED..MED LIB	14	6	138	2.9	12.4
BROWN U..SCI LIB	0	0	0	.0	.0
DARTMOUTH COL..DANA BIOMED LIB	101	5	92	14.6	8.7
HARVARD U..F COUNTWAY LIB	65	16	297	21.7	20.0
MAINE MED CTR	5	0	0	.9	10.8
MASS GEN HOSP..TREADWELL LIB	37	40	312	23.7	38.4
TUFTS U..MED DENT LIB	767	28	239	36.2	2.8
U CONN..L M STOWE LIB	133	48	562	16.9	7.6
U MASS..MED SCH LIB	87	18	170	15.4	10.6
YALE U..MED LIB	208	14	146	76.9	22.2
* TOTAL FOR RG: 1	1417	175	1956	209.2	
* RG: 2					
ALBANY MED COL	2	0	0	.3	9.0
ALBERT EINSTEIN COL MED..LIB	0	0	0	.0	.0
COL MED DENT NJ..LIB	557	140	1646	56.9	6.1
COLUMBIA U..MED LIB	51	18	420	15.1	17.8
CORNELL U MED COLL..LIB	39	16	130	12.0	18.5
ELLIS HOSP..LIB	21	0	0	3.9	11.1
MED RES LIB BROOKLYN	109	9	53	11.7	6.4
NY ACAD MED..NY NO NJ RML	57	29	1060	18.4	19.4
SUNY ALBANY..CENT OFF COMPUTER CTR	0	0	0	.0	.0
SUNY BUFFALO	65	0	0	21.4	19.8
SUNY STONY BROOK	0	0	0	.0	.0
* TOTAL FOR RG: 2	901	212	3309	139.7	
* RG: 3					
COL PHYSICIANS PHILA..LIB	59	30	599	15.0	15.3
HAHNEMANN MED COL..LIB	18	9	151	8.7	29.0
JEFFERSON MED COL..LIB	115	15	556	14.5	7.6
MED COL PA	59	36	398	20.5	20.8
PENNA STATE U..HERSHEY MED CTR LIB	189	26	208	33.2	10.5

MEDLINE CENTER	TOTAL SEARCHES @ SYM	TOTAL OFF-LINE PRINTS	TOTAL PAGES	TOTAL HOURS	AVERAGE MIN. PER SEARCH
TEMPLE U..HEALTH SCI CTR LIB	177	35	856	46.8	15.9
U PENN..SCH MED LIB	81	21	316	26.3	19.5
U PITTSBURGH..FALK LIB	20	8	42	8.5	25.5
V A HOSP ERIE PA..LIB	6	1	33	3.8	38.0
* TOTAL FOR RG: 3	724	181	3159	177.3	
* RG: 4					
BOWMAN GRAY SCH MED..LIB	61	12	112	8.2	8.1
BUR NARC DANG DRUGS..DRUG CTRL DIV	2	0	0	1.5	45.0
D C GEN HOSP..LIB	43	1	9	7.6	10.6
DUKE U SCH MED..MED CTR LIB	137	24	163	28.4	12.4
ENVIRONMENT PROTECT AG 401 M ST SW	0	0	0	.6	.0
FED AMER SOC EXP BIOL..OFF BIOL HAN	81	0	0	4.9	3.6
GEORGE WASHINGTON U HOSP..HOSP BR L	249	8	60	57.6	13.9
GEORGETOWN U MED CTR..DAHLGREN MEM	186	89	905	46.0	14.8
HOWARD U..MED DENT LIB	69	5	39	15.2	13.2
JOHNS HOPKINS U..WELCH MED LIB	134	17	306	42.5	19.0
JOINT MED LIB USA USAF..OFF SURG GE	74	16	172	5.8	4.7
MED CHIR FAC MARYLAND..LIB	96	16	141	18.3	11.4
NATL INST ENVIRON HEALTH SCI	35	20	114	14.6	25.0
NATL LIB MED..MARML RM 152	204	134	1885	58.5	17.2
NATL LIB MED..RSD	389	61	667	110.7	17.1
NATL NAVAL MED CTR..STITT LIB & RES	137	12	111	25.1	11.0
NIH..DRG	61	8	91	7.4	7.3
NIH..LIB	469	180	2511	101.6	13.0
NIH..NATL CANCER INST	83	29	612	17.8	12.9
NIH..NATL HEART INST	13	0	0	5.7	26.3
NIH..NIAMD	20	4	22	3.8	11.4
NIMH..NIMH LIB & HSMHA LIB & ST.ELI	195	51	573	53.4	16.4
PHARMACEUTICAL MFR ASSN	60	24	691	17.8	17.8
ST ELIZ HOSP..PROF LIB	8	1	8	2.7	20.2
U MARYLAND BALTIMORE..HEALTH SCI LI	191	39	533	45.8	14.4
U NC..HEALTH SCI LIB	111	48	570	18.0	9.7
U S GOVT	10	2	97	3.1	18.6
U VA..MED SCH LIB	159	37	401	27.7	10.5
V A CTRL OFF 810 VERMONT AVE NW DC	56	8	49	12.8	13.7
V A HOSP DC..LIB	84	18	179	14.2	10.1
WALTER REED ARMY MED CTR..GEN HOSP	88	13	71	16.7	11.4
WASHINGTON HOSPITAL CTR..MED LIB	61	2	9	8.2	8.1
WVA U..MED CTR LIB	85	12	179	23.3	16.4
* TOTAL FOR RG: 4	3651	891	11280	825.5	

MEDLINE CENTER	TOTAL SEARCHES @ SYM	TOTAL OFF-LINE PRINTS	TOTAL PAGES	TOTAL HOURS	AVERAGE MIN. PER SEARCH
* RG: 5					
CASE WEST RES U..CLEVELAND HEALTH S	50	7	68	12.2	14.6
ENVIRONMENT PROTECT AG CINCINNATI	149	47	1198	32.1	12.9
HARPER HOSP..DEPT LIB	157	1	14	12.4	4.7
HENRY FORD HOSP	47	0	0	8.7	11.1
MED COL OHIO TOLEDO..LIB	34	0	0	4.0	7.1
MICH STATE U..SCI LIB	83	10	59	21.9	15.8
OHIO STATE U COL MED..HEALTH CTR LI	191	10	117	29.8	9.4
SINAI HOSP DETROIT..MED LIB	2	0	0	3.0	90.0
U CINCINNATI..MED CTR LIB	206	36	540	30.8	9.0
U DETROIT..SCH DENT LIB	5	2	38	1.5	18.0
U KY..MED CTR LIB	95	58	591	18.4	11.6
U LOUISVILLE..KORNHAUSER HEALTH SCI	130	15	88	22.5	10.4
U MICH..MED CTR LIB	143	78	2744	29.3	12.3
WAYNE STATE U..SHIFFMAN MED LIB	36	30	343	18.9	31.5
WILLIAM BEAUMONT HOSP..MED LIB	56	4	57	10.5	11.2
* TOTAL FOR RG: 5	1384	298	5857	256.0	
* RG: 6					
EMORY U..A W CALHOUN MED LIB	62	45	708	11.8	11.4
JACKSONVILLE HOSP EDU PROG..J L BOR	13	4	24	3.4	15.7
MED COL GA..DIV HEALTH COMM LIB	26	9	161	5.3	12.2
MED U SC..LIB	94	7	50	9.5	6.1
TOXICOLOGY INF RESPONSE CTR..BIOL D	53	32	1228	7.9	8.9
U ALA..LISTER HILL CTR HEALTH SCI	172	25	442	23.0	8.0
U FLA..J H MILLER HEALTH CTR LIB	40	15	154	4.0	6.0
U MIAMI..L CALDER MEM LIB	109	51	738	14.5	8.0
U MISS MED CTR..ROWLAND MED LIB	0	0	0	.0	.0
U SOUTH FLORIDA..MED CTR LIB	47	14	259	6.0	7.7
U TENN..MED UNITS LIB	42	21	278	5.2	7.4
V A HOSP DECATUR GA..LIBRARY	94	8	50	16.9	10.8
VANDERBILT U..SCH MED LIB	19	6	56	2.3	7.3
* TOTAL FOR RG: 6	771	237	4148	109.8	
* RG: 7					
AMER MED ASSOC..ARCHIVE LIB	164	6	72	19.7	7.2
IND U..SCH MED LIB	64	4	46	13.2	12.4
JOHN CRERAR LIB	10	8	99	2.6	15.6
LUTHERAN GEN HOSP..LIB	61	1	3	13.7	13.5
MAYO FOUND..MAYO CLINIC LIB	80	19	205	14.9	11.2
MED COL WIS..MED DENT LIB	80	33	231	31.1	23.3
NORTHWESTERN U..MED & DENT SCH LIB	20	33	183	6.1	18.3
SOUTHERN ILL U..SCH MED LIB	20	5	70	4.8	14.4

MEDLINE CENTER	TOTAL SEARCHES @ SYM	TOTAL OFF-LINE PRINTS	TOTAL PAGES	TOTAL HOURS	AVERAGE MIN. PER SEARCH
U CHICAGO..BILLINGS HOSP LIB	178	24	152	45.0	15.2
U ILL MED CTR..LIB HEALTH SCI	112	23	392	17.7	9.5
U ILL..ROCKFORD SCH MED LIB	52	17	237	12.8	14.8
U IOWA..MED LIB	80	27	304	14.4	10.8
U MINN..BIOMED LIB	171	53	1262	46.7	16.4
U WISC..MIDDLETON MED LIB	133	25	793	27.2	12.3
V A HOSP WOOD WISC	77	12	79	13.3	10.4
* TOTAL FOR RG: 7	1302	290	4128	283.2	
* RG: 8					
CREIGHTON U..HEALTH SCI LIB	21	4	41	2.7	7.7
FITZSIMONS GEN HSP..MED-TEC LIB	48	21	224	14.4	18.0
ST LUKES HOSPITAL..LIB	109	0	0	12.9	7.1
U COLO..DENISON MEM LIB	164	61	561	31.4	11.5
U KANS..CLENDENING MED LIB	117	19	250	18.1	9.3
U MO COLUMBIA..MED LIB	82	19	186	14.8	10.8
U MO KANSAS CITY..SCH MED LIB	321	28	272	30.1	5.6
U NEBR..MIDCONTINENTAL RML PROG	119	14	163	21.0	10.6
U UTAH..ECCLES MED SCI LIB	51	46	409	11.9	14.0
V A HOSP LINCOLN NB..LIB	32	1	5	4.3	8.1
WASHINGTON U..SCH MED LIB	213	66	689	41.1	11.6
* TOTAL FOR RG: 8	1277	279	2800	202.7	
* RG: 9					
BROOKE GEN HOSP..MED LIB	117 @	9	96	16.5	8.5
FOOD & DRUC ADM..NATL CTR TOX RES	30	0	0	3.0	6.0
LOUISIANA STATE U NEW ORLEANS..LIB	0	0	0	.0	.0
LOUISIANA STATEI..SCH MED LIB	20	5	41	4.4	13.2
SPARKS REG MED CTR..HEALTH SCI LIB	12	0	0	1.6	8.0
TEXAS MED ASSN..LIB	122	0	0	6.1	3.0
TEXAS MED CTR HOUSTON..J H JONES LI	735	142	1890	68.8	5.6
TULANE U..SCH MED LIB	0	0	0	.0	.0
U ARK..MED CTR LIB	0	0	0	.0	-.0
U NM..LIB _V SCI	167	16	298	27.8	10.0
U OKLA..HEALTH SB CTR LIB	44	9	55	5.3	7.2
U TEXAS DALLAS..MED SCH LIB	304	86	1313	41.1	8.1
U TEXAS MED BR GALVESTON..MOODY MED	278	15	95	36.6	7.9
U TEXAS SAN ANTONIO..MED SCH LIB	119	20	164	20.0	10.1
WILLIAM BEAUMONT ARMY MEDICAL CENTE	15	7	61	3.4	13.6
* TOTAL FOR RG: 9	1963	309	4013	234.6	

MEDLINE CENTER	TOTAL SEARCHES @ SYM	TOTAL OFF-LINE PRINTS	TOTAL PAGES	TOTAL HOURS	AVERAGE MIN. PER SEARCH
* RG: 10					
ALASKA HEALTH SCI INFO CTR	103	18	218	10.5	6.1
COLUMBUS HOSP GREAT FALLS MONT..LIB	65	0	0	7.0	6.5
MADIGAN GEN HOSP	12	3	29	4.7	23.5
SACRED HEART GEN HOSP..MED CTR DR'S	77	7	78	10.1	7.9
U OREGON..MED SCH LIB	247	0	0	59.0	14.3
U WASHINGTON..PAC NW REG HEALTH SCI	524	68	662	85.1	9.7
V A HOSP BOISE IDAHO..LIB	17	1	7	4.2	14.8
* TOTAL FOR RG: 10	1045	97	994	180.6	
* RG: 11					
CEDARS-SINAI MED CTR..HOSP LIB	0	0	0	.0	.0
CHILDREN'S HOSP L A..DOCTOR'S LIB	173	49	446	21.5	7.5
HOAG MEM HSP PRESBYTERIAN..MED LIB	0	0	0	.0	.0
L A CO HARBOR GEN HOSP..MED LIB	128	39	254	22.5	10.5
L A COUNTY MED ASSOC..LIB	34	4	58	12.5	22.1
LETTERMAN GEN HOSP..MED LIB	123	15	147	15.2	7.4
LOMA LINDA U..V RADCLIFF MEM LIB	37	5	52	11.9	19.3
MARTIN LUTHER KING JR GEN HOSP..MED	39	9	68	6.6	10.2
MEM HOSP MED CTR LONG BEACH..MED LI	195	47	708	23.4	7.2
ORTHOPAEDIC HOSPITAL..RUBEL MEM LIB	45	7	101	17.3	23.1
RANCHO LOS AMIGOS HOSP..LIB	78	30	357	11.5	8.8
STANFORD U MED CTR..LANE MED LIB	219	92	1167	47.0	12.9
U ARIZ..MED CTR LIB	88	33	432	21.9	14.9
U CALIF DAVIS..HEALTH SCI LIB	99	40	456	25.2	15.3
U CALIF IRVINE..MED SCI LIB	88	40	514	34.5	23.5
U CALIF L.A...BIOMED LIB PAC SW RML	289	93	1131	81.5	16.9
U CALIF L.A...BIOMED LIB REF SECT	267	159	1660	49.4	11.1
U CALIF S.F...LIB	120	87	1051	41.2	20.6
U CALIF SAN DIEGO..BIOMED LIB	182	66	925	38.3	12.6
U NEV RENO..LIFE HEALTH SCI LIB	50	0	0	3.4	4.1
U SO CALIF SCH MED..NORRIS MED LIB	272	138	1450	58.2	12.8
V A HOSP SEPULVEDA CALIF..MED LIB	63	26	247	7.3	7.0
* TOTAL FOR RG: 11	2589	979	11224	550.3	
* RG: 70					
DALHOUSIE U..W K KELLOG HEALTH SCI	115	23	160	14.4	7.5
DEPT NATL HEALTH WELFARE..HEALTH PR	33	4	36	4.7	8.5
MCGILL U..MED LIB	123	56	960	37.6	18.3

MEDLINE CENTER	TOTAL SEARCHES @ SYM	TOTAL OFF-LINE PRINTS	TOTAL PAGES	TOTAL HOURS	AVERAGE MIN. PER SEARCH
MEM U NEWFOUNDLAND..FAC MED LIB	0	0	0	.0	.0
NATL RES COUNCIL OF CANADA..NATL SC	60	20	954	28.0	28.0
U BRITISH COLUMBIA..LIB	34	4	10	7.4	13.1
U CALGARY..LIB	6	0	0	7.2	72.0
U MANITOBA..LIB	16	26	534	5.5	20.6
U TORONTO..LIB	54	26	335	15.0	16.7
* TOTAL FOR RG: 70	441	159	2989	119.8	
* RG: 80					
BIBLIOTECA REG DE MED..ORG PAN AMER	1	0	0	1.3	78.0
I.N.S.E.R.M.	125	0	0	34.7	16.7
NATL LEND LIB SCI TECH	17	0	0	7.1	25.1
* TOTAL FOR RG: 80	143	0	0	43.1	

** GRAND TOTAL - MAY 1973

TOTAL SEARCHES - @ SYMBOLS	17608
TOTAL OFF-LINE PRINTS	4107
TOTAL PAGES OFF-LINE	55857
TOTAL HOURS	3331.8
AVERAGE MIN. PER SEARCH	11.4

LOCATION OF MEDLINE CENTERS

The map on the following page lists cities which have one or more MEDLINE Centers as of July 1973. The Regional Medical Library (RML) director within each region is responsible for coordination of MEDLINE activities within each of the regions.

The name and address of the MEDLINE Centers within each region may be obtained from the RML director within that region. Users of the system may also obtain a listing of Centers by region, state, and city through the Tymshare News File, COM USERS.

The following is a list of MEDLINE Centers outside the United States:

SWEDEN

Karolinska Institute
Stockholm

CANADA

Dalhousie University
Halifax, Nova Scotia

Department of National Health and Welfare
Health Protection Branch
Vanier, Ontario

McGill University
Montreal, Quebec

Memorial University of Newfoundland
St. John's, Newfoundland

National Research Council of Canada
National Science Library
Ottawa, Ontario

University of British Columbia
Vancouver, British Columbia

University of Calgary
Calgary, Alberta

University of Manitoba
Winnipeg, Manitoba

University of Saskatchewan
Saskatoon, Saskatchewan

University of Toronto
Toronto, Ontario

In addition, MEDLINE is being used on a test basis at other locations outside the United States:

ENGLAND

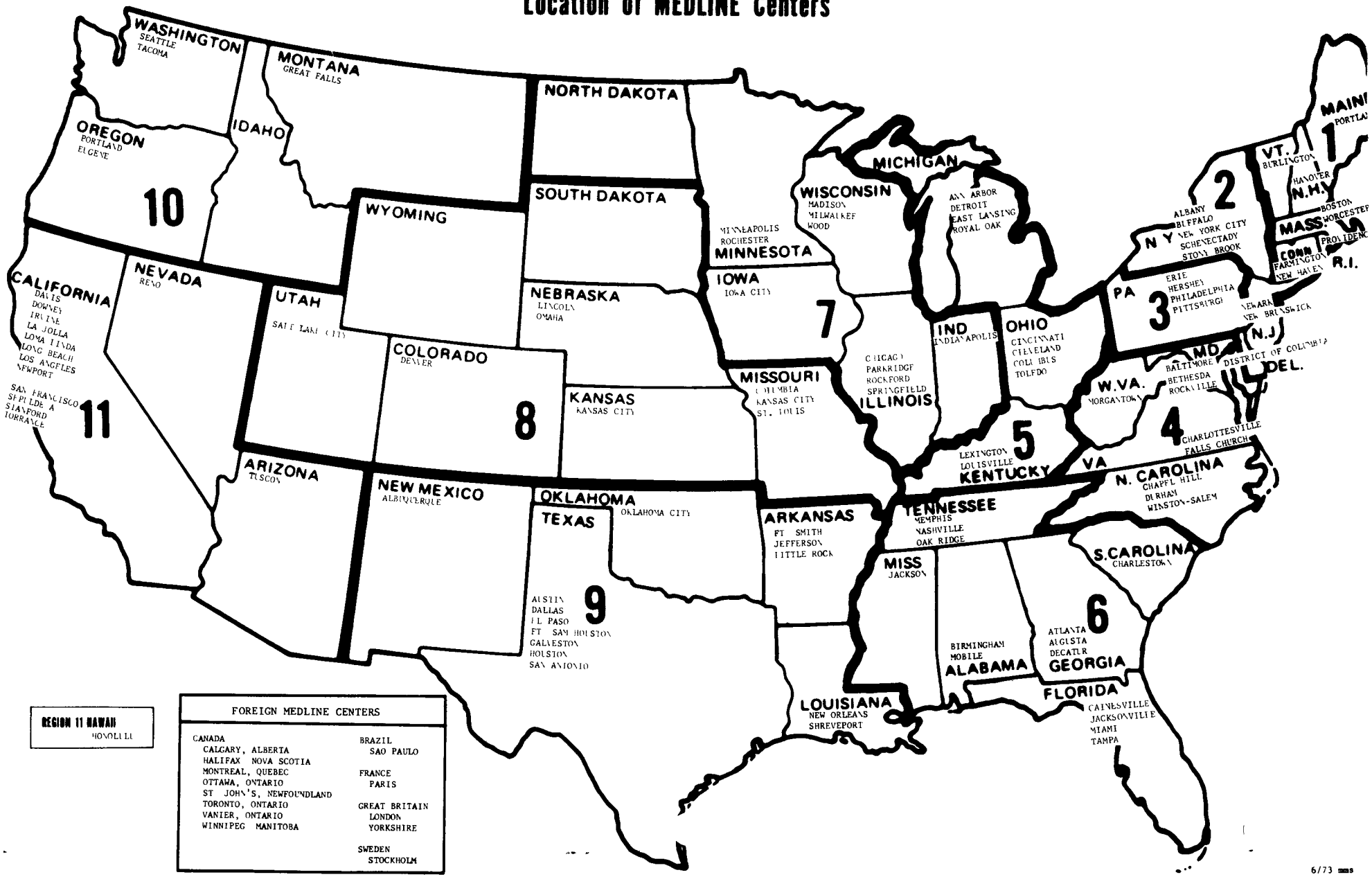
National Lending Library for Science and Technology
Boston Spa, Yorkshire

Mill Hill
National Institute for Medical Research
London

FRANCE

INSERM (Institut National de la Sante et de la Recherche Medicale)
Paris

Location of MEDLINE Centers



6/73 mms

NATIONAL LIBRARY OF MEDICINE

LIBRARY NETWORK/MEDLARS TECHNICAL BULLETIN

of the

Library Component of the Biomedical Communications Network

No. 52 AUGUST 1973

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

LIBRARY NETWORK/MEDLARS TECHNICAL BULLETIN
of the
Library Component of the Biomedical
Communications Network

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The LIBRARY NETWORK/MEDLARS TECHNICAL BULLETIN
is issued monthly by the Office of the
Associate Director for Library Operations.

MEDLINE DATA BASES

The MEDLINE, SDILINE and COMPFILE data bases were updated on July 23 at NLM and SUNY to include the August 1973 MEDLARS citations. The sizes of the data bases are as follows:

MEDLINE - 484,151

SDILINE - 18,558

COMPFILE- 324,904

MEDLINE TECHNICAL NOTES

PLEASE QUERY THE NEWS AND UPDATES FILES ON A DAILY BASIS

@ SYMBOL

One intellectual search is considered by NLM to be a completed search in one particular subject area. A requester may ask for a search on three aspects of myocardial infarct, e.g., its occurrence, mortality from, and its relationship to hypertension. This we would ask you to call one search and thus only one @ symbol should be entered. The decision is somewhat arbitrary but it would help to bring accuracy to the statistics if everyone defines a single search the same way. Only when the searching changes to a new topic should additional @ signs be entered.

An @ symbol and carriage return should be entered at the completion of a search after the USER cue. You will be reminded by the system after using the "stop" command to enter the @ signs. It is preferable to enter an @ symbol after each search, but if you have forgotten you should then enter one @ symbol and a carriage return after each USER cue. The system will count the symbol only if it is the very first character of input after USER:. Note that when billing begins, only the number of connect hours and the number of off-line print pages will be used to compute the bills, and NOT THE NUMBER OF SEARCHES RUN (@ SYMBOLS).

WATS LINE, PROBLEMS

Some users have been assigned WATS lines for use in accessing the MEDLINE data bases. We ask WATS users to record any problems they experience with these lines, such as garbled output, no terminal response, busy signals, etc. Please send this information to MEDLARS Management Section, including date, time and the problem.

TESTING

Occasionally, MEDLINE may be operating under test versions of the programs. Users will probably not notice any significant differences, but if a test version is up, users will be notified upon login.

"FILES ?" COMMAND

Once you have logged into the MEDLINE system, either at NLM or at SUNY, you may use the command "FILES ?" to query the system for the files which are available to you that particular day. The command must be enclosed in quotation marks, as with all other commands.

If new files are up for testing and you access these, you will be billed for their use at the same rates as for MEDLINE. The @ symbol should be entered after each completed search, while in the file that was used.

If you are unfamiliar with a new file, you may use the command "EXPLAIN UNIT RECORD" while in the particular file to obtain a brief explanation.

SYNONYM COMMAND

The SYNONYM command may be used to obtain the cross references listed in Medical Subject Headings. For example, slaughterhouses is not a legal heading and thus may not be searched. MeSH, though, has the cross reference SLAUGHTERHOUSES see ABATTOIRS. This same cross reference may be obtained by entering the word SYNONYM, or its abbreviation SYN, and the term.

```
SS 1/C?---SEARCH STATEMENT 1 OR COMMAND?
USER:
"SYN SLAUGHTERHOUSES"
PROG:
SEE ABATTOIRS (J)
```

HOURS

Due to the low usage of the system on Saturdays, and the availability of COMPFILE on Tuesdays, the Saturday hours of service have been suspended until further notice.

WATS LINE, NODE ASSIGNMENT

In order to equalize the user load through the Tymsats, and to achieve better response time, Centers which have been assigned the use of a WATS line for accessing MEDLINE should adhere to the node assignment (User Name) below for logging into the system. Only in cases where the "primary" node is not operational should the "alternate node" be used, and only in cases where both are not available should the SUNY system be used.

WATS Line	Primary Node	Alternate Node
Lines beginning with 800-631	NLM2	NLM
Lines beginning with 800-336	NLM	NLM2

MEDLINE BIBLIOGRAPHY

You might wish to add the following citation to the bibliography of articles on MEDLINE that appeared on p. 6-7 of the January 1973 Technical Bulletin:

McCarn, Davis B. and Leiter, Joseph. On-line services in medicine and beyond. Science 181:318-24, 27 Jul 73.

CHANGES IN CATALOGING IN PUBLICATION (CIP) RECORDS

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

At the MLA Annual Convention in Kansas City this year it was suggested that Cataloging in Publication (CIP) titles be flagged in some manner in the Current Catalog Semiweekly Proof Sheets, as an aid to user libraries, when the final citation differed significantly from the preliminary one which had been published there.

It was pointed out at that time that two types of differences may exist--1) differences between the preliminary and final cataloging performed by NLM and 2) differences between the descriptive cataloging shown in the publications as CIP data and NLM's cataloging. The first type of difference exists either because the publisher has changed information at some point between galley proofs and final copy or because the information was not evident in the minimal information provided to NLM for the preliminary cataloging and is identified only after the book is in hand. The second type of difference occurs because the descriptive cataloging data published in the books is derived according to the rules followed by Library of Congress, which in many instances are the A.L.A. cataloging rules rather than the newer Anglo-American rules followed by NLM.

The first category of differences appeared to be of more concern to the user libraries than the second, and NLM's procedures were looked at to see if a way of flagging such titles was feasible. A method was identified, and beginning with the Semiweekly Proof Sheet 58 for July 18-20, citations for CIP books which have had substantial changes in their Main or Added Entries, Series Note, Subject Headings, or Call Numbers have been flagged with a large asterisk; this information will appear only on the Proof Sheets and not in the formal publications.

This flagging will only be used when there has been a change in NLM's cataloging between the preliminary and final citations, and will not indicate when a difference exists between LC's CIP data and NLM's cataloging.

CATLINE

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

CATLINE (CATaloging on-LINE) is a file which when fully operational will contain full bibliographic data for all items published in Current Catalog since 1965. It is expected that the file will be used in support of a number of library activities ranging from acquisitions and cataloging to reference and interlibrary loan.

A test file covering materials cataloged from January 1971 to the present has been available for experimental use since early spring. It is anticipated that the full data base back to 1965 will be made available for Network use in mid-August.

All of the bibliographic information which has been published in the Current Catalog appears in the CATLINE file, although it is not presented in standard cataloging format. The traditional main entry/added entry concept has not been used; however all information required to produce a standard catalog entry has been included; for example, all names appear as multiple occurrences of the Name field. The first occurrence of this field will contain the Main Entry--if the catalog record would have a Title Main Entry, those words would appear as the first occurrence of the Name Element. The remaining occurrences will contain author, author/title, or name as subject added entries; the latter will be preceded by "=B:".

The data elements included in the data base are as follows:

Abbreviation	Element Name	Printable	Searchable
MH	Subject Headings	X	X
NA	Names	X	X
TI	Titles	X	X
RT	Remainder of Title	X	
ED	Edition Statement	X	
FL	First/Last Issue	X	
IM	Imprint	X	
CO	Collation	X	
SE	Series Titles	X	X
BN	International Standard Book Number	X	X
DN	Notes	X	
DE	Dashed-on-Entry	X	
DC	Dashed-on Entry Call Number	X	
XR	Cross Reference	X	X
PR	Price	X	
LC	LC Card Number	X	
LI	Library Symbols	X	X
CN	Call Number	X	X
IT	Item Type		X

Abbreviation	Element Name	Printable	Searchable
LA	Language		X
SL	Shelving Location	X	X
NO	Citation Number	X	
YR	Year of Publication		X
DA	Date of Entry	X	X

In general, the CATLINE file is accessed by the same methods used for MEDLINE; however, there are certain general conventions which must be followed in using the CATLINE file:

1. All diacritics have been replaced by apostrophes in the data base. For search purposes, however, these apostrophes, as well as any others which may be present must be ignored. For example, Société par l'étude de médecine would appear as SOCI'ET'E PAR L''ETUDE DE M'EDECINE in terminal displays and should be searched in the form SOCIETE PAR LETUDE DE MEDICINE.

2. Hyphens are present throughout the data base in any situation in which multiple blank spaces are required for conformance to standard cataloging format conventions. For example, U. S. Congress. Senate. will appear in terminal displays and must be searched in the form U. S.--CONGRESS.--SENATE.

In addition to these general conventions, there are certain things which should be kept in mind when searching specific data elements:

1. Subject Headings -- All main headings and subheadings, both topical and non-topical exist as independent entries in the index to the file and may be searched alone or with the logical operators AND, OR, or AND NOT. The only main heading/subheading combination which is searchable is the main heading/topical subheading abbreviation as in MEDLINE. Other types of subheadings such as form and language may not be precoordinated and must be searched by ANDing them with the appropriate main heading.

2. Names -- Personal names should be truncated to the last definitely known character in the name itself, ignoring dates, relationship indicators, etc. For example, Mider, G. Burroughs should be searched as MIDER, G#.

3. Titles and Series Titles -- These elements are searched by the use of a search key composed of the first three letters of the first significant word, followed by a slash (/), and then by the first letter of each of the next three words, all separated by slashes. Thus, the title "The health services of Ireland" would be searched under HEA/S/O/I.

4. International Standard Book Number -- This number is searchable in the form "0-393-00686-7".

5. Library Symbols -- Libraries are identified by a five character alpha-numeric code, composed of two numeric digits identifying the RML Region and three alpha characters identifying the specific library. The only three

library symbols presently found in the file are 04NLM, 01HMS (Countway Library), and 02SSY (Upstate Medical Center, SUNY). The symbol 04NLM is not searchable.

6. Call Number -- The call number is searchable through the second character grouping. Thus the call number WG 330 H58 1971 would be searchable through the classification number only as WG 330, but the call number W1 SE489G would be searchable in its entirety.

7. Item Type -- The three item types represented in the files are monographs, serials, and TRL (technical reports); the item type "monographs" is not directly searchable.

8. Shelving Location -- The only shelving location presently shown relates to items in NLM's Reference Collection and are searchable by the abbreviation REF.

9. Year of Publication -- This data is carried as a four digit year.

10. Date of Entry -- This date is carried in the form YYMMDD.

A CATLINE manual which will cover the use of the file in more detail is in preparation and will be available in the near future.

INDEX MEDICUS DELAY

Extreme paper shortages will cause a three-week delay in the publication of the September 1973 Index Medicus.

MEDLINE SEARCH OPTIMIZATION FOR EFFICIENT PROCESSING

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MEDLINE has now been operational for almost two years. During this period a few hundred thousand searches have been performed by trained MEDLARS/MEDLINE searchers and by members of the medical/scientific community. Reports indicate that the majority of these searches were responsive to the users' needs. Many, of course, have been quite simple and straight-forward searches entered by the user or by the trained librarian. Others, however, have been quite complex, such as those in which difficult concepts were being searched in the preparation of more substantive bibliographies. Generally, such searches have been performed by librarians trained to use the system.

It is widely understood, we feel, that each searcher's input is placed in a queue and processed in turn. Since several persons can generally be expected to be using the MEDLINE system simultaneously, the input of each affects the response time of all. Any action requiring an unusually large amount of work by the computer causes not only the person who input the action to wait, but all others must wait as well. This is true at the present time, and will continue to be the case until MEDLINE is operating under MEDLARS II, sometime early next year.

Under MEDLARS II, the MEDLINE programs (to be known as ELHILL III) will allocate a certain amount of time to each user's input (search statement). If at the end of that time the requested action has not been completed, the user will be asked, by the program, if he wishes to continue the search. If the user responds by typing 'yes', the programs will place the action back into the queue to await its turn again, at which time it will resume the processing where it left off (similar to the method used in title searching). This exchange between the system and the user will be repeated as many times as necessary to complete the requested action; it is expected to substantially increase the time required to finish certain kinds of costly searches. In the meantime, other users with more efficient, simple search statements will have had their actions performed by the system, without having to wait in queue behind the user with the time-consuming one.

We are now able, as a result of recent programming, to gather certain statistics on MEDLINE usage. As a result of studying these statistics, we now know what types of input cause "more work" for the computer. The authors would like to share some of their findings, and offer some suggestions, to all trained librarians using MEDLINE on a day-to-day basis. This article is NOT directed at the members of the medical/scientific community who wish to enter their own searches. (The glossary at the end of this article may be helpful to some readers.)

Four general topics will be discussed:

A. Explosions
B. Redundancies

C. Search logic optimization
D. One-term searches.

A. EXPLOSIONS.

Nothing is more expensive or time-consuming, for the computer, than explosions. Exploding D2.94. amounts to ORing 121 terms in the same search statement (ALL D2.94.# is the same as EXPLODE D2.94.). This search requires the comparison, two at a time, of 121 lists of citation numbers. Each list must be read into the computer's memory in turn, compared with the intermediate results (see glossary) of the two previous lists, and so on, until the final result is read into the user environment (see glossary) for retention. In all, this requires over 100 disk accesses (reads and writes; see glossary), and a considerable amount of CPU time (see glossary).

If one explosion is ANDed or ORed with another one in the same search statement, it is obvious that the above process must be gone through twice, followed by a comparison of the two resultant lists to get the final "answer". Thus, the most time-consuming search is one with multiple explosions; the more terms within each tree exploded, the more costly.

SUGGESTION NO. 1: LIMIT EXPLOSIONS TO ONE PER SEARCH STATEMENT.

The above is not meant to say that a search statement should consist of only an explosion by itself, and nothing else. Sometimes this is true. At other times, an explosion and another term may be used in the same search statement; this will be discussed later on.

Some searchers use the truncation symbol (#) in an ALL statement, as in ALL C2.1#. This amounts to ORing five explosions (which are, themselves, individual ORings, remember). ALL C2.1# explodes C2.10., C2.13., C2.101., C2.106., and C2.109. Also, ALL 7301# OR ALL 7302# OR ALL 7303#... explodes many, many entry dates, and is a very time-consuming process. These practices are strongly discouraged.

B. REDUNDANCIES.

We have noticed the widespread use of one particular search technic that can be quite costly to the system. This involves the use of a given search term (see glossary) more than once in a single search statement. Example:

A AND M OR B AND M OR C AND M

This redundant, or multiple, use of search term "M" is extremely inefficient for processing in ELHILL. In processing, first the two lists of citation numbers for term A and term M are compared in an AND fashion, and the intermediate result is stored. Then the process is repeated for lists B and M. But the system doesn't "remember" that it has already worked on list M once; it starts all over again by re-reading the list for term M and comparing it with the list for term B. The same thing happens again when it comes to C and M; it treats list M as if it were the first time it had seen it, and processes it from the beginning. Finally, of course, the three intermediate-result lists are compared in an OR fashion (2 at a time) to achieve "the answer".

Now, if the tally for term M is small (let's say it is 500), the entire process goes pretty quickly. The ELHILL programs are incredibly fast, and can handle a few thousand citation numbers with little or no perceptible delay in response time. But suppose the tally for term M is large, as in the case of RATS (the tally is something over 50,000). Then, in processing the above search, more than 50,000 citation numbers for RATS must be processed three times! On the other hand, if A, B, and C had been ORed in one statement, and that search statement number then ANDed with RATS, the 50,000 citation numbers for the latter term would only have to be processed once. It is not strictly true that the first method takes three times as long, but common sense tells us that it must be close to it.

SUGGESTION NO. 2: KEEP REDUNDANCIES OUT OF SEARCH STATEMENTS AS A GENERAL RULE, ESPECIALLY IF THE REDUNDANT TERM HAS A HIGH TALLY.

One especially expensive practice is to combine the use of more than one explosion per search statement (see Suggestion 1, above) with a redundancy (see Suggestion 2). It looks like this:

A AND EXPLODE M OR B AND EXPLODE M OR C AND EXPLODE M.

The authors leave it to the reader to mentally process this search, and trust that it is clear why one of the following is better:

```
SS 1 :  A OR B OR C                    SS 1 :  EXPLODE M
SS 2 :  EXPLODE M          or          SS 2 :  A AND 1 OR B AND 1
SS 3 :  1 AND 2                                OR C AND 1
```

(See paragraph C.3, below to see which of these is best.)

C. SEARCH LOGIC OPTIMIZATION.

1. There appears to be some confusion on the part of some searchers as to whether it makes a difference how a search statement is put together. For example, is A OR B OR C the same (in terms of work required by the computer) as C OR B OR A ? And how about A AND B AND C as opposed to the reverse, C AND B AND A ?

It does make a difference, to the present ELHILL system, how such searches are constructed. Depending upon the terms represented by A, B, and C, it can make a difference in response time, too. (This, by the way, will not matter under ELHILL III; the program will optimize the statement before it begins to process it.) This is not intended to encourage searchers to sit at terminals agonizing over the order in which terms should be entered. Rather, the following points out the types of terms where order does make a consequential difference and is intended to help clarify just what is happening in the processing of a search.

For use in the following examples, suppose the tallies are:

```
Tally of A =  50,000
Tally of B =  30,000
Tally of C =     125
```

Example 1:

SS 1 : A OR B OR C.

As described earlier, the first step in processing this search is the comparison of two lists of citation numbers -- those for term A and those for term B -- in the OR fashion. Depending upon the degree of overlap between these two lists, the result of this comparison will be between 50,000 and 80,000. Suppose it is 70,000. Then, the next step in the process will be to compare these 70,000 citation numbers with the 125 in list C. Finally, the result of this comparison (say it is 70,100) is "saved" in the user environment, and the searcher is notified of the result. If we count the number of citation numbers processed, we find the following:

Step 1 (A OR B) : 50,000 for term A, plus 30,000 for term B.....	80,000
Step 2 (Move the intermediate result of Step 1 to temporary storage in the user environment).....	70,000
Step 3 (Move the intermediate result back to memory and OR it with C) : 70,000 plus 125.....	70,125
Step 4 (Move the results of Step 3 -- 70,100 -- from memory to the user environment for retention).....	70,100
Total citation numbers processed.....	290,225

Now, suppose the search had been entered as : C OR B OR A. The analysis is:

Step 1 (C OR B) : 125 for term C, plus 30,000 for term B.....	30,125
Step 2 (Move the intermediate result of Step 1 -- suppose it is 30,100 -- to temporary storage in user environment).....	30,100
Step 3 (Move the intermediate result back to memory and OR it with A) : 30,100 plus 50,000.....	80,100
Step 4 (Move the results of Step 3 -- 70,100 -- from memory to the user environment for retention).....	70,100
Total citation numbers processed.....	210,425

Obviously, the first method requires the processing of 80,000 more citation numbers -- not a trivial difference!

The same analysis, of a search statement in which A, B, and C are ANDed, shows:

Example 2: A AND B AND C.

Step 1 (A AND B) : 50,000 for term A, plus 30,000 for term B.....	80,000

Step 2 (Move the intermediate result of Step 1 -- suppose it is 20,000 -- to temporary storage in user environment..... 20,000

Step 3 (Move the intermediate result back to memory and AND it with C) : 20,000 plus 125..... 20,125

Step 4 (Move the results of Step 3 -- suppose it is 50 -- from memory to user environment for retention)..... 50

Total citation numbers processed.....120,175

Reversing the order: C AND B AND A.

Step 1 (C AND B) : 125 for term C, plus 30,000 for term B..... 30,125

Step 2 (Move the intermediate result of Step 1 -- suppose it is 75 -- to temporary storage in user environment)..... 75

Step 3 (Move the intermediate result back to memory and AND it with A) : 75 plus 50,000..... 50,075

Step 4 (Move the results of Step 3 -- 50 -- from memory to the user environment for retention)..... 50

Total citation numbers processed..... 80,325

From the foregoing, another suggestion emerges:

SUGGESTION NO. 3: ALWAYS ENTER EXPLODES OR TERMS WITH VERY HIGH TALLIES AT THE END OF A SEARCH STATEMENT, FOLLOWING ALL LOW-TALLY TERMS

Understandably, most searchers do not ordinarily know the tally of terms before they are used, but there are certain types of terms (like check tags) which obviously have high postings. This will be discussed further a little later on.

As seen from the examples above, this suggested procedure is especially beneficial in an ORed statement, but another bonus accrues to the searcher who uses it in ANDed statements. The intermediate result of A AND B can cause a records overflow (see glossary) before C can be ANDed. But if C AND B is performed first, with a smaller intermediate result, an overflow can often be avoided. In the examples above, the difference in the number of intermediate results is quite significant -- 75 as opposed to 20,000! Remember, even if the intermediate results of A AND B are far less than 20,000, the user environment is of finite size and can eventually fill up. Even a relatively "small" ANDed statement can cause an overflow if search statements preceeding it load the environment almost to the full condition. (NOTE: Skeptical readers may want to test this by ANDing the two terms HUMAN and NOT FOREIGN with any other term, all in one search statement. HUMAN AND NOT FOREIGN AND PENICILLIN will cause a records overflow; PENICILLIN AND HUMAN AND NOT FOREIGN will not. Doing this search either way is a bad practice, as will be discussed later. But the

authors are willing to be a party to such "malfeasance" just this once in the interest of instruction; they hope that readers who wish to try it will do so during a non-peak time of day.)

2. As indicated earlier, it is not necessary to always put an explosion in a search statement all by itself. It depends on two things -- the size of the tree being exploded, and the tally of the term (or terms) to be ANDed or ORed with it. The explosion of a "reasonable-sized" tree (such as at the 2nd or 3rd level of the tree structure, involving a few dozen terms or so), ANDed or ORed with a "typical" main heading with a tally of a few hundred up to a few thousand, is a perfectly legitimate approach. But the problem arises when a large tree is being exploded (such as at the top level of a category, like D7) and ANDed with a high-tally term. As stated earlier, searchers cannot be expected to know whether a term has a high or low tally. But a simple rule of thumb is:

SUGGESTION NO. 4: NEVER USE A LARGE EXPLOSION WITH A CHECK TAG, NOT FOREIGN, OR ENGLISH IN THE SAME SEARCH STATEMENT.

(Most searchers are aware that NOT FOREIGN is far preferable to ENGLISH when searching MEDLINE, since the list for ENGLISH is so large.)

By "check tag" is meant the following: HUMAN; ANIMAL EXPERIMENTS; PREGNANCY; age groups, like ADULT, CHILD, AGED, etc; experimental animals, like RATS, MICE. Though not really a check tag, the main heading METHODS also falls into this class (its tally is about 50,000).

3. Sometimes trade-offs are necessary and it becomes advantageous to ignore one of our Suggestions. A case in point: Suggestion No. 2 advises against the use of the same (redundant) term more than once in a search statement. An extension of Suggestions No. 1 and 4 cautions against the use of more than one large-tally item per statement, such as explosions, check tags, etc. But how should one do a search on some aspect of "deafness in infants and children"? There are two basic approaches possible:

(a.) SS 1 : INFANT, NEWBORN OR INFANT OR CHILD, PRESCHOOL OR CHILD.

SS 2 : DEAFNESS AND 1.

or

(b.) SS 1 : DEAFNESS

SS 2 : 1 AND INFANT, NEWBORN OR 1 AND INFANT OR
1 AND CHILD, PRESCHOOL OR 1 AND CHILD.

Which is better? Method (a.) amounts to a fair-sized "explosion" in SS 1, with the comparison (two at a time) of four long lists and a final result of over 50,000. Method (b.), on the other hand, uses the DEAFNESS list four times. Notice that DEAFNESS is in a statement all by itself; if it were not, but repeated 4 times to be ANDed with the other terms, the term DEAFNESS would have to be validated 4 times. The answer is: method (b.) is better, even though it "violates" Suggestion No. 2. The reason it is better is because DEAFNESS is a

low-tally term (only a thousand postings). The program will do all the ANDs first, and since the DEAFNESS list is short it will be handled fairly quickly. Then, when that is done, four short lists will be ORed to get the final result. But suppose the search is on "deafness, blindness, and speech disorders in the aged". The way to do the search is:

SS 1 : DEAFNESS OR BLINDNESS OR SPEECH DISORDERS.

SS 2 : 1 AND AGED.

NOT:

SS 1 : AGED

SS 2 : DEAFNESS AND 1 OR BLINDNESS AND 1 OR SPEECH DISORDERS AND 1.

The AGED list would have to be processed three times -- a very costly and time-consuming procedure, since it is so large (over 35,000 postings). Therefore:

SUGGESTION NO. 5: IF A HIGH-TALLY TERM, LIKE A CHECK TAG, IS TO BE PROCESSED AGAINST A NUMBER OF RELATIVELY LOW-TALLY TERMS, PUT THE HIGH-TALLY TERM IN A SEARCH STATEMENT BY ITSELF. IF A LOW-TALLY TERM, LIKE A REGULAR MAIN HEADING, IS TO BE PROCESSED AGAINST A NUMBER OF HIGH-TALLY TERMS, LIKE CHECK TAGS, IGNORE SUGGESTION NO. 2 AND USE THE LOW-TALLY TERM REDUNDANTLY IN A SINGLE ORed STATEMENT.

An amalgamation of the features of Suggestions No. 1 - 5 provides the key to search optimization for efficient processing.

D. ONE-TERM SEARCHES.

The authors have received many questions about the propriety of searching a single term. Confusion on this point apparently abounds because one-term searches were so strongly discouraged under MEDLARS I. With MEDLINE (and other ELHILL data bases) this is no longer true.

One-term searching is a very efficient process, and is encouraged. By no means should the searcher force a legitimate one-term search into being a two-term search by ANDing the requested term with HUMAN, NOT FOREIGN, etc. Of course, most one-term searches are on authors' names or provisional headings. But searchers should not worry about abusing the system by doing a one-term search on any main heading, regardless of its tally. The thing to worry about is: What are you going to do with all the references? Print them on-line? Print 300 off-line? And, by the way, those who do one-term searches should be aware of the following: If the term being searched has a tally of over 2400 or so, the most recent (by publication date) references may not be printed. References are readied for printing in blocks of 1600 each, and no more than two blocks will be printed. If there are fewer than 1600 references retrieved, the most recent ones will always be printed first. But if the total retrieved is between 1600 and 3200 (or, obviously, if it is over 3200), then the most recent ones may be in the third block, depending upon where in the first block your references

begin. Since only two blocks are printed, the most recent ones (on the third block) will not be seen. This is the reason for the message, "Only the first --- records will be sorted for printing"; not only are some references not available for printing, but they are the most recent ones and (often) the very ones of most interest to the requester.

SUMMARY.

This article has been an attempt to achieve three things. First, to try to put down in writing, in one place, for the first time, a reasonably comprehensive explanation of what the ELHILL programs do in response to a search statement, and to offer some suggestions for optimizing the search for efficient processing. Second, it is hoped that this article will help searchers to get in the habit of thinking about MEDLINE as a utility, to be shared, rather than as a personal and individual tool to be exploited. If only one person were using the ELHILL programs, then it wouldn't make any difference how a search was structured. But many people use ELHILL simultaneously, and each long, time-consuming search statement causes all users to wait. Some suggested methods for courteous use of the system have been listed explicitly; implicit is the assumption of a desire on the part of all searchers to use it so. Third, and this is of even greater importance, this article is intended to give MEDLINE searchers a few tips which they should find useful later. The suggestions put forth may help the searcher in structuring search statements which will be processed efficiently and quickly, thereby preventing the costly and bothersome re-queuing and waiting under ELHILL III.

RECAP OF SUGGESTIONS:

1. LIMIT EXPLOSIONS TO ONE PER SEARCH STATEMENT.

2. KEEP REDUNDANCIES OUT OF SEARCH STATEMENTS AS A GENERAL RULE, ESPECIALLY IF THE REDUNDANT TERM HAS A HIGH TALLY.

3. ALWAYS ENTER EXPLODES OR TERMS WITH VERY HIGH TALLIES AT THE END OF A SEARCH STATEMENT, FOLLOWING ALL LOW-TALLY TERMS.

4. NEVER USE A LARGE EXPLOSION WITH A CHECK TAG, NOT FOREIGN, OR ENGLISH IN THE SAME SEARCH STATEMENT.

5. IF A HIGH-TALLY TERM, LIKE A CHECK TAG, IS TO BE PROCESSED AGAINST A NUMBER OF RELATIVELY LOW-TALLY TERMS, PUT THE HIGH-TALLY TERM IN A SEARCH STATEMENT BY ITSELF. IF A LOW-TALLY TERM, LIKE A REGULAR MAIN HEADING, IS TO BE PROCESSED AGAINST A NUMBER OF HIGH-TALLY TERMS, LIKE CHECK TAGS, IGNORE SUGGESTION NO. 2 AND USE THE LOW-TALLY TERM REDUNDANTLY IN A SINGLE ORed STATEMENT.

Glossary

CPU TIME is the time, excluding I/O (Input/Output) time, that the computer takes to evaluate a request. It may be thought of as calculation time or "think time."

DISK ACCESSES (I/O TIME): The computer stores, on disk, lists of citation numbers for each term that may be used for searching. The higher the postings for a term, the more disk accesses (i.e., the more times the computer has to find the list and "read" it) are required to process the term. Once the list has been "read", the computer must then "write" the results into one of its storage areas. I/O time, therefore, is the time spent reading the lists and writing the results.

INTERMEDIATE RESULTS are the lists of citation numbers which the computer must generate and save for further processing while in the process of building a final "answer" to a search statement. For example, in the search A AND B OR C AND D, the computer first processes the lists of citation numbers for A and B. The results of this step are the intermediate results. Then, the process is repeated for lists C and D. A final comparison of the two intermediate results produces the "answer". Intermediate results are created because the computer can only compare lists two at a time.

OVERFLOW is the condition raised while processing a search request indicating to the user that he has run out of a particular space allocated to him. There are three kinds of overflow: ENTRIES, RECORDS, and PARTIALS.

a. ENTRIES OVERFLOW is raised when a user has used more than 175 terms in his total search statements. The RESTACK command should help this user.

b. RECORDS OVERFLOW is raised when the number of postings which the computer is saving for all the user's search statements exceed 80,000 postings or, the postings that the computer builds along the way to calculate a single search statement exceeds 160,000 postings.

c. PARTIALS OVERFLOW is the condition raised when the computer decides that the requested EXPLODE is too large in terms of total postings or lists to process without RECORDS OVERFLOW and thus does not process the explode.

RESPONSE TIME is the total time period from the pressing of the carriage return key on the terminal to the receipt of the first character of the response. It consists of the following:

a. Transmission along the TYMSHARE network of computers to the NLM/SUNY computers.

b. Processing the message by a computer program which converts the codes to computer processing code and the placing of the message in a queue behind other users' messages to await processing by the retrieval program (ELHILL).

c. Processing of the message by ELHILL and sending the output message to the program mentioned in b, above.

d. The front-end program now converts the messages to the code and starts the transmission to the TYMSHARE system.

e. The TYMSHARE system routes the messages to the appropriate terminal where it is finally printed.

For the purposes of this article, the only portion of the Response Time that we are dealing with is the ELHILL processing time (step c). This time is broken down into CPU (Central Processing Unit) time, and I/O (Input/Output) time, each described in this glossary.

SEARCH TERM is the data in a search request separated by the boolean operators (AND, OR, AND NOT). Thus the request HEART AND LUNG contains two search terms (HEART, LUNG). Also HEART AND EXPLODE C2.106 contains two terms (HEART, EXPLODE C2.106). The reader should be aware that EXPLODE C2.106 while only considered as one term is actually the ORing of thirteen terms so that in terms of WORK for the computer HEART AND EXPLODE C2.106 is actually fourteen terms, as stated previously in the text. A numbered search statement, used in a subsequent one, is also considered to be a search term.

USER ENVIRONMENT (Work Space) is that area in computer memory and disk that is used to store the search formulation for each user and the created lists of citations that are the results of the user's searches. There is a finite amount of space reserved for each user.

MEDLINE STATISTICS
JUNE 1973

The statistical reporting period runs from the first to the last day of each month. The statistics are a total of the usage of all MEDLINE files (MEDLINE, SDILINE and COMPFILE) both at NLM and SUNY. If your statistics differ greatly from these, please notify MEDLARS Management Section.

MEDLINE CENTER	TOTAL SEARCHES @ SYM	TOTAL OFF-LINE PRINTS	TOTAL PAGES	TOTAL HOURS	AVERAGE MIN. PER SEARCH
* RG: 1					
BOSTON U SCH MED..MED LIB	52	16	242	23.2	26.8
BROWN U..SCI LIB	0	0	0	.0	.0
DARTMOUTH COL..DANA BIOMED LIB	60	7	64	7.9	7.9
HARVARD U..F COUNTWAY LIB	37	16	298	10.2	16.5
MAINE MED CTR	5	0	0	1.4	16.8
MASS GEN HOSP..TREADWELL LIB	16	10	48	9.6	36.0
TUFTS U..MED DENT LIB	627	25	361	22.8	2.2
U CONN..L M STOWE LIB	182	41	457	22.9	7.5
U MASS..MED SCH LIB	55	7	93	12.0	13.1
U VERMONT..DANA MED LIB	0	0	0	.0	.0
YALE U..MED LIB	196	40	513	67.5	20.7
* TOTAL FOR RG: 1	1230	162	2076	177.5	
* RG: 2					
ALBANY MED COL	0	0	0	.0	.0
ALBERT EINSTEIN COL MED..LIB	0	0	0	.0	.0
COL MED DENT NJ..LIB	295	69	810	30.1	6.1
COLUMBIA U..MED LIB	74	22	373	17.6	14.3
CORNELL U MED COLL..LIB	46	16	149	8.8	11.5
ELLIS HOSP..LIB	27	2	13	4.8	10.7
MED RES LIB BROOKLYN	89	12	108	14.1	9.5
NY ACAD MED..NY NO NJ RML	60	30	977	12.4	12.4
RUTGERS U	0	0	0	.0	.0
SUNY ALBANY..CENT OFF COMPUTER CTR	0	0	0	.0	.0
SUNY BUFFALO	27	0	0	10.9	24.2
SUNY STONY BROOK	0	0	0	.0	.0
* TOTAL FOR RG: 2	618	151	2430	98.7	
* RG: 3					
COL PHYSICIANS PHILA..LIB	55	13	222	13.2	14.4
HAHNEMANN MED COL..LIB	34	11	124	7.3	12.9
JEFFERSON MED COL..LIB	58	8	270	8.7	9.0

MEDLINE CENTER	TOTAL SEARCHES @ SYM	TOTAL OFF-LINE PRINTS	TOTAL PAGES	TOTAL HOURS	AVERAGE MIN. PER SEARCH
MED COL PA	165	34	497	40.2	14.6
PENNA STATE U..HERSHEY MED CTR LIB	131	26	285	20.0	9.2
TEMPLE U..HEALTH SCI CTR LIB	206	67	2337	49.7	14.5
U PENN..SCH MED LIB	53	25	415	15.1	17.1
U PITTSBURGH..FALK LIB	28	20	133	14.8	31.7
V A HOSP ERIE PA..LIB	0	0	0	1.2	.0
* TOTAL FOR RG: 3	730	204	4283	170.2	
* RG: 4					
BOWMAN GRAY SCH MED..LIB	50	15	180	6.0	7.2
BUR NARC DANG DRUGS..DRUG CTRL DIV	2	1	20	.3	9.0
D C GEN HOSP..LIB	47	4	18	11.0	14.0
DUKE U SCH MED..MED CTR LIB	148	20	118	27.7	11.2
ENVIRONMENT PROTECT AG 401 M ST SW	0	0	0	.0	.0
FAIRFAX HOSP	0	0	0	.0	.0
FED AMER SOC EXP BIOL..OFF BIOL HAN	48	0	0	2.2	2.7
FOOD & DRUG ADM ROCKVILLE..ADP SYST	0	0	0	.1	.0
FREDERICK CANCER RES CTR	10	12	147	5.4	32.4
GEORGE WASHINGTON U HOSP..HOSP BR L	184	10	73	44.1	14.4
GEORGETOWN U MED CTR..DAHLGREN MEM	161	60	588	31.2	11.6
HEALTH SERV MENT HLTH ADM..LIB	31	20	170	9.1	17.6
HOWARD U..MED DENT LIB	62	6	38	15.1	14.6
JOHNS HOPKINS U..WELCH MED LIB	78	6	140	34.3	26.4
JOINT MED LIB USA USAF..OFF SURG GE	101	8	70	11.4	6.8
MED CHIR FAC MARYLAND..LIB	111	5	32	13.4	7.2
NATL INST ENVIRON HEALTH SCI	14	0	0	4.1	17.6
NATL LIB MED..MARML RM 152	209	121	1814	54.0	15.5
NATL LIB MED..RSD	369	44	390	97.8	15.9
NATL NAVAL MED CTR..STITT LIB & RES	88	5	37	10.6	7.2
NIH..DRG	28	1	2	2.6	5.6
NIH..LIB	383	172	2375	68.7	10.8
NIH..NATL CANCER INST	28	19	474	6.0	12.9
NIH..NATL HEART INST	8	0	0	1.8	13.5
NIH..NIAMD	18	2	14	3.5	11.7
NIH..NIMH LIB	16	9	199	1.3	4.9
PHARMACEUTICAL MFR ASSN	35	6	179	8.7	14.9
ST ELIZ HOSP SMR..NIMH LIB	140	24	203	32.2	13.8
ST ELIZ HOSP..PROF LIB	0	0	0	.1	.0
U MARYLAND BALTIMORE..HEALTH SCI LI	176	37	397	38.4	13.1
U NC..HEALTH SCI LIB	105	40	470	13.0	7.4
U S GOVT	3	0	0	2.2	44.0
U VA..MED SCH LIB	173	43	452	29.4	10.2
V A CTRL OFF 810 VERMONT AVE NW DC	39	3	26	9.4	14.5
V A HOSP DC..LIB	107	17	228	26.0	14.6
WALTER REED ARMY MED CTR..GEN HOSP	81	20	203	14.4	10.7

MEDLINE CENTER	TOTAL SEARCHES @ SYM	TOTAL OFF-LINE PRINTS	TOTAL PAGES	TOTAL HOURS	AVERAGE MIN. PER SEARCH
WASHINGTON HOSPITAL CTR..MED LIB	38	0	0	5.2	8.2
WVA U..MED CTR LIB	94	10	174	19.0	12.1
* TOTAL FOR RG: 4	3185	740	9231	659.7	
* RG: 5					
CASE WEST RES U..CLEVELAND HEALTH S	77	13	115	13.0	10.1
ENVIRONMENT PROTECT AG CINCINNATI	85	18	408	15.4	10.9
HARPER HOSP..DEPT LIB	192	0	0	11.9	3.7
HENRY FORD HOSP	34	0	0	5.9	10.4
MED COL OHIO TOLEDO..LIB	44	0	0	3.7	5.0
MICH STATE U..SCI LIB	90	33	462	17.7	11.8
OHIO STATE U COL MED..HEALTH CTR LI	242	31	257	33.4	8.3
SINAI HOSP DETROIT..MED LIB	22	1	24	2.3	6.3
U CINCINNATI..MED CTR LIB	230	47	413	35.3	9.2
U DETROIT..SCH DENT LIB	6	1	3	2.0	20.0
U KY..MED CTR LIB	138	36	460	15.3	6.7
U LOUISVILLE..KORNHAUSER HEALTH SCI	119	10	74	22.3	11.2
U MICH..MED CTR LIB	172	90	3016	30.1	10.5
WAYNE STATE U..SHIFFMAN MED LIB	36	25	307	18.8	31.3
WILLIAM BEAUMONT HOSP..MED LIB	45	7	87	9.3	12.4
* TOTAL FOR RG: 5	1532	312	5626	236.4	
* RG: 6					
EMORY U..A W CALHOUN MED LIB	77	43	610	13.9	10.8
JACKSONVILLE HOSP EDU PROG..J L BOR	17	1	19	4.6	16.2
MED COL GA..DIV HEALTH COMM LIB	40	26	381	8.3	12.5
MED U SC..LIB	137	11	61	10.8	4.7
TOXICOLOGY INF RESPONSE CTR..BIOL D	36	30	919	8.8	14.7
U ALA..LISTER HILL CTR HEALTH SCI	184	19	410	23.8	7.8
U FLA..J H MILLER HEALTH CTR LIB	43	14	159	5.2	7.3
U MIAMI..L CALDER MEM LIB	80	23	277	11.5	8.6
U MISS MED CTR..ROWLAND MED LIB	0	0	0	.0	.0
U SOUTH ALABAMA..BIOMED LIB	0	0	0	.0	.0
U SOUTH FLORIDA..MED CTR LIB	26	4	68	4.6	10.6
U TENN..MED UNITS LIB	36	19	278	5.4	9.0
V A HOSP DECATUR GA..LIBRARY	91	12	100	14.7	9.7
VANDERBILT U..SCH MED LIB	31	14	131	6.4	12.4
* TOTAL FOR RG: 6	798	216	3413	118.0	
* RG: 7					
AMER MED ASSOC..ARCHIVE LIB	96	1	6	13.4	8.4
IND U..SCH MED LIB	73	2	14	9.0	7.4

MEDLINE CENTER	TOTAL SEARCHES @ SYM	TOTAL OFF-LINE PRINTS	TOTAL PAGES	TOTAL HOURS	AVERAGE MIN. PER SEARCH
JOHN CRERAR LIB	18	9	93	3.9	13.0
LUTHERAN GEN HOSP..LIB	50	1	6	12.1	14.5
MAYO FOUND..MAYO CLINIC LIB	85	12	151	15.0	10.6
MED COL WIS..MED DENT LIB	72	10	83	15.2	12.7
NORTHWESTERN U..MED & DENT SCH LIB	13	32	209	9.4	43.4
SOUTHERN ILL U..SCH MED LIB	9	4	71	2.5	16.7
U CHICAGO..BILLINGS HOSP LIB)	97	27	216	44.6	27.6
U ILL MED CTR..LIB HEALTH SCI	62	7	60	12.0	11.6
U ILL..ROCKFORD SCH MED LIB	59	27	251	9.3	9.5
U IOWA..MED LIB	81	22	275	10.1	7.5
U MINN..BIOMED LIB	159	60	1934	40.6	15.3
U WISC..MIDDLETON MED LIB	204	73	1150	41.4	12.2
V A HOSP WOOD WISC	82	18	182	17.3	12.7
* TOTAL FOR RG: 7	1160	305	4701	255.8	
* RG: 8					
CREIGHTON U..HEALTH SCI LIB	41	11	107	5.6	8.2
FITZSIMONS GEN HSP..MED-TEC LIB	42	38	564	10.0	14.3
ST LUKES HOSPITAL..LIB	86	4	10	8.7	6.1
U COLO..DENISON MEM LIB	216	45	426	34.8	9.7
U KANS..CLENDENING MED LIB	133	11	138	18.0	8.1
U MO COLUMBIA..MED LIB	88	24	194	17.3	11.8
U MO KANSAS CITY..SCH MED LIB	218	17	174	19.4	5.3
U NEBR..MIDCONTINENTAL RML PROG	158	43	451	31.4	11.9
U UTAH..ECCLES MED SCI LIB	24	18	123	10.4	26.0
V A HOSP LINCOLN NB..LIB	19	0	0	3.2	10.1
WASHINGTON U..SCH MED LIB	335	273	4175	63.2	11.3
* TOTAL FOR RG: 8	1360	484	6362	222.0	
* RG: 9					
BROOKE GEN HOSP..MED LIB	116	4	27	13.6	7.0
FOOD & DRUG ADM..NATL CTR TOX RES	18	0	0	2.6	8.7
LOUISIANA STATE U NEW ORLEANS..LIB	76	55	449	9.3	11.9
LOUISIANA STATE U..SCH MED LIB	28	6	50	5.8	12.4
SPARKS REG MED CTR..HEALTH SCI LIB	12	1	5	1.2	6.0
TEXAS MED ASSN..LIB	108	8	144	6.8	3.8
TEXAS MED CTR HOUSTON..J H JONES LI	458	129	1499	53.9	7.1
TULANE U..SCH MED LIB	67	25	248	16.2	14.5
U ARK..MED CTR LIB	2	1	8	.1	3.0
U NM..LIB MED SCI	906	290	16897	81.5	5.4
U OKLA..HEALTH SCI CTR LIB	62	16	230	11.1	10.7
U TEXAS DALLAS..MED SCH LIB	162	59	856	25.1	9.3
U TEXAS MED BR GALVESTON..MOODY MED	267	20	242	29.5	6.6

MEDLINE CENTER	TOTAL SEARCHES @ SYM	TOTAL OFF-LINE PRINTS	TOTAL PAGES	TOTAL HOURS	AVERAGE MIN. PER SEARCH
U TEXAS SAN ANTONIO..MED SCH LIB	112	20	153	15.5	8.3
WILLIAM BEAUMONT ARMY MEDICAL CENTE	4	0	0	1.1	16.5
* TOTAL FOR RG: 9	2398	634	20808	273.3	
* RG: 10					
ALASKA HEALTH SCI INFO CTR	138	14	173	17.2	7.5
COLUMBUS HOSP GREAT FALLS MONT..LIB	34	0	0	5.4	9.5
MADIGAN GEN HOSP	13	2	12	2.8	12.9
SACRED HEART GEN HOSP..MED CTR DR'S	65	5	74	11.1	10.2
U OREGON..MED SCH LIB)	234	0	0	51.4	13.2
U WASHINGTON..PAC NW REG HEALTH SCI	359	89	1023	53.6	9.0
V A HOSP BOISE IDAHO..LIB	28	4	31	10.2	21.9
* TOTAL FOR RG: 10	871	114	1313	151.7	
* RG: 11					
CEDARS-SINAI MED CTR..HOSP LIB	0	0	0	.0	.0
CHILDREN'S HOSP L A..DOCTOR'S LIB	109	27	279	15.7	8.6
HAWAII MED LIB INC	0	0	0	.0	.0
HOAG MEM HSP PRESBYTERIAN..MED LIB	0	0	0	.0	.0
L A CO HARBOR GEN HOSP..MED LIB	131	46	318	18.9	8.7
L A COUNTY MED ASSOC..LIB	43	5	29	13.9	19.4
LETTERMAN GEN HOSP..MED LIB	121	21	96	16.8	8.3
LOMA LINDA U..V RADCLIFF MEM LIB	39	15	119	10.5	16.2
MARTIN LUTHER KING JR GEN HOSP..MED	183	19	132	16.8	5.5
MEM HOSP MED CTR LONG BEACH..MED LI	339	111	1299	31.1	5.5
ORTHOPAEDIC HOSPITAL..RUBEL MEM LIB	27	5	73	7.4	16.4
RANCHO LOS AMIGOS HOSP..LIB	57	14	154	10.1	10.6
STANFORD U MED CTR..LANE MED LIB	210	83	967	30.6	8.7
TRIPLER ARMY MED CTR..MED LIB	0	0	0	.0	.0
U ARIZ..MED CTR LIB	73	33	460	18.0	14.8
U CALIF DAVIS..HEALTH SCI LIB	79	30	357	13.6	10.3
U CALIF IRVINE..MED SCI LIB	74	23	290	22.3	18.1
U CALIF L.A...BIOMED LIB PAC SW RML	67	15	216	22.3	20.0
U CALIF L.A...BIOMED LIB REF SECT	288	206	2648	59.7	12.4
U CALIF S.F...LIB	197	95	1148	52.7	16.1
U CALIF SAN DIEGO..BIOMED LIB	164	84	1217	35.5	13.0
U HAWAII..HAMILTON LIB	0	0	0	.0	.0
U NEV RENO..LIFE HEALTH SCI LIB	80	0	0	5.6	4.2
U SO CALIF SCH MED..NORRIS MED LIB	293	192	2141	58.6	12.0
V A HOSP SEPULVEDA CALIF..MED LIB	37	14	185	5.6	9.1
* TOTAL FOR RG: 11	2611	1038	12128	465.7	

MEDLINE CENTER	TOTAL SEARCHES @ SYM	TOTAL OFF-LINE PRINTS	TOTAL PAGES	TOTAL HOURS	AVERAGE MIN. PER SEARCH
* RG: 70					
DALHOUSIE U..W K KELLOG HEALTH SCI	54	14	126	7.1	7.9
DEPT NATL HEALTH WELFARE..HEALTH PR	40	15	191	8.9	13.3
MCGILL U..MED LIB	116	62	667	40.7	21.1
MEM U NEWFOUNDLAND..FAC MED LIB	10	4	26	2.1	12.6
NATL RES COUNCIL OF CANADA..NATL SC	42	18	620	15.0	21.4
U BRITISH COLUMBIA..LIB	37	13	70	10.9	17.7
U CALGARY..LIB	2	1	4	1.5	45.0
U MANITOBA..LIB	14	18	413	2.6	11.1
U SASKATCHEWAN..HEALTH SCI LIB	0	0	0	.0	.0
U TORONTO..LIB	48	19	275	11.7	14.6
* TOTAL FOR RG: 70	363	164	2392	100.5	
* RG: 80					
BIBLIOTECA REG DE MED..ORG PAN AMER	0	0	0	.1	.0
I.N.S.E.R.M.	96	0	0	21.1	13.2
MILL HILL..NATL INST MED RES LIB	26	0	0	7.5	17.3
NATL LEND LIB SCI TECH	0	0	0	.0	.0
* TOTAL FOR RG: 80	122	0	0	28.7	

** GRAND TOTAL - JUNE 1973

TOTAL SEARCHES - @ SYMBOLS	16978
TOTAL OFF-LINE PRINTS	4524
TOTAL PAGES OFF-LINE	74763
TOTAL HOURS	2958.2
AVERAGE MIN. PER SEARCH	10.5

NATIONAL LIBRARY OF MEDICINE

LIBRARY NETWORK/MEDLARS TECHNICAL BULLETIN

of the

Library Component of the Biomedical Communications Network

No. 53 SEPTEMBER 1973

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

LIBRARY NETWORK/MEDLARS TECHNICAL BULLETIN
of the
Library Component of the Biomedical
Communications Network

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The LIBRARY NETWORK/MEDLARS TECHNICAL BULLETIN is issued monthly by the Office of the Associate Director for Library Operations.

MEDLINE DATA BASES

The MEDLINE and SDILINE data bases were updated on September 24 at NLM and SUNY to include the October 1973 MEDLARS citations. COMPFILE was updated at the same time to include September and October 1973 citations. The sizes of the data bases are as follows:

MEDLINE - 509,396

SDILINE - 18,765

COMPFILE - 336,989

MEDLINE TECHNICAL NOTES

PLEASE QUERY THE 'NEWS' FILE WITHIN MEDLINE (TSO) ON A DAILY BASIS

CATLINE

On September 4, 1973 CATLINE (Cataloging on line) became available on the NLM/MEDLINE system. CATLINE will not be available on the SUNY/MEDLINE system. The file covers 1965 to the present and may be accessed by logging into MEDLINE and entering in quotes, the command "FILE CATLINE". Charges for using this file will be at the same rates as for MEDLINE.

After accessing the file you may use the command "EXPLAIN UNIT RECORD" to obtain a description of the file. Briefly, the file consists of bibliographic citations to books, serial titles, technical reports, etc. in the field of biomedicine. Up to twenty-three data elements are carried for each citation. Twelve of these elements are searchable, i.e. are contained in inverted indexes, and twenty of them can be printed out once the appropriate unit records have been retrieved by the system. A lengthy explanation of the print command can be obtained by typing "EXPLAIN PRINT COMMAND". A descriptive article on CATLINE appeared in the August 1973 issue of the Technical Bulletin (page 5).

SERLINE

On September 4, 1973 SERLINE (Serials on-line) became available on the NLM/MEDLINE system. SERLINE will not be available on the SUNY/MEDLINE system. The file may be accessed by logging into MEDLINE and entering, in quotes, the command "FILE SERLINE". Charges for use of this file will be at the same rates as for MEDLINE.

After accessing the file you may use the command "EXPLAIN UNIT RECORD" to obtain a description of the file. SERLINE is an on-line base of serial records containing bibliographic and locator information for approximately 5600 primary substantive serial titles in the life sciences.

The following bibliographic information is contained in the data base for each serial title: title; journal title abbreviation; cross reference; publisher name; city/state of publication; first-last issue; frequency; notes; locator codes; journal title code; sequence number; international standard serial number; coden; catalog citation number; subject heading; language; country of publication; abstracting and indexing tags; year of publication; closed entry indicator; and NLM call number.

A descriptive article on SERLINE appeared in the July 1973 issue of the Technical Bulletin (page 11).

@ SYMBOL
CATLINE
SERLINE

One intellectual search in CATLINE and in SERLINE consists of all the search statements and commands used in the attempt to retrieve a specific bibliographic entity or a specific group of bibliographic entities. The retrieval (or non-retrieval!) of the desired record or group of records constitutes one completed intellectual search, regardless of the number of search statements used or the number of data elements searched.

In CATLINE, for example, a monograph, serial, technical report or a specific group of these titles could be searched using a name, title search key, call number, ISBN or a combination of these and other data elements.

In SERLINE, a single search strategy might involve using data elements such as the title search key, language and year of publication along with a stringsearch in the notes field.

For subject searches in either of these new files, use the criteria for an intellectual search developed for MEDLINE (See the August 1973 Technical Bulletin, p. 2).

NEWS FILES

On September 1, 1973 all of the News Files were deleted from the Tymshare system. Users will no longer be able to access any of the News Files through the User Name NLM4 on Tymshare. Some of these files were moved to the computer on which MEDLINE resides at NLM. The procedure for accessing News Files through MEDLINE at NLM is as follows:

1. Login to MEDLINE at NLM directly or through Tymshare via NLM or NLM2

2. Upon completion of login, enter in quotes the command "QUIT" after the USER: cue. This may be done before or after performing your search(s).

```
SS 3/C?
USER:

"QUIT"
```

3. System will respond with READY. You may then enter LIST 'ACCESS' (single quotes around file name) for a listing of News Files available. All News Files must be accessed in this manner, i.e., LIST 'PHONES', LIST 'HOURS', etc.	READY LIST 'ACCESS' READY LIST 'NEWS'
4. After accessing one or more of the News Files, you must return to MEDLINE, if only to go through "STOP" procedure. This may be done after any READY cue, by entering ELHILL (not in quotes).	READY ELHILL SS 3/C? "STOP"

News Files available at present:

LIST 'ACCESS'	- List of available News Files
LIST 'NEWS'	- General Notices
LIST 'PHONES'	- List of Tymshare access phone numbers
LIST 'HOURS'	- MEDLINE Service Hours
LIST 'SUNY'	- News specific to MEDLINE or SUNY

Users will be charged for the connect time involved in accessing these News Files at the rate of $6.00 per connect hour. At present, no News Files are being maintained on the MEDLINE system at the State University of New York (SUNY).

If you are having one of the News Files printed and wish to terminate the listing before it has finished you may do so by pressing the ATTN or BREAK key. This will return you to the READY state and you may then either access another News File or return to ELHILL. If your terminal does not have an ATTN or BREAK key, contact your terminal representative for information about another key which will perform the same function.

The News Files will not be available unless MEDLINE itself is operational.

SPECIAL ANNOUNCEMENTS

News items of greater importance will appear automatically during your login procedure to the NLM/MEDLINE system. If the system is not up, these messages will still appear as long as the operating system (TSO) is functioning.

BILLING

Charges for MEDLINE service were initiated on Monday, August 20, 1973. All billing will begin on that date, and the minimum charge per month, $12.00, took effect with the August billing. All MEDLINE centers should check with their attorneys with regard to the implementation of charges to their patrons.

MESSAGES TO MMS

On-line messages to MEDLARS Management Section can no longer be sent through the Tymshare system via the SEND MMS routine. Centers should send these messages by the "COMMENT" command within MEDLINE (NLM or SUNY system), or through NLM/MEDLINE under TSO, using the SEND 'message to be sent' USER(NLM53) LOGON routine. There is a limit, at present, of 115 characters per message when using this routine.

NOTE: The word "LOGON" at the end of this routine will permit your message to be stored in the computer overnight and printed at the MEDLARS Management Terminal (NLM53) when we login the next day. The original instructions on the use of this SEND capability in the July 1973 Technical Bulletin (page 8) did not mention this "LOGON" feature.

Unidentified messages are still being received on-line in MEDLARS Management Section from users of the system via the "COMMENT" command. Please identify yourself with your code or name if an answer is required, as the system does not do this automatically.

TYMSHARE DISCONNECTS

In the past, users were requested to report any Tymshare disconnects from MEDLINE, through no fault of their own, to MEDLARS Management Section. This information is no longer needed; therefore users may discontinue sending in these reports.

HOURS

Hours of service for the MEDLINE files are as follows:

National Library of Medicine (NLM), Bethesda, Maryland

MEDLINE, SDILINE, CATLINE, SERLINE

Mon, Wed, Thurs, Fri	9:00 a.m. - 5:00 p.m.	(Eastern Time)
Tuesdays	1:00 p.m. - 10:00 p.m.	" "

COMPFILE

Tuesdays	1:00 p.m. - 10:00 p.m.	(Eastern Time)
Wednesdays	9:00 a.m. - 5:00 p.m.	" "

State University of New York (SUNY), Albany, New York

MEDLINE and SDILINE

Mon, Wed, Thurs, Fri	1:00 p.m. - 10:00 p.m.	(Eastern Time)
Tuesdays	9:00 a.m. - 5:00 p.m.	" "

A survey of MEDLINE Centers was recently conducted to see if users would like the Saturday hours of service resumed. We received replies from only eleven of the centers. Therefore, since Saturday hours are needed for system testing and for implementation of MEDLARS II, MEDLINE will not be available on Saturday until further notice.

STRINGSEARCHING AS A TOOL FOR SEARCHING A PARTICULAR JOURNAL ISSUE IN MEDLINE

Gary Byrd
MEDLARS Management Section, NLM

Up to the present, the Stringsearch (Title-Scan) capability in MEDLINE (see the March 1973 issue of the Technical Bulletin, p. 11) has been used almost entirely for searching in the title field. The following article is presented to show one way this new capability can be useful outside the title field in MEDLINE.

For a variety of reasons it may occasionally be desirable to search MEDLINE for information concerning articles in a particular issue of a journal. For example, a user may be trying to locate an article for which he has forgotten the author and title, but for which he remembers the journal and issue. A search locating all the articles in that issue of the journal would be a great help. Another use might be to verify whether or not an article in a particular journal issue has been indexed and input into the system. In some situations, searches on recent issues of certain journals could be combined with interest profiles to provide a current awareness service. Other uses may occur to you as patrons express new needs.

A simple search using the Stringsearch to locate articles from the March 1972 issue of the Journal of Cell Science is presented below to illustrate the basic technique involved.

```
SS 1/C?
USER:
HNK AND 72 THRU 72
PROG:
PSTG  (107)
SS 2/C?
USER:
TS (SO) :MAR:
PROG:
(30) RECORDS SEARCHED AND (14) QUALIFIED.  CONTINUE SEARCHING? (YES/NO)
USER:
Y
PROG:
(60) RECORDS SEARCHED AND (18) QUALIFIED.  CONTINUE SEARCHING? (YES/NO)
USER:
Y
PROG:
(90) RECORDS SEARCHED AND (18) QUALIFIED.  CONTINUE SEARCHING? (YES/NO)
USER:
Y
PROG:
PSTG  (18)
SS 3/C?
USER:
"PRT 1 SO"
PROG:
SO- J CELL SCI 10 525-33 MAR 72
```

In Search Statement 1 the searcher ANDed the Journal Title Code for the Journal of Cell Science (HNK) with the year in which the desired issue was published (1972), retrieving 107 citations.

In Search Statement 2 the Source field of these citations was Stringsearched for the month March (:MAR:) which was enough to uniquely identify the desired issue. At this point a note of caution should be interjected. For many journals, the month is not included as part of the citation, and another element of the source field such as issue number will have to be Stringsearched.

At the end of the Stringsearch, 18 of the 107 citations qualified. Thus we know that there are 18 articles from the March 1972 issue of the Journal of Cell Science in MEDLINE.

1974 MEDLINE TOOLS AVAILABLE FROM NTIS

The following tools have been placed in NTIS and orders are being accepted now. The first three items are available now and the fourth will be ready in October. When ordering, please give the superseded accession number as well as the present accession number.

Accession No.	Publication Title	Price Per Copy
PB-221-327 (supersedes PB-212-066)	Medical Subject Headings Tree Structures, 1974	$6.00
PB-221-463 (supersedes PB-214-334)	Permuted Medical Subject Headings, 1974	9.00
PB-221-326 (supersedes PB-212-068)	Medical Subject Headings Alphabetic List, 1974	9.00
PB-222-991 (supersedes PB-212-067)	MEDLINE Reference Manual, 1974 (includes sections on CATLINE and SERLINE)	5.75

Source: The National Technical Information Service
U. S. Department of Commerce
5285 Port Royal Road
Springfield, Virginia 22151

QUESTIONS FREQUENTLY ASKED ABOUT MEDLINE

Gary Byrd
MEDLARS Management Section, NLM
Melvin Beckelhimer
Chief, Systems Support Branch, OCCS, NLM

Several changes have been made in the way MEDLINE operates at NLM over the past several weeks. As a result of these changes, the MEDLARS Management Section has received many questions about how these changes will affect MEDLINE searching. The answers to some of the most frequently asked questions are presented below in the form of a dialogue. Hopefully, the problems or questions you have had will also be covered.

1) Q. Briefly, what is the IBM Interactive Time Sharing Option (TSO) and how does it work?

   A. TSO is the general purpose time sharing facility of the IBM operating system. This facility enables each terminal connected to the computer to perform as if it had the entire computer at its disposal while actually sharing the computer with other terminals and Batch data processing tasks. Basically, this is accomplished by means of a procedure called "time slicing." The computer cycles are divided into increments of time and shared among all the MEDLINE terminals and other users of the NLM computer. During any one "slice" of time, one user's request is being processed while the other users' requests are stored on direct access storage. Each user is then rotated sequentially from this direct access storage to the computer for processing.

2) Q. How does TSO change the way MEDLINE has been operated?

   A. In the past, MEDLINE users were routed directly to the programs and work spaces in the NLM computer specifically allocated to MEDLINE. This "line control" function called QTAM (Queued Telecommunication Access Method) still exists in a slightly modified form. TSO is a general purpose system which controls MEDLINE activities as well as other computer activities at NLM. It allows additional capabilities for MEDLINE users such as terminal to terminal communications and more protection for MEDLINE user codes. In addition, TSO will enable NLM to keep better statistics on the use of the system.

3) Q. Are there, or will there be any differences in accessing MEDLINE through SUNY as a result of the change to TSO at NLM?

   A. No changes are planned at either SUNY or SDC MEDLINE as a result of running MEDLINE under TSO at NLM.

4) Q. The response time in MEDLINE under TSO sometimes seems to be very slow. Will this improve in the future? Is there a way to "prod" the system to be sure that it has not completely forgotten the searcher?

   A. We are well aware of the slow response; there are several causes for this and we expect to make significant improvements in the near future.

As for "prodding" the system, generally the first thing to try is the Carriage Return Key. This will not disconnect you as in MEDLINE before TSO. When this prompt does work, the only difference will be a multiple USER: cue (equal to the number of times you prompted the system with a carriage return) after the response. Your search will not be affected in any way by this prompt. Any unreasonable wait should be reported to NLM53.

5) Q. Are there any new commands or short forms in MEDLINE or in TSO?

A. With the exception of the changes to the login procedure and the addition of the "QUIT" command, there is nothing new about the MEDLINE (ELHILL) commands. In TSO the commands SEND, LIST and USER are new to MEDLINE users and have short forms of SE, L and U respectively.

6) Q. Is it possible to correct an error while logging into MEDLINE under TSO?

A. Once the user is acknowledged by the NLM computer he can correct any error made in logging in. If a typing error is noticed by the user before striking the carriage return, he can enter character deletes (back arrow or backspace) to make the correction. If incorrect login information is entered the user will be prompted for correct information. When this happens, the user should omit the MED portion of his ID. For example, if user MEDXYZØ1 is prompted to reenter his USERID by TSO, then he should enter only XYZØ1. (For the details of these procedures see the article on Page 12)

7) Q. At what points exactly during the login and search are the charges to the user computed? In other words, when does billing start and when does billing end?

A. Billing for connect time commences at the time of day printed in the first login message and ends at the time of day printed in the last logoff message.

8) Q. Is it possible to find oneself occasionally in another user's environment? If so, why does this happen and what does it mean?

A. During the initial implementation period of TSO we discovered several program bugs. One of these caused a user's output to be inter-mixed with another user's output making it appear that he was in someone else's environment. This problem has been corrected.

9) Q. If a user is disconnected by Tymshare or hangs up the phone while in ELHILL, is his code kept in ELHILL for 15 minutes? Will this prevent him from logging in again under the same code, or is it possible to re-log in?

A. The user's code will be kept in ELHILL for 15 minutes. During this time the user can login again and resume where he left off. There have been reports of users being disconnected by Tymshare while they continue to be logged on to TSO causing a reject of the re-logon

because of a USERID already in use. We are investigating this problem; in the interim MEDLARS Management should be notified if this happens so that the "hung" session can be cancelled.

10) Q. In certain situations, such as requesting off-line prints or string-searching where a series of questions are asked of the searcher, the system sometimes fails to respond after a question is answered. Is there a way to avoid this problem or to prompt the system so that the series of questions will continue?

A. This problem has not been completely resolved yet, however, the system was changed so that a carriage return will not be passed to the ELHILL program. This allows the user to enter a carriage return and get a user prompt from TSO without interrupting the interaction with ELHILL.

WATS PROBLEMS

Geri Nowak
MEDLARS Management Section, NLM

MEDLINE users assigned WATS telephone numbers have very often experienced one or more problems with these lines. Some of the most frequently occurring phone problems are listed below in the terminology used by A.T.&T. A brief description of each is presented and a procedure for reporting line difficulties to either MMS or directly to your phone company is outlined below.

Problems with dialing:
1 - No Ring - No Answer
2 - Ring - No Answer
3 - Reorder (fast busy)

Problems during login or after accessing MEDLINE:
4 - Can't hear - Can't Be Heard
5 - Cut off
6 - Line noise

1 - No Ring - No Answer. Be patient! It could take as long as 90 seconds for your call to complete the phone circuitry.

2 - Ring - No Answer. This indicates equipment malfunction either of the telephone company or of Tymshare. If the problem persists (after 3 or 4 tries) call MEDLARS Management Section.

3 - Reorder. This problem is recognized as a fast busy signal. It indicates that your call did not get through the proper circuitry.

4 - Can't Hear - Can't Be Heard. This is a weak or nearly inaudible data tone which the accoustic coupler is unable to pick up.

5 - Cut off. This occurs when the line drops, i.e., the carrier light goes off.

Note: If you get the familiar PLEASE LOG IN: during your search session, this is a Tymshare cutoff and you are requested to login again. This is not a WATS-related problem.

6 - Line noise. (or garbage) is the transmission or receipt of erroneous characters.

Each of the above problems is due to either an incompleted call or poor circuitry. If you redial, your call may be routed through a better circuit. However, if the difficulty persists (after 3 or 4 tries) then the phone company should be notified (with the exception of number 2 Ring - No Answer above).

The telephone company provides a regular service where the operator will place a trace on the line. Here are a few simple steps to follow:

1 - Dial "0" for operator.

2 - Identify your telephone number (the first three digits are usually sufficient) and the WATS number called.

3 - Explain that you are placing a data call and describe the problem (e.g., line noise). Request that the operator trace the problem. You may be requested to send data at some point. The operator after identifying the problem will relay the information through the appropriate phone company channels.

4 - MEDLARS Management Section would like a report on the responsiveness of the phone company.

INDEXING: 1974 ADDENDA

Stanley Jablonski
Head, Index Section, NLM

The following items are Index Section productions for the coming year:

1974 MEDLARS Indexing Manual addenda
1974 TECHNICAL NOTES addenda
1974 Indexed Citation Form
1974 List of Tools and References

You may get copies by writing to the Index Section, Bibliographic Services Division directly, enclosing an address label. We can serve MEDLINE searchers and other MEDLARS users as long as the supply lasts.

LOG-IN ERRORS IN MEDLINE UNDER TSO

Gary Byrd
MEDLARS Management Section, NLM

With the conversion to a new operating system for MEDLINE at NLM (the IBM Interactive Time Sharing Option -- TSO), it is now possible to correct errors made while logging in. The procedures for correcting such errors vary slightly between users who dial the NLM computer directly, and those who access NLM through the Tymshare Network.

It should be emphasized that the procedures outlined below are necessary only when an error is noticed during login or when a TSO error message is received. The normal login procedure for MEDLINE has not changed under TSO.

Direct Dial Login

For users who dial the NLM computer directly, the LOGIN procedure takes this form:

```
/LOGIN MEDXXX00
```

(the user's identifying code)

1) Any error made after the "/LOGIN" will result in a TSO error message resembling one of the following:

```
IKJ56710I INVALID USERID, XXXXXX00
IKJ56703A REENTER -

(or)

IKJ56420I USER ID XXX00 NOT AUTHORIZED TO USE TSO
IKJ56429A REENTER -
```

At this point the system is programmed to accept only the five character user code "XXX00" which uniquely identifies your terminal. Anything more or less than this will result in another error message. A typical sequence would look like this:

```
                    (letter "T" is an error)
                    ↙
                  /LOGIN TEDXXX00
                  IKJ56710I INVALID USER ID, TEDXXX00
                  IKJ56703A REENTER -
(this is your →   XXX00
 user code)       XXX00 LOGON IN PROGRESS AT . . . (etc.)
```

✓ If for some reason you make a second error while trying to correct your first error, you may receive this TSO error message:

```
IKJ56712I INVALID KEYWORD, XXX00
IKJ56703A REENTER -
```

The only way to correct this error is to hit the carriage return key. This will be followed by another error message:

```
IKJ56420 USERID LOGON NOT AUTHORIZED TO USE TSO
IKJ56429A REENTER -
```

Now you can enter the five character user code again to complete the LOGIN. For example:

```
                        (letter "T" is an error)
                         ↓
                     /LOGIN TEDXXX00
                     IKJ56710I INVALID USERID, TEDXXX00
                     IKJ56703A REENTER -
(you forget and  →   /LOGIN MEDXXX00
 enter more than     IKJ56712I INVALID KEYWORD, MEDXXX00
 your user code)     IKJ56703A REENTER -
               ←     [CR]
                     IKJ56420I USERID LOGON NOT AUTHORIZED TO USE TSO
                     IKJ56429A REENTER -
(just your code) →   XXX00
                     XXX00 LOGON IN PROGRESS AT . . . (etc.)
```

2) Any error made within the word "/LOGIN" will result in a TSO error message which looks like this:

```
IKJ54020A ENTER /LOGIN LOGON
                                   IKJ54020A ENTER /LOGIN LOGON
```

It is important to remember NOT to hit the carriage return key at this point. Instead, immediately repeat the entire "/LOGIN MEDXXX00" procedure in its correct form. A corrected error of this kind would look like this:

```
     (letter "T" is an error)
      ↓
/LOGIT MEDXXX00
IKJ53020A ENTER /LOGIN LOGON
                                   IKJ53020A ENTER /LOGIN LOGON
(you enter the entire login here) ——————————→ /LOGIN MEDXXX00
XXX00 LOGON IN PROGRESS AT . . . (etc.)
```

Check
Ti - upper case - Down

3) If at any point during the LOGIN procedure you notice an error before it is input to the system (with a carriage return), the error can be immediately corrected with a backwards arrow (←), or on the 2741 Terminals, with the backspace key. For example:

```
/LOGIN RED←←←MEDXXX00
XXX00 LOGON IN PROGRESS AT . . . (etc.)
```

(or on 2741)

/LOGIN MEDXXX00
XXX00 LOGON IN PROGRESS AT . . . (etc.)

Tymshare Login

Exactly the same procedures apply for correcting errors when logging in through the Tymshare Network, after you get into TSO. The only difference is that when dialing direct, you are immediately interacting with the TSO system. Through Tymshare you are not dealing with TSO until after you receive the semi-colon (;) prompting you for your user code prefixed with MED (e.g. MEDXXX00). Errors made after this semi-colon will result in the same TSO error messages and can be corrected in the same way as described above. Errors made before the semi-colon will result in the familiar error messages generated by the Tymshare computer.

MEDLINE AND SUNY SERVICE AT THE UNIVERSITY OF MINNESOTA: SEARCHER'S SELECTION

Gertrude Foreman
Bio-Medical Library, University of Minnesota

The Bio-Medical Library, University of Minnesota, has been a participant in the MEDLINE System since May, 1972. User response to MEDLINE has been most favorable. The large number of requests, the growing number of repeat users, the appreciative comments and a recent user survey all attest to the value of MEDLINE and to the need for comprehensive bibliographic services.

An expanded bibliographic service became possible in March, 1973 when the Bio-Medical Library joined the SUNY (State University of New York) Biomedical Communication Network. To assure the best possible use of the capabilities of both MEDLINE and SUNY, guidelines for selecting one of the two systems were established based on time coverage, subject range, comprehensiveness, vocabulary, and urgency. (1)

Information requests (323) received during a five-week period were evaluated to determine which factors most often influenced the choice of system. A number of requests could have been processed with equal success on either system; therefore, in some cases the choice was determined by convenience, down time, or the librarian's preference. Although decisions on choice of the most appropriate system usually involve several factors, it was possible to ascertain the primary reason for selection in 294 (91%) of the searches.

1. Time Coverage

The number of years available in the data base was the primary factor in the choice of system. Out of the 294 requests evaluated during the five weeks, 171 (58%) were processed on SUNY because the backfile (1964-1969) was needed.

Although not as numerically significant as the use of the backfile, subject and vocabulary words were also important in choosing the appropriate system.

2. Subject

For 23 nursing or basic science subject searches, SUNY was selected because of the larger journal base. Nursing faculty and students are regular MEDLINE users at the Bio-Medical Library; their requests covered such subjects as the nurse's role in group therapy; nursing process as related to standard of care and quality of care measurement; nurses' attitude toward unwed mothers; genetic counseling by nurses; and the expanded role of the nurse. Scientific subjects judged to be best suited for SUNY included activity patterns in squirrels, the state of pregnancy as a model of immune tolerance, goblet and clara cells in bronchiolar epitheliam, and amphibian immune system.

3. Comprehensiveness

The search request form asks the patron to indicate a preference for a comprehensive search or for a few relevant citations. Only forty-five patrons (15% of the total) said they needed a few references only. Because most of the MEDLINE journals are available at the Bio-Medical Library, it was selected for 36 of these searches. The larger journal base was needed for the other nine requests.

4. Vocabulary

One of the advantages of having two systems available is the greater flexibility in the use of MeSH vocabulary. Retrieval was enhanced in 9 cases by SUNY's flexible method of adding subheadings. MEDLINE proved valuable for 32 searches where the "explode" capability was essential. (2) On several occasions a MEDLINE/COMPFILE search using the explode was used for the current file and a SUNY search was formulated for the backfile. Selection of vocabulary for backfile searches has been facilitated by the publication of Cumulated List of New Medical Subject Headings 1963-1973.

5. Urgency

Twenty-five requests had been marked with "rush," "as soon as possible" or similar statements indicating urgency. Because SUNY provides a dedicated line it was readily available for searching seven of these urgent requests. The extended hours of availability (evenings and Saturday) was the major reason MEDLINE was used for the other 18 urgent requests. The longer hours also proved useful in preventing or eliminating "backlogs" of requests.

Another technique using both MEDLINE and SUNY proved expeditious. (3) A known relevant citation was entered on MEDLINE and printed full. Index terms were then selected for processing on the backfile and on-line SUNY data bases. If the patron did not provide a relevant citation, an appropriate title containing the desired subject was found by title scanning or by checking Science Citation Index Permaterm.

Title scanning, an important vocabulary capability, is available on both systems; therefore, choice of system was based on other factors such as time coverage, subject, or urgency of the request.

Conclusion

This brief evaluation emphasized the value of flexibility in searching. Additional system capabilities enhance the searcher's ability to provide the best possible bibliography for the requester. Because the great majority of Bio-Medical Library patrons indicated a need for "comprehensive" searches, as opposed to a few relevant citations, we have found the "explosion" feature of MEDLINE and the backfiles available through SUNY to be of particular value.

Notes

(1) Egeland, Janet and Foreman, Gertrude. Coordination of Two On-Line Information Retrieval Systems at the University of Minnesota Bio-Medical Library. Paper presented at Symposium III, Second ASIS Mid-Regional Conference, April 26-27, 1973, Bloomington, Minnesota.

(2) SUNY Biomedical Communication Network. Network Newsletter 6:2 January-March 1973 announces that the explode capabilities will be available.

(3) Described by Spiegel, Isabel. "CMDNJ Uses Two Information Systems in Comprehensive Retrieval Program." SUNY Biomedical Communication Network. Network Newsletter. 5:3 September-December 1972.

MEDLINE STATISTICS
JULY 1973

The statistical reporting period runs from the first to the last day of each month. The statistics are a total of the usage of all MEDLINE files (MEDLINE, CATLINE, SERLINE, SDILINE and COMPFILE) both at NLM and SUNY. If your statistics differ greatly from these, please notify MEDLARS Management Section.

MEDLINE CENTER	TOTAL SEARCHES @ SYM	TOTAL OFF-LINE PRINTS	TOTAL PAGES	TOTAL HOURS	AVERAGE MIN. PER SEARCH
* RG: 1					
BOSTON U SCH MED..MED LIB	30	10	123	11.3	22.6
BLOOM U..SCI LIB	0	0	0	.0	.0
DARTMOUTH COL..DANA BIOMED LIB	95	10	111	9.5	6.0
HARVARD U..F COUNTWAY LIB	56	22	517	14.9	16.0
MAINE MED CTR	5	0	0	1.4	16.8
MASS GEN HOSP..TREADWELL LIB	13	8	72	7.3	33.7
TUFTS U..MED DENT LIB	802	14	97	27.5	2.1
U CONN..L M STOWE LIB	189	39	339	29.1	9.2
U MASS..MED SCH LIB	107	12	87	10.4	5.8
U VERMONT..DANA MED LIB	49	3	76	5.5	6.7
YALE U..MED LIB	135	40	530	38.4	17.1
* TOTAL FOR RG: 1	1481	158	1952	155.3	
* RG: 2					
ALBANY MED COL	0	0	0	.0	.0
ALBERT EINSTEIN COL MED..LIB	1	0	0	.7	42.0
COL MED DENT NJ..LIB	476	135	1695	41.7	5.3
COLUMBIA U..MED LIB	50	15	162	10.4	12.5
CORNELL U MED COLL..LIB	59	24	201	10.6	10.8
ELLIS HOSP..LIB	31	1	6	7.2	13.9
MED RES LIB BROOKLYN	78	14	83	11.7	9.0
NY ACAD MED..NY NO NJ RML	46	20	597	9.1	11.9
RUTGERS U	31	10	85	10.2	19.7
SLOAN-KETTERING CANCER CTR	0	0	0	.0	.0
SUNY ALBANY..CENT OFF COMPUTER CTR	0	0	0	.0	.0
SUNY BUFFALO	28	0	0	12.2	26.1
SUNY STONY BROOK	0	0	0	.0	.0
* TOTAL FOR RG: 2	800	219	2829	113.8	
* RG: 3					
COL PHYSICIANS PHILA..LIB	37	26	251	7.9	12.8
HAHNEMANN MED COL..LIB	37	21	214	7.3	11.8

MEDLINE CENTER	TOTAL SEARCHES @ SYM	TOTAL OFF-LINE PRINTS	TOTAL PAGES	TOTAL HOURS	AVERAGE MIN. PER SEARCH
JEFFERSON MED COL..LIB	30	4	85	4.8	9.6
MED COL PA	77	34	312	17.5	13.6
PENNA STATE U..HERSHEY MED CTR LIB	69	18	156	8.3	7.2
TEMPLE U..HEALTH SCI CTR LIB	44	33	810	12.1	16.5
U PENN..SCH MED LIB	62	29	206	18.3	17.7
U PITTSBURGH..FALK LIB	38	23	177	14.1	22.3
V A HOSP ERIE PA..LIB	11	3	117	3.5	19.1
* TOTAL FOR RG: 3	405	191	2328	93.8	
* RG: 4					
BOWMAN GRAY SCH MED..LIB	72	10	89	8.2	6.8
BUR NARC DANG DRUGS..DRUG CTRL DIV	0	0	0	.0	.0
D C GEN HOSP..LIB	54	4	57	12.1	13.4
DUKE U SCH MED..MED CTR LIB	114	31	199	21.3	11.2
ENVIRONMENT PROTECT AG 401 M ST SW	0	0	0	.0	.0
FAIRFAX HOSP	16	2	11	2.8	10.5
FED AMER SOC EXP BIOL..OFF BIOL HAN	9	0	0	4.8	32.0
FOOD & DRUG ADM ROCKVILLE..ADP SYST	12	1	6	10.0	50.0
FREDERICK CANCER RES CTR	260	18	148	11.6	26.8
GEORGE WASHINGTON U HOSP..HOSP BR L	199	9	79	27.8	8.4
GEORGETOWN U MED)CTR..DAHLGREN MEM	148	46	509	37.6	15.2
HEALTH SERV MENT HLTH ADM..LIB	38	28	291	10.0	15.8
HOWARD U..MED DENT LIB	24	3	31	4.6	11.5
JOHNS HOPKINS U..WELCH MED LIB	72	12	205	14.0	11.7
JOINT MED LIB USA USAF..OFF SURG GE	119	5	57	22.5	11.3
LIB CONGRESS..CONGRESS REF SERV	0	0	0	.0	.0
MED CHIR FAC MARYLAND..LIB	120	15	81	12.0	6.0
NATL INST ENVIRON HEALTH SCI	25	5	55	8.7	20.9
NATL LIB MED..MARML RM 152	214	148	1757	60.5	17.0
NATL LIB MED..RSD	274	34	395	108.5	23.8
NATL NAVAL MED CTR..STITT LIB & RES	141	15	127	19.8	8.4
NIH..DRG	44	0	0	3.7	5.0
NIH..LIB	608	307	4587	85.7	8.5
NIH..NATL CANCER INST	23	6	264	6.6	17.2
NIH..NATL HEART INST	20	0	0	7.1	21.3
NIH..NIAMD	61	24	664	19.3	19.0
NIH..NIMH LIB	8	8	176	.9	6.7
PHARMACEUTICAL MFR ASSN	30	11	86	7.3	14.6
ST ELIZ HOSP SMR..NIMH LIB	132	15	191	23.7	10.8
ST ELIZ HOSP..PROF LIB	2	0	0	.5	15.0
U MARYLAND BALTIMORE..HEALTH SCI LI	212	45	439	38.9	11.0
U NC..HEALTH SCI LIB	91	33	369	12.0	7.9
U S GOVT	7	2	31	2.9	24.9
U VA..MED SCH LIB	187	53	556	29.4	9.4
V A CTRL OFF 810 VERMONT AVE NW DC	56	12	103	15.5	16.6

MEDLINE CENTER	TOTAL SEARCHES @ SYM	TOTAL OFF-LINE PRINTS	TOTAL PAGES	TOTAL HOURS	AVERAGE MIN. PER SEARCH
V A HOSP DC..LIB	102	11	123	14.9	8.8
WALTER REED ARMY MED CTR..GEN HOSP	151	31	218	33.7	13.4
WASHINGTON HOSPITAL CTR..MED LIB	52	0	0	6.4	7.4
UVA U..MED)CTR LIB	49	8	134	12.8	15.7
* TOTAL FOR RG: 4	3512	952	12038	718.1	
* RG: 5					
CASE WEST RES U..CLEVELAND HEALTH S	59	10	111	11.2	11.4
ENVIRONMENT PROTECT AG CINCINNATI	106	37	703	18.0	10.2
HARPER HOSP..DEPT LIB	50	0	0	8.1	9.7
HENRY FORD HOSP	57	4	42	11.8	12.4
MED COL OHIO TOLEDO..LIB	54	1	10	6.2	6.9
MICH STATE U..SCI LIB	50	31	298	9.3	11.2
OHIO STATE U COL MED..HEALTH CTR LI	312	74	612	38.4	7.4
SINAI HOSP DETROIT..MED LIB	25	1	15	2.6	6.2
U CINCINNATI..MED CTR LIB	125	32	272	9.5	4.6
U DETROIT..SCH DENT LIB	3	0	0	.3	6.0
U KY..MED CTR LIB	258	43	457	26.8	6.2
U LOUISVILLE..KORNHAUSER HEALTH SCI	142	12	64	24.0	10.1
U MICH..MED CTR LIB	9	5	99	1.4	9.3
WAYNE STATE U..SHIFFMAN MED LIB	36	14	129	18.6	31.0
WILLIAM BEAUMONT HOSP..MED LIB	50	7	73	6.9	8.3
* TOTAL FOR RG: 5	1336	271	2885	193.1	
* RG: 6					
EMORY U..A W CALHOUN MED LIB	121	20	195	18.3	9.1
JACKSONVILLE HOSP EDU PROG..J L BOR	17	2	10	3.2	11.3
MED COL GA..DIV HEALTH COMM LIB	31	14	155	4.0	7.7
MED U SC..LIB	120	5	26	11.7	5.9
TOXICOLOGY INF RESPONSE CTR..BIOL D	15	13	544	2.9	11.6
U ALA..LISTER HILL CTR HEALTH SCI	116	18	230	18.0	9.3
U FLA..J H MILLER HEALTH CTR LIB	41	7	63	5.5	8.0
U MIAMI..L CALDER MEM LIB	84	26	363	9.8	7.0
U MISS MED CTR..ROWLAND MED LIB	4	2	6	.9	13.5
U SOUTH ALABAMA..BIOMED LIB	13	1	2	3.3	15.2
U SOUTH FLORIDA..MED CTR LIB	84	11	71	10.4	7.4
U TENN..MED UNITS LIB	66	41	516	7.7	7.0
V A HOSP DECATUR GA..LIBRARY	77	11	47	11.6	9.0
VANDERBILT U..SCH MED LIB	30	5	57	4.1	8.2
* TOTAL FOR RG: 6	819	176	2285	111.4	

MEDLINE CENTER	TOTAL SEARCHES @ SYM	TOTAL OFF-LINE PRINTS	TOTAL PAGES	TOTAL HOURS	AVERAGE MIN. PER SEARCH
* RG: 7					
AMER MED ASSOC..ARCHIVE LIB	181	8	88	19.8	6.6
IND U..SCH MED LIB	60	5	37	7.6	7.6
JOHN CRERAR LIB	16	15	164	5.0	18.7
LUTHERAN GEN HOSP..LIB	30	0	0	4.7	9.4
MAYO FOUND..MAYO CLINIC LIB	87	10	111	17.0	11.7
MED COL WIS..MED DENT LIB	65	7	60	13.4	12.4
NORTHWESTERN U..MED & DENT SCH LIB	5	15	195	2.5	30.0
SOUTHERN ILL U..SCH MED LIB	77	3	29	12.5	9.7
U CHICAGO..BILLINGS HOSP LIB	260	26	190	41.9	9.7
U ILL MED CTR..LIB HEALTH SCI	81	16	148	14.8	11.0
U ILL..ROCKFORD SCH MED LIB	70	24	243	12.1	10.4
U IOWA..MED LIB	101	33	386	14.7	8.7
U MINN..BIOMED LIB	96	52	1327	20.2	12.6
U WISC..MIDDLETON MED LIB	165	64	870	40.8	14.8
V A HOSP WOOD WISC	88	11	100	20.8	14.2
* TOTAL FOR RG: 7	1382	289	3948	247.8	
* RG: 8					
CREIGHTON U..HEALTH SCI LIB	71	11	104	8.6	7.3
FITZSIMONS GEN HSP..MED-TEC LIB	81	34	308	13.2	9.8
ST LUKES HOSPITAL..LIB	71	0	0	7.1	6.0
U COLO..DENISON MEM LIB	95	54	675	24.7	15.6
U KANS..CLENDENING MED LIB	108	18	299	16.2	9.0
U MO COLUMBIA..MED LIB	74	11	112	15.0	12.2
U MO KANSAS CITY..SCH MED LIB	274	13	140	28.5	6.2
U NEBR..MIDCONTINENTAL RML PROG	84	24	175	16.9	12.1
U UTAH..ECCLES MED SCI LIB	61	40	379	14.1	13.9
V A HOSP LINCOLN NB..LIB	16	0	0	2.3	8.6
WASHINGTON U..SCH MED LIB	114	20	203	11.1	5.8
* TOTAL FOR RG: 8	1049	225	2395	157.7	
* RG: 9					
BROOKE GEN HOSP..MED LIB	104	12	77	12.5	7.2
FOOD & DRUG ADM..NATL CTR TOX RES	17	8	173	4.2	14.8
LOUISIANA STATE U NEW ORLEANS..LIB	49	32	394	10.5	12.9
LOUISIANA STATE U..SCH MED LIB	7	2	14	1.9	16.3
SPARKS REG MED CTR..HEALTH SCI LIB	13	0	0	1.3	6.0
TEXAS MED ASSN..LIB	35	1	10	1.7	2.9
TEXAS MED CTR HOUSTON..J H JONES LI	163	76	951	30.8	11.3
TULANE U..SCH MED LIB	23	21	242	6.8	17.7

MEDLINE CENTER)	TOTAL SEARCHES @ SYM	TOTAL OFF-LINE PRINTS	TOTAL PAGES	TOTAL HOURS	AVERAGE MIN. PER SEARCH
U ARK..MED CTR LIB	1	1	4	.1	6.0
U [illegible]..LIB MED SCI	171	20	240	25.7	9.0
U OKLA..HEALTH SCI CTR LIB	64	9	90	8.7	8.2
U TEXAS DALLAS..MED SCH LIB	160	37	608	27.1	10.2
U TEXAS MED BR GALVESTON..MOODY MED	269	14	141	27.1	6.0
U TEXAS SAN ANTONIO..MED SCH LIB	42	9	121	6.0	8.6
WILLIAM BEAUMONT ARMY MEDICAL CENTE	9	3	36	2.9	19.3
* TOTAL FOR RG: 9	1127	245	3101	167.3	
* RG: 10					
ALASKA HEALTH SCI INFO CTR	105	11	149	15.3	8.7
COLUMBUS HOSP GREAT FALLS MONT..LIB	26	2	50	2.9	6.7
MADIGAN GEN HOSP	23	5	84	5.6	14.6
SACRED HEART GEN HOSP..MED CTR DR'S	60	7	92	10.2	10.2
U OREGON..MED SCH LIB	178	0	0	32.7	11.0
U WASHINGTON..PAC NW REG HEALTH SCI	297	87	1039	48.4	9.8
V A HOSP BOISE IDAHO..LIB	0	0	0	.0	.0
* TOTAL FOR RG: 10	689	112	1414	115.1	
* RG: 11					
CEDARS-SINAI MED CTR..HOSP LIB	78	4	30	5.0	3.8
CHILDREN'S HOSP L A..DOCTOR'S LIB	104	24	185	12.2	7.0
HAWAII MED LIB INC	16	6	78	15.8	59.2
HOAG MEM HSP PRESBYTERIAN..MED LIB	3	0	0	1.6	32.0
L A CO HARBOR GEN HOSP..MED LIB	136	36	208	21.3	9.4
L A COUNTY MED ASSOC..LIB	54	5	26	12.4	13.8
LETTERMAN GEN HOSP..MED LIB	123	20	125	15.8	7.7
LOMA LINDA U..V RADCLIFF MEM LIB	73	31	243	18.4	15.1
MARTIN LUTHER KING JR GEN HOSP..MED	19	8	51	8.8	27.8
MEM HOSP MED CTR LONG BEACH..MED LI	270	63	686	29.8	6.6
ORTHOPAEDIC HOSPITAL..RUBEL MEM LIB	34	6	32	8.4	14.8
PANCHO LOS AMIGOS HOSP..LIB	88	14	110	11.4	7.8
STANFORD U MED CTR..LANE MED LIB	154	56	803	24.3	9.5
TRIPLER ARMY MED CTR..MED LIB	13	5	81	10.1	46.6
U ARIZ..MED CTR LIB	30	12	170	7.4	14.8
U CALIF DAVIS..HEALTH SCI LIB	109	16	166	19.9	11.0
U CALIF IRVINE..MED SCI LIB	103	40	545	33.3	19.4
U CALIF L.A...BIOMED LIB PAC SW RML	1	1	18	7.8	468.0
U CALIF L.A...BIOMED LIB REF SECT	135	85	920	30.8	13.7
U CALIF S.F...LIB	70	44	515	25.9	22.2
U CALIF SAN DIEGO..BIOMED LIB	80	47	733	16.4	12.3
U HAWAII..HAMILTON LIB	15	14	217	11.6	46.4

MEDLINE CENTER	TOTAL SEARCHES @ SYM	TOTAL OFF-LINE PRINTS	TOTAL PAGES	TOTAL HOURS	AVERAGE MIN. PER SEARCH
U NEV RENO..LIFE HEALTH SCI LIB	32	0	0	1.5	2.8
U SO CALIF SCH MED..NORRIS MED LIB	103	63	764	26.6	15.5
V A HOSP SEPULVEDA CALIF..MED LIB	18	41	416	11.3	37.7
* TOTAL FOR RG: 11	1861	641	7122	387.8	
* RG: 70					
DALHOUSIE U..W K KELLOG HEALTH SCI	85	24	265	8.1	5.7
DEPT NATL HEALTH WELFARE..HEALTH PR	37	16	349	5.1	8.3
MCGILL U..MED LIB	141	67	879	35.9	15.3
MEM U NEWFOUNDLAND..FAC MED LIB	43	3	11	7.4	10.3
NATL RES COUNCIL OF CANADA..NATL SC	50	19	721	15.2	18.2
U BRITISH COLUMBIA..LIB	46	12	56	9.8	12.8
U CALGARY..LIB	0	0	0	.0	.0
U MANITOBA..LIB	24	6	121	1.9	4.7
U SASKATCHEWAN..HEALTH SCI LIB	1	1	59	2.6	156.0
U TORONTO..LIB	27	14	220	9.0	20.0
* TOTAL FOR RG: 70	454	162	2681	95.0	
* RG: 80					
BIBLIOTECA REG DE MED..ORG PAN AMER	0	0	0	.0	.0
BRITISH LIB LEND DIV	2	0	0	.9	27.0
I.N.S.E.R.M.	50	0	0	11.0	13.2
MILL HILL..NATL INST MED RES LIB	12	0	0	2.6	13.0
* TOTAL FOR RG: 80	64	0	0	14.5	

** GRAND TOTAL - JULY 1973

TOTAL SEARCHES - @ SYMBOLS	14979
TOTAL OFF-LINE PRINTS	3641
TOTAL PAGES OFF-LINE	44978
TOTAL HOURS	2570.7
AVERAGE MIN. PER SEARCH	10.3

NATIONAL LIBRARY OF MEDICINE

LIBRARY NETWORK/MEDLARS TECHNICAL BULLETIN

of the

Library Component of the Biomedical Communications Network

No. 54 OCTOBER 1973

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

LIBRARY NETWORK/MEDLARS TECHNICAL BULLETIN
of the
Library Component of the Biomedical
Communications Network

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The LIBRARY NETWORK/MEDLARS TECHNICAL BULLETIN is issued monthly by the Office of the Associate Director for Library Operations.

MEDLINE DATA BASES

The MEDLINE and SDILINE data bases were updated on October 23 at NLM and SUNY to include the November 1973 MEDLARS citations. COMPFILE still includes September and October 1973 citations. The sizes of the data bases are as follows:

MEDLINE - 522,830

SDILINE - 18,428

COMPFILE - 336,989

MEDLINE TECHNICAL NOTES

PLEASE QUERY THE NLM/MEDLINE NEWS FILES UNDER TSO DAILY

MESSAGES, SENDING

When sending messages to MEDLARS Management Section through TSO, there is a limit of 115 characters per message. If you find that your message necessitates using a second line, you must end the first line within the message with a space, followed by a dash and a carriage return. Then wait for the terminal to skip a line, and enter the remainder of your message ending with USER(NLM53) and an additional carriage return.

```
SEND 'THIS MESSAGE IS BEING SENT TO - (carriage return)
THE NATIONAL LIBRARY OF MEDICINE....' USER(NLM53)
```

If your message is longer than 115 characters you will have to send more than one message. If using this method, please end each message with the word CONT., or something similar so that MEDLARS Management Section will be expecting the remainder of your message.

```
SEND 'THIS IS THE MESSAGE TO MEDLARS MANAGEMENT CONT.' USER(NLM53)

SEND 'THIS IS THE REMAINDER OF THE MESSAGE' USER(NLM53)
```

SEND may be abbreviated SE and USER may be abbreviated U.

```
SE 'THIS IS A SAMPLE MESSAGE' U(NLM53)
```

NEWS, SERLINE

News specific to SERLINE may be obtained by logging into the NLM/MEDLINE system, entering the command "QUIT" in quotes, and typing LIST 'SERNEWS' after the READY cue. You must re-enter ELHILL before stopping.

"USERS" COMMAND

After logging into MEDLINE it is advisable to query the system for the number of users on the network. You may do this by entering in quotes the command "USERS" after any USER: cue. Since the system generally slows down with more than 20 users, a higher number would mean that you should try switching to SUNY when it is available to MEDLINE users.

NEWS FILES, ERROR MESSAGES

When accessing any of the NLM/MEDLINE News Files under TSO, if you make a typographical mistake, or if there is line interference, you will not be able to access the file, and instead will receive an error message from the TSO system.

If you have logged in directly you may press the BREAK key and you should be returned to the READY state; you may then reenter your News File command.

If you have logged in through Tymshare, the BREAK key will not function. If you receive the message ENTER DATA SET NAME or INVALID DATA SET NAME, REENTER, enter the file name alone, in single quotes, e.g., 'NEWS'. Any program messages thereafter should be answered with only a carriage return. If you have requested a valid news file, the system will list the desired file.

BREAK KEY

The BREAK key can only be used as an interrupt or escape from the TSO news files and message routines if you have logged in directly to the NLM computer. If you have logged in through the Tymshare network, the BREAK key will not function at present. There are plans to have this BREAK feature available to Tymshare users in the future.

LOGOFF

After accessing the news files, if you are unable to reenter ELHILL because MEDLINE has gone down, type LOGOFF after the READY cue to exit from the system.

TROUBLE CALLS

There is a member of the MEDLARS Management Section staff on duty each day from 8:30 a.m. - 12:30 p.m. and another from 12:30 p.m. - 5:00 p.m. (Eastern Time) for answering trouble calls from users of the system.

When calling with a problem, it is not necessary to ask for a particular member of the staff unless you wish to do so. For example, if you have been communicating with a specific person about a specific problem you may wish to speak to that member of the staff. Otherwise, you will be referred to the person on trouble duty during the period you call. The telephone number in MEDLARS Management Section is 301/496-6193. Collect calls cannot be accepted.

ACCOUNTING DATA

After you have completed your login, you may want to query the system for the cost of your login, so as not to charge the first user for this time. If after the first USER: cue you enter an @ symbol and a backwards slash, i.e., @\, the system will provide you with the login cost information but it will not be counted as an intellectual search. Entering an @ symbol alone after the first USER: cue will also give you the login cost, but the @ symbol will be counted as a search. Any time the exact cost of a single search is desired, you can begin with a @\ and end with an @ symbol; the time and cost given for the final @ symbol is for the period between the @\ and the @.

PASSWORD

In the July 1973 Technical Bulletin (page 9) it was announced that centers could request an additional password to safeguard against unauthorized use of their code. This feature is now also available on the SUNY/MEDLINE system. Centers wishing the additional password should state their request in writing to MEDLARS Management Section, including the desired password. The password may be from three to eight characters in length. Users have the option of having this password changed on a monthly basis. MEDLARS Management Section will confirm all requests in writing. This feature should only be requested by those institutions who feel that their codes are being used by unauthorized people.

MEDLINE, NLM

The User Names NLM and NLM2 access MEDLINE on the same computer in Bethesda, Maryland. The difference between the two is the way in which Tymshare routes the user to the host computer. If MEDLINE at the National Library of Medicine is down, then neither of these User Names will be capable of accessing the system. The alternative then is to login to SUNY/MEDLINE. If you login to NLM as your primary access point (see LIST 'PHONES') and receive the OUT OF CHANNELS message, you should then login to your secondary access point (NLM2 or SUNY) as the NLM Tymsat is filled to capacity.

Use of MEDLINE at the National Library of Medicine (NLM or NLM2) on Tuesday mornings is reserved for in-house testing purposes. If you happen to login during this period you may experience unusual responses from the system, as different program versions may be operating. This may occasionally have an effect on off-line print requests entered during this period. Users will be charged for any use of the system on Tuesday mornings.

SPECIAL LIST JOURNALS

Checktags such as human and child are not used in the indexing of articles in Special List Dentistry and Special List Nursing journals. Therefore, if you use a checktag in COMPFILE or SDILINE, articles from Special List Journals will not be retrieved as expected. For example, in the search

DENTAL CARIES AND NOT CHILD

special list articles on children will be retrieved because CHILD is not used in the indexing of Special List Dentistry journals. Likewise, if your search statement reads DENTAL CARIES AND CHILD you will not retrieve any Special List citations at all, since checktags are not used.

CATLINE, ISBN

In the CATLINE file, the International Standard Book Number (ISBN) is always the first Drop Note. For searching, the field qualifier is BN, and should be used whenever the search is limited to ISBN's. Using this qualifier will hasten the internal searching process, and eliminate the searching of all other numbers in the index.

To specify the Drop Note field in your print statement, you may use the field qualifier DN, e.g., "PRINT DN, TI, NA".

STRING-SEARCHING, SERLINE

When Stringsearching in SERLINE, there is no automatic default to the title field. Users must specify the category they want Stringsearched in their search statement with the appropriate category qualifier.

SDILINE KEEPS MEDICAL LIBRARIANS IN CONNECTICUT WELL INFORMED

Charles R. Bandy
Assistant Director, University of Connecticut Health Center Library

The University of Connecticut Health Center Library has begun to utilize the SDILINE file to inform the library staff of articles related to libraries in the health sciences setting. A complete search was done on the entire MEDLINE file in July. Monthly updates have been photocopied and circulated to the staff. Beginning this month copies of the SDILINE file updates have been mailed to all health science librarians in the state.

Continuing education, whether it be in a formal setting or self-motivated, has been a vital concern for some time among health science librarians. We are hoping that the monthly SDILINE will be a stimulus for staff members to keep abreast of present innovations rather than reading about them five years from now.

A major advantage of this approach is that citations are retrieved that one would not come across in the typical, restricted selection of journals "read" by librarians. Some of the citations sound quite promising, such as one in the October SDILINE file from the Journal of the Medical Association of Georgia, entitled "Emory Information Retrieval Systems Help You Find Everything You Ever Wanted to Know About Anything" (62:147,1973)!

THE GOLDEN MeSH BOOK: A FABLE

Thelma Charen
Index Section, NLM

Once upon a time there was a young maiden whose beauty was exceeded only by her intelligence. To her land there came a missive from afar, asking the fair young maiden to send to a famous seat of learning all the knowledge she could garner from graven words concerning a spreading cortical depression.

Since both her beauty and intelligence were exceeded only by her industry, she set about seeking far and wide through many written words some direction to lead her to the knowledge.

After many hours of searching through written texts, the industrious maid came upon the words of a wise physician advising her that when electrical, mechanical or chemical stimuli are applied to the cortex of the brain, its spontaneous electrical activity showed a slowly expanding depression.

The lovely young maiden then sat down before a magic metal box studded with many bosses, which-through an ineffable sorcery was able to speak in reply to her questions. Since her beauty and intelligence and industry were exceeded only by her eagerness to please, she asked the wondrous machine many questions, being careful to press the bosses one by one in a well-learned pattern until the answers flowed from the magic box. She made glowing patterns of CEREBRAL CORTEX/physiology, ELECTRIC STIMULATION, BRAIN/physiology, ELECTROPHYSIOLOGY, PHYSICAL STIMULATION, STIMULATION, CHEMICAL and more and more and more, growing more and more pained and exhausted. She wept for the answers did not please her.

Since her industry and eagerness were exceeded only by her nervousness, she forgot in her haste and anxiety to consult a Golden Book which contains much knowledge enMeSHed in its pages. She did not know that the Golden Book shone with a glowing pattern of the words SPREADING CORTICAL DEPRESSION. Had she consulted the pages of the Golden Book first, she would have lived happily ever after.

MORAL: Be thou neither intelligent nor industrious; be thou lazy; go first to the Golden Book.

Epilog

The fair young maiden was claimed by the handsome prince when she consulted the Golden Book for

CYTOPLASMIC STREAMING
HIGHER NERVOUS ACTIVITY
AXOPLASMIC FLOW
METABOLIC CLEARANCE RATE
PEPTIDE CHAIN INITIATION
VENTILATION-PERFUSION RATIO
THERAPEUTIC EQUIVALENCY
WORK OF BREATHING
CONTINGENT NEGATIVE VARIATION
MITOCHONDRIAL SWELLING

MAXIMUM PERMISSIBLE EXPOSURE LEVEL
KIDNEY CONCENTRATING ABILITY
QUALITY OF HEALTH CARE
ATTITUDE OF HEALTH PERSONNEL
LIPID MOBILIZATION
PASSIVE CUTANEOUS ANAPHYLAXIS
ENZYME INDUCTION
STRUCTURE-ACTIVITY RELATIONSHIP
NUCLEIC ACID CONFORMATION
BACKGROUND RADIATION
ELEMENTARY PARTICLES
CROSS CULTURAL COMPARISON
LIP READING
ACTIVITIES OF DAILY LIVING
HEALTH MAINTENANCE ORGANIZATIONS
NEURAL ANALYZERS
NEUROSECRETORY SYSTEM
ADRENERGIC FALSE TRANSMITTERS
HYSTERICAL PERSONALITY
AS IF PERSONALITY
POSTPERICARDIOTOMY SYNDROME
ANGIOID STREAKS
AUTONOMIC DYSFUNCTION
THERAPEUTIC COMMUNITY
SPERM CAPACITATION
DENTAL ENAMEL SOLUBILITY
DISSEMINATED INTRAVASCULAR COAGULATION
NEUROEFFECTOR JUNCTION

and many, many more. And be it known that when the Golden Book does not glow with the bright light of such words as above, it shines with a dimmer light to show the way to the shining words. The dimmer lights speak to the seeker, saying, "See", "See under", "See also" and all the maids and youths of the land travel in safety.

EDITOR'S NOTE: Of course, the fair young Ms., if not wedded to printed materials, e.g., Golden Books, could have queried the magic box for helpful terms either by Neighboring: "NBR SPREADING CORTICAL DEPRESSION", or by searching the SDILINE (October 1973) with SPREADING AND DEPRESSION. By using the second strategy, she would have found three citations to useful written texts. If she had then carefully pressed the bosses with the pattern "PRINT TRIAL", she would have been shown all of the words from the Golden Book used to index these texts, including SPREADING CORTICAL DEPRESSION. These could then have been used by the fair young Ms. to perform further sorcery on the magic box.

MORAL: Be thou also ingenious; use the magic box.

MEDLINE FILE DEFINITIONS

Grace H. McCarn
Head, MEDLARS Management Section, NLM

Brief definitions of the five on-line data bases in the MEDLINE system have been developed as an aid in explaining the data bases included in MEDLINE. Please feel free to copy and distribute these definitions as you wish.

MEDLINE — MEDLINE (MEDLARS on-LINE) is the National Library of Medicine's on-line data base containing approximately 500,000 citations to about 1200 of the journal titles indexed in Index Medicus for the past three calendar years. The file is updated on a monthly basis, and when the current year has been input completely, the earliest year is removed. MEDLINE is available daily (Monday through Friday) from the NLM computer in Bethesda, Maryland, and from the State

University of New York (SUNY) computer in Albany. Users may access the data base directly or via time-sharing networks. Citations may be printed on-line or off-line.

COMPFILE — COMPFILE (COMPlement FILE) is the National Library of Medicine's on-line file of citations to journal articles which complements MEDLINE. It consists of journal articles indexed for the past three years in Index Medicus, but not included in MEDLINE, plus the special list journals such as the nursing and dentistry journals. This file is available only on a limited time schedule (rather than daily as with MEDLINE) and only from the NLM computer in Bethesda, Maryland. Searches may be performed on-line, but the retrieved citations cannot be displayed on-line. The user must await the arrival of off-line printouts by mail.

SDILINE — SDILINE (Selective Dissemination of Information on-LINE) is the National Library of Medicine's on-line file containing MEDLARS citations (all Index Medicus journals plus the special list journals) for the current month. SDILINE is available on a daily basis from both the NLM and SUNY computers. The entire contents of SDILINE are changed once each month, usually by the third week of the month. Citations contained in SDILINE are almost one month ahead of the Index Medicus publication date. For example, the Index Medicus citations available in SDILINE from early April until early May will be those that appear in the May Index Medicus. Users may access the data base directly or via time-sharing networks. Citations may be printed on-line or off-line.

CATLINE — CATLINE (CATaloging on-LINE) is the National Library of Medicine's on-line data base containing full bibliographic data for all materials cataloged at NLM and appearing in the Current Catalog since 1965. It contains approximately 130,000 citations and is updated twice a month. CATLINE is available on a daily basis from the NLM computer only and may be used in support of a number of library activities ranging from acquisitions and cataloging to reference and interlibrary loan. Users may access the data base directly or via time-sharing networks. Citations may be printed on-line or off-line.

SERLINE — SERLINE (SERials on-LINE) is the National Library of Medicine's on-line data base of serial records containing bibliographic and locator information for about 5600 biomedical serial titles which are current or have ceased publication after 1969. The file is available on a daily basis from the NLM computer only and will be updated with bibliographic and locator information at regular intervals. SERLINE's prime function is to provide on-line bibliographic and locator information in support of the Regional Medical Library Network interlibrary loan activity. In addition it can support cooperative acquisitions and reference functions within the network. Users may access the data base directly or via time-sharing networks. Citations may be printed on-line or off-line.

ENGLISH ABSTRACTS IN FOREIGN LANGUAGE MEDLINE CITATIONS

Gary Byrd
MEDLARS Management Section, NLM

That users of MEDLINE are predominantly readers of English to the exclusion of almost all other languages is a fact that few would debate. Based in the United States and used primarily by Americans, it is not surprising that the search strategy AND NOT FOREIGN in MEDLINE is a very popular one.

There is, however, a very real danger that searches which automatically exclude articles in foreign languages will miss important and perhaps crucial research. One way in which the searcher who is limited to English can at least partially avoid this danger is to include ENGLISH ABSTRACT in his search strategy. All foreign language articles indexed for MEDLARS are scanned for English abstracts and tagged by the indexers.* And although the quality of English abstracts to foreign language articles varies greatly, they are useful aids in quickly determining the relevancy and importance of particular articles.

Because English abstracts are potentially so valuable to English speaking users of MEDLINE, it would be helpful to know exactly what percentage of the foreign language literature has been abstracted in English. In addition, it would be helpful to know whether this percentage has increased or decreased from year to year.

The tables below illustrate the overall proportion of foreign language citations with English abstracts in the MEDLARS files.

Total MEDLARS Citations (October 1973)

	Number of Citations	Number of Foreign Language Citations	Percentage of Foreign Language Citations
MEDLINE	509,396	122,124	24%
COMPFILE	336,989	230,455	68%
MEDLARS	846,385	352,579	42%

Total Foreign Language MEDLARS Citations (October 1973)

	Number of Foreign Language Citations	Number of Foreign Language Citations with English Abstracts	Percentage of Foreign Language Citations with English Abstracts
MEDLINE	122,124	65,957	54%
COMPFILE	230,455	98,486	43%
MEDLARS	352,579	164,443	47%

* NOTE: Only foreign language citations are tagged with the ENGLISH ABSTRACT tag. English language citations with abstracts are not tagged.

The following figures give a general picture of the changing proportion of English abstracts in foreign language articles in MEDLARS over the past five years. Figures 1 and 2 show the percentages in MEDLINE and COMPFILE respectively. Figure 3 shows the percentages for all of MEDLARS (MEDLINE plus COMPFILE).

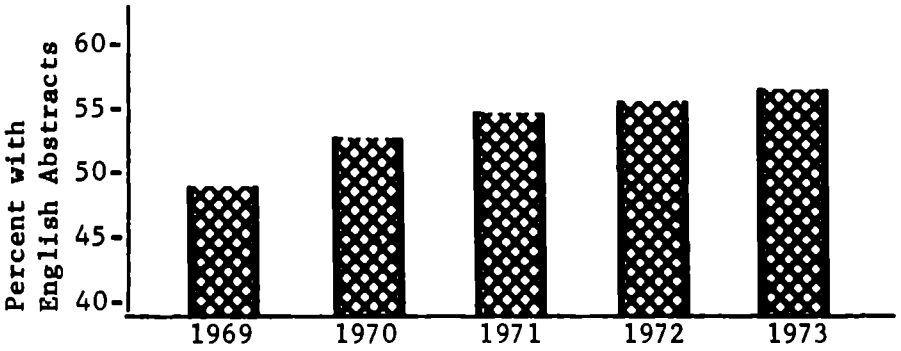

Figure 1. MEDLINE Foreign Language Citations with English Abstracts (1969 - 1973).

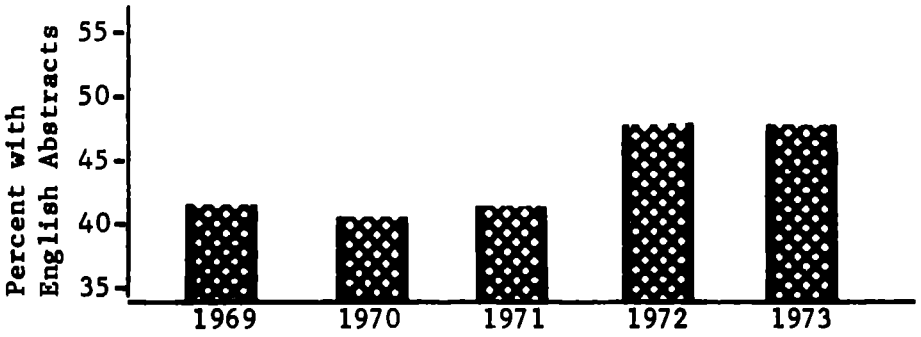

Figure 2. COMPFILE Foreign Language Citations with English Abstracts (1969 - 1973).

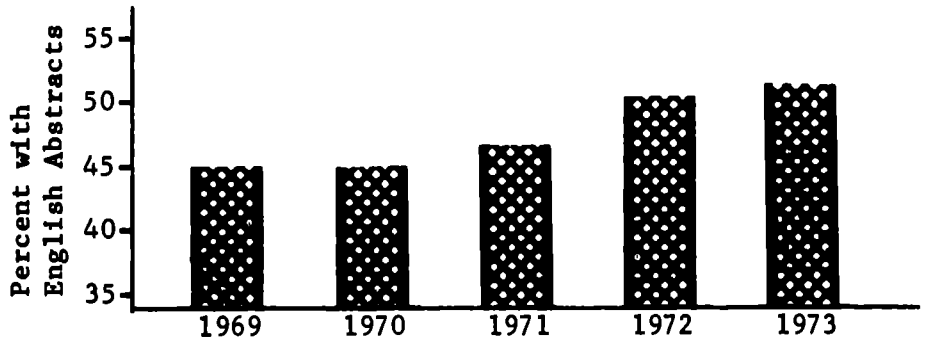

Figure 3. MEDLARS Foreign Language Citations with English Abstracts (1969 - 1973).

The information contained in the above tables and figures should be comforting to English speaking users of MEDLINE. Less than half of all the citations in MEDLARS are in languages other than English and nearly half of those have English abstracts. In addition, the percentage of foreign language citations with English Abstracts has been steadily (if slowly) increasing over the past five years and promises to continue to do so.

MEDLINE TRAINEES AT NLM, SEPTEMBER 10, 1973

The fourteenth NLM MEDLINE Training Class was held September 10 - September 28, 1973. The following people attended:

Helen Critchfield	Food and Drug Administration Rockville, Maryland
Clara Dunleavy	Albert Einstein College of Medicine Yeshiva University Library Bronx, New York
Bettifae Dvorkin	Howard University Washington, D. C.
Laura Eisenberg	National Library of Medicine Library Associate Bethesda, Maryland
Carol Evans	National Library of Medicine Library Associate Bethesda, Maryland
Patricia Gordon	Massachusetts Institute of Technology Cambridge, Massachusetts
Billie Gough	Food and Drug Administration National Center for Toxicological Research Jefferson, Arkansas
Sirja Hantsoo	National Library of Medicine MeSH Section Bethesda, Maryland
Francine Lostritto	University of Connecticut Farmington, Connecticut
Dr. Miguel Rodriguez	Biomedical Information Section Public Health Department Mexico City, Mexico
Sally Sinn	National Library of Medicine Library Associate Bethesda, Maryland

Gaston St. Denis	National Library of Medicine Reference Services Division Bethesda, Maryland
Alexandria Wolff	University of the State of New York New York State Library Albany, New York

MEDLINE TRAINEES AT UCLA, SEPTEMBER 26, 1973

The University of California Biomedical Library, Los Angeles held its ninth MEDLINE Training Class September 26 - October 11, 1973. The following people attended:

Helen Asher	St. Joseph Hospital Library Orange, California
Ellen Guba	Mills Memorial Hospital San Mateo, California
Evelyn Kiresen	Public Health Library University of California Berkeley, California
Sheila Latus	Kaiser Foundation Hospital La Mesa, California
Margaret Mosley	Spencer S. Eccles Medical Sciences Library University of Utah Salt Lake City, Utah
Ann Robertson	David Grant USAF Medical Center Library Travis Air Force Base, California
Joan Schaefer	Lovelace Foundation for Medical Education and Research Albuquerque, New Mexico
Leonard Shapiro	California College of Podiatric Medicine San Francisco, California
Betty Sherwood	Ames Research Center NASA Moffett Field, California

MEDLINE STATISTICS
AUGUST 1973

The statistical reporting period runs from the first to the last day of each month. The statistics are a total of the usage of all MEDLINE files (MEDLINE, CATLINE, SERLINE, SDILINE and COMPFILE) both at NLM and SUNY. If your statistics differ greatly from these, please notify MEDLARS Management Section.

MEDLINE CENTER	TOTAL SEARCHES @ SYN	TOTAL OFF-LINE PRINTS	TOTAL PAGES	TOTAL HOURS	AVERAGE MIN. PER SEARCH
* RG: 1					
BOSTON U SCH MED..MED LIB	42	36	690	20.6	29.4
BROWN U..SCI LIB	0	0	0	.0	.0
DARTMOUTH COL..DANA BIOMED LIB	119	27	273	14.6	7.4
HARVARD U..F COUNTWAY LIB	35	18	379	12.8	21.3
MAINE MED CTR	10	1	14	3.3	19.8
MASS GEN HOSP..TREADWELL LIB	24	16	141	19.6	49.0
TUFTS U..MED DENT LIB	545	34	233	31.2	3.4
U CONN..L M STOWE LIB	218	39	415	32.2	8.9
U MASS..MED SCH LIB	42	7	56	6.6	9.4
U VERMONT..DANA MED LIB	65	2	11	9.0	8.3
YALE U..MED LIB	110	23	240	33.9	18.5
* TOTAL FOR RG: 1	1210	203	2400	183.8	
* RG: 2					
ALBANY MED COL	0	0	0	.0	.0
ALBERT EINSTEIN COL MED..LIB	0	0	0	.0	.0
COL MED DENT NJ..LIB	558	143	1767	38.6	4.2
COLUMBIA U..MED LIB	111	34	518	20.7	11.2
CORNELL U MED COLL..LIB	37	15	97	7.1	11.5
ELLIS HOSP..LIB	14	2	10	2.0	8.6
MED RES LIB BROOKLYN	18	3	17	3.7	12.3
NY ACAD MED..NY NO NJ RML	42	12	377	12.0	17.1
RUTGERS U	7	3	13	3.1	26.6
SLOAN-KETTERING CANCER CTR	0	0	0	.0	.0
SUNY ALBANY..CENT OFF COMPUTER CTR	0	0	0	.0	.0
SUNY BUFFALO	40	0	0	9.3	14.0
SUNY STONY BROOK	0	0	0	.0	.0
* TOTAL FOR RG: 2	827	212	2808	96.5	
* RG: 3					
COL PHYSICIANS PHILA..LIB	35	16	99	7.0	12.0
HAHNEMANN MED COL..LIB	14	8	94	6.9	29.6

MEDLINE CENTER	TOTAL SEARCHES @ SYM	TOTAL OFF-LINE PRINTS	TOTAL PAGES	TOTAL HOURS	AVERAGE MIN. PER SEARCH
JEFFERSON MED COL..LIB	41	15	501	13.1	19.2
MED COL PA	68	24	352	15.9	14.0
PENN STATE U..HERSHEY MED CTR LIB	84	14	119	13.4	9.6
TEMPLE U..HEALTH SCI CTR LIB	54	33	837	17.4	19.3
U PENN..SCH MED LIB	64	17	190	11.8	11.1
U PITTSBURGH..FALK LIB	34	20	160	17.0	30.0
V A HOSP ERIE PA..LIB	15	0	0	1.3	5.2
* TOTAL FOR RC: 3	409	147	2352	103.0	
* RC: 4					
BOWMAN GRAY SCH MED..LIB	80	19	219	9.3	7.0
BUR NARC DANG DRUGS..DRUG CTRL DIV	1	1	18	.2	12.0
D C GEN HOSP..LIB	54	5	35	10.9	12.1
DUKE U SCH MED..MED CTR LIB	130	31	301	25.3	11.7
ENVIRONMENT PROTECT AG 401 M ST SW	0	0	0	.0	.0
FAIRFAX HOSP	56	8	34	7.4	7.9
FED AMER SOC EXP BIOL..OFF BIOL HAN	4	0	0	.2	3.0
FOOD & DRUG ADM ROCKVILLE..ADP SYST	50	13	89	27.9	33.5
FREDERICK CANCER RES CTR	44	7	73	21.8	29.7
GEORGE WASHINGTON U HOSP..HOSP BR L	330	16	142	47.2	8.6
GEORGETOWN U MED CTR..DAHLGREN MEM	110	68	673	37.4	20.4
HEALTH SERV MENT HLTH ADM..LIB	31	25	219	5.5	10.6
HOWARD U..MED DENT LIB	17	2	9	4.3	15.2
JOHNS HOPKINS U..WELCH MED LIB	95	13	249	24.7	15.6
JOINT MED LIB USA USAF..OFF SURG GE	157	33	387	21.8	8.3
LIB CONGRESS..CONGRESS REF SERV	0	0	0	.0	.0
MED CHIR FAC MARYLAND..LIB	128	6	37	11.2	5.2
NATL INST ENVIRON HEALTH SCI	31	4	68	10.4	20.1
NATL LIB MED..MARML RM 152	187	173	2284	62.4	20.0
NATL LIB MED..RSD	294	48	515	82.5	16.8
NATL NAVAL MED CTR..STITT LIB & RES	170	16	128	25.0	8.8
NIH..DRG	11	1	18	2.3	12.5
NIH..LIB	535	260	3670	83.3	9.3
NIH..NATL CANCER INST	81	35	1361	11.5	8.5
NIH..NATL HEART INST	13	1	26	5.2	24.0
NIH..NIAMD	65	13	94	18.7	17.3
NIH..NIMH LIB	8	7	120	.8	6.0
PHARMACEUTICAL MFR ASSN	38	3	32	8.6	13.6
ST ELIZ HOSP SMR..NIMH LIB	193	36	445	29.0	9.0
ST ELIZ HOSP..PROF LIB	15	0	0	.5	2.0
U MARYLAND BALTIMORE..HEALTH SCI LI	175	25	330	41.5	14.2
U NC..HEALTH SCI LIB	108	24	266	14.6	8.1
U S GOVT	4	1	17	1.1	16.5
U VA..MED SCH LIB	177	58	631	26.6	9.0
V A CTRL OFF 810 VERMONT AVE NW DC	65	22	209	17.4	16.1
V A HOSP DC..LIB	126	14	142	19.7	9.4

MEDLINE CENTER	TOTAL SEARCHES O SYM	TOTAL OFF-LINE PRINTS	TOTAL PAGES	TOTAL HOURS	AVERAGE MIN. PER SEARCH
WALTER REED ARMY MED CTR..GEN HOSP	111	18	218	34.0	18.4
WASHINGTON HOSPITAL CTR..MED LIB	68	5	16	7.0	6.2
VA H..MED CTR LIB	58	27	363	13.2	13.7
* TOTAL FOR RG: 4	3820	1038	13438	771.2	
* RG: 5					
CASE WEST RES U..CLEVELAND HEALTH S	62	10	109	11.6	11.2
ENVIRONMENT PROTECT AG CINCINNATI	150	28	409	18.0	7.2
HARPER HOSP..DEPT LIB	72	0	0	18.4	15.3
HENRY FORD HOSP	67	6	60	14.7	12.9
MED)COL OHIO TOLEDO..LIB	51	0	0	6.2	7.3
MICH STATE U..SCI LIB	48	34	343	18.7	23.4
OHIO STATE U COL MED..HEALTH CTR LI	192	19	192	28.4	0 8.9
SINAI HOSP DETROIT..MED LIB	9	0	0	1.4	9.3
U CINCINNATI..MED CTR LIB	141	76	751	18.3	0 7.8
U DETROIT..SCH DENT LIB	1	0	0	.1	6.0
U KY..MED CTR LIB	105	30	355	22.7	8.3
U LOUISVILLE..KORNHAUSER HEALTH SCI	94	9	105	17.6	11.2
U MICH..MED CTR LIB	74	46	903	12.8	10.4
WAYNE STATE U..SHIFFMAN MED LIB	32	26	260	13.0	26.1
WILLIAM BEAUMONT HOSP..MED LIB	53	6	65	7.2	8.2
* TOTAL FOR RG: 5	1211	290	3552	209.6	
* RG: 6					
EMORY U..A W CALHOUN MED LIB	130	79	1003	23.5	10.8
JACKSONVILLE HOSP EDU PROG..J L BOR	14	1	10	2.2	9.4
MED COL GA..DIV HEALTH COMM LIB	59	36	531	10.7	10.9
MED U SC..LIB	159	11	80	15.0	6.0
TOXICOLOGY INF RESPONSE CTR..BIOL D	28	37	1697	8.0	17.1
U ALA..LISTER HILL CTR HEALTH SCI	110	16	193	14.3	7.8
U FLA..J H MILLER HEALTH CTR LIB	55	23	285	5.0	6.4
U MIAMI..L CALDER MEM LIB	117	57	674	11.8	6.1
U MISS MED CTR..ROWLAND MED LIB	24	6	40	4.0	10.0
U SOUTH ALABAMA..BIOMED LIB	21	0	0	6.1	17.4
U SOUTH FLORIDA..MED CTR LIB	31	3	42	3.9	7.5
U TENN..MED UNITS LIB	69	30	353	7.9	6.9
V A HOSP DECATUR GA..LIBRARY	143	17	104	18.8	7.9
VANDERBILT U..SCH MED LIB	26	3	56	2.6	6.0
* TOTAL FOR RG: 6	986	319	5068	135.6	

MEDLINE CENTER	TOTAL SEARCHES @ SYM	TOTAL OFF-LINE PRINTS	TOTAL PAGES	TOTAL HOURS	AVERAGE MIN. PER SEARCH
* RG: 7					
AMER MED ASSOC..ARCHIVE LIB	146	6	102	16.3	6.7
IND U..SCH MED LIB	69	1	9	8.8	7.7
JOHN CRERAR LIB	18	3	16	5.4	18.0
LUTHERAN GEN HOSP..LIB	48	7	86	9.7	12.1
MAYO FOUND..MAYO CLINIC LIB	102	21	208	15.8	9.3
MED COL WIS..MED DENT LIB	77	13	115	13.1	10.2
NORTHWESTERN U..MED & DENT SCH LIB	5	7	60	1.3	15.6
SOUTHERN ILL U..SCH MED LIB	16	2	22	6.1	22.9
U CHICAGO..BILLINGS HOSP LIB	117	11	75	28.6	14.7
U ILL MED CTR..LIB HEALTH SCI	63	12	159	11.1	10.6
U ILL..ROCKFORD SCH MED LIB	33	14	122	7.00	12.7
U IOWA..MED LIB	82	46	464	16.6	12.1
U MINN..BIOMED LIB	73	33	1046	20.7	17.0
U WISC..MIDDLETON MED LIB	190	75	872	36.9	11.7
V A HOSP WOOD WISC	116	12	74	28.5	14.7
* TOTAL FOR RG: 7	1155	263	3430	225.9	
* RG: 8					
CREIGHTON U..HEALTH SCI LIB	31	4	31	7.3	14.1
FITZSIMONS GEN HSP..MED-TEC LIB	72	22	245	14.3	11.9
ST LUKES HOSPITAL..LIB	100	3	37	10.1	6.1
U COLO..DENISON MEM LIB	111	60	610	26.5	14.3
U KANS..CLENDENING MED LIB	69	22	220	11.6	10.1
U MO COLUMBIA..MED LIB	98	17	141	18.1	11.1
U MO KANSAS CITY..SCH MED LIB	237	20	235	28.6	7.2
U NEBR..MIDCONTINENTAL RML PROG	86	19	208	15.2	10.6
U UTAH..ECCLES MED SCI LIB	76	71	767	19.7	15.6
V A HOSP LINCOLN NB..LIB	28	2	4	5.8	12.4
WASHINGTON U..SCH MED LIB	182	96	1153	34.4	11.3
* TOTAL FOR RG: 8	1090	336	3651	191.6	
* RG: 9					
BROOKE GEN HOSP..MED LIB	76	10	71	8.6	6.8
FOOD & DRUG ADM..NATL CTR TOX RES	87	14	421	11.9	8.2
HOUSTON ACAD MED..TEX MED CTR LIB	354	94	1172	49.0	8.3
LOUISIANA STATE U NEW ORLEANS..LIB	52	37	386	16.2	18.7
LOUISIANA STATE U..SCH MED LIB	26	11	89	4.3	9.9
SPARKS REG MED CTR..HEALTH SCI LIB	11	1	5	1.7	9.3
TEXAS MED ASSN..LIB	55	0	0	3.9	4.3
TULANE U..SCH MED LIB	39	34	410	14.0	21.5

MEDLINE CENTER	TOTAL SEARCHES C SYM	TOTAL OFF-LINE PRINTS	TOTAL PAGES	TOTAL HOURS	AVERAGE MIN. PER SEARCH
U ARK..MED CTR LIB	4	2	35	.5	7.5
U [illegible]..LIB MED SCI	154	21	472	28.7	9.6
U OKLA..HEALTH SCI CTR LIB	31	10	75	5.2	10.1
U TEXAS DALLAS..MED SCH LIB	182	32	510	34.5	11.4
U TEXAS MED BR GALVESTON..MOODY MED	264	21	151	31.0	7.0
U TEXAS SAN ANTONIO..MED SCH LIB	56	16	160	9.4	10.1
WILLIAM BEAUMONT ARMY MEDICAL CENTE	34	9	44	10.0	18.7
* TOTAL FOR RG: 9					
	1425	312	4001	225.5	
* RG: 10					
ALASKA HEALTH SCI INFO CTR	130	16	222	15.5	7.2
COLUMBUS HOSP GREAT FALLS MONT..LIB	56	0	0	7.4	7.9
MADIGAN GEN HOSP	24	5	47	5.6	14.0
SACRED HEART GEN HOSP..MED CTR DR'S	91	8	61	13.7	9.0
U OREGON..MED SCH LIB	206	2	19	48.2	14.0
U WASHINGTON..PAC NW REG HEALTH SCI	344	101	1563	59.1	10.3
V A HOSP BOISE IDAHO..LIB	37	5	42	9.8	15.9
* TOTAL FOR RG: 10					
	888	137	1954	159.3	
* RG: 11					
CEDARS-SINAI MED CTR..HOSP LIB	45	5	57	3.1	4.1
CHILDREN'S HOSP L A..DOCTOR'S LIB	125	30	202	15.4	7.4
HAWAII MED LIB INC	17	19	214	16.5	58.2
HOAG MEM HSP PRESBYTERIAN..MED LIB	37	0	0	9.7	15.7
L A CO HARBOR GEN HOSP..MED LIB	147	32	238	18.0	7.3
L A COUNTY MED ASSOC..LIB	54	4	39	14.9	16.6
LETTERMAN GEN HOSP..MED LIB	134	21	119	24.4	10.9
LOMA LINDA U..V RADCLIFF MEM LIB	54	23	261	20.1	22.3
MARTIN LUTHER KING JR GEN HOSP..MED	18	2	11	12.4	041.3
MEM HOSP MED CTR LONG BEACH..MED LI	358	80	870	27.9	4.7
ORTHOPAEDIC HOSPITAL..RUBEL MEM LIB	12	1	13	2.6	13.0
RANCHO LOS AMIGOS HOSP..LIB	104	30	359	15.8	9.1
STANFORD U MED CTR..LANE MED LIB	199	80	1168	30.1	9.1
TRIPLER ARMY MED CTR..MED LIB	39	18	168	21.3	32.8
U ARIZ..MED CTR LIB	53	16	153	13.2	14.9
U CALIF DAVIS..HEALTH SCI LIB	131	24	227	27.2	12.5
U CALIF IRVINE..MED SCI LIB	90	46	604	30.2	20.1
U CALIF L.A...BIOMED LIB PAC SW RML	2	1	6	21.5	645.0
U CALIF L.A...BIOMED LIB REF SECT	182	109	1130	41.3	13.6
U CALIF S.F...LIB	126	90	1176	40.4	19.2
U CALIF SAN DIEGO..BIOMED LIB	105	67	965	22.0	12.6
U HAWAII..HAMILTON LIB	35	33	572	12.8	21.9

MEDLINE CENTER	TOTAL SEARCHES @ SYM	TOTAL OFF-LINE PRINTS	TOTAL PAGES	TOTAL HOURS	AVERAGE MIN. PER SEARCH
[illegible]..LIFE HEALTH SCI LIB	52	0	0	2.5	[illegible]
U SO CALIF SCH MED..NORRIS MED LIB	105	[illegible]	[illegible]	[illegible]	[illegible].2
V A HOSP SEPULVEDA CALIF..MED LIB	[illegible]	19	148	11.[illegible]	9.7
* TOTAL FOR RG: 11					
	229[illegible]	818	[illegible]41	437.9	
* RG: 70					
DALHOUSIE U..W K KELLOGG HEALTH SCI	41	18	255	5.6	9.7
DEPT NATL HEALTH WELFARE..HEALTH PR	62	19	205	11.0	10.6
MCGILL U..MED LIB	198	57	630	52.0	15.[illegible]
MEM U NEWFOUNDLAND..FAC MED LIB	28	5	18	4.9	10.5
NATL RES COUNCIL OF CANADA..NATL SC	42	10	308	10.5	15.0
U BRITISH COLUMBIA..LIB	73	27	120	12.6	10.4
U CALGARY..LIB	0	0	0	.4	.0
U MANITOBA..LIB	22	7	180	2.4	6.5
U SASKATCHEWAN..HEALTH SCI LIB	65	37	807	11.9	11.0
U TORONTO..LIB	24	17	352	8.[illegible]	22.0
* TOTAL FOR RG: 70					
	555	207	2935	121.1	
* RG: 80					
BIBLIOTECA REG DE MED..ORG PAN AMER	0	0	0	.0	.0
BRITISH LIB LEND DIV	0	0	0	.0	.0
I.N.S.E.R.M.	16	0	0	7.3	27.4
MILL HILL..NATL INST MED RES LIB	6	0	0	2.6	26.0
* TOTAL FOR RG: 80					
	22	0	0	9.9	

** GRAND TOTAL - AUGUST 1973

TOTAL SEARCHES - @ SYMBOLS	15896
TOTAL OFF-LINE PRINTS	4282
TOTAL PAGES OFF-LINE	55296
TOTAL HOURS	2921.7
AVERAGE MIN. PER SEARCH	11.0

NATIONAL LIBRARY OF MEDICINE

LIBRARY NETWORK/MEDLARS TECHNICAL BULLETIN

of the

Library Component of the Biomedical Communications Network

No. 55 NOVEMBER 1973

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

LIBRARY NETWORK/MEDLARS TECHNICAL BULLETIN
of the
Library Component of the Biomedical
Communications Network

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The LIBRARY NETWORK/MEDLARS TECHNICAL BULLETIN is issued monthly by the Office of the Associate Director for Library Operations.

MEDLINE DATA BASES

The MEDLINE and SDILINE data bases were updated on November 19 at NLM and SUNY to include the December 1973 MEDLARS citations. COMPFILE was updated at the same time to include November and December 1973 citations. The sizes of the data bases were not available when the Technical Bulletin went to press.

MEDLINE TECHNICAL NOTES

PLEASE QUERY THE NLM/MEDLINE NEWS FILES UNDER TSO DAILY

POSTINGS OVERFLOW — A program change has been initiated on the NLM/MEDLINE system which will prevent processing of more than 350,000 citations per search statement. The POSTINGS OVERFLOW message will appear when you have used a series of check tags or other large posted terms which would cause the computer to do too much work at one time. To avoid this, you should break up the search statement so that no more than one large posted term or explode is used in any one search statement. For a more complete explanation of search optimization, please refer to the article on "MEDLINE Search Optimization for Efficient Processing" published in the August 1973 MEDLARS Technical Bulletin (p.8).

NEW COMPUTER, NLM — On October 16, NLM obtained approval to install an IBM 370/158 to replace its 370/155 computer. This new computer will be about 30% faster and should improve service. In addition, it is physically smaller and allows for the installation of eight more disc drives for additional data base services. Installation will start around November 21 and continue through November 25. Service should be resumed on November 26. It can be expected that there will be some difficulties at first; please let MEDLARS Management Section know promptly about any problems you have after installation of the new computer.

INVALID SIGN-ON, SUNY

Occasionally when logging into the SUNY/MEDLINE system, if you have entered an incorrect MEDLINE I.D. you will receive the following message:

INVALID MEDLINE SIGN-ON - LOGIN AGAIN PLEASE
USER:

If you receive this message along with a USER: cue, instead of the PLEASE LOG IN message normally received after an invalid login, enter /LOGIN and the correct MEDLINE I.D., i.e., /LOGIN MEDXYZØ1. The "HELLO" greeting from SUNY/MEDLINE should then appear.

SEARCH COST (@), SUNY/MEDLINE

After entering the @ symbol after the USER: cue on the SUNY/MEDLINE system, to denote a completed search, users will now receive the computer time used since the last @ symbol was entered, and the cost of the computer time for that particular search.

MEDLINE BILLING

MEDLINE bills for October 1973 will reflect use of the NLM and SUNY systems for the entire month, i.e.,

NLM and SUNY Connect Time October 1 through 31

NLM and SUNY Off-line Pages October 1 through 31

NEW NODE ASSIGNMENTS

Due to the heavy load on the NLM computer because of end-of-the-year workloads and MEDLARS II processing, all MEDLINE users accessing the system through TYMSHARE should use the SUNY computer whenever possible. WATS line users should continue to use NLM or NLM2 as their primary mode. This change in node assignments is effective immediately and will remain in effect until further notice. If you wish to use a file which is not available on SUNY (CATLINE, SERLINE or COMPFILE) or if SUNY is not operating during the hours you wish to use the system, then you may use either NLM or NLM2. If this is the case, please switch back to SUNY as soon as possible.

The table below outlines the revised "Primary Node" and "Alternate Node" assignments for all users:

	PRIMARY NODE	ALTERNATE NODE
All users dialing TYMSHARE numbers	SUNY	NLM or NLM2
WATS lines beginning with 800-631(3)	NLM2	SUNY
WATS lines beginning with 800-336(6)	NLM	SUNY

Direct dial users will automatically be routed to the NLM computer. If the direct dial numbers are busy and TYMSHARE must be used, use SUNY as the Primary Node.

Under the agreement signed with NLM, all Federal users are responsible for paying their own communications costs. Whenever possible, they should call direct to NLM, not through the TYMSHARE network. Federal users who use FTS may call (301)496-1994, 95, 96. Federal users who do not have FTS are authorized to call the nearest/least expensive TYMSHARE node, and should use the SUNY computer as their primary node. Finally, Federal users in the Washington, D. C. area should call direct to NLM but not use the FTS numbers.

ERROR LOOP INTERRUPT, TSO

If you are in TSO under NLM/MEDLINE and are receiving program messages you do not recognize or do not know how to answer, e.g. INVALID KEYWORD, ENTER DATA SET NAME, etc., you may press the BREAK or ATTN key on your terminal and the system should again prompt you with the READY cue. This will not work, however, for users who have logged in through the TYMSHARE network. The exclamation mark (!) may be used instead, if your terminal is so equipped. If it is not, you may use the following routine after the first READY cue to establish a character to use for escaping or interrupting during an error loop within TSO. The character will then be valid for the remainder of your session at the terminal.

```
SS 3/C?
USER:

"QUIT"

READY

TERM INPUT(&)     Note:  You may enter any character desired,
                         between the parentheses, to stand for
                         the interrupt character.

READY
LIST 'NEWS'               (or return to ELHILL, etc.)
```

The above routine, or the exclamation mark, may also be used by persons whose terminal is not equipped with the BREAK or ATTN key.

MEDLINE TRAINING CLASS

A MEDLINE Training Class has been scheduled for January 21, 1974 - February 8, 1974. Additional training classes will be announced later.

1974 INDEXING ORIENTATION

Thelma Charen
Index Section, NLM

On Friday, 5 October 1973, the Index Section held its annual fall orientation in indexing for the new year. Fifty-four indexers from the NLM staff and contract indexers from all over the country attended this 1974 Indexing Orientation.

The orientation sessions were held from 9 a.m. to 4 p.m. and were chaired by Lloyd Wommack, Assistant Head, Index Section. Stanley Jablonski, Head, opened the sessions with a brief description of what was to come for 1974, following with a history of MEDLARS I and the capabilities of MEDLARS II as they affect indexers. The rest of the orientation, morning and afternoon, was devoted to technical matters affecting indexing and was conducted by Thelma Charen, Estelle Abrams, Essie Lawrence, Ruth Stander, Herbert Naylor and Harold Tarpley.

The 1974 new main headings were analyzed and commented on with regard to their scope and coordination. Here are some simple figures to show you the MeSH content for 1974:

8,983 main headings
10,370 cross references (5,185 direct +
5,185 X references)

8,983 includes 286 former provisionals
193 new terms
479

479 includes 271 chemical terms
208 non-chemical terms

271 includes 141 former provisional chemicals
130 new chemicals

487 new provisionals

The Library Network/MEDLARS Technical Bulletin for June 1973 announced three changes in Check Tags. These were:

ANIMAL supersedes ANIMAL EXPERIMENTS in name only; there is no change in use; do not confuse with the main heading ANIMALS (B2);

COMPARATIVE STUDY, though formerly restricted to comparisons of drugs and chemicals, is now widely extended to comparisons of any two or more concepts in MeSH regardless of category;

CASE REPORTS, though formerly restricted to human case reports only, may now be used for veterinary case reports.

The major indexing change was wrought by the introduction of the new main heading ISOTOPES and several new radioisotope pre-coordinates where formerly

there were only isotope pre-coordinates. Nine pages of the MEDLARS Indexing Manual had to be written to accommodate policy on these new terms. Both the Manual and the Annotated MeSH help the indexer or searcher in giving the isotope number which will define whether the isotope is stable or radioactive.

Thirteen new Technical Notes items were also discussed. Two show the correlation of MeSH terms with the new editions of our tools, Ainsworth and Bisby's 6th edition of the Dictionary of the Fungi and Andrewes and Pereira's 3rd edition of Viruses of Vertebrates.

Another major change was herein announced; this change serves searchers well despite a minor inconvenience to indexers. Effective with the January Index Medicus, indexers are identifying in their marking of the titles of articles indexed, Editorials, Letters to the Editor, Clinical Pathological Conferences and the like, and articles indexed from among Society Proceedings. These conventions will appear thus, for example in a title, where applicable:

Editorial: Para-medical resuscitation

Letter: tetracycline toxicity

We hope that this new feature in titles will help searchers in evaluating the form - if not the substance - of their retrievals.

Too, translated titles will now bear the legend, (author's transl), when the translation is supplied by the publisher on the same page as the vernacular title. This innovation serves to preserve the title intact in true bibliothecal fashion but excuses the indexer from association with unpolished translations supplied by authors or editors.

Indexers have also been asked to use geographic headings more freely. Whereas in the past they used them routinely for epidemiology, public health, social medicine and other customarily "geographical" concepts, they should now use them more freely to identify bacterial and viral strains, exotic plants, blood groups, hemoglobin types, polymorphisms and other features of population genetics, etc.

To help searchers, indexers have been asked to cut down on the proliferation of multiple subheadings with the same main heading when there is considerable non-useful, non-productive overlapping. Indexers are being encouraged to use thoughtfully the same subheading trees* searchers are taught by. We are hoping that intelligence and maximum service to users will prevail.

A re-tooled 1974 MEDLARS II Indexed Citation Form (Data Form) was introduced and explained. It resembles the old data form and retains most of the required elements; they are merely arranged differently on the sheet. The indexers are learning to establish new habit patterns to bring them in line with the form familiar to searchers. For example, for the past 10 years we

*See NTIS publication PB-207-177 MEDLARS Training Program: MEDLINE Training Syllabus. pages 80, 178-180.

typed main heading/subheading combinations thus, X ARTHRITIS *therapy ; we are now slowly establishing new digital reflex patterns to type instead ARTHRITIS / * therapy where the asterisk now means IM.

Indexers are now permitted to use shorter and more mnemonic subheading abbreviations than the 8-letter ones demanded by the MEDLARS I computer: now metab instead of metaboli, biosyn instead of biosynth, instrum instead of instrume, path instead of pathology. The new abbreviations are those supplied by Index Section in the front of the Annotated MeSH (please add there pathogen for pathogenicity).

In addition, some changes were made in indexing instructions for Provisional headings after the ANNOTATED MeSH was sent to press. Please correct the Provisional entries below to read as given.

CADAVERINE - index under DIAMINES for IM

CLOPENTHIXOL - index under TRANQUILIZING AGENTS + THIOXANTHENES for IM

DEET - index under INSECT REPELLANTS + BENZAMIDES for IM

DEOXYCYTIDINE - index under DEOXYRIBONUCLEOSIDES + CYTIDINE for IM

ETHOGLUCID - index under ALKYLATING AGENTS + ETHERS for IM

LINURON - index under HERBICIDES + PHENYLUREA COMPOUNDS for IM

METHAZOLAMIDE - index under CARBONIC ANHYDRASE INHIBITORS + THIADIAZOLES for IM

MONOURON - index under HERBICIDES + PHENYLUREA COMPOUNDS for IM

NAPHAZOLINE - index under VASOCONSTRICTOR AGENTS, NASAL + IMIDAZOLES for IM

NITRITE REDUCTASE - index under NADH, NADPH OXIDOREDUCTASES for IM

PHENAGLYCODOL - index under TRANQUILIZING AGENTS + GLYCOLS for IM

SILOMAT - index under ANTITUSSIVE AGENTS + AMINO ALCOHOLS for IM

SULFAMETHIZOLE - index under SULFATHIAZOLES for IM

TRIBLURALIN - index under HERBICIDES + TOLUIDINES for IM

TRYPTOPHANASE - index under LYASES for IM

We have available for distribution 1974 MEDLARS Indexing Manual addenda and 1974 Technical Notes addenda. If you want any, please send your requests to Index Section but please enclose a self-addressed label.

As usual, any technological change in indexing is made to accommodate the computer requirements. No changes for 1974 were made in indexing policy for the sake of the indexers only. Obviously new MeSH headings necessitate the establishing of indexing policy - especially this year with the introduction of the new area of ISOTOPES and all its stable and radioactive indentions. Extensions in the use of the three Check Tags were made at the request of searchers as was the extended use of geographicals. The additions and changes in descriptive indexing are bothersome to the indexers but a more ample title will help the searchers. Again, as usual, please write us about your objections and send us your questions and corrections, and try, with us, to have a Happy New MEDLARS Year.

PRICE CHANGES FOR NLM MONTHLY PUBLICATIONS

Roger Gilkeson
Office of Public Information, NLM

GPO has announced the following price changes, effective now for new subscriptions, and for renewals beginning with January 1974. (Expiration notices which bore the old subscription rate will be honored at that rate.)

Title	New Annual Rate	Single Issue
Index Medicus*	$155.00 ($193.75 foreign)	$12.75
Current Bibliography of Epidemiology	$ 23.10 ($28.90 foreign)	$ 2.00
Abridged Index Medicus	$ 21.90 ($27.40 foreign)	$ 1.90
National Library of Medicine Current Catalog -- Monthly Listing	$ 16.05 ($20.10 foreign)	$ 1.40
Monthly Bibliography of Medical Reviews	$ 8.15 ($10.20 foreign)	$ 0.75
Selected References on Environmental Quality As It Relates to Health	$ 10.05 ($13.60 foreign)	$ 0.90

The Library's two quarterly publications--NLM Current Catalog, Quarterly Listing, and Toxicity Bibliography--are not affected by the price changes.

* The price for the 1973 CIM ($155.50) is practically identical to that for 1974 IM subscriptions ($155.00). Please emphasize the difference in titles on your orders. There should be no problem if you use the advance order form for CIM, available from the Office of Public Information, NLM; on IM renewals indicate clearly that this is a subscription to monthly issues, and include a computerized renewal card or copy of a recent mailing label with the order. We have also learned that GPO is late in sending out notices for subscriptions which end with the December 1973 issue; watch for this notice and check with your book dealer if necessary so that remittance can be sent immediately to prevent a gap in service.

MEDLINE CENTER	TOTAL SEARCHES @ SYM	TOTAL OFF-LINE PRINTS	TOTAL PAGES	TOTAL HOURS	AVERAGE MIN. PER SEARCH
D C GEN HOSP..LIB	18	3	18	5.1	17.0
DUKE U SCH MED..MED CTR LIB	110	17	138	16.3	8.9
ENVIRONMENT PROTECT AG 401 M ST SW	0	0	0	.0	.0
FAIRFAX HOSP	9	1	2	1.5	10.0
FED AMER SOC EXP BIOL..OFF BIOL HAN	23	0	0	1.4	3.7
FOOD & DRUG ADM ROCKVILLE..ADP SYST	38	12	32	16.6	26.2
GEORGE WASHINGTON U HOSP..HOSP BR L	236	12	90	38.2	9.7
GEORGETOWN U MED CTR..DAHLGREN MEM	136	50	499	38.9	17.2
HEALTH SERV MENT HLTH ADM..LIB	32	28	264	7.9	14.8
HOWARD U..MED DENT LIB	17	2	19	3.9	13.8
JOHNS HOPKINS U..WELCH MED LIB	19	7	154	4.0	12.6
JOINT MED LIB USA USAF..OFF SURG GE	36	5	53	7.1	11.8
LIB CONGRESS..CONGRESS REF SERV	0	0	0	.0	.0
MED CHIR FAC MARYLAND..LIB	97	13	86	11.2	6.9
NATL INST ENVIRON HEALTH SCI	28	2	13	9.0	19.3
NATL LIB MED..MARML RM 152	132	132	1867	37.0	16.8
NATL LIB MED..RSD	280	57	815	81.7	17.5
NATL NAVAL MED CTR..STITT LIB & RES	130	22	154	26.5	12.2
NIH CLINICAL CTR DIRECTOR	10	0	0	7.3	43.8
NIH..DRG	10	1	23	1.4	8.4
NIH..LIB	266	164	2327	43.7	9.9
NIH..NATL CANCER INST	40	26	587	21.8	32.7
NIH..NATL HEART INST	13	5	126	4.2	19.4
NIH..NIAMD	8	1	18	2.7	20.2
NIH..NIMH LIB	6	6	87	.6	6.0
PHARMACEUTICAL MFR ASSN	34	5	68	7.9	13.9
ST ELIZ HOSP SMR..NIMH LIB	46	8	53	10.0	13.0
ST ELIZ HOSP..PROF LIB	1	0	0	.6	36.0
U MARYLAND BALTIMORE..HEALTH SCI LI	230	66	701	58.0	15.1
U NC..HEALTH SCI LIB	91	40	429	17.6	11.6
U S GOVT	4	3	168	.5	7.5
U VA..MED SCH LIB	141	33	307	28.9	12.3
V A CTRL OFF 810 VERMONT AVE NW DC	51	14	98	13.4	15.8
V A HOSP DC..LIB	56	18	175	11.4	12.2
WALTER REED ARMY MED CTR..GEN HOSP	48	25	329	22.1	27.6
WASHINGTON HOSPITAL CTR..MED LIB	26	0	98	2.5	5.8
WVA U..MED CTR LIB	42	2	25	9.3	13.3
* TOTAL FOR RG: 4	2535	808	10106	583.0	
* RG: 5					
CASE WEST RES U..CLEVELAND HEALTH S	40	10	127	9.9	14.8
ENVIRONMENT PROTECT AG CINCINNATI	51	25	378	7.5	8.8
HARPER HOSP..DEPT LIB	31	0	0	4.1	7.9
HENRY FORD HOSP	54	24	246	9.3	10.3
MED COL OHIO TOLEDO..LIB	24	0	0	5.1	12.7
MICH STATE U..SCI LIB	46	19	151	13.5	17.6

MEDLINE CENTER	TOTAL SEARCHES @ SYM	TOTAL OFF-LINE PRINTS	TOTAL PAGES	TOTAL HOURS	AVERAGE MIN. PER SEARCH
OHIO STATE U COL MED..HEALTH CTR LI	157	41	362	24.6	9.4
SINAI HOSP DETROIT..MED LIB	5	0	0	.7	8.4
U CINCINNATI..MED CTR LIB	106	27	226	16.3	9.2
U DETROIT..SCH DENT LIB	7	0	0	3.1	26.6
U KY..MED CTR LIB	103	37	453	11.9	6.9
U LOUISVILLE..KORNHAUSER HEALTH SCI	134	14	92	27.0	12.1
U MICH..MED CTR LIB	32	22	377	5.0	9.4
WAYNE STATE U..SHIFFMAN MED LIB	30	23	196	14.6	29.2
WILLIAM BEAUMONT HOSP..MED LIB	51	15	145	6.5	7.6
* TOTAL FOR RG: 5	871	257	2753	159.1	
* RG: 6					
EMORY U..A W CALHOUN MED LIB	73	42	512	12.2	10.0
JACKSONVILLE HOSP EDU PROG..J L BOR	3	0	0	.2	4.0
MED COL GA..DIV HEALTH COMM LIB	26	12	156	4.3	9.9
MED U SC..LIB	86	19	154	10.6	7.4
TOXICOLOGY INF RESPONSE CTR..BIOL D	9	17	790	1.5	10.0
U ALA..LISTER HILL CTR HEALTH SCI	61	11	117	11.3	11.1
U FLA..J H MILLER HEALTH CTR LIB	59	24	285	6.4	6.5
U MIAMI..L CALDER MEM LIB	133	42	529	18.0	8.1
U MISS MED CTR..ROWLAND MED LIB	16	9	44	3.3	12.4
U SOUTH ALABAMA..BIOMED LIB	9	2	43	1.9	12.7
U SOUTH FLORIDA..MED CTR LIB	48	10	97	6.3	7.9
U TENN..MED UNITS LIB	34	26	226	5.1	9.0
V A HOSP DECATUR GA..LIBRARY	92	17	108	14.2	9.3
VANDERBILT U..SCH MED LIB	37	6	42	5.0	8.1
* TOTAL FOR RG: 6	686	237	3103	100.3	
* RG: 7					
AMER MED ASSOC..ARCHIVE LIB	120	4	78	12.4	6.2
IND U..SCH MED LIB	55	2	14	6.8	7.4
JOHN CRERAR LIB	42	10	74	13.7	19.6
LUTHERAN GEN HOSP..LIB	27	3	35	5.6	12.4
MAYO FOUND..MAYO CLINIC LIB	50	12	160	11.1	13.3
MED COL WIS..MED DENT LIB	59	18	88	12.8	13.0
NORTHWESTERN U..MED & DENT SCH LIB	0	14	154	2.1	.0
SOUTHERN ILL U..SCH MED LIB	13	0	0	5.0	23.1
U CHICAGO..BILLINGS HOSP LIB	81	16	102	19.6	14.5
U ILL MED CTR..LIB HEALTH SCI	29	8	62	5.1	10.6
U ILL..ROCKFORD SCH MED LIB	37	17	265	6.0	9.7
U IOWA..MED LIB	59	39	410	11.6	11.8
U MINN..BIOMED LIB	31	11	302	8.8	17.0
U WISC..MIDDLETON MED LIB	161	32	239	38.0	14.2
V A HOSP WOOD WISC	48	5	55	9.4	11.7

MEDLINE CENTER	TOTAL SEARCHES @ SYM	TOTAL OFF-LINE PRINTS	TOTAL PAGES	TOTAL HOURS	AVERAGE MIN. PER SEARCH
* TOTAL FOR RG: 7	812	191	2038	168.0	
* RG: 8					
CREIGHTON U..HEALTH SCI LIB	76	10	73	14.3	11.3
FITZSIMONS GEN HSP..MED-TEC LIB	9	2	30	3.1	20.7
ST LUKES HOSPITAL..LIB	81	4	79	9.9	7.3
U COLO..DENISON MEM LIB	88	83	1027	23.6	16.1
U KANS..CLENDENING MED LIB	50	13	120	11.1	13.3
U MO COLUMBIA..MED LIB	65	13	94	12.3	11.4
U MO KANSAS CITY..SCH MED LIB	231	18	134	24.9	6.5
U NEBR..MIDCONTINENTAL RML PROG	131	48	543	31.7	14.5
U UTAH..ECCLES MED SCI LIB	55	80	991	12.2	13.3
V A HOSP LINCOLN NB..LIB	21	1	4	3.9	11.1
WASHINGTON U..SCH MED LIB	148	41	495	14.6	5.9
* TOTAL FOR RG: 8	955	313	3590	161.6	
* RG: 9					
BROOKE GEN HOSP..MED LIB	25	2	15	4.1	9.8
FOOD & DRUG ADM..NATL CTR TOX RES	13	10	332	6.3	29.1
HOUSTON ACAD MED..TEX MED CTR LIB	209	96	1206	32.4	9.3
LOUISIANA STATE U NEW ORLEANS..LIB	44	28	443	13.2	18.0
LOUISIANA STATE U..SCH MED LIB	9	5	54	1.3	8.7
LOVELACE FDN FOR MED ED AND RES	0	0	0	.0	.0
SPARKS REG MED CTR..HEALTH SCI LIB	7	0	0	1.2	10.3
TEXAS MED ASSN..LIB	45	1	10	3.4	4.5
TEXAS TECH UNIV SCH OF MED	3	3	34	1.0	20.0
TULANE U..SCH MED LIB	48	34	432	15.3	19.1
U ARK..MED CTR LIB	0	0	0	.0	.0
U NM..LIB MED SCI	101	56	811	20.2	12.0
U OKLA..HEALTH SCI CTR LIB	61	23	213	9.8	9.6
U TEXAS DALLAS..MED SCH LIB	153	28	400	28.6	11.2
U TEXAS MED BR GALVESTON..MOODY MED	165	24	187	24.5	8.9
U TEXAS SAN ANTONIO..MED SCH LIB	57	10	75	25.5	26.8
WILLIAM BEAUMONT ARMY MEDICAL CENTE	9	2	18	5.1	34.0
* TOTAL FOR RG: 9	949	322	4230	191.9	
* RG: 10					
ALASKA HEALTH SCI INFO CTR	56	6	84	9.1	9.7
COLUMBUS HOSP GREAT FALLS MONT..LIB	19	0	0	3.7	11.7
MADIGAN GEN HOSP	36	4	18	5.7	9.5
SACRED HEART GEN HOSP..MED CTR DR'S	59	2	12	9.2	9.4

MEDLINE CENTER	TOTAL SEARCHES @ SYM	TOTAL OFF-LINE PRINTS	TOTAL PAGES	TOTAL HOURS	AVERAGE MIN. PER SEARCH
U OREGON..MED SCH LIB	118	4	17	21.8	11.0
U WASHINGTON..PAC NW REG HEALTH SCI	198	89	1170	31.7	9.6
V A HOSP BOISE IDAHO..LIB	28	7	43	8.5	18.2
* TOTAL FOR RC: 10	514	112	1344	89.5	
* RC: 11					
CALIF. COLLEGE OF PODIATRIC MEDICIN	0	0	0	.0	.0
CEDARS-SINAI MED CTR..HOSP LIB	37	2	12	2.6	4.2
CHILDREN'S HOSP L A..DOCTOR'S LIB	61	47	411	7.4	7.3
DAVID GRANT USAF MED CTR	0	0	0	.0	.0
HAWAII MED LIB INC	33	41	360	10.6	19.3
HOAG MEM HSP PRESBYTERIAN..MED LIB	11	0	0	7.5	40.9
KAISER FOUNDATION HOSP	0	0	0	.0	.0
L A CO HARBOR GEN HOSP..MED LIB	121	36	196	16.3	8.1
L A COUNTY MED ASSOC..LIB	31	13	81	8.4	16.3
LETTERMAN GEN HOSP..MED LIB	70	35	298	14.3	12.3
LOMA LINDA U..V RADCLIFF MEM LIB	19	11	106	9.4	29.7
MARTIN LUTHER KING JR GEN HOSP..MED	16	6	41	7.1	26.6
MEM HOSP MED CTR LONG BEACH..MED LI	102	71	761	13.0	7.6
MILLS MEM HOSP	0	0	0	.0	.0
NASA AMES RES CTR	0	0	0	.0	.0
ORTHOPAEDIC HOSPITAL..RUBEL MEM LIB	20	4	34	4.8	14.4
RANCHO LOS AMIGOS HOSP..LIB	99	57	616	13.9	8.4
ST.JOSEPH HOSP AND CHILDRENS HOSP..	0	0	0	.0	.0
STANFORD U MED CTR..LANE MED LIB	165	87	1208	24.9	9.1
TRIPLER ARMY MED CTR..MED LIB	23	23	217	10.4	27.1
U ARIZ..MED CTR LIB	30	15	203	9.8	19.6
U CALIF DAVIS..HEALTH SCI LIB	102	21	294	19.0	11.2
U CALIF IRVINE..MED SCI LIB	12	2	19	4.4	22.0
U CALIF L.A...BIOMED LIB PAC SW RML	5	4	37	26.8	321.6
U CALIF L.A...BIOMED LIB REF SECT	64	58	714	15.5	14.5
U CALIF S.F...LIB	52	53	674	20.2	23.3
U CALIF SAN DIEGO..BIOMED LIB	36	24	416	8.8	14.7
U HAWAII..HAMILTON LIB	4	4	43	1.3	19.5
U NEV RENO..LIFE HEALTH SCI LIB	27	0	0	2.3	5.1
U OF CALIF GEN LIB	0	0	0	.0	.0
U SO CALIF SCH MED..NORRIS MED LIB	75	46	545	14.8	11.8
V A HOSP SEPULVEDA CALIF..MED LIB	73	16	169	8.0	6.6
* TOTAL FOR RC: 11	1288	676	7455	281.5	
* RC: 70					
DALHOUSIE U..W K KELLOG HEALTH SCI	20	10	112	2.8	8.4
DEPT NATL HEALTH WELFARE..HEALTH PR	58	39	796	14.7	15.2

MEDLINE CENTER	TOTAL SEARCHES @ SYM	TOTAL OFF-LINE PRINTS	TOTAL PAGES	TOTAL HOURS	AVERAGE MIN. PER SEARCH
MCGILL U..MED LIB	113	53	522	26.8	14.2
MEM U NEWFOUNDLAND..FAC MED LIB	17	3	92	2.5	8.8
NATL RES COUNCIL OF CANADA..NATL SC	102	120	2083	26.7	15.7
U BRITISH COLUMBIA..LIB	41	41	289	13.9	20.3
U CALGARY..LIB	0	2	4	.9	.0
U MANITOBA..LIB	9	6	80	1.3	8.7
U SASKATCHEWAN..HEALTH SCI LIB	54	22	261	9.9	10.9
U TORONTO..LIB	21	8	123	7.6	21.7
* TOTAL FOR RG: 70	435	304	4968	107.9	
* RG: 80					
BIBLIOTECA REG DE MED..ORG PAN AMER	2	1	12	2.2	66.0
BRITISH LIB LEND DIV	5	3	34	3.0	36.0
I.N.S.E.R.M.	39	0	0	48.8	75.1
MILL HILL..NATL INST MED RES LIB	16	0	0	2.8	10.5
* TOTAL FOR RG: 80	62	4	46	56.8	

** GRAND TOTAL - SEPTEMBER 1973

TOTAL SEARCHES - @ SYMBOLS	10579
TOTAL OFF-LINE PRINTS	3662
TOTAL PAGES OFF-LINE	44700
TOTAL HOURS	2212.3
AVERAGE MIN. PER SEARCH	12.5

NATIONAL LIBRARY OF MEDICINE

LIBRARY NETWORK/MEDLARS TECHNICAL BULLETIN

of the

Library Component of the Biomedical Communications Network

No. 56 DECEMBER 1973

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

LIBRARY NETWORK/MEDLARS TECHNICAL BULLETIN
of the
Library Component of the Biomedical
Communications Network

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The LIBRARY NETWORK/MEDLARS TECHNICAL BULLETIN is issued monthly by the Office of the Associate Director for Library Operations.

MEDLINE DATA BASES

The MEDLINE and SDILINE data bases were updated the week of November 19 at NLM and SUNY to include the December 1973 MEDLARS citations. COMPFILE was updated at the same time to include November and December 1973 citations. The sizes of the data bases are as follows:

MEDLINE	533,035
SDILINE	20,129
COMPFILE	351,891

MEDLINE TECHNICAL NOTES

PLEASE QUERY THE NLM/MEDLINE NEWS FILES UNDER TSO DAILY

NEW MEDLINE HOURS

National Library of Medicine (NLM) - Bethesda, Maryland

MEDLINE, SDILINE, CATLINE, and SERLINE:

Mon, Wed, Thu, Fri	9:00 a.m. - 5:00 p.m.	(Eastern time)
Tue	12:00 noon - 10:00 p.m.	" "

COMPFILE:

Tues	12:00 noon - 10:00 p.m.	" "
Wed	9:00 a.m. - 5:00 p.m.	" "

State University of New York (SUNY) - Albany, New York

MEDLINE and SDILINE:

Mon, Wed	9:00 a.m. - 7:00 p.m.	" "
Tue, Fri	9:00 a.m. - 5:00 p.m.	" "
Thurs	9:00 a.m. - 10:00 p.m.	" "

In case either the NLM or SUNY system is down during scheduled hours, the other system should be available. (See article on page 5 for a more detailed explanation of these changes.)

In case either the NLM or SUNY system is down during scheduled hours, the other system should be available.

DIRECT ACCESS, NLM/MEDLINE

The following 10 character per second direct access lines to NLM/MEDLINE are no longer available:

301/654-2687
301/654-2688

In the future, the following lines may be used to access NLM/MEDLINE directly at 10 characters per second:

301/496-1006
301/496-1007

DATA BASES, REGENERATION

The MEDLINE data bases will be regenerated in late January. At that time the 1970 citations will be removed from the MEDLINE and COMPFILE data bases, and these files will contain citations from January 1971 through the current month, and the service will operate under the new ELHILL 3 programs (see article on page 10 of this issue for more information on ELHILL 3).

MEDLARS CITATIONS 1974

The MEDLINE and COMPFILE databases, as they now exist under the ELHILL 2 programs, are complete and will not be updated or regenerated. Instead, MEDLARS citations (MEDLINE plus COMPFILE) for January 1974 will appear in SDILINE under the ELHILL 2 programs (but indexed with 1974 MeSH vocabulary) in mid-December 1973, replacing the current December 1973 MEDLARS citations. The February 1974 citations will be added to the January 1974 citations in the new SDILINE file in mid-January, and both months will only be available for searching in SDILINE until regeneration. This temporary expanded SDILINE file was necessitated because the computer costs for regenerating MEDLINE and COMPFILE under ELHILL 2 for a one to two-month period would have been prohibitive.

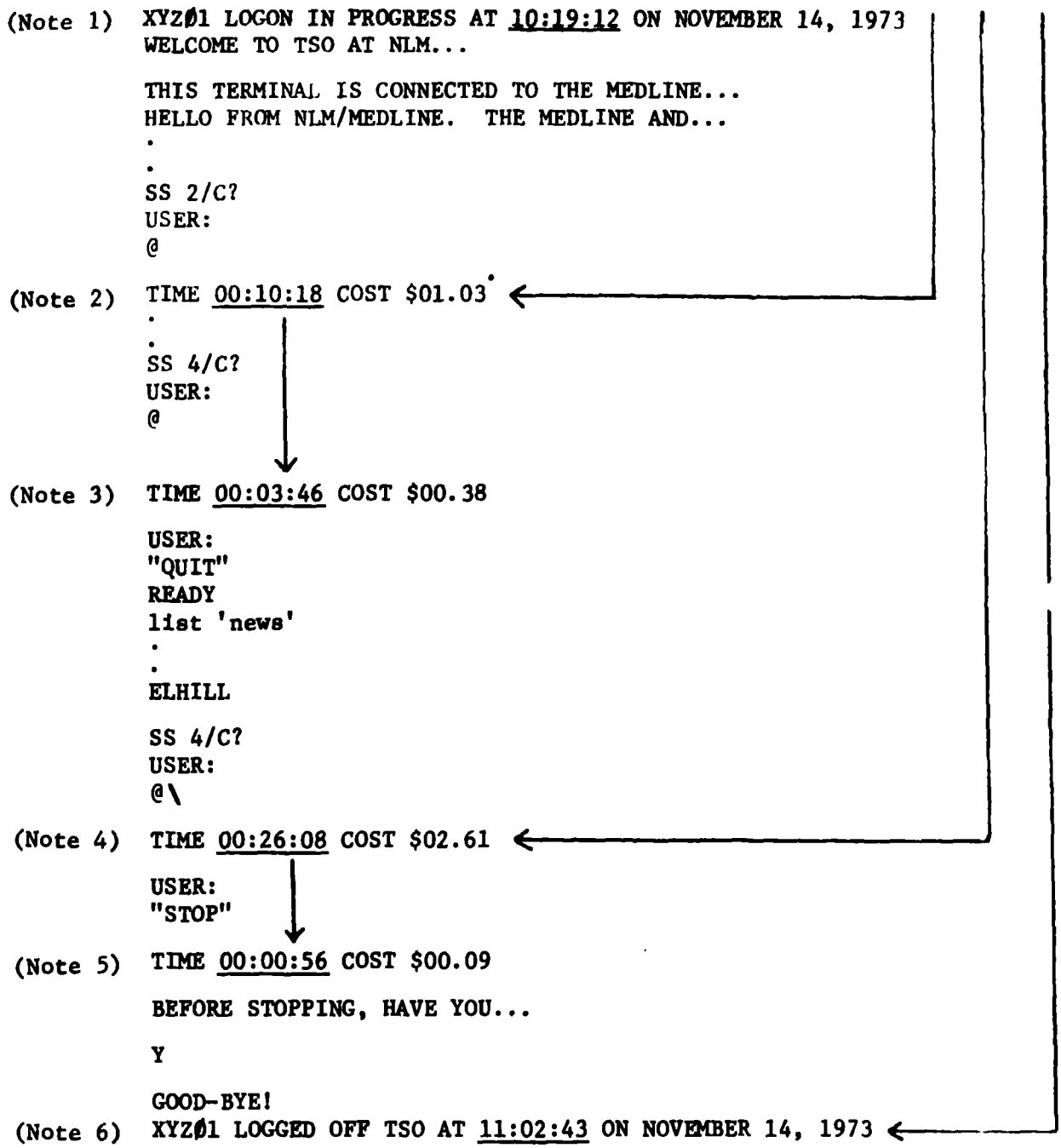
MEDICAL SUBJECT HEADINGS (MeSH)

Until regeneration, the current MEDLINE files (January 1970 through December 1973) must be searched with the 1973 MeSH vocabulary, as is the case with the current December 1973 SDILINE. However, when using the January-February 1974 SDILINE under ELHILL 2 before regeneration, the 1974 MeSH vocabulary should be used. After the files are regenerated in late January, the 1974 MeSH vocabulary will be used for searching all citations from January 1971 through the current month.

SEARCH COST (@), NLM/MEDLINE

Whenever users "QUIT" NLM/MEDLINE and enter TSO to access the News Files or send a message to MEDLARS Management Section and then return to MEDLINE to resume searching, the computer time and costs received as a result of the first @ symbol entered after returning to MEDLINE will reflect the time and costs from the initial LOGON greeting (not the time from the last @ symbol entered before entering TSO). Any @ symbols entered thereafter will reflect the cost between @ symbols as normally expected. Thus one should be careful to never charge a user for a search based on the cost received from the first @ symbol entered after returning to ELHILL from the TSO news files. An @\ entered after returning to ELHILL will reset the cost computation without counting as a search. The time of your total session at the terminal will still be computed using the difference between the time of day in the logon message, i.e. XYZØ1 LOGON IN PROGRESS AT 10:19:12 ON NOVEMBER 14, 1973, through

the time of day in the logoff message, i.e. XYZØ1 LOGGED OFF TSO AT 11:02:43 ON NOVEMBER 14, 1973. The example below illustrates the way in which the various times in one search session are computed:



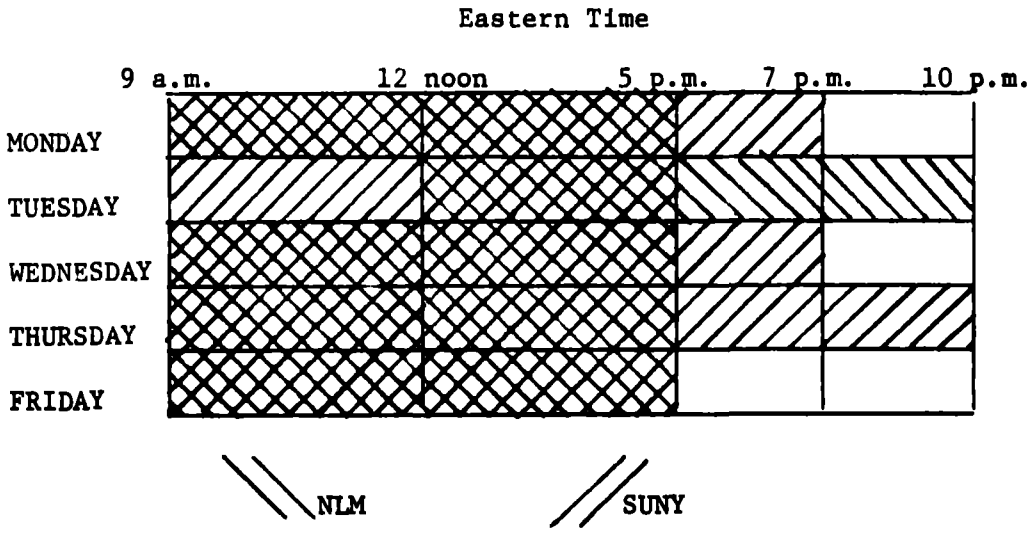
Notes:

(1) Time of day at initial LOGON.
(2) Elapsed time and cost since time of day at initial LOGON.
(3) Elapsed time and cost since the last @ symbol.
(4) Elapsed time and cost since time of day at initial LOGON.
(5) Elapsed time and cost since the last @ symbol.
(6) Time of day at LOGOFF. The total elapsed time for this session will equal the difference between this time of day and the time of day at initial LOGON.

CHANGES IN SERVICE TIMES FOR MEDLINE

Davis B. McCarn
Associate Director
Office of Computer and Communications Systems

NLM announced on November 20, 1973 a revised schedule of service hours for NLM and SUNY. That revised schedule is shown schematically below:



This schedule now provides double coverage during most of the working day in the East, and some evening service, but much less than was provided previously. Total service hours have been reduced from 65 hours per week to 54.

This change (as well as the change to SUNY as the primary mode for most network users) has been made necessary by the increasing demand for services. An analysis of September usage showed the following distribution of usage by time of login.

Time of Login	Percent Time Used
9:00 - 10:00	11.1
10:00 - 11:00	12.7
11:00 - 12:00	11.4
12:00 - 1:00	8.9
1:00 - 2:00	11.6
2:00 - 3:00	13.5
3:00 - 4:00	12.0
4:00 - 5:00	9.2
5:00 - 6:00	3.6
6:00 - 7:00	2.5
7:00 - 8:00	1.8 *
8:00 - 9:00	1.3
9:00 - 10:00	.4
	100.0

* The "Percent Time Used" indicated from 7:00 p.m. on represents a percentage of time for all users in the United States. If related to only West Coast, Alaska and Hawaii users (who are generally the principal users at this time of day), the "Percent Time Used" after 7:00 p.m. increases to about 18%.

Clearly in the late evening hours we were operating the computer for 1 or 2 users while during the early part of the day the system was overloaded. The new schedule was designed to more adequately meet the usage patterns of our users and hopefully to provide better service.

As previously, only the MEDLINE and SDILINE files are available from SUNY. At NLM, CATLINE, SERLINE and MEDLINE are available Monday through Friday and COMPFILE is available on Tuesdays and Wednesdays.

CATLINE SEARCHING

Lillian R. Kozuma, Office of the
Associate Director for Library
Operations, NLM

I. Subject Searching

As you know, the MEDLINE data base may be searched for any of the Check Tags which are assigned by the NLM Indexing Section. Check Tags, however, are not used in the subject cataloging of monographs, serials or technical reports. The NLM Cataloging Section does utilize additional topical subheadings which parallel certain check tags and permit similar retrieval. These additional headings are always listed in the black and white MeSH in the section called "Application of medical subject headings in book cataloging." Listed below are Check Tags which have equivalent cataloging subheadings:

Check Tag	Cataloging Subheading
Pregnancy	In pregnancy
Infant, Newborn Infant Child Child, Preschool	In infancy & childhood
Adolescence	In adolescence
Aged	In old age

(Note: These are the only indexing Check Tags which have equivalent cataloging subheadings.)

Examples:

1. If you wished books on the subject of electrolytic balance in infants, search:

SS 1 /C? ELECTROLYTES OR WATER-ELECTROLYTE BALANCE

SS 2 /C? 1 AND IN INFANCY & CHILDHOOD

2. If you wanted books on adolescent skin diseases, search:

SS 1 /C? SKIN DISEASES AND IN ADOLESCENCE

Please note that the particular topical subheadings listed above are entered into CATLINE as if they were Main Headings, and not as subheadings to the main term. This is true for all form, geographic, language and other subheadings used only by the Cataloging Section. All other topical subheadings such as drug therapy, therapeutic use, etc. would be entered in the same manner as in MEDLINE. Therefore, if you wanted books which discussed the drug therapy of eye diseases, search:

EYE DISEASES/drug therapy

If you wanted drug therapy of eye diseases in infants, search:

EYE DISEASES/drug therapy AND IN INFANCY & CHILDHOOD

II. Searching Form, Language, Geographic and Special Topical Subheadings--A Precautionary Note.

Since form, language, and geographic subheadings must be entered into CATLINE as if they were Main Headings, it should be noted that the use of the Boolean AND can cause a number of false drops. Even though they are classified as subheadings, they are stored in the computer as Main Headings, separate from the Main Headings they modify. Scanning of the Main Headings field or Stringsearching may be necessary prior to the release of any bibliographies to users. For instance, if you desire a bibliography of works on the subject of History of Medicine in the United States, you would enter for searching:

HISTORY OF MEDICINE AND U. S.

This search retrieves the desired citations on the subject but will also retrieve the following false drop:

MH-CATALOGS, UNION/U. S.
MH-HISTORY OF MEDICINE/CATALOGS

As you can see, the History of Medicine heading is paired with the form heading, Catalogs, and the main heading Catalogs, Union is paired with the geographic subheading U. S. The citation is not directly on the subject of History of Medicine in the United States although it is related. In these cases, after visual inspection of the Main Heading/subheading combinations retrieved, it may be necessary to Stringsearch the (MH) field for :HISTORY OF MEDICINE - U. S.: to eliminate the false drops.

III. Foreign Language Searching: the Elided Article.

If you are searching foreign language titles, you may occasionally find titles which begin with an elided article. For CATLINE searching, you must freely use the Logical OR with several possible search key constructions in order to retrieve the citations. The ORing is necessary because the data base was generated under two different standards for key construction. Corrections will be made under MEDLARS II, but in the meantime, here are the two key construction standards:

Type I. Title = L'Indagine radiologica nelle pielonefriti acute e croniche

Key = NDA/R/N/P

Explanation: L'I was regarded as an initial insignificant article and dropped from the key construction. This standard was used for citations appearing in the 1970 and 1971 Current Catalog.

Type II. Title = L'Acougramme Phoenetique

Key = LAC/P

Explanation: The apostrophe was dropped and Lacougramme was considered the first significant word. This standard was used for citations appearing in the 1965-1969, 1972-1973 Current Catalog. All new citations will have keys constructed under this standard

Therefore, in order to insure retrieval of any citation beginning with elided articles in CATLINE, it is advisable to OR the two types of keys in one search statement.

CORRECTION

The November 1973 issue of the Library Network/MEDLARS Technical Bulletin (No. 55) contained the following typographical error on page 7. In the list of changes to Provisional entries for the ANNOTATED MESH, the next to last term should have been spelled TRIFLURALIN and not TRIBULURALIN.

MeSH ERRATA LISTS FOR 1974

Dr. Norman P. Shumway
Head, MeSH Section, NLM

The following errors have been identified in the Medical Subject Headings tools for 1974. Please report any other errors you may find to the MEDLARS Management Section.

Errors in Alphabetic MeSH 1974
(Searchers and Indexers Copy)

Page

140 Change COBALT RADIOSIOTOPES to COBALT RADIOISOTOPES

321 Change HYDROXYANDROSTENES see ANDROSTEONOLS
to HYDROXYANDROSTENES see ANDROSTENOLS

406 Change MEROMYSINS to MEROMYOSINS

506 Change PHOSPHORUS RADIOSIOTOPES to PHOSPHORUS RADIOISOTOPES

526 Add to bottom of page PRECIPITIN TESTS E1.94.48

616 Add to bottom of page STAPHYLOCOCCAL VACCINES D12.30.56.1; D12.95.16.1

642 Change TETRAIODOTHYBONINE see under THYROXINE (D8, D10)
to TETRAIODOTHYRONINE see under THYROXINE (D8, D10)

Errors in Provisional Headings with Scope Notes

Page 22 Add: CADUCEUS (K) 1/9/66
K.58.39.1

A representation of a staff with two entwined snakes and two wings at the top; also, an insignia bearing a caduceus and symbolizing a physician

INDEX UNDER: HISTORY OF MEDICINE (K) or PHYSICIANS (M, N2) as appropriate

Page 147 Move TRYPTOPHANASE (D9) to next definition at bottom of page.

Errors in MeSH Tree Structures 1974

Page D1-3 Change COBALT RADIOSIOTOPES to COBALT RADIOISOTOPES
D1-4

D1-3 Change PHOSPHORUS RADIOSIOTOPES to PHOSPHORUS RADIOISOTOPES
D1-9

D10-9 Change MEROMYSINS to MEROMYOSINS

ELHILL 3: A PREVIEW

David Kenton
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William H. Caldwell
Deputy Chief, Bibliographic Services Division, NLM

As most readers of the Technical Bulletin are aware, the NLM and its contractor, System Development Corporation, have been working on the MEDLARS II system since June of 1971. It is now expected that most of the new system will be operational early in 1974.

On-line searching under MEDLARS II will be quite similar to the present ELHILL 2 methods, with a few changes and additional capabilities. We expect to begin using the new programs (to be known as ELHILL 3) in mid to late December. Following is a brief description of some of the changes and new capabilities of ELHILL 3; it is hoped that enough information is provided to enable searchers to use ELHILL 3 effectively until the Reference Manual is updated.

LOGIN PROCEDURE: (through TSO at NLM)

1. Dial usual telephone number
2. Log into assigned node, i.e., NLM or NLM2
3. Once into TSO/MEDLINE at NLM, type
   "QUIT" -- system responds with READY
   ELHILL3

4. System replies with TSO line etc. etc.

(This is an interim procedure which will be necessary only until MEDLINE is regenerated and operating under the ELHILL 3 programs.)

FILES:

Files available for experimental searching late in December will include:

1. One month of citations equal to the January 1974 SDILINE without the title word search capability. This January 1974 SDILINE will also be available under ELHILL 2.
2. MeSH Vocabulary ("File MeSH Vocabulary" or "File MeSH")
3. Journal Authority File ("File Journal Authority" or "File Journal")

Data Elements for each file will be available by asking the system to "EXPLAIN UNIT RECORD". The vocabulary file will include seven-level trees. The journal authority file includes over 3500 titles including journals formerly indexed. Entry and delete dates for the vocabulary and journal authority files will be added in the near future.

TRUNCATION:

There will be two truncation symbols used in ELHILL 3 - the pound or number sign (#), and the colon (:).

The pound sign (#) will be used to represent a single character, and not a variable number of characters as has been the case under ELHILL 2. It may be

used in any position (beginning, middle, or end) of a search term. If used at the end of a search term, as in LIVE#, only words with 5 characters are possible candidates, and the first 4 must be LIVE. Thus, LIVER will be retrieved, but LIVER DISEASES, LIVER GLYCOGEN, etc., will not. It is probable that a major use of the # symbol will continue to be in searching MeSH phrases containing the word AND, such as BITES AN# STINGS, COSTS AN# COST ANALYSIS, etc. to disguise these embedded ANDs so the program does not mistake them for the logical operator AND.

The colon (:) will be used to substitute for any number of characters in a search term. If used at the end of a string of characters, such as in LIVE:, the result will be the same as obtained now (under ELHILL 2) with the # sign; that is, all terms beginning with LIVE will qualify for retrieval. The colon may also be used embedded within a character string. This will probably not be particularly helpful in searching MeSH terms, but is expected to be useful in stringsearching titles for words which may have spelling variants, etc. It should be used cautiously, however, for COL:R will retrieve the two terms desired (COLOR and COLOUR), but COLLATOR, COLORIMETER, etc., will also qualify since the colon signifies that any number of characters (including none) are acceptable in its place.

The presence or absence of spaces on either side of a colon will be very important (as is true now when stringsearching title words). Presently, : GRAM : does not mean the same thing as :GRAM:; :GRAM : is different from : GRAM: ; etc. (See Library Network/MEDLARS Technical Bulletin, March 1973, "New Capabilities in MEDLINE" pp 11-20.)

MULTIPLE SUBHEADINGS:

An important new capability of ELHILL 3 is the application of more than one subheading to main headings. This will be possible through the use of a new command, "SUBHEADINGS APPLY____", as follows:

```
SS1/C?---SEARCH STATEMENT 1 or COMMAND?
USER:
"SUBHEADINGS APPLY AE, TO, PO"     (CR)

PROG:
SUBHEADINGS ACCEPTED

SS1/C?---SEARCH STATEMENT 1 or COMMAND?
USER:
AMPICILLIN or GENTAMYCIN or KANAMYCIN or MONOMYCIN     (CR)
```

At this point the computer will apply all three subheadings to each of the mainheadings subsequently entered, and respond with the total number of postings. IMPORTANT! Subheadings will continue to be applied to all search statements until they are cancelled. There are two ways in which this may be done:

(1) The command "SUBHEADINGS CANCEL" will terminate the application of the previously input subheadings. This command should be used immediately after the desired search statement has been processed if the

subheadings being applied are not desirable or appropriate for the very next search statement. Even if they might be needed for some subsequent search statement, they must be cancelled to prevent them from being applied to all intervening ones. (They may, of course, be re-applied later when needed by using the "SUBHEADINGS APPLY" command again.)

(2) Only one group of subheadings may be active under the "SUBHEADINGS APPLY" command at any given time. Therefore, a second method of cancelling subheadings which have been applied is to apply another set of them. A new "SUBHEADINGS APPLY" automatically cancels those previously applied. This technic will make it unnecessary to go through a "formal" cancellation routine before applying a new group of subheadings. Remember, though, the new group will continue to be applied against all search statements until cancelled by either "SUBHEADINGS CANCEL", or by a new "SUBHEADINGS APPLY" command.

The command "SUBHEADINGS DISPLAY" will provide a list of the subheadings that the program is currently applying to your search statements.

When entering subheadings, either the standard 2-letter abbreviations or the full spellings may be used. Use a comma and a space between them (as shown above), or separate them with an OR ("SUBHEADINGS APPLY BIOSYNTHESIS OR ENZYMOLOGY").

SUBHEADING SEARCH:

ELHILL 3 will permit searching directly on subheadings in all citation files as is now possible on SDILINE, irrespective of the main headings to which they are attached. For example, you will be able to search on ADVERSE EFFECTS and retrieve all citations in which the subheading has been used. The number of postings will be displayed and the citations may be printed out just as with MeSH terms.

EXPLOSIONS:

ELHILL 3 will enable the searcher to explode on only print terms (i.e., IM headings) if desired. This is done by preceding the tree number with an asterisk (EXPLODE *C5.44). Further, one subheading may be combined with an explosion, with or without an asterisk (EXPLODE *C5.44/DI; etc.). More than one subheading may be combined with an explosion by using the "SUBHEADINGS APPLY" command. (In fact, as cautioned earlier, any active list of subheadings input under "SUBHEADINGS APPLY" will automatically be applied to explosions entered subsequently, unless the subheadings have been cancelled.)

A search routine might look like this:

```
SS6/C?---SEARCH STATEMENT 6 or COMMAND?
USER:
"SUBHEADINGS APPLY THERAPEUTIC USE, AE"    (CR)

PROG:
SUBHEADINGS ACCEPTED

SS6/C?---SEARCH STATEMENT 6 or COMMAND?
USER:
EXPLODE *D3.18.3    (CR)

PROG:
PSTG---NUMBER POSTINGS (351)

SS7/C?---SEARCH STATEMENT 7 or COMMAND?
USER:
"SUBHEADINGS CANCEL"    (CR)

PROG:
SS7/C?---SEARCH STATEMENT 7 or COMMAND?

USER:
EXPLODE C2.13/DT    (CR)

PROG:
PSTG---NUMBER POSTINGS (964)

SS8/C?---SEARCH STATEMENT 8 or COMMAND?
USER:
6 and 7    (CR)

PROG:
PSTG---NUMBER POSTINGS (65)
```

An alternative to the above would be to APPLY the single subheading DT at SS7, thereby automatically cancelling the two previously applied to SS6. The subheading DT would then be combined with the explosion of C2.13 (entered alone, i.e., without DT attached). It would then be necessary to cancel the applied subheading DT after SS7 was processed if it were not needed for SS9.

RANGING:

There will be three ranging expressions in ELHILL 3:

LESS THAN_____; FROM____TO_____; and GREATER THAN_____.

Ranging is restricted to numeric fields. Numeric characters of the desired range are inserted in the blank(s) of the appropriate expressions. All ranging values are inclusive; that is, when using the expression FROM 710701 TO 711231 for entry date ranging, all citations input on or after July 1, 1971 to (and including) December 31, 1971 will qualify for retrieval.

Since a range entered alone will either be processed very slowly or will cause an overflow condition, ranging should be used only in combination with other terms in a search statement, as in the examples below.

Examples of ranging:

ENZYME ACTIVATION AND LESS THAN 720101

DRUG ABUSE AND MORPHINE AND FROM 730610 TO 730710

ANESTHESIA AND NOT CYCLOPROPANE AND GREATER THAN 730101

NEIGHBOR COMMAND:

The NEIGHBOR command itself will be the same in ELHILL 3 as now, but in addition a new command will be available. It is "NEIGHBORDET____" (abbreviation NBRDET; DET stands for DETAIL). It operates exactly the same way as the NEIGHBOR command but provides a more detailed display of main headings and MeSH tree numbers by including terms with subheadings and IM (print) indicators. For example, if the command "NBRDET BRAIN (MH)" were used, the display would look something like this:

PROG:

POSTINGS	TERM
6	BRADYKININ/toxicity
4	*BRADYKININ/toxicity
612	BRAIN
293	*BRAIN
37	BRAIN/abnormalities

UP N OR DOWN N?

On the other hand, the command "NBR BRAIN(MH)" would display (as it does now) the single heading BRAIN, with two other terms both above and below it in the alphabetic index. The NEIGHBORDET command has been provided to offset the loss of the detailed listing under the multimeaning message.

INTERNAL DIFFERENCES BETWEEN ELHILL 2 AND ELHILL 3:

The following will attempt to explain the major internal program mechanisms which have been changed and the associated program messages, when applicable, which will be displayed to the terminal user.

A. INCREASED NUMBER OF SEARCH STATEMENTS AND SEARCH TERMS.

The user will now be allowed a total of 25 search statements rather than 16. The number of terms allowed for these 25 search statements will be 380 (an explosion is only one term).

This is not an absolute constant since the maximum number of characters allowed for all the terms is 5,800. When either of these limits is reached, the following error message is generated:

KEBTRM OVFLW--KEYBOARD TERM OVERFLOW

This message is very similar to the ENT OVFLW message in ELHILL 2. The user, on receiving this message, may execute a BACKUP, RESTACK, ERASEBACK, or ERASEALL to correct the problem. The 5,800 characters will allow an average of more than 15 characters per term.

B. SCRATCHPAD ALLOCATION.

Whenever a user performs a search which results in the program performing AND or OR logic, the resultant "list" is saved on a scratchpad for the user. If, in the process of building a single search statement, one or more explodes are used or more than two terms are entered, temporary workspace on disk is used.

In ELHILL 2, a fixed portion (80,000 citations numbers) was allocated to EACH user for citation lists for all active search statements, and a fixed portion (160,000 citation numbers) was allocated to EACH user for a temporary scratchpad workspace. If a user attempted to use more than either of these allocations, the OVERFLOW REC message resulted.

The allocation of workspace for each user is one of the major internal changes in ELHILL 3. Each user will still get a fixed scratchpad to store the results of his active search statements. With the increased number of allowable search statements, the space has been enlarged to allow the retention of about 120,000 citations rather than the present 80,000. When the number of citations for retention exceeds this amount, the following error message is generated:

STORPSTG OVFL--POSTINGS STORAGE OVERFLOW

A BACKUP, RESTACK, ERASEBACK, or ERASEALL will correct this situation.

Rather than allowing fixed temporary scratchpad space on disk for EACH user, the system allocates a common work area for all temporary workspace. In addition, the first few records (up to 4,000 citations numbers) are kept in main memory rather than being written to disk. This will make the processing of explodes much faster. It should be noted, however, that a fixed maximum number of citations (in temporary space) will still exist for each user, though the number will be raised to more than 200,000 citation numbers. If this maximum is reached the following error message will result:

PROCPSTG OVFL--POSTINGS PROCESSOR OVERFLOW

If a user receives this message, he is attempting to use too many explodes, check tags, and large-posted terms and should reformulate his search statement.

There is one other message which may be generated (DYNAJECT) when scratchpad space cannot be allocated, but this message will be covered in the next section.

C. QUANTUM (TIME) SLICING.

In ELHILL 2, a user could enter a search statement with multiple explodes, many check tags and large posted terms, and many lines of input. ELHILL 2 would process the search to completion no matter how long it took (sometimes up to one minute). The direct result of this was that any users entering searches while the long search was being processed would wait until it finished. This is the reason that a user might enter the same search statement on two different days and have one take three seconds and the other take twenty three.

Quantum Slicing or allocating a fixed maximum amount of time for any input from a user has been implemented in ELHILL 3. This does not mean that a user who enters a search request that takes more than the maximum amount of time will lose his search. The user will be informed that he has used more than his maximum allotment of time and will be asked if he wishes to continue the processing. If he responds YES, processing continues for another "slice". The partial result of the search is saved in the temporary scratchpad area. The message appears as follows:

TIME OVFLW: CONT (Y/N).

One can readily see that if many users were being time-sliced, it might be possible for the temporary work space to become "over-allocated". This is a very temporary condition but, when it does occur, a user might not be able to get sufficient temporary work space to process his search request. The system will then reject the request with the following message:

DJ -- DYNAJECT (DYNAMIC REJECT)

On receipt of this message, the user will have to reinput his request. We do not expect this condition to occur often; if it does, we will allocate more space to the temporary scratchpad.

D. GENERATED TERMS PER SEARCH STATEMENT.

In ELHILL 2, the maximum number of terms allowed for one explode or truncation was about 135. When this number was exceeded, the search was rejected with the PARTIALS OVERFLOW message.

In ELHILL 3, the limit per explode or truncation has been replaced by a maximum for each search statement. This number is about 400. There are very few single explodes which would result in the ORing of more than 400 terms. It is expected that this condition will result when two or more fairly large explodes are used in one search statement. The error message will appear as follows:

GENTRM OVFL--GENERATED TERM OVERFLOW

When this occurs, the user should reduce the number of explodes in the rejected search statement. (See Library Network/MEDLARS Technical Bulletin, August 1973, "MEDLINE Search Optimization for Efficient Processing" pp 8-17.)

E. OPTIMIZATION.

The computer will re-order a user's search request to process lower posted terms first. This will improve processing time somewhat but the searcher can still speed up his searching time significantly by following the other suggestions made in the above referenced article on search optimization.

MEDLARS II CAPABILITIES:

In addition to the ELHILL 3 changes above, the MEDLARS II system itself will provide some new capabilities of interest to searchers. These capabilities will not be available immediately under ELHILL 3, but will be added as MEDLARS II implementation is being completed. As they become realities, the mechanisms for using them will be made available in future articles and an updated Reference Manual. Among these are:

ABSTRACTS: Many citations will have abstracts available on-line. They will be "scanable" by using either the STRINGSEARCH capability (which will not change) or a new version of it called SENSEARCH. SENSEARCH will work exactly the same as the current STRINGSEARCH, except that all terms searched will have to be in the same sentence for a citation to qualify for retrieval.

OFF-LINE SEARCH: Under MEDLARS II, searchers will be able to input searches on-line for processing off-line. This capability will be used for searching files which are not mounted for direct access on-line. Further details will be forthcoming.

STORED SEARCHES: MEDLARS II will permit search formulations to be stored for later use. They may then be called forth for execution as is or ANDed with a date range (as for SDI searching), or they may be incorporated into other searches (as in the case of stored "hedges").

OFF-LINE SORT: A sort option will be available for off-line printing of citations by either author or publication year. Details will be given in the future.

NEW VOCABULARY CONCEPTS: MeSH is being re-structured to seven levels instead of the present four. In addition to permitting greater ease in adding new main headings, this will also make it possible to substantially increase the number of provisional headings (to be known as minor descriptors in the future). Searchers will also be able to enter non-MeSH synonyms at the terminal, and the system will perform the search on the synonymous MeSH main heading or minor descriptor.

MEDLINE TRAINEES AT UCLA, NOVEMBER 26, 1973

The University of California Biomedical Library, Los Angeles held its tenth MEDLINE Training Class November 26 - December 11, 1973. The following people attended:

Helen Bagdoyan	University of Southern Calif. Norris Medical Library Los Angeles, California
Nancy Brault	Los Angeles County Harbor General Hospital Medical Library Torrance, California
Miriam Hirsch	Brain Information Service UCLA Biomedical Library Los Angeles, California
Katherine Kammerer	Mount Zion Hospital and Medical Center Sinai Memorial Medical Library San Francisco, California
Ronald H. Kezar	William Beaumont Army Medical Center Medical Library El Paso, Texas
Judy Labovitz	Cedar-Sinai Medical Center Celars of Lebanon Hospital Library Los Angeles, California

Sister Margaret LaPorte	Columbus Hospital Health Sciences Library Great Falls, Montana
Carol Laxer	University of the Pacific Health Science Library San Francisco, California
Mae-Frances Moore	Public Health Library Earl Warren Hall University of California, Berkeley Berkeley, California

FUTURE CALIFORNIA MEDLINE CLASSES AND WORKSHOPS

Additional UCLA MEDLINE classes in 1974 are planned for the following dates:

--January 23, 1974	to	February 7, 1974
--March 27, 1974	to	April 11, 1974
--May 1, 1974	to	May 16, 1974

Also three workshops have been planned for February 1974 as a follow-up to the MEDLINE training classes held at UCLA during 1973. The first will be held in the San Francisco area on February 19 and the other two will be at UCLA on February 26 and 28. Further details about the specific programs and the location for the San Francisco workshop can be obtained from Ms. A. Durso at UCLA in January.

MEDLINE STATISTICS
OCTOBER 1973

The statistical reporting period runs from the first to the last day of each month. The statistics are a total of the usage of all MEDLINE files (MEDLINE, CATLINE, SERLINE, SDILINE and COMPFILE) both at NLM and SUNY. If your statistics differ greatly from these, please notify MEDLARS Management Section.

MEDLINE CENTER	TOTAL SEARCHES @ SYM	TOTAL OFF-LINE PRINTS	TOTAL PAGES	TOTAL HOURS	AVERAGE MIN. PER SEARCH
* RG: 1					
BOSTON U SCH MED..MED LIB	147	23	524	23.5	9.6
BROWN U..SCI LIB	0	0	0	.0	.0
DARTMOUTH COL..DANA BIOMED LIB	118	18	195	18.2	9.3
HARVARD U..F COUNTWAY LIB	57	24	565	17.9	18.9
MAINE MED CTR	29	2	20	6.9	14.3
MASS GEN HOSP..TREADWELL LIB	33	13	55	7.6	13.9
MASS INST OF TECHNOLOGY	9	1	28	8.0	53.3
TUFTS U..MED DENT LIB	316	51	673	42.9	8.1
U CONN..L M STOWE LIB	332	83	852	52.7	9.5
U MASS..MED SCH LIB	93	17	118	15.3	9.9
U VERMONT..DANA MED LIB	97	16	69	13.3	8.2
YALE U..MED LIB	167	45	542	62.5	22.5
* TOTAL FOR RG: 1	1398	293	3641	268.8	
* RG: 2					
ALBANY MED COL	0	0	0	.1	.0
ALBERT EINSTEIN COL MED..LIB	0	0	0	.0	.0
COL MED DENT NJ..LIB	271	54	682	28.8	6.4
COLUMBIA U..MED LIB	139	53	534	31.7	13.7
CORNELL U MED COLL..LIB	51	24	163	7.2	8.5
ELLIS HOSP..LIB	37	3	23	5.8	9.4
MED RES LIB BROOKLYN	75	4	56	10.8	8.6
NY ACAD MED..NY NO NJ RML	73	30	604	17.5	14.4
RUTGERS U	25	12	67	10.3	24.7
SLOAN-KETTERING CANCER CTR	0	0	0	.0	.0
SUNY ALBANY..CENT OFF COMPUTER CTR	0	0	0	.0	.0
SUNY BUFFALO	36	0	0	12.6	21.0
SUNY STONY BROOK	0	0	0	.0	.0
UNIV OF ST OF NY..THE NY ST LIB	5	0	0	.8	9.6
* TOTAL FOR RG: 2	712	180	2129	125.0	
* RG: 3					
COL PHYSICIANS PHILA..LIB	27	24	248	15.6	34.7

MEDLINE CENTER	TOTAL SEARCHES @ SYM	TOTAL OFF-LINE PRINTS	TOTAL PAGES	TOTAL HOURS	AVERAGE MIN. PER SEARCH
HAHNEMANN MED COL..LIB	22	12	101	6.9	18.9
JEFFERSON MED COL..LIB	40	5	165	8.8	13.2
MED COL PA	63	19	223	7.6	7.2
PENNA STATE U..HERSHEY MED CTR LIB	128	38	268	19.3	9.0
TEMPLE U..HEALTH SCI CTR LIB	51	31	344	13.2	15.5
U PENN..SCH MED LIB	82	36	235	33.1	24.2
U PITTSBURGH..FALK LIB	23	5	44	7.8	20.2
V A HOSP ERIE PA..LIB	47	0	0	4.9	6.3
* TOTAL FOR PG: 3	483	170	1628	117.4	
* PG: 4					
BOWMAN GRAY SCH MED..LIB	112	38	416	19.8	10.6
BUR NARC DANG DRUGS..DRUG CTRL DIV	6	4	73	2.4	24.0
D C GEN HOSP..LIB	62	6	30	12.3	11.9
DUKE U SCH MED..MED CTR LIB	113	44	419	23.2	12.3
ENVIRONMENT PROTECT AG 401 M ST SW	0	0	0	.0	.0
FAIRFAX HOSP	43	2	18	7.6	10.6
FED AMER SOC EXP BIOL..OFF BIOL HAN	8	0	0	1.2	9.0
FOOD & DRUG ADM ROCKVILLE..ADP SYST	49	27	109	27.5	33.7
GEORGE WASHINGTON U HOSP..HOSP BR L	388	15	116	66.4	10.3
GEORGETOWN U MED CTR..DAHLGREN MEM	285	94	910	50.4	10.6
HEALTH SERV MENT HLTH ADM..LIB	47	30	348	13.5	17.2
HOWARD U..MED DENT LIB	49	13	192	7.5	9.2
JOHNS HOPKINS U..WELCH MED LIB	32	17	357	11.1	20.8
JOINT MED LIB USA USAF..OFF SURG GE	66	6	149	22.7	20.6
LIB CONGRESS..CONGRESS REF SERV	0	0	0	.0	.0
MED CHIR FAC MARYLAND..LIB	110	11	69	14.5	7.9
NATL INST ENVIRON HEALTH SCI	57	5	47	11.7	12.3
NATL LIB MED..MARML RM 152	233	133	1853	69.6	17.9
NATL LIB MED..RSD	358	101	1194	122.1	20.5
NATL NAVAL MED CTR..STITT LIB & RES	156	21	214	29.4	11.3
NIH CLINICAL CTR DIRECTOR	9	0	0	4.9	32.7
NIH..DRG	22	2	40	3.4	9.3
NIH..LIB	511	266	3276	92.4	10.8
NIH..NATL CANCER INST	61	25	718	15.8	15.5
NIH..NATL HEART INST	5	3	57	3.1	37.2
NIH..NIAMD	8	0	0	2.3	17.2
NIH..NIMH LIB	10	11	236	1.8	10.8
PHARMACEUTICAL MFR ASSN	52	3	12	9.1	10.5
ST ELIZ HOSP SMR..NIMH LIB	110	13	144	16.3	8.9
ST ELIZ HOSP..PROF LIB	13	6	38	2.5	11.5
U MARYLAND BALTIMORE..HEALTH SCI LI	469	92	1036	98.8	12.6
U NC..HEALTH SCI LIB	169	36	257	27.0	9.6
U S GOVT	11	9	168	3.7	20.2
U VA..MED SCH LIB	301	69	777	53.9	10.7
V A CTRL OFF 810 VERMONT AVE NW DC	82	25	186	20.4	14.9
V A HOSP DC..LIB	69	5	39	13.5	11.7

MEDLINE CENTER	TOTAL SEARCHES @ SYM	TOTAL OFF-LINE PRINTS	TOTAL PAGES	TOTAL HOURS	AVERAGE MIN. PER SEARCH
WALTER REED ARMY MED CTR..GEN HOSP	72	9	153	27.7	23.1
WASHINGTON HOSPITAL CTR..MED LIB	71	3	16	8.9	7.5
UVA U..MED CTR LIB	135	16	210	32.0	14.2
* TOTAL FOR RG: 4	4354	1160	13877	950.4	
* RG: 5					
CASE WEST RES U..CLEVELAND HEALTH S	85	22	221	22.5	15.9
ENVIRONMENT PROTECT AG CINCINNATI	156	53	578	21.9	8.4
HARPER HOSP..DEPT LIB	40	0	0	7.4	11.1
HENRY FORD HOSP	102	12	87	19.1	11.2
MED COL OHIO TOLEDO..LIB	38	0	0	7.5	11.8
MICH STATE U..SCI LIB	88	55	544	26.4	18.0
OHIO STATE U COL MED..HEALTH CTR LI	385	64	580	58.5	9.1
SINAI HOSP DETROIT..MED LIB	24	0	0	4.1	10.2
U CINCINNATI..MED CTR LIB	186	40	351	31.8	10.3
U DETROIT..SCH DENT LIB	16	4	22	3.7	13.9
U KY..MED CTR LIB	204	57	672	22.7	6.7
U LOUISVILLE..KORNHAUSER HEALTH SCI	142	17	95	28.0	11.8
U MICH..MED CTR LIB	45	26	575	11.1	14.8
WAYNE STATE U..SHIFFMAN MED LIB	105	21	208	25.9	14.8
WILLIAM BEAUMONT HOSP..MED LIB	50	13	138	7.4	8.9
* TOTAL FOR RG: 5	1666	384	4071	298.0	
* RG: 6					
EMORY U..A W CALHOUN MED LIB	179	58	643	25.2	8.4
JACKSONVILLE HOSP EDU PROG..J L BOR	11	2	19	2.0	10.9
MED COL GA..DIV HEALTH COMM LIB	114	49	649	17.3	9.1
MED U SC..LIB	112	22	148	15.1	8.1
TOXICOLOGY INF RESPONSE CTR..BIOL D	26	34	851	6.0	13.8
U ALA..LISTER HILL CTR HEALTH SCI	113	27	296	21.9	11.6
U FLA..J H MILLER HEALTH CTR LIB	106	36	367	16.4	9.3
U MIAMI..L CALDER MEM LIB	104	37	425	18.1	10.4
U MISS MED CTR..ROWLAND MED LIB	51	23	166	8.8	10.4
U SOUTH ALABAMA..BIOMED LIB	25	7	48	7.1	17.0
U SOUTH FLORIDA..MED CTR LIB	40	10	92	6.7	10.0
U TENN..MED UNITS LIB	107	42	560	11.5	6.4
V A HOSP DECATUR GA..LIBRARY	182	25	131	27.5	9.1
VANDERBILT U..SCH MED LIB	55	24	312	10.0	10.9
* TOTAL FOR RG: 6	1225	396	4707	193.6	
* RG: 7					
AMER MED ASSOC..ARCHIVE LIB	197	2	23	20.4	6.2

MEDLINE CENTER	TOTAL SEARCHES @ SYM	TOTAL OFF-LINE PRINTS	TOTAL PAGES	TOTAL HOURS	AVERAGE MIN. PER SEARCH
IND U..SCH MED LIB	98	2	14	16.4	10.0
JOHN CREAR LIB	98	22	288	25.4	15.5
LUTHERAN GEN HOSP..LIB	59	5	54	8.5	8.6
MAYO FOUND..MAYO CLINIC LIB	65	8	128	11.6	10.7
MED COL WIS..MED DENT LIB	72	6	48	15.1	12.6
NORTHWESTERN U..MED & DENT SCH LIB	64	9	31	9.3	8.7
SOUTHERN ILL U..SCH MED LIB	22	0	0	6.9	18.8
U CHICAGO..BILLINGS HOSP LIB	134	22	213	43.4	19.4
U ILL MED CTR..LIB HEALTH SCI	26	6	74	4.4	10.2
U ILL..ROCKFORD SCH MED LIB	46	19	163	8.4	11.0
U IOWA..MED LIB	145	47	539	24.7	10.2
U MINN..BIOMED LIB	87	2	101	17.2	11.9
U WISC..MIDDLETON MED LIB	266	99	1096	66.0	14.9
V A HOSP WOOD WISC	60	6	45	11.5	11.5
* TOTAL FOR RG: 7	1439	255	2817	289.2	
* RG: 8					
CREIGHTON U..HEALTH SCI LIB	75	12	102	10.0	8.0
FITZSIMONS GEN HSP..MED-TEC LIB	80	26	325	16.5	12.4
ST LUKES HOSPITAL..LIB	125	1	2	16.4	7.9
U COLO..DENISON MEM LIB	210	107	1279	53.5	15.3
U KANS..CLENDENING MED LIB	89	20	235	19.3	13.0
U MO COLUMBIA..MED LIB	96	31	220	14.3	8.9
U MO KANSAS CITY..SCH MED LIB	362	56	581	37.1	6.1
U NEBR..MIDCONTINENTAL RML PROG	150	30	277	25.0	10.0
U UTAH..ECCLES MED SCI LIB	58	43	437	19.1	19.8
V A HOSP LINCOLN NB..LIB	31	1	21	7.3	14.1
WASHINGTON U..SCH MED LIB	203	40	467	23.6	7.0
* TOTAL FOR RG: 8	1479	367	3946	242.1	
* RG: 9					
BROOKE GEN HOSP..MED LIB	86	12	154	14.3	10.0
FOOD & DRUG ADM..NATL CTR TOX RES	76	22	499	10.2	8.1
HOUSTON ACAD MED..TEX MED CTR LIB	270	100	1295	45.9	10.2
LOUISIANA STATE U NEW ORLEANS..LIB	54	22	267	13.5	15.0
LOUISIANA STATE U..SCH MED LIB	25	7	113	7.4	17.8
LOVELACE FDN FOR MED ED AND RES	3	0	0	.9	18.0
SPARKS REG MED CTR..HEALTH SCI LIB	13	0	0	1.7	7.8
TEXAS MED ASSN..LIB	105	0	0	8.0	4.6
TEXAS TECH UNIV SCH OF MED	7	4	40	2.0	17.1
TULANE U..SCH MED LIB	74	42	551	19.3	15.6
U ARK..MED CTR LIB	0	0	0	.0	.0
U NM..LIB MED SCI	96	79	1088	31.0	19.4
U OKLA..HEALTH SCI CTR LIB	162	36	342	23.4	8.7

MEDLINE CENTER	TOTAL SEARCHES @ SYM	TOTAL OFF-LINE PRINTS	TOTAL PAGES	TOTAL HOURS	AVERAGE MIN. PER SEARCH
U TEXAS DALLAS..MED SCH LIB	291	56	842	43.5	9.0
U TEXAS MED BR GALVESTON..MOODY MED	228	21	152	43.1	11.3
U TEXAS SAN ANTONIO..MED SCH LIB	57	12	111	12.5	13.2
WILLIAM BEAUMONT ARMY MEDICAL CENTE	4	2	19	3.2	48.0
* TOTAL FOR RG: 9	1551	415	5473	279.9	
* RG: 10					
ALASKA HEALTH SCI INFO CTR	118	4	59	14.6	7.4
COLUMBUS HOSP GREAT FALLS MONT..LIB	11	0	0	4.0	21.8
MADIGAN GEN HOSP	23	15	73	6.8	17.7
SACRED HEART GEN HOSP..MED CTR DR'S	90	4	46	13.2	8.8
U OREGON..MED SCH LIB	322	3	11	46.2	8.6
U WASHINGTON..PAC NW REG HEALTH SCI	591	159	2118	95.4	9.7
V A HOSP BOISE IDAHO..LIB	39	1	6	9.9	15.2
* TOTAL FOR RG: 10	1194	186	2313	190.1	
* RG: 11					
CALIF. COLLEGE OF PODIATRIC MEDICIN	14	0	0	3.5	15.0
CEDARS-SINAI MED CTR..HOSP LIB	59	6	56	5.2	5.3
CHILDREN'S HOSP L A..DOCTOR'S LIB	113	60	614	15.1	8.0
DAVID GRANT USAF MED CTR	50	8	53	9.7	11.6
HAWAII MED LIB INC	20	18	272	10.5	31.5
HOAG MEM HSP PRESBYTERIAN..MED LIB	24	0	0	5.0	12.5
KAISER FOUNDATION HOSP	13	3	18	2.5	11.5
L A CO HARBOR GEN HOSP..MED LIB	183	42	347	25.6	8.4
L A COUNTY MED ASSOC..LIB	36	16	136	10.6	17.7
LETTERMAN GEN HOSP..MED LIB	83	23	147	14.4	10.4
LOMA LINDA U..V RADCLIFF MEM LIB	45	9	63	11.6	15.5
MARTIN LUTHER KING JR GEN HOSP..MED	26	10	93	10.3	23.8
MEM HOSP MED CTR LONG BEACH..MED LI	410	98	870	29.8	4.4
MILLS MEM HOSP	2	0	0	.4	12.0
NASA AMES RES CTR	0	0	0	.7	.0
ORTHOPAEDIC HOSPITAL..RUBEL MEM LIB	32	17	204	7.1	13.3
RANCHO LOS AMIGOS HOSP..LIB	173	59	641	23.5	8.2
ST.JOSEPH HOSP AND CHILDRENS HOSP..	1	0	0	1.1	66.0
STANFORD U MED CTR..LANE MED LIB	294	138	1867	39.3	8.0
TRIPLER ARMY MED CTR..MED LIB	22	17	171	12.2	33.3
U ARIZ..MED CTR LIB	103	44	516	25.5	14.9
U CALIF DAVIS..HEALTH SCI LIB	268	31	318	39.1	8.8
U CALIF IRVINE..MED SCI LIB	81	36	586	26.0	19.3
U CALIF L.A...BIOMED LIB PAC SW RML	3	3	27	11.0	220.0
U CALIF L.A...BIOMED LIB REF SECT	178	126	1248	59.4	20.0
U CALIF S.F...LIB	63	62	711	23.1	22.0
U CALIF SAN DIEGO..BIOMED LIB	167	76	1094	30.5	11.0

MEDLINE CENTER	TOTAL SEARCHES @ SYM	TOTAL OFF-LINE PRINTS	TOTAL PAGES	TOTAL HOURS	AVERAGE MIN. PER SEARCH
U HAWAII..HAMILTON LIB	23	30	432	8.8	23.0
U NEV RENO..LIFE HEALTH SCI LIB	72	1	66	3.5	2.9
U OF CALIF GEN LIB	18	3	102	11.8	39.3
U SO CALIF SCH MED..NORRIS MED LIB	149	85	1207	33.8	13.6
V A HOSP SEPULVEDA CALIF..MED LIB	63	19	214	8.7	8.3
* TOTAL FOR RG: 11	2788	1040	12073	510.3	
* RG: 70					
DALHOUSIE U..W K KELLOG HEALTH SCI	30	13	106	5.2	10.4
DEPT NATL HEALTH WELFARE..HEALTH PR	37	5	234	7.9	12.8
MCGILL U..MED LIB	162	51	377	42.0	15.6
MEM U NEWFOUNDLAND..FAC MED LIB	41	7	51	5.9	8.6
NATL RES COUNCIL OF CANADA..NATL SC	181	158	3371	30.3	10.0
U BRITISH COLUMBIA..LIB	77	53	366	21.6	16.8
U CALGARY..LIB	0	0	0	.2	.0
U MANITOBA..LIB	18	1	9	2.0	6.7
U SASKATCHEWAN..HEALTH SCI LIB	45	16	233	6.9	9.2
U TORONTO..LIB	40	18	621	13.3	19.9
* TOTAL FOR RG: 70	631	322	5368	135.3	
* RG: 80					
BIBLIOTECA REG DE MED..ORG PAN AMER	1	3	134	2.9	174.0
BRITISH LIB LEND DIV	15	0	0	3.8	15.2
I.N.S.E.R.M.	76	4	88	34.0	26.8
MILL HILL..NATL INST MED RES LIB	30	0	0	4.9	9.8
* TOTAL FOR RG: 80	122	7	222	45.6	

** GRAND TOTAL - OCTOBER 1973

TOTAL SEARCHES - @ SYMBOLS	19042
TOTAL OFF-LINE PRINTS	5175
TOTAL PAGES OFF-LINE	62265
TOTAL HOURS	3655.3
AVERAGE MIN. PER SEARCH	11.5